



Paint Shop™ Pro® 9

Advanced tools for advanced imaginations.

User Guide

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CHAPTER 1

Getting Started

Paint Shop Pro sets the standard for affordable, professional image editing. Version 9 builds on Paint Shop Pro's legacy of creative innovation with a new set of art media tools, professional photo correction filters, and precision graphic design capabilities to offer users limitless creativity. You can greatly reduce time spent on production tasks with Paint Shop Pro's streamlined production tools. Edit photos, create graphics, draw, paint, and animate, all within a highly customizable workspace environment. Paint Shop Pro 9 provides advanced tools for advanced imaginations.

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What's New in Version 9

Briefly described below are the new features in Paint Shop Pro 9 that will enhance your ability to work with digital photographs, create and enhance artwork and graphics, and boost your productivity.

User Interface Enhancements

Although similar to the version 8 interface, Paint Shop Pro 9 has been updated to include the following.

- The History palette lists each command you apply to the active image. The most recent action appears at the top of the list. The History palette gives you the ability to quickly undo and redo actions applied to the current image. In addition to its basic Undo and Redo To Here functions, the History Palette also offers the ability to save selected actions as the Quicksript, which you can then apply to other open images. Refer to Chapter 7 for more information.
- The Mixer palette offers a more natural, intuitive way for artists to create and pick colors. Working in conjunction with the new Art Media brush tools and the new Art media layer, the Mixer palette provides artists with the best way to digitally simulate real-world painting. Refer to Chapter 12 for more information.
- What was labeled the Layers palette in previous versions is now called the Layers palette.
- What was labeled the Material palette in version 8 is now called the Materials palette. Additionally, the Materials palette now contains the Frame tab, offering a new (and for some users a more intuitive) method of choosing colors. Refer to Chapter 10 for more information.
- Open images can optionally be displayed in a tabbed format across the top of the workspace. To make an image active, click the desired tab. When many images are open, use the forward and backward buttons to scroll among the tabs. Refer to Chapter 2 for more information.
- The docking behavior of palettes has been modified. Palettes can be set to slide open and closed from a tab along the right side, roll up at a user-selected speed, or roll up into the nearest quadrant of the workspace. Refer to Chapter 2 for more information.

- The Customize dialog now contains a new tab called Scripts. This tab lets you easily bind a script to one of 50 icons. The icon can then be dragged onto a toolbar or into a menu. Refer to Chapter 17 for more information.
- The General Program Preferences dialog has new options for the Crop tool's shading area, as well as the number of steps to save for the History palette. Additionally the main workspace right-click context menu now contains the command to access this dialog in a single click. Refer to Chapter 4 for more information.
- In the Adjust menu, the three Automatic correction commands (Color Balance, Contrast Enhancement, and Saturation Enhancement) have been pulled out of their former submenus and now reside as standalone items. Additionally, the Adjust menu contains a Photo Fix item loaded with helpful commands geared toward quickly correcting common problems with digital photos.

New Art Media Tools

- Working in conjunction with the new Mixer palette, the new Art Media tools let you create digital artwork that closely mimics real-world media, pigments, paints, and artist's tools. The Oil Brush creates realistic paint strokes, while the Chalk, Pastel, Crayon, Colored Pencil, and Marker tools are used for making dry-pigment works of art. Refer to Chapter 12 for more information.

Image Browser Updates

- The Image Browser now contains two tabs, **Find** and **Info**, in the left side of the Browser window. The Find tab contains the familiar Windows Explorer-like navigation view, and the Info tab displays image information, creator data, and EXIF data. Additionally, with the Browser active you can choose File > Sort and use the Sorting dialog to sort images by EXIF data. Refer to Chapter 3 for more information.

Raw Camera Image Support

- You can now open Raw (unprocessed) images from high-end digital cameras in Paint Shop Pro. Additionally, a new File Format Preferences tab contains an option for displaying a dialog that allows for further Raw image editing before the image opens in Paint Shop Pro. Refer to Chapter 4 for more information.

New Digital Photo Correction Filters

Four new filters provide innovative methods of correcting common problems with digital photos:

- The Digital Camera Noise Removal filter scans your photo and removes image noise often inherent to digital cameras while intelligently preserving normal image textures. You can even customize noise removal by defining specific regions or color ranges to focus on or ignore, and then save settings as a Preset that can be applied to photos taken from the same camera.
- The Chromatic Aberration Removal filter helps eliminate the colored glow that often appears in digital photos, especially in an image's high contrast images.
- The Fill Flash filter corrects underexposed, shadowy areas of your photos.
- The Backlighting filter corrects the opposite problem by compensating for overexposed areas surrounding the photo's subject.

Refer to Chapter 5 for more information on these filters.

New Effects

Two new powerful and interesting effects include:

- The Displacement Map effect lets you create two or three-dimensional surface effects using a different, underlying image as the basis for the effect.
- The Radial Blur effect lets you add interesting and fun spin, twist, and zoom effects to an image.

Refer to Chapter 9 for more information on these effects.

Vector Drawing Tool Updates

Creating vector shapes has never been easier or more powerful.

- The Pen tool's functionality has been simplified to offer a clearer, more intuitive way to create and edit curves and lines.
- Three new tools, Rectangle, Ellipse, and Symmetric Shape, provide all the controls you need to create buttons, banners, polygons, any kind of rectangle or ellipse or custom shape.
- The Preset Shape tool provides you with a variety of arrows, flowers, gears, and other miscellaneous shapes.

Refer to Chapter 13 for more information.

Text Tool Updates

- The Text tool now provides a vertical text layout option, updates to the text on a path feature, as well as new anti-aliasing rendering options that generate cleaner text at smaller font sizes. Refer to Chapter 16 for more information.

Crop Tool Updates

- The Crop tool now provides the option of shading the area outside the crop box. This option can be set in the Transparency and Shading tab of the General Program Preferences dialog. Refer to Chapter 7 for more information.

Print Layout Feature Updates

- The Print Layout feature now lets you draw a text box on the layout to easily add custom captions or titles to your printed pages. Additionally, you can create elliptical cells and apply edits to multiple cells simultaneously. Refer to Chapter 18 for more information.

System Requirements

Before installing Paint Shop Pro, make sure that your computer meets the minimum system requirements, or matches/exceeds the recommended configuration:

Minimum System Requirements

- Windows® 98SE / 2000 (SP4)/ ME / XP
- 300 MHz processor or faster
- 256 MB RAM
- 500 MB free disk space
- 16-bit display adapter at 800 x 600 resolution
- Microsoft Internet Explorer 6.0 or later

Recommended System Configuration

- Windows XP
- 1.0 GHz processor or faster
- 512 MB RAM
- 500 MB free disk space
- 32-bit display adapter at 1024 x 768 resolution
- Microsoft Internet Explorer 6.0 or later

Installing the Software

Before installing Paint Shop Pro, close any programs or applications that you have running on your computer.

To install the software:

- 1 Insert the Paint Shop Pro CD in your CD-ROM drive. The installation program starts automatically.

Note: If the installation program does not start automatically, use Windows Explorer or double-click the My Computer icon, navigate to the contents of the Paint Shop Pro CD, and double-click the file **Autorun.exe**.

- 2 Follow the prompts to install the program.

Learning Paint Shop Pro

Learn Paint Shop Pro in a variety of ways: in addition to reading this User Guide, we encourage you to use the Help system, follow the Quick Guides in the Learning Center palette, and visit our Web site for even more learning resources.

Using the Quick Guides to Learn Common Tasks

Quick Guides are short, fast tutorials that guide you through new tasks and projects using your own image. Perform each step yourself, or have the program show you where to find the tools needed to complete the task.

To use Quick Guides:

- 1 Choose **View > Palettes > Learning Center** or press **F10** to open the Learning Center window.
- 2 Click the title of a **Quick Guide** to view the selected topic.

Using the Help System

When you start up the Paint Shop Pro Help system (by choosing **Help > Help Topics**, or by pressing the **F1** key) it will open to the Welcome to Paint Shop Pro page. The left side of the Help window contains the Contents tab (listing all the main Help pages), the Index tab, the Search tab, and the Favorites tab. The right side of the Help window displays the currently selected Help topic.

Most command dialogs have a Help button located along the bottom of the dialog. Click that button to open a Help topic associated with the dialog.

Context-Sensitive Help Tool

To display Help about a particular user interface item, such as a tool or button or menu item, use the Context Help button as follows:

- 1 Choose **Help > Context Help**. The cursor shape changes to: ?
- 2 Drag the cursor over the item you want to display Help for, and then click the mouse. The Help file will open and display the Help topic associated with what you clicked.

Using the Jasc Software Learning Center

The Jasc Software Learning Center shows you how to use Paint Shop Pro's features to create amazing photograph enhancements and sophisticated graphics. Jasc and third-party tutorials walk you through the steps for everything from restoring old photographs to creating metallic text.

To access the Jasc Software Learning Center, use your internet browser to go to **www.Jasc.com**, and then click the **Support** link. In addition to Learning Center tutorials, you'll also find Knowledge Base articles and other helpful materials.

Using Web-Based Resources

On the Help menu of Paint Shop Pro, you can access a number of Web site pages dedicated to support issues. In the **Help** menu select one of the following Web site links:

- **Online Support and Resources** Access the Jasc Customer Care Center to search for answers in our Knowledge Base, submit questions to Technical Support, or give us feedback.
- **Register Product Online** Register your copy of Paint Shop Pro online.
- **Check for Updates** Check the Jasc.com Web site for updates to Paint Shop Pro.
- **Contact Information** Send an e-mail message to Technical Support.

Getting in Touch with Other Paint Shop Pro Users

Millions of people use and love Paint Shop Pro. There are many independent (non-Jasc) Paint Shop Pro communities where users share tips and tricks, ask questions, and get answers about Paint Shop Pro. There are Web sites, newsgroups, and chatrooms devoted to Paint Shop Pro. As a starting point, search online for "Paint Shop Pro."

Popular newsgroups include **forums.jasc.com** as well as the Usenet newsgroup, **comp.graphics.apps.paint-shop-pro**. You can access newsgroups using your favorite news reader such as Microsoft Outlook Express, or an on-line news reader such as Google Groups.



CHAPTER 2

Getting to Know The Program

The Paint Shop Pro workspace includes menus, tools, toolbars, and palettes that you use to create and edit images. Becoming familiar with this workspace will help you accomplish your photo editing, painting, and drawing tasks.

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Starting and Exiting Paint Shop Pro

To start Paint Shop Pro:

- If you chose to place the Paint Shop Pro icon on your desktop during installation, you can start the program by double-clicking this icon.
- If you chose not to place the Paint Shop Pro icon on your desktop, start the program by clicking the **Start** button and choosing **All Programs > Jasc Software > Jasc Paint shop Pro 9**.

The first time you start Paint Shop Pro, the program displays the File Format Associations dialog. This dialog lets you assign file formats to the program so that your computer always uses Paint Shop Pro to open files in those formats. You can change associations at any time by choosing the **File > Preferences > File Format Associations** menu commands. For more information, see “Setting File Format Associations” on page 79.

To exit paint Shop Pro:

Exit Paint Shop Pro using one of the following methods:

- Choose **File > Exit**; or
- Click the **Close** button  in the upper right-hand corner of the main window's title bar; or
- Click the Paint Shop Pro icon  in the upper left-hand corner of the main window title bar and choose **Close** from its menu.

Note: Note: If there are unsaved images open in the workspace, you'll be prompted to save them before closing the program.

Exploring the User Interface

When you open Paint Shop Pro, it displays the main program window. This window is your work area. It contains the commands and tools used to create, edit, print, and export your images.

The Paint Shop Pro workspace includes the following components:

Menu bar The menu bar displays commands for performing tasks. Menus are organized by topic. For example, the Effects menu contains commands for applying effects to images.

Toolbars The toolbars display buttons for common commands. See “Using Toolbars” on page 14.

Palettes The palettes display information and help you select tools, modify options, manage layers, select colors, and perform other editing tasks. See “Using Palettes” on page 15.

Status bar The Status bar displays text about the selected tool or menu command as well as image information, including the dimensions and color depth. See “Viewing Image Information” on page 28.

Browser Displays thumbnail previews of image files. You can open, delete, copy, and perform other file commands in the Browser. For more information, see “Using the Paint Shop Pro Browser” on page 44.

Print Layout window Displays a window on which you can arrange and size multiple images, add text captions, apply templates, and then print the images. For more information, see “Printing a Single Image” on page 446.

Using Shortcut and Function Keys

To work quickly and easily in Paint Shop Pro, learn the shortcut and function keys for common tasks. Key combinations like **Ctrl + Z** (Undo) and **Ctrl + C** (Copy) become second nature as you work, and they save time over using the mouse.

Here are the ways you can use shortcut and function keys in Paint Shop Pro:

Customizing Shortcut Keys

If you don't like the assigned function keys, you can customize the function keys to suit your needs. See “Assigning and Viewing Shortcut Keys” on page 81.

To view all assigned keys, including custom shortcuts, choose **Help > Keyboard Map**.

- Use shortcut keys to execute menu commands, display palettes, edit nodes on vector objects, and execute Browser commands. All menu commands list their shortcut keys on the menu. Shortcut keys for palettes are listed on the **View > Palettes** menu.
- Use shortcut keys to select tools. Move the cursor over a tool to display a ToolTip with its shortcut key in parentheses.
- Use function keys to display a menu by pressing **Alt** plus the underlined letter of the menu name (for example, press **Alt + F** for the File menu). Then, press the underlined letter of a menu command or scroll through menus using the arrow keys. Press **ESC** to return to your image without executing a command.

To display all default shortcut keys, choose **Help > Keyboard Map**.

Using Toolbars and Palettes

One aspect of customizing your workspace involves the ability to dock, float, resize, and move the toolbars and palettes. The sections below describe how to work with palettes and toolbars.

To allow for palette docking:

- 1 Choose **View > Docking Options**. The Palettes tab of the Preferences dialog appears.
- 2 In the Allow docking of section, mark the palettes you want to be able to dock.

Note: Even if a palette is set for docking, by holding down **Ctrl** and then dragging the palette you can place it anywhere in the workspace.

Pushpin Button in a Toolbar or Palette Title Bar

Be aware of the pushpin button  in the toolbar/palette's title bar as it relates to floating and docking:

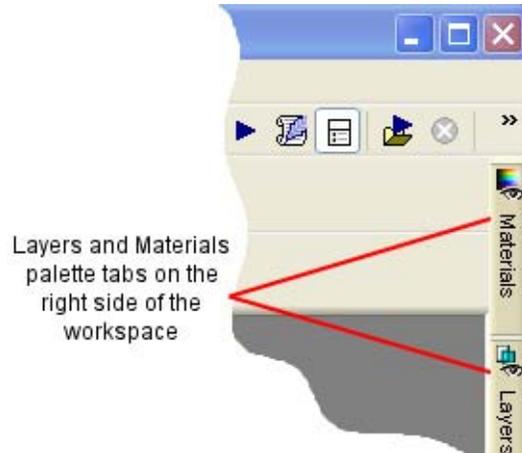
When the toolbar/palette is floating:

- When the pushpin is pointing down, the toolbar/palette will remain fully displayed when you move the cursor away from it.
- When the pushpin is pointing to the left , the toolbar/palette will roll up so that only its title bar is visible.

When the palette is docked:

- (For palettes only) When the pushpin button is pointing down, the palette will remain fully displayed in its docked position when you move the cursor away from it.

- (For palettes only) When the pushpin is pointing to the left, the palette will slide into the workspace side. You'll then see a tab with the palette name. To display the palette again, move the cursor over the tab.



The Animate Auto Hide and Quadrant Rollup Options

The way in which floating palettes roll up can be modified by two settings in the Options tab of the Customize dialog. (Choose View > Customize to display this dialog.)

- To set the speed in which floating palettes roll up, mark the Animate Auto Hide check box, and then drag the Speed slider to the desired setting.
- To have the title bar of rolled up floating palettes move into the nearest workspace quadrant, mark the Quadrant Rollup check box. (The Quadrant Rollup check box is marked by default.)
When this box is not marked, floating palettes will roll up and their title bar will not move.

To dock a toolbar or palette:

- Double-click its title bar; or
- Drag its title bar to one edge of the workspace. The toolbar or palette snaps into place.

To float a toolbar:

- Double-click its handle; or

- Place the cursor over the handle (you'll get the four-sided mover icon) and drag the handle to move the toolbar away from the workspace edge. Note: The handle size and position will vary depending on the toolbar's size and whether it is vertical or horizontal.

To move an undocked toolbar or palette:

Drag its title bar to a new position.

To resize a toolbar or palette:

Click and drag the sides or corners of a toolbar or palette to change its size.

To display all toolbars and palettes:

Press **Ctrl + Shift + T**.

Note: To hide a specific palette, click the Close button on its title bar.

Using Toolbars

The toolbars display buttons for the most common tasks. Position the cursor over a button to display a ToolTip with its name. The Status bar displays more information about the command.

Display or hide toolbars, or arrange them on the workspace. Dock a toolbar to snap it into place at an edge of a workspace, or to float it to move it anywhere on the screen.

Paint Shop Pro contains these toolbars:

Standard toolbar Displays the most common commands, such as saving images, undoing a command, and cutting items. Paint Shop Pro automatically displays this toolbar when you first run the program.

Tools toolbar Crop, paint, draw, type, and perform other image editing tasks. See “Using the Tools” on page 17.

Browser toolbar Displays commands for using the Paint Shop Pro Browser.

Effects toolbar Displays commands for applying effects to your images.

Status bar

The Status bar displays text about the selected tool or menu command, as well as image information including the dimensions, color depth, and cursor position. For more information, see “Viewing Image Information” on page 28.

Customizing toolbars

You can add and remove buttons from toolbars and create your own toolbars. For more information, see “Customizing Toolbars and Menus” on page 56.

Flyout menu displaying toolbars

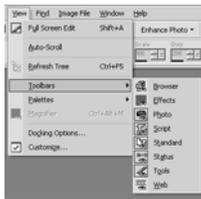


Photo toolbar Displays commands for enhancing photos.

Script toolbar Displays commands for creating and running scripts.

Web toolbar Displays commands for creating and saving images for the Web.

To execute a toolbar command:

Click the command button. If the button is greyed out, it is not available.

To display or hide a toolbar:

Do either of the following:

- Choose **View > Toolbars** and choose the toolbar from the menu.
- Right-click any toolbar or palette, choose **Toolbars**, and then choose the toolbar from the context menu.

Note: To hide a specific toolbar or the palette, click the close button on its title bar.

Using Palettes

Use palettes to choose tools and tool options, select colors, and manage layers. Display or hide palettes, or arrange them on the workspace. Dock a palette to snap it into place at an edge of a workspace, or to float it to move it anywhere on the screen.

Paint Shop Pro contains these palettes:

Materials palette Select colors and materials for painting, drawing, filling, and retouching. Refer to Chapter 10 for more information.

Tool Options palette Modify options for the currently selected tool. See “Setting Tool Options” on page 17.

Layers palette View, organize, and edit image layers. See “About Layers” on page 360.

History palette Lists the actions taken on the current image, allows you to undo and redo adjacent or non-adjacent actions, and allows you to create Quickscripts. Refer to Chapter 7 for more information.

Mixer palette Place and mix pigments for use with the Art Media tools, allowing you to create realistic oil paint strokes, as well as chalk, colored pencil, and marker strokes. Refer to Chapter 7 for more information.

Learning Center palette Displays tutorials for common tasks. See “Using the Quick Guides to Learn Common Tasks” on page 7.

Histogram palette Displays a graph of the distribution of red, green, blue, greyscale, hue, saturation, and lightness values in an image. Analyze the distribution of detail in the shadows, midtones, and highlights to decide how to make corrections. See “Using the Histogram to Analyze Images” on page 145.

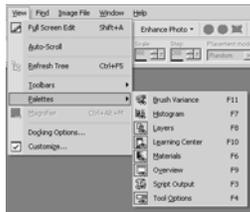
Overview palette Displays a thumbnail view of the active image, as well as information about the image. See “Using the Overview Palette” on page 18.

Script Output palette Displays actions you take and the results of running scripts. See “About the Script Output Palette” on page 427.

Brush Variance palette Sets additional brush options. This palette is particularly useful if you have a 4D mouse or a pressure-sensitive tablet. For example, you can vary the opacity of a brush stroke by applying pressure with the stylus. You can use some options with a mouse.

To display or hide a palette:

Flyout menu displaying palettes



Do one of the following:

- Choose **View > Palette** and choose the palette name.
- Type the palette’s shortcut key (listed to the right of the name).
- Right-click any palette and choose the palette name from the context menu.

To set the docking preference of palettes:

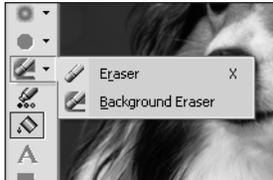
Choose **File > Preferences > General Program Preferences** and click the Palettes tab of the dialog. In the **Allow docking of** group box, mark the check boxes of the palettes you want Paint Shop Pro to dock automatically when you drag them to the edge of the workspace.

Note

You can also open the Palettes tab of the Paint shop Pro 9 Preferences dialog by choosing **View > Docking Options**.

To resize a palette:

Click and drag a corner or an edge, or use the **Minimize** and **Maximize** buttons in the upper right corner.

Flyout menu displaying tools

Why some tools are inactive (greyed out)

Some tools work only on raster or vector layers. For example, the Paint Brush and Clone Brush work only on raster layers; the Object Selection tool works only on vector layers.

For information on raster and vector layers, see “About Layers” on page 360.

Using the Tools

Use the Paint Shop Pro tools to perform actions such as crop, paint, draw, add text, and perform other image editing and creative tasks. Select a tool by clicking its button on the Tools toolbar. Some tools (for example Crop, Move, and Text) reside in their own space on the Tools toolbar. Most other tools, however, are grouped with other tools that perform similar tasks. A group of tools is denoted by a small arrow on the right side; click the arrow to reveal the other tools.

To view information about a tool, hold the cursor over it. A tool tip displays the tool name and shortcut key, and the Status bar (located along the bottom of the main Paint Shop Pro window) displays hints for using the tool.

To use a tool:

- 1 Click its button on the Tools toolbar. For tools that share a flyout with other tools, click the down-arrow next to the tool and select the tool.
- 2 Specify options using the Tool Options palette. See “Setting Tool Options” below.
- 3 Use the tool on the image.

For information on moving, hiding, and displaying the Tools toolbar, see “Using Toolbars” on page 14.

Resetting Tool Options to Default Values

To reset the Tool Options palette to the default values, click the Presets drop-list and then click the **Reset to default** button  .

Setting Tool Options

After you select a tool from the Tools toolbar, set its options in the Tool Options palette. Options include such settings as brush size and shape for painting tools and line width for drawing tools. By default, the palette is below the Standard toolbar. The palette displays options grouped into bands, which you can minimize and drag within the palette. To display a minimized band, click its handle or right-facing arrow.

Set the options before you use the tool. You cannot edit settings in the Tool Options palette for brush strokes or objects you have already created.

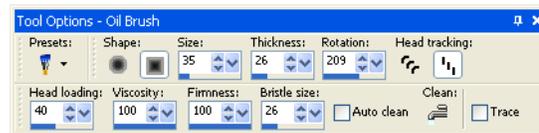
Although the items in the Tool Options palette depend upon the active tool, here are features common to all or some of the tools:

Presets Scripts that load specific settings for a tool. For more information, refer to Chapter 17.

Arrow button ▶ When more tool options are available than there is room to show them, click these buttons to reveal the additional options.

Apply button ✓ Some tools (Crop, for example) have this button. Click it to apply the changes you have made or execute the action.

Here is an example of an un-docked Tool Options palette for the Oil Brush tool:



Using the Overview Palette

The Overview palette



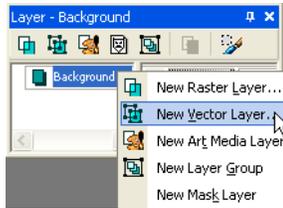
Display the Overview palette to preview the entire active image or to view image information. The Overview palette displays a rectangle over the part of the image visible in the image window. To show other areas of the image, click and drag this rectangle.

The Overview palette contains two tabs:

Preview Displays the image preview. The image updates after you complete an action. Transparent areas of the image appear as white.

Info Displays image status information including height and width, color depth, memory used, cursor position, rotation, and other information.

Context menu for the Layers palette



Using Context Menus

Context menus provide quick access to commands specific to the active tool, selection, or palette.

Note

For a complete list of Context menus, choose **View > Customize** to open the Customize dialog. Click the **Menu** tab, and select a context menu from the **Select context menu** drop-down list.

To use a context menu:

- 1 Position the cursor over an image, an empty area of a palette, a layer name on the Layers palette, a thumbnail in the Browser, or a toolbar.
- 2 Right-click to display the context menu.
- 3 Choose a command from the menu.

Working with Dialogs

The Average dialog



Dialogs are windows that open when you choose certain Paint Shop Pro commands. Use them to select and preview command options. All dialogs remember where you last positioned them on the screen and re-open in the same location.

Most dialogs have the following features in common:

Preview windows Zoom and navigate to see before and after views of changes.

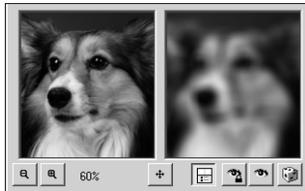
Presets Saved settings, or scripts, that you can use to make quick changes to images. Use the presets that come with Paint Shop Pro or create your own. For more information on creating and using presets, refer to chapter 17.

Numeric edit controls The controls that you use to select a value.

Color boxes The box you click to select a color.

Randomize parameters button A button you click to try out random settings in the dialog.

Resize Handle A handle in the lower right corner of the dialog used to change the size of the dialog.

The preview windows

Size the dialog

In each Paint Shop Pro dialog with preview windows, you can size the dialog by clicking and dragging a corner. Expand a dialog when you want the preview windows to be large enough to see detailed changes. You can also double-click the dialog title bar to maximize the dialog.

Exceptions to panning in the left preview window

In a few dialogs, the left preview window is used for making selections (such as selecting a red eye in the Red Eye Removal dialog). In these dialogs, the cursor does not change to a hand over the left preview window. Use the right preview window for panning instead.

Using Preview Windows

Most dialogs that correct images, apply effects, or modify selections have two preview windows that show the image before and after changes are applied. Use the window controls to zoom the preview in or out, pan it, or proof changes on the actual image.

You can show or hide the preview windows. When you hide previews, use the main image window to proof changes.

To display or hide preview windows:

Click the **Show/Hide Previews** button .

To zoom the image preview:

Click the **Zoom In**  or **Zoom Out**  buttons. The zoom percentage displays next to the Zoom buttons.

To pan the image:

Do either of the following:

- Move the cursor over either preview window (the cursor changes to a hand), and then click and drag the image.
- Click and hold the **Navigate** button , and then center the selection rectangle over the part of the image you want to display.

To proof changes in the main image window:

Click the **Proof** button . All settings in the dialog are applied to the main image window. Each time you change settings, click the Proof button to view the changes in the main image window.

To set automatic proofing:

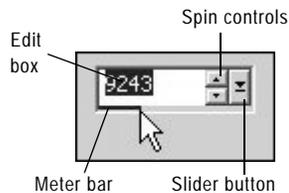
Click the **Autoproof** button .

Paint Shop Pro automatically applies all dialog settings to the main image window each time you change a setting.

Presets in a dialog

Using Preset Settings

Presets are saved settings, or scripts, that you can use to make quick changes to images. Use the presets that come with Paint Shop Pro or create your own. For more information on creating and using presets, refer to Chapter 17.

Numeric edit controls

Editing Numerical Values

To edit numbers in Paint Shop Pro dialogs, you use the Jasc numeric edit controls, which provide an easy way to edit numbers and change settings.

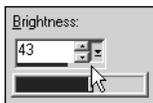
To edit numbers:

Do one of the following:

- To enter a specific value, click the edit box, use the Delete or Backspace key to delete the number as needed, and then type a new value. You can also double-click the number to highlight it, and then type a new value.

Note: If you type a value in the edit box that is out of range for the control, the box turns red.

- To increase or decrease the number by one, click the up or down arrow of the spin controls.
- To choose an approximate value, click once at a position on the meter bar.
- To choose from the range of possible settings, click and hold the mouse button down on the meter bar or the slider button, drag to select a desired setting, and release the mouse.

Using sliders to select values

Using Color Boxes

The color box in the New Image dialog.

In some dialogs, a color box displays the currently selected color. When you move the cursor over the color box, the cursor changes to a dropper and displays the RGB values. Click the color box to select another color:

- Left-click the color box to select from the Color dialog.
- Right-click the color box to select from recently used colors.

Randomizing Parameters

Many correction and effect dialogs have a Randomize parameters button. Click this button to update all dialog settings with random values. To try out a variety of settings, click the button multiple times.

To randomize settings within a dialog:

Click the **Randomize parameters** button .

Resizing a Dialog

All dialogs contain a Resize Handle  in the lower right corner of the dialog. Click and drag the handle to resize the dialog.

Viewing Images

An image window



The image window displays your image. You can move or size the image window or open the same image in multiple image windows (for example, to see the image at different magnifications).

The title bar at the top of the image window shows the file name and the magnification percentage. An asterisk after the filename indicates the image has been modified since you last saved it.

To see a thumbnail of the entire image, display the Overview palette.

To move an image window:

Click and drag the title bar to move an image to a new position in the workspace.

To resize an image window:

Click an edge or a corner of the image window and drag it to a new position.

If the image is larger than the window, use the scrollbars to view another area of the image.

To minimize or maximize an image window:

To minimize an image window so that only its title bar appears, click the Minimize button located in the upper right corner of the image's title bar. Click the Restore button to display the image window at its previous size.

Does the image have a watermark?

If the image has an embedded watermark, a copyright symbol is displayed in front of its name. For more information on watermarks, see "Using Digital Watermarks" on page 480.

To maximize an image window that it fills the Paint Shop Pro workspace, click the Maximize button located in the upper right corner of the image's title bar.

To close an image window:

Click the Close button located in the upper right corner of the image's title bar. If you have unsaved changes to the image, you'll be prompted to save the changes.

To open multiple views of the same image:

Choose **Window > New Window** or press **Shift + W**.

A new window opens with another view of the active image. When you make changes in one window, the other is updated.

To make a copy of the active image:

Choose **Window > Duplicate** or press **Shift + D**.

A copy of the active image opens and can be edited independent from the original image.

To arrange multiple windows:

Do either of the following:

- Choose **Window > Cascade** to display windows stacked and cascading from the upper left to the lower right of the workspace.
- Choose **Window > Tile Vertically** or **Window > Tile Horizontally** to display windows side by side vertically or horizontally. Windows are resized to fit within the workspace.

To close an image window:

Do either of the following:

- To close an active window, choose **File > Close** or click the Close button  on the title bar of the image.
- To close all windows, choose **Window > Close All**.

If there are any unsaved changes in the images, you will be prompted to save the files.

Save time by saving workspaces

Did you know that you can save entire workspaces, not just images? The workspace includes open images, their magnifications and screen positions, as well as the positions of palettes, toolbars, and windows.

For more information, see "Using Custom Workspaces" on page 54.

To see a list of all open images:

At the bottom of the Window menu the file names for all open images appear. The file names are listed in the order they were opened in Paint Shop Pro.

Tabbed Image Windows

Paint Shop Pro 9 gives you the option of displaying open images in a tabbed format.



To set this option, choose **Window > Tabbed Documents**. To turn off this feature and go back to the floating image windows, choose this option again.

When this option is on, the active image covers the entire workspace, and its bolded file name appears in a tab across the top of the workspace. Each open image has a separate tab. To view another image, click its tab. To access an image tab not in the current view, click the ◀ and ▶ buttons.

To close an image in tabbed format, click the **Close** button ✕.

Note: When the Tabbed Document option is on, the concept of minimizing and maximizing the image window no longer applies.

Navigating the View Area

When an image is too large to fit within its window, scroll bars appear on the bottom and right sides of the image.

To view another area of the image:

Do one of the following:

- On the Tools toolbar, choose the **Pan tool** , and then click and drag in the image.
- Click and drag the horizontal or vertical scroll bar.
- Press the arrow keys to move the image by small increments.
- Display the Overview palette (choose **View > Palettes > Overview**), and then drag the preview rectangle to a new position.

To fit the window to the image:

Choose **Window > Fit to Image** or press **Ctrl + W**.

Magnifying and Reducing the View

Magnify the view of an image (zoom in) to view and edit image details or reduce the view (zoom out) to see the overall image. The title bar of the image window displays the zoom percentage.

Zooming in and out



Automatic resizing

By default, when you zoom in or out the image window is automatically resized to fit the image. To change this preference setting, see “View Preferences” on page 60.

To zoom in:

Do one of the following:

- Zoom with the mouse wheel, roll the optional wheel on your mouse to zoom in or out quickly.
- On the Tools toolbar choose the **Zoom tool**  (if necessary, click the down-arrow next to the Pan tool), and then left-click the area you want to magnify. The view magnifies to the next preset percentage with each click, up to the maximum magnification of 5000%.
- Choose the **Zoom tool** or the **Pan tool**, and then in the Tool Options palette select a zoom percentage or click the **Zoom In** or **Zoom In More** buttons.
- Choose **View > Zoom > Zoom In** to magnify the view to the next preset percentage.
- Choose **View > Zoom > Zoom In More** to magnify the view by five preset percentages.

To zoom out:

Do one of the following:

- On the Tools toolbar, select the **Zoom tool**  (if necessary, click the down-arrow next to the Pan tool) and then right-click the area you want to reduce. The view reduces to the previous preset percentage with each click, down to a minimum magnification of 1%.
- Choose the **Zoom tool** or the **Pan tool**, and then in the Tool Options palette select a zoom percentage or click the **Zoom Out** or **Zoom Out More** buttons.
- Choose **View > Zoom > Zoom Out** to reduce the view to the next preset percentage.
- Choose **View > Zoom > Zoom Out More** to reduce the view by five preset percentages.

To magnify a specific area:

- 1 Choose **View > Magnifier**. This puts the cursor in magnifier mode.
- 2 Place the cursor over the part of the image you want to magnify. The selected area is displayed at the highest percentage that will fit within the window.
- 3 To turn off magnifier mode, choose **View > Magnifier** again.

Previewing and Editing Using the Full Screen

Previewing on the full screen



Use the Full Screen Preview command to preview an image without any of the menus, toolbars, or palettes visible.

Use the Full Screen Edit command to expand the entire workspace, giving you the largest possible space for displaying and editing images. The palettes and toolbars are visible but the menus, Paint Shop Pro title bar, and Status bar are hidden.

To preview an image on the full screen:

- 1 Choose **View > Full Screen Preview** or press **Ctrl + Shift + A**. The workspace disappears and the image displays at its current magnification.
- 2 To return to the Paint Shop Pro workspace, press any key.

Editing using the full screen



To edit using the full screen:

- 1 Choose **View > Full Screen Edit** or press **Shift + A**. The menu bar and status bar disappear.
To select from a menu when using the full screen, move the cursor to the top of the screen and left-click. The menus appear as you move the mouse along the top.
- 2 To return the window to its previous size, press **Shift + A**.

Viewing Image Information

As you work with an image, you may want to view information about it. There are several ways to do this, as described in the sections below.

To view general image information:

- Look at the Status bar (along the bottom of the main Paint Shop Pro window) to see the cursor position, image height and width in pixels, and the color depth.

`(8, 6) -> (16, 24) = (8 x 18) [0.444] - Image: 15 x 13 x 16 million`

- Display the Info tab of the Overview palette to view information about the image. Choose **View > Palettes > Overview**, and then click the **Info** tab. The information displayed depends on what tool is selected.

To view image color information:

Choose **Image > Count Image Colors** to display the number of unique colors in the image.

To view detailed image information:

- 1 Choose **Image > Image Information**, or press **Shift + I**.
- 2 Do one of the following:
 - Click the **Image Information** tab to view the file name and format, image dimensions, resolution, and color depth, modification status, number of layers and alpha channels, and the amount of RAM and disk space used for the image as well as its selections, masks, alpha channels, and undo storage.
 - Click the **Creator Information** tab to view or edit the image title, artist name, copyright, description, date created, and date modified.
 - Click the **Watermark Information** tab to view and enter information on Digimarc watermarking.
 - Click the **EXIF Information** tab to view information for images taken with digital cameras. In the **Section** group box, mark the check boxes for the information you want to display: Input Device, Artist, Date, Image, Shot Conditions, and GPS.



CHAPTER 3

Getting Images into Paint Shop Pro

You can get images into Paint Shop Pro in a variety of ways: import images (from a digital camera, card reader, or scanner), capture images from the computer screen, duplicate an existing image or layer, or create a new image.

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Importing Images from Digital Cameras and Scanners

Running scanning software

In addition to running the scanning software from Paint Shop Pro, you can also run the software from the Windows Start menu. After you perform the scan, you then need to run Paint Shop Pro.

With Paint Shop Pro you can access and manage your images while they are in your digital camera. You can also load the images directly into Paint Shop Pro.

Before you can view and download images from a digital camera, card reader, or scanner you must install the special software (called drivers) that enables your computer to connect to the camera, card reader, or scanner. You must install this software before connecting the camera, card reader, or scanner to the computer. Refer to the documentation supplied with your camera, card reader, or scanner for more information about this software.

Determine which type of connection your camera, card reader, or scanner uses:

- **WIA** The default for WIA compatible computers running the Windows XP and ME operating systems. Your camera, card reader, or scanner must support WIA.
- **Mounted Drive** The default for non-WIA computers, and the most common type of connection. Some cameras and scanners, and most card readers are viewed as an additional disk drive when they are connected to the USB port of your computer.
- **TWAIN** Most cameras and scanners are TWAIN-compliant. Use this setting if your camera, scanner, or card reader is TWAIN-compliant.

Downloading Images Using Windows XP, ME and a USB Cable

Paint Shop Pro supports the WIA connection protocol. If your computer has the Windows XP or ME operating system, your camera or scanner uses the WIA connection system, and you connect your camera or scanner to the computer using a USB cable, then Paint Shop Pro and Windows XP or ME will automatically detect when you have connected your camera to your computer.

To download from a WIA camera or scanner with Windows XP or ME:

- 1 Connect the camera, card reader, or scanner to the computer using the USB cable.
- 2 Choose **File > Import > From Scanner or Camera** to download the images to your computer.

Downloading Images From a Mounted Drive

Some cameras, card readers, and scanners display as a separate drive (assigned a drive letter) on your computer. For example, your camera may display as My Computer\Removable Disk (G:).

To download from a camera, card reader, or scanner that appears as a mounted drive:

- 1 Choose **File > Open** to open the Open dialog. Or choose **File > Browse** and use the browser to locate the images on the mounted drive.
- 2 Navigate to the drive for your camera, card reader, or scanner.
- 3 Locate the images that you want to download in a folder or sub-folder of that drive.
- 4 Select the images that you want to download and click **Open** to open the images in Paint Shop Pro.

Viewing EXIF Data

EXIF stands for Exchangeable Image File Format. If your camera supports this standard, it will record the time & date the image was taken, exposure information (ISO, shutter, aperture) and other camera details in the header of each image file. To view EXIF data, choose **Image > Image Information** to open the Current Image Information dialog, and then click the EXIF Information tab.

Importing Images Using the TWAIN Interface

What does your image need?

Here are some edits your digital photograph may need:

- Crop the image. Cropping reduces the amount of memory the image uses and eliminates extra areas of color, which may allow you to make better color corrections.
- Correct colors or retouch parts of the image.

To import images using the TWAIN interface:

- 1 Choose **File > Import > TWAIN > Select Source**. The Select Source dialog lists the TWAIN-compliant devices connected to your computer.

Note: You only need to select the source the first time you connect to the camera, card reader, or scanner.

- 2 Click the name of the device, then click **Select**.
- 3 Choose **File > Import > TWAIN > Acquire** to run the device's software.
- 4 Do one of the following:
 - For scanners, perform the scan using the device's software. (Refer to the scanner manufacturer's documentation for details.)
 - For digital cameras, an Import dialog displays. Select the images that you want to download, and then click **Download**.

When the device and software finish processing the image, the image is sent to Paint Shop Pro and placed in an image window. The software remains open so you can continue to acquire images or close the software.

- 5 Click the Paint Shop Pro icon in the Windows task bar to display Paint Shop Pro and your image.
- 6 Choose **File > Save As** to save the image.

Opening Existing Images

You can open images in a variety of file formats. The list of formats you can open in Paint Shop Pro appears in the Open dialog.

You can select which formats Paint Shop Pro displays as available to open.

You can open a file using the Open dialog or the Browser or by choosing a recently used file from the File > Recent Files menu. With the Open dialog, you can view a preview of each image file that you select. With the Browser, you can view previews of all image files within a folder. When you open a file via the Browser, the Browser window stays open until you close it.

To open an image file using the Open dialog:

- 1 Do one of the following:
 - Choose **File > Open**.
 - Click the **Open** button .
 - Press **Ctrl + O**.
- 2 In the **Look in** drop-down list, select the folder where the file is stored.
- 3 Click the name of the file you want to open. To select multiple files, press **Ctrl** and click each name.
- 4 To view information or a preview of the image, choose an option:

Details Click this button to open a pop-up that displays information about the selected image. Click **OK** to close this pop-up.

Show preview Mark this check box to display the selected image in the preview area. If you have selected multiple files, no preview is displayed; use the Browse window instead.
- 5 Click **Open**.

From open to browse

While opening a file from the Open dialog, you may decide you want to preview all files in a folder. Click the Browse button to open the Browser.

To open an image file using the Browser:

- 1 Do one of the following:
 - Choose **File > Browse**; or
 - Click the **Browse** button ; or
 - Press **Ctrl + B**.

The Browse window opens. Note that the Paint Shop Pro menu bar displays commands specific to when the Browse window is active. The Browse menu is active until you open a new file or click an open image.

2 In the left side of the Browse window you'll see the Find and Info tabs. Use the Find tab like you would Windows Explorer to navigate and then select the folder that contains the file you want to open. Use the Info tab to display image information on a selected image. The right side of the Browse window displays thumbnails of image files located in the selected folder.

3 Select files using one of these methods:

- Click a thumbnail image; or
- To select non-adjacent files, hold down **Ctrl** and click each file; or
- To select adjacent files, click the first file, hold down **Shift**, and click the last file.

Note: To deselect a file, press **Ctrl** and click its thumbnail.

4 Open the selected file(s) using one of these methods:

- Double-click a single file's thumbnail or **Ctrl** + double-click one thumbnail when multiple files are selected; or
- Select a file or multiple files and then drag them onto a blank part of the work space; or
- Press **Enter**; or
- Right-click and select **Open** from the context menu; or
- Choose **Image File > Open**.

After the file or files open, you can close the Browse window by clicking its Close button. You may also want to leave the Browse window open in the workspace.

To open a recently used file:

Choose **File > Recent Files** and then choose the file name.

By default, the Recent Files menu lists four recently used files. You can include up to 10 files. For more information, refer to the Miscellaneous Preferences details in Chapter 4.

Explore the Browser

For more information on using the Browser, see "Using the Paint Shop Pro Browser" on page 44.

Creating Images

About Raster and Vector Graphics

Computer graphics are of two types: raster (also called bitmap) or vector. With Paint Shop Pro, you create both raster and vector images, as well as images with Art Media content. You can also create an image with both raster and vector layers (or Art Media layers). It's important to understand the differences between the two data types.

Raster Images

Raster images are composed of individual elements, called pixels, arranged in a grid. Each pixel has a specific location and color. If you magnify raster data, you can see the individual pixels as squares of colors.

An object in a raster image is defined by its pixels. For example, the front door in an image of a house is made up of a mosaic of pixels at certain locations in the image. In bitmap images you edit pixels rather than objects or shapes.

Raster images can display subtle changes in tones and colors, so they are most often used for images like photographs and digital artwork. Raster images contain a fixed number of pixels, so when you magnify the image you are magnifying the display size of the pixels. As a result, raster images can display jagged rather than smooth edges if magnified on screen or printed at a large magnification.

Vector Graphics

Vector graphics or images use geometric characteristics—lines, curves, and their locations—to define objects. For example, a door in a graphic of a house is made up of a rectangle with a certain width and height at a specific location and filled with a certain color. In vector images you edit objects or shapes rather than pixels.

Vector graphics do not lose clarity or detail when scaled to any size or printed at any resolution. They work well for technical illustrations or corporate logos.

Choosing Raster or Vector

In Paint Shop Pro, you create and edit raster and vector data on separate layers. With some tools you create raster data (like brush strokes with the Paint tool) and with other tools (like the Text and Preset Shapes tools) you can choose whether you want to create raster or vector data.

In general, use vector objects when you'll need to edit the object as an element separate from other parts of the image. For example, if you add a star to an image, you may want to change its size, color or location. This is easier if the star is a vector object. You can create raster data on separate layers so you can easily edit or move them.

To apply tools or commands to vector objects that work only on raster data (such as the painting tools or the effects commands), you can create a raster selection of a vector object. Then, paste the selection to a new raster layer.

About Image Size, Resolution, and Color Depth

Before you create a new image, think about how you will use it. For example, will you display the image on a Web site, send it as an e-mail attachment, or print it? How you use the image helps you determine the image's size, resolution, and color depth. All three elements also contribute to the file size of the image.

Image Size The physical dimensions of the image. In Paint Shop Pro you define image height and width in pixels, inches, centimeters, or millimeters.

- For printed images for which you know the size you need, use inches, centimeters, or millimeters. By starting with the final image dimensions, you can produce an image that will fit the page.
- For printed images that you will import into another software package (such as a word processor) and resize as needed, use whichever unit is easiest for you.
- For images to be displayed on screen, use pixels.

You can resize an image after you have created it, but doing so may result in loss of image data. For more information, refer to the Resizing Images details in Chapter 7.

Image Resolution The number of pixels per inch (ppi) or pixels per centimeter in images. It is important to select an appropriate resolution. Too low a resolution causes pixelation, or large pixels that produce coarse output. Too high a resolution adds to an image's memory requirements without producing a proportional increase in its quality.

Typical image resolutions are as follows:

- For images displayed on Web pages, use 72 or 96 ppi.
- For images printed to a high-quality printer, set the image resolution to one-half to one-quarter of the actual printer resolution. For example, for a laser printer with a resolution of 600 dots per inch (dpi), use an image resolution of 150 to 300 ppi.

Color Depth The number of colors that a pixel can display. Each pixel's color information is stored in a certain number of computer bits—from 1 bit to 24 bits. In a 1-bit image, each pixel can display only one of two colors (black or white). In a 24-bit image, each pixel can display one of 16 million colors. Images with a color depth of 16 million colors look best because they contain the most colors, but they also require the most memory to store and edit. Not all computer monitors can display 16 million colors, so some file formats limit the number of supported colors. For example, GIF images, a popular format for the Web, contain up to 256 colors (8-bit depth).

Many of Paint Shop Pro's effect and correction commands work on 16 million color images only. Therefore, it's best to create most images using 16 million colors. When you have finished working on the image, you can decrease its color depth and save it in another format.

For more information, see "Understanding Color Depth" on page 260.

Creating an Image

You can create a new image by creating a blank image or by using another image as a starting point.

For information on using other images, see “Creating New Images from Existing Images” on page 39.

When you create a new blank image, you select the image size and resolution, along with the color depth and background color and material. It’s important to choose a size and resolution that fits with your desired output type and output quality. For more information, see “About Image Size, Resolution, and Color Depth” on page 36.

To create a new image:

- 1 Do one of the following to open the New Image dialog:
 - Choose **File > New**; or
 - Press **Ctrl + N**; or
 - Click the **New Image** button  on the toolbar.
- 2 Choose the image dimensions:
 - To select a preset size for the new image, in the **Presets** drop-list choose a standard size for print materials (such as 4” x 6” or letter) or computer screens (such as 640 x 480 pixels). The Presets list defaults to the **Last Used** option, which specifies the settings that were used the last time you created a new image.
 - To create an image using specific dimensions, in the **Image Dimensions** group box, set the following options:
 - Units** The units of the dimensions (pixels, inches, centimeters, or millimeters).
 - Width** The width of the new image.
 - Height** The height of the new image.
 - Resolution** The resolution of the new image. Specify the resolution units (pixels/inch or pixels/cm) in the drop-down list.
- 3 In the **Image Characteristics** group box, select from these options:

Raster Background, Vector Background, or Art Media

Background The type of the bottommost layer. Choose a raster background for most photographic applications. Choose a vector layer if you are creating vector graphics. Choose an Art Media layer if you are creating an image with the Art Media tools.

Color Click in the Color box and set the background color or material.

- For raster images, click the color box to select from the Material dialog (for 16 million color images) or the image palette (for images of all other color depths). To choose a transparent background (for greyscale or 16 million color images only), mark the Transparent check box. For more information on choosing colors or materials, refer to Chapter 10.
- For vector images, you only need to choose the color depth. Vector images start with a transparent vector layer.

Note: The Memory Required field displays the amount of memory required for the image. Your computer should have at least two to three times this amount of RAM. To reduce the memory requirement, reduce the resolution or the dimensions of the image.

Canvas texture This is available only when Art Media Background is selected. Select a canvas texture from the drop-list, and then a fill color for the texture. (Uncheck the Enable fill color option if you do not want a fill the chosen texture with a color.) Art Media tool strokes applied to the texture will take on the properties (bumpy, smooth, etc.) of the texture you choose.

4 Click **OK**. The new image opens in the work space.

Creating New Images from Existing Images

You can use a copy of an existing image or a layer to create a new image. You can also create an image from any graphic data copied to the Windows clipboard from Paint Shop Pro.

To duplicate an entire image:

- 1 Open the image you want to duplicate.
- 2 Choose **Window > Duplicate** or press **Shift + D**. A new window containing the image opens in the work space.

To create a new image from a layer of another image:

- 1 On the Layers palette, click the layer you want to copy.
- 2 Choose **Edit > Copy**.

Note: If you use the Cut or Copy commands, the current selection or layer is placed on the clipboard.

- 3 Choose **Edit > Paste > As New Image**. A new image window opens in the work space. The layer you copied is now the background of the new image.

To create a new image from a layered image:

- 1 On the Layers palette, click a layer.
- 2 Choose **Edit > Copy Merged**.

Note: All layers are merged into one layer and placed on the clipboard.

- 3 Choose **Edit > Paste > As New Image**. A new image window opens in the work space. The new image contains all layers merged into one raster layer.

To create a new image from clipboard data:

- 1 Cut or copy a selection or layer of an image, or an item from another program.
- 2 Choose **Edit > Paste > As New Image**. The clipboard data is pasted as a new image. If this command is greyed out, then the data you have copied to the clipboard cannot be pasted as a Paint Shop Pro image.

Note: A dialog may appear requesting additional information such as width and height of the new image window. You can change your preferences so that Paint Shop Pro does not prompt for size and options when you paste data. Refer to the preferences information in Chapter 4.

Capturing Images from the Computer Screen

You can take a picture, called a screen capture, of all or part of the computer screen. You can then edit and save the screen capture in Paint Shop Pro. Before you capture screens you should configure the screen capture options.

Setting Screen Capture Options

Use the Capture Setup dialog to select how you want to capture, how you activate the screen capture, and to set other options.

Add the capture icons to a toolbar

If you frequently capture screens, you may want to create a new toolbar containing the icons for the screen capture command. Refer to Chapter 4 for details.

To set screen capture options:

- 1 Choose **File > Import > Screen Capture > Setup** to open the Capture Setup dialog.
- 2 In the **Capture** group box, select the type of capture:
 - Area** Captures an area of the screen that you select by clicking once at one corner of the area and clicking again at the opposite corner.
 - Full screen** Captures the entire computer screen.
 - Client area** Captures the contents of the active program.
 - Window** Captures the active window. If a dialog is open, this option captures the dialog. If no dialog is open, this option captures the active application.
 - Object** Captures an object within a program, such as a menu bar, toolbar, icon, or a document window. When you initiate the capture, you move the cursor over an object and it is highlighted with a rectangle.
- 3 In the **Activate capture using** group box, select the method for activating the screen capture:
 - Right mouse click** A right mouse click activates a capture.
 - Hot key** A key (such as F11) or key combination (such as Shift + F1) activates a capture. Select the option, then click the drop-down list to select a key or key combination.
 - Delay timer** The screen capture is taken a certain number of seconds after you start the screen capture.

Note: These options select the method for activating the capture after you have started the screen capture feature. To start the screen capture, you click the **Capture Now** button on this dialog, or at the Paint Shop Pro work space press **Shift + C** or choose **File > Import > Screen Capture > Start**.

- 4 In the **Options** group box, select from the following options:
 - Include cursor** Mark this check box to include the cursor in screen captures. This check box is not available for area captures.
 - Multiple captures** Mark this check box when you want to take multiple captures one after the other. Start the screen capture, and then press the hot key to activate it multiple times. Clear this check box to have Paint Shop Pro display after you take one screen capture.
- 5 Do one of the following:
 - To start the screen capture feature immediately, click **Capture Now**. Screen capture settings are saved and Paint Shop Pro minimizes to the task bar. Use the hot key to activate the screen capture. See “Capturing Images from the Computer Screen” on page 41.
 - To save the settings, click **OK**.

Capturing a Screen

Once you have configured the screen capture settings, you can begin capturing screens.

When you are finished, you can edit the screen captures as needed and save the image in Paint Shop Pro. For information about saving images, see “Saving Image Files” on page 49.

To capture a screen:

- 1 Open or display Paint Shop Pro.
- 2 To start the screen capture feature, do one of the following:
 - Choose **File > Import > Screen Capture > Start**.
 - Press **Shift + C**.Paint Shop Pro minimizes to the Windows task bar.
- 3 Open or display the image or window that you want to capture.

How do I capture a Paint Shop Pro screen?

Open two copies of Paint Shop Pro. In one copy, set up the screen capture options and start the capture feature (press **Shift + C**), which minimizes the software. Display the other Paint Shop Pro and press the hot key to activate the capture.

- 4 To activate the screen capture, right-click or press the hot key (such as F10) you chose during setup.
If you chose **Full Screen**, **Client Area**, or **Window** during setup, the screen, area, or window is captured.
- 5 For Area and Object captures, select the area or object to capture:
 - For **Area** captures, click at the top corner of the area you want to capture, then move the cursor to the bottom corner and click again. As you move the cursor a rectangle displays the selection area.
 - For **Object** captures, move the cursor until the area you want is highlighted (with a black rectangle around it), then click to activate the capture.
- 6 If you selected to take multiple captures during setup, you can now take another capture. Right-click or press the hot key for each screen capture. When you are finished, click the Paint Shop Pro button in the Windows task bar.

Opening Frames from Animation Shop

Paint Shop Pro allows you to bring in selected frames from Jasc Animation Shop. After exporting the frames, you can use Paint Shop Pro's image editing arsenal to modify the frames before sending them back to Animation Shop.

Before opening Animation Shop frames in Paint Shop Pro, be aware of the Export option in the Animation Shop Preferences (this option affects how selected animation frames open in Paint Shop Pro).

To set the export options in Animation Shop:

- 1 In Animation Shop, choose **File > Preferences > General Program Preferences**, and choose the **Layered Files** tab. The first option is a check box labeled "Export frames to Paint Shop Pro as layered images."
- 2 Your choices are:
 - If you mark this check box, when you subsequently select multiple animation frames for export to Paint Shop Pro, the frames will be contained as individual layers within one Paint Shop Pro image.
 - If you do NOT mark this check box, when you subsequently select multiple animation frames for export to Paint Shop Pro, each frame will open as its own Paint Shop Pro image file.

To open frames from Animation Shop:

- 1 In Animation Shop, select the frames you want to export to Paint Shop Pro. Only selected frames will be exported.
- 2 Choose **File > Export Frames > To Paint Shop Pro**.

If Paint Shop Pro is already open, it will become the active application, and the selected frame(s) will appear. If Paint Shop Pro was not open, it will start up, and the selected frame(s) will appear.

Important Notes about Interactivity

- While animation frames are open in Paint Shop Pro, the two programs are “linked,” meaning that modifications made on the frames in Paint Shop Pro can be automatically updated to the associated animation in Animation Shop. (To do so, in Paint Shop Pro, choose **Edit > Update Back to Animation Shop**). You can, however, break this link. To do so, in Animation Shop, choose **File > Export Frames > Break Link with Exported Frames**. You can also break the link by closing the images in Paint Shop Pro without saving changes.
- If you also have an older version of Paint Shop Pro, be aware that Animation Shop will export selected frames to the most recently used version of Paint Shop Pro.

Using the Paint Shop Pro Browser

With the Paint Shop Pro Browser, you can view, open, sort, and manage your files.

When you open the Browser window (or when the Browser is the active window), you'll notice that the menu bar instantly changes into Browser mode. This provides a variety of options for selecting files to open and for renaming, moving, copying, and deleting files.

The Image Browser contains two tabs, **Find** and **Info**, in the left side of the Browser window. The Find tab contains the familiar Windows Explorer-like navigation view, and the Info tab displays image information, creator data, and EXIF data. Additionally, with the Browser active you can choose **File > Sort** and use the Sorting dialog to sort images by EXIF data.

To open the Browser:

Choose **File > Browse**, or press **Ctrl + B**, or press the Browse button on the Standard toolbar.

To select all files in a folder:

On the Browser menu, choose **Edit > Select All** or press **Ctrl + A**.

To deselect all files in a folder:

On the Browser menu, choose **Edit > Select None** or press **Ctrl + D**.

To select files by file characteristics:

- 1 On the Browser menu, choose **File > Select**.

In the Select dialog, you can select files that have specific file or image attributes, such as name, file extension, size, width, bits per pixel, and date.

- 2 Select the file and image attributes, then click **OK**.

To change the order of thumbnails:

Click the file's thumbnail and drag it to a new position within the same folder.

To sort thumbnails by file characteristics:

While in Browser mode, the Sorting dialog contains options for sorting images via their EXIF data.

- 1 Choose **File > Sort** to open the Thumbnail Sort dialog.

- 2 In the Sort condition drop-list of either the Primary sort order or the Secondary sort order sections, choose the desired options to sort by (for example, you can sort by EXIF data), and then click **OK**.

Note: Sorting thumbnails is a one-time operation. The thumbnails will not remain sorted if you add new images or change the properties of the existing files. New images are always added to the end of the list.

To invert which files are selected:

Choose **Edit > Invert Selection**. All selected thumbnails are deselected and all unselected thumbnails are selected.

Copying one image into another image

You can copy the layers of one image into another image. See "Cutting, Copying, and Pasting" on page 160.

To rename files:

- 1 Press **Ctrl + R** or right-click the thumbnail and select **Rename** from the context menu.
- 2 Type the new filename. The Browser does not automatically add an extension.
- 3 Click **OK**.

To copy files:

- 1 Press **Ctrl + Y** or right-click the thumbnail and select **Copy To** from the context menu.
- 2 Select the folder to copy the file to.
- 3 Click **OK**.

To paste files to other applications that support OLE functions:

Press **Alt** and click the file's thumbnail, drag it to the application's button in the Window task bar until the application opens, then move the cursor to the application and release the mouse button.

You can paste images into any applications that support meta files, DIBs, and BMPs, such as Microsoft Word. If the image has more than one layer, all layers are automatically merged.

To move files:

Do one of the following:

- Click the file's thumbnail and drag it to a different folder in the left pane of the Browse window. You can also select several thumbnails and drag them to a new folder.
- Select the file or files, then press **Ctrl + M** or right-click the thumbnail and choose **Move To** from the context menu. At the Browse for Folder dialog, select the desired folder and click **OK**.

To delete files:

- 1 Select the file or files you want to delete.
- 2 Press **Ctrl + Delete** or right-click the file's thumbnail and select **Delete** from the context menu.

To find files:

- 1 Choose **File > Find Name** to open the Find dialog.

- 2 Enter the search criteria and click **Find Next** or **Find All** to display the search results in the Browser window.

To rotate files:

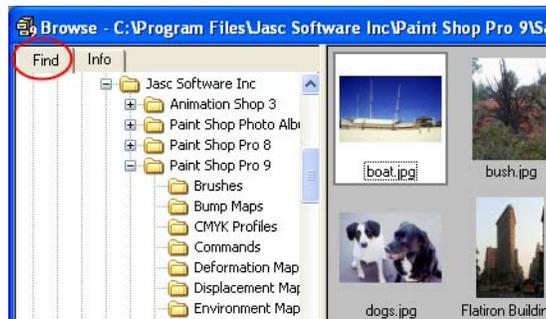
- 1 Select the files that you want to rotate.
- 2 Choose **ImageFile > JPEG Lossless Rotation**, and then choose an option to rotate the selected files.

Using the Find Tab in the Browser

The Image Browser includes two tabbed panes on the left side, the Find tab (for navigation) and the Info tab (for displaying image information).

Use the Find tab's familiar Windows Explorer-like controls to navigate to the folder containing the desired images. To use the tab:

- 1 If it is not already open, start up the Image Browser. The Find tab will be the active tab.
- 2 Using the Windows Explorer-like interface, navigate to the folder containing the desired images. Thumbnails of the folder's images will appear on the right side of the window.

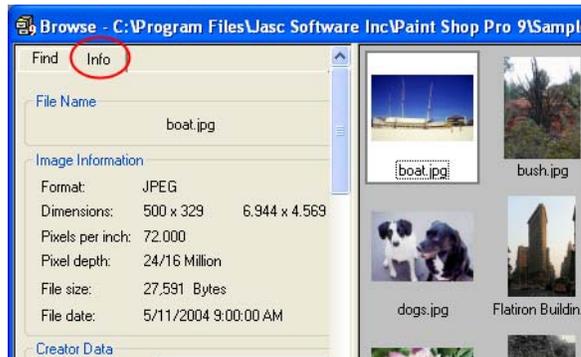


Note: To modify how the thumbnails are displayed, choose **File > Preferences > General Program Preferences** (or right-click in the workspace and choose **General Program Preferences** from the context menu) and then choose the **Browser** tab. Make the desired settings in this tab to affect the Image Browser.

Using the Info Tab in the Browser

Use the Info tab to display pertinent image information, such as creator details as well as EXIF details for digital photos. To use the tab:

- 1 If it is not already open, start up the Image Browser.
- 2 Click the **Info** tab located in the upper left portion of the Browser window.
- 3 Click an image thumbnail to view its details in the Info tab. If you're browsing digital camera images, the EXIF data associated with the image will appear in the Details section of this tab.



Updating Thumbnails

When you open a folder in the Browser, Paint Shop Pro creates thumbnails for all supported graphic images and stores them in a file called PspBrwse.jbf. Every folder you have opened in the Browser has a copy of this thumbnail file. Paint Shop Pro uses this file to display thumbnails more quickly each time you open a folder.

The default preference setting is to have the thumbnails file update automatically every time you open the folder. To change this preference, use the Browser tab in the General Program Preferences dialog.

Occasionally you may want to update the thumbnails with the Update Thumbnails command. For example, if you have used Windows Explorer to delete or add a file in a folder, you can choose **File > Update Thumbnails**, or press **F5** to update the thumbnails file. (You can also open the folder again in the Browser for Paint Shop Pro to update it automatically.)

After a thumbnail file is created, new files are appended to the end of the thumbnails list. To sort the list alphabetically or by other characteristics, choose **File > Sort**.

Saving Image Files

Paint Shop Pro has a native .PspImage format that supports layers, alpha channels, and other features you use to create images. You will find it convenient to save an image in this format while you are working on it and then convert it to a different format after you have finished.

Using Autosave

You can use the Autosave feature to save your files automatically at specified intervals. This can prevent you from losing your work if your computer shuts down unexpectedly. For more information, please refer to “Setting Autosave Preferences” on page 67.

Compressing a .PspImage File

An image file in the .PspImage format can be saved without compression, or it can be compressed to save space. Both of the compression methods that Paint Shop Pro uses are lossless, and reduce the file size without losing any image information. Saving a file without compressing it is the quicker method, but it requires more hard disk space.

Paint Shop Pro uses two compression methods:

- Run length encoding (RLE), which is fast and compresses most multi-layered images to about 75% of their original sizes. It works well with images that contain large areas of the same color.
- LZ77 compression, which is slower than RLE, but can compress an image to a smaller size than RLE. It works well with photo-realistic images.

Choose a compression option by clicking the Options button in the various save dialogs.

Saving an Image

You can easily save an image with the same file name and location. Note that this will overwrite the original image with the modified image. To save the image using a different name or file format, choose **File > Save As**.

Always save a .PspImage version of your file

To be able to use all Paint Shop Pro features, we recommend you save and edit your files in .PspImage format with a color depth of 16 million colors. You can then use the Save As or Export command to save a copy of the file in the desired output format. Your original image stays intact in case you need to make changes to it later.

To save an image:

To automatically save the image with the same file name and location (overwriting the original image with the modified image):

- Choose **File > Save**.
- Press **Ctrl + S**.
- Click the **Save** button  on the toolbar.

Saving a New Image File

The first time you save an image, Paint Shop Pro automatically opens the Save As dialog, where you select a location, name, and format for the image. After this, Paint Shop Pro saves changes to the original image without opening the dialog.

To save a new image:

- 1 Choose **File > Save**, press **Ctrl + S**, or click the **Save** button  on the toolbar to open the Save As dialog.
- 2 Use the **Save In** drop-down list to navigate to the folder in which you want to save the image file. If you frequently save files to the same folder, click the Favorites folder  and select a folder from the list.
- 3 In the **File Name** field, type a name for the file.
- 4 To save the file in a new format, select the format from the **Save As Type** list.
- 5 If the file format has save options, click the **Options** button to open the Save Options dialog. Select new settings, if appropriate. If you are unsure of the settings, use the default values. Click **OK** to return to the Save As dialog.
- 6 Click **Save** to close the dialog and save the file.

You can have Paint Shop Pro display the last used file type when opening this dialog. Select this option in the Dialogs and Palettes Preferences tab of the General Program Preferences dialog.

Saving an Image File in its Original Format

When you save an image and then edit it, the image title bar displays a Modified tag (an asterisk) after the file's name to indicate the file has been modified. This tag disappears each time you save the file; it reappears when you again edit the image.

Saving an Image in a New File Format

If you want to save a file in another format, use the Save As command.

To save a file:

- 1 Choose **File > Save As** or press **F12** to open the Save As dialog.
- 2 Navigate to and open the folder in which you want to save the image file.
- 3 To rename the image file, type a new name in the **File name** field.
- 4 In the **Save as type** drop-down list, select a new format.
- 5 If the file format has save options, click the **Options** button to open the Save Options dialog. Select new settings, if appropriate. If you are unsure of the settings, use the default values. Click **OK** to return to the Save As dialog.
- 6 Click **Save** to save the image file and close the dialog.

Saving a Copy of an Image

When you save an image using the Save Copy As command, you are copying the original file, not saving it. Use this command to save a version of a file without affecting the original. The dialog contains all the same features as the Save As dialog.

Note

When using the Save Copy As command:

- The modifier tag is not affected. It does not disappear from the title bar.
- The file name does not change. The copy is titled "Image Name."
- Paint Shop Pro saves the copy to the same directory and in the same format that was last used with the Save Copy As command (not the Save As command).

To save a copy of an image:

- 1 Choose the **File > Save Copy As** or press **Ctrl + F12** to open the Save Copy As dialog.
- 2 Use the **Save In** drop-down list to navigate to a new folder if you want to save the copy in a different folder. If necessary, use the **Up One Level** button to help navigate, or the **Create New Folder** button to create a new folder.
- 3 In the **File Name** box, type a name for the file.
- 4 To save the file in a different format, select the format from the **Save As Type** drop-down list.
- 5 If the file format has save options, click the **Options** button to open the Save Options dialog. Select new settings, if appropriate. If you are unsure of the settings, use the default values. Click **OK** to return to the Save As dialog.
- 6 Click **Save** to save a copy of the file.

Note

- For information about saving several images in a new file format, refer to Chapter 17.
- For information about optimizing images for the Web, refer to Chapter 19.

Closing Image Files

To close an Image, choose **File > Close**, or click the Close button  on the image window's title bar. If you haven't saved changes to the image, you'll be prompted to do so.



CHAPTER 4

Customizing Paint Shop Pro

By setting up Paint Shop Pro to appear and respond in ways that best suit your work, you'll not only create a better user experience, but you'll likely find yourself working faster and more efficiently. This chapter describes the various ways you can customize Paint Shop Pro.

Note

CMYK Conversion Preferences are covered in Chapter 16, *Printing Images*.

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Using Custom Workspaces

The Paint Shop Pro workspace is made up of all the program's palettes, toolbars, and open images. You may find that the way you arrange the workspace while editing photos may differ from your arrangement for using the Web tools. Fortunately, Paint Shop Pro allows you to save any number of workspace arrangements, allowing you to load the specific workspace that best suits the work you intend to do.

Saving Workspaces

When you save a workspace, Paint Shop Pro saves the information in a .PspWorkspace file. The following information is stored:

- Ruler, grid, and guide information
- Menu, palette, and toolbar settings, locations, and docking status
- Browser window position (if open)
- Full screen edit mode status
- Open images, including the images zoom levels and scroll bar locations

Note: Workspace files do not include an actual copy of any open images. Workspace files only reference the name and location of an image. If you delete an image from your computer, it will not display in a workspace.

To save the current workspace:

- 1 Choose **File > Workspace > Save** or press **Shift + Alt + S** to open the Save Workspace dialog.
- 2 To save the workspace in a folder other than the program default folder, click the File Locations button.
- 3 In the **New Workspace Name** field, type a name for the new workspace.
- 4 Click **Save**.

If your workspace contains any modified images that you have not saved, you will be prompted to save the changes to your image. Choose from these options:

Yes Saves the image changes and saves the workspace.

No Saves the workspace, but does not save the changes to your image.

Cancel The workspace is not saved.

Loading Workspaces

To load a workspace:

- 1 Choose **File > Workspace > Load** or press **Shift + Alt + L** to open the Load Workspace dialog.

- 2 Select the workspace file you want to load.

Note: To load a workspace not displayed in the dialog, click the File Locations button and use the File Locations dialog to make the desired workspace folder the active directory.

- 3 Click **Load**.

Workspace files do not include an actual copy of any open images. Workspace files only reference the name and location of an image. If you delete an image from your computer, it will not display in a workspace.

If you had two windows open for the same image when you saved the workspace, they both open again.

If an image from the workspace is already open, Paint Shop Pro applies the workspace settings to the open image.

Deleting Saved Workspaces

To delete a saved workspace:

- 1 Choose **File > Workspace > Delete** or press **Shift + Alt + D** to open the Workspace dialog.

- 2 Select the workspace file you want to delete.

- 3 Click **Delete**.

Quick Access to Workspaces

Load a recently used workspace by choosing it from the list of recent workspaces located at the bottom of the **File > Workspace** menu.

Customizing Toolbars and Menus

Paint shop Pro 9 gives you almost total control over the program's toolbars, allowing you to:

- Move commands from toolbar to toolbar.
- Add almost any command to any toolbar.
- Add your own custom scripts to toolbars (Refer to Chapter 17).
- Create your own custom toolbar.

Customizing Toolbars

When you display the Customize dialog, the entire Paint Shop Pro workspace transforms into customize mode. You can click and drag almost any menu command or tool to any other menu or toolbar. You can add or delete commands from the menus on the Menu Bar. All this can be done with the Commands and Toolbars tabs of the Customize dialog.

To access the toolbar customize mode:

- 1 To open the Customize dialog, choose **View > Customize**. You can click back and forth between tabs to access the controls you need.
- 2 After making your changes, click **Close**.

To select which toolbars are displayed:

- Choose **View > Toolbars**, and select the toolbar that you want to display; or
- Choose **View > Customize** to open the Customize dialog. Click the Toolbars tab, and mark the checkbox for the toolbars that you want to display, and then click Close.

To select which Menu Bar is displayed:

- 1 Click the **Menu** tab.
- 2 In the **Application Frame Menus** group box, select an option from the **Show Menus for** drop down list:

Default This set of commands displays when no images are open.

Image This set of commands displays when images are open.

Browser This set of commands displays when the Browser is the active window.

Right-click access to Customize dialog

Another way to access the Customize dialog is to right-click in the Menu bar, Tool palette, or Tool Options palette, and then choose **Customize** from the context menu.

To reset a Menu Bar:

- 1 Click the **Menu** tab.
- 2 In the **Application Frame Menus** group box, select the menu you want to reset from the **Show Menus for** drop-down list.
- 3 Click the **Reset** button.

To move a command button or tool:

While in Customize mode, drag the item to another palette or toolbar.

To add commands or tools to a toolbar:

- 1 Click the **Commands** tab of the Customize dialog.
- 2 From the Categories list, select a category. Paint Shop Pro groups related commands into categories. For example, click the **File** category to display all File menu commands. To list all Paint Shop Pro commands at once, choose **All Commands**.
- 3 From the **Commands** list, click and drag a command to a toolbar.

To remove commands or tools from a toolbar

- Drag the item to an empty workspace area or an empty area outside a toolbar. Release the mouse button when you see the cursor change to this shape:  ; or
- Right-click on the item and choose **Delete** from the context menu.

To reset all toolbars:

- 1 Click the **Toolbars** tab.
- 2 Click the **Reset All** button. All toolbars will revert to the program's default settings.

To reset a specific toolbar:

- 1 Click the **Toolbars** tab.
- 2 In the **Toolbars** list, select the name of the toolbar to reset.
- 3 Click the **Reset** button. The selected toolbar will revert to the program's default settings.

To add a separator to a toolbar:

- 1 Choose **View > Customize** to display the Customize dialog.
- 2 Right-click a button in the toolbar to which you'll be adding the separator, and then choose **Include Separator** from the context menu that appears. This adds a separator to the left of the button you clicked.

Note: To rearrange a button relation to the separator, hold down Alt and drag the button to the desired location.

To delete a separator from a toolbar:

- 1 Choose **View > Customize** to display the Customize dialog.
- 2 Right-click the toolbar button directly to the right of the separator. This displays the context menu. Notice the check mark next to the Start Group item.
- 3 Select the **Include Separator** item to remove the check mark and the separator.

Creating a New Toolbar

You can create a custom tool bar with your favorite commands and tools.

To create a new toolbar:

- 1 Choose **View > Customize** to open the Customize dialog.
- 2 Click the **Toolbars** tab.
- 3 Click **New** to open the Toolbar name dialog.
- 4 Type a name for the new toolbar and click **OK**. You'll see a small, empty toolbar.
- 5 Drag this new toolbar off to the side of the Customize dialog so you can see it better.
- 6 To add commands to it, choose the **Commands** tab in the Customize dialog.
- 7 Under **Categories**, choose the menu containing commands you want to load onto your custom toolbar.
- 8 Drag command icons into the new toolbar. Add separator bars, if necessary, as described above.
- 9 When you're done adding commands, click **Close**. Your custom toolbar is now listed when you choose **View > Toolbars**.

To delete a custom toolbar:

- 1 Choose **View > Customize** to open the Customize dialog.
- 2 Click the **Toolbars** tab.
- 3 In the **Toolbars** list, select the name of the custom toolbar you want to delete.
- 4 Click **Delete**.
- 5 Click **Close**.

Customizing Context Menus

Context menus open when you right-click with a certain tool or right-click over a certain area of the workspace.

To customize a context menu

- 1 Choose **View > Customize** to open the Customize dialog.
- 2 Click the **Menu** tab.
- 3 From the **Select context menu** drop-down list, choose a context menu. The context menu will display in the workspace. Edit the menu just like any other toolbar. For instructions see, “Customizing Toolbars” on page 56.

Setting General Program Preferences

General Program Preferences define the behavior of various features.

To set General Program Preferences:

- 1 Choose **File > Preferences > General Program Preferences** to open the Paint Shop Pro Preferences dialog.
- 2 Click the tab containing the preference information you want to change.
- 3 Modify the desired settings, and then click **OK**.

Undo Preferences

The Undo tab controls some settings of the Undo and Redo commands, as well as one setting for the History palette

Undo and Redo Settings

To enable Paint Shop Pro to undo actions, mark the Enable the undo system check box. This enables you to set all the items in this area of the Undo tab.

When the undo system is active, you can set the following options:

- **Limit undo/redo disk usage to *n* MBytes of storage per open image** Sets the maximum amount of disk space each images undo/redo steps can use.
- **Limit undo/redo to *n* steps per open image** Sets the number of undoable/redoable steps in each open image. The default value is 250. Steps older than 250 will become undoable steps, only 10 of which will be retained as defined by the Non-undoable steps after last undoable step setting.
- **Compress undo/redo information** Marking this check box saves disk space, but slows down undo and redo operations.
- **Enable the redo system** Activates the Redo command, allowing you to redo actions you have undone.

History Palette Setting

- ***n* Non-undoable steps after last undoable step** Sets the number of non-undoable steps that will be retained after the last non-undoable step limit has been reached. The default value is 10.

View Preferences

The View tab controls some image window behaviors.

Zooming

These options determine if Paint Shop Pro automatically resizes an image window when you zoom in or zoom out. A window is resized to include as much of the image as will fit.

New Images

Auto size With this check box marked, Paint Shop Pro automatically zooms out to fit the entire image in the window if you open an image that is too large to fit in its image window.

After Changing Size

Fit window to image check box is selected, Paint Shop Pro automatically resizes the image window whenever you resize an image.

Auto Size With this check box marked, if you increase an image's size to more than can fit in its window, Paint Shop Pro reduces the image's magnification accordingly.

Display and Caching Preferences

The Display and Caching tab controls presentation and caching.

About color pickers

In previous versions of Paint Shop Pro, you could use the Jasc Color Picker or the Windows Color Picker. In Paint shop Pro 9, the Windows Color Picker is not available.

Presentation Options

Re-use last type in save-as dialog When you mark this check box, the last file format used to save an image automatically appears in the **Save as type** field.

Display all color dropper ToolTips Clear this box to hide the color information that appears next to the dropper tool when it is positioned over a color.

Use precise cursors Mark this check box to use a cross hair for tool cursors instead of the tool's icon.

Show brush outlines Clear this check box to hide the outline (shape, size) of the current brush as the cursor moves over an image.

Thumbnail/Preview Enter a size for the thumbnails in the Effects Browser and the preview images that display in the Layers palette.

Zoom/Rescaling Quality Adjust the slider between Faster and Better. Faster will zoom images faster, but will display less fine detail. Better will zoom images more slowly, but display more fine detail.

Caching Options

These options allow for faster image redraws after you make changes. By default, they are all marked. Turning these options off will likely slow image redraws.

In the **Image** group box:

Merged Image Clear this check box to stop saving an image cache of your entire merged image.

Merged Below Active Layer Clear this check box to stop saving an image cache of all the layers below the active one.

Group Layers Options

Merged Group Clear this check box to stop saving an image cache of the merged image for each group.

Merged Below Active Layer Clear this check box to stop saving an image cache of all the group layers below the active one.

Palettes Preferences

The Palettes tab controls behaviors of the materials palette as well as how palettes dock.

Materials Palette Options

Display colors in RGB format or **Display colors in HSL format**

This option controls the color information that appears in the materials palette and with the dropper tool.

Decimal display or **Hexadecimal display**

This option controls how color values will display throughout the program.

Show rainbow picker or **Show document palette**

For images with limited palettes (8-bit, 256 color), the document palette shows only colors that are actually in the image.

Why use hexadecimal?

Web browsers use the hexadecimal format to specify colors.

Docking Options

Clear the check box beside each palette to prevent the palette from docking. This will allow you to drag the palette anywhere in the workspace.

Browser Preferences

The Browser tab controls the appearance and operation of the Browser.

Thumbnail Size

Enter values (in pixels) for the thumbnail size the Browser displays. The size range is from 50 to 150 pixels. Clear the **Symmetric** check box to adjust thumbnail width and height independently.

Color choice tip:

Right-click the **Selection color** box to pick from the **Recent Colors** dialog.

Appearance

Choose **Use Windows colors** to highlight thumbnails with the current Windows selection color. Or, choose **Use classic colors** and choose a thumbnail highlight color from the **Selection color** box.

Clear the **Display flat style thumbnails** check box to display thumbnails that look like raised button bars.

Other Options

Display tooltips over thumbnails Clear this check box to hide the image information that appears when the cursor is over thumbnails.

Save browser files to disk Clear this check box to stop the Browser from creating a cache file in folders you browse. By default, when you view a folder using the Browser, Paint Shop Pro saves a file called `pspbrowse.jbf` in that folder. This cache file allows you to view the thumbnails more quickly the next time you browse the folder.

Automatically update the thumbnails Mark this check box to automatically update a folder's cache file every time the folder is browsed. When you view a folder with the Browser, the Browser displays the contents of the folder's cache file. If you make changes to the images in the folder, the thumbnails will not show the results unless the cache file is updated.

File Format Exclusions Click this button (located in the lower right corner of the Browser preferences tab) to display a dialog allowing you to exclude selected file formats from appearing in the browser.

Units Preferences

The Units tab controls ruler options and the default resolutions for new images.

Grid Preferences

To set grid preferences, see Chapter 6, Editing Images.

Rulers

Choose a measurement system for the rulers from the **Display units** drop-down list.

Choose **Toolbar colors** to have the ruler color match Paint Shop Pro's toolbars or choose **Black on White** rulers.

Default Resolution

Choose a measurement system from the drop-down list and enter the default resolution for new images. You can override this resolution on an image-by-image basis by modifying the settings in the New Image dialog.

Vector Coordinates

When this check box is marked, objects will snap to the center of pixels while they're moving. You will have to zoom in very far to see this.

Transparency and Shading Preferences

The Transparency and Shading tab controls the grid size and color representing transparent backgrounds and transparent areas of layers. Additionally, this is where you set the color and opacity of the Crop shading area.

Color choice tip:

Right-click the **Selection color** box to pick from the **Recent Colors** dialog.

Setting Transparency Options

Grid size Chose one of the four grid sizes from the drop-down list.

Grid Colors Choose a color scheme from the Scheme drop-down list. To customize the grid colors, click inside the Color 1 or Color 2 boxes and select new colors.

Preview displays your proposed changes to the transparency grid.

Setting Crop Shading Options

Enable crop shading area Mark this check box to activate shading outside the crop rectangle.

Color Click inside the Color box to choose a shading area color.

Opacity Use the Opacity setting to control how opaque the shading area color will be.

Warning: When crop shading is enabled and you attempt to crop an 8-bit (256 colors) or less image, the area outside the crop rectangle will be black. Thus when cropping these types of images, you may want to disable this option.

Warnings Preferences

The Warnings tab controls how warning dialogs will display.

By default, Paint Shop Pro displays a warning dialog whenever you are about to perform an operation that will result in lost information or one that can not be applied to the image in its current state.

- To prevent a warning from appearing, clear the check box in front of its description.
- Click the **Enable All** button to mark all the check boxes in the list.
- Click the **Disable All** button to clear all the check boxes in the list.

Photo Sharing Preferences

The current photo sharing service provider is shown in the **Select a photo sharing service** list. When you choose **File > Export > PhotoSharing**, that provider's site will be accessed via your Web browser.

Auto Action Preferences

Common actions that need to be performed in order to further edit an image can be automated.

For example, you can only apply effects to 24-bit images. However, most of the Effects menu items are active even if the active image is 8-bit. When you select an effect in an 8-bit image, the Auto Actions dialog opens telling you Paint Shop Pro must convert the image to 24-bit to proceed with the effect.

To set the preferences for an Auto Action:

- 1 Select an Auto Action from the **Auto Action Prompt** list.
- 2 Choose one of these options for each action:

Never Prevents the action from happening. Choosing Never will make certain menu commands inactive if an Auto Action is required to complete the command. Note that some items in the list do not have this option available.

Always Performs the action silently (without prompting you).

Prompt Asks if you want to perform the action.

Set all the actions in the list to a certain option by clicking **Always All**, **Never All**, or **Prompt All**.

Reset all the actions in the list to the program's default settings by clicking **Reset**.

Miscellaneous Preferences

The Miscellaneous tab controls a variety of preferences.

Recently used file list Set the maximum number of files that will appear when you choose File > Recent Files. For example, if the value is set to four, only the last four saved files will appear on the list.

Note: You must restart Paint Shop Pro before the new settings will take effect.

Tolerance to background color when pasting a transparent selection When you paste data as a transparent selection, Paint Shop Pro adds it to the current image, defines it as a selection, and then deselects all the pixels that match the current background color. The tolerance value you enter determines how closely the background color must match the transparent color for it to become transparent. The tolerance scale is 0% to 200%.

- Zero percent indicates that only image pixels with a perfect match to the current background color are made transparent.
- 200 percent indicates that all image pixels are made transparent.

Clipboard Data on Exit Choose how Paint Shop Pro will handle any clipboard data when you exit the program.

- **Ask** Whenever you exit, Paint Shop Pro will ask you what to do with the clipboard data.
- **Delete** Clipboard data will be deleted on exit.
- **Leave** Data will remain in the clipboard on exit.

Force full window redraw when positioning image elements

Mark this check box to redraw the information in the active window whenever you move objects in the image.

Show splash screen when application starts Clear this option to hide the Jasc Software, Inc. splash screen which appears at program startup.

Disable pressure support for puck-type pointing devices Mark this check box to turn off the pressure sensitive features of puck-type pointing devices included with graphics tablets.

Setting Autosave Preferences

Paint Shop Pro can automatically save all open images on a set schedule. These autosaved files can help you recover your work if your computer crashes. When Paint Shop Pro starts after a crash, it will open any autosaved files it finds.

Note

To find where Paint Shop Pro saves the autosaved files, select **File > Preferences > File Locations** and select the Undo/Temporary Files folder from the File Type list.

To set the autosave preferences:

- 1 Choose **File > Preferences > Autosave Settings** to open the Autosave dialog.
- 2 Set the options:
 - **Enable autosave** Mark this check box to activate the autosave feature.
 - **Minutes** Set the number of minutes between each autosave.

Setting File Locations

Paint Shop Pro resources include such items as scripts, picture tubes, patterns, gradients, displacement maps, and workspaces. The full listing of resources displays along the left side of the File Locations dialog. Paint Shop Pro saves and searches for resources in several default folders on your computer. By changing File Locations preferences, you can change where Paint Shop Pro looks for and saves these resources. You can also control how plug-ins are used and which Web browsers are used to preview your images.

Note: By default, all new files you create are saved in the appropriate folder of the ...My Documents\My PSP Files folder. Most default program resources are stored in the appropriate folder in the path ...\\Program Files\\Jasc Software Inc\\Paint Shop Pro 9.

Edit Paths: another way to view file locations

You can open the File Locations dialog by clicking the **Edit Paths** button which appears in many Paint Shop Pro dialogs.

Editing File Locations

The File Locations dialog controls where Paint Shop Pro looks for and saves important files.

Changing File Locations

You can change where Paint Shop Pro stores and retrieves specific resources.

To change file locations:

- 1 Choose File > Preferences > File Locations to open the File Locations dialog.
- 2 From the File types list on the left side, select the resource that you want to change file locations for.
- 3 At the top of the dialog's right side you'll see the default folders where the specified resource can be saved to.

Add Select a listed folder and then click this button (or click the Browse for Folder button at the end of the selected folder) to add another folder to the list. This will display the Browser for Folder dialog, allowing you to navigate to and select another folder. To create a new resource folder, click the Browse for Folder dialog's Create New Folder button and then enter the folder name.

Remove Select a listed folder and then click this button to remove the folder for the current resource category.

 Select a folder and then click this button to move the folder up the list.

 Select a folder and then click this button to move the folder down the list.

- 4 Use the options in the Folder options section to enable the folder system as well as the subfolders. When these items are unchecked, Paint Shop Pro will not be able to search for folders and their subfolders.
- 5 In the Save to field, click the drop list and then click on the folder where you want the current resource saved to.
- 6 Click **OK** to save your settings and return to Paint Shop Pro.

Important: To create a custom category for a particular resource, Refer to the Creating a Custom Category section in this chapter.

Using the Resource Manager Dialog

Paint Shop Pro resources include such items as scripts, picture tubes, patterns, gradients, displacement maps, and workspaces. The full listing of resources displays along the left side of the File Locations dialog. Using a consistent method for managing these resources can make your workflow easier. This is where the Resource Manager dialog comes in.

Accessing the Resource Manager Dialog

Wherever you find a Presets control (such as in the Tool Options palette's Presets drop list for any tool, or in the Presets drop list for a dialog), or the visual resource drop-list for resources such as Preset Shapes, Gradients, etc., you'll find the Resource Manager button . Click this button to access the Resource Manager dialog.

Deleting a Resource

- 1 If necessary, from the Category drop-list choose the category where the resource resides.
- 2 Click the resource from the list.
- 3 Click the **Delete** button. You'll be prompted to verify that you wish to proceed.
- 4 Click **Yes** to delete the resource.

Renaming a Resource

- 1 If necessary, from the Category drop-list choose the category where the resource resides.
- 2 Click the resource from the list.
- 3 Click the **Rename** button. The Rename Resource dialog appears.
- 4 Enter the new name for the resource and then click **OK**.

Copying a Resource to Another Location

- 1 If necessary, from the Category drop-list choose the category where the resource resides.
- 2 Click the resource from the list.
- 3 Click the **Copy** button. The Save As dialog appears.

Note: At this point, you could also rename the file via the Save As dialog's File Name field.

- 4 Navigate to the folder where you want to move the resource, and then click **Save**.

Moving a Resource to Another Location

- 1 If necessary, from the Category drop-list choose the category where the resource resides.
- 2 Click the resource from the list.
- 3 Click the **Move** button. The Browse for Folder dialog appears.
- 4 Navigate to the folder where you want to move the resource, and then click **OK**.

Note: If you move the resource to a location not currently listed in the File Locations dialog, you won't see the resource in the visual resource drop-list, nor in the Resource Manager dialog.

Creating a Custom Category

Create your own categories that will appear for a given resource as follows:

- 1 Access the File Locations dialog using one of the following methods:
 - Choose **File > Preferences > File Locations**; or
 - From the Presets area of a dialog, or Presets area of the Tool Options palette, or from a resource's visual drop-list, click the File Locations button.
- 2 In the File types list on the left side of the dialog, click the resource for which you wish to create a new category folder.
- 3 In the File folders list, click once on the folder under which the sub folder will reside.
- 4 In the Folder Options area of the File Locations dialog, make sure the Enable and Use sub folders check boxes are marked, and then click the **Create Sub Folder** button. This displays the Enter Name dialog.
- 5 Enter a name for the sub folder, and then click **OK** to close the Enter Name dialog.
- 6 (In the Save to field toward the bottom of the File Locations dialog, note that the category you created automatically becomes the folder where new resources of that type will be saved.) Click **OK** to close the File Locations dialog.

To have the new category appear in the Categories drop-list, you must first save a resource in the folder you just created, or use the Copy or Move buttons described above to place a resource file in the new folder.

Setting Plug-in Locations

Paint Shop Pro allows you to use Adobe compatible plug-ins. Use the File Locations dialog to choose folders containing plug-ins and control how plug-ins are used.

To control plug-in functions:

- 1 Choose **File > Preferences > File Locations** to open the File Locations dialog.
- 2 From the **File types** list, select **Plug-ins**.
- 3 Set these options:

Enable plug-ins Mark this box to allow Paint Shop Pro to use plug-ins.

Limit Loaded plug-in files to those with an .8B* extension

The .8B* extension is the most common plug-in extension. Clear this check box to load plug-ins with other extensions.

Allow file format plug-ins to request pre-filtering of support file types Some plug-ins can open files that Paint Shop Pro also supports. Mark this check box to allow a plug-in to try to open (pre-filter) the file before it opens in Paint Shop Pro.

To add plug-in locations:

- 1 Choose **File > Preferences > File Locations** to open the File Locations dialog.
- 2 From the **File types** list, select **Plug-ins**.
- 3 Click the **Add** button. The Browse for Folder dialog appears.
- 4 Type the full path name of the folder you want to add and click **OK**. This takes you back to the File Locations dialog.
- 5 Make sure the Enable option is checked in the Folder Options section of the File Locations dialog, and then click **OK**.

Selecting a Web Browser

Paint Shop Pro allows you to preview your images with Web browsers. Use the File Locations dialog to select which browser(s) to use.

Another way to select Web browsers:

Select **View > Preview in Web Browser** to open the Preview in Web Browser dialog. Click the **Edit Web Browser** button.

To delete or edit Web browsers:

- 1 Choose **File > Preferences > File Locations** to open the File Locations dialog.
- 2 From the **File types** list, select **Web Browsers**.
- 3 Select a browser from the list.
- 4 Click **Edit** to change the browsers location or **Delete** to remove the browser from the list.
- 5 Click **OK**.

To add Web browsers:

- 1 Choose **File > Preferences > File Locations** to open the File Locations dialog.
- 2 From the **File types** list, select **Web Browsers**.
- 3 Click **Add** to open the Browser Information dialog.
- 4 Type the full path name of the Web browser you want to add or click the **Browse** button to find and select the program. Type a different name in the **Web Browser Name** field if desired and Click **OK**.
- 5 Click **OK**.

Setting File Format Preferences

With File Format Preferences, you can specify how Paint Shop Pro handles images in the following formats: Windows Metafile, Kodak PhotoCD, PNG, PostScript, RAW Graphics, and Raw Camera Data.

Setting Raw Camera Data Preferences

To better support the prosumer digital camera user, Paint Shop Pro 9 now supports Raw camera data images. These images contain unprocessed sensor data captured by high-end digital cameras from Canon, Fuji, Kodak, Minolta, Nikon, Olympus, and Pentax.

Raw Camera Data Images vs. RAW (Graphics) File Format Images

In order to avoid confusion, be aware that there is quite a difference between Raw (unprocessed) camera data images and images in the RAW graphics file format.

Raw Camera Data Images

This help topic focuses on Raw camera data images produced by high-end digital cameras. The data from these images in no way resembles or responds like RAW graphics image data.

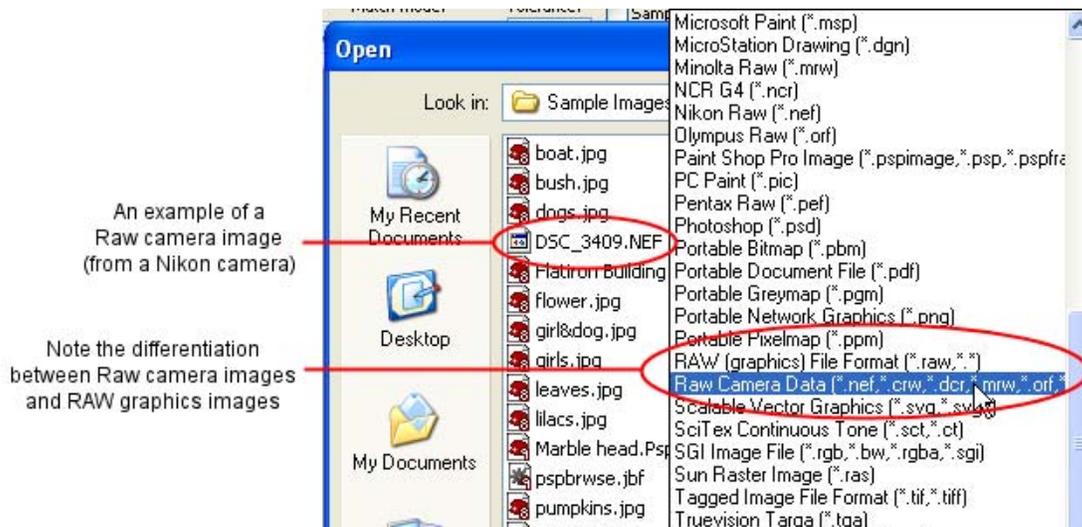
RAW (Graphics) File Format Images

RAW graphics images are basic raster data format images with no compression, and may include an optional non-standard header which is not supported by Paint Shop Pro. These graphics images are used primarily by game developers and by the scientific community. Game developers use RAW graphics images for custom image texturing, bumpmapping, and shading. The scientific community uses these images for custom application-based image analysis.

Paint Shop Pro is used not only to create and edit RAW graphics images, but also to provide conversion from standard formats (such as TIF, JPEG, or TGA) into the RAW graphics format.

Opening Raw Camera Data Images and RAW Graphics Images

When you choose File > Open, and then check the options in the Open dialog's Files of type field, you'll notice that RAW graphics files are differentiated from Raw camera data images as shown here.



Setting Raw File Format Options

You may want the option of displaying a separate dialog for setting sharpening, white balance, and exposure levels before the Raw camera images open in Paint Shop Pro. Do this in the Raw Camera Data tab of the File Format Preferences dialog.

- 1 Choose File > Preferences > File Format Preferences.
- 2 Click the **Raw Camera Data** tab.
- 3 Make sure the **Prompt for override settings each time a raw camera format is opened** check box is marked.
- 4 Click **OK** to close the File Format Preferences dialog.

Now when you now attempt to open a Raw camera data image, the Raw Camera Data dialog will appear, allowing you to override the camera settings.

If this check box is not marked, the Raw Camera Dialog will not appear prior to opening a Raw camera image.

Using the Raw Camera Data Dialog

- 1 If necessary, use the zoom in and zoom out buttons to modify the image preview, and use the Pan button to determine what portion of the image is shown in the preview area. You can also use one of the Zoom level presets from the drop-list. To set the image zoom level to 100 percent, click the  button.
- 2 If you want to rotate the image, use the Rotate Left and Rotate Right buttons to rotate in 90-degree increments.
- 3 If you expand the size of the dialog, click the  button to proportionally scale the image to fit the new window size.
- 4 The Sharpen Mode setting controls the contrast between adjacent image pixels. Be aware that applying sharpening may introduce noise in the image. Click the Sharpen Mode drop list and choose a setting:

Low: applies a minor level of sharpening.

Normal: applies a moderate level of sharpening -- in some case this may introduce image noise.

High: applies a high level of sharpening -- may introduce image noise.

Standard: this is the camera-specific default level of sharpening.

Off: no sharpening will be applied.

- 5 The White Balance settings provide options for correcting the color cast certain types of lighting may cause. If the photo was shot indoors in fluorescent lighting, for example, and the camera was set for outdoor lighting conditions, the photo may have a green color cast. In this case, you could choose Fluorescent to correct this problem. Click the White Balance drop list and choose a setting:

As Shot: uses the camera settings enabled when the photo was taken.

Incandescent: applies correction for a photo taken in incandescent light.

Fluorescent: applies correction for a photo taken in fluorescent light.

Sunny: applies correction for a photo taken in sunlight.

Cloudy: applies correction for a photo taken in cloudy conditions.

Shade: applies correction for a photo taken in the shade.

Flash: applies correction for a photo taken with camera flash.

- 6 Use the Exposure compensation numeric edit control to set an exposure value. (The default value is 1.0.) The values range from -2.0 to 2.0; lower values will darken the image, while higher values will lighten the image.
- 7 When you're satisfied with the settings, click **OK** to open the Raw camera image into the Paint Shop Pro workspace.

Setting Kodak PhotoCD Preferences

The Kodak PhotoCD format (PCD) is used by many photo developers. This format can provide multiple image resolutions in one file.

To set PCD file format preferences:

- 1 Choose **File > Preferences > File Format Preferences** to open the File Format Preferences dialog.
- 2 Click the **PCD** tab.
- 3 Choose:
 - A default resolution setting. For example, 1536 x 1204 pixels.
 - **Ask when loading each file** PSP will ask you to pick a default resolution each time you open a PCD file.
- 4 Click **OK**.

Setting Postscript File Preferences

Paint Shop Pro can read PostScript files (including multi-page files) through level 2 and open them as raster images. When converting, Paint Shop Pro can anti-alias objects and retain transparency information.

To set PostScript file import preferences:

- 1 Choose **File > Preferences > File Format Preferences** to open the File Format Preferences dialog.
- 2 Click the **PostScript** tab.
- 3 Choose a prompt setting:

Prompt for size and options each time a PostScript file is opened

When you mark this check box, Paint Shop Pro will ask you to choose settings for each PostScript file you open. Clear this check box to use the **Size and Options when not prompting** settings for all opened PostScript files.

- 4 If necessary, choose non-prompting options:

Resolution Set the resolution for the converted raster image

Image mode Select a mode from the drop-down list.

Page Size Select a page size from the drop-down list.

By default, if a PostScript file has a bounding box, the program will match the canvas size to the bounding box.

Landscape Mark this check box to switch the page orientation to landscape. The default is portrait. This option does not rotate your images; only use this option for landscape PostScript files.

Anti-aliasing Mark this box to anti-alias PostScript objects as they are converted to raster images.

Render transparency Clear this check box to use a white background instead of the default transparent background.

Setting RAW Graphics File Preferences

Paint Shop Pro can read and save RAW graphics image formats. This format (which is not to be confused with Raw Camera Data images) is commonly used in graphics images in the scientific and computer gaming industries.

To set RAW graphics file preferences:

- 1 Choose **File > Preferences > File Format Preferences** to open the File Format Preferences dialog.
- 2 Click the **RAW (Graphics)** tab.
- 3 Set the **Save options**:
 - Header size** Sets header size of the file.
 - Flip top and bottom** Mark this box to flip the image upside down.
- 4 Set the **24 bit options**:
 - RGB order** or **BGR order** Choose the color order.
 - Planar mode** Clear this box to turn off planar mode.

Setting Metafile Preferences

Windows Meta File (WMF) is the Microsoft Windows native vector format.

To set WMF image preferences:

- 1 Choose **File > Preferences > File Format Preferences** to open the File Format Preferences dialog.
- 2 Click the **Metafile / Import** tab.
- 3 Choose from the two **Load options**:

Prompt for size and options each time a file is opened When you choose this option, Paint Shop Pro will ask you to choose settings for each WMF image you open.

Use file header information when available Some WMF files have a file header containing default size information. Choose this option to use the file header default size (if available). If you open a file without a header, the size defaults to the values you type in the **Default size when file header is not available** group box.

- 4 Choose the following options:

Import vector data Mark this check box to import WMF vector data as objects you can edit with vector tools. Clear this check box to convert all vector objects to raster images.

Apply smoothing Mark this check box to smooth curved polylines (vector data only).

Setting PNG Preferences

Set preferences for opening and saving PNG files as described below.

- 1 Choose **File > Preferences > File Format Preferences**. The File Format Preferences dialog appears.
- 2 Click the **PNG** tab.
- 3 Mark the **Load and Save transparency to/from Alpha channel** option to enable feature for PNG files.

Setting File Format Associations

File format associations control how Paint Shop Pro will interact with many types of file formats.

What if I want to open a file in another program?

When you associate a file format with Paint Shop Pro, you can still open that format in other programs. Just use the other program's Open command.

Adding and Removing Associations

You can have certain file formats automatically open in Paint Shop Pro. For example, when you associate the JPEG file format with Paint Shop Pro, all JPEG files will open in Paint Shop Pro when you double-click them from the Windows desktop. The associated JPEG files will also display Paint Shop Pro icons.

To associate a file with Paint Shop Pro:

- 1 Choose **File > Preferences > File Format Associations** to open the File Format Associations dialog. Do any of the following:
 - To associate a specific file format, mark the format's check box.
 - To associate all listed formats, click the **Select All** button.
 - To associate all listed formats that are not already associated with other applications, click the **Select Unused** button.
 - To associate no file formats with Paint Shop Pro, click the **Remove All** button.
- 2 Click **OK**.

Note

To add or remove file extensions you want associated with the selected format, see "Changing File Format Extensions" below.

Changing File Format Extensions

Note

File format extension changes will not take effect until the next time you start Paint Shop Pro.

To set file extensions:

- 1 Choose **File > Preferences > File Format Associations** to open the File Format Associations dialog.
- 2 Select the file format that contains the extensions you want to set.

- 3 Click the **Extensions** button to open the Extensions dialog. The preferred extension (the extension that Paint Shop Pro will use to save files) is at the top of the list.
- 4 Do one of the following:
 - To add a file extension, click the **Add** button. Type in the new extension and click **OK**.
Note: File extensions that have been associated with Paint Shop Pro will have an asterisk (*) after the name.
 - To delete a file extension, select the extension from the list and click **Delete**.
 - To reset a format to its default extension(s), select the extension from the list and click **Reset**.
 - To make an extension the preferred choice, select the extension and click **Preferred**. The extension will move to the top of the list.
- 5 Click **OK**.

Resetting Application Preferences

Various program preferences can be reverted back to their defaults.

To reset application preferences:

- 1 Choose **File > Preferences > Reset Preferences** to open the Reset Application dialog.
- 2 Select from these choices:
 - Reset general preferences** Mark this check box to reset all general program preference settings to the program defaults.
 - Reset file locations** Mark this check box to reset all file location settings to the program defaults.
 - Reset workspace to default configuration** Mark this check box to reset the current workspace to the program defaults.
 - Reset dialog positions and last used settings** When you mark this check box, any dialogs that open will appear in their default locations. Also, Paint Shop Pro will forget the last settings you used in all dialogs.

Delete all cache files Mark this check box to delete (reset) all existing cache files. Paint Shop Pro saves cache files on your computer to improve program performance. Cache files can become corrupted by computer errors.

Make all toolbars/palettes visible and on screen Mark this check box to view all toolbars and palettes.

3 Click **OK**.

Assigning and Viewing Shortcut Keys

You can view existing keyboard shortcuts, assign a keyboard shortcut to menu commands, bound scripts, and tools, and even modify keyboard shortcuts.

To assign shortcut keys to commands and tools:

- 1 Choose **View > Customize** to open the Customize dialog.
- 2 Click the **Keyboard** tab.
- 3 In the Set Accelerator for drop-list, pick which application's shortcuts you want to assign. Choose **Default** (for Paint Shop Pro's main workspace) or **Browser** (for when the Image Browser is active)
- 4 In the Category drop-list, select a category. Paint Shop Pro groups related commands into categories. For example, if you pick the File category, all the commands in the file menu are displayed. To list all commands at once, choose **All Commands**.
- 5 In the Command list, select a command name.
- 6 The description of the command and any assigned shortcut keys are displayed.
- 7 Click in the **Press New Shortcut Key** field.
- 8 Press the new keyboard shortcut you want to assign to the command. The shortcut will appear in the Press New Shortcut Key field. If the shortcut is already assigned to another command, this will display above the field.
- 9 Click **Assign** to assign the new shortcut to the selected command.
- 10 Assign more shortcut keys, or click **Close**.

To assign a shortcut key to a bound script:

- 1 Choose **View > Customize** to open the Customize dialog.

- 2 Click the **Keyboard** tab.
- 3 In the Set Accelerator for drop-down list, pick which application's shortcuts you want to assign. Choose **Default** (for Paint Shop Pro's main workspace) or **Browser** (for when the Image Browser is active).
- 4 In the Category drop-list, select **Bound Script**. (Note that the Bound Scripts that appear in the Commands list match what appears in the Bound Scripts list of the Scripts tab.)
- 5 In the Commands list, select the bound script to which you want to assign a keyboard shortcut.
- 6 Click in the **Press New Shortcut Key** field.
- 7 Press the new keyboard shortcut you want to assign to the bound script. The shortcut will appear in the Press New Shortcut Key field. If the shortcut is already assigned to another command, this will display above the field.
- 8 Click **Assign** to assign the new shortcut to the selected bound script.
- 9 Assign more shortcut keys as described above, or click **Close**.

To view all shortcut keys:

- 1 Choose **Help > Keyboard Map** to open the Help Keyboard dialog.
- 2 In the Show Accelerator for drop-down list, pick which application's shortcuts you want to view. Choose **Default** (for Paint Shop Pro's main workspace) or **Browser** (for when the Image Browser is active)
- 3 In the Category drop-down list, select a category. Paint Shop Pro groups related commands into categories. For example, if you pick the File category, all the commands in the file menu are displayed. To list all commands at once, choose **All Commands**.

The commands and their shortcut keys are displayed in the list, sorted by command name. Click any column heading (Command, Keys, or Description) to sort alphabetically by that column.

Note: To print the list of the current category of shortcut keys, click Print in the Keyboard Map dialog's toolbar. To select commands and copy their information to the clipboard, click Copy .
- 4 When you are finished viewing keys, click the **Close** button in the upper right corner of the dialog's title bar.

To modify a keyboard shortcut:

- 1 Choose **View > Customize** to open the Customize dialog.
- 2 Click the **Keyboard** tab.
- 3 In the Category drop-list, choose the menu associated with the command, script, or tool for which you want to modify the keyboard shortcut.
- 4 In the Commands list, click the item for which you want to modify the keyboard shortcut.
- 5 In the **Current Keys** field, click once on the shortcut to highlight it, then click the **Remove** button located along the bottom of the dialog.
- 6 Click inside the **Press New Shortcut Key** field so the cursor is blinking, and then press the desired keyboard keys you wish to assign as the new shortcut. (For example, hold down the Alt key and press Q; you'll then see Alt + Q in the Press New Shortcut Key field.) If the keyboard combination you entered is already assigned, this will be displayed above this field. If the keyboard combination is not assigned, you'll see "Assigned to: " above this field. If you make a mistake entering the keyboard combination, just start over with the correct key since pressing Delete or Backspace will not erase what you entered.
- 7 When you're ready to assign the keyboard combination, click **Assign**.
- 8 Click **Close** to close the Customize dialog.

Adjusting General View Options

The Menu and Options tabs of the Customize dialog control a variety of general menu and toolbar features.

Menu Tab

Menu animations Choose an animation style for menu opening and closing from the drop-down list.

Menu icons Clear this check box to hide the Menu Bar icons.

Options Tab

Toolbars and Palettes

Show Screen Tips on toolbars Clear this check box to hide the ToolTips that appear over tools and buttons.

Show shortcut keys in Screen Tips Clear this check box to hide the shortcut key (if available) that appear in ToolTips.

Large icons Mark this check box to display larger toolbar icons.

Use Quadrant Rollups Mark this check box to have floating palettes roll up toward the nearest quadrant of the workspace.

Personalized Menus and Toolbars

Menu show recently used commands first Mark this check box to have Paint Shop Pro simplify its menus to show only recently used commands. You can expand the menus by clicking the expansion button.

Show full menus after a short delay If menus are only showing the most recent items, all items will appear in a moment.

Reset my usage data Click this button to erase the memory of your recently used menu commands.

Adjusting Monitor Display Options

Calibrating Your Monitor

To get the best results when working with Paint Shop Pro, you need to properly calibrate your monitor. Calibrating the monitor improves image quality and allows others to view your images as you intend.

To calibrate your monitor, you need an on-screen aid that helps you adjust the monitor's brightness and contrast. The Jasc Web site provides an on-screen aid as well as detailed instructions for calibration. Go to the **Support** section of www.jasc.com.

How often should I calibrate my monitor?

Monitor performance can change over time, so it's best to calibrate your monitor every few months.

Note about Color Management

If you enable Windows Color Management, Paint Shop Pro ignores the monitor gamma preference setting.

Adjusting the Monitor Gamma Setting

Paint Shop Pro's monitor gamma setting adjusts how colors display in Paint Shop Pro. This setting does not affect how your monitor displays colors in other applications.

Most users should not adjust the monitor gamma setting. If you make color corrections after you change the monitor gamma, the colors may look distorted on other monitors or in applications other than Paint Shop Pro.

To adjust the monitor gamma:

- 1 Choose **File > Preferences > Monitor Gamma** to open the Monitor Gamma Adjustment dialog.
- 2 Lean away from your monitor and look at the red, green, blue, and grey rectangles. Each color contains an inner, solid color rectangle and outer, patterned rectangles. On a correctly adjusted monitor, the inner rectangles are difficult to distinguish from the outer rectangles.
- 3 Do one of the following:
 - To adjust the red, green, and blue values in unison, mark the **Link channels** check box.
 - To adjust the values individually, clear the **Link channels** check box.
- 4 For each color (or for all colors if they are linked), drag the slider until the inner rectangle seems to blend into the outer rectangle.

Note: If you have difficulty getting the inner rectangle to blend into the outer rectangle, your monitor may be too old and faded.
- 5 Click **OK**.

Note: Click **Reset** to return no gamma adjustment (1.00).

Using Windows Color Management

Color Management is a feature in Windows 98 or later that improves color consistency and accuracy between images displayed on monitors and printed on paper. Color Management also allows you to preview how images will look when printed on a specific color printer. Color Management is generally not used for Web images because most Web browsers don't use Color Management.

When to use Color Management

You need to use Color Management if any of the following are true:

- Your pre-press provider requires specific color values for a known set of printing conditions.
- You are using the same color graphics for printing on a printer and displaying on a monitor.
- You plan to use international and domestic printing presses.

In order for Windows Color Management to work effectively, you must have proper color profiles for all the devices you are using.

To create proper monitor and printer profiles, you must use third-party color profiling tools that include software or hardware for determining how your monitor and printer produce color. If you do not have custom monitor and printer profiles, using Color Management is not recommended. For more information on Color Management, please refer to your Windows documentation.

To use Color Management:

- 1 Choose **File > Preferences > Color Management**.
- 2 Mark the **Enable Color Management** check box.
- 3 Choose an option:

Basic color management Adjusts how the monitor displays colors and how the printer produces colors. Most users should choose this option.

Proofing Previews on the monitor how colors will appear on a particular device. This option is best at representing the limitations of a particular output device, such as a printer.

- 4 Select the printer and monitor profiles for your devices in the drop-down lists.
- 5 For **Rendering Intent**, select the approach used to map image colors to the color gamut of your monitor or printer. The available options depend upon your Windows system. For detailed descriptions, see your Windows documentation.
- 6 If you selected the Proofing option, select the **Emulated device profile** (the profile of the output device) and the **Rendering Intent**.
- 7 Click **OK**.



CHAPTER 5

Improving Photographs

Once you have photos in Paint Shop Pro, the next step is to correct any problems with the images. Sometimes the problems are obvious, such as when the subject is too dark. Sometimes, you know that the picture could look better, but you don't know what to fix. This chapter will help you determine what needs improvement in a photo and show you how to improve it.

Note

All commands mentioned in this chapter work on 16 million color and greyscale images only. To increase the color depth of an image, see “Increasing the Color Depth of an Image” on page 261.

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Basic Steps in Improving Photographs

Paint Shop Pro contains many features you can use to enhance your photos. Whenever you work on photos, you should follow the same basic steps in a specific order to get the best results. This is necessary because some later actions remove image data that is needed to successfully complete earlier steps.

Improving Photographs

Identify the steps you may need to take to improve your photos.

Analyzing images using the histogram

For image editing professionals, the histogram and its accompanying adjustment features are powerful tools for understanding and correcting images—especially those with contrast or brightness problems. For casual users, getting familiar with the histogram may not be necessary because Paint Shop Pro offers many simpler ways to adjust images. For information about using the histogram to analyze your photos, see “Using the Histogram to Analyze Images” on page 145.

- 1 Calibrate your monitor to ensure that screen and print images match as closely as possible and that colors are consistent from image to image. For more information, refer to *Calibrating Your Monitor* in Chapter 4.
- 2 Improve colors, contrast, and saturation. Use Paint Shop Pro’s automatic adjustment commands or use the manual adjustments to make initial corrections to your images. Refer to *How to Approach Color, Contrast and Saturation Adjustments* later in this chapter.
- 3 Remove “noise” image artifacts often present in digital photos. Refer to *Using the Digital Camera Noise Removal Filter* later in this chapter.
- 4 Remove color aberrations often present in digital photos. Refer to *Using the Chromatic Aberration Removal Filter* later in this chapter.
- 5 Quickly correct problems caused by too much flash or not enough flash. Refer to *Using the Fill Flash Filter* and *Using the Backlighting Filter* later in this chapter.
- 6 Correct defects caused by the image source, including unwanted patterns on scanned images and undesirable lines on video frames. Refer to *Removing Source Defects* later in this chapter.
- 7 Correct image defects, such as black or white specks, and image distortions caused by camera lenses. Refer to *Removing Image Defects and Noise* later in this chapter.
- 8 Retouch photos, including removing scratches and red-eye effects on people and animals. During this step you can also remove unwanted highlights and objects from your photos. Refer to *Retouching Photographs* later in this chapter.

- 9 Clarify and sharpen images. Refer to Improving Image Clarity later in this chapter.
- 10 Remove red eye from your photo. Refer to Removing Red Eyes later in this chapter.

Using the Digital Camera Noise Removal Filter

The tiny, non-uniform speckles that can sometimes appear in digital photos are referred to as "noise." These unwanted image artifacts usually derive from inevitable sources such as JPEG file compression, or even as a result of electronic fluctuations inside a digital camera. A good example would be a photo of a clear blue sky. Zooming in may reveal tiny specks of color that you know are not present in the sky. You can use this filter to identify and remove noise while preserving detail smaller than the noise itself.

In addition to scanning and identifying three potential noise regions (in the highlight, midtone, and shadow regions of the image), the Digital Camera Noise Removal filter lets you target additional image areas for noise removal. This filter works on the entire image, or on a selection.

Camera Presets and Standard Presets

This filter gives you the option of creating a Camera preset. When a Camera preset option is checked, the Presets drop-list will only display these special types of presets. When you load a camera preset, the image is not sampled at all, but instead the camera preset settings are applied. You can still create additional sampling regions, however. Using a camera preset is recommended when your camera produces consistent noise patterns across each image. Camera presets tend to work well on similar photos, such as photos of people.

When you do not use a camera preset, the filter will scan your image (or selection) and determine potential areas needing correction by placing sampling regions in the highlight, midtone, and shadow regions.

Like other dialogs and tools, you can also save and load standard presets for this filter. When you load a standard preset, the filter will use the preset's dialog settings, but will still scan the image and place the three sampling regions.

Typical Uses for this Filter

Here are some scenarios in which this filter could be an ideal solution:

- For photos you know are going to contain excessive noise (such as a video whiteboard capture), use the filter with low settings to help make the overall image clearer without excessive blurring.
- For photos taken with normal settings yet still having image artifacts surrounding the subject area, use this filter to target just these key areas needing correction.
- For photos taken with the same camera that tend to have noise in the same area, use this filter to create a camera preset that can be applied to all images from the camera.
- For higher-end photography, use the options in the filter's Protect Image tab to specify the color ranges to preserve or discard.
- Lower-end cameras tend to produce more noise than higher-end cameras.
- Note that in some cases, using the JPEG Artifact Removal filter before using this filter (or instead of using this filter) can yield good results. Be aware also that the Digital Camera Noise Removal filter is not designed to remove moire patterns.

Accessing and Using the Filter

- 1 Choose **Adjust > Photo Fix > Digital Camera Noise Removal**.
- 2 Note the three crosshairs placed on the image preview in the Remove Noise tab (not in the normal preview area in the top half of the dialog). These represent noise samples (as determined by the filter) located in the image's light, midtone, and dark areas.
 - Click a crosshair to view its sampling region in the upper left preview window.
 - To move a crosshair, hold down the right mouse button and drag the crosshair to a new position. The sampling region will move accordingly.

- To create more crosshairs, go to the left preview pane in the upper half of the dialog, and then drag the cursor over the areas you want to apply correction. A correction box will encompass the area you dragged, and in the Remove Noise section's preview box, a crosshair will appear over the area. (Note that you may want to maximize the size of the dialog and zoom in appropriately (in the upper left preview window) to help identify image areas with noise artifacts.) You can have a maximum of 10 sampling regions.
 - Avoid sampling an image edge (this will result in excessive smoothing), and avoid sampling pure black and pure white regions of the image.
 - To make a sampling region's box active in the upper left preview window, click its associated crosshairs in the Remove Noise section's preview box.
 - To remove a crosshair, go into the upper left preview pane and drag a corner of the correction box onto its diagonally opposite corner.
- 3 In the Remove Noise tab, set a level for the **Small**, **Medium** and **Large details** correction settings. These settings denote the amount of correction in its respective spatial noise band. Mark the Lock check box to adjust these settings in proportion to each other.
 - 4 Use the **Correction/Blend** setting to determine the percentage of the corrected image to blend in with the original. Values range from 0 percent (no noise reduction) to 100 percent (full processing of the entire image), and the default is 70 percent.
 - 5 Use the **Sharpening** setting to define the percentage (if any) of sharpening to apply to the image after the noise reduction is applied. The default value is 0 percent.
 - 6 To save the current settings as a preset specific to this image and camera, mark the **Camera preset** check box, and then save the preset by clicking the **Save** button found in the Presets drop-list at the top of the dialog. Note that when the Camera preset option is checked, the Presets drop list will only display previously saved Camera presets, not the standard presets.
 - 7 To save the current settings as a standard Preset, uncheck the Camera preset option, and then click the **Save** button found in the Presets drop list at the top of the dialog.
 - 8 Click **OK** to apply the correction.

Using the Protect Image Tab

For more advanced correction, click the **Protect Image** tab. The options in this tab allow you to define regions of color and texture that can be protected from noise correction. For example, you may want to protect skin tones in a photo from having any correction applied to them. You can define as many regions to protect as you like.

To define a protected region:

- 1 Select the **Protect Image** tab.
- 2 In the dialog's upper left preview window, pan and zoom as necessary so you can view the region you wish to protect.
- 3 Hold down the **Ctrl** key and drag the cursor to over the region you wish to protect. Note that by holding down Ctrl you will not create a corresponding crosshair in the Remove Noise tab's Sampling Regions preview area.
- 4 In the Protect Image tab, the Hue and Range settings will reflect the area you sampled. You can manually adjust the Hue knob by dragging it inside the ring, or by adjusting the Hue and/or Range settings.
- 5 Optionally, you can drag any of the seven graph handles downward to progressively diminish the noise reduction (apply less correction/smoothing to that segment of the hue range). For example, dragging just the middle graph handle all the way to the bottom of the graph will completely suppress the midtone of the current hue range. Note that you cannot drag the graph handles laterally.
- 6 To completely remove all color adjustments (essentially starting over in this tab), click the **Reset All** button. To remove color adjustments for the current color range, click the **Reset Current** button.
- 7 Click **OK** to apply the correction.

Using the Chromatic Aberration Removal Filter

Chromatic aberration occurs when the imaging system (such as a camera) places incorrect colors in at least some locations within the image. In conventional film cameras, this is usually caused by a lens defect. In digital cameras, a number of effects can contribute to chromatic aberration, including:

- The camera's inherent lens aberration (which causes fuzziness at image edges); often more common with telephoto and zoom lenses.
- The camera's auto-exposure (how it estimates the correct exposure setting), which can lead to sensor blooming.
- The demosaicing process (where different colors are caught by different camera sensor elements and combined to make one pixel) taking place inside the camera.
- To a much lesser extent, the postprocessing (artifact removal, noise removal, and sharpening) that takes place inside the camera.

In your own digital photos, you may notice chromatic aberrations in these types of situations:

- The sky seen through tree branches or leaves
- The edges of interior windows where bright light is coming through the window
- Night photos of fireworks or city lights
- Photos of fluorescent light fixtures or bare light bulbs
- Sun or light reflections on water
- Reflections on chrome
- The edges of backlit objects
- Sunlit white shirts against a dark background

Paint Shop Pro's Chromatic Aberration Removal filter can eliminate or reduce these types of color defects.

To use this filter:

- 1 Choose **Adjust > Photo Fix > Chromatic Aberration**. The Chromatic Aberration Correction dialog opens.
 - **Note:** It's critical in using this dialog that the left and right preview windows are visible. Make sure the **Show/Hide Previews** button is active (appears sunken) .
- 2 In most cases, you should zoom to at least 200%. This simplifies targeting problem areas in the photo. Use the dialog's **Zoom In** and **Zoom Out** buttons as needed.

- 3 In the left preview window, dragging the cursor encloses a sampled area defining an area needing correction. Use the **Navigate** button to pan the image and set a viewable image area in the left preview window. Note the following points:
 - You can create a maximum of ten samples. If you've identified more than ten, apply the corrections and then restart the effect.
 - For each sample box, a corresponding "Sample *n*" (where *n* is 1 through 10) appears in the List of Samples area located in the center of the dialog. Each Sample listing has a color swatch to the left, indicating a color average for the sampled area.
 - Place the cursor over a sample handle to enlarge or reduce a sample.
 - To delete a sample, click it (or its corresponding Sample listing) and then click the **Remove** button in the bottom right of the dialog. You can also delete a sample box by dragging a corner onto its diagonally opposite corner and then releasing the mouse button when the corners meet.
 - To select a specific sample, click its corresponding "Sample *n*" entry in the List of Samples area.
- 4 The **Range** setting (located to the right of the List of Samples area) displays the color range of the active sample. The color box directly above the Range setting shows a visual representation of the range. You can increase or decrease the active sample's range value to affect the pixel range that will be corrected.
- 5 Mark the **Show Differences** check box to show which image areas will be affected. The affected areas will appear in the right preview window as white areas on black. The brighter (whiter) the area, the more degree of correction will be applied.
- 6 If Show Differences is marked, click the **Auto Proof** or the **Proof** button to preview the results on the image itself.
- 7 The **Radius** setting (located to the left of the List of Samples area) indicates the of the sample's aberration. The default value is 10. Usually values in the range of 4 to 20 produce the most acceptable results. Values greater than 10 are useful on sampling areas enclosing sensor blooming aberrations. Values lower than 10 are useful when trying to remove 1 or 2-pixel aberrations caused by demosaicing, as well as when using the filter on images less than one megapixel. Generally, set the Radius to the smallest setting that will effectively remove the aberration.

- 8 Mark the **Result on New Layer** check box to automatically create a new raster layer (assuming you click OK to apply corrections) on which the corrected image will reside. This is a convenient way to protect your original, unedited image on its own layer. If you do not mark this check box, the corrections will be applied on the same layer as the original image.
- 9 Click **OK** to apply the corrections.

Applying This Filter to Selections or Layers

Be aware that you can limit the number of "false corrections" by making a selection and then applying this filter. You can also use this filter on separate image layers.

Using the Fill Flash Filter

One of the more common problems in photography involves lighting. Photos taken in bright light often have little detail in the shadow areas since the camera is attempting to not overexpose the brighter areas. The Fill Flash filter allows you to lighten the darker, underexposed areas of a photo. If your photo's background is too dark, or you feel there's too much difference between the photo's light and dark areas, this filter is a good choice to help correct that problem.

Accessing and Using the Filter

- 1 Choose **Adjust > Photo Fix > Fill Flash**.
- 2 Use the **Strength** value to determine how much the darker areas will be lightened.

Using Fill Flash in Combination with Backlighting

You may run into a situation where a photo has just enough of a problem with too-dark areas as well as too-light areas. In that case, try running the Fill Flash filter on the photo, and then the Backlighting filter.

Using the Backlighting Filter

Another common problem in photography involves photos having too much lighting from the background, essentially washing out the entire image. A similar problem involves photos with too much flash on the subject. The Backlighting filter allows you to darken the bright, overexposed areas of a photo.

Accessing and Using the Filter

- 1 Choose **Adjust > Photo Fix > Backlighting**.
- 2 Use the **Strength** value to determine how much the lighter areas will be darkened.

Using Backlighting in Combination with Fill Flash

You may run into a situation where a photo has just enough of a problem with too-light areas as well as too-dark areas. In that case, try running the Backlighting filter on the photo, and then the Fill Flash filter.

How to Approach Color, Contrast, and Saturation Adjustments

Curious about color?

For more information about the qualities of color, see "Understanding Color and Color Models" on page 256.

The color, contrast, and saturation have the most influence on our perception of a photograph's quality. If the colors are washed out or the contrast is low, the photo doesn't look right.

Paint Shop Pro's adjustments modify the basic components of color: hue, saturation, and lightness. Hue is the color (such as red or yellow). Saturation is the vividness of the color. Lightness is the intensity of light in the color.

Make adjustments in this order:

- For most photos, first adjust the color and then adjust the contrast. (Contrast adjustment can result in a loss of image information that is needed for color adjustments.)
- For images that are extremely dark or light, first adjust the contrast to make the colors more visible, then adjust the color. If necessary, adjust the contrast again.
- Always adjust the saturation last.

Adjusting greyscale images

Because greyscale and black-and-white photos have no color, you can adjust only the contrast. See "Improving Contrast" on page 106.

Each color, contrast, and saturation adjustment can be made automatically or manually. For automatic adjustments, you choose a few settings and Paint Shop Pro does the rest. For manual adjustments, you analyze the photo and decide what adjustments it needs.

Note

When correcting color photographs, start with the automatic adjustments, and see if you like the result. If the photo still isn't right, use the manual adjustments.

Fixing Photos in One Step

Use the One Step Photo Fix command to automatically adjust the color balance, contrast, clarity, saturation, smooth edges, and sharpen the image.

To fix a photo in one step:

- Choose **Adjust > One Step Photo Fix**; or
- On the Photo toolbar, click **One Step Photo Fix**.

Note: To view the Photo toolbar, choose **View > Toolbars > Photo**.

Correcting Image Distortions

Camera lenses can create distortions in photographs. You see these distortions most often in wide-angle photographs, in close-up photographs taken with cameras with fixed focal ranges, and in cameras with inexpensive lenses (such as disposable cameras).

Note

- The Barrel and Fisheye Distortion Correction commands work on 16 million color and greyscale images only. To increase the color depth of an image, see page 261.
- You must correct lens distortions before cropping the image. For distortion corrections to work properly, the axis of the camera lens must coincide with the center of the image.

Correcting Barrel Distortions

If your image has a barrel distortion, it looks pushed out at the center. Lines that should be straight are curved.

To correct a barrel distortion:

- 1 Choose **Adjust > Photo Fix > Barrel Distortion Correction**.
- 2 Set the **Strength** of the correction. Adjust this value until the distortion disappears. Look for lines in the image that are curved and adjust the Strength Value until they become straight. The image is resized as you adjust this value.
- 3 **Preserve central scale** Whether the scale of the center of the picture remains the same or is adjusted. If you mark this check box, pixels are either added to, or removed from the image. Clear this check box if you do not want to change the size of the image or layer.

Note: If the Preserve central scale check box is marked, the size changes to the original image display in the **Result size** group box.

- 4 Click **OK**.

Correcting Fisheye Distortions

If your image has a fisheye distortion, it looks as though it has been pasted onto a sphere or blown up like a balloon. Lines that should be straight are curved and the edges of the image look compressed.

To correct a fisheye distortion:

- 1 Choose **Adjust > Photo Fix > Fisheye Distortion Correction**.
- 2 Adjust the image using the following options:

Field of View The strength of the correction. Adjust this value until the distortion disappears.

Preserve central scale Whether the scale of the center of the picture remains the same or is adjusted. If you mark this check box, pixels are either added to, or removed from the image. Clear this check box if you do not want to change the size of the image or layer.

Note: If the Preserve central scale check box is marked, the size changes to the original image display in the **Result size** group box.

Correcting Pincushion Distortions

If your image has a pincushion distortion, it looks pushed in at the center. Lines that should be straight are curved.

To correct a pincushion distortion:

- 1 Choose **Adjust > Photo Fix > Pincushion Distortion Correction**.

- 2 Adjust the image using the following options:

Strength of the correction. Adjust this value until the distortion disappears. Look for lines in the image that are curved and adjust the Strength value until they become straight. The image is resized as you adjust this value.

Preserve central scale Whether the scale of the center of the picture remains the same or is adjusted. If you mark this check box, pixels are either added to, or removed from the image. Clear this check box if you do not want to change the size of the image or layer.

Note: If the Preserve central scale check box is marked, the size changes to the original image display in the **Result size** group box.

- 3 Click **OK**.

Improving Colors

To improve your photographs, start by adjusting the colors. Different types of lighting, photographic equipment, and photo processing can cause incorrect coloring in images. In addition, scanned images or digital camera images can have unnatural color casts.

Note

The Automatic Color Balance and Fade Correction commands work on 16 million color images only. To increase the color depth of an image, see “Increasing the Color Depth of an Image” on page 261.

Automatically Balancing Colors

To create natural-looking colors and remove any color cast in your image, use the Automatic Color Balance command. This command works best for correcting images with several colors rather than images with variations of one color. You can apply the command to a selection or an entire image.

To balance colors automatically:

- 1 Choose **Adjust > > Automatic Color Balance**.
- 2 In the preview window, center an important part of the image (such as a face). Pan the image by clicking and dragging in the preview window; zoom in or out as necessary.
- 3 Set the **Strength** of correction for the image, from 1 (the least) to 100 (the most). Start with 30 and then adjust the strength until the image looks the most natural.
- 4 If there is a strong color cast to the image (a particular color added to all colors in the image), mark the **Remove color cast** check box to remove it.
- 5 In the **Illuminant temperature** group box, adjust the image’s illuminant temperature from warmer tones (oranges) to cooler tones (blues). Type a value or drag the slider. The default setting is 6500K, which gives the effect of a photo taken in typical daylight. Photos taken indoors tend to look more orange, while photos taken in bright sunlight tend to look more blue. Adjust the value to achieve the desired effect or until the colors look natural. If colors do not improve, you may not need to make this adjustment.
- 6 Click **OK**.

Using Source and Target Colors to Correct Colors Manually

When it is particularly important to get a certain color right, use the Manual Color Correction command. Select a color in the image that needs to be corrected (the source color), and then select the color you want it to be (the target color). For the target color, choose from preset color options, a specific color, or a color from another image. Paint Shop Pro then adjusts all colors in the selection or image based on the shift from the source color to the target color.

Use this command when the image has skin tones that need to be corrected or when you want to get a specific color exactly right. This adjustment also works well for images with grossly incorrect colors.

You can apply the command to a selection or an entire image.

To use the Manual Color Correction dialog:

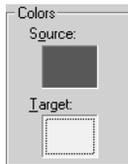
- 1 Choose **Adjust > Color Balance > Manual Color Correction**.
- 2 In the right preview window, center the area with the source color. Pan the image by clicking and dragging in the preview window; zoom in or out as necessary.
Note: You must use the right preview window for panning the image because you select the source color in the left preview window.
- 3 Define the **Source** color in the left preview window using one of these methods:
 - Click once to select a single pixel. Zoom in to make sure you select the correct color.
 - Click and drag to select a rectangular area.
 - To select an irregularly shaped area, mark the **Freehand** check box, then click and drag over the image.

To change your selection, click the **Clear** button or make another selection.

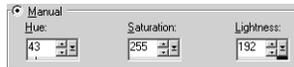
Choose an area that is mostly one color. You do not have to be overly precise with the selection area because pixels in the selection are averaged to determine the source color.

When you select the source color, the **Source** color box displays the selected color.

The Source and Target color boxes



Select target colors manually by entering Hue, Saturation, and Lightness values



Preserving lightness and saturation

If you mark Preserve Lightness and Preserve Saturation, and the source and target colors are similar hues, you may not notice much change in the adjusted image. Try clearing one or both options.

To match the target color exactly, clear Preserve Lightness and Preserve Saturation.

4 Choose the **Target** color using one of these methods:

- To choose from a preset color category, select the **Preset colors** option, choose a color category from the list, and then choose a color from within the category. See “Choosing Color Categories” on page 102.
- To choose from the Color dialog, left-click the **Target** color box. See “Choosing Colors” on page 239.
- To choose from recently used colors, right-click the **Target** color box.
- To choose from any open image, move the cursor over the image until it changes into a dropper and then click the color.
- To choose a color based on its hue, saturation, and lightness (HSL) values, select the **Manual** option, and then enter the values.

When you select the color, the **Target** color box displays the target color.

5 If you are using the **Preset colors** option or have selected a source color from the **Target** color box, choose from the following options:

Preserve Lightness Mark this check box to preserve the lightness of the source color in the corrected image. Clear this check box to match the lightness of the corrected image to the target color’s lightness.

Preserve Saturation Mark this check box to preserve the saturation of the source color in the corrected image. Clear this check box to match the saturation of the corrected image to the target color’s saturation.

6 Click **OK**.

Choosing Color Categories

The preset color categories of the Manual Color Correction dialog consist of a variety of frequently occurring colors. Most of these categories are called memory colors because people remember them particularly well and notice when they don’t look natural. Typical examples are skin tones and sky colors. Memory color categories in the Color Category list are Beverage, Foliage, Fruits, Grasses, Grays, Hair Colors, Metals, Skintones, Sky, Various Foods, Vegetables, Water, and Woods.

There are other categories that you may find helpful when defining the target colors for your photographs:

Pure Colors The main colors on the color wheel (example, red, orange, yellow).

Standard A set of colors designed to let you make very subtle changes in hue. When you select a source color, the Nearest preset color field above the list displays a number for the color that is the closest match in the Standard category.

To correct an image using Standard Colors:

- 1 Choose **Adjust > Color Balance > Manual Color Correction**.
- 2 Click in the left preview window to select a source color.
- 3 Select the **Preset colors** option.
- 4 In the list underneath, choose **Standard**.

The **Nearest preset color** area above the list box displays the Standard color that is the closest match to the source color. Click the **Color** box to the right of the list and scroll to view the color.

- 5 Modify the target color using one of the following options:
 - To shift all hues in the image slightly, choose a color from the **Preset colors** list that is similar to the current color.
 - To shift all hues in the image drastically, choose a color from the **Preset colors** list that is quite different from the current color.
 - **Preserve Lightness** Mark this check box to preserve the lightness of the source color in the corrected image. Clear this check box to match the lightness of the corrected image to the target color's lightness.
 - **Preserve Saturation** Mark this check box to preserve the saturation of the source color in the corrected image. Clear this check box to match the saturation of the corrected image to the target color's saturation.

Using Grey World to Adjust Colors

Like the Automatic Color Balance command, the Grey World Color Balance command corrects image colors, but it uses a different mathematical algorithm.

The premise behind this command is that the average of all colors in the image should be neutral. Although this may be a reasonable approximation for some complex images, it isn't true for all images. (For example, an image dominated by a blue sky.) You should therefore use your own judgement to determine if this command is appropriate for your image.

By default the Grey World Color Balance command balances in way that causes neutral objects to have approximately equal red, green, and blue components. When viewed on a typical computer monitor, this corresponds to a color temperature of about 6500k. The Grey World command allows you to simulate other color temperatures relative to 6500k by adjusting the Illuminant Temperature control to higher values (to produce cooler neutrals with larger blue components and reduced red and green components) or lower values (to produce warmer neutrals with smaller blue components and increased red and green components).

When *not* to use Grey World color correction

This color correction may not work well for:

- Very simple scenes with few colors
- Images with a limited range of hues (such as mostly blues)
- Simple computer-generated graphics

To correct colors using the Grey World dialog:

- 1 Choose **Adjust > Color Balance > Grey World Color Balance**.

The right preview window shows the image colors automatically corrected with the Grey World algorithm.

- 2 In the preview window, center an important part of the image (such as a face). Pan the image by clicking and dragging in the preview window; zoom in or out as necessary.
- 3 In the **Illuminant Temperature** group box, type a value or drag the slider to change the image's illuminant temperature from warmer tones (oranges) to cooler tones (blues). The default setting is 6500K, which gives the effect of a photo taken in typical daylight. Photos taken indoors tend to look more orange, while photos taken in bright sunlight tend to look more blue. Adjust the value to achieve the desired effect or until the colors look the most natural.
- 4 Click **OK**.

Correcting Faded Images

Color depth

The Fade Correction command works on 16 million color images only. To increase the color depth of an image, see "Increasing the Color Depth of an Image" on page 261.

With time and exposure to the elements, especially light, the dyes in a photograph fade. Colors become less vivid, the image acquires an undesirable color cast, and contrast is lost. Use the Fade Correction command to restore color and contrast to faded photographic images. You can apply the command to a selection or an entire image.

The Fade Correction command is a simple, one-step adjustment that corrects both color and contrast. If the resulting image doesn't look as good as you would like, the image may need different adjustments. Instead, try applying the three automatic adjustments from the submenus of the Adjust menu in this order: Automatic Color Balance, Automatic Contrast Enhancement, Automatic Saturation Enhancement.

Have a faded black-and-white photo?

Black-and-white photos have no colors to correct. Instead, use the Automatic Contrast Enhancement command to restore the photograph. See "Automatically Enhancing Contrast" on page 106.

To use fade correction:

- 1 Choose **Adjust > Color Balance > Fade Correction**.
- 2 In the preview window, center an important part of the image (such as a face). Pan the image by clicking and dragging in the preview window; zoom in or out as necessary.
- 3 For **Amount of correction**, start with 45 and adjust the value until the image looks the most natural.

Note: Use the minimum value that produces a good correction. If you apply too much correction, highlight and shadow areas may lose detail and objects may blend together.

- 4 Click **OK**.

Improving Contrast

The tone scale (contrast) of an image represents the distribution of lightness values. It is a combination of Brightness and Contrast.

The brightness of an image relates to the overall sensation you get when it is viewed. If most of the tones are large, the image appears to be bright. If most of the tones are small, the image appears to be dark. Adjusting the brightness therefore tends to shift the average tone value either up (to make the image brighter) or down (to make it darker).

The contrast of an image relates to the range that the tones occupy. If most of the tones in an image are similar to each other, then the image has a low contrast and appears "flat." If the tones are spread widely across the scale, then its contrast is high. Therefore a contrast adjustment either spreads the tones out (increasing the contrast) or compresses them together (lowering the contrast).

Paint Shop Pro has several commands that are useful for adjusting the brightness and contrast of an image. Go to the **Adjust > Brightness and Contrast** submenu for a list of available commands.

Note: The Automatic Contrast Enhancement command works on 16 million color and greyscale images only. To increase the color depth of an image, see "Increasing the Color Depth of an Image" on page 261.

Automatically Enhancing Contrast

The Automatic Contrast Enhancement command is useful for improving the tone distribution of your image. It automatically adapts its behavior to the tone content of each image. Therefore, it will be most effective when used without any selections, because then the entire range of tones will be available for analysis.

Note: If you apply this command to a selection on an image, the contrast adjustment may not be as effective because all the image information is not available.

To automatically adjust contrast:

- 1 Choose **Adjust > Automatic Contrast Enhancement**.
- 2 In the preview window; center an important part of the image. Pan the image by clicking and dragging in the preview window; zoom in or out as necessary.

- 3 Adjust the **Bias** (the brightness) of the correction: **Lighter**, **Neutral**, or **Darker**.
- 4 Adjust the **Strength** of correction: **Normal** or **Mild**.
- 5 Adjust the **Appearance** of the correction:
Flat (a slight difference between light and dark areas)
Natural (an average difference between light and dark areas)
Bold (a striking difference between light and dark areas).
- 6 Click **OK**.

Improving Image Clarity

Accentuating Edges and Contrast Areas

Use Edge effects to accentuate edges and contrast areas in your image. For more information on Edge effects, see “Applying Edge Effects” on page 222.

Improving image clarity is the final step in image correction. Use the Clarify and Sharpen commands to clarify and sharpen your images.

Note

The Clarify and Sharpen Edge commands work on 16 million color or greyscale images only. To increase the color depth of an image, see “Increasing the Color Depth of an Image” on page 261.

Clarifying Images

Use the Clarify command to give your image a crisp, focused look so objects stand out. This command adds a sense of depth and clarity to the image. It can also make hazy, foggy, or slightly out of focus images look clearer.

To clarify images:

- 1 Make sure the image has no selections. If necessary, choose **Selections > Select None**. The Clarify command is not available if the image contains a selection.
- 2 Choose **Adjust > Brightness/Contrast > Clarify**.
- 3 In the preview window, center an important part of the image (such as a face). Pan the image by clicking and dragging in the preview window; zoom in or out as necessary.
- 4 For **Strength of effect**, use the smallest value that gives a satisfying result.
- 5 Click **OK**.

Sharpening Images

Paint Shop Pro contains several commands that sharpen your image by increasing the contrast of adjacent pixels:

Sharpen and Sharpen More Focus the image and improve its clarity by increasing the contrast between adjacent pixels where there are significant color contrasts, usually at the edges of objects. The Sharpen More command sharpens with a stronger effect than the Sharpen command. Both commands are automatically applied to the image.

Unsharp Mask Sharpens the mid- to high-contrast edges in the image without enhancing noise. This command locates adjacent pixels that have a difference in lightness values that you specify and increases their contrast by an amount you specify. This command is typically used in professional color corrections.

To use the Sharpen or Sharpen More command:

Choose **Adjust > Sharpness > Sharpen** or **Adjust > Sharpness > Sharpen More**.

To use the Unsharp Mask dialog:

- 1 Choose **Adjust > Sharpness > Unsharp Mask**.
- 2 In the preview window, center an important part of the image (such as a face). Pan the image by clicking and dragging in the preview window; zoom in or out as necessary.
- 3 Sharpen the image with the following options:
 - Radius** The number of pixels to adjust around each edge. A value between 0.5 and 2 works best, depending on the image. A lower value sharpens only the edge pixels, while a higher value sharpens a wider band of pixels. The effect is much less noticeable in print than on-screen because a small radius (for example, 1 pixel) represents a smaller area in a high-resolution printed image. Therefore, use lower values for on-screen images and higher values for high resolution printed images.
 - Strength** The amount of contrast to increase in the image's pixels. Start with a low value and increase it gradually.
 - Clipping** The difference in lightness values that adjacent pixels must have before they are sharpened.
- 4 Click **OK**.

Improving Saturation

After you have adjusted the tones of your image (by using the Automatic Contrast Enhancement command), adjust the saturation. Saturation is an indicator of the relative amount of color vividness. Imagine a highly saturated color like bright orange. As the saturation is reduced (keeping the hue and lightness unchanged), the orange color becomes brownish, then taupe and finally a middle neutral grey (after the saturation has been set all the way down to zero). Reducing the saturation "drains" the color away, leaving just the greyscale component. Taupe and mauve are familiar, fairly low saturation colors because they are quite neutral, with just a touch of color. Apple red and banana yellow are high saturation colors. Generally speaking, saturation is a measure of how different a color is from a neutral grey of the same brightness.

For digital images, increasing the saturation can give the image brilliant color and "punch." But too much saturation will distort colors such as skin tones.

Paint Shop Pro has several commands that are useful for adjusting the saturation of an image. Go to the **Adjust > Hue and Saturation** submenu for a list of available commands.

Automatically Enhancing Saturation

The Automatic Saturation Enhancement command is useful for improving the saturation of your image. It automatically adapts its behavior to the color content of each image. Therefore, it will be most effective when used without any selections, because then the entire range of colors will be available for analysis.

Note

- This command works on 16 million color and greyscale images only. To increase the color depth of an image, see "Increasing the Color Depth of an Image" on page 261.
- If you apply this command to a selection (rather than the entire image), the saturation adjustment may not be as effective because all image information is not available.
- This command has no effect on greyscale images because they have no color, it can be used on sepia or duotone images.

To automatically enhance saturation:

- 1 Choose **Adjust > Automatic Saturation Enhancement**.

- 2 In the preview window, center an important part of the image (such as a face). Pan the image by clicking and dragging in the preview window; zoom in or out as necessary.
- 3 Set the **Bias** (which is the overall saturation) to your preferred target saturation. The command will automatically adjust the saturation to match this target.
- 4 Set the **Strength** of the correction to **Weak**, **Normal** or **Strong**.
- 5 Mark the **Skintones present** check box if appropriate. With this enabled, the saturation adjustment algorithm is modified in a way that produces more natural looking skin tones.
- 6 Click **OK** to apply the correction.

Removing Image Defects and Noise

Sometimes images have defects that are called noise—black, white, or colored specks ranging in size from very tiny to relatively large or all-over noise that gives surfaces a grainy look. You can use Paint Shop Pro’s Noise commands to remove noise from images. Before you decide which command to use, determine the type of noise that your image contains.

Note

All Noise commands work on 16 million color and greyscale images only. To increase the color depth of an image, see “Increasing the Color Depth of an Image” on page 261.

Removing Single-Pixel Specks

Use the Despeckle command to remove single-pixel specks that are mostly white or black. This command analyzes the brightness of each pixel and compares it to the surrounding pixels to determine if it should be removed.

To remove single-pixel specks in an image:

- 1 Select the area that contains the specks.
- 2 Choose **Adjust > Add/Remove Noise > Despeckle**. The selection is despeckled.

Removing Multiple-Pixel Black or White Specks

Use the Salt and Pepper Filter command to remove multiple-pixel black or white specks, such as those caused by dust on film or video. This command compares an area of pixels to the surrounding pixels and adjusts an area that is a speck to match those surrounding pixels.

To remove multiple-pixel specks:

- 1 Select the area that contains the specks. See “Using the Selection Tools” on page 192.
- 2 Choose **Adjust > Add/Remove Noise > Salt And Pepper Filter**.
- 3 Define the adjustment using the following options:
 - Speck size** The minimum size, in pixels, of the largest speck that can be completely removed. The value is always an odd number.
 - Sensitivity to specks** How different an area must be from its surrounding pixels to be considered a speck.
- 4 Mark the **Include all lower speck sizes** check box to have Paint Shop Pro remove all lower speck sizes. Results are usually better if you mark this check box.
- 5 Mark or clear the **Aggressive action** check box to set whether the strength of correction is normal (if the check box is cleared) or aggressive (if the check box is marked).
- 6 Click **OK**.

Removing Noise While Preserving Edge Details

Use the Edge Preserving Smooth command to remove noise in an image without losing edge details. This command finds details such as object edges and preserves them, while smoothing the areas between the edges. For example, you can preserve the edges of facial features while removing a blotchy complexion.

You can also use the Edge Preserving Smooth command to minimize film grain.

To remove noise while preserving edge details:

- 1 Select the area that contains the noise.

Should I make a selection first?

You can apply the Edge Preserving Smooth command to a selection or an image. It is faster and more effective when applied to a selection.

- 2 Choose **Adjust > Add/Remove Noise > Edge Preserving Smooth**.
- 3 For **Amount of smoothing**, change the value until you are satisfied with the adjustment. Choose the smallest amount of smoothing that removes the specks while retaining image detail.
- 4 Click **OK**.

Removing Small Areas of Noise

Use the Median Filter command to remove small random specks or areas of noise that are distinctly different from the surrounding area. You can also use the command to remove single-pixel colored specks.

The Median Filter command adjusts the intensity of each pixel in the image to the median intensity of surrounding pixels. The median intensity is the middle value (not the average) in the range of values.

To preserve object edges, the Median Filter command adjusts a pixel that is very different from surrounding pixels more than a pixel that is similar to surrounding pixels. You can choose the number of surrounding pixels to use in the calculation. If you choose a large number, more noise is removed and so more detail is lost.

To remove small areas of noise:

- 1 Select the area that contains the noise.
- 2 Choose **Adjust > Add/Remove Noise > Median Filter**.
- 3 For **Filter Aperture**, choose the number of surrounding pixels to include in determining the median intensity of each pixel. The filter is always an odd number of pixels. To preserve image details, choose the smallest filter that removes the noise.
For single-pixel colored specks, set the filter to 3.
- 4 Click **OK**.

Removing Noise While Keeping Texture Details

Should I make a selection first?

You can apply the Texture Preserving Smooth command to a selection or an image. The command is faster and more effective when applied to a selection.

Use the Texture Preserving Smooth command to remove noise or specks in an image while preserving texture details. This command analyzes an image's pixels to determine if they display textured or smooth areas. Textured areas are preserved (few noise adjustments are made) and smooth areas are adjusted to remove noise. For example, textures in clothing may be preserved while noise from another area (such as a person's face) is removed.

To remove noise while keeping texture details:

- 1 Select the area that contains the noise.
- 2 Choose **Adjust > Add/ Remove Noise > Texture Preserving Smooth**.
- 3 For **Amount of correction**, set a value to choose the strength of the correction. At lower values, a small amount of noise is removed but textured areas are preserved. At higher values, more noise is removed but textured areas may not be fully preserved.
- 4 Click **OK**.

Softening the Image

The three Softness commands are Soft Focus, Soften, Soften More. Soften applies a uniform blur to your image. Soften More applies the Soften command with more intensity. The Soft Focus command makes the image look as though it was taken with a camera using a soft focus filter.

To use the Soften and Soften More commands, choose **Adjust > Softness** and either the **Soften** or **Soften More** command.

To use the Soft Focus command:

- 1 Choose **Adjust > Softness > Soft Focus** to open the dialog.
- 2 In the preview window, center the important part of the image. Pan the image by clicking and dragging in the preview window; zoom in or out as necessary.
- 3 For **Softness**, set a percentage value to choose the strength of the correction. At lower values, the image is softened only a small amount. At higher values, the image appears to have a blurred effect.

- 4 For **Edge importance**, set a percentage value to choose the strength of the correction. At lower values, the edges of the image are softened. At higher values, the detail of the edges are retained.
- 5 Mark the **Include scattered light** check box if you want bright areas in the background of the image to be softened.
- 6 For **Amount**, set a percentage value to choose the strength of the halo effect. At lower values, the halo is added to only very bright areas in the image. At higher values, a halo effect is created around bright areas.
- 7 For **Halo size**, set a percentage value to choose the size of the halo. At lower values, the halo is small. At higher values, the halo effect is large.
- 8 For **Halo visibility**, set a percentage value to choose the strength of the halo visibility. At lower values, the halo effect is subtle. At higher values, the halo effect is more obvious.
- 9 Click **OK**.

Removing Source Defects

Images can contain defects that come from the process of scanning or capturing them

Note

These commands work on 16 million color and greyscale images only. To increase the color depth of an image, see “Increasing the Color Depth of an Image” on page 261.

Fixing Line Problems in Video Images

Video images can contain visible scan lines. In these images, lines can be missing or out of alignment with other lines. The resulting image looks excessively blurry.

Use the Deinterlace command to eliminate missing or misaligned lines from your image and to reconstruct missing information. If the image contains noise, it may become more visible after removing scan lines. For information on removing noise, see “Removing Image Defects and Noise” on page 110.

Note: Apply the Deinterlace command before you resize the image. Resizing adds or removes pixels from the image, which makes it more difficult to determine scan lines.

If your image has already been resized, you must return it to as close to the original size as possible so that each scan line is one pixel high. Zoom in until you can see individual pixels to determine how many pixels make up one scan line, and then resize the image so that each scan line is one pixel. For example, if the enlarged image has scan lines that are two pixels high, you would resize it by 50 percent. Keep in mind that the image loses clarity when you resize it.

To deinterlace an image:

- 1 Make sure the image has no selections. If necessary, choose **Selections > Select None**. The Deinterlace command is not available if the image contains a selection.
- 2 Choose **Adjust > Add/Remove Noise > Deinterlace**.
- 3 In the preview window, center the area of the image where the scan lines are most apparent.
- 4 For **Scanlines to retain**, select either **Odd** or **Even** to determine whether the odd-numbered or even-numbered scan lines are kept.
- 5 Click **OK**.

Removing Artifacts from JPEG Images

When you save a file to the JPEG format from any software package (such as scanning software), the file information is compressed to create a smaller file. The compression produces artifacts—unwanted image problems—that can appear as halos or color leakage beyond the edges of objects, checkerboard problems on smooth backgrounds, or blocky-looking areas in an image.

Use Paint Shop Pro's JPEG Artifact Removal command to restore a JPEG image to its original appearance.

Note

Because JPEG compression discards image information, there are limits to how well the image can be restored.

To remove JPEG artifacts:

- 1 Make sure the image has no selections. If necessary, choose **Selections > Select None**. The JPEG Artifact Removal command is not available if the image contains a selection.
- 2 Choose **Adjust > Add/Remove Noise > JPEG Artifact Removal**.
- 3 In the preview window, center the area of the image where the artifacts are most apparent.

What if my file is not in JPEG format?

You can apply the JPEG Artifact Removal command to a file in any format. For example, if you have saved a JPEG file as a Paint Shop Pro (.PspImage) file, you can still apply the command.

- 4 In the **Strength** group box, set the strength of correction to **Low**, **Normal**, **High**, or **Maximum**. For best results, try each option and examine all areas of the image to see which strength setting works best.
- 5 Set the **Crispness** to determine the amount of detail that is restored, from 0 (the least) to 100 (the most). Start with 50 and adjust the value until the image looks the most natural. This option determines how much fine-detail information the artifact removal attempts to create. The recreated information can only be a guess since the original information is lost. Excessive crispness may produce fine dots in the image.
- 6 Click **OK**.

Removing Undesirable Patterns in Scanned Images

Scanning printed images can produce undesirable patterns called Moiré patterns. Other patterns may come from scanning photographs printed on textured paper. Paint Shop Pro's Moiré Pattern Removal command removes these patterns from your images. You can apply the command to a selection or an entire layer.

To remove moiré patterns:

- 1 Choose **Adjust > Add/Remove Noise > Moiré Pattern Removal**.
- 2 Magnify the image in the preview window until you can see the fine patterns clearly.
- 3 For **Fine details**, select a value to remove fine patterns. Change the value one number at a time until the pattern just disappears. Higher values may blur the image, so use the lowest value that removes the pattern.
- 4 Reduce the image magnification until you can see bands or color blotches clearly in the preview window. Bands or blotches may be visible when the image is at 100%, but may be easier to see at smaller percentages.
- 5 For **Remove bands**, change the value one number at a time until any color bands or blotches are less visible (they may not disappear completely). Use the lowest value possible to avoid desaturation of small objects.
- 6 Click **OK**.

Note

After you have removed the Moiré pattern, you may be able to use the Sharpen commands to restore detail and remove blurriness without reintroducing the pattern. This approach works best when you choose a Fine Details setting in the Moiré Pattern Removal dialog that is slightly higher than needed to remove the pattern. For more information on the Sharpen commands, see “Clarifying Images” on page 107.

Retouching Photographs

Paint Shop Pro offers many options for retouching your photos. You can remove red eyes from people, or the green eyes of animals using the Red Eye Removal command. If there are scratches, cracks, and other unwanted defects on a relatively smooth background, use the Scratch Remover tool. If there are many small scratches or creases, use the Automatic Small Scratch Remover command. If there are elements you want to remove, use the Clone Brush tool. Use the retouch tools to lighten, darken, emboss, change colors, and apply other retouches to parts of the image.

Note

The Red Eye and Small Scratch Removal commands work on 16 million color images only. To increase the color depth of an image, see “Increasing the Color Depth of an Image” on page 261

Removing Red Eyes

When you take a flash picture of people, sometimes their eyes look red—the result of the flash’s light reflecting off the retina of the eye. Use the Red-Eye Removal command to return eyes to natural colors. You can also use this command to enhance or change eye colors.

To use the Red Eye Removal command:

- 1 Make sure the image has no selections. If necessary, choose **Selections > Select None**. The Red-Eye Removal command is not available if the image contains a selection.
- 2 Choose **Adjust > Red Eye Removal**.
- 3 In the right preview window, center the red eyes of the subject. Pan the image by clicking and dragging in the preview window; zoom in or out as necessary.

So you always wanted blue eyes...

To use the Red-Eye Removal command to enhance or change eye colors, follow the same steps for correcting red eyes with these special instructions:

- Select the new eye color.
- Select the entire eye (pupil and iris).
- Adjust the Iris Size setting until the pupil and iris look natural.
- Use the Feather and Blur settings to make the new eyes look more natural.

About manual eye correction methods

For both the Pupil Outline methods, select the pupil (the small dark circle at the eye's center), not the entire eye. These methods correct red *pupils* on humans and animals, but do not correct human irises (you'll notice the Hue option for setting the iris hue is not available).

Typically, red-eye effect is confined to the pupil, so with these manual methods you can correct the red pupil.

Note: You must use the right preview window for panning the image because you select the subject's eyes in the left preview window.

- 4 From the **Method** drop-down list, select a correction method:

Auto Human Eye Automatically selects the correction area using a circular selection and chooses settings appropriate to a human eye. If you are correcting human eyes (even partially obscured ones), try this method first.

Auto Animal Eye Automatically selects the correction area using a circular or elliptical selection area and chooses settings appropriate to an animal eye. You can also rotate the selection with this method. If you are correcting animal eyes, try this method first.

Freehand Pupil Outline Manually select the correction area on human or animal eyes using a Freehand Selection tool. Use this method for difficult situations, such as a partially obscured pupil.

Point-to-Point Pupil Outline Manually select the correction area on human or animal eyes using a Point-to-Point Selection tool. Use this method for difficult situations, such as a partially obscured pupil.

- 5 In the left preview window, select the first eye to correct:

- For the **Auto Human Eye** or **Auto Animal Eye** method, click anywhere inside the red area of the eye to select the eye automatically. You can also click and drag from the center of the eye to the outside edge of the red area.
- For the **Freehand Pupil Outline** method, click and drag the cursor around the edge of the red area of the pupil. Release the mouse button when you reach the beginning point of the selection.
- For the **Point-to-Point Pupil Outline** method, left-click at points a few pixels apart around the edge of the red area of the pupil. (Right-click to reverse a click.) When you reach the beginning point, double-click.

Note: To remove a selection, click **Delete**.

After you select the eye, a circle appears around the selected area and a control box for making adjustments encloses the circle. The right preview window displays the corrected eye.

- 6 Make sure the selection is positioned and sized properly over the red area of the eye:
 - To move the selection, drag it to a new location.
 - For the **Auto Animal Eye** method, drag the center rotation handle to rotate the selection. You can also reshape the eye from a circle to an ellipse by dragging its side handles.
- 7 Fine-tune the eye correction by adjusting the pupil size and lightness, glint, iris size, and feathering and blurring of the iris. Refer to the fine-tuning steps later in this section.
- 8 To correct other red eyes, repeat the previous steps. The settings from the first eye are retained, so the subsequent corrections should be much quicker.
- 9 Click **OK**.

Need to change a setting?

To make further corrections on any eye you have selected, click the circle surrounding the eye. You can change any of the settings except **Method**. To change the correction method, remove the selection (click **Delete**), select the method, and then select the eye again.

To fine-tune the eye correction on the Red-Eye Removal dialog:

- 1 For a human eye, look at the corrected eye to see if you need to adjust the iris area around the pupil. (An animal eye usually does not show an iris.) Sometimes the red eye area covers the iris. If needed, adjust the iris with the following options:
 - Iris Size** The size of the iris. Increasing the iris size decreases the pupil size.
 - Hue** The color of the iris (such as blue, brown, or green). This option is not available for the Freehand Pupil Outline and Point-to-Point Pupil Outline methods because these methods select the pupil, rather than the pupil and iris.
 - Color** The color variation of the iris (such as light blue or deep blue).
- 2 For **Pupil lightness**, adjust the value so that the corrected eye appears the appropriate shade and matches your perception of the natural color.
- 3 Examine the glint in the eye. A glint makes the eye look natural and lively; without it the eye looks “dead.” Adjust the glint using the following options:
 - Glint size** The size of the glint.
 - Glint lightness** The lightness of the glint. Lower values darken the glint; higher values lighten it.
 - Center glint** Mark the check box to move the glint to the center of the pupil. Clear it to leave the glint at its original position.

Correcting obscured human eyes

If a human eye is partially obscured, select the Auto Human Eye method, and then use the Refine setting to adjust the correction area.

4 Use **Refine** when the eye is partially obscured in the original image. For example, if the eyelid covers part of the original eye, it should cover it in the corrected eye. Use the Refine Slider to reduce the correction. Slowly drag the slider to the left to reduce the correction and minimize its overlap with the surrounding skin.

5 To blend the corrected eye with the rest of the image, set the following options:

Feather Adjusts the edges of the corrected eye. Smaller values make the edges more defined; larger values blend the edges to the surrounding image areas.

Blur Blends the eye with surrounding pixels when the photo has a grainy appearance. Increase the setting one unit at a time until the eye blends naturally with the rest of the image.

Removing Scratches with the Scratch Remover Tool

The Scratch Remover tool is one way to remove scratches, cracks, and other defects from your images. Use the tool to enclose the area with the scratch and erase it. The tool works best for scratches on relatively smooth backgrounds.

Note

This tool can be used only on backgrounds; it is not available when you are working on layers.

If there are many small scratches in the image, use the Automatic Small Scratch Remover command. See “Removing Scratches with the Automatic Small Scratch Removal Command” on page 122.

To use the Scratch Remover tool:

- 1 If necessary, click the background layer on the Layers palette.
- 2 To limit the correction to a specific area, make a selection. (See “Using the Selection Tools” on page 192.) This step works well when you need to be careful not to remove important details near the scratch.
- 3 Select the Scratch Remover tool .

Smooth vs. textured background

The Scratch Remover tool uses the background image details to create new information to replace the scratch. If the background is relatively smooth, the result is usually satisfying.

To remove scratches from a textured background, the Clone tool may be more effective. See “Cloning Parts of Images” on page 290.

Achieving the best results

If the scratch background is highly textured or contains many image variations (say, a flower, a face, and a wall), the result may not be as satisfying.

Try these tips to get the best results:

- Before using the tool, select the area that contains the scratch.
- Use a tool width about 3 or 4 pixels wider than the scratch itself.
- For scratches over several different backgrounds, try removing the scratch a section at a time.
- Consider using the Clone Tool instead.

- 4 On the Tool Options palette, set the following options:

Width The width, in pixels, of the tool. Choose a width that is about 3 or 4 pixels wider than the scratch. If the width is considerably larger than the scratch, you will lose image detail.

Selection boxes The shape of the Scratch Remover tool. Select the flat-end option  to correct scratches that are perpendicular to object edges in the image or are in an open area (the background is similar and has no objects in it). Select the pointed-end option  to correct scratches at an angle to object edges in the image (with this option, you can place the tool closer to the edges).

- 5 Center the cursor just outside one end of the scratch, then click and drag the bounding box over the scratch:

- If the tool width is 10 or fewer pixels, the box is single-sided. Position the box so that the edges surround, but do not touch, the scratch.
- If the tool width is more than 10 pixels, the box is double-sided. Position the box so that the inner edges surround, but do not touch, the scratch.

- 6 With the mouse button still pressed, you can adjust the size and position of the rectangle:

- Press the **Arrow keys** to move the starting point of the bounding box by 1 pixel.
- Press **PageUp** or **PageDown** to increase or decrease the width of the box by 1 pixel.

- 7 When the rectangle properly encloses the scratch, release the mouse button. The scratch is removed.

If you are not satisfied with the result, click Undo  to undo the scratch removal, then try selecting the scratch again (perhaps varying the width of the tool).

Color depth

The Automatic Small Scratch Removal command works on 16 million color or greyscale images only. To increase the color depth of an image, see page 261.

Removing Scratches with the Automatic Small Scratch Removal Command

The Automatic Small Scratch Remover command finds and eliminates small, line-shaped defects that are either lighter or darker than the surrounding area.

To use the Automatic Small Scratch Removal command:

- 1 To limit the correction to a specific area, make a selection. (See “Using the Selection Tools” on page 192.) The command works best on a selection rather than the entire image.
- 2 Choose **Adjust > Add/Remove Noise > Automatic Small Scratch Removal**.
- 3 Mark the check box of the type of scratches to remove (you must choose at least one option):

Remove dark scratches Mark this check box to remove scratches that are darker than their background.

Remove light scratches Mark this check box to remove scratches that are lighter than their background.

- 4 Specify how scratches are removed with the options in these two group boxes:

Local contrast limits The difference in contrast between a scratch and its background. Use a value that sets the limits to where they achieve the best results. Start with the **Lower** limit at 0 and the **Upper** limit at 50. If scratches remain, the Automatic Small Scratch Removal command is unable to remove them. If scratches disappear, then adjust the limits to minimize loss of image detail. Adjust the **Lower** limit up to the setting just below where scratches reappear. Adjust the **Upper** limit down to the setting just above where the scratches reappear.

Strength The strength of the scratch removal: **Mild**, **Normal**, or **Aggressive**. Select the lowest setting that removes scratches. Look at all areas of the image to make sure important details are not lost.

- 5 Click **OK**.

Blurring Images

Use **Blur** to soften a selection or an image. **Blur** images for photo retouching or to remove noise in the image. The **Blur** commands smooth transitions and decrease contrast by averaging the pixels near edges and areas of significant color transitions.

To increase the effect of any of the **Blur** effects, apply them multiple times to the same image.

Note

- These commands work on greyscale and 16 million color (24-bit) images only. To increase the color depth of an image, see page 261.
- For descriptions and visual examples all the blur commands, refer to the Help system.

Select from the following blur commands:

Applying the Motion Blur effect



Average Removes noise that occurs throughout an image by adjusting the intensity of each pixel to the average intensity of its surrounding pixels. Also removes color dithering that results from increasing the color depth of an image from palleted to 24 bit.

Blur and Blur More Remove noise by applying smooth transitions and decreasing the contrast in your image. The **Blur More** effect applies the **Blur** effect with more intensity. Use either effect to reduce graininess in your image.

Gaussian Blurs an image by an adjustable amount. Blends a specific number of pixels incrementally, following a bell-shaped curve. The blurring is dense in the center and feathers at the edges.

Motion Blur Blurs in a particular direction (from 0 to 359 degrees) and at a particular strength (from 1 to 100). Use this effect to simulate taking a picture of a moving object using a fixed exposure time.

Radial Blur Blurs an image by simulating what you might see if you took a picture while spinning a camera in circles, or by zooming in quickly using a very slow shutter speed. You can also choose a twirling effect

To apply a **Blur** effect:

- 1 On the Layers palette, click the layer containing the area you want to blur.
- 2 To limit the blur to a specific area, make a selection in the image.

- 3 Choose **Adjust > Blur**, then choose a effect.
 - For the **Blur** and **Blur More** effects, the effect is applied to the image or selection.
 - For the **Average**, **Gaussian**, and **Motion** effects, a dialog opens. Choose from the options, then click **OK**. The effect is applied to the image or selection.



CHAPTER 6

Making Color and Tonal Corrections

Paint Shop Pro provides advanced and flexible commands that aid in color corrections and create dramatic effects.

Start your corrections with Paint Shop Pro’s automatic commands and then use the advanced correction commands if your images still need adjusting. For an introduction to color and tonal corrections, see “How to Approach Color, Contrast, and Saturation Adjustments” on page 96. For an overview of steps that help you improve your photographs, see “Basic Steps in Improving Photographs” on page 88.

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Key Points to Know Before Making Corrections

All the Paint Shop Pro correction command dialogs have common ways of adjusting color and lightness. Keep the following key things in mind:

- Lightness levels are specified in a scale from zero (no light, black) to 255 (100% light, white).
- Image files store their color information in channels, or planes, of color. A color channel specifies the amount of a certain color in each pixel of the image. Many correction dialogs let you to edit the red, green and blue channels. The histogram also displays the hue, saturation, lightness, and greyscale channels. Colors are specified on a scale from zero (no color) to 255 (100% of the color).
- Hue settings are displayed on a color wheel or they use values that represent positions on the color wheel. For a visual representation, look at the Jasc Color Picker. Although actual hue values range from 0 to 255, some correction dialogs use degrees to represent hues on the color wheel (from 0 to 359 degrees counter-clockwise starting at the top).
- When you first open a correction dialog, reset the settings by choosing Default in the Presets drop-down list. Otherwise, the dialog uses the settings from the previous correction.
- If there's an adjustment layer available for a correction command, use it. That way the original pixels are left unchanged. If you change your mind or want to revise the correction, it's much easier when you use an adjustment layer. See, "Using Adjustment Layers" on page 382
- Depending upon the color depth of your image, some correction commands may not be available. It's always best to work with images of 16 million (24-bit) colors. If needed, you can reduce the color depth when you finish editing the image. For more information, see "How Corrections Relate to Color Depth" on page 127.

How Corrections Relate to Color Depth

The following table shows you which correction commands and adjustment layers are available for images of different color depths and which color depths can apply commands to selections.

Color Depth	Commands that Apply to Entire Layer or Image	Commands available for Selections	Available Adjustment Layers
2 color (1-bit)	Greyscale, Negative Image	None	None
16 color (4-bit)	Greyscale, Posterize, Solarize, and Sepia, plus all commands in the Adjust menu	None	None
256 color (8-bit)	Same as 16 color (4-bit), plus the Equalize and Stretch Histogram commands	None	None
Greyscale (8-bit)	All commands that correct brightness or contrast	The same commands that work on the layer or image	Brightness/Contrast, Curves, Invert, Levels, Posterize, Threshold
16 million, 32K, or 64K color (24-bit)	All correction commands	All correction commands	All adjustment layers

Adjusting the Color Balance

In technical terms, color balance refers to the balance of red, green, and blue in your images. In common usage, balancing colors means creating natural looking images without a color cast (an overall imbalance of colors in an image). Use Paint Shop Pro to correct color balance and also to change the balance to create dramatic effects.

Changing the Overall Color Balance

Use the Red/Green/Blue command to adjust the amount of red, green, and blue in your image and to make color corrections by changing the overall color cast. To reduce the amount of a color in the image, you can either increase its opposite color on the color wheel or reduce the amount of adjacent colors on the color wheel. For example, to color correct an image containing too much yellow, either increase the amount of blue or decrease the amount of red and green.

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

To increase the color depth of an image, see page 261.

The automatic alternative

For a quick and easy way to balance colors, use the Automatic Color Balance command. See "Automatically Balancing Colors" on page 100.

To use the Red/Green/Blue command:

- 1 To limit the correction to a specific area, make a selection in the image. See "Using the Selection Tools" on page 192.
- 2 Choose **Adjust > Color Balance > Red/Green/Blue**.
- 3 In the **Red**, **Green**, and **Blue** edit boxes, select the percentage to change each value. A value of 0% indicates the original value. To add more of a color, use a positive number. To remove some of a color, use a negative number. Keep in mind the following:
 - Reducing the amount of blue adds a yellow cast to the image.
 - Reducing the amount of green adds a magenta cast to the image.
 - Reducing the amount of red adds a cyan cast to the image.
- 4 Click **OK**.

Changing the Color Balance of Shadows, Midtones, and Highlights

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

In addition, adjustment layers are available for 16 million (24-bit) color images only.

To increase the color depth of an image, see page 261.

Use the Color Balance command to change the balance of colors in an image. This command provides general color correction and allows you to adjust the color balance in shadows, midtones, and highlights.

To use the Color Balance command:

- 1 To limit the correction to a specific area, make a selection in the image. See “Using the Selection Tools” on page 192.
- 2 Do one of the following:
 - To modify the image pixels directly, choose **Adjust > Color Balance > Color Balance**.
 - To create an adjustment layer, choose **Layers > New Adjustment Layer > Color Balance**. For information on adjustment layers, see “Using Adjustment Layers” on page 382.
- 3 To reset the settings, in the **Presets** drop-down list, select **Default**.
- 4 In the **Tone balance** group box, select which lightness level (tonal range) of colors to adjust: **Shadows** (dark colors), **Midtones** (colors in the middle range), and **Highlights** (bright colors). Adjust each one individually.
- 5 To have the corrected image match the lightness of the original image, mark the **Preserve luminosity** check box.
- 6 In the **Color balance** group box, drag a slider toward a color to increase that color in the image or drag a slider away from a color to decrease the color. Increasing the proportion of one color decreases the proportion of its opposite on the color wheel.

The values in the **Color levels** edit boxes show the color changes for the red, green, and blue channels. Values range from -100 to 100. Zero indicates the original color balance.

- 7 Click **OK**.

Adjusting the Hue, Saturation, and Lightness in Unison

Use the Hue/Saturation/Lightness command to shift all colors in an image and change their strength and lightness. Here's how the command works:

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

In addition, adjustment layers are available for 16 million (24-bit) color images only.

To increase the color depth of an image, see page 261.

- Changing the hue shifts all pixels in an image around the color wheel to a different point. For example, if you change the red pixels to green, the green pixels turn to blue and the yellow pixels turn to cyan.
- Changing the saturation adjusts the amount of grey in a color. The level of grey increases as the saturation decreases.
- Changing the lightness adjusts the color's brightness.

Creating a duotone

You can use the Hue/Saturation/Lightness command or the Colorize command to create a duotone image (a greyscale image with one color added).

For more information on duotones, see "Colorizing Images" on page 141.

To use the Hue/Saturation/Lightness command:

- 1 To limit the correction to a specific area, make a selection in the image. See "Using the Selection Tools" on page 192.
- 2 Do one of the following:
 - To modify the image pixels directly, choose **Adjust > Hue and Saturation > Hue/Saturation/Lightness**.
 - To create an adjustment layer, choose **Layers > New Adjustment Layer > Hue/Saturation/Lightness**. For information on adjustment layers, see "Using Adjustment Layers" on page 382.
- 3 In the **Edit** drop-down list, choose the color range to adjust. To edit all colors simultaneously, choose **Master**. To edit a specific color range, choose **Reds**, **Yellows**, **Greens**, **Cyans**, **Blues**, or **Magentas**.

The color rings represent the colors in the image. The outer ring represents the original values and the inner ring represents the adjusted values. If you choose a specific color range to edit, a control ring is added between the inner and outer rings where you can change the color range that you adjust.
- 4 To turn the image into a duotone (two-color) image, mark the **Colorize** check box. The image turns into a greyscale image (if you have previews or proofing on). You can now select a hue and adjust the saturation and lightness values to colorize the image.

- 5 If you are editing a specific color range (rather than the Master mode), you can change the color range that you adjust using the control ring:
 - To set the range width, drag the two outer points on the control ring, which mark the beginning and end of the adjustment area.
 - To change where the adjustment builds to full effect, drag the two inner bars. In the area between the two inner bars, the adjustment is in full effect.
 - To move the adjustment area, drag the white circle.
- 6 To change the hue, drag the **Hue** slider until the colors appear as you want them. You can also type a value in the **Hue** edit box.

The hue value is not on the typical hue scale of 0 to 255. Instead, the value is the number of degrees of rotation around the 360 degree color wheel from the pixel's original color. A positive values indicates a clock-wise rotation and a negative value indicates a counter-clockwise rotation. For example, when the Hue value is at 180, blue becomes yellow and green becomes magenta.
- 7 Drag the **Saturation** slider up to increase the saturation or drag it down to decrease the saturation. Values can range from -100 to 100; at zero the saturation is unchanged.
- 8 Drag the **Lightness** slider up to increase the lightness or drag it down to decrease the lightness. Values can range from -100 to 100; at zero the lightness is unchanged.
- 9 Click **OK**.

Correcting Colors by Setting Black and White Points

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

To increase the color depth of an image, see page 261.

If an image has a color cast, an effective way to correct it is to select those points that you know are supposed to be black or white and shift all colors based on resetting these points to true black and true white. You can do this with the Black and White Points command. You can also define the grey point too. After you select the points, all colors are shifted.

To use the Black and White Points command:

- 1 To limit the correction to a specific area, make a selection in the image. See “Using the Selection Tools” on page 192.
- 2 Choose **Adjust > Color Balance > Black and White Points**.
- 3 In the right preview window, center the area with the source points (the points that should be black, white, or grey). Pan the image by clicking and dragging in the preview window; zoom in or out as necessary.

Note: You must use the right preview window for panning the image because you select the source colors in the left preview window.

- 4 To use a greyscale palette to select all destination colors, mark the **Balance to grey** check box. If this check box is cleared, you can select any color for the destination points.
- 5 For each point that you want to correct, do the following:
 - Select the source point: click the color’s dropper button , then click a color in the left preview window that is supposed to be the color you are correcting (black, grey, or white).
 - If you want, change the default color: for the **Desired color** boxes, click the appropriate Color box (black, grey, or white) and select a color from a black-and-white color palette.

Note: To select a destination color from the image window or the desktop, position the cursor over any destination color box, press and hold the **Ctrl** key, move the cursor over the image or the desktop, and click a color.

- 6 To preserve the lightness of the source color, mark the **Preserve lightness** check box. If this check box is cleared, the lightness of the corrected image matches the target color’s lightness instead.
- 7 Click **OK**.

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

In addition, adjustment layers are available for 16 million (24-bit) color images only.

To increase the color depth of an image, see page 261.

Adjusting the Color Channels

Use the Channel Mixer command to increase or decrease the red, blue, or green color channel by a percentage of itself and the other two channels. Use this command when you want to adjust color channels individually.

To use the Channel Mixer command:

- 1 To limit the correction to a specific area, make a selection in the image. See “Using the Selection Tools” on page 192.
- 2 Do one of the following:
 - To modify the image pixels directly, choose **Adjust > Color Balance > Channel Mixer**.
 - To create an adjustment layer, choose **Layers > New Adjustment Layer > Channel Mixer**. For information on adjustment layers, see “Using Adjustment Layers” on page 382.
- 3 Do one of the following:
 - To maintain a color image, in the **Output channel** drop-down list, select a color channel to edit: Red, Green, or Blue.
 - To change the image to a monochrome (which looks like a greyscale but has a color depth of 16 million colors), mark the **Monochrome** check box. The Channel drop-down list displays **Grey**. When you adjust the color channels in the next step, you change the amount of each channel that is used to create the monochrome image.
- 4 In the **Source channels** group box, use the **Red**, **Green**, and **Blue** edit boxes or sliders to change the current percentage of that color in the channel you are editing. For example, if you are editing the Red channel and set the Red value to 50%, you reduce the amount of red in the image to 50% of its original amount.
- 5 To brighten the color channel, drag the **Constant** slider to the right. To darken the color channel, drag the slider to the left. The default of zero is the original setting.
- 6 Click **OK**.

Adjusting Brightness and Contrast

Automatic adjustment

Choose **Adjust > Brightness and Contrast > Automatic Contrast Enhancement** to adjust the contrast with several easy-to-use options.

There are numerous methods for correcting the brightness and contrast of an image.

- Analyze the image with the histogram and then use the histogram commands to adjust the image.
- Use the Brightness/Contrast command to adjust the brightness or contrast individually.
- Use the Curves command to change the brightness values of individual pixels.
- Use the Gamma Correction command to change the image's gamma, which adjusts the brightness and contrast in unison.
- Adjust the brightness of highlights, midtones, and shadows to improve contrast and bring out detail in light or dark areas.
- Use the Levels command to adjust the lightness of the image.

Using the Histogram to Fix Contrast Problems

Creative ideas for equalizing

In some cases the effect of equalizing the histogram of an image may be too strong. You may get better results when you blend the original image with the equalized version. Copy and paste the original as a new layer, then equalize the copied layer and use the layer opacity options to blend the two layers together.

For more information on the opacity options, see "Changing Opacity of Layers" on page 372.

In Paint Shop Pro there are three main ways to use the histogram to fix contrast problems:

- Use the Histogram Adjustment command to edit the luminosity (or lightness) channel. See "Correcting Images by Adjusting the Histogram" on page 148.
- Use the Histogram Equalize command to average image brightness by distributing the lightness values of pixels more evenly across the lightness spectrum from black to white. This command makes the darkest pixel as close to black as possible and the lightest pixel as close to white as possible, and then distributes the remaining pixels evenly between these two values.
- Use the Histogram Stretch command to increase contrast. If an image's histogram does not cover the entire lightness spectrum, the image does not contain very dark or very light areas and so it lacks contrast. The Stretch command stretches the graph closer to both ends so that it covers more of the spectrum. (You can also do this manually with the Histogram Adjustment command.)

Make your own adjustment layer!

Although there are no adjustment layers for the Histogram Equalize and Histogram Stretch commands, you can still apply the commands without changing the original image pixels. Make a copy of the layer to which you are applying the commands and paste it as a new layer. Apply the commands to the copied layer, and on the Layers palette turn off the visibility of the original layer.

You can use this trick with all Paint Shop Pro correction commands that don't have an adjustment layer.

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

In addition, adjustment layers are available for 16 million (24-bit) color or greyscale images only.

To increase the color depth of an image, see page 261.

Using automatic corrections

To adjust the contrast with several easy-to-use options (such as choosing an appearance that is flat, natural, or bold), use the Automatic Contrast Enhancement command. See "Automatically Enhancing Contrast" on page 106.

To use the Histogram Equalize command:

- 1 To limit the adjustment to a specific area, make a selection in the image. See "Using the Selection Tools" on page 192.
- 2 Choose **Adjust > Brightness and Contrast > Histogram Equalize**. The image updates in the image window.

To use the Histogram Stretch command:

- 1 To limit the adjustment to a specific area, make a selection in the image.
- 2 Choose **Adjust > Brightness and Contrast > Histogram Stretch**. The image updates in the image window.

Manually Adjusting Brightness and Contrast

You can manually adjust the brightness and contrast of an image using the Brightness/Contrast command. This is one of the simplest of the lightness correction commands.

To adjust contrast and brightness manually:

- 1 To limit the adjustment to a specific area, make a selection in the image. See "Using the Selection Tools" on page 192.
- 2 Do one of the following:
 - To modify the image pixels directly, choose **Adjust > Brightness and Contrast > Brightness/Contrast**.
 - To create an adjustment layer, choose **Layers > New Adjustment Layer > Brightness/Contrast**. For information on adjustment layers, see "Using Adjustment Layers" on page 382.
- 3 In the **Brightness** edit box, select a negative number to darken the image or select a positive number to lighten image. A value of zero indicates no change.
- 4 In the **Contrast** edit box, select a positive number to increase the contrast or select a negative number to decrease the contrast. A value of zero indicates no change.
- 5 Click **OK**.

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

In addition, adjustment layers are available for 16 million (24-bit) color or greyscale images only.

To increase the color depth of an image, see page 261.

Adjusting Individual Brightness Values

Use the Curves command to adjust the individual brightness values of your image. You can change any brightness value on the 0–255 scale. For example, you can change all pixels that have a brightness value of 128 to a value of 150. The Curves command gives you enormous flexibility in changing the brightness of your image.

To use the Curves command:

- 1 To limit the adjustment to a specific area, make a selection in the image. See “Using the Selection Tools” on page 192.
- 2 Do one of the following:
 - To modify the image pixels directly, choose **Adjust > Brightness and Contrast > Curves**.
 - To create an adjustment layer, choose **Layers > New Adjustment Layer > Curves**. For information on adjustment layers, see “Using Adjustment Layers” on page 382.
- 3 To reset the settings, in the **Presets** drop-list choose **Default**.
- 4 In the **Channel** drop-down list, select a color channel to edit. Choose **RGB** to edit the red, green, and blue channels together. Choose **Red**, **Green**, or **Blue** to edit the individual color channels.
- 5 Use the points on the graph to adjust the relationship between the input levels (the brightness of the original pixels) and output levels (the brightness of corrected pixels). At the lower left of the chart, both values are zero (black). At the upper right, both values are 255 (white).
 - To add a point to the graph, move the cursor over the dotted red line until the cursor changes to an arrowhead and displays “+ADD,” then click the line.
 - To move the line, drag a point or enter values in the **Input** or **Output** edit box.
 - To remove a point, drag it off the graph.
- 6 Click **OK**.

Adjusting the Brightness and Contrast in Unison

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

To increase the color depth of an image, see page 261.

Use the Gamma Correction command to adjust the brightness and contrast of an image in unison. The gamma of an image is a standard measure of its contrast and brightness.

The gamma curve has three components: the red, green, and blue of the image. In addition to adjusting the brightness and contrast of the image, with the Gamma Correction command you can adjust the color balance of an image by unlinking the three components and changing them separately. For example, if the image has a red cast to it, you can reduce its red value.

To use the Gamma Correction command:

- 1 To limit the adjustment to a specific area, make a selection in the image. See “Using the Selection Tools” on page 192.
- 2 Choose **Adjust > Brightness and Contrast > Gamma Correction**.

In the Gamma Correction dialog, the graph shows the gamma curves for the three colors. If the three colors have the same gamma value, there is one white line representing the three colors. If the gammas are different values, there is a line for each color.

The left side of the graph represents the shadows of the image; the right side represents the highlights.

- 3 Do one of the following:
 - To adjust the brightness and contrast in unison, mark the **Link** check box.
 - To change the color balance of the image rather than the brightness and contrast, clear the **Link** check box.
- 4 For the **Red**, **Green**, and **Blue** values, drag the sliders or type new numbers in the edit boxes. A value of 1 indicates the original gamma. If colors are linked, increasing the value lightens the image and decreasing the value darkens the image. If colors are not linked, increasing or decreasing a individual color value increases or decreases the amount of that color in the image.

5 Click **OK**.

Note: The Gamma Correction command can result in an image looking somewhat flat; you may want to increase the contrast after correcting the gamma. See “Improving Contrast” on page 106.

Adjusting the Brightness of Highlights, Midtones, and Shadows

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

To increase the color depth of an image, see page 261.

The Highlight/Midtone/Shadow command is useful to adjust selected regions of the tone scale. In this sense, the tone scale is divided into three general regions, containing light values (highlights), middle values (midtones) and dark values (shadows). The Highlight region is centered on the 75% tone, the Midtone region is centered on the 50% tone and the Shadow region is centered on the 25% tone. These three regions overlap somewhat in order to provide smooth transitions as the tone scale passes from one region to the next.

To use the **Highlight/Midtone/Shadow** command:

1 To limit the adjustment to a specific area, make a selection in the image. See “Using the Selection Tools” on page 192.

2 Choose **Adjust > Brightness and Contrast > Highlight/Midtone/Shadow**.

3 Select an adjustment method, either Absolute or Relative:

Absolute adjustment method: the controls are used to set the absolute positions of the 25% histogram point (Shadows), the 50% histogram point (Midtones) and the 75% histogram point (Highlights). Typical values are about 35 for Shadow, 50 for Midtone and 65 for Highlight, but they will vary depending on the particular image you have. Increasing the value will lighten the region and decreasing the value will darken it.

Relative adjustment method: the controls are used to adjust the lightness relative to their original state. Positive values will lighten the region and negative values will darken it.

4 Set the desired values for Shadow, Midtone, and Highlight:

Shadow Removes lightness from the image. Increasing the value darkens lighter pixels.

Midtone Changes the middle portion of the light scale. Increase the value to darken middle values or decrease the value to lighten middle values.

Highlight Adds lightness to the image. Decreasing the value lightens darker pixels.

- 5 Click **OK** to apply the correction.

Adjusting the Lightness Levels

Use the Levels command to make adjustments to the brightness, contrast, and gamma in the image. Adjusting the gamma changes the brightness values of middle grey tones.

To use the Levels command:

- 1 To limit the correction to a specific area, make a selection in the image. See “Using the Selection Tools” on page 192.
- 2 Do one of the following:
 - To modify the image pixels directly, choose **Adjust > Brightness and Contrast > Levels**.
 - To create a Levels adjustment layer, choose **Layers > New Adjustment Layer > Levels**. For information on adjustment layers, see “Using Adjustment Layers” on page 382.
- 3 In the **Channel** drop-down list, select a color channel to edit. Choose **RGB** to edit the red, green, and blue channels together. Choose **Red**, **Green**, or **Blue** to edit the individual color channels.
- 4 To increase the contrast of the image, drag the **Input levels** sliders, which show the image’s brightness values. To darken the darkest values, drag the black diamond to the right; all values below this value become zero (black). To lighten the lightest values, drag the clear diamond to the left; all values above this value become 255 (white). To change the value of medium grey, drag the grey Gamma diamond left or right; the range for of the gamma value is 0 to 7.99, with 1 being in the middle.
- 5 To decrease the contrast, drag the **Output levels** sliders. To lighten the darkest pixels, drag the black diamond to the right. To darken the lightest pixels, drag the clear diamond to the left.
- 6 Click **OK**.

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

In addition, adjustment layers are available for 16 million (24-bit) color or greyscale images only.

To increase the color depth of an image, see page 261.

Replacing Colors

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

To increase the color depth of an image, see page 261.

Changing Individual Colors

Use the Hue Map command to replace one or more colors throughout a photograph or other complex image. For example, you can shift all greens to blues.

You can also use the Hue Map command to change the saturation or the lightness of the image. When you adjust these values, all colors (original and shifted colors) are adjusted.

To use the Hue Map command:

- 1 To limit the correction to a specific area, make a selection in the image. See “Using the Selection Tools” on page 192.
- 2 Choose **Adjust > Hue and Saturation > Hue Map**.
The Hue Map dialog opens. In the **Hue shift** group box, the top row of color boxes shows 10 original colors and the bottom row of color boxes represents the shifted colors. Each color is represented in degrees around the 360-degree color wheel.
- 3 To reset the colors to their default settings (which is no shift in colors), in the **Presets** drop-down list choose **Default**.
- 4 For each color that you want to shift, drag its slider to a new color.
- 5 To change the saturation of all colors, adjust the **Saturation shift** value (from -100 to 100). A value of zero represents no change.
- 6 To change the lightness of all colors, adjust the **Lightness shift** value (from -100 to 100). A value of zero represents no change.
- 7 Click **OK**.

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

To increase the color depth of an image, see page 261.

Colorizing Images

Use the Colorize command to replace all colors in a selection or an image with a single color and saturation while leaving the lightness values unchanged. You can use this command to create sepia tones (the brown seen in old photographs) and other single-color effects.

Note

The Colorize command creates an image that looks like a duotone (two-color) image. To create a duotone with more subtle color changes, apply the Greyscale command, increase the color depth to 16 million (24-bit) colors, then apply the Colorize command.

To colorize an image:

- 1 To limit the correction to a specific area, make a selection in the image. See “Using the Selection Tools” on page 192.
- 2 Choose **Adjust > Hue and Saturation > Colorize**.
- 3 To colorize the image, modify the following settings:
 - Hue** The hue that all current colors are changed to. Click the slider button and drag the slider to select the color visually.
 - Saturation** The saturation of the selected hue. Click the slider button and drag the slider to select the saturation visually.
- 4 Click **OK**.

Reducing or Removing Colors

In Paint Shop Pro you can reduce or remove colors in several ways. You can create black-and-white, greyscale, duotone (two-color), colorized, and sepia images. You can also create a negative image or create a positive image from a photographic negative.

Creating Black-and-White Images

To create a black-and-white image, use the Threshold command. Select the threshold lightness value—below which all pixels are changed to black and above which all pixels are changed to white. This command does not change the color depth of the image.

Note

The Threshold command creates an image with pixels of two colors: black or white. To create a “black-and-white” photograph, which is really made up of many shades of grey, see “Creating Greyscale Images” on page 143.

To use the Threshold command:

- 1 To limit the correction to a specific area, make a selection in the image. See “Using the Selection Tools” on page 192.
- 2 Do one of the following:
 - To modify the image pixels directly, choose **Adjust > Brightness and Contrast > Threshold**.
 - To create an adjustment layer, choose **Layers > New Adjustment Layer > Threshold**. For information on adjustment layers, see “Using Adjustment Layers” on page 382.
- 3 Click the **Zoom out** button until you can see the entire image in the preview windows.
- 4 In the **Threshold** edit box, select a pixel lightness value that determines which pixels change to white (those above the threshold) and which pixels change to black (those below the threshold). The value ranges from 1 to 255. Adjust the threshold until the image in the preview window is satisfactory.
- 5 Click **OK**.

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

In addition, adjustment layers are available for 16 million (24-bit) color or greyscale images only.

To increase the color depth of an image, see page 261.

Another way to create a black-and-white image

You can also decrease an image's color depth to 2 colors, which gives you options for how colors are reduced that may result in more natural-looking images than the Threshold command. For more information, see “Decreasing Color Depth to 2 Colors (1-bit)” on page 262.

A greyscale look-alike

There's another way to create an image that looks like a greyscale but maintains its same color depth: Use the Channel Mixer command and mark the Monochrome check box. With this command you can modify how much of the image's red, green, and blue channels are used to create the monochrome image. For more information, see "Adjusting the Color Channels" on page 133.

Creating Greyscale Images

A greyscale image looks like a traditional black-and-white photograph. Use the Greyscale command to convert a colored image into a greyscale image with a palette that contains white, black, and 254 shades of grey. Each color in the image is replaced with a grey that matches its lightness value.

The Greyscale command changes the color depth of the image to 8-bit.

To create a greyscale image:

Choose **Image > Grey Scale**.

Creating Sepia Tone Images

Sepia tones are the browns of old black-and-white photographs and newsprint. You can give your photographs and graphics this 19th Century look by turning them into sepia-tone images. In Paint Shop Pro you have two ways to do this:

- Apply the Sepia Tone effect to the image. You select the number of years to age the image. See "Applying Artistic Effects" on page 222.
- Use the Colorize command and choose a brown hue. For more information, see "Colorizing Images" on page 141.

Reducing the Number of Lightness Levels

Use the Posterize command to reduce the number of lightness levels in the image and create interesting effects. With this command, Paint Shop Pro divides the range of lightness levels (from 2 to 255) into a number of equal increments that you specify. As you lower the number, you increase the effect.

To use the Posterize command:

- 1 To limit the correction to a specific area, make a selection in the image. See "Using the Selection Tools" on page 192.
- 2 Do one of the following:
 - To modify the image pixels directly, choose **Effects > Artistic Effects > Posterize**.

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

In addition, adjustment layers are available for 16 million (24-bit) color or greyscale images only.

To increase the color depth of an image, see page 261.

- To create a Posterize adjustment layer, choose **Layers > New Adjustment Layer > Posterize**. For information on adjustment layers, see “Using Adjustment Layers” on page 382.
- 3 In the **Level** edit box, select the number of lightness levels (2 to 255) for the adjusted image. To create a dramatic effect, the number of levels typically must be below 10.
 - 4 Click **OK**.

Creating Negative Images

In Paint Shop Pro there are three ways to create a negative image (which looks like a photographic negative):

Color depth

To apply this command to a selection, the image must be a 16 million (24-bit) color image (otherwise the command is applied to the entire image).

In addition, adjustment layers are available for 16 million (24-bit) color or greyscale images only.

To increase the color depth of an image, see page 261.

- Use the Negative Image command to replace each pixel color with its opposite on the color wheel. You can also use the Negative Image command to create a positive image from a scanned photographic negative.
- Use an Invert adjustment layer to create an adjustment layer that has the same effect as the Negative Image command but doesn't change the original image pixels.
- Use the Solarize command to produce a negative image in which you control the threshold level. This level is the lightness value above which all colors are inverted. Use this command to create interesting effects.

You can create a negative of a selection or an entire image.

To use the Negative Image command:

Choose **Adjust > Negative Image**.

To use an Invert adjustment layer:

- 1 Choose **Layers > New Adjustment Layer > Invert**.
- 2 Choose the layer properties. There are no additional settings for this adjustment layer. For information on adjustment layers, see “Using Adjustment Layers” on page 382.
- 3 Click **OK**.

To use the Solarize command:

- 1 Choose **Effects > Artistic Effects > Solarize**.
- 2 In the **Threshold** edit box, select a lightness threshold (1 to 254) above which all colors are inverted. At a threshold of 1, all image pixels are inverted and the effect is the same as applying the Negative Image command.
- 3 Click **OK**.

Using the Histogram to Analyze Images

Do I need the histogram?

For image editing professionals, the histogram is a powerful tool for understanding and correcting images.

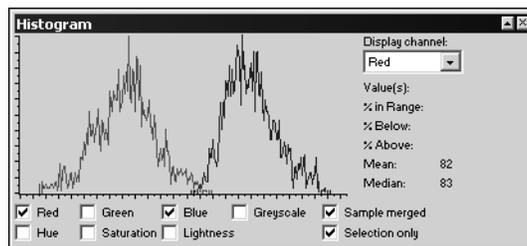
For casual users, getting familiar with the histogram may not be necessary. Paint Shop Pro offers many simpler ways to adjust images. For information on how to begin correcting your photos, see "How to Approach Color, Contrast, and Saturation Adjustments" on page 96.

The histogram displays a distribution graph of red, green, blue, greyscale, hue, saturation, and lightness values in an image. You can analyze the distribution of detail in the shadows (shown in the left part of the histogram), in the midtones (shown in the middle), and the highlights (shown in the right part) and decide how to make corrections.

After you analyze the histogram, you can correct the image with Paint Shop Pro's color and contrast correction commands or you can use commands that adjust your image based on its histogram features: Equalize, Histogram Adjustment, and Stretch.

To display the histogram for an image:

- 1 To limit the histogram data to a specific area, make a selection in the image. See "Using the Selection Tools" on page 192.
- 2 Choose **View > Palettes > Histogram** or press **F7**.



The graph represents how many pixels are at each value of the selected channels. The vertical axis represents the number of pixels and ranges from zero pixels to the highest number of pixels in the graph. The horizontal axis represents the value from zero to 255 of a selected channel: Red, Green, Blue, Greyscale, Hue, Saturation, and Lightness.

For detailed information on the graph, see “Understanding Histogram Values” on page 147 and “Guidelines for Analyzing the Histogram” on page 147.

3 Mark or clear the check boxes below the graph to display or hide the values for the channels.

4 Choose the image data that is graphed:

Sample merged If this check box is marked, the histogram graphs all layers in the image. If this check box is cleared, the histogram graphs only the current layer.

Selection only If this check box is marked, the histogram graphs only the active selection. If the check box is cleared, the histogram graphs the entire layer or image.

5 Do one of the following:

- To view information about a specific value, place the cursor at that point on the histogram.
- To select a range of values, click and drag in the graph. When you release the mouse, the range is deselected.

These fields show information about the selected point or range:

Value(s) The value or range of values (from 0 to 255) of the point over which the cursor is positioned in the graph.

% in Range The percent of image pixels that are the value(s) of the selected point or range. The number in parentheses is the number of pixels that are the selected value(s).

% Above The percent of image pixels that are above the value(s) of the selected point or range.

% Below The percent of image pixels that are below the value(s) of the selected point or range.

6 To view the mean and median values for a channel, in the **Display channel** drop-down list choose a channel: **Red, Green, Blue, Hue, Saturation, Lightness, or Greyscale**. The Mean field displays the average value for the selected channel. The Median field displays the middle value in the range of values for the selected channel.

Note: The Display Channel has no effect on what is graphed in the histogram.

Understanding Histogram Values

The value of a selected channel is graphed from 0 to 255 along the horizontal axis of the histogram. The meaning of the value depends on the selected channel:

- Red, Green, and Blue values represent the amount of red, green, or blue in each color channel. A channel value of zero indicates the color is not present and a value of 255 indicates the color is at full strength. For example, if the graph has a spike at the value 128 for the Red channel, then there are a large number of pixels with a red value of 128 (or middle red).
- Hue, Saturation, and Lightness values are a different representation of color than the Red, Green, and Blue channels. Hue is the actual color and the value is the number assigned on the color wheel; for example, red is zero, yellow is 43, green is 85, cyan is 128, blue is 170, and magenta is 212. (As a reference, look at the color wheel on the Jasc Color Picker.) Saturation is the level of grey added to the hue; zero is very grey and unsaturated and 255 is no grey and fully saturated. Lightness is the brightness of the hue; zero is no light (black), 128 is middle grey, and 255 is fully light (white). The lightness histogram has information similar to the greyscale histogram.
- Greyscale values are levels of grey; zero is black, 128 is middle grey, and 255 is white. These represent the brightness or luminosity of an image. The distribution of grey values determines the contrast of an image.

Guidelines for Analyzing the Histogram

Here are guidelines that can help you analyze the histogram and make decisions about how to correct your images:

- If a line spikes, there are many pixels at that value.
- If a line is close to the horizontal axis, there are few pixels at that level.
- If the graph is spread out, the image has a balanced composition and probably has enough detail to be corrected.
- If the lines are compressed into a narrow area, the image probably doesn't contain enough detail to be corrected; try a new scan.

- The usefulness of the histogram depends upon the image content as well as its channel values. For example, an image of pale, desaturated skin tones may display a big saturation peak on the left side (in the lower values) of the histogram. An image of a bright red fire engine may display a peak on the right side (in the higher values) of the histogram. If the images were improperly saturated, the saturation histograms might be reversed.
- If the greyscale graph is mostly at the left side, the image is too dark.
- If the greyscale graph is mostly at the right side, the image is too light.
- If the greyscale lines are not spread out enough, you may need to increase the contrast.

Correcting Images by Adjusting the Histogram

Use the Histogram Adjustment command to adjust the contrast and color balance of your image.

The graph in the Histogram Adjustment dialog displays how many pixels are at each value of the selected channel. The vertical axis represents the number of pixels and ranges from zero pixels to the highest number of pixels in the graph. The horizontal axis represents the value from zero to 255 of the selected channel.

When you change the histogram, the graph displays the adjusted histogram as red and the original histogram as grey. To turn off the red overlay, clear the **Overlay result histogram** check box.

For detailed information on the graph, see “Understanding Histogram Values” on page 147 and “Guidelines for Analyzing the Histogram” on page 147.

In the Histogram Adjustment dialog, you can edit the luminance (lightness) and the red, green, and blue color channels. The Histogram Window (opened by choosing **View > Palettes > Histogram**) also graphs the hue, saturation, and greyscale values, but these cannot be edited by adjusting the histogram.

Color depth

The Histogram Adjustment command applies to greyscale and 16 million (24-bit) color images only.

To increase the color depth of an image, see page 261.

What the ToolTip reveals

When you place the cursor over the histogram, a ToolTip displays the following information:

- Input is the value on the horizontal axis
- Count is the number of pixels that have that value
- Integral is the percentage of pixels in the image with that value
- Output is the adjusted value.

Quick histogram adjustments

To correct contrast using histogram functions, you can use the Equalize or Stretch commands. See “Using the Histogram to Fix Contrast Problems” on page 134.

Zoom in or out

Click  to magnify the histogram or click  to reduce the view of the histogram. Click 1:1 to display the histogram at its original size.

Note

The Histogram Adjustment dialog graphs one color channel at a time, unlike the Histogram Window which can display all color channels at once. You may want to first display the Histogram Window (choose **View > Palettes > Histogram**), then use autoproofing on the Histogram Adjustment dialog so you can see changes graphed in the Histogram Window.

To use the Histogram Adjustment command:

- 1 To limit the adjustment to a specific area, make a selection in the image. See “Using the Selection Tools” on page 192.
- 2 Choose **Adjust > Brightness and Contrast > Histogram Adjustment** to open the Histogram Adjustment dialog.
- 3 For the **Edit** option, choose a channel:
 - Luminance** Lightness values of the image. If you are correcting contrast, start with this channel.
 - Color** Pick a color channel from the drop-down list: **Red**, **Green**, or **Blue**.
- 4 In the **Presets** drop-down list, choose **Default**. The default values represent no adjustment to the image.
- 5 On the left side of the histogram, look for a gap between the left edge and the point where the graph starts to rise. If there is a gap, it shows that the darkest pixels in the image are not completely black. Click and drag the Low slider (the black triangle) to the point where the graph rises. The top Low edit box displays the low position (from 0 to 255). The bottom edit box displays the percentage of pixels that are between zero and the low value; their contrast will be lost. As a general rule, keep the percentage below 0.1%.
- 6 On the right side of the histogram, look for a gap between the right edge of the window and the point where the graph decreases to zero pixels. If there is a gap, click and drag the High slider (the white triangle) to that point on the graph. This changes the lightest pixels in the image to white. As a general rule, keep the High percentage change (the bottom edit box) to below 0.1%.
- 7 If the overall image is too dark or too light, adjust the gamma. (Gamma is a standard measure of change in an image’s contrast.) If the image is too dark, drag the Gamma slider (the grey triangle) to the right to increase the gamma (the number changes in the Gamma edit box). If the image is too light, drag the Gamma slider to the left to decrease the gamma.

- 8 If the graph has peaks on the left and right sides and contains low points in the center, the midtones need to be compressed. Shadows and highlights need to be expanded to reveal the information they contain. This often occurs in flash photography when a subject is too close to the camera; the subject appears brightly illuminated but the background of the photograph is very dark. To compress the midtones, click and drag the **Midtones** slider up.
- 9 If the graph peaks in the center and has a low number of pixels at the left and right sides, expand the midtones by dragging the **Midtones** slider down.
- 10 If you are improving your image, skip this step. If you are creating artistic effects, use the Output Max and Min sliders on the left side of the histogram to make further adjustments. The Max slider is the white circle within a grey square; the Min slider is the black circle within a grey square. To darken the image's whites, click and drag the Max slider down. To lighten the image's blacks, click and drag the Min slider up.
Note: Even though you are dragging sliders along the vertical axis, the Max and Min values actually affect the horizontal axis. They indicate the maximum and minimum value (from 0 to 255) in the image. All pixels outside those values are converted so that they fall within the maximum and minimum.
- 11 To adjust another channel, choose it in the **Edit** drop-down list and follow these steps again.
- 12 Click **OK**.



CHAPTER 7

Editing Images

Edit your images in many ways: copy from one image to another, crop or resize an image, flip, mirror, or rotate an image, or change an image's scale or perspective.

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Adding Borders

Adding a colored border



Use the Add Borders command to add a colored frame around an image. The border increases the dimensions of the image by the width of the border.

For multi-layer images, Paint Shop Pro prompts you to flatten the image first. To add colored borders without flattening an image, use the Canvas Size command instead; see “Scaling and Transforming Images” on page 171.

Color choice tip:

Right-click the color box to pick from the **Recent Colors** dialog

To add borders:

- 1 Choose **Image > Add Borders** to open the Add Borders dialog.
- 2 Mark the **Symmetric** check box to create an equal width border on all sides. Clear the check box to enter each border width independently.
- 3 In the **Size in pixels** group box, select the dimensions of the border.
Note: To change the dimensions from pixels, select the units in the drop-down list in the **Original Dimensions** group box.
- 4 Click the **Color** box to choose the color for the border.
- 5 Click **OK**.

Changing the Canvas Size

Original image and canvas added at the top



The image canvas is the work area of the image and defines the image’s dimensions—for example, 200 by 300 pixels. Sometimes you need more canvas to add elements to an image; other times you want to make the canvas size smaller. Use the Canvas Size command to add or remove pixels at the edges of the image.

Note

Reducing the canvas size is not always the same as cropping an image. For images with layers, reducing the canvas size does not delete the pixels outside the new canvas area, it just shows less of the layer. Background layer information will always be deleted, even when there are other layers in the image.

Other resize options

You can also change the image size by resizing, cropping, or printing at a different size. For a comparison of these options, see the sidebar “Other ways to change an image’s size” on page 166.

Color choice tip:

Right-click the color box to pick from the **Recent Colors** dialog

To change the image’s canvas size:

- 1 Choose **Image > Canvas Size** to open the Canvas Size dialog.
- 2 Choose settings from the **New Dimensions** group box:

Width, Height Enter values for the new canvas size.

Units Use this drop- list to change the measurement system.

Lock aspect ratio Mark this check box to constrain the new canvas size to the current image proportions. The numeric edit control (below the check box) indicates the image’s current width-to-height ratio. Change this value to create a different aspect ratio.

Background Click in the color box and pick a color for any added canvas. Or, mark the **Transparent** check box to have any added canvas be transparent.

Note: You must choose a color for any canvas added to the background layer.

- 3 Set the placement of the image in the new canvas. In the **Placement** group box, click a placement button. The fields to the right of the placement buttons will show the amount of canvas added or subtracted from each edge.

Note: You can also enter values in the fields to control image placement.

- 4 Click **OK**.

Combining Two Images

Paint Shop Pro can combine two images into a third image. The new image is the product of the color data from the two source images. The color data from the two images is combined on a pixel-by-pixel basis according to the function you select.

To combine two images:

- 1 Open the two images you want to combine.
- 2 Choose **Image > Arithmetic** to open the Image Arithmetic dialog.
- 3 Choose an image for **Image #1** from the drop-down list. The size of Image #1 determines the size of the new image.
- 4 Choose an image for **Image #2** from the drop-down list.

5 From the **Function** group box, select a method for combining the images:

Add Image 1 Value + Image 2 Value

Subtract Image 1 Value - Image 2 Value

Multiply Image 1 Value x Image 2 Value

Difference Absolute Value of (Image 1 Value - Image 2 Value)

Lightest Maximum of (Image 1 Value, Image 2 Value)

Darkest Minimum of (Image 1 Value, Image 2 Value)

Average (Image 1 value + Image 2 Value)/2

OR Binary Or

AND Binary And

XOR Binary And/Or

6 From the **Channel** group box, select the color channel from each image to use for combination. Mark the **All channels** check box to use all the color channels in both images. This will produce a 24-bit image.

7 In the **Modifiers** group box, choose modifier options. The modifiers are applied to the color values produced by the Function and the Channel selections.

Divisor This number is used to divide the color values. It can reduce the effects of the other selections.

Bias This number shifts each color value by a fixed amount. The number is added to the color value produced by the Function, Channel, and Divisor selections.

Clip color values This check box determines how Paint Shop Pro handles final color values greater than 255 and less than 0.

Clip Color Values	Value less than 0	Value more than 255
Marked	Value = 0	Value = 255
Cleared	Value = Value + 256	Value = Value - 256

8 Click **OK**.

Correcting Image Perspective

When you take pictures of tall objects, the resulting photographs may have perspective distortion—the objects seem to be leaning or angled. This distortion happens when the camera is at an angle to the subjects.

Fix perspective distortion with two tools:

Tool	How to Use	Applies to...
Deform tool	Drag the corner handles of a bounding box around an entire layer to interactively change the perspective. See “To use the Deform tool to correct perspective:” below.	The current layer only. Raster layers only.
Perspective Correction tool	Drag a bounding box around a feature within the image (such as a building) that is supposed to be rectangular but is angled. Paint Shop Pro adjusts the perspective to make the selected feature rectangular. See “To use the Perspective Correction tool to correct perspective:” on page 156.	The current layer only. Raster layers only.

To use the Deform tool to correct perspective:

- 1 Select the layer to correct in the Layers palette.
- 2 Use grid lines to help you correct lines in your photograph that should be vertical or horizontal. To turn on the grid, choose **View > Grid**.
- 3 On the Tools toolbar, select the **Deform tool** .
- 4 Press **Ctrl** and click and drag a corner handle. The image updates when you release the mouse button. Continue adjusting the perspective until the image looks correct.

Note: If the correction causes some image data to fall outside the image canvas, you can restore that data by increasing the size of the canvas. See “Scaling and Transforming Images” on page 171.

Correcting perspective



Bounding box



After Correction

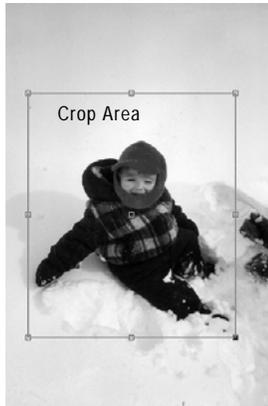
To use the Perspective Correction tool to correct perspective:

- 1 On the Tools toolbar, select the **Perspective Correction** tool . A bounding box with corner handles appears on the image.
- 2 On the Tool Options palette, select from these options:
 - **Grid lines** To display grid lines in the box, enter the number of lines to display.
 - **Crop image** Mark this check box to crop the image back to its original size after the perspective is applied. Areas of the image that fall outside the original image size are deleted.
- 3 Drag each handle to the corner of a feature that is supposed to be rectangular. For example, the feature may be a building with sides that are angled but should be straight.
- 4 On the Tool Options palette, fine-tune the position of the bounding box by specifying the X and Y positions of the four corner handles.
- 5 Double-click the image or click **Apply**.

Note: To reset the perspective correction box to the original rectangle, click **Reset**  on the Tool Options palette.

Cropping Images

Cropping an image



After Cropping

Crop images to create stronger compositions and change the image focus. Cropping can reduce the memory needed to edit the image. Also, by eliminating extraneous areas of color, cropping can improve color corrections.

Use the Crop tool to select the crop area—a rectangle with edge and corner handles that defines what part of the image to keep. You can also crop based a selection or based on the opaque areas of an image.

Note

Cropping permanently removes the parts of the image outside the crop area.

To define the crop area:

- 1 On the Tools toolbar, click the **Crop** tool .
- 2 Define the crop rectangle doing any of the following:
 - Click and drag the crop area rectangle over the image; or

On the Tool Options palette:

- Enter values for the **Height** and **Width** of the crop area (if necessary, change the unit of measurement with the Units drop-down list); or
- Enter positions for the **Top**, **Bottom**, **Left**, and **Right** sides of the crop area; or
- To use a standard image size, choose one of the many **Presets**.

Note: The image area outside the crop rectangle will be shaded. To modify this shaded area, or to turn off the shading option, go to the Transparency and Shading tab of the General Program Preferences dialog. Note also that when crop shading is enabled and you attempt to crop an 8-bit (256 colors) or less image, the area outside the crop rectangle will be black. Thus when cropping these types of images, you may want to disable this option.

- 3 To adjust the crop area, do any of the following:
 - Click and drag an edge or corner handle; or
 - Move the entire crop rectangle by placing the cursor inside it and then dragging the mouse; or
 - Adjust the **Height** and **Width** values; or

- Adjust the **Top**, **Bottom**, **Left**, and **Right** sides of the crop area; or
- To remove the crop area and start over, right-click anywhere in the image.

Note: To constrain the crop area to its current proportions, mark the **Maintain aspect ratio** check box on the Tool Options palette. Be aware that if you're using a cropping preset, this check box will be unavailable.

- 4 When you're ready to crop the image, double click inside the crop rectangle, or click the **Apply** button in the Tool Options palette.

Note: After cropping an image, you may notice that the Width and Height values in the Crop tool options are set to 1 and 1. This is not a reflection of the cropped image size. To see the image size dimensions after cropping, choose **Image > Image Information**, and in the Image Information tab's Image section, look at the Dimensions field.

To crop an image for printing:

- 1 On the Tools toolbar, click the **Crop** tool .
- 2 Define the crop area.
- 3 On the Tool Options palette, mark the **Specify Print Size** check box.
- 4 In the **Units** drop-down list, select inches or centimeters. You cannot use pixels for this method of cropping.
- 5 Enter the desired **Height** and **Width** for the final image. The program will fit the final crop area into this size (reducing or increasing the image resolution as needed).
- 6 To adjust the crop area, do any of the following:
 - Click and drag an edge or corner handle; or
 - Click and drag within the crop area to move the whole rectangle; or
 - On the Tool Options palette, enter positions for the **Top**, **Bottom**, **Left**, and **Right** sides of the crop area.
- 7 To crop the image, double-click the image or click **Apply** .

To crop an image for on-screen display:

- 1 On the Tools toolbar, click the **Crop** tool .

- 2 On the Tool Options palette, clear the **Specify Print Size** check box.
- 3 Define and adjust the crop area.
- 4 To crop the image, double-click the image or click **Apply** .

Cropping with a Selection

In Paint Shop Pro, you can make a selection and then crop the image using that selection.

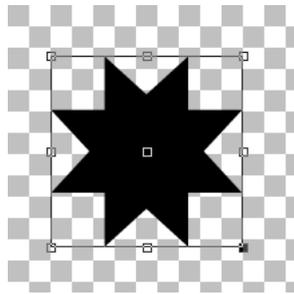
Note: If you crop to a selection that is feathered, the current background color fills in the feathered region of the selection.

To crop using a selection:

- 1 Make a selection in the image.

Note: The selection can be any shape. Paint Shop Pro places a crop area rectangle around irregularly shaped selections.

- 2 Do either of the following:
 - Choose **Image > Crop to Selection**.
 - Click the **Crop** tool, and then click **Current selection**  in the **Snap crop rectangle to** group box on the Tool Options palette. Adjust the crop area and click **Apply** .

Cropping to opaque area

After Cropping

Cropping Based on Opaque Areas

Use this feature to eliminate transparent areas at image edges. The Crop tool can automatically set the crop area to cover just the opaque (non-transparent) area of a single layer or an entire image.

Note

Opaque areas that are not rectangular, may have transparent areas remaining after cropping.

To crop to the opaque area of a layer or image:

- 1 Click the **Crop** tool .
- 2 On the Tool Options palette, select an option from the **Snap crop rectangle to** group box:
 - Layer Opaque**  Selects opaque areas of the current layer.
 - Merged Opaque**  Selects opaque area of all layers.

Note: If any layer or the background has a solid color (non-transparent) background, the entire layer or image is selected as the crop area.
- 3 Adjust the crop area as needed. See, “To define the crop area:” on page 157.
- 4 To crop the image, double-click the image or click **Apply** .

Cutting, Copying, and Pasting

What is the clipboard?

The Windows clipboard is an area of computer memory used for temporary storage. Cut or copied image data is stored in it.

You can cut or copy a selection or an entire layer to the Windows clipboard and then paste the contents of the clipboard into the same image or another image. The basic commands are:

Cut Removes a selection or a layer to the clipboard and replaces it with the selected background color or transparency.

Copy Copies a selection or a layer to the clipboard.

Copy Merged Copies a flattened (merged) version of all the layers in a selection to the clipboard.

Paste Pastes a cut or copied selection or layer as a new image, a selection, a new layer, or into the current layer.

Cutting vs. deleting

The Cut command places your data in the Windows clipboard so that you can paste it. The Clear command throws away the data.

To cut a selection or a layer:

- 1 Select the area or layer you want to cut. For information about making selections, see Chapter 8, Making Selections in Images.
- 2 Choose **Edit > Cut** or press **Ctrl + X**.

To copy a selection or a layer:

- 1 Select the area or layer you want to copy.
- 2 Do either of the following:
 - To copy the selection or active layer, choose **Edit > Copy** or press **Ctrl + C**.
 - To copy all layers of the selected area, choose **Edit > Copy Merged** or press **Ctrl + Shift + C**.

To paste a cut or copied selection as a new image:

Choose **Edit > Paste > Paste As New Image** or press **Ctrl + V**.

To paste a cut or copied selection as a new layer:

- 1 Select the image into which you want to paste the selection.
- 2 Choose **Edit > Paste > Paste As New Layer** or press **Ctrl + L**.

When the pasted selection looks out of proportion

When you paste data into another image, the data keeps its original pixel dimensions. If one image is much larger or smaller than the other, the selection may look out of proportion.

After you paste the selection, use the Deform tool to scale the selection. See the sidebar “Quick steps for proportional scaling” on page 172.

Resize the two images to make them similar size before copying and pasting. See “Resizing Images” on page 166.

Another way to remove a color from a selection

Modify your selection by choosing **Selections > Modify > Select Color Range**. For detailed instructions, see “Adding or Removing a Color from a Selection” on page 208.

To paste a cut or copied selection into a layer:

- 1 On the Layers palette of the target image, click the layer into which you want to paste the selection.
- 2 Choose **Edit > Paste** and choose one of these commands:

Paste As New Selection (Ctrl + E) Pastes the contents of the clipboard as a floating selection above the current layer. If the image already contains a floating selection, it is defloated first.

Paste As Transparent Selection (Ctrl + Shift + E) Use this command to remove a specific color from the selection you are pasting. The command makes transparent any pixels in the clipboard data that exactly match the current background color (in the Materials palette). Then the command pastes the contents of the clipboard as a floating selection above the current layer.

Note: Select the background color before you paste.

Paste Into Selection (Ctrl + Shift + L) Pastes the contents of the clipboard into the current selection. The clipboard contents are resized to fit the current selection.

Copying One Image into Another Using the Browser

You can copy all the layers of an image in the Browser into an open image by dragging the image thumbnail from the Browser onto the open image.

To use the Browser to copy one image into another:

- 1 Open the image into which you want to copy the layers. This target image must be a 16 million color or greyscale image.
- 2 On the **Layers palette**, click the layer which you want to place the new image above.
- 3 Open the Browser (choose **File > Browse** or press **Ctrl + B**).
- 4 Navigate to the folder containing the image you want to copy.
- 5 Click the browser thumbnail and drag it into the target image. When you release the mouse button, the layers are added to the image. They are linked automatically.

Note: If a new layer duplicates the name of a layer in the target image, a number is appended to the name.

Copying Paint Shop Pro Images into Other Applications

Copy a Paint Shop Pro image into other applications (such as word processors or desktop publishing packages) in these ways:

- Choose **File > Save As** to save the image to another file format (such as TIF or BMP), and then open the other application and import or place the file.
- In Paint Shop Pro, copy the image (choose **Edit > Copy** to copy the current selection or layer or **Edit > Copy Merged** to copy all layers), and then open the other application and paste the image.
- Open the Paint Shop Pro Browser, select the image, and then press **Alt** while clicking and dragging the image to an open document in the other application. A multi-layered image is merged (or flattened) before it is copied into the other document.

Don't have the other document visible?

Drag the image to the application's icon on the Windows task bar, wait for the application to open, move the cursor over the document, and then release the mouse button.

The copy and browser options are available only for programs that support graphic clipboard data.

Emptying the Clipboard

Placing large amounts of data in the clipboard can slow your computer's performance. Emptying the clipboard erases the clipboard data.

Note

This command cannot be undone.

To empty the clipboard:

Choose **Edit > Empty Clipboard**.

Deleting Images

In Paint Shop Pro you can delete image files from the main workspace or using the Browser.

To delete the current image in the workspace:

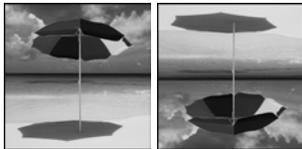
Choose **File > Delete** or press **Ctrl + Delete**.

To delete an image using the Browser:

- 1 Display the Browser, choose **File > Browse** or press **Ctrl + B**.
- 2 Navigate to the folder containing the file you want to delete.
- 3 Select the image to be deleted.
- 4 Choose **File > Delete** or press **Ctrl + Delete**.

Flipping and Mirroring Images

Flipping an image



Use the Flip command to reverse an image along its horizontal axis—the top becomes the bottom and vice versa. Use the Mirror command to reverse the image along its vertical axis—the left side becomes the right and vice versa.

Note

To flip or mirror all layers in an image, make them all part of the same layer group.

To flip a selection, layer, or image:

Choose **Image > Flip** or press **Ctrl + I**. Flipping a selection converts it into a floating selection, leaving the original layer unchanged.

Mirroring an image



To mirror a selection, layer, or image:

Choose **Image > Mirror** or press **Ctrl + M**. Mirroring a selection converts it into a floating selection, leaving the original layer unchanged.

Repeating Commands

To repeat multiple actions:

Record a script and run it on each image. For more information on using scripts, please see "Scripting Basics" on page 425.

Another way to repeat actions:

Holding down **Shift** while selecting any toolbar button or menu item bypasses the dialog and runs the command with the last used setting.

The **Repeat** command lets you apply the same command to other images or to apply a command multiple times to the same image. This command allows you to apply the same effect or correction without opening a dialog each time.

The last command that can be repeated always displays in the Edit menu. If the previous command cannot be repeated, the Repeat command is inactive.

To repeat a command:

You can repeat a command (or apply a command to another image) in multiple ways:

- Choose **Edit > Repeat**; or
- Press **Ctrl + Y**; or
- Hold down **Shift** while selecting any toolbar button or menu item. This will bypass the dialog and run the command with the last used settings.

Repeating a Command Via the History Palette

With the History palette open, drag the desired command action listed in the History palette and drop it onto another image. This will make the second image active and apply the command to it. The History palette is discussed toward the end of this chapter.

Resizing Images

Other ways to change an image's size

In addition to resizing an image, you can also change the image size by changing the canvas size, cropping the image, or printing at a different size.

- Resizing the image removes pixels to make it smaller or adds pixels to make it larger.
- Increasing the canvas size adds pixels at the edge of the image. Decreasing the canvas size hides pixels at the edges of the image (full layer information is kept).
- Cropping an image deletes the pixels outside the selected crop area.
- Printing through Print Layout resizes the image for printing but the image file remains unchanged. This is the best option if you want to print the image at various sizes.

After scanning or importing an image, you can adjust its size using **Image > Resize**.

Pixels have no set, physical size. Each pixel just represents one area of a single color. Resizing can reduce or increase the number of pixels in the image (resampling the image). This reduces or increases the file size. For instructions, see “To increase or decrease the pixels in an image:” on page 166.

Resolution is the number of pixels printed per inch. More pixels per inch (ppi), will create smaller printed pixels and a smaller printed image. Fewer ppi, will create larger printed pixels and a larger printed image. Resizing can also change the image's resolution, leaving the number of pixels in an image (and the file size) unchanged. For instructions see, “To change the resolution (print size) of an image:” on page 167.

For best results:

- Don't increase an image's size more than 25 percent. Increasing the size of an image causes a loss of detail and sharpness.
- Only resize an image once. If your first resize is not correct, undo it and try again.
- Correct and retouch images before resizing.

To increase or decrease the pixels in an image:

- 1 Choose **Image > Resize (Shift + S)** to open the Resize dialog.
- 2 To resize the current layer only, clear the **Resize all Layers** check box.
- 3 Mark the **Resample using** check box and select a resampling type:

Note: Bilinear, bicubic, and weighted average resampling are available only for greyscale and 16 million color images.

Smart Size Use this type in most cases. Based on the new pixel dimensions you set, Paint Shop Pro chooses the best algorithm listed below.

Weighted Average Uses a weighted-average color value of neighboring pixels to determine how newly created pixels will appear. Use this type when reducing photo-realistic, irregular, or complex images.

Bilinear Uses the two nearest pixels around each existing pixel to determine how newly created pixels will appear.

Bicubic Minimizes the jaggedness that often results from expanding an image by estimating how the newly created pixels will appear. Use this type when enlarging photo-realistic, irregular, or complex images.

Pixel Resize Duplicates or removes pixels as necessary to achieve the selected width and height of the image. Use this type with hard-edged images and simple graphics.

- 4 To constrain the new image dimensions to the image's current proportions, mark the **Lock Aspect Ratio** check box.

The aspect (width-to-height) ratio defaults to the ratio of the active image. Changing the aspect ratio distorts the image by stretching or contracting it in one dimension more than the other.

- 5 To keep the image's current print size, mark the **Maintain original print size** check box. The image resolution will change, keeping the print size constant. For information on selecting image resolution, see "About Image Size, Resolution, and Color Depth" on page 36.
- 6 In the **Pixel Dimensions** group box, enter the new **Width** and **Height** values. From the drop-down list, choose whether to enter values in pixels or as a percent of the original size.
- 7 Click **OK**.

To change the resolution (print size) of an image:

- 1 Choose **Image > Resize (Shift + S)** to open the Resize dialog.
- 2 Clear the **Resample using** check box.
- 3 In the **Print Size** group box, enter the new **Width** and **Height** values or the new **Resolution** value. Choose measurement systems from the drop-down lists.
- 4 Click **OK**.

Rotating Images

Rotating an image turns it around its pivot point. Rotating can straighten an image that was scanned at a slight angle. Use the Rotate command, the Deform tool, or the Straighten tool, as shown in the table.

Command or Tool	How to Use	Applies to...
Free Rotate command	Choose the rotation angle from a dialog and then apply the rotation. See “To Free Rotate:” on page 168.	A selection, the current layer, or all layers of the image.
Rotate 90 degree commands	Rotate image 90 degrees clockwise or counter clockwise. See “To rotate all layers 90 degrees:” on page 169.	All layers of the image.
Deform tool	Drag the rotation handle to see the effect of the rotation immediately. See “To rotate with the Deform tool:” on page 169.	The current layer only. Raster layers only.
Straighten tool	Specify a line along an image feature that is supposed to be straight. Paint Shop Pro aligns the image with this rotation line. Use this tool when the image has a strong vertical or horizontal feature (such as a building or a horizon). See “To rotate with the Straighten tool:” on page 170.	The current layer or all layers in the image. Raster layers only.

To Free Rotate:

- To rotate a selection or layer (rather than the whole image), do either of the following:
 - To rotate a selection, make a selection in the image.
 - To rotate a layer, on the Layers palette click the layer name.
- Choose **Image > Rotate > Free Rotate (Ctrl + R)** to open the Rotate dialog.
- In the **Direction** group box, select the rotation direction: **Right** or **Left**.
- In the **Degrees** group box, select the number of degrees to rotate. To enter a value between 0.01 and 359.99, select the **Free** option.

- 5 To apply the rotation to all layers rather than just the current layer or selection, mark the **All layers** check box.
- 6 Click **OK**.

Note: When you rotate a selection, the selection becomes a floating selection and the original image is unchanged.

To rotate all layers 90 degrees:

- 1 Choose **Image > Rotate** and pick **Rotate 90 Clockwise** or **Rotate 90 Counter clockwise**.

To rotate with the Deform tool:

- 1 Select a layer on the Layers palette.
- 2 On the Tools toolbar, choose the **Deform tool** .
- 3 To change the center of rotation, drag the rotation pivot point (the circle at the image's center).
- 4 Click and drag the rotation handle (the square connected by a line to the rotation pivot point) to a new position. Keep adjusting the rotation as needed.

Note: Paint Shop Pro hides the image data that is rotated off the canvas. You can view the data by increasing the size of the image canvas. See “Scaling and Transforming Images” on page 171.

Deform Tool rotation



Placing Rotation Pivot Points

In Paint shop Pro 9, pivot points will snap to grids and guides.

Straightening an image



Position Straighten Bar



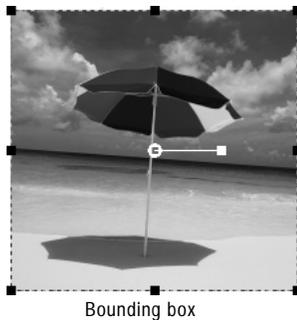
After straighten and crop

To rotate with the Straighten tool:

- 1 To straighten a layer (rather than the whole image), click the layer name on the Layers palette.
- 2 On the Tools toolbar, click the **Straighten** tool . A straightening bar with end handles appears on the image.
- 3 Click and drag each handle of the straightening bar to align it with the part of the image that you want to be straight.
- 4 On the Tool Options palette, choose from these options:
 - Auto** Paint Shop Pro automatically straightens the image based on the position of the straightening bar.
 - Make vertical** Rotates the image to make the straightening bar vertical.
 - Make horizontal** Rotates the image to make the straightening bar horizontal.
 - Angle** To choose a specific angle for the straightening bar, enter a value with the numeric edit control.
 - Crop image** To crop the edges of the image to make it rectangular after straightening, mark the check box. Clear this check box to fill edge areas with the background color.
 - Rotate all layers** To straighten all layers in the image, mark this check box.
- 5 To apply the command, double-click the image or click **Apply** .

Scaling and Transforming Images

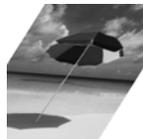
Deforming an image



Bounding box



Distort



Skew



Asymmetric
Perspective



Symmetric
Perspective

Color depth and layers

The Deform tool works on greyscale and 16 million color images only. To increase the color depth of an image, see page 261.

To use the Deform tool, the image data must be on a regular raster layer. If necessary, promote the background by choosing **Layers > Promote Background Layer**.

The Deform tool gives you the power to transform images interactively. Use the tool to scale, shear, distort, apply perspective, or rotate a layer as follows:

- Scaling resizes the selection or layer horizontally, vertically, or proportionally.
- Shearing skews a selection or layer vertically or horizontally.
- Distorting stretches or contracts a selection or layer in any direction.
- Applying perspective corrects the perspective or applies a false perspective on a selection or layer. For specific directions, see “Warping Images Using the Mesh Warp Tool” on page 178.
- Rotating moves a selection or a layer around a pivot point. For specific directions, see “Scaling and Transforming Images” on page 171.

The Deform tool works on raster layers only. To deform vector objects or text in similar ways, see “Resizing and Reshaping Vector Objects” on page 347 or “Applying Effects to Text” on page 413.

To deform an image:

- 1 Choose a layer by clicking its name on the Layers palette.
- 2 On the Tools toolbar, select the **Deform tool** .
- 3 To deform the image by clicking and dragging in the image, do one or more of the following:

- A bounding box with handles appears on the selection or the layer.
- To resize, click and drag one of the corner or edge handles.
- To resize while keeping the current proportions, right-click and drag a corner handle.
- To move the entire image within the canvas, click and drag anywhere within the bounding box.
- To change the center of rotation, drag the rotation pivot point.
- To rotate, drag the rotation handle.
- To change perspective symmetrically, press **Ctrl** and drag a corner handle horizontally or vertically.

Deform Tool Tip

To make the deform handles on a layer easier to see, drag the corner of the image window to make it larger than the image.

How do I resize and reshape vector objects and text?

Use the Object Selection Tool. For instructions, see “Using the Selection Tools” on page 192.

Quick steps for proportional scaling

To resize a floating selection or layer and keep the same proportions, select the **Deform** tool and right-click and drag a corner handle of the bounding box.

- To change perspective asymmetrically, press **Shift** and drag a corner handle.
- To shear, press **Shift** while dragging a side handle.
- To distort, press **Ctrl** and **Shift** while dragging a handle.

4 Adjust the deformation or view the deformation settings on the Tool Options palette. For more information on these settings, see “More Deform Options” below.

5 To cancel previous deformations, choose **Edit > Undo (Ctrl Z)**.

Note

By default, you must press the Shift and Ctrl keys to deform an image. To apply a deform operation without having to hold down keys, choose a different Mode from the Tool Options Palette:

Scale The default setting; you must hold down a key or keys.

Shear (Shift) Allows you to shear without holding down Shift.

Perspective (Ctrl) Allows you to change perspective without holding down Ctrl.

Free (Shift + Ctrl) Allows you to distort without holding down Ctrl + Shift.

More Deform Options

You can precisely control many of the deform settings. The following options appear on the Deform tool’s Tool Options palette:

Pivot X, Pivot Y Sets the X and Y coordinates of the rotation pivot point.

Position X, Position Y Sets the X and Y coordinates of the top left corner handle.

Scale X(%), Scale Y(%) Sets the percentage change for the horizontal (X) and vertical (Y) resize.

Shear The offset of a side. Enter positive values to shear to the right and negative values to shear to the left. At 0.5, a side shears 50% of its length.

Angle The rotation around the pivot point. The image rotates clockwise from 0 to 360 degrees.

Reset Rectangle  Resets the deformation rectangle to its original shape but keeps any current deformations.

Perspective X, Perspective Y The best way to create and adjust perspective is by dragging the control handles. When you create a perspective effect with the control handles, you are manipulating many variables. Changing the values in the Perspective fields may affect the scale, shear, and position values.

Using Rulers, Grids, and Guides

Use the rulers, grids, and guides to align and arrange artwork and image elements.

Note

You must save your image in .PspImage format to save your grid and guide settings.

Using Rulers

You can hide or display rulers. By default, rulers are hidden. When the cursor is on the image, a thin line appears on each ruler to show the cursor's position. You can display rulers in pixels, inches, or centimeters and change the color of the ruler.

Displaying rulers on an image

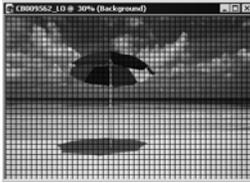


To display or hide rulers:

Choose **View > Rulers** or press **Ctrl + Alt + R**.

To change ruler units and colors:

- 1 Choose **File > Preferences > General Program Preferences**.
- 2 Click the **Units** tab.
- 3 In the **Display units** drop-down list, select Pixels, Inches, or Centimeters.
- 4 Choose the ruler color by selecting either **Black on white** or **Toolbar colors**.
- 5 Click **OK**.

Displaying grids on an image

Using Grids

Grids are horizontal and vertical lines that help you position items. You can display or hide grids and set preferences for grid spacing and appearance. When you display grids, they appear in all open image windows.

To display or hide the grid:

Choose **View > Grid** or press **Ctrl + Alt + G**.

To modify the grid:

1 Do either of the following:

- Right-click the image's title bar and from the context menu choose **Change Grid, Guide, and Snap Properties**.
- Choose **View > Change Grid, Guide, and Snap Properties**.

2 Click the **Grids** tab.

The **Default settings** group box shows settings for all future grids you display. The **Current image settings** group box shows settings for the grid in the current image.

3 For either the default or current settings, select from these options:

Horizontal grids Sets the distance between horizontal grid lines (starting from the top of the image).

Vertical grids Sets the distance between vertical grid lines (starting from the left side of the image).

Units The unit of measure for positioning grid lines.

Color Click the color box to select a different color for grid lines.

Snap influence Controls how many pixels away an item must be to snap to a guide or grid. The Snap to Grid option must be selected in the View menu.

Displaying guides on an image

Using Guides

Guides are horizontal or vertical lines that you drag onto your image to use for positioning items or aligning. While grids place a series of horizontal and vertical lines at certain intervals, you place guides at the locations you want.

To place guides, you must first display the rulers by choosing **View > Rulers**.

To display or hide guides:

Choose **View > Guides**.

To place a horizontal or vertical guide:

1 Do one of the following:

- To place a horizontal guide, click the top ruler and drag a guide to the desired position.
- To place a vertical guide, click the left ruler and drag a guide to the desired position.

As you drag, the Status Bar displays the guide's position in pixels.

To move a guide:

Do either of the following:

- Click the guide handle on the ruler and drag it to a new position.
- Double-click or right-click the guide handle to display the Guide Properties dialog, type in a new **Guide position** value, and click **OK**.

To change the color and position of a guide:

- 1 Double-click or right-click the guide handle to display the Guide Properties dialog.
- 2 Select from these options:

Guide color Click the color box to choose a new color for the guides.

Guide position Type values in this field to control the guide's position (in pixels).

- 3 Click **OK**.

Color choice tip:

Right-click the color box to pick from the **Recent Colors** dialog

To modify settings for guides:

- 1 To open the Grid, Guide, and Snap Properties dialog, do any of the following:
 - Choose **View > Change Grid, Guide, and Snap Properties**.
 - Right-click the image title bar to display a context menu, and choose **Change Grid, Guide, and Snap Properties**.
 - Double-click the ruler.
- 2 Click the **Guides** tab.

The **Default settings** group box shows settings for all the guides you place in the future. The **Current image settings** group box shows settings for the guides in the current image.
- 3 For either the default or current image settings, select from these options:

Color Click in the color box to choose a new guide color.

Snap influence Controls how many pixels away an item must be to snap to a guide or grid. The Snap to Grid option must be selected in the View menu.
- 4 Click **OK**.

To delete one guide:

Do either of the following:

- Drag the guide handle in the ruler off the image window.
- Double-click the guide handle to display the Guide Properties dialog and click **Delete**.

To delete all guides in an image or all open images:

- 1 Choose **View > Change Grid, Guide, and Snap Properties**.
- 2 Click the **Guides** tab.
- 3 Mark the **Delete guides** check box, and then select **From current image only** or **From ALL open images**.
- 4 Click **OK**.

Items won't snap?

Grids or guides must be displayed for items to snap to them.

Snapping to Grids and Guides

You can use the Snap features to align your brush strokes and objects precisely to the nearest grid line or guide. The snap influence controls how many pixels away an item must be to snap to guide or grid.

Note

An item's center point will snap to a guide or grid point if the center point is the closest part of the item to a grid point or guide.

To snap to the nearest grid line:

Choose **View > Snap to Grid (Ctrl + Shift + G)**.

To snap to the nearest guide:

Choose **View > Snap to Guides (Shift + Alt + G)**.

Note: If a grid point and a guide are equal distances from an item, the item will snap to the guide.

To change the snap influence:

1 Choose **View > Change Grid, Guide, and Snap Properties**.

2 Click the Grid or Guides tab and change the **Snap influence** value.

The **Default settings** group box shows settings for all future guides or grids. The **Current image settings** group box controls settings for guides in the current image.

3 Click **OK**.

Using Undo/Redo

You can undo most actions as you edit an image. Use the Undo command to remove brush strokes, color adjustments, effects, etc. Use the Redo command to reapply a command that you have undone.

Note: The History palette, described later in this chapter, provides a more robust undo/redo functionality.

What you can't undo

In Paint Shop Pro you can undo most actions—with these exceptions:

- Renaming files
- Saving files
- Opening and closing files
- Changes that are program-wide and not specific to the current image (such as changes to color settings and preferences)
- Actions that do not change image pixels (such as zooming and scrolling)

To undo the last action:

Click the **Undo** button , choose **Edit > Undo**, or press **Ctrl + Z**.

If the action can't be undone, the Undo button and menu command are inactive.

To redo the last action:

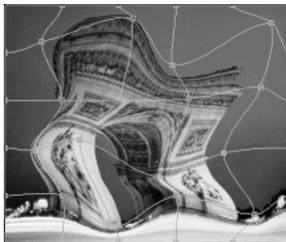
Click the **Redo** button , choose **Edit > Redo**, or press **Ctrl + Alt + Z**.

To revert to the last saved version of an image:

Choose **File > Revert**.

Warping Images Using the Mesh Warp Tool

Warping with the Mesh Warp tool



Use the Mesh Warp tool to deform images, layers, and selections. Clicking the tool places a grid, or mesh, on the image. The grid intersections have mesh points, or nodes, that you drag to create deformations.

Note

The Mesh Warp tool is limited to deforming the interior of a selection. Use the Warp brush when you want to blend the selection into the rest of the image.

To use the Mesh Warp tool:

- 1 On the Tools toolbar, select the **Mesh Warp** tool .
- 2 Drag the nodes to deform the image:
 - Click and drag a node to move it.
 - Press **Shift** while dragging a node to move the entire row or column.
 - Press **Ctrl** while dragging a node to deform the row or column into a smooth curve.

Other ways to warp images

Use the Warp Brush. See "Warping Images With the Warp Brush" on page 286.

Use the Warp Effect. See "Applying Geometric Effects" on page 223.

Activate and move nodes using the keyboard

Press Ctrl + PgUp or Ctrl + PgDn to activate the next or previous node in a row.

Press Shift + Ctrl + PgUp or Shift + Ctrl + PgDn to activate the next or previous node in a column.

Press the Ctrl + Arrow keys to move the node 1 pixel.

Press the Shift + Ctrl + Arrow keys to move the node 5 pixels.

3 Choose settings from the Tool Options palette:

Draft quality Choose the quality of the preview that displays while you edit the mesh nodes.

Note: Increasing the quality can slow the warping process in large images.

Final apply Clear the **Best Quality** check box to create a finished mesh warp at the lower quality of the mesh preview.

Mesh horizontal and **Mesh vertical** The values indicate the number of mesh lines within the frame. The border lines are not counted.

Note: You can change the grid size as you work. Entering new Mesh values reconfigures the grid and returns it to the original position. The image retains any deformations you have made.

Symmetric Mark this check box to create a grid that evenly covers the image. If your image is not square, there will be different values for Mesh horizontal and Mesh vertical. Clear this check box to adjust the Mesh horizontal and Mesh vertical independently.

Show grid Clear the check box to hide the mesh warp grid.

- 4 You can save the position of the mesh nodes (the deformation map) to apply the deformation to other images. For instructions see “Saving and Loading Deformation Maps” on page 179.
- 5 Use **Edit > Undo** to undo changes to the mesh as you edit.
- 6 To apply the mesh warp, double-click the image or click **Apply** . To cancel the mesh warp, click **Cancel** .

Saving and Loading Deformation Maps

You can save the deformations you have created to warp other images. Paint Shop Pro creates a Deformation Map file that contains the positions of the nodes and the number of mesh lines. Save the mesh during the warping process or after you have applied the deformation.

To save a deformation map:

- 1 On the Mesh Warp Tool Options palette, in the **Deformation map** group box, click **Save** to open the Save Deformation Map dialog.

What is an Edge Mode setting?

The Edge Mode setting determines what happens if there is a gap between the border of the image and the edge of the image.

- 2 In the **New deformation map** group box, type a name for the map file.
- 3 In the **Checkerboard size** drop-down list, choose a checkerboard size that helps you preview the deformation effect. This information is not saved with the map file.
- 4 Click **Save** to add the file to the default Deformation Maps folder. Click the **Edit Paths** button to choose a different folder for saving the deformation maps.

To load a deformation map:

- 1 On the Mesh Warp Tool Options palette, select an option under **Edge mode**:
 - **Background or transparency fill** The areas between the edge of the image and the edge of the warp are filled with: the current background color if the areas are on a background, transparency if the areas are on a layer.
 - **Fixed** The edge pixels are replicated to fill in the areas between the edge of the image and the edge of the warp.
 - **Wraparound** The areas between the edge of the image and the edge of the warp are filled with material from the opposite side of the image.
- 2 Click **Open Deformation Map**  to open the Load Deformation Map dialog.
- 3 In the **Deformation map** group box, choose a map from the drop-down list. Click the **Edit Paths** button to load a map from a different folder.
- 4 In the **Operation** group box, select how you want the map to be added:
 - **Replace current map** Replaces the existing mesh nodes with the new map. Any adjustments you have made but not applied are lost.
 - **Add to current map** Adds the settings from the new deformation map to the mesh nodes. Any adjustments you have made are retained.
- 5 In the **Mapping** group box, select how Paint Shop Pro should adjust the size of the map to fit to the layer or image:
 - **Fit to canvas** The map size adjusts to fit the image canvas.
 - **Fit to layer** The map size adjusts to fit the current layer.

- **Current size centered on** The map retains its original size and is positioned in the center of the **Canvas** or **Layer**.
- 6 In the **Preview** group box, choose a **Checkerboard size** from the drop-down list to obtain the best preview of the deformation.
 - 7 Click **Load**.

Using the History Palette

The History palette lists each command you apply to the active image. The most recent action appears at the top of the list. The History palette gives you the ability to quickly undo and redo actions applied to the current image. In addition to its basic Undo and Redo To Here functions, the History Palette also offers several additional powerful and time-saving functions:

- Selectively Undo any listed action. Depending on which action you undid, actions that were applied after the undone action may or may not remain applied to the image. This is described in more detail in the section Undoing and Redoing History Palette Actions below.
- Save a Quickscript based on any number of selected History palette actions, and then run the Quickscript on the current image or another open image. This is described in more detail in Saving and Applying Quickscripts below.
- Save History palette actions as a regular PspScript file, or copy them to the clipboard for pasting into another script file.
- Drag and drop History palette actions onto another image to instantly apply those actions.

Displaying and Hiding the History Palette

Display this palette by choosing **View > Palettes > History**, or by pressing **F3**.

To hide the palette, click its **Close** button in the upper right corner of the title bar, or choose the menu item again, or press F3 again.

Setting the Number of Saved Commands in the History Palette

By default, the History palette will list the 250 most recently executed commands on the active image. To set this value higher or lower:

- 1 Choose **File > Preferences > General Program Preferences**.
- 2 Click the **Undo** tab.
- 3 Make sure the **Enable the undo system** check box is marked.
- 4 Set the **Limit undo/redo to *n* steps per open image** to the desired value. As mentioned above, the default value is 250. Steps older than 250 will become undoable steps, only 10 of which will be retained as defined by the next setting.
- 5 The **Non-undoable steps after the last non-undoable step** value, as mentioned above, sets the number of non-undoable steps that will be retained after the last non-undoable step limit has been reached. The default value is 10.

Note: Non-undoable steps cannot be undone or redone anymore. They can, however, be reapplied to the current image or other open images, can be saved to the Quickscript, or as a regular PspScript file, or copied to the clipboard.

Undoing and Redoing History Palette Actions

The History palette lists all actions performed on the active image. The most recent action is at the top of the list, and the first action performed is at the bottom of the list. You can select an individual action to modify by clicking its name in the History palette, or select multiple actions by holding down **Shift** (to select adjacent actions) or **Ctrl** (to select non-adjacent actions).

After applying any number of actions to an image, you can use the History palette to:

- Undo any listed action by clicking its **Undo/Redo** button , or by highlighting the item name and then pressing the **Undo to here** button  on the History palette's toolbar. Both methods perform an “Undo to Here” function, undoing the action you clicked as well as all subsequent actions (which are listed above the action you clicked). The undone actions will be denoted with a yellow X .

- Redo an undone action by again clicking its Undo/Redo button, or by highlighting the item name and then pressing the **Redo to here** button  on the History palette's toolbar. Both methods perform a “Redo to Here” function, undoing the action you clicked as well as all preceding actions (which are listed below the action you clicked). The redone actions will no longer have an X of any color over their eye icon.

Note: Selectively undone actions (denoted with a red X) that precede the action you clicked will not be redone. These actions can only be redone by purposely choosing Redo Selected.

- Selectively undo an action by holding down **Ctrl** and clicking its **Undo/Redo** button, or by highlighting the item name and then pressing the **Undo selected** button  on the History palette toolbar. Selectively undone actions will be denoted by a red X . Be aware that a selectively undone action can yield unintended or unexpected results depending on its relationship to subsequent actions. Refer to the section Using the Selective Undo Feature Carefully below for more information.
- Redo a selectively undone action by highlighting the item name and then pressing the **Redo selected** button  on the History palette toolbar. To redo selectively undone actions, Ctrl-click them again.

Using the History Palette's Undo and Redo Toolbar Buttons

The table below lists the function of each undo/redo-related button in the History palette.

	Undo to here Click a History palette item name and then click this button to undo the item and all actions that followed it. Same as clicking on that item's Eye icon.
	Redo to here Click an undone (yellow X) History palette item name and then click this button to redo the action and any other undone actions preceding it. Same as clicking on that item's Eye icon.
	Undo selected Click a History palette item name and then click this button to selectively undo the item. Be aware that this may or may not affect subsequent actions, and may not yield the intended results. Same as Ctrl-clicking that item's Eye icon.



Redo selected Click a selectively undone History palette item name and then click this button to redo the action. Same as Ctrl-clicking that item's Eye icon.



Clear selectively undone commands Click this button to convert all selectively undone actions into non-undoable commands (commands that can no longer be undone or redone). You'll be prompted whether or not to perform this action.



Show non-undoable commands Click this button to show or hide the non-undoable commands. When shown, non-undoable items will be listed in gray (denoting that they're inactive/unavailable).



Empty history Click this button to convert all History palette items into non-undoable commands. You'll be prompted whether or not to perform this action.

Using the History Palette's Context Menu

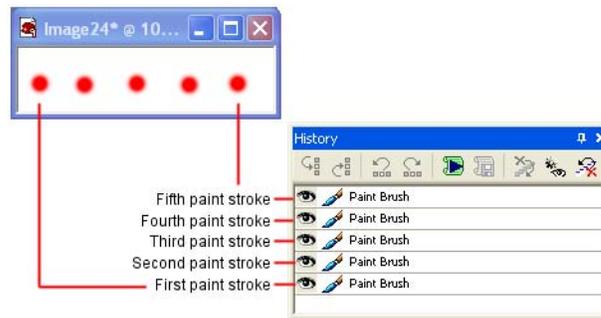
Right-click on a selected History palette item (or group of selected items) to display the context menu, which contains all History palette-related commands.

Using the Selective Undo Feature Carefully

The History palette's selective undo feature is powerful and convenient, but under certain circumstances may not be the ideal course of action. Shown below are two examples showing the results of the selective undo feature.

A Simple Example

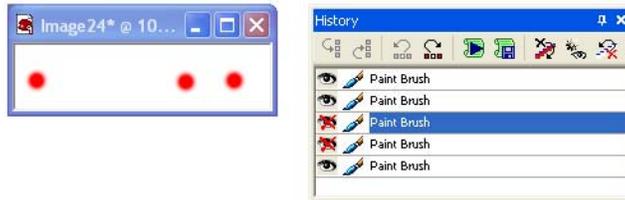
- 1 Here is an image containing five individual paint strokes placed left to right across the image.



What about the standard Undo and Redo commands?

You can still use the Standard toolbar's Undo  and Redo  buttons, or choose **Edit > Undo / Redo** to undo or redo actions in the order they were performed. Using these methods will update the History palette Undo/Redo button to the appropriate state ( for undone items, and  for redone items). Be aware, however, that selectively undoing an action can only be performed via the History palette.

- 2 Click here to see what happens when we selectively undo the second and third strokes.

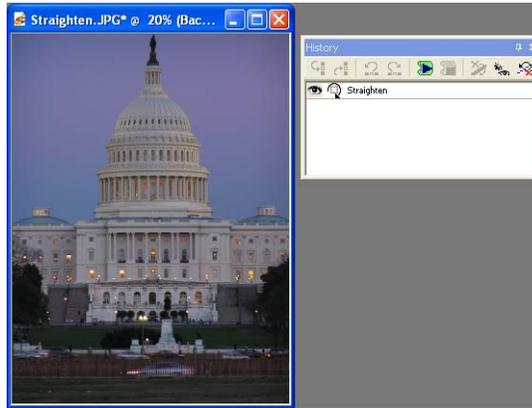


An Example of an Unintended Results

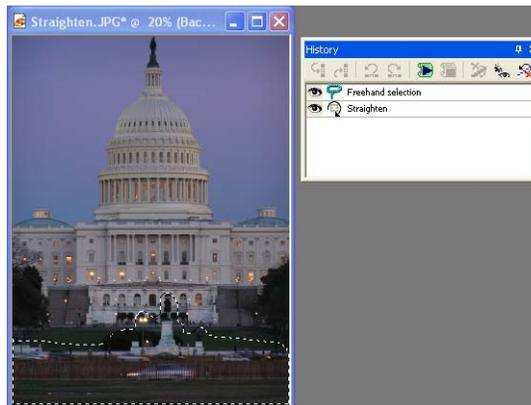
- 1 Here is a photo that could benefit from straightening as well as the Fillflash filter applied to the foreground.



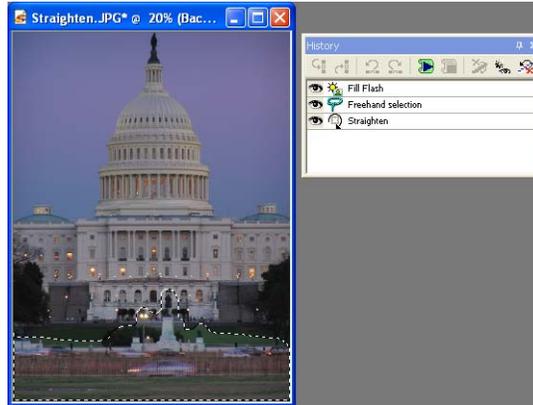
2 Here is the photo after being straightened and cropped.



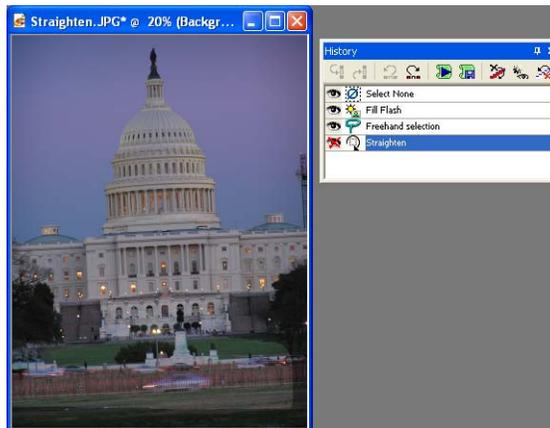
3 Here is a Freehand selection of the foreground area.



4 Here is the Fillflash filter applied to the selection.



5 Here you can see what happens when you selectively undo the straightening. Clearly this adversely affected the Freehand selection and the Fill flash applied to it.



Saving and Applying Quick Scripts

One of the powerful and convenient features of the History palette is that it allows you to selectively choose steps applied to an image and save those steps as a Quickscript. You can then apply the Quickscript to another image (or to the current image).

Be aware that there is only one Quickscript; each time you select History palette commands and click the **Save Quickscript** button, the previously saved Quickscript is written over.

Saving Commands as a Quickscript

To save one more commands as a Quickscript:

- 1 Click the desired commands listed in the History palette (click the command name, not its associated button). Note that as soon as one command is selected, the Save Quickscript button activates.
- 2 Click the **Save Quickscript** button . The selected steps can now be applied to any image the next time you click the **Run Quickscript** button.

Note: Saving a group of selected commands as the Quickscript overwrites the previously saved Quickscript without warning.

Where is the Quickscript?

The Quickscript is saved to the file **QuickScriptTemp.PspScript** and resides in the Scripts-Trusted folder.

Applying a Quickscript to Another Image

After saving commands as the Quickscript, open another image (or make another open image active) and then click the **Run Quickscript** button .

A Note About Scripting and Plug-ins

Be aware that if you've executed commands involving plug-ins, scripting these commands may not produce the intended results. In particular, plug-in commands will not execute in Silent mode and may not default to the parameters originally used.

Applying Selected Commands to Other Images

Commands selected in the History palette can quickly be applied to another image, or to all images open in the Paint Shop Pro workspace.

To apply selected commands to all open images:

- 1 Select the desired commands— **Shift**-click to select adjacent commands, or **Ctrl**-click to select non-adjacent commands.
- 2 Right-click on any selected command to display the History palette's context menu, and then choose **Apply to other open documents**.

To drag commands to another image:

To quickly apply one or more selected commands to another open image, drag the command name(s) (not the icon) onto another open image.

Saving Commands as PspScript Files

Commands selected in the History palette can quickly be saved to the .PspScript file format, or copied to the clipboard.

Saving to the .PspScript Format

- 1 Click the desired commands listed in the History palette— **Shift**-click to select adjacent commands, or **Ctrl**-click to select non-adjacent commands.
- 2 Right-click on any selected command to display the History palette's context menu, and then choose **Save to script**. This displays the Save As dialog.
- 3 If necessary, navigate to the folder where the script will reside.
- 4 In the **File name** field, enter a name for the script.
- 5 In the **Save only active commands** check box, do one of the following:
 - Mark this check box (it is marked by default) to not include undone commands in the script.
 - Uncheck this box if you want to include the undone commands in the script. Be aware, however, that the undone commands will be active (not undone) when the script is executed.
- 6 Click **Save**.

Copying Commands to the Clipboard

To copy the Python syntax associated with selected commands to the clipboard:

- 1 Click the desired commands listed in the palette— **Shift**-click to select adjacent commands, or **Ctrl**-click to select non-adjacent commands.
- 2 Right-click on any selected command to display the History palette's context menu, and then choose **Copy to the Clipboard**.
- 3 Open a text editor such as Notepad, or a Python-aware text editor application such as PythonWin or Idle.
- 4 In the text editor application, paste the clipboard contents. You'll then see the syntax associated with the commands you selected.



CHAPTER 8

Making Selections in Images

Selecting the parts of images to edit is an important step in modifying images. After you create a selection, you can edit it while leaving the rest of the image unchanged. You can use tools (such as painting or drawing) or apply commands (such as flipping, copying, or cropping) to the selection.

The border of a selection is identified by black and white dashes called a marquee. This chapter shows you how to make many types of selections.

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Using the Selection Tools

Transforming a selection

Here are a few of the ways you can edit selections:

- Cut, copy, or paste selections.
- Crop to a selection.
- Move selections within the image.
- Flip, mirror, or rotate selections.
- Correct colors within selections.
- Apply effects to selections.
- Paint or draw in selections.

Use multiple selections tools

You can make an initial selection with one selection tool, and then switch to another selection tool to add to or subtract from the selection. For more information, see “Modifying Selections” on page 205, or “Subtracting from a Selection” on page 207.

The way in which you select part of the image depends upon the type of layer: raster and art media, or vector.

Paint Shop Pro provides selection tools that create raster (or pixel) selections as well as vector selection tools that select vector objects.

Raster (and Art Media) Selection Tools

Selection tool  Makes a selection of a specific shape, such as a rectangle, circle, or star. See “Making Selections with the Selection Tool” on page 193.

Freehand Selection tool  Makes a selection of an irregular shape or around the edges of an object, such as the petals of a flower or a child’s hand. See “Making Selections with the Freehand Selection Tool” on page 195.

Magic Wand tool  Makes a selection based on a color, brightness, or opacity. See “Making Selections with the Magic Wand Tool” on page 197.

These selection tools are grouped together in a flyout on the Tools toolbar. One tool is displayed at a time. Click the down arrow to the right of the tool to see the other selection tools.

Although these selection tools create raster selections, you can use them on vector layers; they create raster selections from the vector objects. For example, if you copy the selection and paste it as a new image, the object is copied as individual pixels (rather than a vector object) onto a raster layer.

Vector Selection Tools

To select vector objects and vector text (without turning them into raster selections), use these tools:

Object Selection tool  Selects vector objects or vector text. See “Selecting Vector Objects” on page 199.

Text tool  Creates a selection in the shape of text. See “Selecting Text” on page 199.

Making Selections with the Selection Tool

Use the Selection tool to select a portion of a raster layer, or to create a raster selection of objects on a vector layer. You can make a selection of a specific shape: rectangle, square, rounded rectangle, rounded square, ellipse, circle, triangle, pentagon, hexagon, octagon, star, or arrow.

To use the Selection tool:

- 1 On the Tools toolbar, choose the **Selection tool**  from the Selection tool flyout.
- 2 On the Tool Options palette, choose from these options:

Selection Type Use this drop-list to choose the shape of the selection area (rectangle, ellipse, star shape, etc.).

Mode Specifies whether you want to **Replace**, **Add**, or **Remove** from an existing selection.

Feather Specifies a width in pixels (0 to 200) that the selection is faded along the edges. When you move or paste the selection, feathering helps blend the selection into the surrounding area and makes it appear more natural. The higher the Feather value, the softer the edges. Set the width to 0 to create a selection with no feathering and distinct edges.

Anti-alias Mark this check box to use anti-aliasing, which produces a smooth-edged selection by partially filling in pixels along the edge, making them semi-transparent. Clear the check box to keep the original edges.

Note: After you create a selection, you cannot change the Selection Type or the Anti-alias setting. Changing these options applies to the next selection you make. You can change the feathering; see “Changing the Feathering of a Selection” on page 207.

- 3 To make the selection, do one of the following:
 - Drag in the image. As you drag, a border indicates the selection. When you release the mouse, the selection border becomes a marquee. If you select a Feather value, that portion of the selection is added to the marquee.

Feather before or after

If you select a Feather value in the Tool Options palette, that value affects the next selection that you make with the Selection tool. You can also change the feathering of an existing selection; choose **Selections > Modify > Feather** or **Selections > Modify > Inside/Outside Feather**.

Align that selection

You can use grids and guides in the image window to help you align your selections. For more information, see “Using Rulers, Grids, and Guides” on page 173.

- To make a selection of a specific size, on the Tool Options palette, click **Custom Selection**  and then enter the selection position in pixels for the left, top, right, and bottom positions. The positions are measured from the top left corner.
 - On the Tool Options palette, choose **Layer opaque**  to select opaque areas (the non-transparent area that has data) of the current layer.
 - Choose **Merged opaque**  to select the opaque area of all layers within the image. This option is unavailable if the image has only one layer.
- 4 To create a rectangular selection from an odd shaped selection:
- In the **Create selection from** area of Tool Options, choose **Current selection** . A new rectangular selection surrounds the current selection.
- 5 To modify the selection borders, do any of the following:
- To add to the selection, from the **Mode** drop-down list, choose **Add**, or hold down the **Shift** key and click and drag another selection area (it does not need to be part of the original selection).
 - To subtract from the selection, from the **Mode** drop-down list, choose **Remove**, or hold down the **Ctrl** key and click and drag within the original selection.
 - To move the selection marquee, right-click and drag with any selection tool, or choose the Mover tool  and right-click and drag within the selection.

Note: You can also switch to another selection tool before adding to or subtracting from the selection.

You can now edit the contents of the selection (move it, copy it, paint it, correct colors, apply effects, and so on). The selection remains active until you make another selection or right-click outside the selection boundary to deselect it while one of the selection tools is active, or choose **Selections > Select None**.

Making Selections with the Freehand Selection Tool

With the Freehand Selection tool, you can select objects with irregular borders. Use this tool to select everything from the outline of a tree to a child's hand to the jagged edge of a leaf.

To use the Freehand Selection tool:

- 1 If the image has more than one layer, click the layer on which you want to make a selection from the Layers palette.
- 2 On the Tools toolbar, choose the **Freehand Selection tool**  from the Selection tool flyout.
- 3 On the Tool Options palette, choose the **Selection Type** to determine how Paint Shop Pro makes the selection:

Edge Seeker Click on the edges of irregularly shaped areas, and Paint Shop Pro finds the edges between two areas with subtle color or light changes between them.

Freehand Click and drag to select the area—like making a freehand drawing. Use this type for irregular shapes when you want to make a selection quickly.

Point to Point Click from point to point and Paint Shop Pro draws a straight border between the points. Use this when you want a selection with straight edges.

Smart Edge Click along the edges of irregularly shaped areas and Paint Shop Pro finds the edges. Use this selection to create a border between two areas of highly contrasting color or light.

- 4 On the Tool Options palette, choose from these additional options:

Feather A width in pixels (0 to 200) that the selection is faded along the edges. Feathering controls the sharpness of a selection's edges. For a detailed description, see page 193.

Range Specifies the distance (0 to 15) from the point you click that Paint Shop Pro searches for an edge. This option is available only for the Edge Seeker selection type.

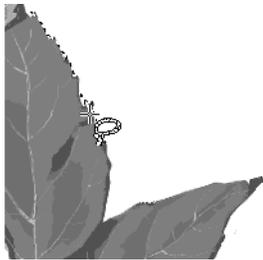
Smoothing The amount of smoothing (from 0 to 40) for the selection border. This smooths sharp edges or jagged lines.

Anti-alias Mark this check box to use anti-aliasing, which produces a smooth-edged selection by partially filling in pixels along the edge, making them semi-transparent. Clear the check box to keep the original edges.

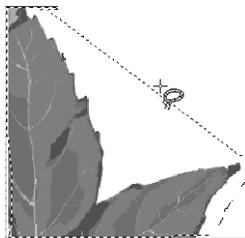
Select the layer first!

Before you make a selection, display the Layers palette and click the name of the layer that contains the data you want to select.

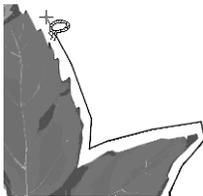
Using the Edge Seeker selection type



Using the Freehand selection type



Using the Point to Point selection type



Sample Merged If the check box is marked, the tool searches for an edge in all layers of the area you select. If the check box is cleared, the tool searches for edges only in the current layer. It is only available when the image has multiple layers and when using the Edge Seeker and Smart Edge selection types.

5 Make the selection:

- For the **Edge Seeker** and **Smart Edge** selection types, click in the image where you want to start the selection, then click points around the area you want to select. After you click each point, a line indicates the selection border. To delete a previous point, press **Delete**. To complete the selection, double-click or right-click.
- For the **Freehand** selection type, drag an outline of the area you want to select. When the line encloses the selection, release the mouse button. (If you release too soon, start again or add to the selection as described in the next step.)
- For the **Point to Point** selection type, click where you want the selection border to start and then continue clicking until you return near the starting point. To complete the selection, double-click or right-click. To delete a previous point, press **Delete**.

For all selection types, the line becomes a marquee indicating the selection border.

6 To modify the selection area, do either of the following:

- To add to the selection, from the **Mode** drop-down list choose **Add**, or hold down the **Shift** key and click and drag another selection area.
- To subtract from the selection, from the **Mode** drop-down list choose **Remove**, or hold down the **Ctrl** key and click and drag within the original selection.

Note: You can also switch to another selection tool before adding to or subtracting from the selection.

You can now edit the contents of the selection (move it, copy it, paint in it, correct colors, apply effects, etc.). The selection remains active until you make another selection or right-click to deselect it, or choose **Selections > Select None**.

Making Selections with the Magic Wand Tool

Select what you don't want

Sometimes the easiest way to select a complicated part of an image is to select the part of the image that you *don't* want and then invert the selection. For example, if you have a picture of a tree silhouetted against a blue sky, use the Magic Wand tool to select the sky and then invert the selection to select the tree.

For more information, see "Selecting Everything Outside the Selection" on page 204.

Use the Magic Wand tool to select content rather than defining edges in the image. It works well for selecting a complex part of an image that has distinctly different pixels from other parts—for example, a pink rose surrounded by green leaves. The tool uses four types of values for making selections—color (RGB value), hue, brightness, or opacity.

With the Magic Wand, you select the type of match you want (such as hue), choose a tolerance that determines how closely pixels must match, and then click once in the image to select the pixel that the other pixels are compared to.

To use the Magic Wand tool:

- 1 If the image has more than one layer, on the Layers palette click the layer name which contains the part of the image you want to select.
- 2 On the Tools toolbar, choose the **Magic Wand tool**  from the Selection tool flyout.
- 3 On the Tool Options palette, choose the **Match mode** to determine how Paint Shop Pro creates the selection:

None Chooses all pixels.

RGB Value Chooses pixels that match the red, green, and blue value of the color that you select in the image.

Color Chooses pixels of the same color that you select in the image.

Hue Chooses pixels based on the position in the color wheel of the hues you select within the image.

Brightness Chooses pixels based on the brightness of the color you select within the image.

All Opaque Chooses only areas containing pixels. No transparent areas are selected.

Opacity Chooses pixels based on their opacity.

- 4 On the Tool Options palette, choose from these additional options:

Tolerance Controls how closely the selected pixels must match the initial pixel you click. At low settings, the values must be close. At higher settings, the Magic Wand tool selects a wider range of pixels.

Feather A width in pixels (0 to 200) that the selection is faded along the edges. Feathering controls the sharpness of a selection's edges. For a detailed description, see page 193.

Sample Merged Mark this check box to have the Magic Wand tool search for matching pixels in the merged image. Clear this check box to limit the selection to the active layer.

Contiguous Mark this check box to select pixels that connect to your original pixel. Unchecked, this option selects any image pixel meeting the other criteria you've set.

Anti-alias Mark this check box and then choose whether you want to anti-alias inside or outside of the selection marquee.

- 5 Click the part of the image that has pixels you want to match. The selection marquee surrounds all matching pixels.

If the Magic Wand tool selected more pixels or fewer pixels than you wanted, adjust the Tolerance value and make a new selection.

- 6 To modify the selection, from the **Mode** drop-down list, choose:
 - **Replace** to replace an existing selection with a new selection.
 - **Add** to add to the selection, click another area of the image. (Holding down **Shift** will also do this.)
 - **Remove** to subtract from the selection, click within the original selection to remove the selection. (Holding down **Ctrl** will also do this.)

Note: Use the Expand or Select Similar commands to add to the selection. See "Modifying Selections" on page 205.

You can now edit the contents of the selection (move it, copy it, paint in it, correct colors, apply effects, etc.). The selection remains active until you make another selection or right-click to deselect it.

Selecting Vector Objects

To edit a vector object or vector text, you must first select the object with the Object Selection tool. You can select one or several objects, on the same layer or on different layers. You can also select vector objects from the Layers palette.

Versatile Object Selector

In addition to selecting vector objects, use the Object Selection tool to:

- Move, resize, reshape, and rotate vector objects and vector text.
- Align and distribute vector objects.
- Group and ungroup vector objects.
- Apply Edit menu commands such as copying and pasting.

For more information, see Chapter 13, Drawing and Editing Objects.

To select vector objects with the Object Selection tool:

- 1 On the Tools toolbar, choose the **Object Selection** tool .
- 2 Do one of the following:
 - Click the object you want to select. To select multiple objects, press **Shift** and click each additional object.
 - Drag the cursor to create a selection rectangle around the object(s). The rectangle must enclose all objects completely to select them.

A bounding box with handles surrounds the objects you selected. For information on using these handles to edit the objects, see “Resizing and Reshaping Vector Objects” on page 347.

To select vector objects from the Layers palette:

- 1 On the Layers palette, click the plus sign (+) to next to a layer to expand the layer and display the objects within the layer.
- 2 Click the name of the object. To select multiple objects, press **Shift** and click each object name. A bounding box in the image surrounds the objects you selected.

Selecting Text

You can make two types of selections with text:

- Use the Object Selection tool to select vector text so that you can edit it.
- Use the Text tool to create a raster text selection (a selection marquee shaped like text) that you can use to create interesting effects. For example, create a text selection on a solid colored layer and then delete the selection so the letters become transparent and are outlined in the solid color.

To select vector text:

- 1 On the Layers palette, click the layer name that contains the text.
- 2 On the Tools toolbar, choose the **Object Selection** tool .

To deselect all

To undo the Select All command, choose **Selections > Select None**.

- 3 Click the text. A bounding box with editing handles surrounds the text.

You can now move or resize the text. Double-click to edit the vector properties (such as the color or texture). To edit the words themselves, click the Text tool and then click the text. You can also right-click on the text in the Layers palette and choose Edit Text from the context menu.

About the Text tool

Making a text-shaped selection is just one thing that the Text tool can do. The tool's main function is to add text to your image. For more information, see Chapter 16, Working with Text.

To create a text selection with the Text tool:

- 1 Select the **Text tool** .
- 2 On the Tool Options palette, in the **Create as** group box choose **Selection** (which creates a selection shaped like the text rather than text as a painted object).
- 3 Click where you want to start the text selection to open the Text Entry dialog.
- 4 Select the text options and type the text.
- 5 Click **Apply**.

Deselecting a Selection

You can deselect any selection in the image, which removes the marquee and integrates the selection back into the image. If you deselect a floating selection, Paint Shop Pro defloats it and places it in the underlying layer if the layer is raster. If the underlying layer is vector or art media, Paint Shop Pro creates a new raster layer and defloats the selection to it.

To deselect a selection:

Choose **Selections > Select None**, right-click in the image outside the selection marquee, or press **CTRL + D**.

Selecting All Non-Masked Areas

Create a selection that selects all non-masked areas and omits all masked areas. The selection is clipped to the canvas size.

To select all non-masked areas:

- 1 Create a mask as described in “Creating Masks” on page 391.
- 2 On the Layers palette, select the mask layer.

Creating a mask from a selection

You can also use a selection to create a mask. For more information, see “Creating Masks from Selections” on page 394.

- 3 Choose **Selections > From Mask**. The selection marquee surrounds the non-masked areas.

Note

If you saved a mask to an alpha channel, you can load it as a selection by choosing **Selections > Load from Alpha Channel**.

Selecting All Pixels

Use the Select All command to select everything on a single layer or in the entire image if the image has only one layer. The Select All command selects everything on the image canvas.

To select all pixels in a layer or an image:

- 1 If the image has more than one layer, on the Layers palette click the name of the layer you want to select.
- 2 Choose **Selections > Select All** or press **Ctrl + A**. A marquee appears around the layer on the canvas.

Selecting a layer

As long as there are no selections on the image, when you click a layer's name on the Layers palette Paint Shop Pro automatically selects all contents of the active layer (though without a selection marquee). If the layer has data that is moved off the image canvas, that data is also selected.

Creating Raster Selections from Vector Objects

You can select a vector object, convert it to a raster selection, and then copy and paste this selection into another layer or another image. Do this when you want to apply raster-only tools and commands to vector objects.

To create a raster selection from a vector object:

- 1 Use the **Object Selection** tool to select one or more vector objects.
- 2 Choose **Selections > From Vector Object**.

The selection marquee surrounds each vector object. You can now copy and paste the selection as needed. The original vector objects remain unchanged.

Using Edit Selection

Use the Edit Selection command to create a selection from a brush stroke, or to apply an effect to only the selection marquee.

To create a selection:

- 1 Choose **Selection > Edit Selection**, or click the **Edit Selection** button  on the Layers palette. A selection layer is added to the Layers palette.
- 2 Select a painting tool from the Tools toolbar. For more information, see Chapter 11, Raster Painting.
- 3 Set the options for the painting tool in the Tool Options palette and the Variance palette.
- 4 Paint on the image with black, white or shades of grey. The lightness of the paint controls the opacity of the selection. A ruby overlay displays the brush strokes.
- 5 Choose **Selection > Edit Selection**, or click the **Edit Selection** button  on the Layers palette. The selection marquee displays the selected area.

To apply tools and effects to the selection marquee:

- 1 Make a selection on the image. See “Using the Selection Tools” on page 192.
- 2 Choose **Selection > Edit Selection**, or click the **Edit Selection** button  on the Layers palette. A ruby overlay displays in the selected area.
- 3 Apply a tool or effect to the selection area.
- 4 For more information, see Chapter 11, Raster Painting, or Chapter 9, Applying Effects.
- 5 When finished editing the selection, choose **Selection > Edit Selection** to display the selection marquee.

To turn off the selection marquee but retain the selection itself, choose **Selections > Hide Marquee**. To remove the selection, choose **Selections > Select None**.

Adjusting Selection Borders

After you make a selection in your image, you may want to modify or edit the selection borders.

Moving the Selection Marquee

To change or fine-tune the area the selection encloses, you can use the Mover tool to move the marquee.

Tips:

If you right-click in the image outside the marquee, you deselect the selection. If you click and drag the selection with a selection tool, you float the selection and move it. (If you did one of these by mistake, press **Ctrl + Z** to undo.)

To move the selection marquee:

- 1 On the Tools toolbar, choose a selection tool.
- 2 Right-click inside or on the marquee and drag the marquee to a new position.

Hiding and Viewing the Selection Marquee

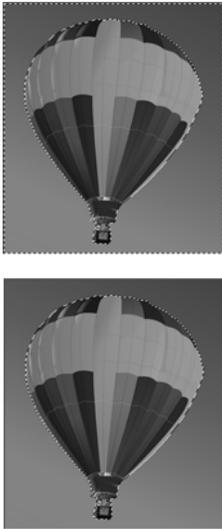
The selection marquee is normally visible. Sometimes when working with a selection it is helpful to hide the marquee temporarily without disabling the selection. For example, you may want to see the results of pasting a selection or feathering a selection's edges.

To hide or view the marquee:

Choose **Selections > Hide Marquee** or press **Ctrl + Shift + M**.

Selecting Everything Outside the Selection

Inverting a selection



Sometimes the easiest way to select a complicated part of an image is to select the part of the image that you don't want and then invert the selection. For example, if you have a picture of a person against a solid color background, you can select the background and then invert the selection to select the person.

To invert a selection:

- 1 Make a selection in the image.
- 2 Choose **Selections > Invert**. The marquee changes to enclose the opposite area of the image.

Converting a Selection into a Layer

Color depth

The Promote to Layer command works on 16 million color and greyscale images only. To increase the color depth of an image, see page 261.

Placing a selection in another image

To place a selection as a layer within another image, copy the selection, open the other image, and choose Edit > Paste > As New Layer.

To convert a selection into a layer, use the Promote to Layer command on the Selections menu. The original selection contents are unchanged; a copy of the selection becomes a new layer. By converting the selection into a layer, you can modify it without changing the original image data.

To promote a selection to a layer:

- 1 Make a selection in the image.
- 2 Choose **Selections > Promote to Layer**.

The new layer is placed above the original selection's layer and is named Promoted Selection.

Creating Custom Patterns from Selections

How to use the pattern

To use the pattern that you create, save it in the Patterns folder of the Paint Shop Pro program folder and select it as your foreground or background material. (See "Choosing Patterns" on page 246.) You can then use the pattern to paint, create text, or fill an entire image.

You can turn a selection into a custom, seamless pattern which you can use for applications like painting, adding text, or creating Web page backgrounds.

To create a custom pattern:

- 1 Make a selection in the image.
- 2 Choose **Effects > Image Effects > Seamless Tiling** to open the Seamless Tiling dialog.
- 3 Choose the tiling method, direction, settings, and corner style, and then click **OK**.

Modifying Selections

After you make a selection in your image, you may want to modify or edit the selection.

Adding to a Selection

You can add to the selection area using the selection tools, either the same selection tool you used to make the original selection or a different selection tool. For example, you have a picture of a person carrying a large sign. You can select the sign with the rectangular Selection tool, then add the person to the selection using the Freehand Selection tool.

You can also use the Expand command to increase a selection by a specific number of pixels or the Select Similar commands to add to selections based on pixel color values.

Adding to a selection



To add to a selection using the selection tools:

- 1 On the Tools toolbar, choose the selection tool (Selection, Freehand, or Magic Wand tool) that you want to use to add to the selection.
- 2 On the Tool Options palette, select the tool options.
- 3 Hold down the **Shift** key as you click the parts of the image you want to add to the selection. The areas do not need to be adjacent.

To expand the selection by a specific number of pixels:

- 1 Choose **Selections > Modify > Expand**.
- 2 Select the number of pixels (1 to 100) by which you want to expand the selection.
- 3 Click **OK**. The marquee expands while keeping its original shape.

To add pixels to a selection based on color values:

- 1 Choose **Selections > Modify > Select Similar**.

Note: You'll get best results with this dialog if your original selection is not anti-aliased. Note also that in the dialog you can click the Transparency button  to change between showing only the selection or showing the selection and the rest of the image.

- 2 Select from these options:

Tolerance Specifies how closely pixels must match the colors of the initial selection. At low settings, the values must be close. At higher settings, more pixels match.

Sample Merged If the check box is marked, Paint Shop Pro selects matching pixels in the merged image. If the check box is cleared, Paint Shop Pro selects pixels in the active layer only.

Anti-alias Mark this check box to use anti-aliasing, which produces a smooth-edged selection by partially filling in pixels along the edge, making them semi-transparent. Mark whether you want the areas **Inside** or **Outside** the selection marquee to be anti-aliased. Clear the Anti-alias check box to keep the original edges.

Contiguous Selects all adjacent pixels of a similar color.

Discontiguous Selects all pixels of a similar color anywhere within the image.

- 3 Click **OK**. The selection changes to include matching pixels.

Subtracting from a selection

Subtracting from a Selection

You can subtract from the selection area using the selection tools, either the same selection tool you used to make the original selection or a different selection tool. You can also use the Contract command to contract a selection by a specific number of pixels.

To subtract from a selection using the selection tools:

Hold down the **Ctrl** key as you click the parts of the image you want to remove from the selection.

To contract the selection by a specific number of pixels:

- 1 Choose **Selections > Modify > Contract**.
- 2 Select the number of pixels by which you want to contract the selection.
- 3 Click **OK**. The marquee contracts while keeping its original shape.

Changing the Feathering of a Selection

Feathering specifies a width in pixels (0 to 200) that the selection is faded along the edges. When you move or paste the selection, feathering helps blend the selection into the surrounding area and makes it appear more natural. The higher the Feather value, the softer the edges. Set the width to 0 to create a selection with no feathering and distinct edges.

Use the Tool Options palette to set the feathering before creating a selection. After you create the selection, you can modify the feathering amount and the feathering position (inside or outside the selection border) using commands from the Selection menu.

To change the feathering amount:

- 1 Choose **Selections > Modify > Feather**.
- 2 Select the number of pixels for the feathering width, both inside and outside of the selection.
- 3 Click **OK**.

How to set the feathering before you create a selection

To feather a new selection, choose a selection tool (Selection, Freehand, or Magic Wand) and on the Tool Options palette adjust the Feather value. When you make the new selection, that feathering is used.

To adjust the position and amount of feathering:

- 1 Choose **Selections > Modify > Inside/Outside Feather**.

Note: In the dialog you can click the Toggle Selection button  to change between showing only the selection or showing the selection and the rest of the image.

- 2 Select the feather position: **Inside**, **Outside**, or **Both** (the feather amount is added to each side).
- 3 In the **Feather amount** edit box, enter the width in pixels of the feathering.
- 4 Click **OK**.

To unfeather a selection:

- 1 Choose **Selections > Modify > Unfeather**.
- 2 Select the threshold value. The higher the value, the less feathering.
- 3 Click **OK**.

Adding or Removing a Color from a Selection

To add or remove a color from a selection, use the Select Color Range command. You can choose to add or remove a color from the selection border. The color that you choose is either added or removed, and the selection border changes. If you copy and paste the selection, the pasted area has the color added or removed.

To add or remove a color from a selection area:

- 1 Make a selection in the image.
- 2 Choose **Selections > Modify > Select Color Range**.
- 3 Select either the **Add color range** or **Subtract color range** option.
- 4 Move the cursor over the image and click a color. The **Reference color** box, displays the selected color. You can also click this box to open the Color dialog and choose a color. For more information, see “Choosing Colors” on page 239.
- 5 In the **Tolerance** edit box, specify a color tolerance (0 to 200). If the value is 0, no colors are added or removed from the selection area. If you specify a higher value, shades of the color or related colors are added or removed.

An alternative

To remove a color from a selection, you can also use the Paste As Transparent Selection command to remove a color when you paste a selection. However, with this command you cannot remove shades of a color, only the exact color you specify as the background color. For more information, see “Cutting, Copying, and Pasting” on page 160.

- 6 In the **Softness** edit box, specify the amount of softness for the referenced color.
- 7 Click **OK**. The selection borders change to add or exclude the color you specified.

Cleaning Up the Edges of a Selection

When you move or copy a selection, some of the pixels surrounding the border are included, especially when the selection is anti-aliased or feathered. Matting cleans up the border by removing these pixels.

There are three Matting commands: Remove Black Matte, Remove White Matte, and Defringe. Use the Remove Black Matte or Remove White Matte command when the selection is from an image with a black or white background. These commands remove the black or white pixels at the selection edges.

Use the Defringe command when the selection is from an image with a colored background. Defringing bleeds non-feathered pixels in the selection edges outward and over the “jaggies” in the feathered part of the selection.

To use a Matting command:

- 1 If the selection is not floating, choose **Selections > Float**.
- 2 Do one of the following:
 - To remove the black matte, choose **Layers > Matting > Remove Black Matte**.
 - To remove the white matte, choose **Layers > Matting > Remove White Matte**.
 - To move a colored matte, choose **Layers > Matting > Defringe**. The Defringe dialog opens. Enter the number of pixels to defringe and click **OK**.

Color depth

These commands work on 16 million color and greyscale images only. To increase the color depth of an image, see page 261.

Using matting on a layer

You can also use matting to clean up the edges of a layer created from a selection. The Layers menu has the same Matting commands as the Selections menu.

For more information, see “Cleaning up the Edges of Layers Created from Selections” on page 381.

Removing Specks and Holes from a Selection

To remove holes and specks from a selection:

- 1 Choose **Selections > Modify > Remove Specks and Holes** to open the Remove Specks and Holes dialog.
- 2 Do one of the following:
 - Choose the **Remove Specks** option to remove only specks from the selection.
 - Choose the **Remove Holes** option to remove only holes from the selection.
 - Choose the **Remove Specks and Holes** option to remove both specks and holes from the edges of the selection.

Note: In the dialog you can click the Toggle Selection button  to change between showing only the selection or showing the selection and the rest of the image.

- 3 For the **Square area smaller than**, enter the number of pixels and the scale factor. Start at low values, and increase them as necessary until the specks and/or holes are removed.
- 4 Click **OK**. The holes and specks in the selection are removed.

How specks and holes are removed

The Remove Specks and Holes dialog removes specks and holes from the area that you define in square pixels. For example: If you have an area of specs and/or holes in an image that is 20 pixels wide by 20 pixels high, then in the number of pixels field, enter 5 and a scale factor of 100. Because $20 \times 20 = 400$, and $5 \times 100 = 500$ then all specs and/or holes in a pixel area less than 500 will be removed.

Smoothing the Boundary of a Selection

Use the Smooth command to smooth the edges of a selection.

To smooth the boundary of a selection:

- 1 Choose **Selections > Modify > Smooth** to open the Smooth Selection dialog.
- 2 For **Smoothing amount** enter a number for the level of smoothing for the corners of the selection.

Note: In the dialog you can click the Toggle Selection button  to change between showing only the selection or showing the selection and the rest of the image.

- 3 For **Corner scale** enter the number of pixels at the corners of the selection to smooth.
- 4 **Anti-alias** mark this check box to smooth the edges of the selection.

- 5 **Preserve Corners** mark this check box if you want the corners preserved. Clear this check box if you want the corners to be smoothed.
- 6 Click **OK**. The selection is smoothed.

Recovering the Anti-alias

Use the Recover Anti-alias command when you want to restore the original anti-aliasing of an object that was pasted into an image. This command is useful if you made the selection without anti-aliasing, and now want the edges of the selection to be smooth.

To recover the anti-alias:

- 1 Choose **Selections > Modify > Recover Anti-alias** to open the Recover Anti-alias dialog. The selection with the anti-alias added in the right preview window.
- 2 To apply the anti-alias to all layers of the selection, mark the **Sample merged** check box.
- 3 To apply the anti-alias and copy the result to a new layer, mark the **Result on new layer** check box.
- 4 Choose an Anti-alias option:
 - **Inside** to anti-alias the inside of the selection marquee.
 - **Outside** to anti-alias outside of the selection marquee.
- 5 Click **OK** to anti-alias the selection edges.

Shape-Based Anti-aliasing

Use the Shape-Based Anti-alias command to anti-alias a selection based on its shape.

To anti-alias based on shape:

- 1 Choose **Selections > Modify > Shape-Based Anti-alias** to open the Shape-based Anti-alias dialog.
- 2 Choose an Anti-alias option:
 - **Inside** to anti-alias the inside of the selection marquee.
 - **Outside** to anti-alias outside of the selection marquee.
- 3 Click **OK** to anti-alias the selection edges.

Modifying the Select Selection Borders

Use the **Select Selection Borders** command to add a border around the selection. This command is useful when you want to add a border around the selection, and then fill that border using the **Flood Fill** tool.

To change the shape-based anti-alias:

- 1 Choose **Selections > Modify > Select Selection Borders** to open the **Select Selection Borders** dialog.
- 2 Choose whether you want to add a selection border **Inside**, **Outside**, or on **Both sides** of the selection border.
- 3 Mark the **Anti-alias** check box if you want to smooth the edges of the selection border.
- 4 Enter the width of the border in pixels.
- 5 Click **OK** to add a selection border.

Clipping a Selection to the Canvas

After making a selection in **Paint Shop Pro**, you can move the selection anywhere on the image, including off the canvas. If you've expanded the image window to show the off-canvas diagonal crosshatch pattern area, you'd see the portion of the selection moved off the canvas. The **Clip to Canvas** command allows you to remove the portion of the selection not within the image borders. To use this command:

- 1 Make a selection and move part of it off the image canvas.
- 2 If necessary, expand the image window to reveal the diagonal crosshatch pattern area that appears outside the image borders.
- 3 Optionally, choose **Selections > Defloat**. This will defloat the selection, which allows for more selection edits than would otherwise be available. If you don't choose this command, **Paint Shop Pro** will display an **Auto-Actions** dialog, prompting you to take this action before completing the next step.
- 4 Choose **Selections > Clip to Canvas**. The selection area outside the image borders will be removed.

Moving Selections within an Image

You can move a selection and leave the space empty or you can move a copy of the selection and leave the original data.

Moving a Selection and Leaving an Area of Background

To move a selection by cutting it from a layer and leaving a transparent area or area of background do one of the following:

- Drag the selection with one of the selection tools (**Selection**, **Freehand**, or **Magic Wand** tool)
- Press any of the arrow keys to move it one pixel.
- Hold down **Shift** and then press any of the arrow keys to move it 10 pixels.
- Hold down **Shift** and then press the **Page Up**, **Page Down**, **Home**, or **End** key to move it 10 pixels.
- Hold down **Shift** and **Ctrl** and then press the **Page Up**, **Page Down**, **Home**, or **End** key to move it 100 pixels.

Moving a Selection and Leaving the Original Data

To move a selection by creating a copy of it and leaving the original data in place, do one of the following:

- Hold down **Alt** while using the selection tool to drag the selection.
- Hold down **Alt** and then press any of the arrow keys to copy and move the selection by 1 pixel.
- Hold down **Shift** with **Alt** and press any of the arrow keys to copy and move the selection by 10 pixels.
- Hold down **Ctrl** and press the **Page Up**, **Page Down**, **Home**, or **End** key to move the selection 10 pixels.

Saving and Loading Selections

It's helpful to save complicated selections that you may use again or to save selections to use in other images to create effects. Save a selection in one of two ways:

- Save the selection as a file with a .PspSelection extension on a hard disk or removable disk; see “Saving Selections to Disk” on page 214. To load this selection file into Paint Shop Pro, see “Loading Selections from Disk” on page 215.
- Save the selection as an alpha channel within the image. The selection is stored as part of the image, not as a separate file. See “Saving Selections to Alpha Channels” on page 215. To load the selection into the same or a different image, see “Loading Selections from Alpha Channels” on page 216.

Saving Selections to Disk

When you save a selection to a hard disk or a removable disk, Paint Shop Pro saves the selection as a separate file with a .PspSelection extension. You can then load this selection into the current image or another image.

To save a selection file:

- 1 Make a selection in the image.
- 2 Choose **Selections > Load/Save Selection > Save Selection to Disk** to open the Save Selection to Disk dialog.

The **Selection files** drop-list shows thumbnails of selections files in the default directory for selections. To change the default directory, or to add another directory, click the **File Locations** button.

- 3 In the **File name** edit box, type a name for the selection.
- 4 Click **Save**.

Loading Selections from Disk

Load a selection (with a .PspSelection extension) or image file that you have saved to a hard disk or removable disk. When you load an image, Paint Shop Pro creates a selection based on luminance, non-black pixels, or opacity.

To load a file or selection from disk:

- 1 Choose **Selections > Load/Save Selections > Load Selection from Disk** to open the Load Selection from Disk dialog.

The **Selection Files** drop-list shows thumbnails of selections files in the default directory for selections. To change the default directory, click the **File Locations** button.

- 2 Choose the selection or image file you want to load.
- 3 In the **Operation** group box, select an option to determine whether to replace the selection or add to or subtract from it.
- 4 In the **Create selection from** group box, choose what Paint Shop Pro creates the selection from.
- 5 Click **Load**. The selection displays on the current layer.

Another way to create greyscale images

You can open .PspMask and .PspSelection files in Paint Shop Pro, edit them and save them with another file extension (.PspImage, .jpeg, .gif, etc.).

Saving Selections to Alpha Channels

Save a selection to an alpha channel within the current image or within another image. An alpha channel is a data storage area in an image that holds selections and masks. Alpha channels are like secret compartments within a suitcase—use them to store things you may need later. Selections and masks stored in alpha channels have no effect on the look of an image. To use the stored selections or masks, load them into the same image or another image.

When you save the image to a file format other than .PspImage format, the alpha channels are not saved. Always keep a master copy of your image in .PspImage format.

To save a selection to an alpha channel:

- 1 Make a selection in the image.
- 2 Choose **Selections > Load/Save Selections > Save Selection to Alpha Channel** to open the Save Selection to Alpha Channel dialog.

The **Add to document** drop-down list displays the image name and below it are the alpha channels in the image (if any).

- 3 To save a selection to another image's alpha channel, select the image name in the **Add to document** drop-down list. The image must be open in Paint Shop Pro.
- 4 To edit the default name for the new alpha channel, type a new name in the **Name** edit box.
- 5 To move the selection to the upper left corner of the image canvas, mark the **Move to upper left of canvas** check box. This option is helpful when the selection is larger than the current image and may not otherwise show up on the image.
- 6 Click **Save**. The selection is saved to the alpha channel.

Loading Selections from Alpha Channels

When you save a selection as an alpha channel within a .PspImage image, you can load that selection from the alpha channel into the same image or into any other image.

To load a selection from an alpha channel:

- 1 Choose **Selections > Load/Save Selection > Load Selection from Alpha Channel** to open the Load Selection from Alpha dialog.

Note: In the Preview group box, click the Transparency button to show the area around the selection as either transparent  or black .
- 2 In the **Load from Document** drop-down list, select the image that contains the alpha channel you want to load. To load from another image's alpha channel, the image must be open in Paint Shop Pro.
- 3 In the drop-down list below the document name, choose the alpha channel that contains the selection you want to load.
- 4 In the **Operation** group box, choose whether the selection you load replaces, adds to, or subtracts from the active selection in the image (if there is one).
- 5 A message in the Operations group box indicates how the original alpha channel rectangle (which is the saved selection) intersects the canvas of the current image: completely intersects, does not completely intersect (part of the selection is off the canvas), or does not intersect at all. If it partially intersects or does not intersect, mark the Move to Upper Left of Canvas check box to move the selection onto the image canvas.

- 6 In the **Options** group box, choose from these options:
 - Mark the **Move to upper left of canvas** check box to place the loaded selection in the upper left. If the check box is cleared, the selection remains in the same position it was on the original image.
 - Mark the **Clip to canvas** check box to clip the selection at the places where it goes beyond the image canvas.
 - Mark the **Invert image** check box to select everything outside the original selection.
- 7 Click the **Load** button. The selection displays on the current layer.

Deleting Selections from Alpha Channels

If you saved selections to alpha channels that you no longer need, you can delete them. You can delete alpha channels from the current image only.

To delete an alpha channel:

- 1 Choose **Image > Delete Alpha Channel** to open the Delete Alpha Channel dialog.
- 2 Select the alpha channel that you want to delete, or mark the **Delete all alpha channels** check box.
- 3 Click **Delete**.

Working with Standard and Floating Selections

Vector and Art Media turned raster—pay attention to the defloat!

When you use one of the raster selection tools (Selection, Freehand, or Magic Wand) to select vector objects or text or art media content, the tool creates a raster selection of the object or text or painting. If you move the selection, it becomes a floating selection. When you try to perform a new action, Paint Shop Pro automatically promotes the floating selection to a new layer.

A raster selection can be either standard (non-floating) or floating. A standard selection is part of a layer or image. When you edit a standard selection, you modify the image itself. Standard selections are what you create when you use the Selection, Freehand, and Magic Wand tools.

A floating selection temporarily rests above the image or layer. The Layers palette displays a Floating Selection icon  to indicate that the layer contains a floating selection.

Floating applies to raster selections only. Selections are automatically floated when you do one of the following:

- Move a selection with one of the selection tools (Selection, Freehand, or Magic Wand tool).
- Paste a selection by choosing **Edit > Paste > As New Selection**.
- Select the Floating option when creating text.

Floating selections are automatically defloated to the nearest raster layer, or promoted to a raster layer, when you deselect the selection, create a new selection, or add to or subtract from the selection. As a result, much of the time you do not have to be aware of whether a selection is floating or standard—Paint Shop Pro takes care of it for you.

However, you can also float a selection using the Float command, which creates a copy of the selection that you can move or modify without changing the original image. When you finish editing the floating selection, use the Defloat command to defloat it.

To float a selection:

- 1 Make a raster selection in the image using the Selection, Freehand, or Magic Wand tools.
- 2 Choose **Selections > Float** or press **Ctrl + F**.

To defloat a selection:

Choose **Selections > Defloat** or press **Ctrl + Shift + F**.



CHAPTER 9

Applying Effects

Paint Shop Pro has many special effects you can apply to your images including: 3D, artistic, geometric, illumination, reflection, and texture effects. Distort images to create subtle or dramatic effects.

Note

To blur images, see “Blurring Images” on page 123.

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Choosing Effects

Choose Paint Shop Pro's effects in one of two ways: through a menu command or through the Effect Browser. Use the Effect Browser when you want to try out multiple effects before applying them to your image. The Effect Browser displays presets, both the defaults and any that you create.

To choose an effect through a menu:

From the main menu, choose **Effects**, choose a sub-menu, and then choose an effect. For example, choose **Effects > Distortion Effects > Twirl**.

For most effects, a dialog with preview windows opens. Modify the settings and click **OK**.

To choose an effect using the Effect Browser:

- 1 Choose **Effects > Effect Browser** to open the Effect Browser.

The left panel shows the Effects Presets folders, which are located in the Presets folder of the Paint Shop Pro program folder. Paint Shop Pro scans the folders and creates thumbnails of your image with each effect applied to it.

- 2 To preview all effects on the image, click the **Presets** folder.
- 3 To preview types of effects, click one of the Effect folders (such as 3D Effects, Artistic Effects, or Blur).
- 4 To select an effect preset, click the thumbnail image in the right panel.
- 5 Do either of the following:
 - To apply the selected preset effect, click the **Apply** button.
 - To display a dialog where you can modify the selected preset effect, click the **Modify** button. (If this button is greyed out, the effect does not have adjustable settings.)

Paint Shop Pro applies the effect to your image.

Using Effects Dialogs

Most effects open a dialog in which you adjust settings to customize the effect. These dialogs contain several common features:

- Use the preview windows to view the original image and the image with the effect applied to it.

About effects presets

To display the thumbnail previews that you see in the Effect Browser, Paint Shop Pro applies an effect's default preset and any presets you have saved to the image. This preset is a script file (.PspScript).

- To reset settings to default values, in the **Presets** drop-list select **Reset to Default**.
- When you first open a dialog, Paint Shop Pro displays the last-used settings. (The Presets drop-list is set to Last Used.) Use this preset to apply the same effect to multiple images without having to adjust the settings each time.
- To save and load your own preset effects, see “Using and Creating Presets” on page 420.

Applying 3D Effects

The 3D effects create images or selections that appear to have three dimensions. These effects are particularly useful for creating images for Web pages. To see the appropriate effect for the Buttonize, Chisel, Cutout, Drop Shadow, Inner Bevel, and Outer Bevel effects, first make a selection in the image.

To apply an effect, choose it from the Effects Browser or choose **Effects > 3D Effects** and select an effect.

To apply these effects to an entire layer, increase the canvas size to add pixels around the edges.

Note

- These effects work on greyscale and 16 million color (24-bit) images only. To increase the color depth of an image, see page 261.
- For descriptions and visual examples of each effect, refer to the Help system.

Applying Art Media Effects

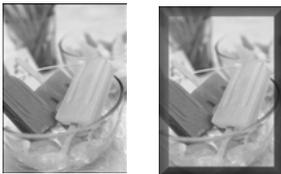
Apply art media effects to make an image look like it was painted or drawn using pencil, charcoal, or chalk. To limit an effect to a specific area, make a selection before applying the effect.

To apply an effect, choose it from the Effects Browser or choose **Effects > Art Media Effects** and select an effect.

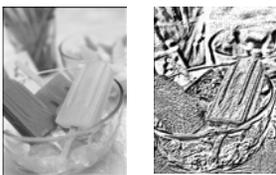
Note

- These effects work on greyscale and 16 million color (24-bit) images only. To increase the color depth of an image, see page 261.
- For descriptions and visual examples of each effect, refer to the Help system.

Example of a 3D effect

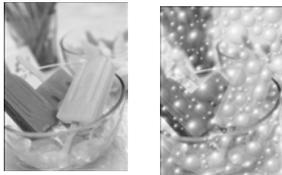


Example of an Art Media effect



Applying Artistic Effects

Example of an Artistic effect



Apply artistic effects to age a photograph or to create a variety of artistic results. To limit an effect to a specific area, make a selection before applying the effect.

To apply an effect, choose it from the Effects Browser or choose **Effects > Artistic Effects** and select an effect.

Note

- These effects work on greyscale and 16 million color (24-bit) images only. To increase the color depth of an image, see page 261.
- For descriptions and visual examples of each effect, refer to the Help system.

Applying Edge Effects

Use Edge effects to clarify your image and to accentuate the edges and contrast areas in your image.

To apply an effect, choose it from the Effects Browser or choose **Effects > Edge Effects** and select an effect.

Note

- These effects work on greyscale and 16 million color (24-bit) images only. To increase the color depth of an image, see page 261.
- For descriptions and visual examples of each effect, refer to the Help system.

Applying Distortion Effects

Example of an Distortion effect



Apply distortion effects to distort an image. To limit an effect to a specific area, make a selection before applying the effect.

To apply an effect, choose it from the Effects Browser or choose **Effects > Distortion Effects** and select an effect.

Note

- These effects work on greyscale and 16 million color (24-bit) images only. To increase the color depth of an image, see page 261.
- For descriptions and visual examples of each effect, refer to the Help system.

Applying Geometric Effects

Example of a Geometric effect



The geometric effects include such effects as turning an image into a sphere or cylinder, and altering an image's perspective. To limit an effect to a specific area, make a selection before applying the effect.

To apply an effect, choose it from the Effects Browser, or choose **Effects > Geometric Effects** and select an effect.

Note

- These effects work on greyscale and 16 million color (24-bit) images only. To increase the color depth of an image, see page 261.
- For descriptions and visual examples of each effect, refer to the Help system.

Applying Illumination Effects

Example of an Illumination effect



The illumination effects apply a sunburst or spotlights to images. To limit an effect to a specific area, make a selection before applying the effect.

To apply an effect, choose it from the Effects Browser, or choose **Effects > Illumination Effects** and select an effect.

Note

- These effects work on greyscale and 16 million color (24-bit) images only. To increase the color depth of an image, see page 261.
- For descriptions and visual examples of each effect, refer to the Help system.

Applying Image Effects

Example of an Image effect



The Image effects are Offset, Page Curl, and Seamless Tiling. To limit an effect to a specific area, make a selection before applying the effect.

To apply an effect, choose it from the Effects Browser, or choose **Effects > Image Effects** and select an effect.

Note

- These effects work on greyscale and 16 million color (24-bit) images only. To increase the color depth of an image, see page 261.

- For descriptions and visual examples of each effect, refer to the Help system.

Applying Reflection Effects

The reflection effects include such effects as creating a kaleidoscope or an intricate pattern. To limit an effect to a specific area, make a selection before applying the effect.

To apply an effect, choose it from the Effects Browser, or choose **Effects > Reflection Effects** and select an effect.

Note

- These effects work on greyscale and 16 million color (24-bit) images only. To increase the color depth of an image, see page 261.
- For descriptions and visual examples of each effect, refer to the Help system.

Example of a Reflection effect



Example of a Texture effect

Applying Texture Effects

The texture effects turn images into a variety of textures, such as leather, mosaic tiles, and polished stone. To limit an effect to a specific area, make a selection before applying the effect.

To apply an effect, choose it from the Effects Browser, or choose **Effects > Texture Effects** and select an effect.

Note

- These effects work on greyscale and 16 million color (24-bit) images only. To increase the color depth of an image, see page 261.
- For descriptions and visual examples of each effect, refer to the Help system.

Adding Noise

Adding noise to an image

Use the Add Noise effect to reduce the detail in an image and add a grainy texture. This effect can also be used for image correction. By adding a small percentage of noise to an image, you can reduce the appearance of small imperfections and scratches.

To use the Add Noise effect:

- 1 Choose **Adjust > Add/ Remove Noise > Add Noise** to open the Add Noise dialog.
- 2 Choose the pattern of the noise: **Random**, **Uniform**, or **Gaussian**. With Uniform noise, the color of the noise resembles the original pixels. With Gaussian noise, the majority of the noise values are even closer to the original.
- 3 In the **Add Noise** edit box, select the percentage of noise to add.
- 4 To use black and white noise pixels, mark the **Monochrome** check box. To use colored pixels, clear the check box.
- 5 Click **OK**.

Adding Picture Frames

Picture frames can provide an eye-catching final touch to your images. Choose from square or oval frames, modern or classic styles, stained glass or metal, or a variety of other styles. The frame is applied on a separate layer. After adding the picture frame you can edit it like any layer—move it with the Move tool, turn its visibility on and off, change its opacity, color, etc.

Note

- This effect works on greyscale and 16 million color (24-bit) images only. To increase the color depth of an image, see page 261.

Adding a picture frame



To add a picture frame:

- 1 Choose **Image > Picture Frame** to open the Picture Frame dialog.
- 2 In the Picture Frame section of the dialog, select a frame from the drop-list.
- 3 If the frame has transparent areas (for example, round or oval frames), in the **Transparency color** section of the dialog choose your options:
 - To have the transparent areas remain transparent, mark the **Keep Transparent** check box.
 - To use a color for transparency areas, clear the **Keep Transparent** check box and click the color box to select a color.

Picture frames with transparency

If you apply a picture frame with transparent areas to a background layer and place the frame outside the image, the transparent areas are the current background color rather than transparent. (The background layer does not support transparency.)

Loading picture frames

To change the folder to load picture frames from, click the **File Locations** button. By default, picture frames are stored in the Frames folder of the Paint Shop Pro program folder.

- 4 In the **Orientation** section of the dialog, select the frame placement: **Frame inside of the image** or **Frame outside of the image**.
 - If you select an inside frame, Paint Shop Pro resizes the frame to fit within the image canvas.
 - If you select an outside frame, Paint Shop Pro increases the canvas size to accommodate the frame. The added canvas uses the current background color. However, the area will be transparent if it is a layer and you mark the **Keep Transparent** check box.
- 5 Choose other options in the Orientation section of the dialog:
 - **Frame canvas** When this layer option is chosen, the frame will reside on a layer named "Picture Frame" in the Layers palette. If you apply successive frames using this option, the frames will reside on layers named "Picture Frame 1," "Picture Frame 2," etc.
 - **Frame current layer** When this layer option is chosen, the frame will reside on a layer with the same name as the original except with the words "Picture Frame" appended to it. For example, if you append a frame to the Background layer, the frame will reside on a layer named "Background Picture Frame." If you apply successive frames using this option, the frames will reside on layers named after the original but appended with "Picture Frame 1," "Picture Frame 2," etc.
 - **Flip frame** Reverses the frame along its horizontal axis.
 - **Mirror frame** Reverses the frame along its vertical axis.
 - **Rotate frame 90 CW** Rotates the frame clockwise.
- 6 Click **OK**. Paint Shop Pro adds the frame to the image and creates a new layer based on whether you selected Frame canvas or Frame current layer (described above).

Note: If the width and height differ by a considerable amount, the frame appears thicker along the shorter sides.

Note: After you add a picture frame, you can edit it as you can any layer—move it with the Move tool, turns its visibility on and off, or change its opacity, color, etc.

Creating Your Own Effects

An easy way to create your own effects

On the User Defined Filter dialog, click the Randomize button  to automatically adjust the coefficients and create unusual effects. Just keep clicking the Randomize button until you find an effect that you like.

To create your own effects (also called filters), use the User Defined command.

To create your own effects:

- 1 Choose **Effects > User Defined** to open the User Defined Filter dialog.
The edit boxes in the **Filter matrix** group box show coefficients that process pixels to create the effect.
- 2 In the **Presets** drop-down list, select a filter to use as a starting point. Choose **Default** for default settings or select one of the other filters.
- 3 Set the **Matrix modifiers**:
 - The **Divisor** number is used to divide the Filter matrix values. It can reduce the effects of the filter matrix. Use the **Compute** button to calculate a Divisor that will adjust the brightness of the image back to no change.
 - The **Bias** number shifts each color value by a fixed amount. The number is added to the color value produced by the filter matrix.
- 4 In the **Apply to** group box, pick the which color values the effect applies to. Choose **Color Channels** and mark the channels, or choose **Grey Values**.
- 5 After you make changes, click **OK**. Paint Shop Pro applies the effect to the image.

Using the Displacement Map Effect

This filter allows the user to warp, or displace, one image based on the contents of another image. This can allow you to do such things as:

- Apply text to real world objects to make it look like the text was there all along;
- Create your own unique deformation type effects based on images previously modified by Paint Shop Pro's Distortion or Geometric effects;
- By using the dialog's Gradient option, users can create effects resembling morphing-type effects such as erosion and dilation;

- By combining images such as gradients with line art this filter can produce interesting embossing type effects;

Accessing and Using the Filter

- 1 Choose **Effects > Distortion Effects > Displacement Map**.
- 2 In the Displacement Map section of the dialog, click the image drop-list and choose an image to use as the displacement map.
- 3 Because the map likely won't have the same dimensions as the source image being transformed, choose either the **Stretch map to fit image** option, or the **Tile map to cover image** option. If you choose the Tile option, you can adjust the **Size %** setting to tile the image to a size that covers the image being deformed.
- 4 Set the **Blur** value to the amount you wish to blur the displacement map. Lower values produce jittery, pointillist effects, while higher values produce smoother warping effects.
- 5 In the Displacement Properties section, choose one of these options:
 - 2D offsets using red and green:** this option displaces the image using the red and green channels.
 - 3D surface using luminance:** this option displaces pixels in proportion to changes in light. Like a bump map, this option treats the source image like it's a 3D surface in which pixel luminance values determine height.
- 6 Use the **Intensity** setting to control the amount of displacement. Lower values result in less change to the image, higher values yield greater deformation.
- 7 Use the **Rotation** setting to determine the rotation of the displacement data. For example, a setting of 180 changes upward/left displacement to downward/right displacement.
- 8 Use the **Edge mode** setting to determine how "out of bounds" displacement is handled:
 - Wrap:** treats the image as if it were a tile repeating in each direction.
 - Repeat:** takes each side's edge pixel and repeats it outward infinitely.
 - Color:** allows you to choose a color from the Color box to represent out of bounds pixels.

Transparent: (available only with layered images) results in out of bounds pixels being transparent.

Using the Radial Blur Effect

This filter produces an image effect that simulates what you might see if you took a picture while spinning a camera in circles, or by zooming in quickly using a very slow shutter speed. You can also choose a twirling effect.

Accessing and Using the Filter

- 1 Choose **Adjust > Blur > Radial Blur**.
- 2 In the Blur type section, choose one of these options:
 - Spin:** blurs pixels circularly around the image center.
 - Zoom:** blurs pixels away from the center.
 - Twirl:** blurs pixels in a spiraling manner.
- 3 In the Blur section, choose a **Strength** value. Lower values lessen the effect; higher values intensify the effect.
- 4 If you chose the **Twirl** option, you can then set the **Twirl degrees** value, which ranges from -90 to 90.
- 5 Mark the **Elliptical** check box if the radius should be squeezed to fit the image. If the image is square, this option will have no effect. For rectangular images, this option produces elliptical blurring; when turned off, the blurring will be circular.
- 6 In the Center section, choose the settings that affect the center of the image:
 - Horizontal offset %:** allows you to set the horizontal center point of the blur.
 - Vertical offset %:** allows you to set the vertical center point of the blur.
 - Protect center %:** allows you to determine how much to diminish blurring at the image center. Higher values increase the radius of the unblurred center area.

Mathematically Combining Two Images

Paint Shop Pro can create a variety of effects using the Arithmetic effect, which combines two images to produce a third one based on settings you select.

To combine images using the Arithmetic command:

- 1 Open the two images you want to combine.
- 2 Choose **Image > Arithmetic** to open the Image Arithmetic dialog.
- 3 In the **Image #1** and **Image #2** drop-down lists, select the images to combine. The size of Image #1 determines the size of the new image.
- 4 In the **Function** group box, select a method for combining the images. The color data from the two images is combined on a pixel-by-pixel basis according to the function.

Function	New Color Value Equals
Add	Image 1 Value + Image 2 Value
Subtract	Image 1 Value - Image 2 Value
Multiply	Image 1 Value x Image 2 Value
Difference	Absolute Value of (Image 1 Value - Image 2 Value)
Lightest	Maximum of (Image 1 Value, Image 2 Value)
Darkest	Minimum of (Image 1 Value, Image 2 Value)
Average	(Image 1 value + Image 2 Value) / 2
Or	Binary Or
And	Binary And

- 5 From the **Channel** group box, select the color channels to combine:
 - Mark the **All channels** check box to use all the color channels in both images. This will produce a 24-bit image.
 - Select a specific color channel for each image to produce a greyscale image.

- 6 Set the **Modifiers**. The modifiers are applied to the color values produced by the Formula and the Channel selections.
- The **Divisor** number is used to divide the color values. It can reduce the effects of the other selections.
 - The **Bias** number shifts each color value by a fixed amount. The number is added to the color value produced by the Formula, Channel, and Divisor selections.
- 7 Mark or clear the **Clip color values** check box to determine how Paint Shop Pro handles final color values greater than 255 and less than 0.

Check box Setting	If value is less than 0	If Value is more than 0
Selected	value = 0	value = 255
Cleared	value = 256 + value	value = value - 256

- 8 Click **OK**.



CHAPTER 10

Working with Colors and Materials

Whether you are applying color to an image or adjusting photographic colors, it's important to understand how Paint Shop Pro works with color. This chapter describes how to choose colors and materials that you can use to paint, draw, or fill. It also discusses the basics of color—how it is displayed on screen and printed—as well as image color depth.

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Basics of Using the Materials Palette

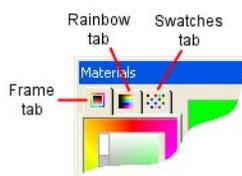
The Materials palette offers a variety of ways to choose colors, styles, and materials for the raster and vector tools. When using the Art Media tools, however, you'll notice some functionality of the Materials palette is disabled.

To display or hide the Materials palette:

Choose **View > Materials palette** or press **F6**. To close the palette you can click the **Close** button located in the palette's title bar, or choose **View > Palettes > Materials** again.

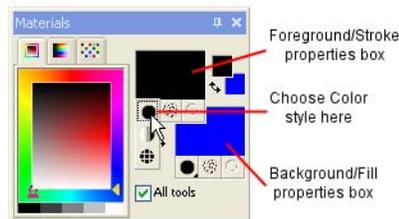
To choose a foreground or background solid color:

Materials palette tabs



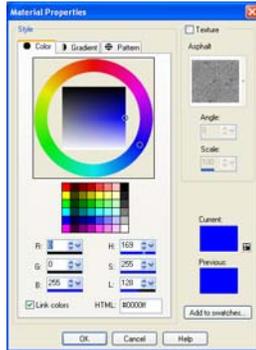
1 On the Materials palette, make sure the Foreground or Background style is set to **Color** (not Gradient or Pattern), and either the Frame or Rainbow tab is active, then do one of the following:

- To choose a foreground color, click the **Foreground/Stroke** properties box. This will display the Material Properties dialog.
- To choose a background color, click the **Background/Fill** properties box. This will display the Material Properties dialog.



Note: You can also click the Foreground Material box or the Background Material box to display the Material Properties dialog, and then click the Color tab.

2 From the Material Properties dialog's **Color** tab, select the desired color, and then click **OK**.

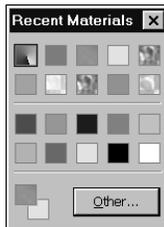
The Material Properties dialog

To choose a foreground or background material (color, gradient, pattern, or texture):

- 1 On the Materials palette, do one of the following:
 - To choose a foreground material, click the Foreground Material box.
 - To choose a background material, click the Background Material box.

The Material Properties dialog opens. In this dialog, you can choose from all of Paint Shop Pro's colors, gradients, patterns, and textures.

- 2 To choose the style, click the **Color**, **Gradient**, or **Pattern** tab and select the appropriate settings. For more information, see "Choosing Colors" on page 239, "Choosing Gradients" on page 244, or "Choosing Patterns" on page 246.
- 3 To choose a texture, mark the **Texture** check box and select a texture. For more information, see "Choosing Textures" on page 247.
- 4 Click **OK**.

Recent Materials dialog

To choose from recently used materials:

On the Materials palette, right-click a Color or Material box to display the Recent Materials dialog, and then choose a material.

On the Recent Materials dialog you can click the **Other** button to display the Material Properties dialog and choose or create a material from all of Paint Shop Pro's colors, gradients, patterns, and textures.

To choose a color from the Frame tab:

- 1 On the Materials palette, click the **Frame** tab. It displays an outer Hue rectangle and an inner Saturation rectangle, as well as a strip containing white, three shades of grey, and black.
- 2 On the Saturation rectangle, click on the desired saturation:
 - Left-click to set the **Foreground/Stroke** color (hold down the mouse button to display a tool tip with the cursor position's RGB value)
 - Right-click to set the **Background/Fill** color (hold down the mouse button to display a tool tip with the cursor position's RGB value)
- 3 Drag the horizontal slider to further adjust the saturation.

4 Drag the vertical slider to adjust lightness.

To choose a color from the Rainbow tab's Available Colors panel:

- 1 On the Materials palette, click the **Rainbow** tab .
- 2 Move the cursor over the Available Colors panel; its shape changes to a dropper. As you move the dropper around the panel, a ToolTip displays the color value beneath the dropper tip.
- 3 Do one of the following:
 - To choose the foreground color, left-click in the Available Colors panel.
 - To choose the background color, right-click in the Available Colors panel.

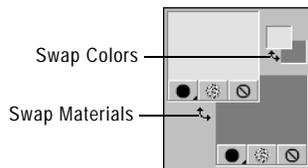
The Foreground or Background Color box displays the selected color. If the Style button is set to Gradient or Pattern, change it to Color so that the material is updated with the color.

To apply the current materials to all tools:

On the Materials palette, mark the **All tools** check box.

If you clear this check box, the current materials are applied to the active tool only.

You can reverse the foreground and background color or material



To reverse the foreground and background colors:

Click the Swap Colors icon .

To reverse the foreground and background materials:

Click the Swap Materials icon .

Using the Materials Palette

Color basics

For information on color—how it is perceived, displayed, and printed—see “Understanding Color and Color Models” on page 256.

With Paint Shop Pro you can paint, draw, and fill with a variety of colors, styles, and materials. A style is the color, gradient, or pattern. A material is the style plus the optional texture. You select materials on the Materials palette.

About the relationship between the Material and Color boxes

Since you can select colors by clicking the Material boxes, you may wonder why the Materials palette includes Color boxes too.

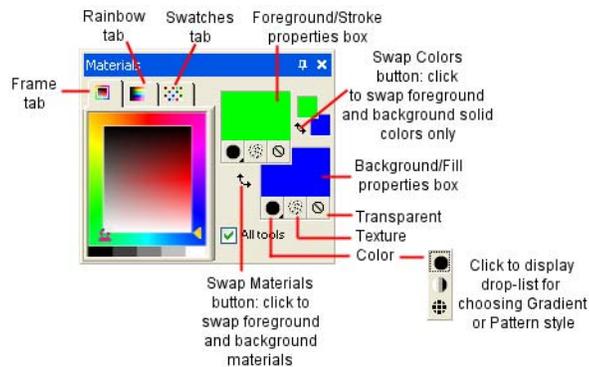
With the Foreground or Background Property box, you can select a new color even when the Material box displays a gradient or a pattern. The Color boxes provide a quick way to change colors without changing the other parts of the material.

In general you use foreground materials for brush strokes and background materials for fills. When you paint with a raster brush, right-clicking the brush paints with the background material, and for fill tools, left-clicking fills with the foreground material. When using the Art Media tools, the current foreground color is used to apply pigment in the Mixer palette. For text and vector shapes, the foreground color is the stroke (or outline) of the text or shape and the background color is the fill of the text or shape.

In general, it's best to select the tool you want to use, select the color/material on the Materials palette, set the other tool options, and then use the tool.

Note that when using the Art Media tools, some functionality of the Materials palette is disabled.

The Materials palette is shown below.



Here are the main components of the Materials palette:

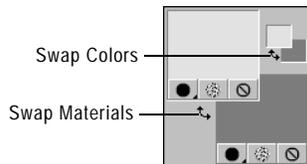
Frame tab This is the first tab across the top. It displays an outer Hue rectangle and an inner Saturation rectangle, as well as a strip containing white, three shades of grey, and black. You can drag the vertical slider to adjust lightness, and drag the horizontal slider to adjust saturation.

Rainbow tab This is the second tab across the top. It displays the Available Colors panel, where you can click to select a color. At the bottom of the tab you can click to select white, black, or three shades of grey.

Swatches tab Displays swatches, which are materials you can save to use again. For more information, see “Working with Swatches” on page 249.

Foreground and Background Color boxes Display the current foreground or background color.

You can reverse the foreground and background color or material



Foreground and Background Material boxes Display the current foreground or background material (the style—color, gradient, or pattern—plus the texture).

Style button Specifies which style is currently selected: color , gradient , or pattern . To change between the most recently selected color, gradient, or pattern: click the Style button and select a new style. To define a new color, gradient, or pattern, click a Material box.

Texture button Turns the current texture on or off. To choose a new texture, click the Foreground Material or Background Material boxes.

Transparency button Specifies whether the foreground or background material is transparent (in other words, it has no style or texture). You use a transparent material primarily with vector objects and text—a transparent foreground has no outline (the objects or letters are filled only) and a transparent background has no fill (the objects or letters are outlined only). This button is unavailable for tools that require a foreground or background color.

All Tools If the check box is marked, the selected foreground and background materials apply to all tools. If the check box is cleared, the selected materials apply only to the active tool (such as the Paintbrush tool or the Preset Shapes tool).

Note

The All Tools check box does not apply to the Edit Text command.

Choosing Colors

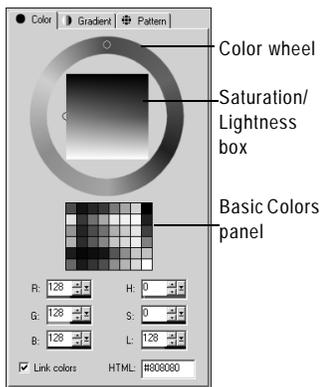
When you edit images in Paint Shop Pro, you often need to choose a color—before you paint, when making manual color corrections, or when choosing a background for a new image. You choose colors as follows:

- For images with 16 million colors, choose from the Jasc Color Picker. See “Choosing Colors from the Jasc Color Picker” on page 239.
- With images with 2 to 256 colors, choose from the image palette. See “Choosing Colors from the Image Palette” on page 242.
- For all images, you can choose a color from an open image or from any displayed color. See “Choosing Colors from an Image or the Desktop” on page 242.
- Choose a color from the Frame tab or the Rainbow tab of the Materials palette. Left-click to choose the foreground color or right-click to choose the background color.

Choosing Colors from the Jasc Color Picker

The Jasc Color Picker displays when you click a Color or Material box on the Materials palette. You also choose from this color picker when you click a Color box in some Paint Shop Pro dialogs.

The Jasc Color Picker



The Jasc Color Picker offers a variety of ways to select colors:

- Select from the Color wheel and Saturation/Lightness box, which offer a visual way to select a color based on its hue, saturation, and lightness.
- Select from the Basic Colors panel, which displays commonly used colors.
- Select RGB or HSL values to choose a color based on its red, green, and blue values or its hue, saturation, and lightness values.
- Enter an HTML color code.
- Select a color from the active image.

Note

If the active image has a color depth less than 24-bit (16 million colors), you must select colors from a palette rather than the Jasc Color Picker. See “Choosing Colors from the Image Palette” on page 242.

To display the Jasc Color Picker:

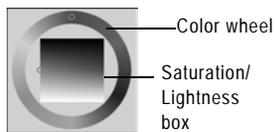
On the Materials palette, do one of the following:

- To choose the foreground color, click the Foreground Material box or Foreground Color box.
- To choose the background color, click the Background Material box or Background Color box.

If you clicked a Material box, the Material Properties dialog opens (here you can choose colors, gradients, patterns, and textures); click the Color tab to display the Jasc Color Picker.

If you clicked a Color box, the Color dialog opens and displays the Jasc Color Picker; here you can choose colors only.

The selection rings show which color is selected



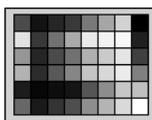
To choose a color using the Color wheel:

- 1 On the Color wheel, click the approximate color or drag the selection ring around the color wheel to select the color.

The Color wheel represents the hue—notice that the Hue edit box updates with a value between 0 and 255 as you go around the wheel.

- 2 On the Saturation/Lightness box, click to choose a color variation or drag the selection ring. Move from left to right to increase the saturation. Move from top to bottom to increase the lightness.

The Basic Colors panel displays commonly used colors



To choose a color from the Basic Colors panel:

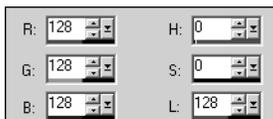
- 1 Move the cursor over the Basic Colors panel. A ToolTip displays the color value.
- 2 Click the color you want. Notice that the RGB and HSL values update with the current color values and the selection rings on the Color wheel and the Saturation/Lightness box move to the selected color.

To choose a color using its RGB or HSL value:

For each value you want to change, do one of the following:

- Click the slider button and drag the slider to a new position.
- Drag the meter bar to a new position.
- Click the edit box and type a new value.
- To change the value by one, click the up or down arrows .

Use the numeric edit controls to choose a color using its RGB or HSL value



Note: Clear the **Link Colors** check box to have the sliders visually represent only their selected value (such as just the hue).

To choose a color from the active image:

- 1 Make sure the Jasc Color Picker is displayed. See “To display the Jasc Color Picker:” on page 240.
- 2 Move the cursor over the active image. The cursor turns into a dropper and a ToolTip displays the color values.
- 3 Click the part of the image that has the color you want. The Jasc Color Picker updates with that color.

Note: You can also choose a color from an image using the Dropper tool or a special feature of Color or Material boxes. See “Choosing Colors from an Image or the Desktop” on page 242.

Specifying HTML Code for Colors

With the Jasc Color Picker, you can view the HTML (Hypertext Markup Language) code for each color you select. You can also specify a color by entering the HTML code.

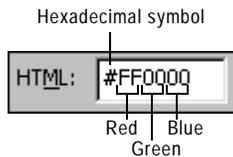
Note

By default, Paint Shop Pro displays decimal (base 10) numbers in the Jasc Color Picker. You can also display hexadecimal (base 16) numbers—the format of HTML color codes. For more information, see “Display and Caching Preferences” on page 61.

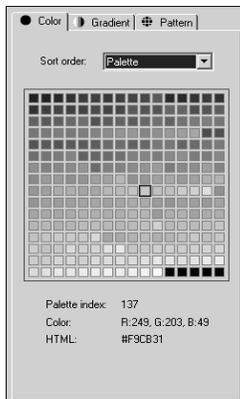
To specify or view HTML code for colors:

- 1 Display the Jasc Color Picker. See “To display the Jasc Color Picker:” on page 240.
- 2 Do one of the following:
 - To specify a color using its HTML code, type the code in the **HTML** edit box.
 - To view the HTML code of a particular color, choose a color by other methods (such as entering RGB values or selecting from the color wheel), and then view the number in **HTML** edit box.

The HTML code for the color true red (RGB 255, 0, 0) in the Jasc Color Picker



Selecting colors from the image palette



Choosing Colors from the Image Palette

Images that have a color depth less than 24-bit (16 million colors) are called paletted images—the available colors are a subset of all the colors your computer can display. The palette varies from 2 to 256 colors, depending upon the color depth of your image. With these images, you must choose foreground and background colors from the palette rather than from the Jasc Color Picker.

Note

If you select the Rainbow Picker as your preference setting, the Available Colors panel of the Materials palette shows all colors for both paletted and non-paletted (16 million color) images. For paletted images, when you select a color on the Available Colors panel Paint Shop Pro chooses the nearest color in the palette.

To choose colors from the palette:

- 1 On the Materials palette, do one of the following:
 - To choose the foreground color, click the Foreground Color or Foreground Material box.
 - To choose the background color, click the Background Color or Background Material box.

Clicking a Color box opens the Color dialog and displays the palette. Clicking a Material box opens the Material Properties dialog; click the Color tab to display the palette.

- 2 In the **Sort order** drop-down list, select the way the colors are sorted: Palette (in order by the way the palette stores the colors), Hue (in order by color) or Luminance (in order by lightness).
- 3 Click the desired color. The color's index number within the palette, color value (RGB or HSL), and HTML code are displayed.
- 4 Click **OK**.

Choosing Colors from an Image or the Desktop

Use the Dropper tool to choose a foreground or background color from any open image. Or use a special feature of Color and Material boxes to select from any color within Paint Shop Pro (such as a color on a toolbar). If you have Windows 2000 or later, you can choose a color from other applications (such as a color displayed in a word processor).

When should I choose a color from the desktop?

You can choose a foreground or background color from the desktop when you particularly like an icon color, or when you want to match the Windows desktop colors.

Note

You can also use the Jasc Color Picker to choose a color from any open image. See “To choose a color from the active image:” on page 241.

To use the Dropper tool to choose (or sample) a color:

- 1 On the Tools toolbar, choose the Dropper tool . The tool may be hidden under the Color Replacer tool.
- 2 Position the cursor over the color in the image.
- 3 Left-click to make the color the foreground color or right-click to make it the background color.

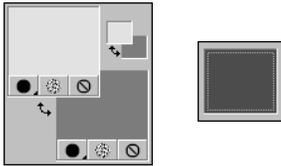
To choose a color from the active image:

- 1 Position the cursor over the active image.
 - Note:** This applies to the Brush, Eraser, and Picture Tube tools.
- 2 Hold down the **Ctrl** key and left-click to choose the color as the foreground color or right-click to choose the color as the background color.

To choose a color from an image or the desktop:

- 1 Make sure the color you want to choose is displayed on the screen.
- 2 Position the cursor over a Color or Material box (on the Materials palette or in a dialog).
 - Note:** On the Materials palette, you must assign the foreground and background color separately. Position the cursor over one or the other, follow the steps, and then start over for the other color.
- 3 Hold down the **Ctrl** key and continue to hold it down until you’ve completed the following steps.
- 4 Move the cursor over the area of the desktop that has the color you want to choose. The cursor is a dropper  over any area that you can choose from. For Windows 2000 or later systems, the cursor remains a dropper when you move off Paint Shop Pro onto another application.
- 5 Left-click to select the color. The Color box or Material box updates with the color.
- 6 To change the color selection, continue to hold the **Ctrl** key and click on different parts of the desktop.
- 7 Release the **Ctrl** key.

Material and Color boxes on the Materials palette (left) and a Color box on a Paint Shop Pro dialog (right).

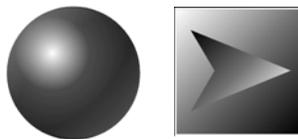


Choosing Gradients

Color depth

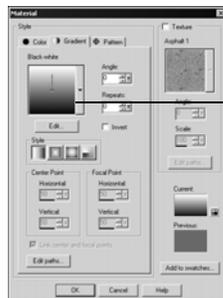
Gradients are available for greyscale and 16 million color images only. To increase the color depth of an image, see page 261.

Example applications of gradients



MAKE WAVES

The Gradient tab of the Material Properties dialog



Gradient drop-list

Gradients are gradual blends between two or more colors. You can paint, draw, or fill with gradients to create interesting effects or helpful color transitions. Use gradients to create Web buttons with shadows and highlights, to make objects look shiny or glowing, or to add dimension to objects. Use gradients to fade Web page graphics into other content or use a black-to-white gradient as a mask.

You choose gradients on the Gradient tab of the Material Properties dialog.

To choose a foreground or background gradient:

- 1 On the Materials palette, set the Foreground/Stroke or the Background/Fill style to **Gradient**, and then click the associated property box. This displays the Material Properties dialog, and the Gradient tab will be active.
- 2 Click the **Gradient** drop-list to view a thumbnail of the available gradients. If necessary, choose a Category containing the desired gradients.
- 3 Click the desired gradient. This closes the drop-list. The gradient name will appear above the drop-list.
- 4 If desired, set the following options for the gradient:

Style The style for the gradient: Linear , Rectangular , Sunburst , and Radial .

Angle (Linear, rectangular, and radial gradients only) The angle or direction of the gradient, from 0 to 359 degrees.

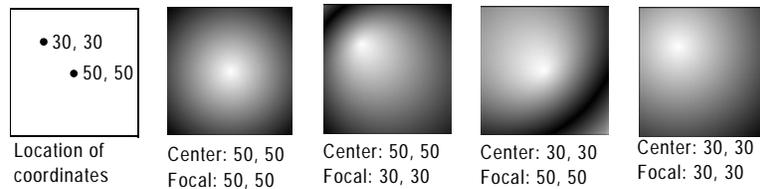
Repeats The number of times (from 0 to 100) to repeat the gradient pattern.

Invert Mark to invert the colors of the gradient.

Center Point (Rectangular, sunburst, and radial gradients only) The horizontal and vertical coordinates of the point from which the gradient disperses or radiates. The distance is measured as a percentage of the fill area's width. Change the center point to create fills in circles or other shapes where the center of the gradient is not at the center of the object.

Focal Point (Rectangular and sunburst gradients only) The horizontal and vertical coordinates of the point where the foreground color of the gradient begins. The distance is measured as a percentage of the fill area's width. Change the focal point to create fills in circles or other shapes where the effective light source is not at the center of the object. This option is available only when the Link Center and Focal Points check box is cleared.

The examples below show the effect of varying the center point and the focal point.



Link center and focal points (Rectangular and sunburst gradients) Mark this check box to have the center and focal points be the same values. Clear the check box to edit the focal point separately from the center point.

Note: You can also move the center point by dragging the control needle or cross-hairs shown in the Gradient drop-list. If you clear the Link Center and Focal Points check box, you can move the focal point by dragging the cross-hairs on the gradient.

- 5 To edit the colors, transition points, and opacity of the gradient, click the **Edit** button. For more information, see “Editing Gradients” on page 251.
- 6 To save this gradient as a swatch that you can access later, click the **Add to swatches** button, type a name, and press **Enter**.
- 7 Click **OK**.

Choosing Patterns

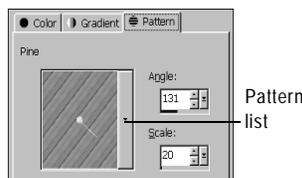
Example applications of patterns

JASC
JASC

Color depth

Patterns are available for greyscale and 16 million color images only. To increase the color depth of an image, see page 261.

The Pattern tab of the Material Properties dialog



You can paint, draw, or fill patterns to create interesting effects. Paint Shop Pro includes many patterns (such as bricks and zebra stripes). You can create your own as well. You can also use an entire image or part of an image as a pattern.

Patterns are a great way to add creative flair to your images. You can apply patterned brushstrokes, create objects with patterned fills or edges, and create patterned text. You can use patterns to create stationary to use when sending e-mail or to create tiled images for Web pages. Patterns are especially helpful for projects that require an interesting background—such as a CD covers, calendars, or greeting cards.

You choose patterns on the Patterns tab of the Material Properties dialog.

To choose a foreground or background pattern:

- 1 On the Materials palette, set the Foreground/Stroke or the Background/Fill style to **Pattern**, and then click the associated property box. This displays the Materials Properties dialog, and the Pattern tab will be active.
- 2 Click the **Pattern** drop-list to view a thumbnail of the available patterns. If necessary, choose a Category containing the desired patterns.
- 3 Click the desired pattern. This closes the drop-list. The pattern name will appear above the drop-list.
- 4 If desired, set the following options for the pattern:

Angle The angle (or direction) of the pattern, from 0 to 359 degrees. You can also click and drag the control needle on the pattern to change the angle.

Scale The scale—from 10 to 250 percent of the image's actual size. At smaller values, the image is repeated more frequently throughout the pattern. At larger values, the image may be cropped and may lose detail and become blurry.

- 5 To save this pattern as a swatch that you can access later, click the **Add to Swatches** button, type a name, and press **Enter**.
- 6 Click **OK**.

To use an image as a pattern:

- 1 Open the image you want to use.
- 2 To select a part of the image as the pattern, make a selection in the image.
- 3 Follow the same steps as above for choosing a pattern and choose the image from the Pattern Type drop-down list. If the image has a selection, the selection rather than the entire image is available as a pattern.

To create a new pattern:

- 1 Create an image (in Paint Shop Pro or another application).
- 2 Save the image as a file in the Patterns folder of the Paint Shop Pro program folder.

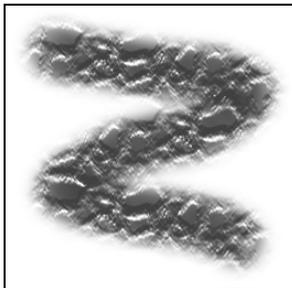
Note: To change the default location of pattern files, on the Material Properties dialog click the **File Locations** button in the Pattern drop-list. See, “Editing File Locations” on page 68.

Choosing Textures

Pattern versus texture

For a comparison of patterns and textures, see “Understanding the Difference Between Patterns and Textures” on page 249.

Example of painting with a texture



You can paint, draw, or fill with a texture to create interesting effects. Textures give your images the effect of having a textured canvas or paper. Paint Shop Pro includes many textures, such as clouds, cracked cement, and old paper. You can create your own as well. You use textures with the current style (solid color, gradient, or pattern) for foreground and background strokes or fills. You can apply strokes or fills multiple times to gradually darken and fill in the texture.

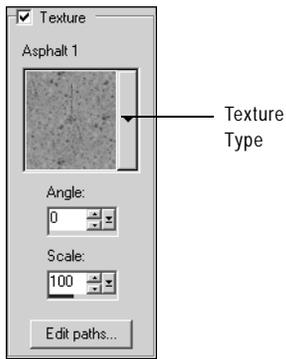
To select the current texture for the foreground or background material:

On the Materials palette, click the **Texture** style button  on the Foreground Material box or the Background Material box. The most recently chosen texture becomes active.

To choose a new texture:

- 1 With the current style set to Texture, on the Materials palette do one of the following:
 - To choose a foreground texture, click the Foreground Material box.

The Texture panel of the Material Properties dialog



Where are texture files stored?

The Texture Type drop-list displays all the available files in the Textures folder of the Paint Shop Pro program folder. You can also include .TEX files from previous versions of Paint Shop Pro in this folder.

- To choose a background texture, click the Background Material box.

The Material Properties dialog opens.

- 2 Mark the **Texture** check box.
- 3 Click the **Texture Type** drop-list and select a type of texture.
- 4 Select the options for the texture:

Angle The angle (or direction) of the texture, from 0 to 359 degrees. You can also click and drag the control needle to change the angle.

Scale The scale—from 10 to 250 percent of the image’s actual size. At smaller values, the image is repeated more frequently throughout the texture. At larger values, the image may be cropped and may lose detail and become blurry.

As you modify the options, the **Current** color box displays the resulting material (the style plus the texture).

- 5 To change the style of the material, click the **Color**, **Gradient**, or **Pattern** tab and specify the options.
- 6 Click **OK**.

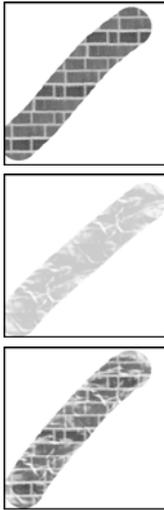
To create a new texture:

- 1 Create an image (in Paint Shop Pro or another application).
- 2 Save the image as a file in the Textures folder of the Paint Shop Pro program folder.

Note: To change the default location of texture files, on the Material Properties dialog click the **File Locations** button in the Pattern drop-list. See, “Editing File Locations” on page 68.

Understanding the Difference Between Patterns and Textures

*Painting with:
a pattern, a texture,
a pattern and a texture*



On the Materials palette you can select both a pattern and a texture as part of a material. What's the difference between the two?

A pattern is an opaque, repeated image with specific colors and details. A pattern is a style just like solid color or gradient. Thus, patterns do not use the current foreground or background colors. Let's say you select the pattern called Bricks and then apply brushstrokes with the Paintbrush tool. Each brush stroke paints the brick pattern.

A texture gives the effect of having textured canvas or paper. Textures use the current style (such as a solid color). Let's say the foreground color is yellow and you select the texture called Crumpled Paper. When you apply a brush stroke, each brush stroke paints yellow with the texture of crumpled paper.

Unlike patterns, textures can be applied at the same time as styles—solid color, gradient, or pattern. That means you can have both a pattern and a texture selected at the same time.

Working with Swatches

Swatches are materials that you can save to use again. For example, if you create a material that is a certain shade of green with a fog texture, you can save it as a swatch. Swatches are displayed on the Swatches tab of the Materials palette.

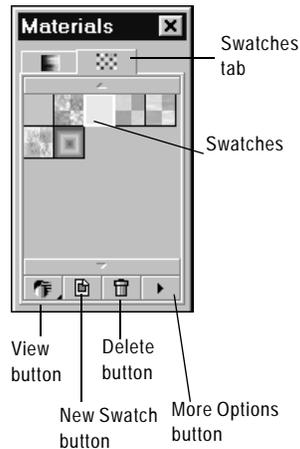
An alternative way to create a swatch

While you are selecting a material on the Material Properties dialog, click the **Add to Swatches** button to create a new swatch of the currently selected material.

To create a new swatch:

- 1 On the Materials palette, click the **Swatches** tab .
- 2 Click the **Create New Swatch** button . You can also click the **More Options** button  and choose **New Swatch**.
- 3 Type a name for the swatch. This name appears as a ToolTip when you hold the cursor over the swatch on the Materials palette.
- 4 Press **OK** to open the Material Properties dialog.

The Swatches tab of the Materials palette



- 5 Select the style (color, gradient, or pattern) and the texture for the material.
- 6 Click **OK**.

To select a swatch:

- 1 On the Materials palette, click the **Swatches** tab .
- 2 Do one of the following:
 - To select a swatch as the foreground material, left-click the swatch you want to use.
 - To select a swatch as the background material, right-click the swatch you want to use.

To edit a swatch:

- 1 On the Materials palette, click the **Swatches** tab .
- 2 Double-click the swatch you want to edit. You can also click the swatch, click the **More Options** button , and then choose **Edit Swatch**. The Material Properties dialog opens.
- 3 Edit the style (color, gradient, or pattern) or the texture for the material.
- 4 Click **OK**.

To delete a swatch:

- 1 On the Materials palette, click the **Swatches** tab .
- 2 Click the swatch you want to delete.
- 3 Click the **Delete Swatch** button  or click the **More Options** button  and choose **Delete Swatch**.

To rename a swatch:

- 1 On the Materials palette, click the **Swatches** tab .
- 2 Click the swatch you want to rename.
- 3 Click the **More Options** button  and choose **Rename Swatch**.

To change how swatches are displayed:

- 1 On the Materials palette, click the **Swatches** tab .

2 Do one of the following:

- To select which swatch types are displayed, click the **View** button and choose All , Colors , Gradients , or Patterns . You can also click the **More Options** button , choose **View**, and then choose the swatch type to display.
- To change how swatches are sorted, click the **More Options** button , choose **Sort**, and then choose **By Style** or **By Name**. By default, the swatches are sorted by style.
- To change between small and large thumbnails of the swatches, click the **More Options** button  and choose **Small Thumbnails** or **Large Thumbnails**. By default, small thumbnails are displayed.

Editing Gradients

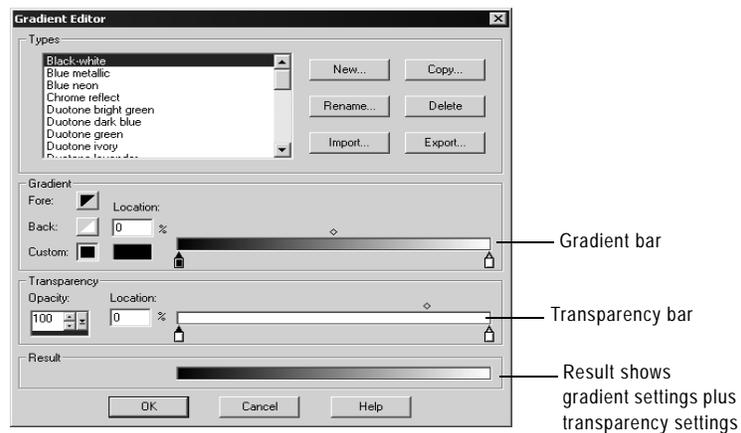
Editing the default gradients

If you edit and save one of the gradients that comes with Paint Shop Pro, you are permanently changing the gradient type. For example, if you select the Green Neon gradient type, change its colors to orange and yellow, and save it. The next time you select the Green Neon gradient type, it is no longer green.

To maintain Paint Shop Pro's default gradients, save changes to a new gradient file. See "Saving Edited Gradients" on page 254.

You can change the colors, transition points, and transparency of gradients in the Gradient Editor dialog. You can edit Paint Shop Pro's default gradients or create your own gradients. You can also rename, delete, import, and export gradients.

The Gradient Editor dialog is shown below.



To specify the colors and transition points of the gradient, use settings in the Gradient group box. To change the transition points, edit the location of markers and midpoints on the gradient bar:

- Markers  indicate points of solid color.

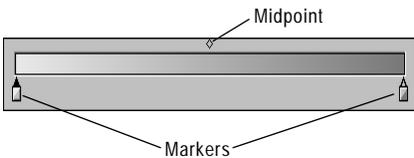
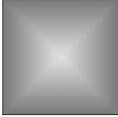
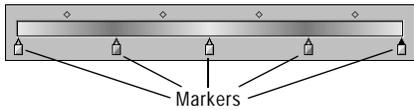
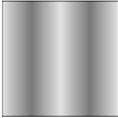
How can I restore Paint Shop Pro's default gradients?

Do a custom installation to reinstall the gradients from the Paint Shop Pro program disk. For more information, see "Installing the Software" on page 6.

- Midpoints  indicate the positions where two colors are equally blended. Each pair of markers has a midpoint that can be located anywhere between the markers.

To specify the transparency of the gradient, including opacity values and transition points, use the settings in the Transparency group box. Markers and midpoints indicate the places where the transparency changes. You change and add markers on the transparency bar, which represents the transparency of the gradient across its width.

The following table shows example gradients that result from different numbers of markers.

These Gradient Marker Locations	Produce this Linear Gradient	Produce this Rectangular Gradient
		
		

To display the Gradient Editor dialog:

- 1 On the Materials palette, click the Foreground Material box or the Background Material box.
The Material Properties dialog opens.
- 2 Click the **Gradient** tab.
- 3 Choose the gradient you want to edit, then click the **Edit** button.

To change the location of markers and midpoints:

Do one of the following:

- Click and drag the marker or midpoint to a new location.

- Click the marker or midpoint to select it, then enter a value in the **Location** field.

To add a new marker:

Click a position under the gradient bar or the transparency bar.

For the gradient bar, the marker's initial color is determined by the currently highlighted Fore, Back, or Custom button. Click another color button to change the color.

For the transparency bar, the marker's initial opacity is 100%. Change this value in the Opacity edit box.

To delete a marker:

Click the marker and drag it away from the gradient bar or the transparency bar.

To change the color for a marker:

- 1 Click the marker below the gradient bar to select it. The triangle at the top of the marker turns black.
- 2 Choose a color by doing one of the following:
 - To use the foreground color, click the **Fore** button .
 - To use the background color, click the **Back** button .
 - To use the currently defined custom color, click the **Custom** button .
 - To choose a new custom color, left-click the Custom color box to select from the Color Picker or right-click to select from recently used colors.
 - To select a color from within the gradient itself, click the gradient bar.

If a gradient uses foreground or background colors

If a gradient contains the foreground or background color, when you next apply the gradient it uses the current foreground and background colors of the image (rather than the colors that you used to define the gradient).

To create a gradient that always contains the same colors, color all markers with custom colors.

To change marker transparency:

- 1 Click the marker below the transparency bar to select it. The triangle at the top of the marker turns black.
- 2 Change the value in the Opacity edit box. Values range from 0% (completely transparent) to 100% (opaque—the underlying pixels are covered completely).

Saving Edited Gradients

After editing a gradient via the Gradient Editor dialog, you can save the gradient as follows:

- 1 Click the **Copy** button. This displays the Copy Gradient dialog.
- 2 Enter a unique name for the gradient, and then click **OK**.
- 3 You'll see a message asking to confirm that you wish to save the gradient. Click **Yes**.

Creating New Gradient Types

You can create a new gradient type that is selectable from the drop-down list of the Gradient tab of the Material Properties dialog. If you use the foreground and background colors to define the gradient, the image's current foreground and background colors are used when you apply the gradient. To create a gradient type that always uses the same colors, use custom colors for all markers.

To create a new gradient type:

- 1 Display the Gradient Editor dialog.
- 2 Click the **New** button.
- 3 Type a name for the new gradient.
- 4 Click **OK**.

The gradient is initially defined with two markers at 0 and 100% that use the custom color. You can now edit the gradient.

Exporting Gradients

After creating a new gradient, you may want to export it to use in another program. Although Paint Shop Pro's default gradients are stored in .PspGradient format, you export gradients as .GRD format, which is commonly used in other applications.

To export a gradient:

- 1 Display the Gradient Editor dialog. See "To display the Gradient Editor dialog:" on page 252.
- 2 If you have not already selected the gradient to export, choose it from the **Types** box and edit its settings as desired.
- 3 Click the **Export** button.

How do I get my .GRD format gradient to be listed?

To have a .GRD format gradient be listed as a gradient type, you must import it. See "Importing Gradients" on page 255.

- 4 Select the folder in which to save the gradient. Paint Shop Pro's default gradients are stored in the Gradients folder within the Paint Shop Pro program folder.
- 5 In the **File name** edit box, type a name for the new gradient.
- 6 Click the **Export** button.

Importing Gradients

You can import gradients in the .GRD file format, which is a format used in other applications.

Importing Jasc gradient files

To import a gradient saved in Jasc Gradient format (.PspGradient), place the file in the Gradients folder. All .PspGradient files in that folder are automatically listed as available gradient types.

To import a .GRD gradient:

- 1 Display the Gradient Editor dialog. See "To display the Gradient Editor dialog:" on page 252.
- 2 Click the **Import** button.
- 3 Select the folder containing the gradient you want to import. All .GRD files are listed.
- 4 Select the gradient's file name.
- 5 Click **OK**.

Renaming and Deleting Gradients

You can rename or delete gradient types.

How can I restore Paint Shop Pro's default gradients?

Do a custom installation to reinstall the gradients from the Paint Shop Pro program disk. For more information, see "Installing the Software" on page 6.

To rename a gradient:

- 1 Display the gradient you want to rename in the Gradient Editor dialog.
- 2 Click the **Rename** button. This displays the Rename Gradient dialog.
- 3 Type the new name.
- 4 Click **OK**.

To delete a gradient:

- 1 Click the gradient you want to delete in the Gradient Editor dialog.
- 2 Click the **Delete** button. You'll see a message asking to confirm the deletion.
- 3 Click **Yes**.

Understanding Color and Color Models

We usually think of color as a quality inherent in an object—a red car or a green frog. But color is really what we see as a result of three factors interacting: light, the object, and the observer. As rays of light hit the object, the object absorbs some light and reflects some light. We see the reflected light and perceive it as color. Different colors reflect light of different wavelengths. Human eyes are able to perceive thousands of colors in the visible spectrum of light.

When you apply ink to paper, the colors we see result from the light that the ink reflects. Computer monitors use emitted light rather than reflected light—the colors we see result from light emitted from the screen.

To describe how color is produced or perceived, we use color models. Computer monitors display colors by producing varying amounts of red, green, and blue light—the RGB color model. Human eyes perceive color by its hue, saturation, and lightness levels—the HSL color model. With Paint Shop Pro you can select colors using either the RGB or HSL color model. You can also output images using the CMYK (Cyan, Magenta, Yellow, Black) model, which is used for high-end printing applications.

Selecting the color model

RGB is the default color model. To change your color model preference, see “Display and Caching Preferences” on page 61.

Paint Shop Pro uses your preferred color model (RGB or HSL) whenever color values are displayed, such as with the Dropper tool. When you select colors from the Jasc Color Picker, you are able to enter RGB or HSL values regardless of your preference setting.

The color model used to display color values on-screen has no effect on how colors are printed. Choose a color model preference that is easier for you to use.

RGB Model

All colors on your computer screen are created by mixing red, green, and blue light in varying proportions and intensities. Adding all the colors together creates white.

Each primary color (red, green, and blue) is assigned a value from 0 (none of the color present) to 255 (the color at full strength). For example, pure red is produced by combining a red value of 255, a green value of 0, and a blue value of 0. Yellow is a combination of a red value of 255, a green value of 255, and a blue value of 0. Setting all three values to 255 produces white; setting all three values to 0 produces black. When all three colors are set to the same value (such as 120, 120, 120), the result is grey.

HSL Model

The HSL model is based on how the human eye perceives color using the characteristics of hue, saturation, and lightness. Each characteristic is assigned a value from 0 to 255. The three characteristics are described as follows:

Hue The color reflected from an object, such as red, yellow, or orange. Each hue value is assigned based on its position on the color wheel. On the Jasc Color Picker's color wheel, colors are assigned counterclockwise from the top. Red is at the top (value 0) and as you move around the wheel the colors go through orange, yellow, green, blue, purple, and back to red.

Saturation The purity or vividness of the color. Saturation represents the amount of grey in the color, from 0 (entirely grey) to 255 (fully saturated color).

Lightness The perceived amount or intensity of light in the color. Lightness ranges from 0 (no light, or black) to 255 (total lightness, or white). At 50 percent lightness, or a value of 128, a color is considered pure. For example, pure red has a hue of 255, a saturation of 255 (100 percent) and a lightness of 128 (50 percent). For pure blue, the hue is 170, saturation is 255 and lightness is 128.

CMYK Model

The CMYK model is based on the fact that ink on paper both absorbs and reflects light. As white light strikes the ink, part of the color spectrum is absorbed and part is reflected back to your eyes (resulting in the color you see).

In this model, the primary colors cyan (C), magenta (M), and yellow (Y) combine in varying proportions to produce a variety of colors. When the three colors are combined, they produce black. Because impurities in the ink make it difficult to produce a true black, a fourth color, black (K), is added.

Combining inks in this way is called four-color process printing. It is used by printing services and high-end color printers.

Although you cannot create images in Paint Shop Pro using the CMYK model, you can produce color separations that can be printed on CMYK printers. There are two ways to do this: You can split the images into CMYK channels or you can print color separation pages.

CMYK channels are simply four separate greyscale images that represent the percentage and location of cyan, magenta, yellow, and black in the image. For more information, see "Working with Color Channels" on page 259.

When you print CMYK separations, Paint Shop Pro prints a separate greyscale page for each primary color. You can then use these pages as "color plates" to give to a printing service. For more information, see "Printing with CMYK Color Separations" on page 452.

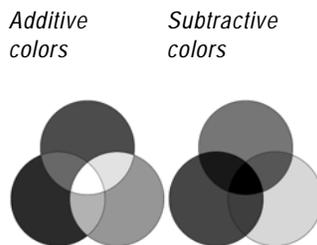
How Monitor and Print Colors Differ

Computer monitor colors and printed colors may often be quite different—which is a challenge when you are trying to match a certain color. Colors can also appear different from monitor to monitor.

Image colors on a monitor are influenced by a variety of factors: the color range, called the color gamut, of the input device (such as the scanner or camera), the manufacturer and age of the monitor, and the monitor's brightness and contrast settings.

When you print an image, you introduce other factors that influence color: the quality and absorption properties of the paper, the color gamut of the printer, and the conversion of RGB values from the monitor to the CMYK values of the printer's ink.

This conversion is a challenge because of the different approaches to color between monitors and printers. Because monitors use light to display color, they use additive colors—when you add them together, they produce white. Conversely, when you remove all monitor colors you produce black. Because printers use ink to display color, they use subtractive colors—when you remove colors, you produce white, and when you add all printer colors you produce black. As a result, monitors and printers have different color gamuts. Although they share many of the same colors, there are some colors a monitor can display that a printer can't print and some colors a printer can print that a monitor can't display.



Given all the factors that go into producing colors, how do you go about making colors accurate and consistent? Try these options:

- Calibrate your monitor every few months. See “Calibrating Your Monitor” on page 84.
- Get to know the typical differences between your monitor's colors and your printer's colors so that you can adjust your images as needed. Print out several photographs or other images and compare them to the screen. Are there typical results? For example, your printer may always print colors darker than your monitor displays them. Knowing this, you can modify the lightness of your images accordingly.
- Consider using Windows Color Management, which helps to improve color consistency across devices. See “Adjusting Monitor Display Options” on page 84.

Working with Color Channels

Does it matter what color model is selected?

No. You can split images into RGB, HSL, or CMYK color channels regardless of the type of color model (RGB or HSL) you chose as a display preference.

Color channels are planes of color. This RGB image has three channels: red, green, and blue.



Creative ideas for color channels

Here are a few of the things you can do with color channels:

- Create a color shift by splitting an image into HSL channels, modifying the Hue channel, then combining the channels.
- Use a channel greyscale to create a selection.

Image files store their color information in channels, or planes, of colors. You can separate (or split) an image into RGB, HSL, or CMYK color channels. An RGB image has three channels: red, green, and blue. An HSL image has three channels: hue, saturation, and lightness. Although you cannot create or edit an image using the CMYK model, you can still split the image to four channels: cyan, magenta, yellow, and black.

The Split Channel command creates a new greyscale image for each color channel; the original image is not affected. For example, an HSL image is split into separate greyscale images named “Hue,” “Saturation,” and “Lightness.” Each greyscale image represents the percentage and location of a color (such as red) or a characteristic (such as lightness) within the image.

You can edit the greyscale images and use them to create interesting effects or masks. You can combine them again using the Combine Channel command. If you split an image into CMYK channels, you can then send the four greyscale images to a printing service. (You can also print CMYK separations directly; see “Printing with CMYK Color Separations” on page 452.)

To split color channels:

- 1 Open the image.
- 2 Choose **Image > Split Channel** and choose **RGB**, **HSL**, or **CMYK**.
A new greyscale image opens for each color channel.

To combine color channels:

- 1 Open each color channel file.
- 2 Choose **Image > Combine Channel** and choose **Combine from RGB**, **Combine from HSL**, or **Combine from CMYK**.
- 3 For each **Channel source** drop-down list, select the name of the file that contains that channel. For example, in the Combine RGB dialog, you might select the file Red1 as the red channel source.
Note: If you are combining channels that you split with the Split Channels command, mark the **Sync** check box to have Paint Shop Pro automatically fill in the Channel Source boxes with matching file names.
- 4 Click **OK**. Paint Shop Pro displays a new image file that combines the color channels you selected.

Understanding Color Depth

Color depth, also called bit depth, refers to the number of colors each pixel (and therefore its image) can display. As the color depth increases, the number of colors an image can display increases. Each pixel's color information is stored in a certain number of computer bits—from 1 bit to 24 bits. In a 1-bit image, each pixel can display only one of two colors (black or white). In a 24-bit image, each pixel can display one of 16 million colors (2^{24} or 2 colors for each bit). Images with a color depth of 16 million colors look best because they contain the most colors, but they also require the most memory to store and edit.

In Paint Shop Pro, you can create 2 color (1-bit), 16 color (4-bit), greyscale (8-bit), 256 color (8-bit), and 16 million color (24-bit) images. Many of Paint Shop Pro's effect and correction commands work on 16 million color images only. Therefore, it is best to create most images using 16 million colors. After you finish working on an image, you can decrease its color depth and save it in another format.

Computer monitors also have a color depth that is determined by the monitor's capabilities as well as the selected color setting. If you display an image with a higher color depth than the monitor can display, the image will have some color distortion. Some file formats limit the number of supported colors so that images display correctly on a variety of monitor types. For example, GIF images, a popular format for the Web, contain up to 256 colors (8-bit depth).

The number of colors actually used in an image is usually less than the color depth. For example, in a 16 million color image, the image is capable of displaying that many colors but may only use 50,000 colors. You can use the **Layers > Count Layer Colors** command to count the number of colors in a layer of the image.

To view the color depth of an image:

Do one of the following:

- Look at the Status bar, which displays the active image's pixel dimensions (the first two numbers) and color depth (the third number).
- Press **F9** to display the Overview palette, click the **Info** tab, and then view the Color Depth field.
- Choose **Image > Image Information**, then look at the Pixel Depth/Color field.

The color depth is the third number in the Status bar (here 16 million colors).

Image: 1208 x 1500 x 16 million

Viewing and adjusting monitor settings

You can view the possible settings for your monitor by following these steps: click the **Windows Start** button, choose **Settings > Control Panel**, double-click the **Display** icon, and then click the **Settings** tab.

For information on adjusting your monitor settings, see your Windows documentation.

Quick color depth changes

If you are increasing or decreasing several images to the same color depth, you can add the color depth's button to the toolbar. For more information, see "Customizing Toolbars and Menus" on page 56.

Limitations of decreasing color depth

Keep in mind these limitations when decreasing color depth:

- Most Paint Shop Pro effect and correction commands work on 16 million color and greyscale images only.
- When you decrease the color depth, Paint Shop Pro first flattens the image, merging the data on all layers. However, you can add vector layers to images of any color depth.

To view the color depth of a monitor:

- 1 Choose **Help > About Paint Shop Pro**.
- 2 Click the **System Info** button.
- 3 Scroll down to the Video Driver Information section and look at the Number of Colors field.

To view the number of colors in a layer:

- 1 On the Layers palette, click the layer name that you want to check.
- 2 Choose **Image > Count Image Colors**.

Increasing the Color Depth of an Image

If an image has a color depth less than 24-bit, you may want to increase the color depth while editing the image. Many of Paint Shop Pro's effect and correction commands work only on images with 16 million colors. Depending on the color depth of your image, you can also increase an image to 16 colors (4-bit) or 256 colors (8-bit).

To increase the color depth of an image:

Choose **Image > Increase Color Depth** and choose the desired color depth: **16 Colors (4-Bit)**, **256 Colors (8-Bit)**, or **16 Million Colors (24-bit)**. Color depths not available for the active image are greyed out.

Decreasing the Color Depth of an Image

If you are creating an image for on-screen viewing, you may want to decrease the number of colors to make sure most monitors can display the image properly. Also, when you have finished editing an image, you may want to decrease color depth to save memory space.

Note

If you are creating images for the Web, we recommend that you work with 16 million colors (24-bit) images so that all Paint Shop Pro commands are available. When you are ready to save the images, use the GIF optimizer or JPEG optimizer, which automatically decreases the color depth in the saved image but doesn't change the color depth or layers of your original .PspImage file.

Depending upon the current color depth of your image, you can decrease its color depth to the following:

2 colors (1-bit) Converts to a black and white image and drastically reduces file size. See “Decreasing Color Depth to 2 Colors (1-bit)” on page 262.

16 colors (4-bit) Converts to a color image with very limited colors. Use this option if your image uses a small number of colors and you want a smaller file size. See “Decreasing Color Depth to 16 Colors (4-Bit)” on page 264.

256 colors (8-bit) Converts to a color image that works well for on-screen viewing when your image will be viewed on a variety of monitor types. This is a helpful color depth for images viewed on the Web. See “Decreasing Color Depth to 256 Colors (8-Bit)” on page 265.

32K or 64K colors (24-bit) Converts to 32,000 or 64,000 colors within a 24-bit image. For images viewed on older monitors, this color depth results in better refresh rates. See “Decreasing Color Depth to 32K or 64K Colors (24-Bit)” on page 266.

X colors Converts to a color image with a number of colors that you specify (from 2 to 256). This color depth can produce smaller file sizes and faster download times for file formats such as GIF. See “Decreasing Color Depth to a Selected Number of Colors” on page 266.

Note

When you change the color depth, you permanently change the colors of the image’s pixels. Before decreasing the color depth, do as much editing as possible in your original image and save a backup copy of the image that includes all layers.

Decreasing Color Depth to 2 Colors (1-bit)

To create a black-and-white image, you can decrease an image’s color depth to 2 colors. If your image is already black and white (perhaps it is a line drawing or a photograph to which you applied the Threshold command), decreasing the color depth to 2 colors can drastically reduce the file size.

When you decrease color depth to 2 colors, choosing from the variety of options is not an exact science. Try out several different combinations and see which produces your desired result.

Another way to create a black-and-white image

You can use the Threshold command to select the lightness value threshold (from 1 to 255) at which color pixels are changed to black or white. With this command, the color depth does not change. For more information, see “Creating Black-and-White Images” on page 142.

Ordered Dither reduction method and Error Diffusion reduction method



Original color image and Nearest Color reduction method



To decrease the color depth to 2 colors:

- 1 Choose **Image > Decrease Color Depth > 2 Colors (1-bit)**.
- 2 In the **Palette component** group box, choose the color channel to use for the final image: Grey (the lightness values), Red, Green, or Blue. Choosing Grey produces the best results in most cases. However, if the image consists mostly of a single color, selecting that color channel may produce the best results.
- 3 In the **Reduction method** group box, choose a color reduction method. See “About Color Reduction Methods” on page 267.

Note: With the Error Diffusion method, you must also select the Floyd-Steinberg, Burkes, or Stucki option, which are algorithms for the dithering pattern. Try them out to see what result you like best.

- 4 In the **Palette weight** group box, select an option:

Weighted A weighted palette produces less dithering and produces sharper edges.

Non-weighted A non-weighted palette produces more dithering and softer edges.

Note: Dithering places pixels of different colors or grey levels next to each other to simulate missing colors or greys.

- 5 Click **OK**.

Decreasing Color Depth to 16 Colors (4-Bit)

To reduce the file size of images with few colors, decrease the color depth of an image to 16 colors (4-bit). This color depth is especially useful for simple graphics on Web pages that you want to load quickly.

Edit the palette

When you decrease color depth to 16 colors, the resulting image has an image palette that contains 16 specific colors. You can change any of those colors (and create interesting effects) by editing the image palette. See “Working with Image Palettes” on page 269.

To decrease the color depth to 16 colors:

- 1 To emphasize the importance of certain colors in the conversion, select an area of your image (optional).
- 2 Choose **Image > Decrease Color Depth > 16 Colors (4-bit)**.
- 3 In the **Palette** group box, choose a palette option. See “About Palette Options” on page 268.
- 4 In the **Reduction Method** group box, choose a color reduction method. See “About Color Reduction Methods” on page 267.

Note: The Ordered Dither option is available only for the Windows color palette.

- 5 In the **Options** group box, mark or clear these check boxes:

Boost marked colors by If you selected an area of your image, you can mark this check box to make the colors in the selection more important by a factor of the value you enter. The selected colors will stand out from the rest of the image.

Reduce color bleeding If you chose the Optimized Median Cut or the Optimized Octree palette and the Error Diffusion reduction method, you can mark this check box to make the left-to-right bleed effect of colors less noticeable.

- 6 Click **OK**.

Decreasing Color Depth to 256 Colors (8-Bit)

To limit your image to colors most monitors can display and to reduce file size, decrease the color depth of the image to 256 colors (8-bit). You can choose a Web-safe palette that assures your image displays properly on a variety of computer monitors.

Greyscale versus 256-color images

Greyscale images can have 256 shades of grey; 256-color images can have 256 colors. Both types of images are 8-bit depth. However, the Color Depth commands apply to color images only.

If you want to create a greyscale image from a color image, see “Creating Greyscale Images” on page 143.

To decrease the color depth to 256 colors:

- 1 To emphasize the importance of certain colors in the conversion, select an area of your image (optional).
- 2 Choose **Image > Decrease Color Depth > 256 Colors (8-bit)**.
- 3 In the **Palette** group box, choose a palette option. See “About Palette Options” on page 268.
- 4 In the **Reduction method** group box, choose a color reduction method. See “About Color Reduction Methods” on page 267.

Note: The Ordered Dither option is available only for the Standard/Web-safe color palette.

- 5 In the **Options** group box, mark or clear these check boxes:

Boost marked colors by If you selected an area of your image and you are using the Optimized Median Cut method, mark this check box to make the colors in the selection more important by a factor from 1 to 10. The selected colors will stand out from the rest of the image.

Include Windows’ colors If you chose the Optimized Median Cut or the Optimized Octree palette, you can mark this check box if you want the 16 standard Windows colors included in the converted image’s palette.

Reduce color bleeding If you chose the Optimized Median Cut or the Optimized Octree palette and the Error Diffusion reduction method, you can mark this check box to make the left-to-right bleed effect of colors less noticeable.

- 6 Click **OK**.

Decreasing Color Depth to 32K or 64K Colors (24-Bit)

To reduce the number of colors used in a 24-bit image, decrease the color depth of an image to 32K (32,000) or 64K (64,000) colors. Displaying images with 32K or 64K colors on older monitors results in better refresh rates than displaying 24-bit images with 16 million colors.

To decrease the color depth to 32K or 64K colors:

- 1 Choose **Image > Decrease Color Depth** and then choose **32K Colors** or **64K Colors**.
- 2 In the **Reduction method** group box, select the method. See “About Color Reduction Methods” on page 267.
- 3 Click **OK**.

Decreasing Color Depth to a Selected Number of Colors

To select the number of colors in an image, use the **X Colors** command to decrease the color depth of an image and reduce the file size. If you specify 16 or fewer colors, the image is saved as a 4-bit image. If you specify 17 to 256 colors, the image is saved as an 8-bit image. For some file formats, particularly GIF, file compression is sensitive to the number of colors in the image. For example, using 100 colors instead of 256 colors produces a smaller file size (and produces faster download times), even though both files are 8-bit images.

To decrease the color depth to a selected number of colors:

- 1 To emphasize the importance of certain colors in the conversion, select an area of your image (optional).
- 2 Choose **Image > Decrease Color Depth > X Colors (4/8-bit)**.
- 3 In the **Number of colors** edit box, enter the number of colors (from 2 to 256) for the converted image’s palette.
- 4 In the **Palette** group box, select the palette options. See “About Palette Options” on page 268.
- 5 In the **Reduction method** group box, choose a color reduction method. See “About Color Reduction Methods” on page 267.

6 In the **Options** group box, mark or clear these check boxes:

Boost marked colors by If you selected an area of your image and you are using the Optimized Median Cut or Optimized Octree methods, mark this check box to make the colors in the selection more important by a factor from 1 to 10. The selected colors will stand out from the rest of the image.

Include Windows' colors Mark this check box if you want the 16 standard Windows colors included in the converted image's palette.

Reduce color bleeding If you chose the Error Diffusion reduction method, you can mark this check box to make the left-to-right bleed effect of colors less noticeable.

7 Click **OK**.

About Color Reduction Methods

When you decrease an image's color depth, you must select a color reduction method. Depending upon the color depth you select, two or three of these methods are available:

Nearest Color Replaces the original color of a pixel with the color in the newly generated palette that is closest to the original RGB value. This method eliminates dithering and produces a high-contrast image. Simple graphics may look better with this method.

Error Diffusion Replaces the original color of a pixel with the most similar color in the palette, but spreads the discrepancy between the original and new color to the surrounding pixels. As it replaces a color (working from the top left to the bottom right of the image), it adds the "error," or discrepancy to the next pixel, before selecting the most similar color. This method produces a natural looking image and often works best for photographs or complex graphics.

Ordered Dither Adjusts adjacent pixels so that two colors give the illusion of a third color and intermingles pixels to produce patterns based on a known palette. Use this method to give the image the appearance of containing more colors than it actually does. Images may appear to be composed of cross-hatches and dots and may have distinct patterns of light and dark areas.

Give it a try

When you decrease an image's color depth, don't be intimidated by the mathematical algorithms that make up the color reduction methods and the palette options. Your best bet is to start with the default settings, see if you like the result, and then try out several other combinations of settings. Finding the right options is not an exact science—it takes some experimentation.

About Palette Options

When you decrease an image's color depth, you must select a palette option. Depending upon the color depth you select, two or three of these methods are available:

Optimized Median Cut Measures and ranks each color by how frequently it occurs in the image, then uses the most frequently occurring colors to determine the new palette. Even if your image contains fewer colors than the palette that is generated, this method may not represent each color exactly. The method, therefore, is not as accurate as the Optimized Octree method, but it is better at weighting color importance.

Optimized Octree Creates an eight-level "tree" with eight branching nodes totaling 256 individual "leaves" or colors to determine the new palette. This method attempts to reproduce each color in the original image, so if your image contains fewer colors than the palette that is generated, every color in the image is represented. This method is faster and more accurate than Optimized Median Cut, but it is not as good at weighting color importance.

Windows Changes each pixel's color to the nearest color in the Windows palette.

Standard/Web-Safe Palette Changes each pixel's color to the nearest color in the standard Web-safe palette. Use this method to create images for the Web that can be viewed without color distortion on most monitors.

Working with Image Palettes

Should I load a Web-safe palette for Web images?

Not necessarily. When you load an image palette into 16 million color images, you decrease the color depth to 256 colors, which flattens all layers and makes many effect and correction commands unavailable.

Except when you want to control the specific colors in a palette, keep your image at a color depth of 16 million colors in .PspImage format. When you finish editing the image, export it to GIF or PNG format using a Web-safe palette. Your original .PspImage file remains intact for later editing. See “Saving Images for the Web” on page 459.

Editing the palette of a greyscale image

If you select the Edit Palette command for a greyscale image, you are prompted to change the image to 8-bit indexed color. Doing so allows you to add color to your greyscale image, similar to the Colorize command.

An image palette is a collection of colors that an image uses—similar to a painter’s palette of paints. An image palette is a subset of all the colors your monitor can display.

Images with color depths of 16 to 256 colors have an image palette that contains those colors that are used in the image. You can edit this palette to fine-tune colors or create interesting color effects.

Images with a color depth of 16 million colors do not have an image palette because they can contain all the colors your computer can display. For these images, you can load an image palette to decrease the image’s color depth to 256 colors or 8-bit. Loading a palette produces the same result as using the Decrease Color Depth command, except that you are controlling which colors are used in the converted image. For more information on color depth, see “Understanding Color Depth” on page 260.

Paint Shop Pro also includes a Safety palette for creating Web images that can be viewed without color distortion on most monitors. Using this palette produces the same result as using the Decrease Color Depth > 256 Colors (8-bit) command and selecting the Standard/Web-safe palette option. For more information, see “Using the Web-Safe Color Palette” on page 271.

You can also create and save your own palettes. Preset palettes are located in the Palettes folder of the Paint Shop Pro program folder. You can store your custom palettes there as well.

To edit an image palette of 16 to 256 color images:

- 1 Choose **Image > Palette > Edit Palette**.

Note: This command is not available for 16 million color images.

- 2 To change the sort order (or arrangement) of colors, select an option from the **Sort Order** drop-down list: **Palette Order** (in order by the way the palette stores the colors), **By Luminance** (in order by lightness) or **By Hue** (in order by color).
- 3 To replace a color, double-click it. The Color dialog opens and displays the Jasc Color Picker. (For more information, see “Choosing Colors from the Jasc Color Picker” on page 239.) Make your selection and click **OK**. Notice that the image updates with the new color. To return the palette to its original colors, on the Edit Palette dialog click the **Revert** button.
- 4 Click **OK**.

Why should I save a palette?

When you save a palette, you can load it into other images—a good way to achieve consistent colors across several images. Saving a palette is also useful if you are making many color changes and want to save a backup copy of the palette.

If you are using a palette with the current image only, you don't need to save it as a separate file because the palette colors are saved with the image itself.

Color depth changes

When you load a palette, the color depth of the image decreases, if necessary, to match the number of colors in the palette. For example, if you load a 256 color palette into a 16 million (24-bit) color image, the image decreases to a 256 color (8-bit) image.

What if I change my mind?

If you loaded a palette and now you want to change it back to the original palette or color depth, click the **Undo** button or press **Ctrl + Z**, or undo the action in the History palette.

To save an image palette:

- 1 Choose **Image > Palette > Save Palette**.
- 2 Select the folder where you want to save the palette. It's most convenient to save it in the Palettes folder of the Paint Shop Pro program folder, where the preset image palettes are saved.
- 3 In the **File name** field, type a name for the palette. Paint Shop Pro automatically adds the .PspPalette extension when you save the file.
- 4 In the **Save palette as** group box, select a palette format: PSP palette (the default) or Microsoft palette (for use with other applications).
- 5 Click **Save**.

To load an image palette:

- 1 Choose **Image > Palette > Load Palette**.
- 2 Select the folder which contains the palette you want to load. Preset image palettes are stored in the Palettes folder of the Paint Shop Pro program folder.
- 3 Select the palette.
- 4 In the **Apply palette using** group box, select an option:
 - Nearest color matching** Changes each image color to the color in the palette that is the closest match.
 - Error diffusion dithering** Attempts to maintain the image's appearance by dithering colors that are not in the palette. Dithering places pixels of different colors next to each other to simulate missing colors.
 - Maintain indexes** Assigns each color in the palette a sequential index number and does the same for each color in the image, then changes each color in the image to the like-numbered color in the palette.
- 5 Click **Open**. The palette is loaded and the image's colors are updated.

Using the Web-Safe Color Palette

Paint Shop Pro includes a Safety palette with 256 colors that are Web-safe—your images can be viewed without color distortion on most computer monitors. There are three ways to use this palette on an image:

- Load the Safety palette into your image. For 16 million color (24-bit) images, this flattens the layers, reduces the image's color depth to 256 colors (8-bit), and makes many of Paint Shop Pro's effect and correction commands unavailable.
- Decrease the image's color depth to 256 colors and select the Standard/Web-Safe Palette option. Decreasing the color depth also flattens layers and makes some Paint Shop Pro commands unavailable. For more information, see “Decreasing Color Depth to 256 Colors (8-Bit)” on page 265.
- Edit the image in 16 million colors (saving it in .PspImage format), then use the GIF or PNG optimizer to export a copy of the image. These optimizers use the Web-safe palette by default and decrease the color depth in the saved image. We recommend this alternative because it does not change the color depth or flatten the layers of your original .PspImage file and keeps all Paint Shop Pro effect and commands available. For more information, see “Saving Images for the Web” on page 459.

To load the Web-safe color palette:

- 1 Choose **Image > Palette > Load Palette**.
- 2 Select the **Palettes** folder of the Paint Shop Pro program folder.
- 3 Select the palette **Safety.pal**.
- 4 In the **Apply palette using** group box, select an option:
 - Nearest color matching** Changes each image color to the color in the palette that is the closest match.
 - Error diffusion dithering** Attempts to maintain the image's appearance by dithering colors that are not in the palette. Dithering places pixels of different colors next to each other to simulate missing colors.
 - Maintain indexes** Assigns each color in the palette a sequential index number and does the same for each color in the image, then changes each color in the image to the like-numbered color in the palette. This option is not available for 16 million color images.
- 5 Click **Open**.

Making a Palette Color Transparent

Two logos displayed on a Web page: without a transparent color (top) and with a transparent color (bottom)



Paletted images (those with 256 or fewer colors, such as GIF or PNG files) do not support transparent backgrounds, but you often need a way to make part of your image transparent when displayed on a Web page. For example, you may have a round logo and you want the background of the Web page to display around the logo.

Most Web browsers can choose not to display one color, effectively making it transparent. In Paint Shop Pro you have two ways to make one color transparent:

- Use the Set Palette Transparency command to make one color in an image palette transparent. The color can be the background color or any color from the image. To set a transparent color, the image must have one layer only and must use an image palette, which means the image must have a color depth less than 16 million colors (24-bit).
- Edit the image in 16 million colors (saving it in .PspImage format), then use the GIF or PNG optimizer to export a copy of the image. With these optimizers you can set the transparency of the image. We recommend this alternative because it does not change the color depth or flatten the layers of your original .PspImage file and keeps all Paint Shop Pro effect and commands available. For more information, see “Saving Images for the Web” on page 459.

If you decide to make one color transparent in your image, use the Set Palette Transparency command to select the color, and then use the View Palette Transparency command to display the transparent color in your image. You can also use the Set Palette Transparency command to change or undo the transparency of a color.

To make one image color transparent:

- 1 Choose **Image > Palette > Set Palette Transparency**.
- 2 If you are prompted to reduce the color depth and number of layers, click **Yes** to continue and then choose the options for decreasing color depth. For more information, see “Decreasing Color Depth to 256 Colors (8-Bit)” on page 265.

- 3 On the Set Palette Transparency dialog, select an option:
 - To undo the transparency of a color, select **No Transparency**.
 - To make the background color transparent, select **Set the transparency value to the current background color**.
 - To assign a specific color to be transparent, click the color on the image itself, enter a value in the edit box of the **Set the transparency value to a palette entry** option, or click the color box to select from the current color picker.
- 4 To view the transparency on the image, click the **Proof** button.
- 5 Click **OK**. The color is now transparent; however, it may still be displayed until you hide it.

To view or hide the transparency of a color:

Choose **Image > Palette > View Palette Transparency**.



CHAPTER 11

Raster Painting

These tools give you endless options to get creative with your images. Apply soft or hard-edged brush strokes of any color or material, paint with another image as a source, retouch images to correct colors or contrast, replace colors, or paint with picture tubes. You can also erase pixels to transparency.

All painting tools (not to be confused with the Art Media tools, which work on Art Media layers) work on raster layers only. The raster painting tools are fully effective on greyscale or 16 million color images, but can be applied with limited results to images of other color depths.

You can also make a selection in an image and then use the painting tool to change only the pixels within the selection. For more information on selections, see “Using the Selection Tools” on page 192.

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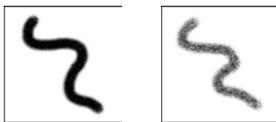
Setting Brush and Paint Options

The brush and paint options help you create hundreds of different brush strokes when using the raster painting tools. Play with the options until you get the effect you want.

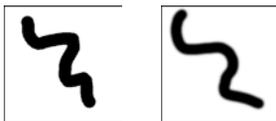
Basic Brush Options

The following options are available on the Tool Options palette for painting tools.

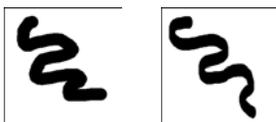
Brush strokes with 75% and 25% densities



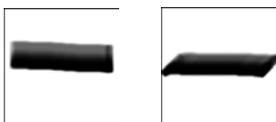
Brush strokes with 100% and 50% hardness



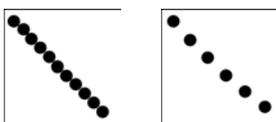
Brush strokes with different thickness



Brush strokes with 0 and 45 degree rotation



Brush strokes with different steps



Shape The shape of the brush tip. Round and Square are the standard brush tips. Choose Round to create curved strokes that look more smooth or choose Square to create brush strokes with corners. Choose the other shapes to create interesting effects. For information on creating your own brush tips, see “Creating Brush Tips” on page 280.

Size Determines the pixel size of the brush, from 1 to 500 pixels. If the brush is asymmetrical (such as when the Thickness is set to 50%), the size is the brush height. Note that you can adjust the Size value via the keyboard as well as through the Tool Options palette. Refer to the Adjusting the Brush Size Via the Keyboard section on the next page.

Hardness Determines how sharp the edges of the tool are. Setting this to 100 gives you the sharpest, hardest edge; setting this to lower values gives you an increasingly softer, fading edge.

Step Determines the distance placed between applications of paint during a single (continuous) paint stroke. Lower Step values yield a smoother, more continuous appearance; higher step values yield a choppy appearance.

Density Determines the coverage of the paint step. (For the Eraser tool, this setting determines the level of erasing.) Higher values yield complete coverage; lower values yield spottier coverage as though you're spraying the paint. Note that when using the Airbrush tool, you should set Density to values lower than 100.

Thickness Determines how wide the brush is. Setting Thickness to 100 gives you a completely round or completely square brush (depending on the Shape setting). As the Thickness setting decreases, the brush becomes increasingly narrow.

Rotation The degrees of rotation of the brush tip, from 0 to 359.

Opacity How well the paint covers the image surface. At 100% opacity, the paint covers everything. At 1% opacity, the paint is almost transparent. For the Eraser tool, this setting determines the level of erasing.

Blend mode How painted pixels are blended with pixels on underlying layers. The blend modes are the same as layer blend modes; for more information, see “About Blend Modes” on page 373.

Continuous stroke Specifies whether paint builds up as you apply multiple strokes of less than 100% opacity over the same area. If this check box is marked, paint maintains a continuous color and repainting an area has no effect. If this check box is cleared (the default), each brush stroke over the same area applies more paint; the color darkens until it reaches 100% opacity.

Wet look paint Mimics wet paint, with soft color inside and a darker ring near the edge. Decrease the Hardness setting from its maximum of 100% to see the effect.

Adjusting the Brush Size Via the Keyboard

While using any Art Media tool, raster painting brush (with the exception of the Warp brush), the Clone brush, the Color Replacer, or the Eraser and Background Eraser, you can quickly adjust the brush size without taking the cursor off the image and into the Tool Options palette. To adjust the brush size via the keyboard:

- Press **Alt + X** to decrease the brush size by one pixel.
- Press **Alt + C** to increase the brush size by one pixel.
- Hold down **Alt** and **Shift** and then press **X** to decrease the brush size by 20 pixels.
- Hold down **Alt** and **Shift** and then press **C** to increase the brush size by 20 pixels.
- Hold down the **Alt** key and drag (to drag, hold down the left mouse button and then move the mouse) the left mouse button up or down to rapidly change the brush size.
- Hold down the **Alt** and **Shift** keys and drag the left mouse button; the size will be set to its lowest value (3 pixels for the Art Media tools, and 1 pixel for the raster painting tools) and then you can drag to increase it from there.

What is an impression?

A brush *impression* is one click of the painting tool. For example, if you click once with the Paint Brush tool using a round brush, the impression is a circle. The same round paint brush makes many impressions as you drag the cursor, which results in a stroke of color.

Painting with the Paint Brush or Airbrush

Transparent painting

If you want a transparent paint brush, use the Eraser or Background Eraser tool. These tools erase pixels to transparency on raster layers. For more information, see “Erasing Parts of an Image” on page 287.

Painting with the Paint Brush and the Airbrush



Default brush options

To reset brush options to their default values, on the Tool Options palette click the **Presets** drop-down window and click the **Reset to Defaults** button.

The Paint Brush and the Airbrush tools work in similar ways. Both create strokes of color in a selection or an image and have a variety of options for changing the brush stroke.

The Paint Brush tool creates strokes of color that simulates an artist’s paint brush. Brush strokes can have hard or soft edges. The Airbrush simulates an airbrush or spray can, and is time-dependent, meaning, the longer you hold the brush over an area, the more the brush produces the effect.

To use the Paint Brush or Air Brush:

- 1 On the Tools toolbar, choose the tool: **Paint Brush**  or **Airbrush** . (One tool may be hidden under the other.)
- 2 Choose the foreground and background colors and materials. See “Choosing Colors” on page 239.
- 3 On the Tool Options palette, choose a shape: round , or square . For information on creating your own brush tips, see “Creating Brush Tips” on page 280.

Note: To create rectangular, elliptical, or angled brush tips, start with the round or square shape and modify it using the Thickness and Rotation options.

- 4 Specify the brush options such as size, opacity, hardness, thickness, and rotation. See “If you are sharing a Preset for a custom brush (brushes created from selections) then you will need to select both the .PspBrush file and the associated PSP Script file.” on page 282.
- 5 For the Airbrush, in the **Rate** edit box select the rate at which the brush applies paint (from 0 to 50). Use a value of 0 if want to apply a consistent amount of paint. Use higher values if you want more paint applied when you drag the mouse slowly or pause the mouse.
- 6 For the Paint Brush, set the following options:

Undoing paint strokes

When you are applying paint strokes, the Undo command can be your best friend. To remove the most recent stroke, click the Undo button or press **Ctrl + Z**. To undo multiple brush strokes, press **Ctrl + Z** multiple times. If you undo too many strokes, click the Redo button or press **Ctrl + Alt + Z**. You can also use the History palette to undo and redo your actions.

Continuous Stroke Specifies whether paint builds up as you apply multiple strokes of less than 100% opacity over the same area. If this check box is marked, paint maintains a continuous color and repainting an area has no effect.

If this check box is cleared (the default), each brush stroke over the same area applies more paint; the color darkens until it reaches 100% opacity. Click the **New Stroke** button to cancel the effect for all previous brush strokes. Only new brush strokes will darken if you paint over them.

Wet Look Paint Mimics wet paint, with soft color inside and a darker ring near the edge. Decrease the Hardness setting from its maximum of 100% to see the effect.

7 Drag in the image to paint as follows:

- For all painting tools, to apply the foreground material, drag with the left mouse button.
- For all painting tools, to apply the background material, drag with the right mouse button.
- For all painting tools, to paint a straight line, click once at the beginning point, then press Shift and click the end point. To continue the straight line, move to the next point and press Shift and click.
- For the Airbrush, to build up color in one area click and hold the mouse at one position.

Using Brush Tip Presets

Use the tool Presets to save creative brush effects. You can choose from many artistic presets or create, save, and share your own.

Brush Presets work just like other tool Presets.

To reset brush options to their default values, on the Tool Options palette click the Presets drop-down window and click the **Reset to Default** button .

For more information on presets, see “Using and Creating Presets” on page 420.

Note:

Creating Brush Tips

Brush tips versus tool Presets

When you create a brush tip, you are saving all of the options selected for the brush, including the brush shape, step, density, thickness, size, hardness, and rotation settings. You can also include the variance settings. The brush tip settings that you save can be applied to any tool that has a brush tip control in the Tool Options palette. When you create a tool Preset, you are saving all the settings that you specified for a particular tool, including all of the parameters and variance settings. The tool Preset is available only when you select that particular tool.

You can create your own brush tips to use with painting tools. Select a brush, modify the brush options and variance settings, and then save the brush tip in the Brushes folder of the Paint Shop Pro program folder. The next time you want to paint with that brush tip, simply select it from the Brush Tip drop-down list.

You can also make a selection, and then turn that selection into a custom brush with a width and height up to 500 by 500 pixels.

To create a brush tip:

- 1 On the Tools toolbar, choose a painting tool such as the Paint Brush, Airbrush, or Color Replacer.
- 2 Modify the settings for the brush in the Tool Options and Brush Variance palettes.
- 3 On the Tool Options palette, click the Brush Tip drop-down window . Current brush tips are displayed.
- 4 Click the **Create Brush Tip** button , or choose **File > Export > Brush Tip** to open the Create Brush Tip dialog.

Note: To save the new brush in a folder other than the default Brushes folder, click the **File Locations** button in the Tool's presets drop-list.

- 5 In the **Name** field, type a name for the brush tip.
- 6 Complete the **Author**, **Copyright**, and **Description** fields.
- 7 Mark the **Save Variance** check box to save the brush variance settings with the brush tip.
- 8 Click **OK**. You can now use the brush tip with one of the painting tools.

To create a brush tip from a selection:

- 1 Make a selection of the area you want to convert into a custom brush. The selection must be on a raster layer. For more information on selections, see “Using the Selection Tools” on page 192.
- 2 On the Tools toolbar, choose a painting tool such as the Paint Brush, Airbrush, or Color Replacer.
- 3 On the Tool Options palette, click the Brush Tip drop-down window . Current brush tips are displayed.

- 4 Click the **Create Brush Tip from Selection** button , or choose **File > Export > Brush Tip**. A preview of the new brush appears in the Create Brush Tip dialog.

Note: To save the new brush in a folder other than the default Brushes folder, click the **File Locations** button in the tool's presets drop-list.

- 5 To set a default step value, select a step value.
- 6 In the **Name** field, type a name for the brush tip.
- 7 Complete the **Author**, **Copyright**, and **Description** fields.
- 8 Mark the **Save Variance** check box to save the brush variance settings with the brush tip.
- 9 Click **OK**. You can now use the brush tip with one of the painting tools.

To delete a custom brush:

- 1 On the Tools toolbar, choose a painting tool such as the Paint Brush, Airbrush, or Color Replacer.
- 2 On the Tool Options palette, click the Brush Tip drop-list. Current brush tips are displayed.
- 3 In the list of brush tips, select the brush tip that you want to delete, and then click the **Resource Manager** button.
- 4 In the Resource Manager dialog, click **Delete**.

Importing Brush Tips

To import custom brush tips, choose **File > Import > Custom Brush** to open the Open dialog. Select the location of the brush tip and click **OK** to import the custom brush tip.

Saving and Sharing Brush Tips

Once you create a Preset for a brush you can save it in the Brushes folder in the Paint Shop Pro program folder. You can then share your brush Presets with others by sending them the brush file. If the brush uses a custom shape, you will have to share both the brush file and the custom shape file for that brush.

To save brush tip settings as a preset:

- 1 Click the down-arrow on the **Presets** button, and then click the **Save preset** button  to open the Save Preset dialog.

Brush tips versus tool Presets

When you create a brush tip, you are saving all of the options selected for the brush, including the brush shape, step, density, thickness, size, hardness, and rotation settings. You can also include the variance settings. The brush tip settings that you save can be applied to any tool that has a brush tip control in the Tool Options palette. When you create a tool Preset, you are saving all the settings that you specified for a particular tool, including all of the parameters and variance settings. The tool Preset is available only when you select that particular tool.

2 Type a name for the Preset.

Note: You cannot use the names “Default” or “Last Used”.

3 To enter additional Preset information, click the **Options** button, and then enter information in the **Author**, **Copyright**, and **Description** fields.

The **Preset includes** group box shows the data saved with this Preset. To omit any of these items from the Preset, click the Save icon (a red X will appear over it) associated with the data.

4 Click **OK**.

To share brush tip Presets:

- 1 Navigate to the brushes folder in the Paint Shop Pro program directory.
- 2 Provide the brush file or files (brush files have a .PspBrush extension) to the person with whom you want to share the brush Preset. They should place the brush files in the Brushes folder in the Paint Shop Pro program folder.

Note: If you are sharing a Preset for a custom brush (brushes created from selections) then you will need to select both the .PspBrush file and the associated PSP Script file.

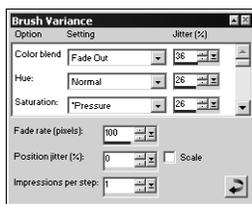
Using the Brush Variance Palette

Use the Brush Variance palette to customize the brush settings in the Tool Options palette. The variance settings modify the Tool Option settings by applying adjustments to the settings for a particular tool option. Adjustments can be randomized by increasing the Jitter percentage.

Note

To reset brush variance options to their default values, click the **Reset to Default** button  on the Brush Variance palette.

The Brush Variance palette



To open the Brush Variance palette:

Choose **View > Palettes > Brush Variance**, or press **F11**.

To use the Brush Variance palette:

- 1 Choose a brush or eraser tool from the Tools toolbar.
- 2 Configure the brush options in the Tool Options palette.

- 3 On the Brush Variance palette, set the brush variance for each available option:
 - **Normal** No variance applied.
 - **Pressure** The pressure applied from a tablet stylus.
 - **Altitude** The angle between the stylus and tablet.
 - **Azimuth** Determines the rotation angle of the tip.
 - **Twist** The rotation angle around the stylus (for 4D mouse only).
 - **Fingerwheel** Applies to the wheel on an airbrush stylus.
 - **Z-Wheel** Used with a 4D mouse wheel with the wheel configuration set to application defined behavior.
 - **Direction** The angle between consecutive mouse points on a path.
 - **Fade In** Fades in the brush impression. For the Size option, the brush size fades from small to large.
 - **Repeating Fade In** Repeatedly fades in the brush impression. For the Size option, the brush size fades from small to large.
 - **Fade Out** Fades out the brush impression. For the Size option, the brush size fades from large to small.
 - **Oscillating Fade** Repeatedly fades the brush impression in and out. For the Size option, the brush size fades from small to large to small.

Note: Options in the Variance palette marked with an asterisk * apply only to users with a pressure sensitive tablet. The options available will depend on the type of tablet being used.
- 4 Set the **Jitter%** for each available option. The higher the value, the more randomly the option is applied.
- 5 For the **Fade rate (pixels)** select the number of pixels over which the fade in and fade out will occur. Lower values produce a faster fade, while higher values produce a slower fade.
- 6 For the **Position Jitter (%)** select a percentage for randomly adjusting the brush impression location. Mark the **Scale** check box if you want the jitter to scale with the brush size.
- 7 For **Impressions per step** indicate how many brush impressions are made per step of the brush stroke.

Filling Areas with Colors, Gradients, Patterns, or Textures

What are contiguous pixels?

Contiguous means “near, next, or adjacent.” Contiguous pixels are like continuous chains of matching pixels radiating from the initial pixel you click. When the Flood Fill tool finds a pixel that doesn’t match, it breaks the chain. Even if a pixel is just one pixel away from a matching pixel, it is discontinuous.

Flood Fill versus Color Replacer

Because the Flood Fill tool can fill pixels that match certain criteria (such as RGB value), its effect is similar to the Color Replacer tool. Here are the differences:

- The Flood Fill tool fills matching pixels that are contiguous to the initial pixel you click. The Color Replacer changes pixels either within its brush stroke or in the entire layer.
- The Color Replacer tool changes colors based on their RGB value. The Flood Fill tool changes pixels based on RGB, hue, brightness, or opacity values.

Use the Flood Fill tool to fill a selection or a layer with the foreground or background color and material. You can fill all pixels or fill only those pixels that match options that you specify. When you click in the image, the Flood Fill tool finds and fills all contiguous (adjacent) pixels that match the pixel you select.

To use the Flood Fill tool:

- 1 On the Tools toolbar, choose the **Flood Fill** tool .
- 2 Choose the foreground or background color and material to fill the area with. See “Choosing Colors” on page 239.
- 3 On the Tool Options palette, specify the **Match Mode** options:

Match Mode How pixels that match the pixel you click are chosen and filled:

None has no matching criteria and so fills all pixels.

RGB fills contiguous pixels that match the red, green, and blue values.

Color fills contiguous pixels that match the hue and saturation values.

Hue fills contiguous pixels that match the hue value.

Brightness fills contiguous pixels that match the brightness.

All Opaque fills all pixels that are opaque (not transparent).

Opacity fills contiguous pixels that match the opacity.

Tolerance How closely the selected pixels must match the initial pixel you click. The range is 0 to 200. At lower settings, only pixels with very similar colors are filled. At higher settings, more pixels are filled.

Sample Merged Mark this check box to choose pixels to fill based on matching pixels from all layers merged together. Clear this check box to choose matching pixels to fill in from the current layer only.

Apply the tool only where you want it

To limit the effects of this tool to a specific area, first make a selection in the image.

4 Select the Blend Mode options:

Blend Mode How filled pixels are blended with pixels of underlying layers. The blend modes are the same as the Layer blend modes; for more information, see “About Blend Modes” on page 373.

Opacity The opacity for the fill. At 100% opacity, the paint covers everything; at 1% opacity, the paint is almost transparent.

5 Position the cursor over the area of the selection or image that you want to fill, and then do one of the following:

- To fill with the foreground material, click the left mouse button.
- To fill with the background material, click the right mouse button.

If the Match Mode is None, all pixels on the current layer are filled. For all other Match Mode settings, the Flood Fill tool fills matching pixels that are contiguous to the pixel you click.

Warping Images With the Warp Brush

Before and after applying the Warp Brush tool



Default brush options

To reset brush options to their default values, on the Tool Options palette click the Presets drop-down window and choose Default, or click the **Reset to Default** button .

What are time-dependent warp types?

Time-dependent means that the longer you hold the brush over an area, the more the brush produces the effect.

Another way to warp images

You can also use the Mesh Warp tool to warp images. See “Warping Images Using the Mesh Warp Tool” on page 178.

The warp brushes create strokes that produce a warping effect on image pixels. You can twirl areas of images, contract or expand parts of images, and create many interesting effects.

To use the Warp Brush:

- 1 On the Tools toolbar, choose the **Warp Brush** . (It may be hidden under the Paint Brush or Airbrush.)
- 2 Specify the brush options such as shape, size, and hardness. See “If you are sharing a Preset for a custom brush (brushes created from selections) then you will need to select both the .PspBrush file and the associated PSP Script file.” on page 282.
- 3 For the **Strength** value, enter a percentage (0 to 100) that specifies how strong the warping effect is. Full strength is 100%; minimum strength is 1%.
- 4 Under **Warp Modes**, choose the type of warp:
 - Push**  pushes pixels in the direction of the stroke (similar to smearing paint) in a time-independent way.
 - Expand**  pushes pixels away from the center of the brush in a time-dependent way.
 - Contract**  pulls pixels into the center of the brush in a time-dependent way.
 - Right Twirl**  rotates pixels clockwise around the center of the brush in a time-dependent way.
 - Left Twirl**  rotates pixels counter-clockwise around the center of the brush in a time-dependent way.
 - Noise**  causes random movements of pixels under the brush in a time-dependent way.
 - Iron Out**  removes unapplied warps in a time-independent way.
 - Unwarp**  removes unapplied warps in a time-dependent way.
- 5 Select an Edge mode, a Draft mode quality, and Final apply mode quality. See “Warping Images Using the Mesh Warp Tool” on page 178.
- 6 Do one or both of the following to warp the image:
 - Click and drag in the image.

- For the time-dependent modes, place the cursor at one position and hold down the mouse button to repeat the effect at one area.
- 7 To unwarp an area, choose the **Iron Out** or **Unwarp** option under **Warp Mode**, and then click over the area you want to restore. Continue clicking or holding the mouse button down until the original pixel position is restored.

Erasing Parts of an Image

Before and after applying the Eraser tool



Use the Eraser tool to erase areas of a layer to transparency or to the background color. Use the Background Eraser tool to selectively erase to transparency—with options that determine which pixels are erased.

Using the Eraser Tool

When you use the Eraser tool to erase on a raster layer, all pixels in the tool's path become transparent. When you erase on the background (which does not support transparency), the Eraser tool acts like a paintbrush; all pixels in the tool's path become the current foreground or background color or material.

To use the Eraser tool:

- 1 On the Tools toolbar, choose the **Eraser** tool . (It may be hidden under the Background Eraser tool.)
- 2 On the Tool Options palette, choose the brush tip, size, opacity, and other options. (See “If you are sharing a Preset for a custom brush (brushes created from selections) then you will need to select both the .PspBrush file and the associated PSP Script file.” on page 282.) For the opacity setting, 100% erases pixels to complete transparency and a lower opacity erases pixels to partial transparency.
- 3 Drag in the image to erase as follows:
 - To erase pixels, drag with the left mouse button.
 - To restore erased pixels, drag with the right mouse button.
 - To erase a straight line, click once at the beginning point, then press **Shift** and click the end point. To continue the straight line, move to the next point and press **Shift** and click.

Undoing versus erasing

When should you undo paint strokes and when should you erase in the image?

Undo paint strokes when you made a mistake with a stroke. Undoing a paint stroke restores the image detail under the stroke.

Erase paint when you want to change certain pixels to transparent (or a color if the background is selected). Erase to create an effect—such as one layer showing through another layer. Erasing does not restore the image detail under the stroke.

Note: If you erase on the background, the eraser strokes change to the background color when you use the left mouse button or to the foreground color when you use the right mouse button. To erase to transparency, promote the background to a full layer.

Using the Background Eraser Tool

Use the Background Eraser tool to selectively erase pixels. For example, in a photograph of a mountain range, you can erase the sky.

To use the Background Eraser tool:

- 1 On the Tools toolbar, choose the **Background Eraser** tool . (It may be hidden under the Eraser tool.)
- 2 On the Tool Options palette, choose the brush tip, size, opacity, hardness and other options. (See “If you are sharing a Preset for a custom brush (brushes created from selections) then you will need to select both the .PspBrush file and the associated PSP Script file.” on page 282.) For the opacity setting, 100% erases pixels to complete transparency and a lower opacity erases pixels to partial transparency.
- 3 Choose from these additional options:
 - **Tolerance** How closely the selected pixels must match the sampled pixel. The range is 0 to 200. At lower settings, only pixels with very similar colors are erased. At higher settings, more pixels are erased. (This edit box is unavailable if the **Auto Tolerance** check box is marked.)
 - **Sampling** How the tool determines what pixels to erase:
 - Once** samples at the center of the brush where you first click and erases all matching pixels for the duration of the stroke.
 - Continuous** samples at the center of the brush at every step and erases all matching pixels.
 - BackSwatch** erases all pixels that match the current background color on the Materials palette rather than sampling from the image.
 - ForeSwatch** erases all pixels that match the current foreground color on the Materials palette rather than sampling from the image.

Before and after applying the Background Eraser



Sampling advice

For the Sampling option, choose the Once setting to erase similar colors while avoiding erasing areas you want to keep. You can keep clicking and dragging (in other words, keep restarting the eraser strokes) to erase similar areas.

If the area you want to erase is quite variable, try using the Continuous setting and set the step value very low (even down to 1) so that the area is sampled frequently as you erase.

Auto or manual tolerance?

Start with the Auto Tolerance check box marked. Begin erasing.

If too much or too little is erased, clear the Auto Tolerance check box. The Tolerance edit box displays the automatically determined tolerance. If too much was erased, lower the tolerance. If too little was erased, raise the tolerance.

In addition, you can reduce the step and increase the brush size. To determine the automatic tolerance, the Background Eraser samples a larger area more frequently.

- **Limits** Whether erased pixels must be adjacent to each other:
 - Discontiguous** erases all pixels in the tool's path that match the sampled pixels, even if they are discontiguous (non-adjacent). Use this mode on images that show the background through holes in the image.
 - Contiguous** erases only contiguous pixels that match sampled pixels. Use this mode when the background pixels are close in color to the edges of the object you want to isolate.
 - Find Edges** restricts the brush erasing according to the edge information.
 - **Auto Tolerance** Mark this check box to have the tool determine the tolerance based on the pixels in the Background Eraser tool's path; the tolerance may change continuously as the tool moves over different parts of the layer. Clear this check box to have the tool use the Tolerance setting that you choose.
 - **Sample merged** Mark this check box to sample data from all layers merged together; only pixels in the current layer are erased. Clear the check box to sample data from the current layer only.
 - **Ignore lightness** Mark this check box when the colors in the object that you want to isolate are strongly saturated and the background is unsaturated, or vice versa.
- 4 If the image has more than one layer, on the **Layers palette** click the layer that has an object that you want to isolate by erasing the background.
- Note:** The Background Eraser cannot be applied on the background, which does not support transparency. If you apply the tool to the background, you are prompted to promote it to a full layer.
- 5 Drag on the layer, around the edges of the subject to erase the background area as follows:
- To erase pixels, drag with the left mouse button.
 - To erase a straight line, click once at the beginning point, then press **Shift** and click the end point. To continue the straight line, move to the next point and press **Shift** and click.
 - To restore erased pixels, drag with the right mouse button.

Cloning Parts of Images

Original image and image after cloning



Why does nothing happen when I apply the Clone Brush?

If nothing appears to be happening when you apply the Clone Brush, make sure you selected a source area with data. If the selected layer has no data at the source point, but another layer does have data there, it may appear that you selected a source area.

On the Layers palette, click the name of a raster layer before you define the source area. Also, make sure the layer doesn't have a selection or, if it does, make sure you right-click within the selection.

The Clone Brush tool is a fun and powerful way to edit your images by using parts of an image as a paint source. You can remove elements within your image by painting over them with another part of the image. The paint source can be part of the same layer, another layer in the image, a merged image, or a layer from another image.

To use the Clone Brush:

- 1 On the Tools toolbar, choose the **Clone Brush** tool .
- 2 On the Tool Options palette, choose the brush tip, size, opacity, and other options. See “If you are sharing a Preset for a custom brush (brushes created from selections) then you will need to select both the .PspBrush file and the associated PSP Script file.” on page 282.
- 3 Mark the **Aligned mode** check box to have the Clone Brush tool paint from the point of the source area relative to the first point you click on the target area each time you stop and start painting. You can keep clicking and dragging over the target area to fill in the source image.
Clear the check box to have every stroke copy the same data.
- 4 Mark the **Sample merged** check box to clone data from all layers merged together. Clear the check box to clone data from the current layer only.
- 5 On the source image, right-click or press **Shift** and click the center point of the source area.
- 6 Click and drag on the image you want to change to paint the cloned area.

Painting with Picture Tubes

Two examples of picture tubes



Use the Picture Tube tool to paint with a collection of objects without having to draw them. You can add butterflies and beetles to a picnic setting, fill an aquarium with fish, or frame a picture with holly. Use one of the picture tubes included with Paint Shop Pro or create your own.

Raster only

The Picture Tube tool paints raster objects on raster layers. You cannot use the tool on vector layers.

To make picture tube elements easier to edit, it is helpful to paint them on a separate layer.

Changing default values for picture tubes

To change default values for a picture tube, including the placement mode, step size, and selection mode, click the Settings icon on the Tool Options palette. You can also change the number of cells in the picture tube.

After you change values, mark the **Save as Default for this Picture Tube** check box and click **OK**.

Picture tubes are .PspTube files. Each picture tube file is made up of a series of images arranged in rows and columns that are called cells. Picture tubes may have any number of cells. As you paint with the Picture Tube tool, Paint Shop Pro paints one image of a picture tube after another. Many picture tubes create discrete images (such as traffic signs), while some create the effect of a continuous image (such as crepe paper).

Note

To use Paint Shop Pro version 9 picture tubes with Paint Shop Pro version 7, copy the version 9 tubes with the .PspTube extension to the picture tube directory in version 7, and then re-name the files with the .TUB extension.

To paint with a picture tube:

- 1 On the Tools toolbar, choose the **Picture Tube** tool .
- 2 On the Tool Options palette, click the Picture Tube drop-down window and select a picture tube.

Note: Most picture tube previews show one image rather than all images in the picture tube. To view all images, paint with the picture tube, or open the .PspTube file with the Browser.

- 3 If necessary, adjust the following options:

Scale The percentage (10 to 250%) to reduce or enlarge each image in the picture tube and scale the step.

Step The distance in pixels (1 to 500) between the centers of each picture tube image that you paint.

Placement mode The way images are placed: **Continuous** evenly spaced by step size or **Random** random spacing between 1 pixel and the step size.

Selection mode How Paint Shop Pro selects images to paint from the cells within the picture tube: **Random** selects images randomly; **Incremental** selects images one by one from top left to the bottom right; **Angular** selects images based on the direction you drag the cursor as you paint; **Pressure** selects images based on the pressure you apply on a pressure-sensitive tablet; **Velocity** selects images based on the speed you drag the cursor as you paint.

- 4 To paint one image of the picture tube, click once in the image. To paint multiple images, drag in the image.

Color depth and layers

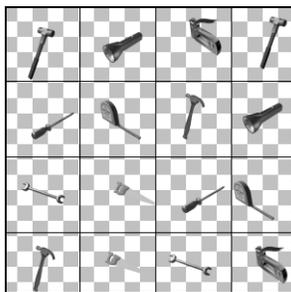
This tool works only on raster layers in greyscale and 16 million color images. To convert a vector layer to a raster layer, choose **Layers > Convert to Raster Layer**. To increase the color depth of an image, see page 261.

Painting with one image

To use an entire image as a paint brush, export the image as a picture tube. Use a cell arrangement of one cell across by one cell down. The image must contain one raster layer that is not the background; to promote the background to a layer, choose **Layers > Promote to Layer**.

Then choose the Picture Tube tool and select the new picture tube you created.

Filling the cells of a picture tube



Creating Picture Tubes

To create your own picture tubes, create a grid of cells and then fill each cell with an image. The cells can be any size, but picture tubes with larger cells require more memory to use.

To create a picture tube:

- 1 Choose **View > Change Grid, Guide, and Snap Properties**, click the **Grid** tab, set the current horizontal and vertical grids, then click **OK**.

The grid positions are the value in pixels that the width and height of cells will be. Images can be no larger than this cell size.

- 2 Choose **File > New** to open the New Image dialog.

- 3 Set the following options:

Image Dimensions Choose a width and height (in pixels) that are multiples of the horizontal and vertical grid spacing. The width and height of the image determine the total number of cells in the image. For example, if the grid spacing is 100 pixels, create an image of 400 pixels wide by 300 pixels high to have 12 cells (four across and three down).

Image Characteristics Choose **Raster Background** as the layer type and mark the **Transparent** check box.

- 4 Click **OK**.
- 5 If the grid is not visible, choose **View > Grid**.
- 6 Create one image in each grid square. These squares are the picture tube cells.

Note: To change the size of cells, change the grid size and then use the Canvas Size command to change the canvas size.

- 7 Choose **File > Export > Picture Tube** to open the Export Picture Tube dialog.
- 8 Set the following options:

Cell arrangement Enter the number of cells across and down.

Placement options Choose the default options for this picture tube. You can change these options when you apply the picture tube. For more information, see the descriptions on page 291.

I want more picture tubes!

There are a variety of Web sites that offer free picture tubes. Start with Jasc.com and click Free Downloads. Or search the Web for "free picture tubes."

Tube name Enter the file name of the tube. The extension .PspTube is automatically added to the file name.

Note: By default, picture tube files are stored in the Picture Tubes folder of the Paint Shop Pro program folder.

- 9 Click **OK**. The picture tube is saved.
- 10 Close the image file. To edit it later, save it as a .PspImage or other format file.

Replacing Colors

Use the Color Replacer tool to replace one color in a selection or layer with another color. You can use brush strokes to replace only those pixels that the brush touches or you can replace all pixels of a certain color in a selection or a layer. You can set a tolerance value so that the Color Replacer changes similar, not just identical, colors.

Apply the tool only where you want it

To limit the effects of this tool to a specific area, first make a selection in the image.

To use the Color Replacer tool:**Nothing seems to happen when you apply the Color Replacer tool...**

Make sure you have selected a foreground or background color that is in the image. If there are no pixels that match, then no pixel colors are replaced.

To pick a foreground or background color directly from the image, see "Choosing Colors from an Image or the Desktop" on page 242.

- 1 On the Tools toolbar, choose the **Color Replacer tool** . The tool may be hidden under the Eye Dropper tool.
- 2 Choose the color to replace as the foreground or background color. See "Choosing Colors" on page 239 or "Choosing Colors from an Image or the Desktop" on page 242.
- 3 Choose the color to substitute as the other color (foreground or background).
- 4 To replace colors using brush strokes (rather than all colors in the layer), on the Tool Options palette choose the brush tip, size, opacity, and other options. See "If you are sharing a Preset for a custom brush (brushes created from selections) then you will need to select both the .PspBrush file and the associated PSP Script file." on page 282.
- 5 In the **Tolerance** edit box, specify a value that sets how closely the selected pixels must match the initial pixel you click. The range is 0 to 200. At lower settings, only pixels with very similar colors are replaced. At higher settings, more pixels are replaced.
- 6 Position the cursor over the area of a selection or layer that contains the color you want to replace, and then do one of the following:
 - To replace all occurrences of a color, double-click.
 - To replace using brush strokes, drag in the image.

For both options, use the left mouse button to replace the background color with the foreground color and use the right mouse button to replace the foreground color with the background color.

Retouching Images

Before and after applying the Emboss brush



Before and after applying the Dodge brush



Before and after applying the Smudge brush



Before and after applying the Soften brush



You can retouch images with Paint Shop Pro's retouch brushes, which apply changes with brush strokes. Some retouch brushes mimic photographic effects while others change pixels based on their lightness, saturation, hue, or color values. Some retouch brushes create similar effects to Paint Shop Pro's color correction commands. The following table describes each of the retouch brushes.

Brush	Effect
Dodge	Lightens and brings out the details in areas that are in shadow. This tool mimics the traditional photographic darkroom technique of holding back some of the light when printing photographs to produce lighter areas. The Dodge tool is the opposite of the Burn tool.
Burn	Darkens areas of the image that are too light.
Smudge	Spreads color and image details from the starting point and picks up new color and image details as it moves; the effect is similar to smearing paint.
Push	Spreads color and image details from the starting point but does not pick up any new color or image details.
Soften	Smooths edges and reduces contrast.
Sharpen	Heightens edges and accentuates contrasts.
Emboss	Causes the foreground to appear raised from the background by suppressing color and tracing edges in black.
Lighten/Darken	Lightening increases brightness; darkening decreases brightness. (Choose to affect the RGB or Lightness value of pixels).
Saturation Up/Down	Increases or decreases the saturation (affects the HSL value of pixels).

Brush	Effect
Hue Up/Down	Increases or decreases the hue (affects the HSL value of pixels).
Change-to-Target	<p>Changes pixels based on a characteristic of the current foreground color (on the Materials palette): color, hue, saturation, or lightness.</p> <p>If you choose the color as the target, the tool applies the foreground color without affecting the luminance.</p> <p>If you choose the hue, saturation, or lightness as the target, it applies the foreground color's hue, saturation, or lightness value without changing the other values.</p>

Apply the brush only where you want it

To limit the effects of this brush to a specific area, first make a selection in the image.

Using the mouse buttons

When using the retouch tools you can retouch an image by left-clicking, and apply the opposite of the retouch by right-clicking.

To use a retouch brush:

- 1 On the Tools toolbar, choose the retouch brush: Dodge , Burn , Smudge , Push , Soften , Sharpen , Emboss , Lighten/Darken , Saturation , Hue , or Change to Target .
- 2 On the Tool Options palette, choose the brush tip, size, opacity, and other options. See “If you are sharing a Preset for a custom brush (brushes created from selections) then you will need to select both the .PspBrush file and the associated PSP Script file.” on page 282.
- 3 Depending upon the tool, select from the following options:
 - Swap mouse buttons** Mark this check box to swap the functions of the left (up) and right (down) mouse buttons.
 - Sample merged** (Smudge, Push, Soften, Sharpen, Emboss) Mark this check box to retouch data from all layers merged together. Clear this check box to retouch data on the current layer only.
 - Mode** (Lighten/Darken) Choose what is lightened or darkened: RGB values or Lightness values.
 - Mode** (Change to Target) Choose the characteristic of the foreground color to target: Color (RGB value; luminance is not changed), Hue, Lightness, or Saturation.
 - Limit** Choose which option you want to limit for the Dodge and Burn tools: None, Shadows, Midtones, or Highlights.

- 4 Drag in the image to apply the brush. If the brush has two functions (such as Hue Up/Down), drag with the left mouse to apply the first function and drag with the right mouse button to apply the second function.



CHAPTER 12

Art Media Tools

Working in conjunction with the new Mixer palette, the new Art Media tools let you create digital artwork that closely mimics real-world media, pigments, paints, and artist's tools. The Oil Brush creates realistic paint strokes, while the Chalk, Pastel, Crayon, Colored Pencil, and Marker tools are used for making dry-pigment works of art.

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Art Media Layers

Art Media layers are automatically created when you begin using any of the Art Media tools. In this regard, the layer-creation functionality is similar to the vector tools.

You can also create a new Art Media layer by doing any of the following:

- Choosing **Layers > New Art Media layer**; or
- Clicking the **New Art Media Layer** button  on the Layers palette; or
- Right-clicking on the Layers palette and choosing **New Art Media layer** from the context menu.

In the Layers palette, Art Media layers look like this:

Art Media layers can be converted to Raster layers, but not Vector layers.



Dry and Wet Art Media Layers

Paint strokes applied by the Oil Brush and Palette Knife are, by default, wet in terms of how strokes interact with other strokes by smearing/mixing together. You can, however, choose to dry the Art Media layer at any time. Conversely, you can choose to make a dry Art Media layer wet again:

- Choose **Layers > Dry Art Media layer** (or right click on the Layers palette and choose **Dry Art Media layer** from the context menu) to dry the strokes applied by the Oil Brush or Palette Knife.
- Choose **Layers > Wet Art Media layer** (or right click on the Layers palette and choose **Wet Art Media layer** from the context menu) to make dried Oil Brush or Palette Knife strokes wet again.

Note: Note: Both the **Dry Art Media layer** command and the **Wet Art Media layer** command can be selectively undone in the History palette.

Creating New Images with an Art Media Layer

When creating a new image via the New Image dialog, you can choose to create the image with an Art Media layer. To enhance the realism, additional options include:

- Setting a canvas texture on which Art Media pigment will be applied.
- Applying a fill color to the texture.

Modifying Art Media Layer Properties

After creating the new image, the texture and/or the fill color can be changed. To do so:

- 1 Display the Layer Properties dialog by double-clicking the Art Media layer in the Layers palette, or by highlighting the layer and then choosing **Layers > Properties**.
- 2 Select the **Canvas Texture** tab.
- 3 Modify the texture and/or fill color setting.

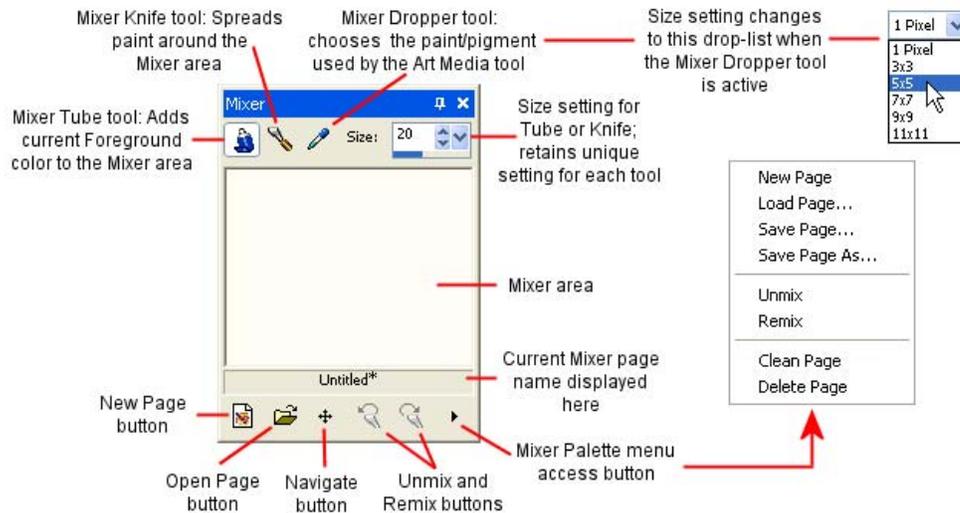
Note: New textures applied after you've already applied Art Media tool strokes will not affect these pre-existing strokes, but instead just the strokes applied to the new canvas texture.

Using the Mixer Palette

The Mixer palette allows users to mix any number of colors into a single paint swatch in a manner similar to a traditional artist's palette. With this off-canvas palette, you can mix and experiment with colors just like a real palette, and then use your Art Media brushes to make realistic strokes simulating the rich, expressive results you get with physical pigment media such as paint, pastel, pencil, and chalk.

Getting To Know the Palette

This illustration identifies the elements of the Mixer palette.



Painting with the Mixer Palette Materials

Here are the basics steps for painting with the Art Media tools and the Mixer palette:

- 1 In the Materials palette, set the Foreground/Stroke property to Color (the Mixer palette only works with the current Foreground/Stroke solid color, not gradients, patterns, or textures), and then use the Materials palette's Frame, Rainbow, or Swatch tab to choose the color you want to start working with.

Note: Note: When any Art Media tool is active, the mode buttons below the Foreground/Stroke and Background/Fill property boxes will be inactive.

Note: In the Mixer palette, select the **Mixer Tube** tool .

- 2 In the Mixer area, lay down paint strokes by dragging the cursor. The width of the stroke is determined by the Size setting for the Tube tool.

- 3 Optionally, you can set another Foreground/Stroke color in the Materials palette like you did in Step 1, and again use paint strokes in the Mixer area. Continue doing this as much as you like. Use the Mixer area as you would a real-life painting palette. Use the **Unmix** button  to undo a Mixer Tube (or Mixer Knife) action; use the **Remix** button  to redo the undone action. You can then save the Mixer area as a page as described in a section below.
- 4 If you have multiple colors applied to the Mixer area, you'll notice that strokes that pass over another color will mix the colors just like a real-life palette. At this point you could also use the **Mixer Knife** tool  to smear Mixer area colors together. Use the **Unmix** button  to undo a Mixer Knife (or Mixer Tube) action; use the **Remix** button  to redo the undone action. Use the Size setting to determine the stroke width for the Tube tool and the Knife tool -- be aware that each tool's Size setting can be unique.

Note: The Mixer Knife tool and the Mixer Tube tool exchange functionality when dragging with the right mouse button. When using the Tube tool, left-drag to apply paint, right-drag to mix paint. When using the Knife tool, left drag to mix paint, right-drag to apply paint.
- 5 When you're ready to begin painting, select the Mixer palette's **Mixer Dropper** tool  and then click the desired color in the Mixer area. Notice that dragging the cursor around the Mixer area updates the Materials palette's Foreground/Stroke property in tandem with your current sampling position. Be aware of the following points:
 - For the Oil Brush and Palette Knife tools, the Mixer palette's Dropper tool's cursor size is determined by the Size setting in the Tool Options palette.
 - For all the other Art Media tools (Chalk, Colored Pencil, Marker, etc.), the sampling area is determined by the Mixer palette's Size drop-list setting. The drop-list becomes active when using any Art Media tool other than Oil Brush or Palette Knife.
- 6 In the Art Media tools group in the Tools toolbar, select the desired Art Media brush to use. The Oil Brush and Palette Knife, by default, create wet paint strokes, while the other tools create dry paint strokes. For details on each Art Media tool, see Using the Art Media Brushes.

Note: When using the Oil Brush or Palette Knife, you can choose to "dry" the Art Media layer, or make it "wet" again by choosing **Layers > Dry Art Media layer** or **Wet Art Media layer**. See the Dry and Wet Art Media Layers section below for more details.

- 7 Place the Art Media brush cursor inside the image area and begin making paint strokes. The strokes will be applied on an Art Media layer. (If this layer type is not the active layer, one will be created automatically once you begin using the Art Media tool.)
- 8 To get more paint, or choose another color, use the Mixer palette's Dropper tool to click the desired color in the Mixer area. Now go back to the image canvas and paint.
- 9 To clean the brush tip, click the **Clean** button  in the Tool Options palette, or mark the **Auto Clean** check box  to start with a clean brush tip for every stroke.
- 10 Experiment with the Tool Options palette settings to control brush behavior.

Dry and Wet Art Media Layers

Paint strokes applied by the Oil Brush and Palette Knife are, by default, wet in terms of how strokes interact with other strokes by smearing/mixing together. You can, however, choose to dry the Art Media layer at any time. Conversely, you can choose to make a dry Art Media layer wet again:

- Choose **Layers > Dry Art Media layer** (or right click on the Layers palette and choose Dry Art Media layer from the context menu) to dry the strokes applied by the Oil Brush or Palette Knife.
- Choose **Layers > Wet Art Media layer** (or right click on the Layers palette and choose Dry Art Media layer from the context menu) to make dried Oil Brush or Palette Knife strokes wet again.

Note: Note: Both the Dry Art Media layer command and the Wet Art Media layer command can be selectively undone in the History palette.

Navigating the Mixer Area

Use the **Navigate** button  to pan around the Mixer area page:

- 1 Place the cursor over this button and then hold down the left mouse button. This displays a small version of the entire 500 x 500 pixel Mixer page, and a black outline box reflects the current view in the Mixer area.
- 2 Drag the mouse to pan the page. Release the mouse button when the desired portion of the page is enclosed in the outline box.

This feature works in a similar manner to the Overview palette.

Emptying the Mixer Area

To empty the mixer area (clean the page), do one of the following:

- Choose **Clean Page** from the Mixer palette's menu access button at the bottom right of the palette; or
- Click the **New Page** button , and choose **No** when asked to save the current page.

Saving Mixer Area Pages

To save the current Mixer area as a page, choose **Save Page** or **Save Page As** in the Mixer palette's menu access button, and then enter a name for the page.

Loading Mixer Area Pages

To load a previously saved Mixer area page, click the **Load Mixer Page** button , or choose **Load Page** in the Mixer palette's menu access button. Navigate to where the page resides to select it.

About the Unmix and Remix Buttons

The Mixer palette's **Unmix**  and **Remix**  buttons allow you to undo Mixer Tube and Mixer Knife actions. Note the following points about these buttons:

- Unmix allows you to undo the 20 most recent Mixer Tube or Mixer Knife actions.
- The following page operations will clear the current history: New Page, Load Page, Clean Page, and Delete Page.

- The Unmix/Remix functionality is limited to the current session of Paint Shop Pro; if you exit the application, restart it, and open the same image, the Unmix/Remix buttons are reinitiated.
- Closing and opening the mixer palette will not reinitiate the Unmix/Remix states.
- Mixer Tube and Mixer Knife actions cannot be undone/redone by choosing **Edit > Undo / Redo**, nor by clicking the Standard toolbar's Undo and Redo buttons, nor by pressing **Ctrl + Z** or **Ctrl + Alt + Z**.

Creating a Custom Mixer Page

The Mixer pages you work on and save via the Mixer palette are 500 x 500 pixels. You can, however, create larger, custom mixer pages as described below. (Note that Mixer pages cannot be smaller than 500 x 500 pixels.)

- 1 Create a new image by clicking the **New** button  on the Standard toolbar, or choose **File > New**. The New Image dialog appears.
- 2 In the Image Dimensions section, enter the desired dimensions for the Mixer page. Remember that the Width and Height must be at least 500 pixels.
- 3 In the Image Characteristics section:
 - Choose the Art Media Background option.
 - Choose a texture from the Texture drop list. The texture acts like an invisible surface on which Art Media pigments are applied.
- 4 Check the **Enable fill color** check box if you wish to fill the mixer page with a color. Be aware, however, that you cannot sample this color, nor will the Art Media tools affect the color.
- 5 If you marked the Enable fill color option, click the Color box and choose a fill color.
- 6 Click **OK** to create the new image.
- 7 *Optional: At this point you can apply Art Media pigment to the image.
- 8 Click the **Save** button  on the Standard toolbar, or choose **File > Save**. The Save As dialog appears.
- 9 Navigate to the current directory where your Mixer pages are being read from this is set in the File Locations dialog. The directory should either be:

- ...My Documents\My PSP Files\Mixer Pages; or
- ...Program Files\Jasc Software Inc\Paint Shop Pro 9\Mixer Pages

10 Save the new image in the .PspImage file format.

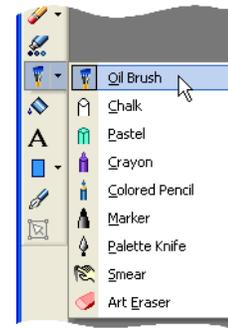
When you now choose to load another Mixer page, the custom page will be available.

Using the Art Media Brushes

The Art Media brushes and tools in the Tools toolbar are shown here:

Use these tools when working on Art Media layers. Like any other tool, the Art Media tools have their own settings in the Tool Options palette to control their behavior on the image.

The purpose of these tools is to simulate the rich, expressive results you get when working on physical pigment media such as paint, chalk, pastel, and pencil. The tools will appeal not only to creative graphic artists, but also to photo-centric users looking for ways to touch up their images.



Note: Although the Art Media tools support Presets, they do not support custom brush tips like the Paint Brush and other raster painting tools.

The Wet Pigment Media Tools

The Oil Brush and Marker tools simulate painting with a wet pigment media. The Oil Brush further simulates wet painting in that it will run out of paint during the stroke. To "get more paint," simply release the mouse button, then hold it down again and drag more paint strokes. You can also get more paint from the Mixer palette's Mixer area.

Note that the Oil Brush and the Palette Knife are the only Art Media tools capable of producing strokes with multiple colors on the brush head. This simulates what you could get using a real-life painting palette with multiple wet pigments on it. Additionally, when the Oil Brush or Palette Knife is active, you can "dry" wet strokes by choosing **Layers > Dry Art Media layer**; conversely you can make dried strokes "wet" by choosing **Layers > Wet Art Media layer**. (These commands are also available in the Layers palette's context menu.)

Note

Both the Dry Art Media layer command and the Wet Art Media layer command can be selectively undone in the History palette.

The Dry Pigment Media Tools

The Chalk, Pastel, Crayon, and Colored Pencil tools simulate artwork created with dry pigment media. Unlike the Oil and Acrylic brushes, these dry tools don't "run out" of their respective pigment media. Additionally, the pigment applied with these tools has less volume than what is applied via the Oil Brush or Acrylic Brush.

The Palette Knife, Smear, and Art Eraser Tools

The Palette Knife can be used to smear art media pigments with a hard, knife-like edge, or it can be used to apply the pigments.

The Smear tool is to smear art media pigments as though you were using a finger or cloth.

The Art Eraser tool is used to erase pigment from the Art Media layer. When using the Art Eraser over areas covered with multiple paint strokes (such as those applied by the Oil or Acrylic brushes), you'll find that it may take multiple strokes with the Art Eraser tool to clean the area. Conversely, using this tool on strokes applied with the Chalk or Colored Pencil tool will yield quicker results.

For more details on each of these tools, click its associated link below.

Adjusting the Brush Size Via the Keyboard

While using any Art Media tool, raster painting brush (with the exception of the Warp brush), the Clone brush, the Color Replacer, or the Eraser and Background Eraser, you can quickly adjust the brush size without taking the cursor off the image and into the Tool Options palette. To adjust the brush size via the keyboard:

- Press **Alt + X** to decrease the brush size by one pixel.
- Press **Alt + C** to increase the brush size by one pixel.
- Hold down **Alt** and **Shift** and then press **X** to decrease the brush size by 20 pixels.
- Hold down **Alt** and **Shift** and then press **C** to increase the brush size by 20 pixels.
- Hold down the **Alt** key and drag (to drag, hold down the left mouse button and then move the mouse) the left mouse button up or down to rapidly change the brush size.
- Hold down the **Alt** and **Shift** keys and drag the left mouse button; the size will be set to its lowest value (3 pixels for the Art Media tools, and 1 pixel for the raster painting tools) and then you can drag to increase it from there.

About the Trace Check Box

One particular Tool Options setting to be aware of is the Trace check box. When this check box is marked, the current Art Media tool will select the pigment/paint color by sampling the data below the center of the brush regardless of the layer type. (This feature works much the same way the Clone Brush's Sample Merged tool option works). When you hold down the mouse button to begin the stroke, note that a single sample is performed, and the resulting color is used for the duration of the stroke.

This feature allows you to, for example, use the Art Media tools to trace over a photo residing on the Background layer, using colors in the photo as the pigment media source. With careful, detailed use of this feature you could create an impressionistic effect similar to what you can get with some of Paint Shop Pro's own effects or even third party plug-ins such as Virtual Painter.

Be aware that when tracing over elements such as an eye or other small, fine features, you'll get better results if you set your zoom level appropriately as well as the brush size setting in the Tool Options palette.

Using the Oil Brush

Art Media Brush Presets

Like other Paint Shop Pro tools, the Art Media Brushes comes with presets.

To use a preset:

In the Tool Options palette, click the **Presets** button. This displays a list of preset styles.

From the list, choose the desired brush preset.

Oils present a dense medium that blends color by mixing thick medium rather than through an overlay function. The Oil Brush  can potentially be loaded with multiple colors across the head. Mixing with oil already on the canvas results in smearing and blending. Shininess is important, as well as the existence of texture from the mass of medium on the canvas interacting with the bristles of the brush, as well as the texture of the canvas.

There are a number of options for managing the reloading of the Oil Brush tool head between strokes:

- Reload with solid color from the materials palette
- Reload with Art Media material from the Materials palette
- Not loaded at all, but instead relying on the user to dip into the palettes or canvas manually after each stroke.

These options helps to mimic real world paint tools while also allowing the digital user to take a more convenient approach to applying new paint strokes.

Dry and Wet Art Media Layers

Paint strokes applied by the Oil Brush and Palette Knife are, by default, wet in terms of how strokes interact with other strokes by smearing/mixing together. You can, however, choose to dry the Art Media layer at any time. Conversely, you can choose to make a dry Art Media layer wet again:

- Choose **Layers > Dry Art Media layer** (or right click on the Layers palette and choose **Dry Art Media layer** from the context menu) to dry the strokes applied by the Oil Brush or Palette Knife.
- Choose **Layers > Wet Art Media layer** (or right click on the Layers palette and choose **Dry Art Media layer** from the context menu) to make dried Oil Brush or Palette Knife strokes wet again.

Note: Both the **Dry Art Media layer** command and the **Wet Art Media layer** command can be selectively undone in the History palette.

Oil Brush Tool Options

Oil Brush tool options include:

Shape: Choices include Round or Square.

Size: Defines the size of the tool head in pixels. Note that you can also adjust the Size setting via the keyboard. Refer to the Adjusting the Brush Size Via the Keyboard section earlier in this chapter.

Thickness: Defines the aspect ratio of the tool head. Note that this setting is only active when the **Fixed angle** Head Tracking option is chosen.

Rotation: Defines the angle of head rotation in degrees

Head Tracking: Choose **Track path** to have the brush head bend around the path of the stroke, or choose **Fixed angle** to have the brush head remain at a fixed angle.

Head Loading: Defines (in percentage) the amount of material on the brush at the start of the stroke.

Viscosity: Defines the rate at which the material on the brush is applied, and thus the length of the stroke before your paint runs out.

Firmness: Defines the amount of splay in the brush, how the rendered line gets wider with more pressure, and how well it penetrates the surface on to which it is painting.

Bristle size: Defines the bristle size affects the underlying noise function for texture and application of paint.

Reloading: the method by which the brush is reloaded after a stroke. As noted above this could involve requiring the user to "pick up" paint from the canvas or mixer, automatically reloading, cleaning and reloading the brush, or other options.

Auto Clean check box: When marked, this check box simulates cleaning the brush and dipping it in fresh paint at the start of a new stroke. When unchecked, the brush head is not cleaned at the start of the stroke. Instead, the "dirty" head has a small amount of the current color added to whatever dirty head state exists from the previous stroke.

Clean button: Click this button to clean the head and start the next stroke with fresh paint/pigment. Note that this button is only active when the Auto Clean check box is not marked.

Trace check box: When marked, the current Art Media tool will select the pigment/paint color by sampling the data below the center of the brush regardless of the layer type. (This feature works much the same way the Clone Brush's Sample Merged tool option works). When you hold down the mouse button to begin the stroke, note that a single sample is performed, and the resulting color is used for the duration of the stroke.

Note:

The Auto Clean check box and the Clean button are only available with the Oil Brush and Palette Knife tools.

Using the Chalk Tool

Chalk presents a dry media with infinite head loading, meaning the media does not "run out" over the course of a stroke like it does with the Oil Brush. As applied by the Chalk tool , its dry pigment tends to penetrate the canvas texture proportional to the pressure at which you apply it. This is due to Paint Shop Pro mimicking a solid tool head, combined with the chalk having a fixed viscosity. Chalk does not have a bristle component to the stroke, but is instead applied via the tool's flat or angled surface. The stroke edges tend to have a fall-off and break up affected strongly by the current canvas texture.

Chalk is a matte and powdery medium, so it doesn't tend to smear itself much, though it does sink in to the dents in the canvas. Because it is a hard pigment medium, chalk does not apply volume to the surface of the canvas.

Chalk Tool Options

Chalk tool options include:

Shape: Choices include Round or Square.

Size: Defines the size of the tool head in pixels. Note that you can also adjust the Size setting via the keyboard. Refer to the Adjusting the Brush Size Via the Keyboard section earlier in this chapter.

Thickness: Defines the aspect ratio of the tool head.

Rotation: Defines the angle of head rotation in degrees

Head Tracking: Controls whether the tool head bends around the path of the user's stroke, or remains at a fixed angle.

Trace check box: When marked, the Chalk tool will select the pigment color by sampling the data below the center of the tool regardless of the layer type. (This feature works much the same way the Clone Brush's Sample Merged tool option works). When you hold down the mouse button to begin the stroke, note that a single sample is performed, and the resulting color is used for the duration of the stroke.

Art Media Brush Presets

Like other Paint Shop Pro tools, the Art Media Brushes comes with presets.

To use a preset:

In the Tool Options palette, click the **Presets** button. This displays a list of preset styles.

From the list, choose the desired brush preset.

Using the Pastel Tool

Pastel is a dry media, softer than chalk, but like chalk it has infinite brush loading. Applied with the Pastel tool , its dry pigment tends to penetrate the canvas texture proportional to the pressure at which you apply it. Pastel pigments have a fixed viscosity slightly less than chalk, meaning the strokes you apply leave some volume on the canvas as they break from the pigment stick. Pastels do not have a bristle component to the stroke, instead presenting a flat or angled surface of the stick. The stroke edges tend to have a fall-off and break up affected strongly by the canvas texture.

Pastel is slightly shiny, interacts with itself by smearing slightly, and dirtying the tool head slightly when applied with light pressure. It loads the canvas more than chalk, breaking up more when applied, and this give the appearance of volume to the surface.

Pastel Tool Options

Pastel tool options include:

Shape: Choices include Round or Square.

Size: Defines the size of the tool head in pixels. Note that you can also adjust the Size setting via the keyboard. Refer to the Adjusting the Brush Size Via the Keyboard section earlier in this chapter.

Thickness: Defines the aspect ratio of the tool head.

Rotation: Defines the angle of head rotation in degrees

Head Tracking: Controls whether the tool head bends around the path of the user's stroke, or remains at a fixed angle.

Trace check box: When marked, the Pastel tool will select the pigment color by sampling the data below the center of the tool regardless of the layer type. (This feature works much the same way the Clone Brush's Sample Merged tool option works). When you hold down the mouse button to begin the stroke, note that a single sample is performed, and the resulting color is used for the duration of the stroke.

Art Media Brush Presets

Like other Paint Shop Pro tools, the Art Media Brushes comes with presets.

To use a preset:

In the Tool Options palette, click the **Presets** button. This displays a list of preset styles.

From the list, choose the desired brush preset.

Using the Crayon Tool

Crayon is a dry media similar to chalk though with a "wetter" feel that prevents powdering, and the tool has infinite pigment loading. As applied by the Crayon tool , its dry pigment tends to penetrate the canvas texture proportional to the pressure at which you apply it. This is due to Paint Shop Pro mimicking a solid tool head. The pigment leaves a slightly waxy volume that can smear for a short distance as it is painted over. Crayons do not have a bristle component to the stroke, instead presenting a flat or angled tool surface. The body of the stroke tends to have a fall-off and break up affected strongly by the canvas texture, but although crayon pigment is less transparent than chalk, it does not powder.

Crayon is a little more shiny than pastel, smears itself slightly less, but does apply a tiny amount of matter to the canvas and can smooth over bumps if used repeatedly. This is because the volume that is laid down is viscous enough to fill dents but also dense enough to prevent large-range smearing.

Crayon Tool Options

Crayon tool options include:

Shape: Choices include Round or Square.

Size: Defines the size of the tool head in pixels. Note that you can also adjust the Size setting via the keyboard. Refer to the Adjusting the Brush Size Via the Keyboard section earlier in this chapter.

Thickness: Defines the aspect ratio of the tool head.

Rotation: Defines the angle of head rotation in degrees

Head Tracking: Controls whether the tool head bends around the path of the user's stroke, or remains at a fixed angle.

Trace check box: When marked, the Crayon tool will select the pigment color by sampling the data below the center of the tool regardless of the layer type. (This feature works much the same way the Clone Brush's Sample Merged tool option works). When you hold down the mouse button to begin the stroke, note that a single sample is performed, and the resulting color is used for the duration of the stroke.

Art Media Brush Presets

Like other Paint Shop Pro tools, the Art Media Brushes comes with presets.

To use a preset:

In the Tool Options palette, click the **Presets** button. This displays a list of preset styles.

From the list, choose the desired brush preset.

Using the Colored Pencil Tool

Colored Pencils present a dry medium that doesn't tend to break up but does apply solidly to the canvas. As applied by the Colored Pencil tool , its pigment has a very strong interaction between pressure and the canvas. The tool size is small compared to other tools. Head-loading is infinite, and viscosity is very high. Pencil doesn't apply bump to the surface, and will only smear when pressure is applied with a less smooth tipped tool. To smear colored pencil strokes, you would use the Smear tool.

Pencil strokes tend to blend with a multiply mode when used lightly, but overlay when used with firm pressure. This can be used to simulate a wide range of color blends, using the tool softly to apply a hint of color, or firmly to cover over what's underneath.

Colored Pencil Tool Options

Colored Pencil tool options include:

Shape: Choices include Round or Square.

Size: Defines the size of the tool head in pixels. Note that you can also adjust the Size setting via the keyboard. Refer to the Adjusting the Brush Size Via the Keyboard section earlier in this chapter.

Thickness: Defines the aspect ratio of the tool head.

Rotation: Defines the angle of head rotation in degrees

Head Tracking: Controls whether the tool head bends around the path of the user's stroke, or remains at a fixed angle.

Style: If you're using a stylus, you can choose **Tilt** to change the style through a linear progression based upon the stylus tilt. Choose **Tip** to mimic using the very tip of a pencil. Choose **Edge** to mimic using the pencil's edge.

Softness: Defines the softness of the pencil lead, controlling how easily pressure or velocity break up the lead and cause it to powder into the canvas dents, or to smudge when applied.

Trace check box: When marked, the Colored Pencil tool will select the pigment color by sampling the data below the center of the tool regardless of the layer type. (This feature works much the same way the Clone Brush's Sample Merged tool option works). When you hold down the mouse button to begin the stroke, note that a single sample is performed, and the resulting color is used for the duration of the stroke.

Art Media Brush Presets

Like other Paint Shop Pro tools, the Art Media Brushes comes with presets.

To use a preset:

In the Tool Options palette, click the **Presets** button. This displays a list of preset styles.

From the list, choose the desired brush preset.

Using the Marker Tool

Marker pens are a slightly wet medium, though generally not wet enough to interact with other wet media. As applied by the Marker tool , its pigment goes on the canvas with a multiply function when using pens, simulating the interaction of using a pen repeatedly on the same spot. An imperfect hue will tend towards a different color, very similar to the behavior of standard markers.

Marker ink tends to be semi-transparent, and can get darker when applied with more pressure. Bristling generally does not occur since pen tips tend to be firm or solid even if soft. Pens generally have a very sharp fall-off at the stroke edge, and generally there is full canvas penetration even at light pressure.

Art Media Brush Presets

Like other Paint Shop Pro tools, the Art Media Brushes comes with presets.

To use a preset:

In the Tool Options palette, click the **Presets** button. This displays a list of preset styles.

From the list, choose the desired brush preset.

Marker Tool Options

Marker tool options include:

Shape: Choices include Round or Square.

Size: Defines the size of the tool head in pixels. Note that you can also adjust the Size setting via the keyboard. Refer to the Adjusting the Brush Size Via the Keyboard section earlier in this chapter.

Thickness: Defines the aspect ratio of the tool head.

Rotation: Defines the angle of head rotation in degrees

Head Tracking: Controls whether the tool head bends around the path of the user's stroke, or remains at a fixed angle.

Trace check box: When marked, the Marker tool will select the pigment color by sampling the data below the center of the tool regardless of the layer type. (This feature works much the same way the Clone Brush's Sample Merged tool option works). When you hold down the mouse button to begin the stroke, note that a single sample is performed, and the resulting color is used for the duration of the stroke.

Using the Palette Knife Tool

The Palette Knife  interacts with the mass of medium on the canvas. Generally it would only interact with strokes placed by the Oil Brush given that it is the only tools that apply large amounts of its medium. As the mass of the medium reduces in a spot, there is less to smear and using the Palette Knife has less effect. This means that Crayon, which applies very little medium, will only be slightly affected by the Palette Knife.

The method of loading or cleaning the Palette Knife mirrors the Oil Brush in some ways. You can clean it automatically after each stroke, retain the color picked up from the canvas, or allow manual cleaning. The Palette Knife can be used to apply pigment or smear it, depending on user preference.

Dry and Wet Art Media Layers

Paint strokes applied by the Oil Brush and Palette Knife are, by default, wet in terms of how strokes interact with other strokes by smearing/mixing together. You can, however, choose to dry the Art Media layer at any time. Conversely, you can choose to make a dry Art Media layer wet again:

- Choose **Layers > Dry Art Media layer** (or right click on the Layers palette and choose **Dry Art Media layer** from the context menu) to dry the strokes applied by the Oil Brush or Palette Knife.
- Choose **Layers > Wet Art Media layer** (or right click on the Layers palette and choose **Dry Art Media layer** from the context menu) to make dried Oil Brush or Palette Knife strokes wet again.

Note: Both the **Dry Art Media layer** command and the **Wet Art Media layer** command can be selectively undone in the History palette.

Palette Knife Tool Options

Palette Knife tool options include:

Shape: Choices include Round or Square.

Size: Defines the size of the tool head in pixels. Note that you can also adjust the Size setting via the keyboard. Refer to the Adjusting the Brush Size Via the Keyboard section earlier in this chapter.

Thickness: Defines the aspect ratio of the tool head. Note that this setting is only active when the Fixed angle Head Tracking option is

Art Media Brush Presets

Like other Paint Shop Pro tools, the Art Media Brushes comes with presets.

To use a preset:

In the Tool Options palette, click the **Presets** button. This displays a list of preset styles.

From the list, choose the desired brush preset.

chosen.

Rotation: Defines the angle of head rotation in degrees

Head Tracking: Choose **Track path** to have the brush head bend around the path of the stroke, or choose **Fixed angle** to have the brush head remain at a fixed angle.

Head Loading: Defines (in percentage) the amount of material on the brush at the start of the stroke.

Auto Clean check box: When marked, this check box simulates cleaning the tool and dipping it in fresh paint at the start of a new stroke. When unchecked, the tool head is not cleaned at the start of the stroke. Instead, the "dirty" head has a small amount of the current color added to whatever dirty head state exists from the previous stroke.

Clean button: Click this button to clean the head and start the next stroke with fresh paint/pigment. Note that this button is only active when the Auto Clean check box is not marked.

Trace check box: When marked, the Palette Knife tool will select the pigment/paint color by sampling the data below the center of the tool regardless of the layer type. (This feature works much the same way the Clone Brush's Sample Merged tool option works). When you hold down the mouse button to begin the stroke, note that a single sample is performed, and the resulting color is used for the duration of the stroke.

Using the Smear Tool

Unlike the Palette Knife, the purpose of the Smear tool  is to smear existing pigment, including pigment that has no volume on the canvas, such as pencil. This simulates using a cloth or finger to softening out chalk or pencil strokes on a real-life canvas.

The Smear tool only interacts with pigment already on the canvas, and has no loading of its own. When used on dry pigment, it will have a smudge effect. When used on wet pigment, it will have a smear effect.

This tool's functionality differs from real-life smearing in that its operation changes based on the pigment type you're trying to smear. But it does mimic the various real-life methods used to distort color masses such as fingers on pencil, rags on oil, etc.

Art Media Brush Presets

Like other Paint Shop Pro tools, the Art Media Brushes comes with presets.

To use a preset:

In the Tool Options palette, click the **Presets** button. This displays a list of preset styles.

From the list, choose the desired brush preset.

Smear Tool Options

Smear tool options include:

Shape: Choices include Round or Square.

Size: Defines the size of the tool head in pixels. Note that you can also adjust the Size setting via the keyboard. Refer to the Adjusting the Brush Size Via the Keyboard section earlier in this chapter.

Thickness: Defines the aspect ratio of the tool head.

Rotation: Defines the angle of head rotation in degrees

Head Tracking: Controls whether the tool head bends around the path of the user's stroke, or remains at a fixed angle.

Using the Art Eraser Tool

The Art Eraser tool  lets you erase art media from the image. Specifically, it erases mass where there is some, and color where there is not mass. While this tool is not strictly realistic, it does provide important flexibility to the Art Media tool set, allowing you to erase mistakes progressively rather than requiring an entire stroke to be undone.

Art Eraser Tool Options

Art Eraser tool options include:

Shape: Choices include Round or Square.

Size: Defines the size of the tool head in pixels. Note that you can also adjust the Size setting via the keyboard. Refer to the Adjusting the Brush Size Via the Keyboard section earlier in this chapter.

Thickness: Defines the aspect ratio of the tool head.

Rotation: Defines the angle of head rotation in degrees

Head Tracking: Controls whether the brush head bends around the path of the user's stroke, or remains at a fixed angle.



CHAPTER 13

Drawing and Editing Objects

Use Paint Shop Pro's drawing tools to create objects in a variety of styles. Draw anything from simple lines, rectangles, ellipses, and shapes to complex illustrations.

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Drawing Objects

Vector objects are created with the Pen, Rectangle, Ellipse, Symmetric Shape, and Preset Shape tools. The Text tool can also create vector objects.

Use the Pen tool to draw single lines and polylines, Bezier (point to point) curves, and freehand lines. Use the Rectangle tool to create rectangles and squares. Use the Ellipse tool to create ellipses and circles. Use the Symmetric Shape tool to create polygons and star shapes. Use the Preset Shape tool to place already-created shapes (such as arrows, starbursts, flowers, callouts, etc.) on the image.

Each of the tools has the "Create as vector" check box in the Tool Options palette. When marked, this option places the object on a vector layer, giving you the most editing flexibility. When this option is not marked, the object will be placed on a raster layer.

Raster Objects When creating objects on raster layers, you are really painting on the raster layer. Even though you create a raster object in the same way as a vector object, your finished shape is not a vector object. Once the shape is complete, it becomes pixels on a layer. You can only edit the pixels with raster editing tools.

Note: You can only draw raster objects on raster layers. If you try to draw a raster object on a vector layer, Paint Shop Pro will create a new raster layer for your object.

Vector Objects When you create objects on vector layers, you are creating objects that can be edited later. A vector object's properties (outline color, fill color, size, location and more) can all be easily changed over and over. You can also edit the paths, contours, line segments, and nodes that make up vector objects.

Note: You can only draw vector objects on vector layers. If you try to draw a vector object on a raster layer, Paint Shop Pro will create a new vector layer for your object.

For more about Raster vs. Vector Objects

For overview information on vector and raster data, see "About Raster and Vector Graphics" on page 35.

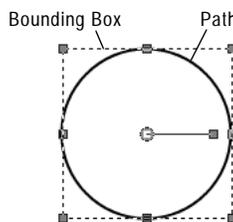
To draw objects:

- 1 On the Tools toolbar, choose the **Pen tool** , **Rectangle tool** , **Ellipse tool** , **Symmetric Shape tool** , or the **Preset Shape tool** . (Note that the Rectangle, Ellipse, Symmetric Shape, and Preset Shape tools are grouped together.)
- 2 In the Materials palette, set the desired color/materials for the object's stroke and fill.
- 3 In the Tool Options palette, set the desired options.

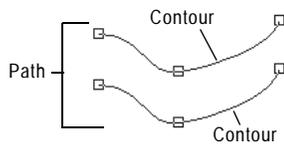
- 4 Depending on the tool, click and drag, or hold down the left mouse button and drag to create the object.
- 5 In the Tool Options palette, click **Apply** to complete the creation of the shape and deselect it.

The Anatomy of a Vector Object

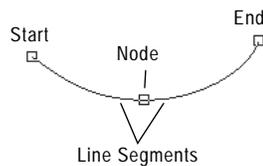
Closed object selected with Object Selection tool



Open object selected with Pen tool



Contour selected with Pen tool



Object An object is anything you create with a vector tool. Each object is represented by its own bounding box. An object has properties you can control such as line style and fill color. Each object contains one path made up of contours and nodes.

Path An object contains one path. The path is all the contours in an object. The properties of the path are controlled by the object's properties. A path's direction flows from its start to end point. Some paths are closed (their start and end points are the same).

Contour A path contains at least one contour. A contour contains at least one line segment. A contour's direction flows from its start to end point. A contour can also be open or closed. The contours in a path do not need to be connected. Some of a contour's properties are controlled by its object's properties (e.g. line style, fill color, anti-aliasing). The shape of a contour is controlled by the type and location of its nodes.

Node A contour contains at least two nodes. A node is a point on a contour that define the contour's shape at that point. For instructions on editing nodes, see, "Editing Nodes" on page 351.

Line Segment The straight or curved line between two nodes is a line segment.

Drawing Lines with the Pen Tool

Corner Join Types

One of the functions of the Pen tool is to draw line segments as well as connected line segments.

Pen tool line segment



To draw an unconnected line segment:

- 1 From the Tools toolbar, choose the **Pen tool** .
- 2 In the Materials palette, set the desired **Foreground/Stroke** property. (Note that for single, unconnected line segments, you do not need to bother with the Background/Fill color.)
- 3 In the Tool Options palette's Mode section, click the **Draw Lines and Polylines** button .

- 4 Set other tool options:

Connect Segments: Mark this check box to automatically connect each line segment.

Show Nodes: Mark this check box to display the objects nodes during creation.

Create on Vector: Mark this check box to place the object on the current vector layer. If no vector layer exists, this option will create a new one for the object. If this option is not checked, the line will be placed on a raster layer (making it more difficult to subsequently edit).

Line Style: From the drop-list, choose the style to use for the line. For a plain, standard line, choose +Solid.

Width: Set the desired line width in pixels.

Anti-alias: Mark this check box to apply anti-aliasing to the object, giving the edges a smoother appearance.

- 5 Place the cursor at the starting point, hold down the left mouse button and then drag the mouse. Release the mouse button when the line reaches the desired length.

Note: To create a vertical, horizontal, or 45-degree line, hold down the **Shift** key while you drag the mouse.

- 6 In the Tool Options palette, click **Apply** to complete the creation of the shape and deselect it.
- 7 To edit the line, click the **Edit** button  in the Tool Options palette's Mode section, and then click the line. Edit mode allows for a variety of ways to modify the line. Note that you can also choose the **Object Selection** tool  and modify the line in other ways (such as move, rotate, stretch, etc.).

To draw connected line segments:

- 1 From the Tools toolbar, choose the **Pen tool** .

2 In the Materials palette, set the desired **Foreground/Stroke** property. If you want the connected segments to have a fill, you'll also need to set the **Background/Fill** property. If you do not want the line segments to have a fill, set the **Background/Fill** property to **Transparent**.

3 In the Tool Options palette's Mode section, click the **Draw Lines and Polylines** button .

4 Set other tool options:

Connect Segments: Mark this check box to automatically connect each line segment.

Show Nodes: Mark this check box to display the objects nodes during creation.

Create on Vector: Mark this check box to place the object on the current vector layer. If no vector layer exists, this option will create a new one for the object. If this option is not checked, the line will be placed on a raster layer (making it more difficult to subsequently edit).

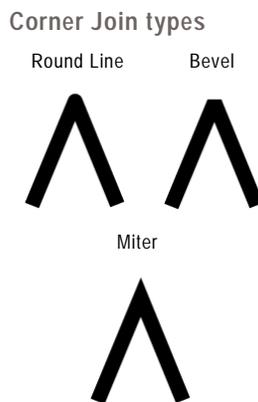
Line Style: From the drop-list, choose the style to use for the line. For a plain, standard line, choose +Solid.

Width: Set the desired line width in pixels.

Anti-alias: Mark this check box to apply anti-aliasing to the object, giving the edges a smoother appearance.

Join: Choose from one of three Join types. **Miter Join** (this setting makes the Miter limit setting available) produces more pointed joins; **Round Join** rounds off the joins; and **Beveled Join** produces a sloped join.

Miter limit: (This is only available when Miter Join is chosen.) This sets the degree of pointedness for Miter joins. Lower values create less pointed joins; higher values created more pointed joins.



5 Place the cursor at the starting point, hold down the left mouse button and then drag the mouse. Release the mouse button when the first line reaches the desired length.

6 To create the next segment, drag the mouse again, and release the button to complete the next line segment.

7 Repeat step 6 to create as many connected line segments as you wish.

8 You can complete the shape in two different ways:

- For an open shape (where the first and last segment are not connected), click the **Create New Contour** button  in the Tool Options palette.
- For a closed shape (where the first and last segments are connected), click the **Close Contour** button  in the Tool Options palette.

Note: To create a vertical, horizontal, or 45-degree line, hold down the **Shift** key while you drag the mouse.

- 9 In the Tool Options palette, click **Apply** to complete the creation of the shape and deselect it.
- 10 To edit the line, click the **Edit** button  in the Tool Options palette's Mode section, and then click the line. Edit mode allows for a variety of ways to modify the line. Note that you can also choose the **Object Selection** tool  and modify the line in other ways (such as move, rotate, stretch, etc.).

Saving a Preset

Save an often-used set of Tool Options palette settings for subsequent use as follows:

- 1 Set the Tool Options to the desired settings.
- 2 Click the **Presets** drop-list, and then click the **Save preset** button . The Save Preset dialog appears.
- 3 In the **Preset Name** field, enter a name for the preset.
- 4 Optionally, you can click the **Options** button to enter more information about the preset, such as the Author, Copyright, and Description. You can also choose to exclude particular preset properties by clicking the associated button (a red "x" will appear over excluded properties).
- 5 Click **OK** to save the preset and close the Save Preset dialog.

Loading a Preset

To load a preset, click the **Presets** drop-list and then click the desired preset from the list.

Resetting tool options

To reset the Tool Options palette to the default values, click the Presets drop-list and then click the **Reset to default** button .

Drawing Bezier Curves with the Pen Tool

One of the functions of the Pen tool is to draw Bezier (point to point) curves.

To draw a Bezier curve object:

- 1 From the Tools toolbar, choose the **Pen tool** .
- 2 In the Materials palette, set the desired **Foreground/Stroke** property. This determines the color/material used for the object's stroke. If you want the curve to have a fill, you'll also need to set the **Background/Fill** property. If you do not want the curve to have a fill, set the **Background/Fill** property to **Transparent**.
- 3 In the Tool Options palette's Mode section, click the **Draw Point to Point - Bezier Curve** button .
- 4 Set other tool options:

Connect Segments: Mark this check box to automatically connect each curve segment. If you do not mark this check box, the curve will end after you've placed the second segment.

Show Nodes: Mark this check box to display the objects nodes during creation.

Create on Vector: Mark this check box to place the object on the current vector layer. If no vector layer exists, this option will create a new one for the object. If this option is not checked, the line will be placed on a raster layer (making it more difficult to subsequently edit).

Line Style: From the drop-list, choose the style to use for the line. For a plain, standard line, choose **+Solid**.

Width: Set the desired line width in pixels.

Anti-alias: Mark this check box to apply anti-aliasing to the object, giving the edges a smoother appearance.

- 5 Place the cursor where you want the first node, hold down the left mouse button and then drag the mouse. As you drag you'll see the node's control arm handles with the arrow-end of the handle pointing in the direction you dragged the mouse. Release the mouse button when the first control arm reaches the desired length.
- 6 Place the cursor where you want the second node, and drag the mouse. As you drag, you'll see the curve segment on the image canvas.

Pen tool Bezier curve



- 7 If you checked the **Connect Segments** option, you can continue adding segments in this manner.
- 8 You can complete the Bezier curve object in two different ways:
 - For an open shape (where the first and last segment are not connected), click the **Create New Contour** button  in the Tool Options palette.
 - For a closed shape (where the first and last segments are connected), click the **Close Contour** button  in the Tool Options palette.
- 9 In the Tool Options palette, click **Apply** to complete the creation of the shape and deselect it.
- 10 To edit the shape, click the **Edit** button  in the Tool Options palette's Mode section, and then click the shape. Edit mode allows for a variety of ways to modify the Bezier curve. Note that you can also choose the **Object Selection** tool  and modify the shape in other ways (such as move, rotate, stretch, etc.).

Drawing Freehand Curves with the Pen Tool

One of the functions of the Pen tool is to draw Freehand curves.

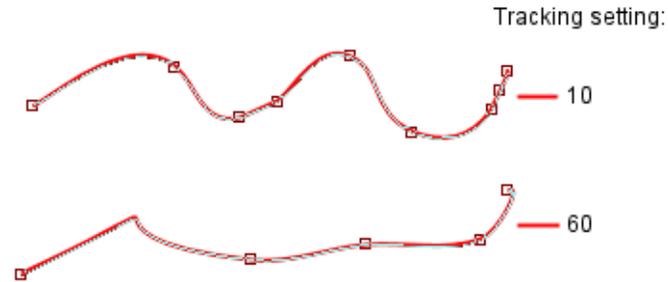
To draw a Freehand curve object:

- 1 From the Tools toolbar, choose the **Pen** tool .
- 2 In the Materials palette, set the desired **Foreground/Stroke** property. This determines the color/material used for the object's stroke. If you want the curve to have a fill, you'll also need to set the **Background/Fill** property. If you do not want the curve to have a fill, set the **Background/Fill** property to **Transparent**.
- 3 In the Tool Options palette's Mode section, click the **Draw Freehand** button .
- 4 Set other tool options:

Pen tool Freehand curve



Tracking: (This setting is only available for Freehand mode.) Tracking sets the distance in pixels between the nodes of a Freehand curve object. A higher value will create smoother, less precise lines with fewer nodes. A lower value will create more segmented, precise lines with more nodes.



Connect Segments: Mark this check box to automatically connect each Freehand curve object. If you do not mark this check box, Freehand objects will not be connected.

Show Nodes: Mark this check box to display the objects nodes during creation.

Create on Vector: Mark this check box to place the object on the current vector layer. If no vector layer exists, this option will create a new one for the object. If this option is not checked, the line will be placed on a raster layer (making it more difficult to subsequently edit).

Line Style: From the drop-list, choose the style to use for the line. For a plain, standard line, choose **+Solid**.

Width: Set the desired line width in pixels.

Anti-alias: Mark this check box to apply anti-aliasing to the object, giving the edges a smoother appearance.

Join: Choose from one of three Join types. **Miter Join** (this setting makes the Miter limit setting available) produces more pointed joins; **Round Join** rounds off the joins; and **Beveled Join** produces a sloped join.

Miter limit: (This is only available when Miter Join is chosen.) This sets the degree of pointedness for Miter joins. Lower values create less pointed joins; higher values created more pointed joins.

- 5 Place the cursor where you want to begin the curve, hold down the left mouse button and then drag the mouse. As you drag you'll see the curve following the cursor path. Release the mouse button when you've completed the freehand curve.
- 6 In the Tool Options palette, click **Apply** to complete the creation of the shape and deselect it.
- 7 To edit the shape, click the **Edit** button  in the Tool Options palette's Mode section, and then click the shape. Edit mode allows for a variety of ways to modify the Freehand curve. Note that you can also choose the **Object Selection** tool  and modify the shape in other ways (such as move, rotate, stretch, etc.).

Using the Rectangle Tool

This tool allows you to create squares, rectangles, and rounded rectangles. To use the tool:

- 1 Select the **Rectangle** tool  in the Tools toolbar. It's grouped with the Ellipse, Symmetric Shapes, and Preset Shape tools.
- 2 In the Materials palette, set your **Foreground/Stroke** and **Background/Fill** properties.
- 3 In the Tool Options palette's Mode section, choose either **Draw Rectangle**  or **Draw Square** .
- 4 Set the remaining Tool Options:
 - Show Nodes:** mark this check box to display the objects nodes during creation.
 - Create on Vector:** mark this check box to place the object on the current vector layer. If no vector layer exists, this option will create a new one for the object.
 - Roundness X and Y Radius:** sets the radii for the object's corners.
 - Left, Top, Width, and Height:** When the Show Nodes check box is marked, these settings allow you to determine the object's pixel coordinates. When Show Nodes is off, these settings become active when you choose Edit mode after drawing the object.
 - Line Style** options: set the type of line, it's stroke width, anti-alias setting, as well as Join and Miter Limit settings.
- 5 Drag the cursor to draw the symmetric object.
- 6 In the Tool Options palette, click **Apply** to complete the creation of the shape and deselect it.

- 7 To edit the shape, click the **Edit** button  in the Tool Options palette's Mode section, and then click the shape. Edit mode allows for a variety of ways to modify the shape. For example, you can hold down **Shift** and drag one of the selected rectangle's corner handles to maintain equal radii (X and Y will remain the same). Note that you can also choose the **Object Selection** tool  and modify the shape in other ways (such as move, rotate, stretch, etc.).

Using the Ellipse Tool

This tool allows you to create circles and ellipses. To use the tool:

- 1 Select the **Ellipse** tool  in the Tools toolbar. It's grouped with the Rectangle, Symmetric Shapes, and Preset Shape tools.
- 2 In the Materials palette, set your **Foreground/Stroke** and **Background/Fill** properties.
- 3 In the Tool Options palette's Mode section, choose either **Draw Ellipse**  or **Draw Circle** .
- 4 Set the remaining Tool Options:
 - Show Nodes:** mark this check box to display the objects nodes during creation.
 - Create on Vector:** mark this check box to place the object on the current vector layer. If no vector layer exists, this option will create a new one for the object.
 - Radius X and Radius Y:** When the Show Nodes check box is marked, these options allow you to set the radii for the object. When Show Nodes is off, these settings become active when you choose Edit mode after drawing the object.
 - Center X and Center Y:** When the Show Nodes check box is marked, these options allow you to determine the object center's horizontal (Center X) and vertical (Center Y) position. When Show Nodes is off, these settings become active when you choose Edit mode after drawing the object.
- 5 Drag the cursor to draw the ellipse.
- 6 In the Tool Options palette, click **Apply** to complete the creation of the shape and deselect it.

- 7 To edit the shape, click the **Edit** button  in the Tool Options palette's Mode section, and then click the shape. Edit mode allows for a variety of ways to modify the shape. Note that you can also choose the **Object Selection** tool  and modify the shape in other ways (such as move, rotate, stretch, etc.).

Using the Symmetric Shape Tool

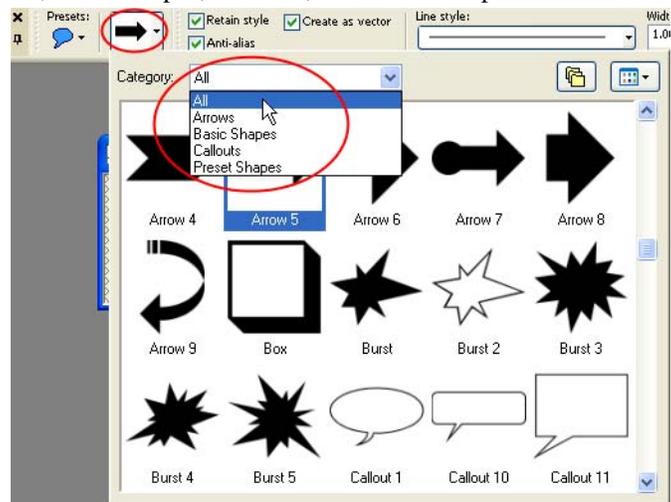
This tool allows you to create polygons and star shapes. To use the tool:

- 1 Select the **Symmetric Shape** tool  in the Tools toolbar. It's grouped with the Rectangle, Ellipse, and Preset Shape tools.
- 2 In the Materials palette, set your **Foreground/Stroke** and **Background/Fill** properties.
- 3 In the Tool Options palette's Mode section, choose either **Draw Polygon**  or **Draw Stellated** .
- 4 Set the remaining Tool Options:
 - Show Nodes:** mark this check box to display the objects nodes during creation.
 - Create on Vector:** mark this check box to place the object on the current vector layer. If no vector layer exists, this option will create a new one for the object.
 - Number of Sides:** sets the number of sides for the object.
 - Radius:** (available only for the Stellated objects) sets the object's radius.
 - Rounded Inner:** (available only for the Stellated objects) mark this check box to apply rounded inner corners to the object.
 - Rounded Outer:** mark this check box to apply rounded outer corners to the object.
 - Line Style options:** set the type of line, it's stroke width, anti-alias setting, as well as Join and Miter Limit settings.
- 5 Drag the cursor to draw the symmetric object.
- 6 In the Tool Options palette, click Apply to complete the creation of the shape and deselect it.

- 7 To edit the object (assuming you created it as a vector object), choose **Edit**  in the Tool Options palette's Mode section. Note that the Symmetric Shape tool's Edit mode functionality is much like that of the Pen tool's Edit mode functionality. For example, to add a node to a Symmetric Shape while using the tool's Edit mode, hold down **Ctrl** and click on the path. Note that you can also choose the **Object Selection** tool  and modify the object in other ways (such as move, rotate, stretch, etc.).

Using the Preset Shape Tool

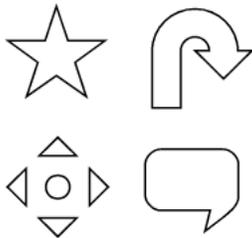
This tool allows you to place pre-made shapes on the image. The **Shapes** drop-list in the Tool Options palette has shape categories. You can choose to display All shapes, or choose categories such as Arrows, Basic Shapes, Callouts, and Preset Shapes.



To use the tool:

- 1 Select the **Preset Shape** tool  in the Tools toolbar. It's grouped with the Ellipse, Symmetric Shapes, and Preset Shape tools.

Sample preset shapes



- 2 In the Tool Options palette's **Shapes** drop-list (shown above), choose the desired preset shape. To control what appears in the drop list, select the appropriate category (All, Arrows, Basic Shapes, Callouts, or Preset Shapes).
- 3 To define how the preset shape will appear, choose one of the following options:
 - **Do not** mark the **Retain style** check box in the Tool Options palette if you want to define the preset shape's stroke and fill properties. By having this option unchecked, the preset shape will be drawn using the current Foreground/Stroke and/or Background/Fill property settings in the Materials palette. If you do not want to have either a Foreground/Stroke or a Background/Fill, set the appropriate property to **Transparent**.
 - To have the preset shape look just like it does in the Shape list, mark the **Retain style** check box. Having this option checked will ignore the Materials palette settings.
- 4 Set other tool options:

Create on Vector: Mark this check box to place the object on the current vector layer. If no vector layer exists, this option will create a new one for the object. If this option is not checked, the preset shape will be placed on a raster layer (making it more difficult to subsequently edit).

Line Style: From the drop-list, choose the style to use for the preset shape's stroke. For a plain, standard line, choose **+Solid**.

Width: Set the desired stroke width in pixels.

Anti-alias: Mark this check box to apply anti-aliasing to the object, giving the edges a smoother appearance.

Join: Choose from one of three Join types. **Miter Join** (this setting makes the Miter limit setting available) produces more pointed joins; **Round Join** rounds off the joins; and **Beveled Join** produces a sloped join.

Miter limit: (This is only available when Miter Join is chosen.) This sets the degree of pointedness for Miter joins. Lower values create less pointed joins; higher values created more pointed joins.
- 5 Place the cursor on the image canvas, hold down the left mouse button and then drag to create the shape. Release the mouse button when the shape reaches the desired size.

Note: To create the shape with the same aspect ratio as that shown in the Shapes list, hold down **Shift** while dragging the mouse. To place the centerpoint of the shape at the position where you clicked, hold down the right mouse button while dragging out the shape.

- 6 In the Tool Options palette, click **Apply** to complete the creation of the shape and deselect it.
- 7 To edit the object (assuming you created it as a vector object), click the **Edit** button  in the Tool Options palette's Mode section, and then click the object. Edit mode allows for a variety of ways to modify the object. Note that you can also choose the **Object Selection** tool  and modify the object in other ways (such as move, rotate, stretch, etc.).

Creating New Preset Shapes

You can create your own preset shape by saving any vector object (lines, shapes, or text) and exporting it for subsequent use with the Preset Shape tool.

Preset shapes are stored in files called shape libraries, which contain one or more vector objects. Paint Shop Pro's default shape libraries are located in the Preset Shapes folder of the Paint Shop Pro program folder. By default, your custom preset shapes are saved in the Preset Shapes folder of your My PSP9 Files folder in your My Documents folder.

To create a new preset shape:

- 1 Create an image with one or more vector objects that you want to save as preset shapes.
- 2 Give each object a unique name that will help you identify it. You cannot export multiple objects with the same name. To name objects, refer to the section Editing Vector Object Properties later in this chapter.
- 3 Use the **Object Selection** tool to select one or more objects to save as preset shapes. To export all objects, make sure none are selected.
- 4 To open the Export Shape Library dialog, do one of the following:
 - Choose **File > Export > Shape**; or

- Right-click and choose **Export > Shape** from the Object Selection tool's context menu.

5 Type a name for the library file and click **OK**.

The library file (.PspShape extension) saves to the default Preset Shapes folder.

To modify a library:

- 1 Use **File > Open** to open the library file in Paint Shop Pro.
- 2 Modify, add, or delete objects in the file.
- 3 Save and close the library file.

Note: You will have to restart Paint Shop Pro to use the modified preset objects.

To delete an entire library:

Delete the library file from the Preset Shapes folder.

Creating Custom Line Styles

You can edit the default line styles or design your own line styles. Saved styles appear in the Line Style drop-down window on the Tool Options palette for the Pen, Rectangle, Ellipse, Symmetric Shape, Preset Shape, and Text tools.

To create and save a customized line style:

- 1 Choose the Pen, Rectangle, Ellipse, Symmetric Shape, Preset Shape, or Text tool.
- 2 On the Tool Options palette, click the **Line Style** drop-down window.

Note: If you want to copy an existing line style to create a new style, or if you want to edit or delete an existing line style, select that style in the Line Style drop-down window.

- 3 Click the **Custom** button to open the **Styled Lines** dialog.
- 4 In the **Caps** group box, choose end cap settings for the line segments. For details, see “End Cap Styles” on page 335.
- 5 In the **Style** group box, choose dash and gap lengths. For details, see “Dash Segment Style” on page 335.
- 6 When you are finished, do one of the following:

- If you are creating a new line, click **Save As New**. Type a unique name in the Styled Line Name field. Click **OK**.
- If you are editing an existing line, click **Save**.
- To close the dialog without saving changes, click **Cancel**.

Note: To reset the dialog back to the style you started with, click the **Reset** button .

End Cap Styles

The **Caps** group box in the Styled Lines dialog controls the end cap style of each segment in the line style. The settings are:

First Cap From the drop-down list, pick the style for the first segment in the line.

Size Click this button to open the **Cap Size** dialog and adjust the size of the end cap. To set and adjust height and width equally, select the **Link axes** check box.

Last Cap From the drop-down list, pick the style for the last segment in the line.

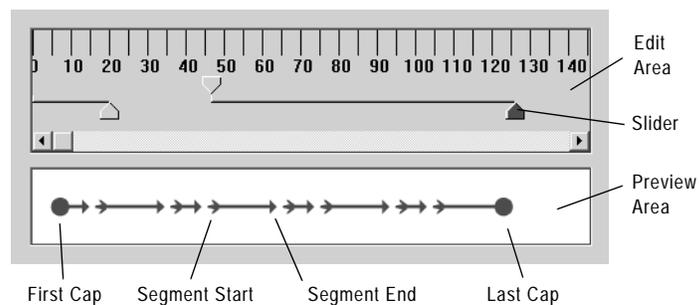
Different Segment Caps Mark this check box to create separate end caps for all the middle segments (dashes) in the line. Clear the check box to use the First Cap and Last Cap settings for each dash.

Segment Start From the drop-down list, pick the style for the beginning of each dash.

Segment End From the drop-down list, pick the style for the end of each dash.

Dash Segment Style

The **Style** group box in the Styled Lines dialog controls the length of dashes and gaps in the line style.



The *Preview Area* at the bottom of the Styled Lines dialog displays the changes you make to the line. The *Edit Area* has a ruler (in pixels) to help you to size dashes and gaps. Each dash or gap can be selected and adjusted with its *Slider*.

The Style settings are:

Add Adds dashes or gaps. Set the length of the dashes or gaps with the numeric edit control or by clicking and dragging the sliders.

Delete Deletes the selected dash or gap. Select a dash or gap by clicking on its slider in the edit area.

Clear Removes all dashes and gaps.

Zoom Buttons  Click to zoom the view of the edit area in or out.

Undo  Click to undo previous changes made in the Style group box.

Editing Vector Object Properties

Selecting vector objects

Use the Object Selection tool to select vector objects. Press **Shift** and to select multiple vector objects.

Drawing lines and shapes as vector objects gives you the flexibility of editing them after they are drawn.

Note

All of the commands in the Objects menu appear in a context menu that opens when you right-click on objects, contours, or nodes.

To delete a vector object:

- 1 Select the vector object to delete.

Note: To delete one object within a group, you must click its name on the Layers palette.

- 2 Press the **Delete** key or choose **Edit > Clear**.

To edit the colors and materials of vector objects:

- 1 Select the vector object(s) you want to edit.
- 2 On the Materials palette, choose a new foreground or background color or material. The background color controls an object's fill color. The foreground color controls an object's line color.

Editing Vector Object Properties

Vector properties include the basics of vector objects such as line width, line style, and anti-aliasing. You can also change the name of the object (as it appears on the Layers palette) and change whether the object is visible or not.

To edit vector properties:

- 1 Select the vector object(s) you want to edit.
- 2 Click **Properties**  on the Tool Options palette or choose **Objects > Properties** to open the Property dialog.

Note: You can also open the dialog by double-clicking the object's name on the Layers palette.
- 3 Choose the line options (stroke width, join, miter, line style, and anti-alias).
- 4 Choose stroke (line) and fill settings:

Stroke Clear the check box to choose no line. Mark the check box and pick a color from the color box to choose line color.

Fill Clear the check box to choose no fill. Mark the check box and pick a color from the color box to choose fill color.
- 5 In the **Name** field, change the name of the object as it appears on the Layers palette. If more than one object is selected, you must change their names using the Layers palette.
- 6 To make the selected object(s) invisible or visible, clear or mark the **Visible** check box. (You can also do this by clicking the Visibility Toggle on the Layers palette.) Invisible objects are often used as paths for text.
- 7 Click **OK**.

Object editing tip

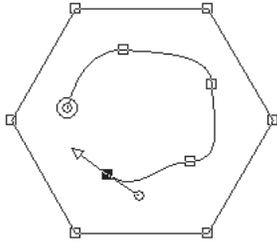
You can also edit a vector object's properties by selecting the object and choosing the Pen tool. Changing the settings in the Tool Options palette will modify the selected object.

Change object names from the Layers palette

On the Layers palette, right-click the object name and choose **Rename** from the context menu.

Adding and Closing Contours

Adding a contour to a preset shape



Another way to add contours to an object:

You can paste a contour into a selected contour.

You can add new contours to any existing object, even objects you created with the Preset Shapes tool. The new contour will have the same properties (including color, material, line style, and so on) as the selected object.

To add nodes to a contour, see “Adding or Removing Nodes on a Contour” on page 354.

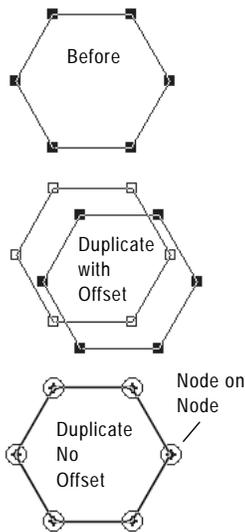
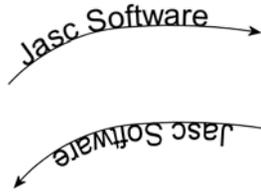
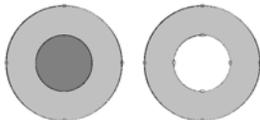
To add a contour to an object:

- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, click **Edit** .
- 3 Click on an object to select it.
- 4 From the Tool Options palette's Mode section, click the desired drawing tool (Line, Bezier, or Freehand), and then create the contour.
- 5 When you finish drawing the contour, do one of the following:
 - To continue editing the contour, select **Edit Mode** from the Tool Options palette.
 - To finish this object, choose another tool.

To close a contour:

- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, click **Edit** .
- 3 Click on an contour to select it.
- 4 Do one of the following:
 - Choose **Objects > Edit > Close (Ctrl+Shift+C)**.
 - Right-click on the contour and select **Edit > Close** from the context menu
 - On the Tool Options palette, click **Close Selected open contours** .

Note: When you close a contour, Paint Shop Pro draws a segment from the contour's start to its end node.

Duplicating a contour*Reversing a path with text**Reversing a contour to create a hollow shape***To duplicate a contour:**

- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, click **Edit** .
- 3 Select one node on the contour.
- 4 From **Objects > Edit** choose:

Duplicate (Ctrl+D) Copies the selected contour and pastes it directly on top of the original contour.

Note: The overlapping nodes will all show node-on-node indicators.

Duplicate & Offset (Ctrl+Shift+D) Copies the selected contour and pastes it at an offset from the original contour. The default offset is 10 pixels in the X and Y directions.

Note: To adjust the number of pixels contours are offset, type new settings in the **Duplication X** and **Duplication Y** fields of the Tool Options palette.

Reversing the Direction of Contours or Paths

The direction of a contour flows from the start node to the end node. When you place the cursor over the start node, "START" displays next to the cursor. When you place the cursor over the end node, "END" displays. If the object has an closed path, "CLOSE" displays.

For vector objects, you can reverse an entire path (all the contours in the object) or reverse one contour within a path. The direction of a contour or a path affects two important things:

- **Text flow along a contour.** Reverse direction to change how text aligns on a contour.
- **Fill properties of overlapping contours.** When contours with different directions overlap, the resulting fill is transparent. Reverse one contour overlapping another contour to create cutout objects.

To reverse a path or contour:

- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, click **Edit** .
- 3 Click on a contour or path, and then select one node on the contour.

Note: To reverse multiple contours, select one node from each contour.

- 4 Right-click on the path or contour, choose **Edit** from the context menu, and choose:

Reverse Path (Ctrl + Shift + R) or **Reverse Contour (Ctrl+R)**.

Note: You can also access these commands by choosing **Objects > Edit**.

Joining Contours

You can join two contours by connecting their end points. You can manually drag nodes together to join them, or you can have Paint Shop Pro automatically join two nodes.

To join two contours:

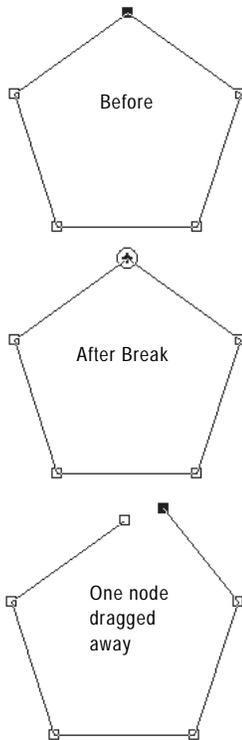
- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, click **Edit** .
- 3 Select one of the contours to show all nodes in the object.
- 4 Select the start or end node of the first contour you want to join.

Note: You can only join contours in the same object.

- 5 Do one of the following:
 - To have Paint Shop Pro draw a contour between the points: Press **Shift** and select the start or end node of the other contour. Press **Ctrl + J**, or right-click and choose **Edit > Join** from the context menu.
 - To join contours manually: Click and drag the node over the other contour's start or end node. When the cursor displays "JOIN," release the mouse button.

To avoid joining contours when moving nodes:

Hold down **Ctrl** while you drag.

Breaking a contour at a node

Breaking Contours

You can break a contour at any node. When you break a closed path or contour, you open it. When you break an open path or contour, you create two separate contours.

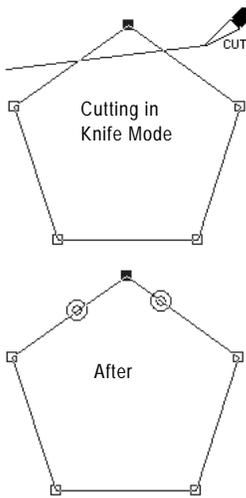
There are two ways to break contours: at a node or with the Pen tool.

To break a contour at a node:

- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, click **Edit** .
- 3 Select the node you want to break the contour at.
- 4 Do one of the following:
 - Choose **Objects > Edit > Break (Ctrl+K)**.
 - Right-click the node and choose **Edit > Break** from the context menu.

The path or contour breaks and a new node is added on top of the current node. The node square changes to a node-on-node indicator. Drag one node away to separate them.

Breaking contours with the Pen tool



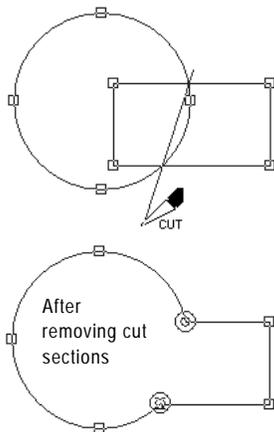
To break a contour with the Pen tool:

- 1 From the Tools toolbar, select the **Pen tool** .
- 2 From the Tool Options palette's Mode section, click **Knife Mode** .
- 3 Select the contour you want to break.
- 4 Click and drag across the contour where you want it to break.

Note

The Knife Mode of the Pen tool will cut through all selected contours in an object.

Breaking multiple contours with the Pen tool



Aligning and Arranging Vector Objects

Align and arrange vector objects in a variety of ways: align their edges, distribute them evenly, center them on the image canvas, and arrange their order (from top to bottom) on a layer.

Note

All of the commands in the Objects menu appear in a context menu that opens when you right-click on objects, contours, or nodes.

To move a vector object:

- 1 Select the object(s) you want to move.
- 2 Do any of the following:
 - Click inside a bounding box and drag the object or objects to a new position.
 - To move one pixel at a time, press **Shift** or **Ctrl** and press the **Up**, **Down**, **Left**, or **Right** arrow keys.
 - To move 10 pixels at a time, press **Ctrl + Shift** and press the **Up**, **Down**, **Left**, or **Right** arrow keys.

Copying, and pasting vector objects

Cut, copy, and paste vector objects just like any other data. Select the object and from the **Edit** menu, select **Cut** or **Copy**.

To paste vector objects within the same layer, choose **Edit > Paste > As New Vector Selection**.

To paste vector objects as a new layer, choose **Edit > Paste > As New Layer**.

To paste vector objects as a new image, choose **Edit > Paste > As New Image**.

Grouping and Ungrouping Vector Objects

To edit several objects in similar ways, group them together. When objects are grouped, you can move, resize, reshape, and change their lines and materials all at once. You can also group several groups of vector objects.

When you group objects on different layers, Paint Shop Pro automatically moves them all to the layer of the first object you selected.

Each group has a label on the Layers palette and all the objects in the group are shown as components. Click the plus sign in front of the group name to show the group's components.

Note

Even if an object belongs to a group, you can still select it on the Layers palette and edit it individually.

There are two ways to group objects: Use the Object Selection tool or use the Layers palette.

How to edit one object within a group

When you have a group of objects, most Paint Shop Pro commands apply to the entire group. However, there are several ways to edit one object within the group. First, click the object name on the Layers palette (the name becomes bold), then you can:

- Right-click the object name and choose a command from the context menu.
- Move the object using the arrow keys.

To group vector objects using the Object Selection tool:

- 1 Use the **Object Selection** tool  to select each object you want in the group.
- 2 On the Tool Options palette, click **Group**  or choose **Objects > Group**.

To group objects using the Layers palette:

- 1 On the **Layers palette**, click the name of the first object you want to group.
- 2 Press **Shift** and click each object you want to add to group.
- 3 Right-click one of the object names and choose **Group** from the context menu.

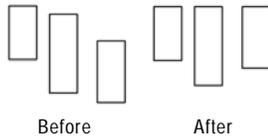
Note: If you group objects from several layers, Paint Shop Pro moves them all to the layer of the first object you selected.

To ungroup all objects in a group:

- 1 Select the group.
- 2 Do one of the following:
 - Choose **Objects > Ungroup**.
 - On the **Object Selection** tool's Tool Options palette, click the **Ungroup** button .
 - On the Layers palette, right-click the group name and select **Ungroup** from the context menu.

To remove a single object from a group:

On the **Layers palette**, drag the object from the group into another group or layer.

Align Tops

Aligning Vector Objects

You can align objects in relation to each other. For example, align their top edges.

To align vector objects:

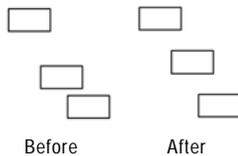
- 1 On the Tools toolbar, choose the **Object Selection** tool .
- 2 Select the first vector object. All other objects selected will align to this object.
- 3 Press the **Shift** key and select each additional object you want to align.
- 4 On the Tool Options palette, click one of the **Object Alignment** buttons:

Top , **Bottom** , **Left** , **Right** , **Vertical Center** , or **Horizontal Center** .

Note: You can also choose **Objects > Align** and select a command.

Distributing Vector Objects

You can evenly distribute vector objects in relation to each other. For example, distribute three objects so that their top edges are evenly spaced from each other. To distribute objects in relation to the canvas, see “Positioning Vector Objects on the Canvas” on page 346.

Distribute Vertical Tops

To evenly distribute objects:

- 1 On the Tools toolbar, choose the **Object Selection** tool .
- 2 Select one object to select it. Press **Shift** and select the other objects.

Note: You must have three or more objects selected to distribute them in relation to each other.

- 3 Choose from the following:

- To distribute objects in relation to each other:

On the Tool Options palette click one of the **Object Distribution** buttons:

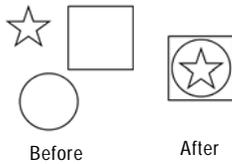
Vertical Top , **Vertical Center** , **Vertical Bottom** ,
Horizontal Right , **Horizontal Center** , or
Horizontal Left .

Another way to distribute

With your objects selected, right-click on an object. From the context menu, select a distribution method from **Distribute Object**.

Positioning Vector Objects on the Canvas

Center on Canvas



To align vector objects to the canvas:

- 1 On the Tools toolbar, choose the **Object Selection** tool .
- 2 Click an object to select it.
- 3 On the Tool Options palette, click one of the **Position on Canvas** buttons:
 - **Center in Canvas** , **Horizontal Center in Canvas** , or **Vertical Center in Canvas** .

Note: All these commands are also available by choosing **Object > Align**.

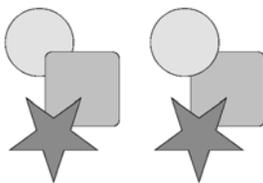
To distribute vector objects on the canvas:

- 1 On the Tools toolbar, choose the **Object Selection** tool .
- 2 Click an object to select it.
- 3 On the Tool Options palette, click one of the **Position on Canvas** buttons:
 - **Space Evenly Horizontal**  or **Space Evenly Vertical** .

Note: All these commands are also available by choosing **Object > Distribute**.

Arranging Vector Objects

Bringing the circle to the top



Each object you draw on a layer is stacked on top of the next (even if they don't overlap). If you draw 50 objects on a layer, the 50th is at the top and the 1st is on the bottom. When you have overlapping objects, you can move objects up or down the stack of objects.

To arrange vector objects:

- 1 On the Tools toolbar, choose the **Object Selection** tool .
- 2 Click an object to select it.

Using the Layers palette to arrange vector objects

To change an object's position on a layer: select the object name in the **Layers palette**, click and drag the object up or down in the list of objects.

3 Do one of the following:

- To move an object to the top:
On the Tool Options palette, click **Bring to Top** .
- To move an object to the bottom: Click **Send to Bottom** .
- To move an object up or down one position:
Click **Move Up**  or **Move Down** .

Note: All these commands are also available by choosing **Objects > Arrange**.

Resizing and Reshaping Vector Objects

Quick steps for proportional scaling

To resize a vector object and keep the same proportions, select the object with the Object Selection tool and right-click and drag a corner handle of the bounding box.

The Object Selection tool gives you the power to transform vector objects and vector text interactively. Select an object and drag the handles on the bounding box to resize, rotate, shear, distort, or apply perspective. You can also resize and reshape a vector object by editing its nodes and contours using the Pen tool. For instructions, see “Editing Paths and Contours” on page 349.

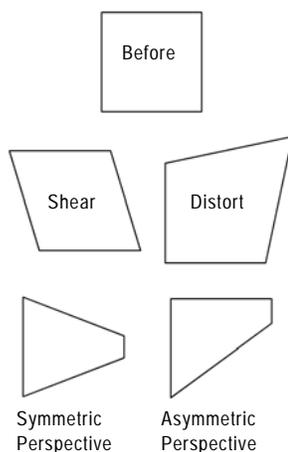
Note

All of the commands in the Objects menu appear in a context menu that opens when you right-click on objects, contours, or nodes.

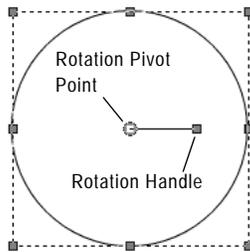
To resize and reshape vector objects:

- 1 Use the **Object Selection**, **Preset Shape**, or **Text** tool to select an object.
- 2 Do one or more of the following:
 - To resize, click and drag one of the corner or edge handles.
 - To resize while keeping the current proportions, right-click and drag a corner handle.
 - To change perspective symmetrically, press **Ctrl** and drag a corner handle horizontally or vertically.
 - To change perspective asymmetrically, press **Shift** and drag a corner handle.
 - To shear, press **Shift** while dragging a side handle.
 - To distort, press **Ctrl** and **Shift** while dragging a handle.

Reshaping Objects



Rotation Controls



To rotate vector objects:

- 1 Use the **Object Selection** tool  to select an object.
- 2 Click and drag the rotation handle.

Note: To change the center of rotation, press **Ctrl** while clicking and dragging the rotation pivot point to a new location.

Making Vector Objects the Same Size

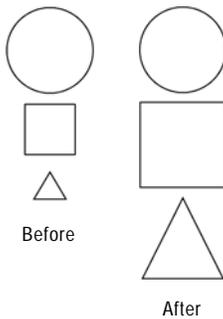
You can make all objects you select the same height, width, or both. The dimensions of the first object selected are used for resizing.

To make vector objects the same size:

- 1 On the Tools toolbar, choose the **Object Selection** tool .
- 2 Click the first vector object. The first object controls how all the other selections will be resized.
- 3 Press the **Shift** key and click the objects that you want to resize.
- 4 On the Tool Options palette, choose a **Make Same Size** option:
 - **Make Same Height** 
 - **Make Same Width** 
 - **Make Same Width and Height** 

Note: All these commands are also available by choosing **Objects > Make Same Size**.

Same Size Both



Editing Paths and Contours

To fine-tune or completely transform vector objects, edit their nodes, contours, and paths. For more detail on paths and contours see, “The Anatomy of a Vector Object” on page 321. For more detail on types of nodes, see “Editing Nodes” on page 351.

Note

All of the commands in the Objects menu appear in a context menu that opens when you right-click on objects, contours, or nodes.

To edit a contour:

- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, select **Edit** .
- 3 Click on a contour, then double-click one node to select all nodes.
- 4 Choose **Objects > Edit** and select a command:
 - Cut** Removes the selected contour to the Windows clipboard. If the object has only one contour, the command removes the entire object.
 - Copy** Copies the selected contour to the Windows clipboard.
 - Paste** Pastes a cut or copied contour into the current object.
 - Delete** Deletes the selected contour.
 - Select All (Ctrl+A)** Selects all nodes in the path.
 - Select None (Ctrl+Shift+A)** Deselects any selected nodes.
 - Invert Selection (Ctrl+I)** Selects all deselected nodes and deselects all selected nodes.

To delete a contour:

- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, select **Edit** .
- 3 Click on a contour, then double-click one node to select all nodes.
- 4 Press **Delete** or choose **Edit > Clear**.

Note: You cannot delete a path. A path is deleted with its object or when all its contours are deleted.

To move a path:

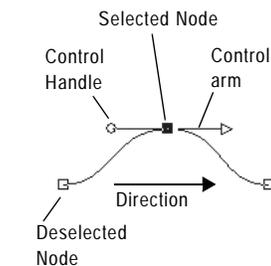
- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, select **Edit** .
- 3 To select the path, click on any contour in the path.
- 4 To move all the contours in the object (the path), click and drag any contour.

To move a contour:

- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, select **Edit** .
- 3 Do one of the following:
 - Hold down **Shift** and move the cursor over the contour. The cursor will display “SUB.” Click and drag the contour.
 - Click on a contour or path, then double-click one node to select all nodes. Click and drag one of the nodes.

Editing Nodes

Components of a Node



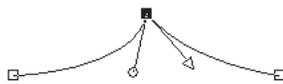
Symmetrical Node



Asymmetrical Node



Cusp Node



Smooth Node



The Anatomy of a Node

A *node* is a point on a contour that defines the contour's shape at that point. The Nodes have zero, one, or two control arms extending from them. The length and direction of the control arms determine the shape of the contour at the node. Click on the control handles to adjust control arms. The straight or curved line between two nodes is a line segment.

Node Types

Symmetrical Choose this type to create a smooth flowing curve from one side of the node to the other. Any adjustments to one control arm are mirrored by the other.

Asymmetrical Choose this type to obtain a different amount of curve on each side of the node, but still keep a smooth flow through the node. You can independently adjust the length of each control arm, but not the direction.

Cusp Choose this type for nodes that have extreme changes in direction. You can adjust the length and direction of each control arm independently.

Smooth Choose this type of node to create a smooth transition between straight and curved line segments.

Selecting Nodes

To select one or more nodes:

- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, select **Edit** .
- 3 Click a vector object. The object becomes an outline with nodes.
- 4 Do any of the following:
 - To select one node, click the node.
 - To deselect a node, press shift click the node.
 - To select multiple nodes, press **Shift** and click each node. Or, click and drag a rectangle over the nodes.

- To select all nodes on a contour, double-click one node. If the object has only one contour, this selects all nodes in the path.
- To select all nodes in a path (all nodes in the object), press **Ctrl + A** or right-click and choose **Edit > Select All** from the context menu.
- To select the next or previous node on a contour, press **Shift** and press an arrow key.

Note: Start or end nodes are easy to find. The cursor will display “START,” “END” when it is over the node. If the shape is closed, the cursor will display “CLOSE.”

Node moving tips:

While you drag a node you can constrain its line segments to 45 degree increments. Hold down **Shift** to constrain the previous segment.

Moving Nodes

Moving a node alters the shape of a vector object. If an object has more than one contour, move a contour by moving all of its nodes. Move the path to move the entire object.

To move a node:

- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, select **Edit** .
- 3 Click and drag a node to a new position or press the arrow keys.

Note: To move multiple nodes, select them and click and drag a selected node.

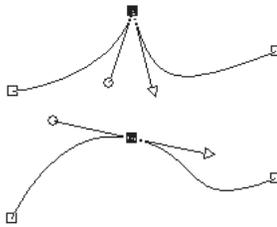
Changing Curves and Lines

You can adjust the shape of the contour at a node by changing the node type, adjusting the node's control arms or changing the line segments.

Changing Node Types

For example, to soften a sharp corner, change a cusp node to a symmetrical node.

From Cusp to Symmetrical



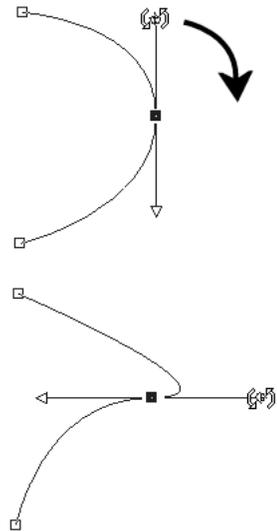
To adjust a curve by changing the node type:

- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, select **Edit** .
- 3 Select a node.
- 4 Do one of the following:
 - Choose **Objects > Node Type** and select a node type:
 - Asymmetrical (Ctrl+Shift+S)**
 - Symmetrical (Ctrl+S)**
 - Cusp (Ctrl+U)**
 - Smooth**
 - Right-click on the node, choose a **Node Type** from the context menu.

Adjusting Nodes with Control Arms

The length and direction of a node's control arms determines the shape of the contour at the node. The arrow control handle indicates the direction of the contour.

Adjusting Control Arms



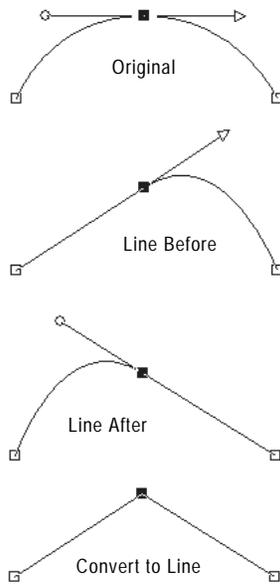
To adjust a curve using control arms:

- 1 Select a node to display its control arms.
- Note:** Cusp nodes may have no control arms.
- 2 Move the cursor over a control handle until the cursor changes to two rotating arrows, and then click and drag the handle.
- Note:** To constrain the control arms to fixed angles (45 degree increments), press and hold **Shift** as you drag.

Changing Line Segments

Instead of changing node types, you can simply tell Paint Shop Pro what type of line segment you want on each side of the node. You can also convert line segments from curved to straight. The line segment type and node type work together. For example, when you add a straight line before or after a symmetrical curve, the node type changes to asymmetrical.

Changing Line Segments



To change the line segment before or after a node:

- 1 Select a node.
- 2 Do one of the following:
 - Choose **Objects > Node Type** and select an option:
 - To straighten the segment before *and* after a node, choose **Convert to Line. (Ctrl+L)**.
 - To straighten the segment before *or* after a node, choose **Line Before (Ctrl+B)** or **Line After (Ctrl+F)**.
 - To curve the segment before or after a node, choose **Curve Before (Ctrl+1)** or **Curve After (Ctrl+2)**.
 - Right-click the node and choose a **Node Type** from the context menu.
- 3 Make a selection:

Note: You can also access these commands by choosing **Objects > Node Type**.

To straighten a curve between two nodes:

- 1 Select two consecutive nodes.
- 2 Right-click one node and choose **Node Type > Convert to Line** from the context menu.

Adding or Removing Nodes on a Contour

To create more options for editing the shape of a vector object, add, delete, or merge nodes anywhere along the path of a vector object.

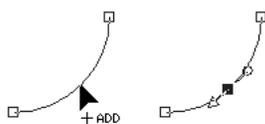
Adding Nodes

You can add nodes in all three modes of the Pen tool.

To add nodes on a contour (Drawing and Edit Modes):

- 1 From the Tools toolbar, select the **Pen tool** .
- 2 From the Tool Options palette's Mode section, select **Edit** .
- 3 Click the contour you want modify.
- 4 Press and hold **Ctrl** as you move the cursor over the contour to where you want to add a node. The cursor displays “+ADD.”

Adding Nodes in Drawing or Edit Modes

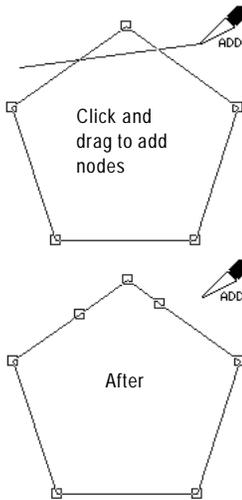


- 5 While continuing to press **Ctrl**, click the line. A symmetric node is added.

To add nodes on a contour (Knife Mode):

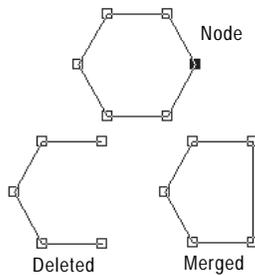
- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, select **Knife** .
- 3 Click the contour you want to modify.
- 4 Press and hold **Ctrl**. The cursor changes from “CUT” to “ADD.”
- 5 Click and drag the cursor across the contour where you want to add nodes.

Adding nodes in Knife Mode



To add a new start or end node:

- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette, select the segment type you want to use (Line, Bezier, or Freehand).
- 3 Select the start or end node of the contour.
- 4 Click to draw another node, the contour automatically connects to the new node.
- 5 Do one of the following:
 - Continue drawing new nodes.
 - To edit the nodes or contour, select **Edit** .
 - To finish the changes, choose another tool.

Deleting vs. Merging

Deleting or Merging Nodes

Merging nodes on a contour removes the nodes from the contour, but retains the line segments on each side. The line segments are combined into one line segment between remaining nodes. If the contour is curved at the node, Paint Shop Pro attempts to retain the curve.

Deleting a node on a contour removes the node and line segments on each side. If you delete a node in the middle of an open contour, the vector object becomes two separate contours. If you delete a node in a closed contour, the contour opens.

To merge one or more nodes:

- 1 Select the node you want to merge.
- 2 Merge the node in one of these ways:
 - Choose **Objects > Edit > Merge (Ctrl + M)**.
 - Right-click on the node and choose **Edit > Merge** from the context menu.
 - Press **Ctrl**, move the cursor over the node until “MERGE” displays, and then click the node.

To delete a node and its line segments:

- 1 Select the node you want to delete.
- 2 Do one of the following:
 - Press **Delete**.
 - Right-click and choose **Edit > Delete** from the context menu.
 - Choose **Objects > Edit > Delete**.

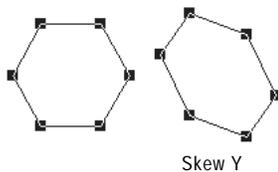
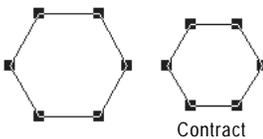
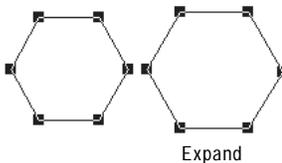
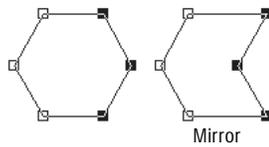
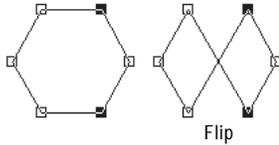
Note: To delete one line segment, break the path at one node of the line segment, and then delete the new node that is created. For information on breaking paths, see “Breaking Contours” on page 341.

Transforming Nodes

You can change the shape of a contour by manipulating its nodes in a variety of ways, such as flipping, mirroring, and rotating.

Transform nodes using the Object menu commands or the Tool Options palette.

Transforming Nodes



Using the Object Menu to Transform Nodes

The Objects menu will transform selected nodes using the current settings for each transformation command.

To transform nodes with the current settings:

- 1 Select the nodes you want to transform.
- 2 Choose **Objects > Transform Selected Nodes** and choose a command:

Flip (Ctrl+Shift+F) Moves selected nodes along the vertical axis—those on top go the bottom and vice versa. Applied to a single node, the control arms (if any) will flip.

Mirror (Ctrl+Shift+M) Moves selected nodes along the horizontal axis—those on the left go to the right and vice versa. Applied to a single node, the control arms (if any) will mirror.

Rotate Rotates the selected nodes by the current rotation setting. Applied to a single node, the control arms (if any) will rotate.

Skew X Moves selected nodes to the left or right (along the horizontal axis) using the current skew setting.

Skew Y Moves selected nodes to the left or right (along the vertical axis) using the current skew setting.

Contract (F8) Moves the selected nodes closer to each other by the current contraction setting. Cannot be applied to a single node.

Expand (F9) Moves the selected nodes away from each other by the current expansion setting. Cannot be applied to a single node.

Using the Tool Options Palette to Transform Nodes

You can set and apply transformations to selected nodes from the Pen tool's Tool Options palette.

To adjust and apply transformation settings:

- 1 From the Tools toolbar, select the **Pen** tool .
- 2 From the Tool Options palette's Mode section, select **Edit** .
Note: You may need to click the More button  to view all the options in the Tool Options palette.
- 3 Select the node(s) to transform.
- 4 From the Tool Options palette select a transform function:
 - Expand**  Sets the number of pixels to expand nodes.
 - Contract**  Sets the number of pixels to contract nodes.
 - Skew X**  Sets the number of pixels to skew nodes on the horizontal axis.
 - Skew Y**  Sets the number of pixels to skew nodes on the vertical axis.
 - Rotate** Sets the degrees nodes will rotate.
- 5 Type a value for the selected transformation setting.
- 6 Click **Apply** .



CHAPTER 14

Working with Layers

Layers are fundamental to creating and editing images in Paint Shop Pro. Use layers to add elements to your images, create artistic effects and illustrations, and make editing images easier. You can add or delete layers, rearrange their stacking order (the order from top to bottom), and blend their pixels in a variety of ways. Unless you merge the layers, each layer remains independent; you can edit it without affecting the others.

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Using the Layers palette	385

About Layers

Ways to use layers

For descriptions of the many tasks you can accomplish with layers, check out these sections:

- “Using Layers with Photographic Images” on page 364
- “Using Layers with Illustrations” on page 365

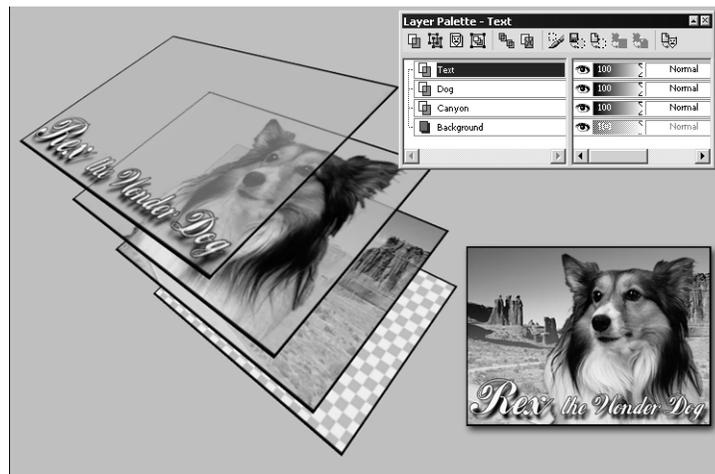
When you create or import an image in Paint Shop Pro, the image has a single layer. Depending on the type of image you created or imported, you'll see in the Layers palette that the single layer may be labeled Background (this is case when opening images such as photos or screen captures), Raster, Vector, or Art Media.

For most simple image retouches and corrections, you do not have to add any layers. However, it's generally a good habit to simply duplicate the layer (by clicking the **Duplicate Layer** button  in the Layers palette toolbar) before applying actions such as the photo correction commands. By applying any changes to the duplicated layer, you'll always preserve the original image on its own layer. And when you intend to do more complex work such as add elements to the image, create photo compositions, add text and other effects, etc., it's highly encouraged that you utilize layers for these tasks.

Each layer that you add begins as a transparent sheet over the background. As you add brush strokes, vector objects, or text, you cover up parts of the Background layer. Transparent parts allow you to see through to underlying layers. You can stack up multiple layers to create whatever effect you'd like—such as artistic compositions, photo collages, or complex illustrations.

In the following illustration, each image is on a separate layer. The background layer is transparent.

Creating image compositions with layers



Types of Layers

Raster and vector data

For more information on raster and vector data, see “About Raster and Vector Graphics” on page 35.

There are six types of layers: Background, Raster, Vector, Art Media, Mask, and Adjustment. The icon before the layer name on the Layers palette shows the type of layer. In addition, you can create layer groups, and promote selections to layers. Paint Shop Pro supports up to 500 layers. The actual number of layers allowed in an image may be limited by the amount of memory in your computer

Note: Only greyscale and 16 million color images can have multiple raster layers. Images of any color depth can include multiple vector layers.

Background Layer

Background layer or not?

Paint Shop Pro supports transparency on layers other than the background. To create an image without transparent areas, choose a solid colored background. The image will contain a background layer as the bottom layer.

To create a new image with transparent areas, choose a transparent background. The image will contain a raster layer as the bottom layer.

For more information on creating new images, see “Creating Images” on page 35.

The background layer  is the bottom layer of an image. It is named “Background” on the Layers palette and cannot be renamed. When you import file formats such as JPEG, GIF, or PNG into Paint Shop Pro, they are one layer—the background layer.

The background layer contains raster data but cannot display transparency. You cannot change its order in the stack, its blend mode, or its opacity.

To move a background layer higher in the stacking order, promote it to a regular raster layer; see “Promoting a Background Layer to a Regular Raster Layer” on page 367.

If you create a new image with a transparent background, it does not have a background layer and its bottom layer is a raster layer named “Raster Layer 1”. You may move this layer anywhere within the stacking order, or change its opacity or blend mode.

Raster Layers

How many layers?

Paint Shop Pro supports up to 500 layers. The actual number of layers allowed in an image may be limited by the amount of memory in your computer.

Raster layers  are layers with raster data only. Raster data is composed of individual elements, called pixels, arranged in a grid. Each pixel has a specific location and color. Photographic images are composed of raster data. If you magnify raster data, you can see the individual pixels as squares of colors.

Use raster layers for displaying subtle changes in tones and colors. Or, use raster layers for objects and raster text on which you want to apply raster-only commands and tools. The effects commands, the painting tools, and many other tools apply only to raster layers.

Color depth

Only greyscale and 16 million color images can have multiple raster layers. Images of any color depth can include multiple vector layers.

Raster data must be on raster layers (a regular raster layer or the background layer). If you try to use a raster tool while a vector layer is selected, Paint Shop Pro prompts you to convert the vector layer into a raster layer.

Vector Layers

Vector layers  are layers with only vector objects (lines and shapes), vector text, or vector groups. Vector objects and text are composed of geometric characteristics—lines, curves, and their locations. When you edit vector objects and text, you edit these lines and curves, rather than editing individual pixels. Vector graphics and vector text maintain their clarity and detail when scaled to any size or printed at any resolution.

Use vector layers to create objects or text that you can easily edit. To display the names of vector objects on a vector layer, click the plus sign in front of the layer name on the Layers palette.

Vector objects must be on vector layers. If you create a vector object while a raster layer is selected, Paint Shop Pro creates a vector layer just above the current layer. In addition, you cannot move a vector layer to a non-vector layer.

Art Media Layers

Art Media layers  are automatically created when you begin using any of the Art Media tools. In this regard, the layer-creation functionality is similar to the vector tools.

You can also create a new Art Media layer by choosing **Layers > New Art Media layer**.

Art Media layers can be converted to Raster layers, but not Vector layers.

Dry and Wet Art Media Layers

Paint strokes applied by the Oil Brush and Palette Knife are, by default, wet in terms of how strokes interact with other strokes by smearing/mixing together. You can, however, choose to dry the Art Media layer at any time. Conversely, you can choose to make a dry Art Media layer wet again:

- Choose **Layers > Dry Art Media layer** (or right click on the Layers palette and choose **Dry Art Media layer** from the context menu) to dry the strokes applied by the Oil Brush or Palette Knife.

- Choose **Layers > Wet Art Media layer** (or right click on the Layers palette and choose **Dry Art Media layer** from the context menu) to make dried Oil Brush or Palette Knife strokes wet again.

Note: Both the Dry Art Media layer command and the Wet Art Media layer command can be selectively undone in the History palette.

New Images with an Art Media Layer

When creating a new image via the New Image dialog, you can choose to create the image with an Art Media layer. Choose the **Art Media Background** option in the New Image dialog's Image Characteristics section.

Adjustment Layers

Adjustment layers are correction layers that adjust the color or tone of underlying layers. Each adjustment layer makes the same correction as an equivalent command on the Adjust menu, but does not change image pixels like the command does.

Adjustment layers cannot be the bottom layer. You will not be able to delete other layers if deleting them causes an adjustment layer to become the bottom layer. For more information, see “Using Adjustment Layers” on page 382.

Saving multi-layer images

When you create multi-layer images, you must save them in the PspImage format (Paint Shop Pro's native format) to maintain all layer information.

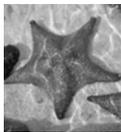
When you save to most other formats, all layers are merged into one background layer. When you save to .PSD (PhotoShop) format, the image maintains raster and adjustment layers, but vector layers are converted to raster layers.

Mask Layers

Mask layers  show or hide portions of underlying layers. A mask is basically an adjustment layer that modifies opacity. Use masks to create sophisticated effects. For example, mask all details around the main subject in a photograph, or use a mask to create a picture frame that fades away at the center to reveal the subject.

Mask layers cannot be the bottom layer. You will not be able to delete other layers if deleting them causes a mask layer to become the bottom layer. For more information, see Chapter 15, Working with Masks.

Original photographs and the resulting photo collage



Using Layers with Photographic Images

When you open a digital photograph or scanned image in Paint Shop Pro, the image is on the background layer. For most photographic enhancements, such as cropping, correcting colors, or retouching, you can work on this background layer without ever adding another layer.

However, there are many ways to use layers with your photographic images to make changes easier and create interesting effects:

Task	How to Do It with Layers
Preserve the original image before making changes.	Make a duplicate copy of the background layer (choose Layers > Duplicate). Turn off the visibility of the background layer (click the layer's Visibility button ) and make all changes to the duplicate layer.
Make color and tonal corrections.	Use adjustment layers instead of changing the image directly. For more information, see "Using Adjustment Layers" on page 382.
Add text or graphics.	Add them as vector objects to a new vector layer. (If you add them to the raster layer with the image, you must add them as raster data and they'll be difficult to edit.)
Create interesting effects.	Duplicate the background layer, apply an effect to the duplicate, and then change the opacity or blend range of the modified layer to blend the two layers.
Create a photo collage.	Place each photograph on a separate layer. (For each image, choose Edit > Copy to copy the image, select the collage image, and choose Edit > Paste as New Layer . Position each layer with the Move tool. Use each layer's opacity setting and blend mode to control how much of each layer shows through. Use a mask to hide parts of a layer or create soft edges around a layer.

Task	How to Do It with Layers
Create a panoramic photograph.	<p>Take a series of photographs with overlapping subject matter, then stitch the photographs together using layers.</p> <p>Create an image with a canvas large enough to display the panorama, then copy each photograph onto a separate layer. Decrease the opacity of one layer to see though it as you use the Move tool to match up the edges of the other photograph. Do this with each layer, then return the layers to 100 percent opacity.</p>

Using Layers with Illustrations

Layers are invaluable for illustrations. Here are some of the many ways to use layers:

Individual layers and the final illustration



Task	How to Do It with Layers
Make changes easier.	Create individual components on separate layers to make them easy to edit together. For example, if you have an illustration of a car speeding down a highway in the mountains, create the car, the driver, the highway, and the mountains on separate layers.
Move multiple layers together on the image canvas.	Link or group layers that need to move together. For example, link the car and the driver in this example so that when you move the car to the left, the driver moves too.
Edit graphical elements.	Create objects you need to fine-tune or edit as vector objects on vector layers.
Apply raster-only commands and effects to vector objects.	Create a new layer with raster copies of the vector objects. To do this, duplicate the vector layer and then convert it to a raster layer. Turn off the visibility of the vector layer.
Experiment with changes.	Make a copy of a layer and try out changes. Turn the visibility of a layer off and on to see which works best in the overall image.
Save work-in-progress.	Keep a copy of the intermediate steps of transformations, then turn off the visibility of those layers. If you need to go back a few steps at a later date, you've got the data.

Adding New Layers to Images

Color depth

An image must be grayscale or 16 million color to create adjustment layers or more than one raster layer. If you have an image of another color depth, Paint Shop Pro prompts you to convert it to 16 million colors when you try to add a new adjustment or raster layer.

Alternative ways to create new layers

For all layer types, place the cursor over a layer name on the Layers palette, and then right-click and select the new layer type from the context menu.

To create a layer with default layer properties, press **Shift** and click one of the new layer buttons on the Layers palette: **New Raster Layer**, **New Vector Layer**, **New Art Media Layer**, or **New Mask Layer**.

There are many ways to add layers to images. Create a new layer, promote the background to a regular layer, duplicate an existing layer, or make a selection and turn it into a layer.

Creating New Layers

Create new layers to use for placing new elements in your images.

To create a new layer:

- 1 On the Layers palette, click the layer which you want to add a layer above.
- 2 Do one of the following:
 - To create a new raster layer, click the **New Raster Layer** button  or choose **Layers > New Raster Layer**.
 - To create a new vector layer, click the **New Vector Layer** button  or choose **Layers > New Vector Layer**.
 - To create a new Art Media layer, click the **New Art Media Layer** button  or choose **Layers > New Art Media layer**.
 - To create a new mask layer, click the **New Mask Layer** button  or choose **Layers > New Mask Layer > Show** or **Hide**. For information on mask show or hide layers, see “Creating New Mask Layers” on page 392.
 - To create a new adjustment layer, choose **Layers > New Adjustment Layer** and choose a type of adjustment layer. For information on adjustment layers, see “Using Adjustment Layers” on page 382.
- 3 Edit the layer properties as desired and click **OK**. For more information, see “Editing Layer Properties” on page 368.

The new layer is added above the active layer. It is named with the type of layer and a number, such as “Vector Layer 1.” To rename the layer, see “Renaming Layers” on page 368.

More about background layers

For more information, see "Background Layer" on page 361.

Copying all layers to another image

Use the Browse window to copy all layers of an image into another image.

For more information, see "Copying One Image into Another Using the Browser" on page 162.

Promoting a Background Layer to a Regular Raster Layer

When you want the background layer to function like a regular raster layer, promote it to a layer. Unlike the background layer, raster layers support transparency and can be moved anywhere within the stacking order.

To promote a background layer:

Choose **Layers > Promote Background Layer**, or right-click on the layer and select **Promote Background Layer** from the Layers context menu.

Duplicating Layers

Duplicate a layer within an image to use as a starting point for a new layer, or to try out edits and effects while keeping the original layer intact. Or, copy a layer to another image.

To duplicate a layer within the same image:

Do one of the following:

- Click its name on the Layers palette, then choose **Layers > Duplicate**.
- Right-click its name on the Layers palette, then choose **Duplicate** from the context menu.
- Click its name on the Layers palette, choose **Edit > Copy** to copy the layer, and then choose **Edit > Paste > As New Layer**.

The duplicated layer is added just above the current layer.

To copy a layer to another image:

Do either of the following:

- On the Layers palette, click and drag the name of the layer or layer group onto an open image, and then release the mouse button. Paint Shop Pro adds the layer above the selected layer of the second image.
- On the Layers palette, click the name of the layer or layer group that you want to copy, choose **Edit > Copy**, select the image to copy to, and then choose **Edit > Paste > As New Layer**. The layer is pasted to the center of the canvas.

How to start a new vector layer with a vector selection

Use the Object Selection tool to select one or more vector objects, choose **Edit > Copy** to copy the object(s), and then choose **Edit > Paste > As New Layer**.

Cleaning up selection edges

When you promote a selection, some of the pixels surrounding the selection border may be included, especially when the selection is anti-aliased or feathered. Use the Matting commands to clean up the border by removing these pixels.

To clean up a selection before you copy or promote it, see “Cleaning Up the Edges of a Selection” on page 209.

To clean up a layer created from a selection, see “Cleaning up the Edges of Layers Created from Selections” on page 381.

Creating Raster Layers from Selections

Use the Selection menu’s **Promote Selection to Layer** command to promote a selection to a layer. Use the Selection, Freehand Selection, or Magic Wand tool to make a raster selection of raster or vector data. The new layer is always a raster layer.

You can also copy a raster selection and paste it as a new layer.

To create a raster layer from a selection:

- 1 Use the Selection, Freehand Selection, or Magic Wand tool to make a selection on the image.
- 2 Do one of the following:
 - Choose **Selections > Promote Selection to Layer**. The new layer is named Promoted Selection.
 - Choose **Edit > Copy** to copy the selection, and then choose **Edit > Paste > As New Layer**. The new layer is named Raster plus a number (Raster 1).

Editing Layer Properties

Layer properties are everything you see on the Layers palette: the name, layer grouping and linking, layer opacity, blending, transparency protection, and layer icon highlight colors. To change properties, double-click a layer name to display the Layer Properties dialog or make changes in the right panel of the Layers palette. For information about editing an adjustment layer, see “Editing an Adjustment Layer” on page 384.

Renaming Layers

As you add layers to an image, you may find it convenient to rename the layers so they are easy to identify on the Layers palette.

Alternative way to rename

Double-click the layer name to display the Layer Properties dialog and enter a new name in the **Name** edit box.

To rename a layer:

- 1 On the Layers palette, right-click the name of the layer and choose **Rename** from the context menu.
- 2 Type the name and press **Enter**.

Showing and Hiding Layers, Groups, and Vector Objects

Use the Visibility toggles on the Layers palette to make layers, layer groups, or vector objects visible or invisible in the image. These items remain in the image but are hidden. When a layer is visible, the Visibility toggle displays . When a layer is hidden, the Visibility toggle displays .

Original image, and image with all layers but one made invisible

**To show or hide individual layers and layer groups:**

Do one of the following on the Layers palette:

- Click the **Visibility** toggle for each layer or Layer Group you want to show or hide.

Note: Hiding a layer group hides all of the layers within that group.
- To show one layer only, right-click a layer name and choose **View > Current Only** from the context menu.

To show all layers:

Choose **Layers > View > All**, or right-click a layer name and choose **View > All** from the context menu.

To invert which layers are shown or hidden:

- Right-click a layer name and choose **View > Invert** from the context menu. All previously visible items become invisible and all invisible items become visible.
- Right-click the layer name of a linked group and choose **View > Invert** from the context menu.

To show or hide vector objects:

On the Layers palette, click the **Visibility** toggle for each vector object you want to show or hide.

Modify that layer group

Here are some of the possible ways to modify a layer group:

- Edit its layer properties, such as its opacity and blend mode. See “Editing Layer Properties” on page 368.
- Drag it to a new position in the image’s stacking order. All of its layers move too.
- Rename it. See “Renaming Layers” on page 368.
- Delete it—Paint Shop Pro deletes all of its layers too. See “Deleting Layers or their Contents” on page 381.

How to add a layer to the bottom of a layer group

Drag the layer to the second-to-bottom position. Then drag the bottom layer up.

Grouping Layers

Create layer groups to group multiple layers together. Layer groups allow you to do the following:

- Organize the Layers palette.
- Set layer properties, such as opacity and blend mode, for the whole group.
- Limit the effect of adjustment layers to layers below them in a group rather than in the entire image.
- Move all grouped layers in the stacking order by clicking and dragging the layer group name.
- Move layers together on the image canvas—if the group is linked. (Otherwise grouped layers move independently.) For more information, see “Linking Layers and Layer Groups” on page 371.

Layer groups can contain raster, vector, mask, and adjustment layers, and must contain at least one layer. Layer groups can also contain other layer groups (called nested groups). If you move all of the layers out of a layer group, Paint Shop Pro deletes the layer group.

Note

- Adjustment and mask layers cannot be the bottom layer.
- Vector objects cannot be moved from their layer group.

To create a layer group:

- 1 On the Layers palette, click the first layer to be in the layer group.
- 2 Do one of the following:
 - On the Layers palette, click the **Layer Group** button .
 - Choose **Layers > New Layer Group**. The Layer Properties dialog opens. Make changes as necessary and click **OK**.
 - Choose **Layers > Arrange > Move Into Group**.

The layer group is created, and the selected layer becomes part of the layer group. By default, the layer group is named Group with a number (for example, Group 1).

- 3 To add a layer to the layer group, click its name and drag it into the layer group. A black line shows the position until you release the mouse button.

Note: You can also add a layer group within a layer group (called a nested group).

To remove a layer from the group:

Drag the layer to a new position outside the layer group, or choose **Layers > Arrange > Move Out of Group**.

To ungroup layers:

Select the layer group that you want to ungroup, and then choose **Layers > Ungroup Layers**.

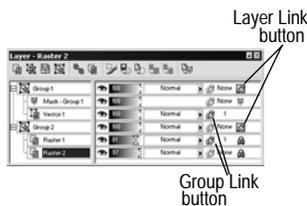
Linking Layers and Layer Groups

Use layer linking to have layers move together on the image canvas when you move one layer with the Move tool. To link individual layers, use the Layer Link button on the Layers palette. By default, this button says “None.” Change each layer that you want to link to the same number, say “1” or “2.” Left-click to increase the number; right-click to decrease it.

Use group linking to have all layers within a layer group move together on the image canvas. The Group Link button on the Layers palette displays a blue icon  when the group is linked or a grey icon  when the group is not linked.

Layer links take precedence over group links. For example, Layer Group 1 is linked and contains Layer1, Layer2, and Layer3. Layer1 is set to link number 1. Layer4 (outside of the layer group) is also set to link number 1. If you move Layer4, Layer1 will move. If you move Layer2, Layer1 will not move.

An image with a linked group and linked layers



Layer Link button

Group Link button

To link layers:

For each layer you want to link, change its link set number to the same number. Do either of the following on the Layers palette:

- Left-click the **Layer Link** button  to increase the number. Right-click the **Layer Link** button to decrease the number.
- Double-click each layer name to display the Layer Properties dialog, change the **Link Set** number, and then click **OK**.

Does linking affect the stacking order?

No. Linking affects only movements within the image canvas using the Move tool.

The only way to move layers together in the stacking order is to group them. When you move a group layer in the stacking order, all layers move (regardless of whether the group is linked or not).

To unlink layers:

For each layer you want to remove from the link set, do either of the following on the Layers palette:

- Left-click or right-click the **Layer Link** button until it displays **None**.
- Double-click the layer name to display the Layer Properties dialog, change the **Link Set** number to 0, and then click **OK**.

To link or unlink layer groups:

Do either of the following on the Layers palette:

- Click the **Group Link** button . A grey button means the group is unlinked.
- Double-click the layer name to display the Layer Properties dialog, mark or clear the **Group is Linked** check box, and then click **OK**.

Changing Opacity of Layers

To create interesting effects, vary the opacity of a layer from the default of 100 percent (fully opaque) down to 0 percent (transparent). When a layer is partially transparent, layers below it show through.

To change the opacity of all layers within a layer group, set the opacity of the layer group.

The Opacity setting of the Layers palette displays the opacity of each layer. The overall opacity of a layer and the opacity of individual pixels are independent of each other. For example, if a pixel starts at 50% opacity and the layer is set to 50% opacity, the pixel will appear 25% opaque. If the layer is also in a layer group that is set to 50% opacity, then the pixel opacity will be 12.5% opaque.

To set the opacity of a layer or layer group:

- 1 On the Layers palette, click the name of the layer.
- 2 Do one of the following:
 - Drag the Opacity slider  to the desired percentage.
 - Double-click the layer name to display the Layer Properties dialog, change the **Opacity** setting, and click **OK**.

Blend modes: Normal, Darken, Luminance, and Dissolve



Color depth and layers

The Hue, Saturation, Color, and Luminance blend modes are available only for 16 million color images.

The Multiply, Screen, Difference, and Exclusion blend modes produce the same result no matter how layers are ordered within the Layers palette.

Blending Layers

Create interesting effects by changing the way pixels of one layer blend with pixels of underlying layers. Paint Shop Pro contains a variety of blend modes that specify how it blends pixels. The image displays the blended pixels, but layers are not actually combined.

By default, each layer has a blend mode of Normal, which blends pixels based on the opacity of the selected layer. The pixels of the selected layer are blended with the combination of all underlying layers, not just the layer directly beneath it.

To limit the pixels that the blend mode affects, set the blend range. See “Setting Blend Ranges” on page 376.

To set the blend mode of a layer:

On the Layers palette, click the **Blend Mode** drop-down list of the layer you want to set and select the blend mode from the list. For descriptions of the blend modes, see “About Blend Modes” below.

About Blend Modes

The table describes each of the blend modes. In the table, “selected layer” refers to the layer for which you are setting the blend mode.

Note

Several of the blend modes have been enhanced, the transfer of color channels has been improved. These blend modes may not be compatible with other applications. Use the Legacy blend modes for compatibility with other applications.

Blend Mode	Result
Normal	Displays pixels of underlying layers based on the opacity of pixels on the selected layer. If data is fully opaque, no pixels show through. As the opacity decreases, more pixels from underlying layers show through.
Darken	Displays pixels in the selected layer that are darker than the underlying layers. Pixels lighter than the underlying layers disappear.
Lighten	Displays pixels in the selected layer that are lighter than the underlying layers. Pixels darker than the underlying layers disappear.

Blend Mode	Result
Hue	Applies the hue of the selected layer to the underlying layers (without changing the saturation or lightness). This blend mode was introduced in Paint Shop Pro 8, and is an improvement on the original Hue blend mode (Hue (Legacy)).
Hue (Legacy)	This blend mode was first introduced in version 5 of Paint Shop Pro, and functions similarly to the Hue blend mode. It is retained for the sake of compatibility with older versions of Paint Shop Pro.
Saturation	Applies the saturation of the selected layer to the underlying layers (without affecting the hue or lightness). This blend mode was introduced in Paint Shop Pro 8, and is an improvement on the original Hue blend mode (Saturation (Legacy)).
Saturation (Legacy)	This blend mode was first introduced in version 5 of Paint Shop Pro, and functions similarly to the Saturation blend mode. It is retained for the sake of compatibility with older versions of Paint Shop Pro.
Color	Applies the hue and saturation of the selected layer to the underlying layers (without affecting the lightness). This blend mode was introduced in Paint Shop Pro 8, and is an improvement on the original Color blend mode (Color (Legacy)).
Color (Legacy)	This blend mode was first introduced in version 5 of Paint Shop Pro, and functions similarly to the Color blend mode. It is retained for the sake of compatibility with older versions of Paint Shop Pro.
Luminance	Applies the luminance (or lightness) of the selected layer to the underlying layers (without affecting the hue or saturation). This blend mode was introduced in Paint Shop Pro 8, and is an improvement on the original Luminance blend mode (Luminance (Legacy)).
Luminance (Legacy)	This blend mode was first introduced in version 5 of Paint Shop Pro, and functions similarly to the Luminance blend mode. It is retained for the sake of compatibility with older versions of Paint Shop Pro.
Multiply	Combines the colors of the selected layer with the underlying layers to produce a darker color. Multiplying any color with black produces black. Multiplying any color with white leaves the color unchanged.

Blend Mode	Result
Screen	Lightens the colors of underlying layers by multiplying the inverse of the selected and underlying layers. The result is a color that is the same or a lightened version of the selected layer.
Dissolve	Randomly replaces the colors of some pixels on the selected layer with those of the underlying layers to create a speckled effect. The selected layer's opacity determines the number of pixels replaced; the lower the opacity, the more pixels that are replaced.
Overlay	Combines the Multiply and Screen blend modes. If the color channel value of underlying layers is less than half the maximum value, the Multiply blend mode is used. If the color channel value is greater than or equal to half the value, the Screen blend mode is used. The Overlay blend mode shows patterns or colors of the selected layer while preserving the shadows and highlights of underlying layers.
Hard Light	Combines the Multiply and Screen blend modes. If the color channel value of the selected layer is less than 128, the Multiply blend mode is used. If the color channel value is greater than or equal to 128, the Screen blend mode is used. In general, use the Hard Light blend mode to add highlights or shadows.
Soft Light	Combines the Burn and Dodge blend modes. If the color channel value of the selected layer is less than 128, the Burn blend mode is used. If the color channel value is greater than or equal to 128, the Dodge blend mode is used. In general, use the Soft Light blend mode to add soft highlights or shadows.
Difference	Subtracts the selected layer's color from the color of the underlying layers.
Dodge	Lightens the image by having the lightness values of the colors in the selected layer lighten the colors of underlying layers. Light colors produce the most lightening; black has no effect.
Burn	Darkens the image by having the lightness values of the selected layer reduce the lightness of underlying layers.
Exclusion	Creates an effect similar to but softer than the Difference blend mode.

Blend ranges: normal, 50%, 60%, and 75%



Setting the blend ranges



Setting Blend Ranges

In addition to setting the blend mode of a layer, you can set the blend range. This range limits the pixels that the blend mode affects. By default, the blend mode applies to all pixels. Blend ranges set the opacity based on brightness or color channel to drop colors out of the selected layer and make other colors show through.

To set the blend range:

- 1 On the Layers palette, select a layer and set its blend mode. (See “Blending Layers” on page 373.)
- 2 Double-click the layer name to open the Layer Properties dialog.
- 3 Click the **Blend Ranges** tab.
- 4 In the **Blend Channel** drop-down list, select a channel to use when blending layers. Select Grey Channel to have the lightness values of layers determine opacity. Select Red Channel, Green Channel, or Blue Channel to have the respective color values determine opacity.
- 5 Set the opacity ramp for the channel as follows:
 - First, drag the upper arrows to indicate the values at which the opacity is 100 percent.
 - Next, drag the lower arrows to indicate the values at which the opacity is 0 percent.

Note that the values on the left side indicate the ramp up values, while the values on the right side indicate the ramp down values.

For example, in the graphic in the left column, the selected layer’s opacity is 100 percent between lightness values of 43 and 126, and falls off at the lightest and darkest areas.

- 6 Click **OK**.

Paint Shop Pro applies the blend only to the pixels that fall within the range you selected. The right panel of the Layers palette displays the Blend Range icon  to indicate that a blend range is being used.

Protecting Transparent Areas

To apply tools and effects only to areas of a raster layer with data, use the Lock Transparency feature on the Layers palette. Transparent areas remain protected when you paint, apply effects, paste selections, or perform other edits.

Note

This feature applies to raster layers only. You cannot lock the transparency of vector, adjustment, mask, or group layers. Also, background layers do not support transparency.

When transparency is locked, the Lock Transparency button displays . When a transparency is not locked, the Lock Transparency button is grey .

To lock or unlock the transparency:

Do one of the following:

- On the Layers palette, click the **Lock transparency** button of the appropriate raster layer.
- Double-click the layer name to display the Layer Properties dialog, mark or clear the **Lock transparency** check box, and click **OK**.

Setting Icon Highlight Colors

To organize the Layers palette visually, specify the highlight colors for layers and layer groups. The highlight color displays as the background of the icon to the left of the layer or group name. It has no effect on the image itself.

In a layer group, layers that have not been assigned individual highlight colors inherit the color of the parent layer. As an example, use the same highlight color for all layers in layer group and use a different color to highlight other layers or layer groups.

To set the highlight color of an icon:

- 1 On the Layers palette, double-click the name of the layer to open the Layer Properties dialog.
- 2 Mark the **Highlight in Layers palette** check box.
- 3 Do one of the following:
 - To select a new color, click the color box next to the check box. Choose a color and click **OK**.
 - To choose from recently used colors, right-click the color box and click a color.
- 4 At the Layer Properties dialog, click **OK**. The icon now displays the highlight color.

Modifying Layers

Modify layers to change the look of your image. Arrange the stacking order, move layers within the image canvas, merge layers, clean up edges of layers created from selections, or delete layers.

Arranging the Stacking Order of Layers

The arrangement of layers within your image is critical to what the image looks like. If one layer is above another one, that layer's data can cover data below it.

To change the stacking order of layers—which changes the resulting image—move layers on the Layers palette. If a layer or a layer group has components, such as vector objects or grouped layers, all the components move with it.

Moving the background layer

The background layer is always the bottom layer—it cannot be moved.

To change its position, promote it to a raster layer first. See "Promoting a Background Layer to a Regular Raster Layer" on page 367.

To move one layer, layer group, or vector object:

On the Layers palette, click the name of the layer, layer group, or vector object and drag it to a new position. A black line shows the position until you release the mouse button.

When you drag an item, the cursor changes into a hand . If it displays a null symbol , you cannot move the selected item to a particular position. For example: The background layer cannot be moved. There can never be a layer below the background layer. A vector object cannot be moved into a raster layer. Mask and Adjustment layers cannot be at the bottom of an image or a layer group.

To move multiple vector objects:

- 1 On the Layers palette, click the first vector object.
- 2 Press **Shift** and click each additional vector object, or right-click and choose **Select all**.
- 3 Drag the selected objects to a new position. A black line shows the position until you release the mouse button.

Original image, and with one layer moved to the right



Where's the layer?

If you move a layer off the image canvas, you can no longer see it.

To get the data back, press the **Shift** key while dragging it with the Mover tool. Or, increase the canvas size enough so that the layer appears, move it to where you want, then decrease the canvas size again.

Saving flattened images

Many file formats, such as JPEG, GIF, and TIF, do not support multi-layered images. When you save to these formats, Paint Shop Pro merges all layers into a single background layer.

Moving Layers within the Image Canvas

Use the Move tool to move the contents of an entire layer anywhere within the image canvas. If you move part of a layer off the canvas, Paint Shop Pro does not crop it. You can move it back to the canvas, or increase the canvas size to show the additional data.

Note

You cannot use the Move tool on the background layer. To move the contents of the background layer, promote it to a regular raster layer first. See “Promoting a Background Layer to a Regular Raster Layer” on page 367.

To move a layer within the image canvas:

- 1 On the Layers palette, select the layer you want to move.
- 2 On the Tools toolbar, click the **Move** tool .
- 3 Click and drag in the image to move the layer to a new position.
- 4 To limit the Mover tool to the current layer, press and hold the **Shift** key while you click the image and drag the layer.

Merging Layers

Merging layers is also called flattening. You can merge selected layers, or all of the layers in an image. Merging layers decreases the memory requirements for the image. Paint Shop Pro merges layers based on the blend modes, converts vector data and vector text to raster data, and replaces transparent areas of the background layer with white.

Always make a backup copy of the original .PspImage image before you merge layers. Once you merge layers, you cannot edit the layers separately. Unless you are certain you have finished editing the image, it's best not to merge layers.

To merge two layers together:

- 1 Make sure one layer is located directly above the other on the Layers palette.
- 2 Click the name of the layer above the one you want to merge it with.

- 3 Choose **Layers > Merge > Merge Down** to merge the two layers. The following table describes how layer types are merged:

Top Layer	Any layer	Vector	Art Media	Mask	Any Layer	Any Layer
Merged with	Raster	Vector	Background	Mask	Background	Mask / Adjustment
Creates	Raster	Vector	Background	Mask	Background	Not Permitted

To merge all layers:

Choose **Layers > Merge > Merge All (Flatten)** to merge the layers into one background layer.

To merge all visible layers:

- 1 On the Layers palette, click the **Visibility** toggle for each layer that you do not want to merge.
- 2 Choose **Layers > Merge > Merge Visible** to merge all visible layers into a raster layer named Merged. Invisible layers are not affected. The new raster layer, which maintains the transparency information of the original layers, is the active layer.

Note: If a visible layer is in a layer group, only the visible layers in that group will be merged. If the layer group is marked invisible (making all layers within the group invisible), none of the layers within the group will be merged.

To merge all layers in a layer group:

- 1 On the Layers palette, click the layer group, or a layer within the group, that you want to merge.
- 2 Choose **Layers > Merge > Merge Group** to merge all layers in the group into one raster layer.

Cleaning up the Edges of Layers Created from Selections

Color depth

These commands work on 16 million color and greyscale images only. To increase the color depth of an image, see page 261.

When you promote or paste a selection to create a layer, some of the pixels surrounding the selection border are included, especially when the selection is anti-aliased or feathered. The **Layers > Matting** commands clean up the border by removing these pixels.

There are three Matting commands: **Remove Black Matte**, **Remove White Matte**, and **Defringe**.

Use the **Remove Black Matte** or **Remove White Matte** command when the selection came from an image with a black or white background. These commands remove the black or white pixels at the layer edges.

Use the **Defringe** command when the selection came from an image with a colored background. Defringing bleeds non-feathered pixels in the layer edges outward and over the “jaggies” in the feathered part of the layer.

To use a Matting command:

- 1 On the Layers palette, click the name of the layer that was created from a selection.
- 2 Do one of the following:
 - To remove the black matte, choose **Layers > Matting > Remove Black Matte**.
 - To remove the white matte, choose **Layers > Matting > Remove White Matte**.
 - To remove a colored matte, choose **Layers > Matting > Defringe** to open the Defringe dialog. Enter the number of pixels to defringe and press **Enter**.

Using matting on a selection

To clean up the edges of a selection before you promote or copy it, use the **Selections > Matting** commands. See “Cleaning Up the Edges of a Selection” on page 209.

Deleting Layers or their Contents

To remove a layer from an image, delete the entire layer. Or, delete the contents of a layer to keep the layer within the image; raster and vector layers become transparent and the background layer is filled with the current background color and material.

To delete a layer:

- 1 Make sure nothing is selected outside the layer you wish to delete.

- 2 On the Layers palette, click the name of the layer you want to delete.
- 3 Click the **Delete Layer** button on the Layers palette toolbar, right-click and choose **Delete** from the context menu, or drag the layer to the **Delete Layer** button .

To delete the contents of a layer:

- 1 Make sure nothing is selected outside the layer you wish to delete.
- 2 On the Layers palette, click the name of the layer.
- 3 Press the **Delete** key or choose **Edit > Clear**.

Using Adjustment Layers

Adjustment layers are correction layers that adjust the color or tone of underlying layers, without modifying their pixels directly. Choose from these types of adjustment layers: Brightness/Contrast, Channel Mixer, Color Balance, Curves, Hue/Saturation/Lightness, Invert, Levels, Posterize, and Threshold.

All adjustment levels have equivalent commands on the Adjust menu. The advantage of an adjustment layer is that you do not modify the image layers themselves, so it's easier to make quick changes to the color and tonal adjustments. Add adjustment layers to test various color corrections or to see how several corrections look when you combine them. Hide, delete, or edit adjustment layers.

An adjustment layer applies to all layers below it that are at the same level, as follows:

- If the adjustment layer is at the main level (rather than in a layer group), it applies to all layers below it in the stacking order.
- If an adjustment layer is in a layer group, it applies only to layers within the group that are lower in the stacking order.

To add an adjustment layer:

- 1 On the Layers palette, click the layer which you want to create an adjustment layer above.
- 2 To apply the adjustment layer to a selection, make a selection.
- 3 Choose **Layers > New Adjustment Layer** and select the type of adjustment layer.

How to create an adjustment layer that applies to one layer only

Create a layer group with the one layer, and then add the adjustment layer above the layer in the layer group.

A dialog with the name of the adjustment layer opens. The preview windows show the image before and after changes. The **Adjustment** tab shows the color and tonal correction settings to change.

Note: The **General** tab includes layer properties such as layer name, blend mode, and opacity. Change these properties here or on the Layers palette. For more information, see “Editing Layer Properties” on page 368.

- 4 To reset values to default settings, in the **Presets** drop-down list choose **Default**. Or, double-click the adjustment layer to open the Properties dialog, and click the **Reset to Default** button .
- 5 Modify the settings on the **Adjustment** tab, and then click **OK**. The adjustment layer is added just above the previously selected layer.

About Adjustment Layer Types

Chapter 6, Making Color and Tonal Corrections describes in detail each type of adjustment layer. The table shows specific sections to refer to within that chapter.

Type of Correction	Adjustment Layer	For More Information
Adjust color balance	Color Balance	See “Changing the Color Balance of Shadows, Midtones, and Highlights” on page 129.
	Hue/Saturation/Lightness	See “Adjusting the Hue, Saturation, and Lightness in Unison” on page 130.
	Channel Mixer	See “Adjusting the Color Channels” on page 133.
Adjust brightness and contrast	Brightness/Contrast	See “Manually Adjusting Brightness and Contrast” on page 135.
	Curves	See “Adjusting Individual Brightness Values” on page 136.
	Levels	See “Adjusting the Lightness Levels” on page 139.

Type of Correction	Adjustment Layer	For More Information
Reduce or remove colors	Invert	See “Creating Negative Images” on page 144.
	Threshold	See “Creating Black-and-White Images” on page 142.
	Posterize	See “Reducing the Number of Lightness Levels” on page 143.

How to delete an adjustment layer

Delete an adjustment layer just as you do any other type of layer. Click the layer name and then click the **Delete Layer** button on the Layers palette toolbar.

To undo a deletion, click the **Undo** button or press **Ctrl + Z**, or use the History palette.

Editing an Adjustment Layer

Edit an adjustment layer to change the color or tonal correction. Or, change the layer properties such as layer name and opacity.

To edit an adjustment layer:

- 1 On the Layers palette, double-click the name of the adjustment layer that you want to edit. Or, select the layer and choose **Layers > Properties**.
The Layer Properties dialog opens.
- 2 On the **Adjustment** tab, modify the color or tonal correction settings. For detailed information, refer to the appropriate section as listed in “About Adjustment Layer Types” on page 383.
- 3 Click the **General** tab to modify the general layer properties such as layer name, blend mode, and opacity. Change these properties here or on the Layers palette. For more information, see “Editing Layer Properties” on page 368.
- 4 Click **OK**.

Modifying Portions of Adjustment Layers

Sometimes most of an adjustment layer correction works well, but one part of an image doesn’t need all of the correction. One way to solve this challenge is to make a selection in the image and create an adjustment layer for that selection. However, if the image has multiple areas that need different levels of correction, use a more flexible approach of creating one adjustment layer and modifying portions of it.

Adjustment layers are greyscale layers. Use the painting tools to selectively change which parts of the image get the full correction and which parts get partial or no correction.

Adjustment layers contain pixels that can display 256 shades of grey. These grey levels indicate the amount of correction.

- White pixels mean Paint Shop Pro applies the full correction that you specify.
- Black pixels mean Paint Shop Pro applies no correction.
- Grey pixels vary the correction. For lighter greys, Paint Shop Pro applies close to the full correction. For darker greys, Paint Shop Pro applies close to no correction. Middle grey means Paint Shop Pro applies the correction at half strength.

Here are the basics of selectively modifying adjustment layers:

- When you first create an adjustment layer, all pixels in the layer are white (full strength correction).
- If you create an adjustment layer when there is an active selection, all pixels in the selection are white (full strength correction) and all other pixels are black (no correction).
- When you select an adjustment layer, the Material palette displays black, white, and 254 shades of grey as available colors. To modify portions of the adjustment layer, use the painting tools to paint with shades of grey.
- To see what the pixels of an adjustment layer look like, click the Mask Overlay button . Or, position the cursor over the layer name. The layer thumbnail displays the greyscale adjustment layer.

Using the Layers palette

The Layers palette lists all layers in an image. The order of layers on the palette is the order of layers in the image. The top layer is listed first and the bottom layer is listed last. Change this stacking order by dragging a layer to a new position on the Layers palette.

Note

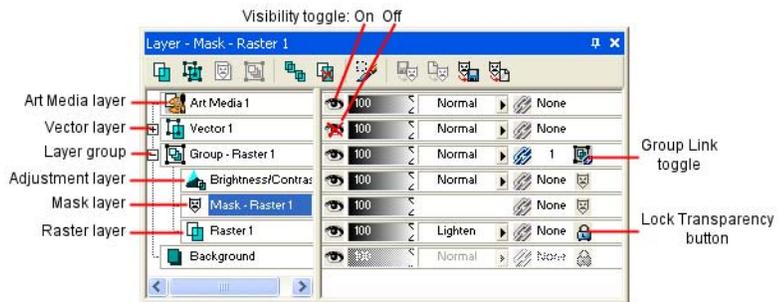
- Adjustment and mask layers cannot be the bottom layer.
- Vector objects cannot be moved from their layer group.

Create layer groups to organize the Layers palette. Link layers or groups so they move together when you use the Move tool in the image.

The left panel of the Layers palette displays the names of layers and layer groups. The icon to the left of each name indicates the type of layer (background, raster, vector, mask, adjustment, group, or floating selection). When there are more layers than the palette can display, use the scroll bars on the right side to move the list of layers up or down.

The right panel of the Layers palette displays options for the layer, including visibility, opacity, blend mode, link set, and lock transparency.

The Layers palette toolbar includes buttons for command tasks, such as adding a new raster or vector layer.



Displaying the Layers palette

Display or hide the Layers palette, or move it anywhere on the screen. For information on moving, docking, and undocking the Layers palette, see “Using Palettes” on page 15.

To display or hide the Layers palette:

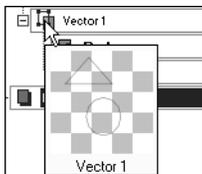
Choose **View > Layers palette** or press **F8**.

Viewing the Contents of Layers

The image window shows all visible layers in the image. To view a thumbnail of a layer’s contents, use the Layers palette.

To turn off or on the visibility of layers in the image window, see “Showing and Hiding Layers, Groups, and Vector Objects” on page 369.

Seeing layer contents



To view the contents of one layer:

On the Layers palette, move the cursor over a layer name to display a thumbnail of the layer contents.

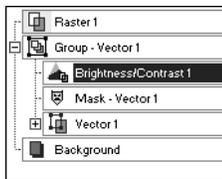
To set the size of the layer thumbnail:

- 1 Choose **File > Preferences > General Program Preferences**.
- 2 Click the **Display and Caching** tab.
- 3 Set the desired thumbnail size by adjusting the **Thumbnail / Preview** size setting in the upper right corner of the tab.

Selecting Layers

When an image has more than one layer, you must select the layer you want to work on. Changes to the image affect only the selected layer (also called the active layer). You can select only one layer at a time.

Selecting a layer



To select a layer:

On the Layers palette, click the name of the layer to highlight the selected layer.

Expanding and Contracting Layers and Layer Groups

The Layers palette displays its components like the “tree” of folders and directories in Windows Explorer. Items that have sub-components have a minus sign in front of them when expanded or a plus sign when contracted.

Expand a vector layer or layer group to see the names of its sub-components. Contract a vector layer or layer group to make the Layers palette easier to navigate.

To expand a layer or layer group:

On the Layers palette, click the plus sign  in front of the vector layer or layer group name.

To contract a layer or layer group:

On the Layers palette, click the minus sign  in front of the vector layer or layer group name.



CHAPTER 15

Working with Masks

A mask is a greyscale image that is applied to a layer. Use mask layers hide and show parts of a layer, fade between layers, and create other special effects. A mask can be created from a selection, from an alpha channel, or an existing image. Masks can completely cover a layer, or cover a layer with varying levels of opacity.

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About Masks

Original and masked images



A mask layer covers parts of another layer completely or with varying levels of opacity. Use masks to fade between layers or to create special effects with precision. For example, mask all details around the main subject in a photograph, or use a mask to create a Web page navigation bar that fades away.

You can create a new mask layer that you can paint on which hides or shows underlying layers. You can also create a mask layer from an image, a selection, or the luminance of an image. In addition, use the sample masks (stored in the Masks folder of the Paint Shop Pro program folder) and apply them as is, or customize them.

Mask layers function similar to other types of layers. Turn the visibility of the mask layer on or off, change the overall opacity of the mask layer, or link the mask layer to other layers. For more information, see “Editing Layer Properties” on page 368.

Mask layers are automatically saved with the image in the .PspImage format. You can also save a mask to an alpha channel or as a separate image file on a disk. For more information, see “Loading Masks” on page 399.

How Masks Affect Underlying Layers

A mask layer applies to all layers below it that are at the same level, as follows:

- If a mask layer is in a layer group, it applies only to layers within the group that are lower in the stacking order.
- If the mask layer is at the main level (rather than in a layer group), it applies to all layers below it in the stacking order.

To change which underlying layers the mask applies to, on the Layers palette drag the mask layer to a new position in the stacking order. For more information, see “Arranging the Stacking Order of Layers” on page 378.

Mask layers can never be the bottom layer in the image or in a layer group.

Color depth

Masks work with greyscale with transparency and 16 million color images only. To increase the color depth of an image, see page 261.

See the contents of the mask layer

To see what the mask layer looks like, position the cursor over the layer name on the Layers palette. A thumbnail displays the greyscale mask layer.

Mask Layers as Greyscale Raster Layers

Masks are greyscale raster layers—they contain pixels that can display 256 shades of grey. Rather than applying grey paint to the image, however, the levels of grey correspond to levels of opacity, or masking. White pixels show underlying layers, black pixels hide underlying layers, and grey pixels show varying amounts of underlying layers. The darker the grey, the more the underlying pixels are masked.

Even though masks are raster layers, you can create masks that hide or show portions of vector layers.

When you select a mask layer, the Materials palette displays black, white, and 254 shades of grey as available colors. Paint on the mask layer to change the visibility of underlying pixels. All tools and commands that work on greyscale raster layers work on masks. For the Pen, Preset Shapes, and Text tools (which can create raster or vector objects), create raster objects on mask layers.

Creating Masks

There are several ways to add a mask to an image. You can create a new mask layer completely showing or hiding the underlying layers. You can also create a mask from an image or a selection.

Note

Because background layers do not support transparency, you cannot apply a mask to them. When the background layer is selected when you create a new mask, you are prompted to promote the background to a full layer.

Other ways to create a new mask layer

On the Layers palette, right-click the layer to which you want to add a mask and choose **New Mask Layer > Show All** to show all underlying pixels or **Hide All** to hide all underlying pixels. Or, click the **Show All** button on the Layers palette.

Hint for editing masks

Display the Overview palette (choose **View > Palettes > Overview**) while editing a mask so that you can see the image as it will print or display (without the transparency grid or the mask overlay).

Creating New Mask Layers

To show or hide the underlying layers completely with the new mask, choose from the Show All or Hide All Layer menu commands.

To create a new mask layer:

- 1 On the Layers palette, click the layer you want to mask.
- 2 Choose **Layers > New Mask Layer** and then choose the type of mask:

Show All Shows all underlying pixels. All pixels of the mask are white. The underlying layer will appear unchanged. Paint the mask with greys or black to hide portions of the underlying layers.

Hide All Hides all underlying pixels. All pixels of the mask are black. The underlying layer will be completely hidden. Paint the mask with white or greys to show portions of underlying layers.

The mask layer and the selected layer are added to a new layer group. The mask layer applies to the selected layer only. To apply it to all underlying layers, drag it from the layer group to the main level.

To view the mask on the image, on the Layers palette click the **Mask Overlay** toggle .

For more information on editing the mask, see “Editing Masks” on page 397.

Using an image as a mask

Creating Masks from Images

Use any image as a mask for another image. Paint Shop Pro converts the image into greyscale raster data and uses it for the mask. The original, or source, image is not altered.

Note

Another way to create a mask from an image is to load the image file from disk; see “Loading Masks from Disk” on page 399.

To create a mask from an image:

- 1 Open the image that you want to use for the mask.
- 2 Select the image in which you want to create the mask layer.
- 3 On the Layers palette, click the layer you want to mask.
- 4 Choose **Layers > New Mask Layer > From Image** to open the Add Mask From Image dialog.
- 5 In the **Source window** drop-down list, select the image to use for the mask.
- 6 In the **Create mask from** group box, select an option:
 - Source luminance** The luminance value of the pixel color determines the degree of masking. Lighter colors produce less masking; darker colors produce more masking. Transparent areas completely mask the layer.
 - Any non-zero value** Transparent areas completely mask the layer. There is no gradation to the masking. Pixels with data (opacity of 1-255) become white pixels in the mask; transparent pixels become black in the mask.
 - Source opacity** The opacity of the image determines the degree of masking. Fully opaque pixels produce no masking; partially transparent pixels create more masking; transparent pixels produce full masking.
- 7 To reverse the transparency of the mask data, mark the **Invert mask data** check box. Black pixels become white, white pixels become black, and greys are assigned their mirror value.
- 8 Click **OK**.

The mask layer and the selected layer are added to a new layer group. The mask layer applies to the selected layer only. To apply it to all underlying main layers, drag it from the layer group to the main level.

For information on editing the mask, see “Editing Masks” on page 397.

To view the mask on the image, on the Layers palette click the **Mask Overlay** toggle .

Creating Masks from Selections

Use a raster selection to create a mask that shows or hides the selection.

To create masks from selections on vector layers, use the Selection, Freehand Selection, and Magic Wand tools. You cannot use the Object Selection tool.

Using a selection as a mask



To create a mask from a selection:

- 1 Use the Selection, Freehand Selection, or Magic Wand tool to make a selection on a raster or vector layer in the image.
- 2 Do either of the following:
 - To mask the selection, choose **Layers > New Mask Layer > Hide Selection**.
 - To mask everything except the selection, choose **Layers > New Mask Layer > Show Selection**.

The mask layer and the selected layer are added to a new layer group. The mask layer applies to the selected layer only. To apply it to all underlying layers, drag it from the layer group to the main level.

For information on editing the mask, see “Editing Masks” on page 397.

To view the mask on the image, on the Layers palette click the **Mask Overlay** toggle .

Using the greyscale channel as a mask



Creating Masks from Channels

When you split an image into its RGB, HSL, or CMYK channels, Paint Shop Pro creates a greyscale image for each channel. Use one of these channel images to create a mask for the original image or another image.

To create a mask from a channel:

- 1 Split the image into channels using one of the **Image > Split Channel** commands, and leave the resulting greyscale images open in the workspace. For more information, see “Working with Color Channels” on page 259.
- 2 Select the image where you want to create the mask layer.
- 3 Choose **Layers > New Mask Layer > From Image** to open the Add Mask From Image dialog.
- 4 In the **Source window** drop-down list, select which channel image to use for the mask.
- 5 In the **Create mask from** group box, select the **Source opacity** option.
- 6 To reverse the transparency of the mask data, mark the **Invert mask data** check box.
- 7 Click **OK**.

The mask layer and the selected layer are added to a new layer group. The mask layer applies to the selected layer only. To apply it to all underlying layers, drag it from the layer group to the main level.

For information on editing the mask, see “Editing Masks” on page 397.

To view the mask on the image, on the Layers palette click the **Mask Overlay** toggle .

Masked image with and without overlay



Displaying the Mask Overlay

When you create a mask, the image window shows the effect of the mask, but does not display the mask automatically. Use the Mask Overlay toggle  on the Layers palette to display the mask overlay. By default, the overlay is a 50 percent opacity red color for completely masked pixels and lower opacity red for partially masked pixels. When you paint or modify the mask, this overlay shows what is painted or changed. To change the color and opacity of the mask overlay, see “Changing the Mask Overlay Color” on page 398.

When the mask overlay is displayed, the Mask Overlay toggle displays . When the overlay is hidden, the Mask Overlay toggle displays .

To display or hide the mask overlay:

Click the **Mask Overlay** toggle , or choose **Layers > View Overlay**.

Deleting Masks

Hiding masks

To turn off the visibility of a mask, but keep it in the image, click the **Visibility** toggle on the Layers palette.

Delete a mask entirely from an image, or merge the mask with the underlying layer and then delete the mask layer. If you merge the mask, you can no longer edit it independently.

A mask saved to an alpha channel is not deleted when you delete the mask layer.

To delete a mask:

1 Delete the mask in either of these ways:

- On the Layers palette, right-click the name of the mask layer and choose **Delete**.
- On the Layers palette, click the name of the mask layer, and then choose **Layers > Delete**, or click the **Delete** button .

Paint Shop Pro displays a message asking if you want to merge the mask with the underlying layer.

2 Do either of the following:

- To merge the mask with the layer, click **Yes**. Paint Shop Pro merges the layers and deletes the mask layer.
- To remove the mask from the image without affecting the underlying layer, click **No**. Paint Shop Pro deletes the mask layer.

How do I view the alpha channels?

To see what masks and selections are saved to alpha channels in an image, choose **Image > Delete Alpha Channel**. Click the **Alpha Channel** drop-down list to list all alpha channels in the current image. When you finish, click **Cancel**.

Deleting Masks from Alpha Channels

If you saved selections to alpha channels that you no longer need, you can delete them. Delete alpha channels from the current image only.

To delete an alpha channel:

- 1 Choose **Image > Delete Alpha Channel** to open the Delete Alpha Channel dialog.
- 2 Select the alpha channel that you want to delete, or mark the **Delete all alpha channels** check box.
- 3 Click **Delete**.

Editing Masks

Ways to modify masks

Use the painting tools. See Chapter 11, Raster Painting.

Paint with gradients, textures, or patterns. See “Creating Gradient, Pattern or Texture Masks” on page 399.

Apply effects commands. See Chapter 9, Applying Effects.

Create a shape in one image, then use it as a mask in another image. See “Loading Masks” on page 399.

Use the Move tool to move the mask layer within the image canvas.

Edit a mask the same way you edit any greyscale raster layer. Select a mask layer on the Layers palette, and then use the painting tools or the effects commands to modify the mask. When you edit a mask, you change either the areas or the degree of masking. For example, painting over an object to mask it changes the area, while applying a gradient fill edits the degree of masking.

Remember that a mask layer is a greyscale layer with 256 levels of grey that correspond to levels of masking. When you select a mask layer, the Materials palette displays the greyscale palette. Apply black or white to mask or erase the mask at 100 percent. Apply greys to vary the level of masking.

Edit the layer properties of a mask, such as the name, visibility, or opacity, in the same way you do any type of layer. For more information, see “Editing Layer Properties” on page 368.

To create a gradient or textured mask, invert the mask, or change the overlay color, refer to the following sections.

Displaying the Mask Overlay

For more information on the mask overlay, see “Creating Masks” on page 391.

Changing the Mask Overlay Color

By default, the mask overlay displays red semi-transparent pixels to show the mask on the image. Change the color or opacity for the mask layer to make it easier to see on your image.

To change the mask overlay color and opacity:

- 1 Do one of the following to open the Layer Properties dialog:
 - On the Layers palette, double-click the mask layer button or right-click the mask layer button and choose **Properties**.
 - Choose **Layers > Properties**.
- 2 Click the **Overlay** tab and change the following:
 - Overlay Color** The default overlay color is pure red (RGB 255, 0, 0). Click the color box and choose a new color.
 - Opacity** The opacity of the overlay. The default is 50 percent.
- 3 Click **OK**.

Inverting Masks

To reverse the transparency of a mask, invert it. Black pixels become white and white pixels become black. Greys become their mirror value—the maximum value (255) minus the current value.

To invert a mask:

- 1 On the Layers palette, select the name of the mask layer.
- 2 Choose **Layers > Invert Mask/Adjustment**.

Creating Gradient, Pattern or Texture Masks

Using a gradient mask



Using a pattern mask



Use a gradient, pattern, or texture mask to create interesting effects. A gradient mask varies the opacity of an image from fully hidden to fully shown. Use a gradient mask to fade an image in or out. A pattern or texture mask varies the image opacity in a repeated pattern throughout the image.

To create any of these masks, on the Materials palette select the material (gradient, pattern, or texture) and then fill the mask layer with it. When you choose a colored material, Paint Shop Pro converts it to greyscale before applying it.

To create a gradient, pattern, or texture mask:

- 1 Create a new mask. See “Creating Masks” on page 391.
- 2 Click the **Mask Overlay** toggle  on the Layers palette to display the mask overlay.
- 3 On the Tools toolbar, click the **Flood Fill** tool .

Note: To fill all pixels in the mask, on the Tool Options palette set the **Match Mode** to **None**.

- On the Materials palette, select a gradient, texture, or pattern. See “Choosing Gradients” on page 244, “Choosing Patterns” on page 246, or “Choosing Textures” on page 247.
- 4 Left-click the mask to apply the foreground material; right-click the mask to apply the background material.

Loading Masks

Paint Shop Pro masks

The Masks folder of the Paint Shop Pro program folder contains sample masks, such as gradients and several types of circles and squares that frame images.

Once you have saved a mask to a hard disk or a removable disk, you can load the mask into images without opening the original image.

Loading Masks from Disk

Load a mask file that you have saved or load one of the sample masks that come with Paint Shop Pro. Mask files have a .PspMask extension. Use the **Layers > Load/Save Mask > From Disk** command to load mask files or load image files as masks.

To load a mask from disk:

- 1 On the Layers palette, click the layer you want to mask.
- 2 Choose **Layers > Load/Save Masks > Load Mask From Disk** to open the Load Mask From Disk dialog.

The **Mask** group box shows all masks in all directories listed in your file locations for masks. To change the default directory, click the **Edit Paths** button. For more information, see “Setting File Format Associations” on page 79.

- 3 In the **Mask** group box, click the drop-down list to choose from mask and image files.

The **Preview** group box displays the selected mask on the image canvas.

- 4 In the **Orientation** group box, select from the following options:

Fit to canvas Adjusts the mask to fit the current image canvas (stretching or contracting as needed).

Fit to layer Adjusts the mask to fit the current layer’s data (stretching or contracting as needed). If the layer has not been shifted beyond the edges of the canvas, this option is identical to the Fit to Canvas option.

As is Places the mask starting in the top left corner of the current layer; this option does not change the mask proportions. If the mask image is smaller than the current layer, Paint Shop Pro by default masks all pixels outside of the mask image boundaries.

- 5 In the **Options** group box, choose whether Paint Shop Pro shows or hides pixels surrounding the loaded mask data (if there are any). These options affect the mask only if the Orientation option is As Is and the loaded mask is smaller than the current image canvas.

Invert transparency To invert the transparency of the mask image.

Hide all mask Makes surrounding pixels black to hide underlying pixels.

Show all mask Makes surrounding pixels white to show underlying pixels.

Use image value Makes surrounding pixels white or black depending upon whether the original mask was a show all mask or a hide all mask.

- 6 Click **Load**.

Paint Shop Pro adds the mask layer and the selected layer to a new layer group. The mask layer applies to the selected layer only. To apply it to all underlying layers, drag it from the layer group to the top of the main level.

To view the mask on the image, on the Layers palette click the **Mask Overlay** toggle .

Loading Masks from Alpha Channels

When you save a mask to an alpha channel within a .PspImage image, you can load that mask from the alpha channel into the same image or into any other image.

To load a mask from an alpha channel:

- 1 On the Layers palette, click the layer you want to mask.
- 2 Choose **Layers > Load/Save Mask > Load Mask From Alpha Channel** to open the Load Mask from Alpha dialog.
- 3 In the **Document** drop-down list, select the image which contains the alpha channel you want to load. (Choose from open images with existing alpha channels only.)
- 4 In the drop-down list below the document name, choose the alpha channel which contains the mask you want to load.
- 5 In the **Orientation** group box, select from the following options: **Fit to canvas**, **Fit to layer**, or **As is**. For descriptions, see page 400.
- 6 In the **Options** group box, select whether Paint Shop Pro hides or shows pixels surrounding a loaded mask that is smaller than the current image canvas. Choose a **Hide all** or **Show all** mask. To invert the transparency of the mask image, mark the **Invert transparency** check box. For detailed descriptions, see page 400.
- 7 Click **Load**.

Paint Shop Pro adds the mask layer and the selected layer to a new layer group. The mask layer applies to the selected layer only. To apply it to all underlying layers, drag it from the layer group to the main level.

To view the mask on the image, on the Layers palette click the **Mask Overlay** toggle .

Saving Masks

Paint Shop Pro automatically saves mask layers in the .PspImage format. When you want to share a mask with others, or use a mask in another image, save the mask to your hard drive or to an alpha channel.

Saving Masks to Disk

When you save a mask to a hard disk or a removable disk, Paint Shop Pro saves the mask as a separate file with a .PspMask extension. You can then load this mask into other images without opening the original image.

To save a mask to disk:

- 1 On the Layers palette, click the name of the mask layer.
- 2 Choose **Layers > Load/Save Mask > Save Mask to Disk** to open the Save Mask To Disk dialog.

The **Mask files** group box displays the current masks in the default Masks directory. The **New mask** group box displays the current mask.

- 3 To change the folder where the mask file is saved, click the **Edit Paths** button. By default, mask files are stored in the Masks folder of the Paint Shop Pro program folder. For more information, see “Setting File Format Associations” on page 79.
- 4 In the **File name** edit box, type a name for the mask file.
- 5 Click **Save**.

Saving Masks to Alpha Channels

Save a mask to an alpha channel within the current image or within another image. An alpha channel is a data storage area in an image which stores masks and selections. Alpha channels are like secret compartments within a suitcase—use them to store things you may need later. Masks and selections stored in alpha channels have no effect on the look of an image. To use the stored masks or selections, load them into the same image or another image.

Selections in alpha channels

For information on saving or loading selections in alpha channels, see “Saving Selections to Alpha Channels” on page 215.

When you save the image to a file format other than .PspImage format, the alpha channels are not saved. Always keep a master copy of your image in .PspImage format.

To save a mask to an alpha channel:

- 1 On the Layers palette, click the name of the mask layer.
- 2 Choose **Layers > Load/Save Mask > Save Mask To Alpha Channel** to open the Save Mask to Alpha dialog.
The **Add to document** drop-down list displays all open documents and below it are the alpha channels in the image (if any).
- 3 To save a mask to an image’s alpha channel, select the image name in the **Add to document** drop-down list. The image must be open in Paint Shop Pro.
- 4 To edit the default name for the new alpha channel, type a new name in the **Name** field.
- 5 Click **Save**.



CHAPTER 16

Working with Text

The Text tool lets you place vector text objects (although you can choose to create text on raster layers) on your image and set a variety of options, including text direction. Afterward you can apply any of Paint Shop Pro's effects making text in your images stand out.

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Creating Text

Text in images



Use the Text tool to create text on an image. Choose text colors on the Materials palette and text options on the Tool Options palette, then click in the image and enter text in the Text Entry dialog.

Be aware that if you have vector objects in your image (objects created with the Pen, Ellipse, Rectangle, Symmetric Shape, or Preset Shape tools), the behavior of the Text tool will be as follows:

- To place text on the image (text not fit to a vector path), do not click near a path.
- To place text on a vector object or path without attaching to the object or path, hold down the Alt key and click.
- To place text on a vector object or path, place the Text tool cursor on top of the object or path (the cursor shape will change to ) and click. See Creating Text on Object Paths for more information.

To create text:

- 1 On the Tools toolbar, choose the Text tool .
- 2 On the Materials palette, make the desired **Foreground/Stroke** property and **Background/Fill** property settings. The foreground setting determines the text outline, while the background setting determines the text fill (the area within characters).
 - For standard text with no outline, set the Stroke width on the Tool Options palette to **0**, or click the **Foreground/Stroke** property's **Transparent** button.
 - For hollow text, click the **Background/Fill** property's **Transparent** button.
- 3 On the Tool Options palette's **Create as** drop-list, choose the type of text:

Vector creates vector text that resides on a vector layer. This is the most editable form of text.

Selection creates a selection marquee in the shape of the text characters. You can treat the selection as you would any made from the Selection tools in that it can be moved, copied, filled, etc. This form of text is not vector-based.

Floating creates raster text that is a floating selection. Ideally you should place this type of text on its own raster layer, otherwise it is merged with the current layer and would be difficult to edit.

Text direction examples

Normal text direction

a	V	V	a
n	e	e	n
d	r	r	d
L	i	i	R
e	c	c	i
f	a	a	g
t	l	l	h

What's the real text size?

For the Size setting, the only way to guarantee true WYSIWYG text is if your image resolution is equal to your printing resolution.

4 Choose a text direction in the Direction drop-list:

Horizontal and Down : this creates "normal" text where subsequent lines are placed below the top text line.

Vertical and Left : this places each character vertically, but subsequent lines are placed to the left of the top line.

Vertical and Right : this places each character vertically, but subsequent lines are placed to the right of the top line.

5 Choose the basic text formatting options, including **Font**, **Size**, **Stroke width** (if you're using a Foreground/Stroke in the Materials palette), **Font style**, and **Alignment**. See "Formatting Text" on page 410.

6 Choose an Anti-alias option from the **Anti-alias** drop list:

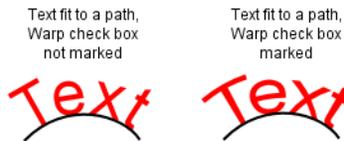
Off applies no anti-aliasing.

Sharp applies a slight edge enhancement to the text.

Smooth applies a slight filtering effect similar to removing a moire pattern.

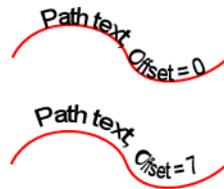
7 Optionally, you can choose a Line Style (affects only the stroke) as well as Join and Miter settings. Normal text uses the default line style labeled **+Solid** in the **Line Style** drop list.

8 The **Warp** check box affects text fit to a path. When marked, the text will "warp" around the curves of the path (if the path is not curved, you won't see the effect). Also, be aware that warping is set on a per-character basis, so part of a text block can be warped and part will appear unwarped. When this option is not marked, the text fits on the path in a more straight manner.



9 When creating text fit to a path, the **Offset** setting allows you to define the distance between the text and the path it is fit to. This setting will have no effect for text not fit to a path.

Note: Use negative Offset values to place text below the path.



- 10 The last Text tool options include:
 - Leading:** Sets the vertical space between text lines.
 - Kerning:** Sets the horizontal space between characters. Kerning values are expressed as 1.000 being equal to one EM.
 - Auto kern** check box: Mark this option to factor in the font's built-in kerning values.
 - Tracking:** Lets you set an equal amount of space across selected characters.
- 11 Once all your Tool Options are ready, click in the image where you want to place the text. The Text Entry dialog opens. Note the following points regarding where you click to place the text:
 - To place text on the image (text not fit to a vector path), do not click near a path.
 - To place text on a vector object or path without attaching to the object or path, hold down the **Alt** key and click.
 - To place text on a vector object or path, place the Text tool cursor on top of the object or path (the cursor shape will change to ) and click.
- 12 Type the text. As you type in the dialog, the text displays on the image. To add a line break, press **Enter**.
- 13 To change any of the text formatting options, in the Text Entry dialog, highlight the words or characters that you want to change, and then make changes on the Tool Options palette. For more information about editing, see “Applying Effects to Text” on page 413.
- 14 Mark the **Remember Text** check box to display the entered text the next time you open the Text Entry dialog.
- 15 Click **Apply**. The text displays on the image. If you've added vector text, note also that this will be reflected in the Layers palette.

A Note About the Text Size Setting

The Text tool's Size setting in the Tool Options palette is expressed in points where the calculation is relative to the pixel per inch resolution of your monitor. Most monitors today are designed to be 96 pixels to the inch. Points are a unit of measurement where 72.27 points are equal to one inch. However, the computer world has changed the measurement to 72 points per inch. Thus a 24-point font is roughly equivalent to 1/3 of an inch.

Be aware that this is relative to the number of pixels per inch. The calculation to go from size to display fontsize is :

$$\text{fontsize} = (\text{Size} \times \text{Monitor-pixels-per-inch}) / 72$$

Using the above example of Size set to 24-point:

$$\text{fontsize} = (24 \times 96) / 72 = 2304 / 72 = 32$$

since $32 / 96 = 1/3$ then relative to the monitor specifications, the fontsize is 1/3 of an inch.

But since our images also carry a resolution, (for example 200 pixels per inch) and printers may have yet a different (usually higher) resolution, a typical printer resolution is 300 dpi or 600 dpi or greater.

In order for a 1/3 inch size font on a 300 dpi image, then the value should be 100. Which means to correctly calculate the appropriate size for points, the above algorithm should replace monitor pixels per inch with image pixels per inch or image resolution.

For example, if your image dimensions were one inch wide by one inch high, and the image resolution were 100 dpi, printing this image on a 300 x 300 dpi printer will produce an image roughly one-third of an inch square.

About Vector, Floating, and Selection Text

The Text tool creates vector text, a text selection, or floating (raster) text. Choose an option from the **Create As** drop-down list:

Vector Creates vector text, which is the only type of text you can edit by changing the words, font type, style, and alignment. Use this setting in most cases. When you want to apply raster-only tools (such as the Paint Brush) or commands (such as applying a 3D effect), merge the vector layer to a raster layer.

If you create vector text while a raster layer is active, Paint Shop Pro adds a new vector layer with the text.

Selection Creates a selection marquee in the shape of text, rather than creating text as a painted object. Move, copy, fill, or otherwise edit it just like any other selection. For example, use the Paint Brush to paint the selection with a texture. You can also use a text selection to create special effects. Delete the text selection to create words that are cut out of the image. Or, create a text selection on a photographic image, and then copy and paste the selection to a new image; the result is text filled with the image.

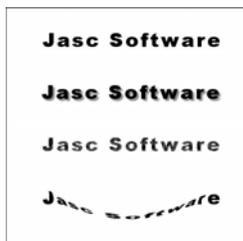
Floating (Raster) Creates raster text that is a floating selection. You cannot exit raster text, so use this type when you know that the words and formatting will not change. Use raster text when you want to apply raster-only tools (such as the Paint Brush) or commands (such as applying a 3D effect).

It's best to create raster text on a new raster layer. That way, you can easily select the text and make changes such as stretching it with the Deform tool.

When Paint Shop Pro defloats the raster text selection (such as when you click another tool), the raster text is merged with the underlying raster layer. If a vector layer is active, Paint Shop Pro creates a new raster layer.

Formatting Text

Text with several formatting options



When you enter or edit text with the Text tool, select from the following formatting options on the Tool Options palette:

Font A set of characters (letters, numbers, and symbols) that share a common look. Click the **Font** drop-down list to see the font family name (such as Arial or Times New Roman) displayed in the font itself.

Size The point size of the text. How small or large a font looks in the image depends upon the image's resolution. 72-point text is approximately 1 inch high in a 72-dpi image, but will be smaller in images with higher resolution. For more information on text size, refer to the section A Note About the Text Size Setting found earlier in this chapter.

Stroke Width The text outline pixel width. Choose 0 pixels to have no outline.

Anti-alias Anti-aliasing smooths the jagged edges of text by softening the color transition between edge pixels and background pixels. Anti-aliasing greatly increases the number of colors in the image. This makes it challenging to reduce the number of colors and thus reduce file size. Anti-aliasing may cause stray colors to appear along the edges of text.

Alignment How text is aligned in relation to the initial cursor position—where you clicked in the image to insert the text.

-  Aligns the left edge of each text line to the initial cursor position.

-  Aligns the center of each text line to the initial cursor position.
-  Aligns the right edge of each text line to the initial cursor position.

Type Style The style of text; choose  bold,  italic, or both.

Underline or Strikethrough Click  to underline text. Click  to place a horizontal line through text.

Line Options Define the look of the text outline (stroke). Options include **Line Style** (such as solid or dashed), **Join**, and **Miter Limit**. For details, see “Drawing Objects” on page 320. For information on **Custom** line styles, see “Creating Custom Line Styles” on page 334.

Offset Sets the distance between the text and the path it is fit to. This setting will have no effect for text not fit to a path

Leading: Sets the vertical space between text lines.

Kerning: Sets the horizontal space between characters. Kerning values are expressed as 1.000 being equal to one EM.

Auto kern check box: Mark this option to factor in the font's built-in kerning values.

Tracking: Lets you set an equal amount of space across selected characters.

Editing Text

Use the Text tool to edit vector text. You can edit the characters and their appearance.

Note: You cannot edit the characters or formatting of raster text. To modify Raster text, use the Deform tool.

To edit vector text:

- 1 To open the Text Entry dialog, do one of the following:
 - On the Tools toolbar, click the **Text** tool, position the cursor over the text in the image until the cursor turns to , then click; or
 - Right-click the text and select **Edit Text**; or
 - On the Layers palette, double-click the text object; or
 - On the Layers palette, right-click on the text object and select **Edit Text** from the context menu.

The Text Entry dialog opens with the text highlighted.

In this dialog, you can only change highlighted text. If no text is highlighted when you choose options, the options affect new text you type at the cursor position.

- 2 Edit the text in any of these ways:
 - To format all text, keep it all highlighted and choose options on the Tool Options palette or choose new colors or materials on the Materials palette.
 - To format one or more characters, click and drag to highlight the text you want to change, and choose options on the Tool Options or Materials palette.
 - To add new text, click where you want to insert it and begin typing.
 - To delete text, highlight the text and press **Delete**.

Moving Text

How to move text to another layer

To move text to another layer, select the text, then cut and paste it to another layer.

To move or position vector text on a layer, use the Object Selection tool. To move raster text, use a selection tool like the Magic Wand tool to select and move it.

To move vector text:

- 1 On the Tools toolbar, click the **Object Selection** tool .
- 2 Select the text you want to move. A bounding box surrounds the text.
- 3 Move the cursor inside the bounding box, the cursor changes to .
- 4 Click and drag the text anywhere within the image.

To move raster text:

- 1 On the Tools toolbar, select one of the Selection tools. For details, see “Using the Selection Tools” on page 192.
- 2 Select the text you want to move.
- 3 Move the cursor inside the selection marquee, the cursor changes to .
- 4 Click and drag the text anywhere within the image.

Applying Effects to Text

Text with buttonize effect and drop shadow effect

Jasc Software

Jasc Software

Apply any of Paint Shop Pro's effects to raster text to create an endless variety of looks. Apply a drop shadow or a beveled edge, turn text into brush strokes or colored chalk. For vector text, convert it into a raster selection, and then apply effects.

Type of Text	How to Apply Effects
Raster	Create the raster text on a transparent layer, separate from other raster data in the image. Select the text on the layer using the Magic Wand tool, and then apply any of the commands on the Effects menu.
Vector	Use the Object Selection tool to select the text. Choose Selections > From Vector Object to create a raster selection of the text, then choose Paste > As New Layer . Follow the steps above for raster text. Turn off the visibility of the vector text, but keep the vector text in case you want to edit it.

Converting Text to Curves

Regular text, and text converted to curves and modified with the Pen tool

JASC

JASC

To edit vector text as a vector object, convert it to curves. You can then move or add nodes, change the angles of line segments, and perform other edits using the Pen tool's **Edit** mode. Use this feature to create interesting text.

Convert each letter into its own object, or convert the entire text into one object with each letter as a separate contour within the object path.

After you convert text to curves, it is no longer text—so you cannot change the characters, their font or leading, or do any other text edits.

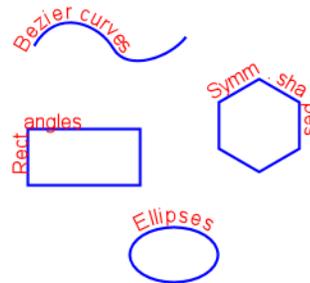
To convert text to curves:

- 1 Use the Object Selection tool  to select the text.
- 2 Do one of the following:
 - To convert the entire text object into one vector object, choose **Objects > Convert Text to Curves > As Single Shape**. This produces one path containing a contour for each letter.

- To convert each letter into a separate vector object with its own path, choose **Objects > Convert Text to Curves > As Character Shapes**. To edit the nodes of the text, you must select the letters individually.
- 3 To edit the nodes, choose the **Pen** tool and then choose **Edit** mode in the Tool Options palette.

Creating Text on Object Paths

You can easily create text that fits any vector object. Every vector object in Paint Shop Pro has a path (or outline) that defines its shape. Fitting text to these paths can create fun and interesting effects.



Note: You cannot create deformed text on a path, Paint Shop Pro will remove the deformation when placing the text on the path.

There are two ways to create text on a path:

- Create the path (a line or shape) first, and then create new text on the path.
- Create the path and the text as separate objects, and then fit the text to the path.

To create new text on a path:

- 1 Use the vector drawing tools to create a vector shape.
- 2 Click the **Text** tool.
- 3 In the Tool Options palette's **Create as** drop-list, choose **Vector**
- 4 Select other options (font, size, alignment, offset, and so on) as desired. Use the Materials palette to set the text's Background/Fill property as well as its Foreground/Stroke property.
- 5 Move the cursor over the line or shape until the cursor changes to , and then click. The Text Entry dialog displays.

Put some distance between text and path

To change the distance between the text and the object path, change the **Offset** value in the Tool Options palette.

Note: To place text on a vector object or path without attaching to the object or path, hold down the **Alt** key and click.

- 6 Enter the text and click **OK**. The text displays along the path of the shape

Make the object disappear

After you align text to a vector object, you can make the object invisible. On the Layers palette, click the Visibility toggle of the object.

Fitting Existing Text to a Path

To attach a previously unattached text object to a previously unattached path object:

- 1 Choose the **Object Selection** tool .
- 2 Select the text.
- 3 Hold down Shift and click the vector object to select it also.
- 4 Choose **Objects > Fit Text to Path**. The text aligns along the object.

Detaching Text from its Path

To detach text from its associated vector object:

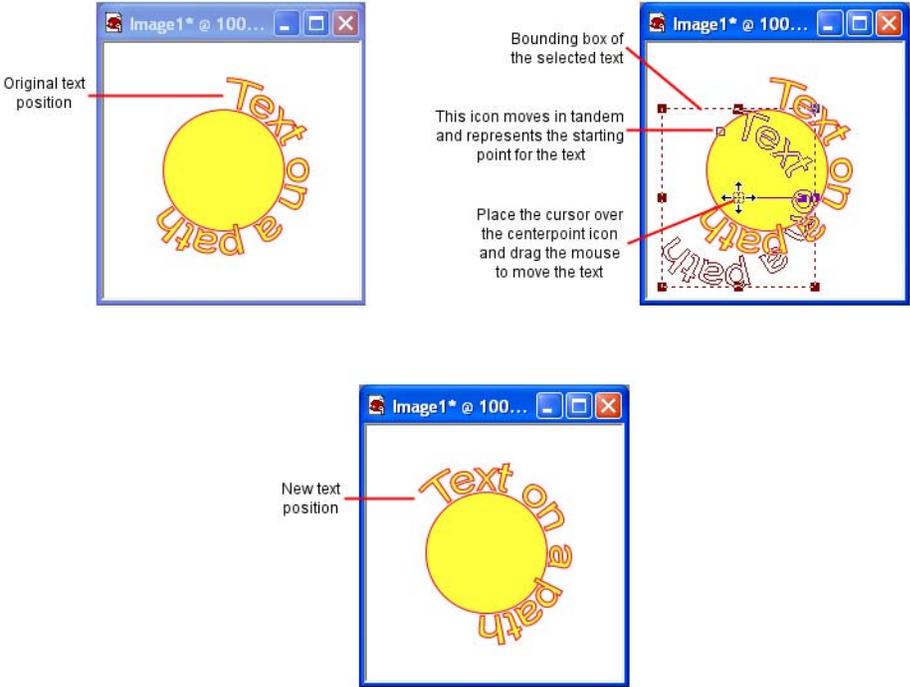
- 1 Choose the **Object Selection** tool .
- 2 Select the text or the vector object.
- 3 Choose **Objects > Detach Object from Path**.

Moving Text Along Its Path

To move text along the path it is attached to:

- 1 Choose the **Object Selection** tool .
- 2 Select the attached text.
- 3 Place the cursor over any part of the text (or over the selected text's bounding box Centerpoint icon) so that the cursor shape changes to this: .
- 4 Drag the mouse to move the text. Note that as you drag you'll see a small circular icon move in tandem with the text. This icon will indicate the starting point of the text once you release the mouse button.

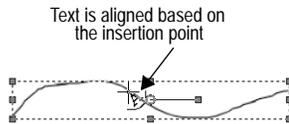
5 Release the mouse button to place the text at the desired position.



Aligning and Spacing Text on Object Paths

When you create text along a path, the text placement depends upon features of the text and the path.

Aligning Text on a path



Feature	How it affects text on a path
Text alignment (left, center, or right).	<p>For new text on a path:</p> <p>Paint Shop Pro aligns the text using the position where you clicked to insert the text. Left-aligned text begins at that position. Center-aligned text is centered on that position. Right-aligned text ends at that position.</p> <p>For existing text fit to a path:</p> <p>Paint Shop Pro aligns the text using the start and end nodes of the path. Left-aligned text begins at the start node. Center-aligned text is placed midway between the start and end nodes. Right-aligned text ends at the end node.</p>
Direction of path	<p>The text goes in the direction from the start node to the end node. The direction determines whether the text aligns right-side-up above the path or upside-down below the path.</p> <p>Reverse the path to change the direction. See “Reversing the Direction of Contours or Paths” on page 339.</p>
Spacing between text and path	<p>The Offset value of the text determines the spacing between the text and the path. Use positive values to position the text above the path and negative values to position the text below the path.</p>
Open or closed path	<p>On open paths, text that is longer than the path hangs from the end. The angle of the last line segment determines the direction it hangs.</p> <p>On closed paths, text that is longer than the path wraps around itself.</p>

Creating Text with Image Patterns

Text filled with a pattern



There are several ways to create text that is filled with an image:

Effect	How to do it
Fill text with a repeated image	<p>Open the image you want to use to fill the text, click the Background Material box on the Materials palette, click the Pattern tab, and select the image from the drop-down list. Use this background material to create new vector or raster text, or to edit existing vector text.</p> <p>For existing raster text, paint or fill the text with the background material.</p>
Fill text with one image	<p>Open a copy of the image. Create new text as a selection on the image (on the Text tool's Tool Options palette, in the Create As drop-down list choose Selection). Then copy the selection to a new image.</p>

Scaling and Transforming Text

To scale (resize) and transform text:

- For vector text, use the Object Selection tool to scale, rotate, shear, distort, or apply perspective to text. For more information, see “Resizing and Reshaping Vector Objects” on page 347.
- For raster text, use the Deform tool to scale, rotate, shear, distort, or apply perspective to a raster selection or a layer. For more information, see “Scaling and Transforming Images” on page 171.



CHAPTER 17

Automating Tasks

Automating a lengthy task or set of tasks is one of the many exciting benefits of Paint Shop Pro. This chapter describes important time-saving features:

- Automated Productivity Scripts let you automate an action or set of actions that you apply to images.
- Binding scripts to icons that can be placed in toolbars or menus for more convenient access.
- Presets allow you to save dialog or tool settings for later use.
- The Batch Process feature lets you, among other things, convert multiple files from one file format to another.
- The Batch Rename feature lets you rename multiple files at once.

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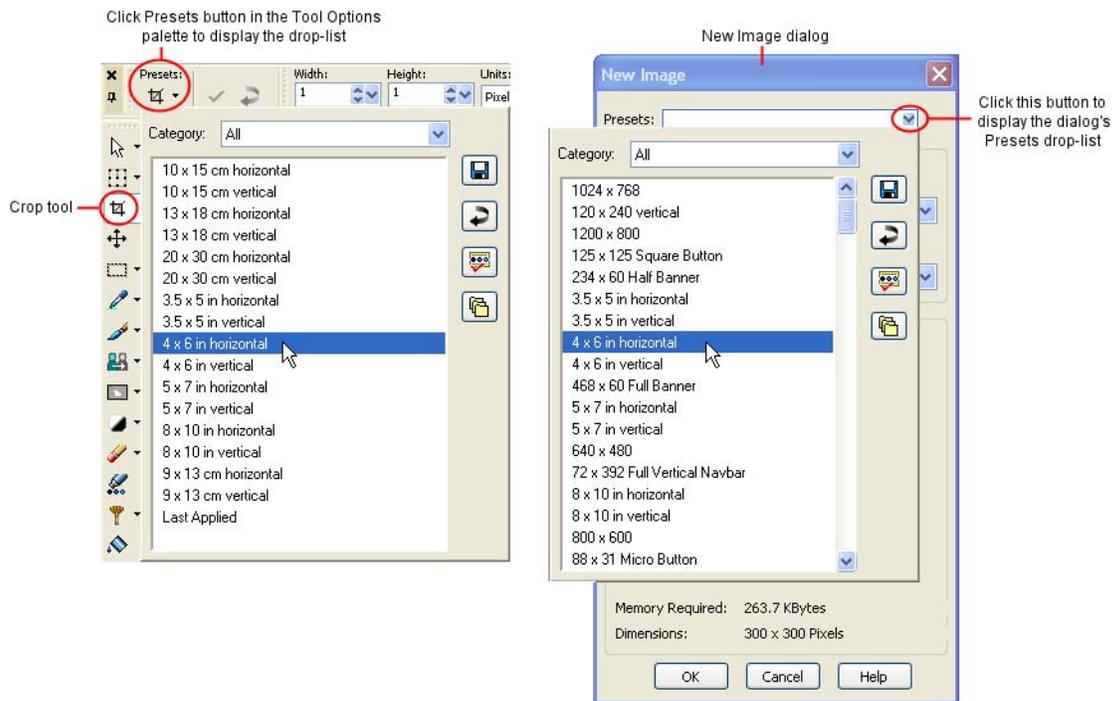
Using and Creating Presets

Presets are essentially scripts that define the behavior, properties, or settings of a dialog or tool. Many dialogs and tools come with predefined, ready to use Presets. You can also design and save your own Presets.

When you find yourself frequently using particular settings for a dialog or tool, saving these settings as a Preset saves you the time needed to define each dialog or tool setting each time you use it. Simply save the settings and they'll appear in the Presets drop-list for that tool or dialog

Examples of Presets

Shown below are two examples of Presets, one from the Crop tool, and one from the New Image dialog.



Most Paint Shop Pro dialogs and the Tool Options palette have the following default presets:

- **Last Applied** These are the settings last used in this dialog. Each time the dialog opens, Paint Shop Pro displays the Last Used preset settings.
- **Default** These are the default program settings for this dialog or tool. The default settings can provide a good starting point for your work.

To choose a preset:

In the **Presets** drop-list, select the desired Preset from the list.

To reset values to default settings:

In the Presets drop-list, click the **Reset to default** button . To reset a dialog to the settings that displayed when you opened the dialog, hold down **Shift** and then click the **Reset to default** button.

How do I edit a preset?

To edit a Preset, select it, modify the dialog or tool settings, click the **Save Preset** button, and type the same preset name. When you are prompted to replace the current Preset, choose **Yes**.

To save settings as a preset:

- 1 Modify the dialog or tool settings.
- 2 Click the **Save preset** button  to open the Save Preset dialog.
- 3 Type a name for the Preset.

Note: You cannot use the names “Default” or “Last Applied”.
- 4 To enter additional Preset information, click the **Options** button, and then enter information in the **Author**, **Copyright**, and **Description** fields.

The **Preset includes** group box shows the data saved with this Preset. To omit any of these items from the Preset, click the Save button associated with the item (a red X will appear over it).

- 5 Click **OK**.

To delete a preset:

- 1 In the **Presets** drop-list, click the **Resource Manager** button .
- 2 In the Resource Manager dialog, select the preset you want to delete.
- 3 Click **Delete**, and when prompted to confirm deletion, click **Yes**.

Processing Multiple Files

To process multiple files use the Batch Process feature. Depending on your settings in the Batch Process dialog, Paint Shop Pro can make copies of original files, convert and then save the copies in the output folder you select.

To use the Batch Process feature:

- 1 Open the Batch Process dialog by choosing **File > Batch > Process**.

- 2 Navigate to the folder containing the source (original) files.

- 3 In the **Save Mode** group box, choose one of the following options:

New Type This is the most basic option, requiring only that a new output type be set in the Type field of the Save Options group box. You can also choose to run a script with this Save Mode. This option will: a) read in the file, b) run the script (if defined) against the file, c) save the file to its new location and/or name, and d) convert it to the new file format.

Copy This option requires that a script is defined in the Script group box. This option will: a) read in the file, b) run the script against the file, and c) save the file to a new location and/or name. With this option selected, the Type field and Options button of the Save Options group box will be disabled.

Overwrite This option requires that a script is defined in the Script group box. This option will: a) read in the file, b) run the script against the file, and c) save the file to its original location (the original file is overwritten). With this option selected, all Save Options group box settings are inactive.

Obey Script This option requires that a script is defined in the Script group box. This option will: a) read in the file, and b) run the script against the file. With this option selected, all Save Options group box settings are inactive.

Note: Since no save is performed, you should only use this option when you know the script performs a save. If not, this option will not have any effect.

- 4 In the **Save Options** group box, set the following (the Save Mode settings affects what is available in this group box):

- Click the **Type** drop-list to select a new file format. If a format has save options, the **Options** button is accessible. Click it to open the Save Options dialog. Select the format options and click **OK** to return to the Batch Process dialog.
- Designate another output (destination) folder for the new files by typing a path in the **Folder** field, or by clicking the **Browse** button next to this field and navigating to another folder. Unless you specify another output folder, Paint Shop Pro saves the converted files in the same folder as the source files.
- You also have the option of renaming the converted files. To do so, click **Modify** to open the Modify Filename Format dialog. The **Rename Options** list displays the choices for renaming your files. Select an option and click **Add** to move it into the **Included** list. Choose from the following options:
 - **Custom Text** When you choose this option, the program displays a Custom text field below the Included list. Type the text you want inserted into the filename.
 - **Date** The current date is added to the name.
 - **Document Name** Includes the original name in the new name, but also allows for case changes (upper, lower).
 - **Sequence** The position of a file in the renaming process is added to each file.
 - **Time** The current time is added to the name.

A preview of the new file naming scheme appears at the bottom of the dialog. Click **OK** to go back to the Batch Process dialog.

- 5 To stop the conversion process if Paint Shop Pro encounters an error, mark the **Stop on error** check box. If you do not mark it, the program processes all the images without stopping. The error messages appear in a Batch Conversion Status dialog.

Note: If you are overwriting files during processing, particularly many files, you may want to leave this box unchecked to avoid having to confirm the overwriting of each file.

- 6 Use the **Script** group box to run a script on all the files before converting them. In the text entry box, enter the path for the script, or click **Browse** and then navigate to where the script resides. Mark the **Run script in silent mode** check box to ensure the script runs in this mode.
- 7 If you have already selected files to process, click **Start**. If you have not already selected the files to process, do one of the following:

- To process specific files, press **Shift** while selecting contiguous files or **Ctrl** while selecting non-contiguous files, and then click **Start**.
- To process all files displayed, click **Select All**.

The Batch Progress dialog opens, and the batch conversion starts. The Current Step pane displays each filename and whether it is converted, while the Job Progress bar indicates the conversion progress. To stop the conversion, click **Abort**.

During the conversion, Paint Shop Pro might open other dialogs requesting more information if you have selected Meta, PostScript, Photo-CD, or RAW files.

- 8 After the files have been converted, either click **OK** to close the dialog, or click **Save Log** to save the progress messages to a text file. Clicking **Save Log** opens the Save As dialog. Type a name for the file and click **Save**. Paint Shop Pro saves the information with a .log file extension.

Renaming Multiple Files

To use the Batch Rename feature:

- 1 Open the Batch Rename dialog by choosing **File > Batch > Rename**.
- 2 Navigate to the folder containing the source (original) files. If necessary, use the **Files of type** field to display particular file formats. Choose **All Files** to display the folder's entire contents.
- 3 To define a new name for the files, click **Modify** to open the Modify Filename Format dialog. The **Rename Options** list displays the choices for renaming your files. Select an option and click **Add** to move it into the **Included** list. Choose from the following options:
 - **Custom Text** When you choose this option, the program displays a Custom text field below the Included list. Type the name you want applied to the converted files.
 - **Date** The current date is added to the name.
 - **Document Name** Includes the original name in the new name, but also allows for case changes (upper, lower).
 - **Sequence** The position of a file in the renaming process is added to each file.

- **Time** The current time is added to the name.

A preview of the new file naming scheme appears at the bottom of the dialog. Click **OK** to go back to the Batch Rename dialog.

- 4 To stop the rename process if Paint Shop Pro encounters an error, mark the **Stop on error** check box. If you do not mark it, the program processes all the images without stopping.
- 5 If you have already selected files to rename, click **Start**. If you have not already selected the files to rename, do one of the following:
 - To rename specific files, press **Shift** while selecting contiguous files or **Ctrl** while selecting non-contiguous files, and then click **Start**.
 - To rename all files displayed, click **Select All**.

Scripting Basics

One of the more powerful features in Paint Shop Pro is Scripting. Paint Shop Pro has a full-featured scripting engine based on the Python programming language (see <http://www.python.org/> for more information on this language). Although you can write your own scripts using Python syntax, Paint Shop Pro's built-in script recorder can do this work for you, allowing you to script almost any action within the application.

If, however, you choose to write a script in the Python language, note that Python uses indentation to determine scoping, thus you must be very careful about mixing spaces and tabs. We recommend that you use a Python-aware editor such as PythonWin or Idle if you choose to write your own scripts.

Displaying the Script Toolbar

You will find it much easier and faster working with scripts via the Script toolbar. If it is not already displayed, choose

View > Toolbars > Script. The Script toolbar looks like this:



About the Script Toolbar Buttons

Note

Most of the Script toolbar buttons have equivalent menu commands accessed by choosing **File > Script**.

The items in the Script toolbar are:

Select Script  By default, this drop-list shows the scripts saved in Paint Shop Pro 9's Scripts-Trusted and Scripts-Restricted folders. Using the File Locations dialog, you can add any folder to the list of folders that this drop-list displays scripts from.

Run Selected Script  Click this button to run the script displayed in the Select Script drop-list.

Edit Selected Script  Click this button to edit the script displayed in the Select Script drop-list.

Interactive Script Playback Toggle  Click this button to switch between Silent and Interactive mode when running scripts. When the button shows a border, it is set to Interactive mode.

Run Script  Click this button to display the Run Script dialog. Navigate (if necessary) to and select the script you wish to load, and then click **Open**.

Stop Script  Click this button to stop the running script.

Note: This button will only be active while the script is running.

Start Script Recording  Click this button to begin recording actions that will comprise a script.

Pause Script Recording  Click this button to pause the recording of a script. Click this button again to resume recording.

Cancel Script Recording  Click this button to cancel script recording.

Save Script Recording  Click this button to save the actions you have recorded.

Note: This button is only active if you have completed a “scriptable” action.

About the Script Output Palette

Script Output tip

Text in the Script Output window can be selected and copied to the clipboard. This can be helpful if you need to report error information.

To display this palette, choose **View > Palettes > Script Output**. This palette may automatically appear to display information such as script error information, including details on Python syntax errors or runtime errors.

To clear the Script Output palette:

Choose **File > Script > Clear Output Window** or right-click the window and choose **Clear** from the context menu.

Running a Saved Script

To run a script on all open images:

Using one of the methods on the right, run the script on the first image. Make another image active, and then press **Ctrl + Y**. Repeat this for each open image. You could also drag the script action from the History palette and drop it onto another open image.

To run a script listed in the Select Script drop-list:

- 1 Select the script that you want to run from the drop-list.
- 2 Click **Run Selected Script** .

To run a script not listed in the Select Script drop-list:

- 1 Click **Run Script**  to display the Run Script dialog.
- 2 Navigate to the folder containing the script that you want to run.
- 3 Select the script and click **Open** to execute the script.

Stopping or Undoing a Script

To stop a running script:

Click **Stop Script** .

Note: The Stop Script button is only active while the script is running. Depending on the script, this may only be a few seconds.

To undo an applied script:

Like any other action applied to an image, you can always undo an applied script by clicking **Undo**  on the Standard toolbar. You can also undo actions via the History palette.

About Restricted Script Mode

The scripts in Paint Shop Pro 9 are created in the Python programming language, which can unfortunately be used to create and execute malicious scripts. Because of this potential danger, Paint Shop Pro includes two explicit directory sets:

Scripts - Restricted Scripts residing here are restricted, as are any scripts not in the Trusted folder (see Restriction information below).

Scripts - Trusted Scripts residing here are trusted.

What is Restricted?

Some general notes about Restricted scripts:

- When the application searches for scripts, Restricted scripts are searched before Trusted scripts. In the Script toolbar's Select Script drop-list, the two sets of scripts are intermingled and listed alphabetically.
- When saving a script, the path defaults to the Restricted directory for the first time this is done with the application. After that, it defaults to the most recently used directory.
- If a script is run from an unconfigured path, it is treated as Restricted.
- If a path appears in both the Restricted and Trusted lists, it is treated as Restricted.
- Presets, Material palette Swatches, and Print Layout Templates (which are essentially scripts) are treated as Restricted.
- Additionally, the following commands are not allowed when run from a Restricted script:

File: Save, Save As, Save Copy As, Close, Close All, Send, Exit

File > Export: GIF Optimizer, PNG Optimizer, JPEG Optimizer, Image Mapper, Image Slicer

File > Preferences: File Locations

File > Batch: Process, Rename

toggling Interactive Script Playback Mode

When you have scripted actions that involve dialogs, you can choose to run the script so the dialogs will not appear (this is Silent mode) for user interaction, or the dialogs will appear (this is Interactive mode) for user interaction. To toggle between Interactive and Silent script playback mode, simply click the **Interactive Script Playback Toggle** button  on the Script toolbar. When the button has a border around it, it is in Interactive mode.

Note: If you've edited the script and set part or all of it to run in either Silent or Interactive mode, this button will not override that setting. If all or part of a script is set to Default mode, the state of this button will override the Default setting.

Recording and Saving a Script

Scripting rules of thumb:

The longer a task takes to complete, the more desirable it is to have a script for it. However, if a task only takes two or three mouse clicks to complete, creating and running a script for those few actions may not save you any time.

Before you begin recording a script, be aware of these general rules as to which actions can be recorded within Paint Shop Pro 9:

- You cannot script user interface customizations, CMYK profile creation/editing, operations inside the Browser, operations inside of Print Layout, gradient creation, or the floating/docking/arranging of toolbars, palettes and windows.
- Materials palette and Mixer palette operations as well as Tool Palette selections can be scripted but are not recorded — these actions need to be written via a text editor application. Plug-ins are scriptable, but plug-ins that do not support scripting cannot be scripted.
- Outside of the above restrictions, most actions you perform in Paint Shop Pro are scriptable.

To record and save a script:

- 1 Make a note of or write down the specific actions you wish to record. Ideally, your actions should be as efficient as possible.
- 2 To begin recording, click **Start Script Recording** .
- 3 Perform the actions that comprise the script.
- 4 Click **Save Script Recording** . In the **Save As** dialog, do the following:

- If you chose to undo any actions while recording the script, you can choose to retain (by not marking) or remove (by marking) undone commands via the **Remove Undone Commands** check box located toward the bottom of the Save As dialog.
 - Mark the **Save Materials** check box if you wish to save the Materials palette settings used by the scripted actions. If you do not mark this option, affected commands will use the current Materials palette settings.
 - Mark the **Save Dialog Positions** check box to display interactive dialogs in their position during recording.
 - Optionally, you can click the **Description** button to enter Author, Copyright, and Description information. The information you enter will be seen if you chose to edit the script.
- 5 Navigate (if necessary) to where the script will reside, enter a name for the script, and then click **Save**.

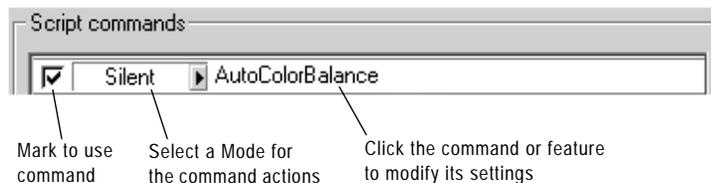
Editing Scripts

Scripts can be edited via the Paint Shop Pro user interface, or by editing the script's Python code with a text editor application.

Editing Scripts Using Paint Shop Pro

To edit the currently selected script:

- 1 Click the **Edit Selected Script** button . The Script Editor dialog will appear, listing the actions that comprise the script, as well as some basic information. Shown below is a portion of the dialog.



Note: If the script you wish to edit is not in the Select Script drop-list, choose **File > Script > Edit** to display the Open dialog. Navigate to where the script resides. When you open the script, its information will appear in the Script Editor dialog.

Note: If the Script Editor cannot open the script (e.g. the format is unreadable, or perhaps the script was created or edited manually in a text editor), the script will open in the default text editor application set in the File Locations dialog. Refer to the section “Editing Via a Text Editor” below.

- 2 In the Scripts Commands section, you can do the following:
 - Mark the check box to use that portion of the script.
 - Use the **Mode** drop-list to set a mode for the script’s actions:
 - Silent** Skip all dialogs. The command in the script is executed without providing the user dialog interaction.
 - Interactive** Allows for user interaction with dialogs and other settings.
 - Default** Executes the command based on what the execution environment has set for its preference.
 - To display and/or modify a command’s settings, select the command and then click **Edit**, or double-click the command. Be aware that command names show in italics with the words “NOT editable” cannot be selected for editing.

Note: There are a small number of commands that can only be edited when an image is open in the workspace.
 - To remove commands from the script, select the command and click **Delete**. To select multiple commands, use the standard **Shift**-click (to select adjacent items) or **Ctrl**-click (to select non-adjacent items) methods.
- 3 To view and/or edit the Python code associated with the script, click the **Text Editor** button. The default text editor will open the script. Until you specify another application, the default editor is Notepad. To change the default text editor, see “Editing Scripts with a Text Editor” below.
- 4 To save your edits, click **Save**, and then click **Close**.

Editing Scripts with a Text Editor

With the Script Editor dialog displayed, you can edit the Python code for your script by clicking the **Text Editor** button. (If you have already modified the script in the Script Editor dialog, you will be prompted to save or discard changes prior to switching to the text editor application.) The editor application designated for script editing will open.

To change the script editing application:

- 1 Choose **File > Preferences > File Locations** (or click the **File Locations** button  in the Select Script drop list) to open the File Locations dialog.
- 2 In the File Types list, choose **Python Source Editor**.
- 3 On the right side of the dialog, enter the path for the editor application you wish to use. Click **Browse** if you need to navigate for the correct path.

Trouble Shooting a Script

The **Single Step** command (accessed by choosing **File > Script > Single Step**) provides a way to sequentially step through a script's actions, allowing you to selectively apply actions to the current image.

Single Step can be thought of as a mode or a toggle: once you choose this menu item, scripts you run will be put through the Single Step "filter" until you toggle off the mode by choosing the menu item again.

To use this command:

- 1 Choose **File > Script > Single Step**. This puts Paint Shop Pro in Script Single Step mode. Note that the Step Script dialog will not appear until you choose to run a script.
- 2 Run the desired script.
- 3 The Step Script dialog appears, listing the script's name and first action. Use the dialog's buttons as follows:
 - Click **Continue** to apply the command to the image and move on to the next command in the script.
 - Click **Skip Command** to not apply this particular command to the image, and instead move on to the next command in the script.
 - Click **Stop Scripts** to cancel this operation and close the Step Script dialog. Note, however, that Paint Shop Pro remains in Script Single Step mode until you toggle off this command.
- 4 To turn off Single Step mode, choose **File > Script > Single Step** again.

Access Single Step quicker

If you find yourself using the Single Step command often, you may want to add it to a toolbar for quicker access. Refer to Chapter 4 for more information on customizing toolbars.

Binding Scripts to Icons

You can quickly and easily bind a script to any of 50 icons, and then drag the icon to a custom or existing toolbar, or to a menu. By dragging the icon onto a toolbar or menu you can have easier, quicker access to your favorite scripts, and can execute them with a single click.

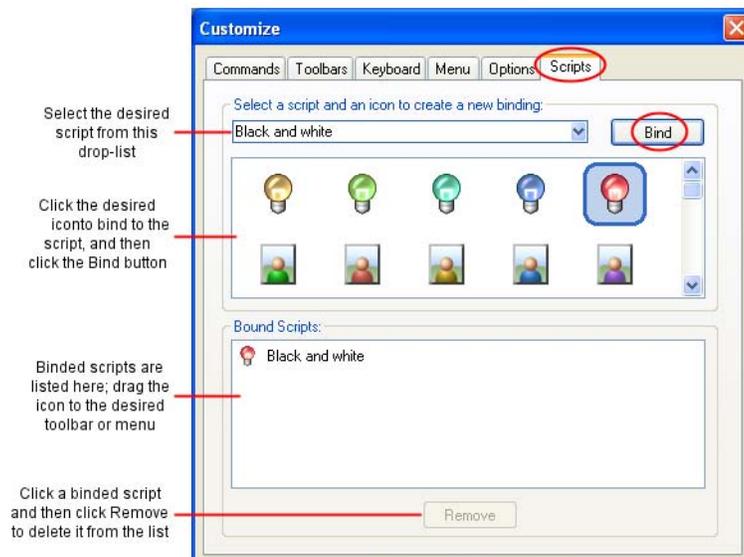
Be aware that you can use an icon for any number of scripts. This gives you a virtually limitless ability to bind scripts to icons. For example, you could assign a script to the red light bulb icon  and drag it to the Photo toolbar. You could then assign a different script to the same icon and drag it to the Adjust menu.

Assigning a keyboard shortcut to a Bound Script

Once you've created a bound script, you could assign a keyboard shortcut to it as another way to quickly run the script. Refer to Chapter 4 for information on assigning keyboard shortcuts.

Assigning a Script to an Icon

- 1 Choose **View > Customize**. This displays the Customize dialog.
- 2 Click the **Scripts** tab.
- 3 Click the **Scripts** drop-list, and then click the script you want to assign to an icon. (Note that the scripts displayed in this list match those in the Script toolbar's Select Script drop list.)
- 4 Shown below the Scripts drop-list are the 50 icons. To assign the displayed script to an icon, click the desired icon, and then click the **Bind** button in the upper right portion of the Scripts tab. Notice in the Bound Scripts area below, the icon and its associated script appear in the list.



5 To place the icon in a menu or toolbar:

- In the Bound Script area, place the cursor over the icon or the script.
- Drag the mouse into the menu or toolbar where you want to place the bound script icon.
- Release the mouse button when the button is in the desired location.

When you hold the cursor over the toolbar's script icon, you'll see the path name and file name associated with the script. If you've dragged the script icon into a menu, the menu will display the script's name, and the script's path will appear in the status bar located along the bottom the main Paint Shop Pro window.

Using the Same Icon for Multiple Scripts

Although there are 50 icons available for script assignments, be aware that you can use the same icon for multiple scripts. This essentially gives you an unlimited ability to assign scripts to icons.

Removing a Script from an Icon

To un-bind a script from an icon:

- 1 In the Bound Script area of the Customize dialog's Scripts tab, click the icon or script name.
- 2 Click the **Remove** button located below the Bound Scripts list.

Note: Unbinding a script from an icon will also remove it from the user interface and from any keyboard shortcut assigned to it.

Removing a Bound Script from a Menu or Toolbar

To remove a bound script icon from a menu or toolbar, place the cursor over the icon, drag the icon into the Paint Shop Pro workspace, and then release the mouse button.



CHAPTER 18

Printing Images

With Paint Shop Pro you can print one image on a page, print several images on a page, or print selected images within a folder. You can also create templates that save the size and placement of images, and add text captions to the template.

There are several ways to print in Paint Shop Pro:

- Print a single image. For more information, see “Printing Multiple Images on a Page” on page 439.
- Print multiple images on one page. Arrange and size images in any way you like. Choose from over 100 templates, or create your own custom template. For more information, see “Printing a Single Image” on page 446.
- Print images from the Browser as thumbnails or in any arrangement. For more information, see “Printing with CMYK Color Separations” on page 452.

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About Printing

Before you print, you should understand how image resolution, color and lightness, paper quality, and the file type of the image effect the quality of the printed image.

Image Resolution

Laser and ink-jet printers work by applying dots of black or colored ink to paper. While the image resolution is measured in pixels per inch (ppi), the printer resolution is measured in dots per inch (dpi). To determine the printed image size in inches, the printer divides the image size in pixels by the pixels per inch. An image with a high resolution appears smaller when printed at its original size than an image with a low resolution.

You can scale images when you use Print Layout to print multiple images. However, this can lower the quality of the print, as it enlarges each pixel. You will get better results if you create the image using a resolution that is appropriate for the printer. Use the following guidelines to determine the image size for printing:

- For a 300 dpi printer, use a 72 to 120 ppi image.
- For a 600 dpi printer, use a 125 to 170 ppi image.
- For a 1200 dpi printer, use a 150 to 200 ppi image.

Image Color and Lightness

Computer monitors display color by combining red, green, and blue light on the screen. Color printers, however, use a combination of cyan, magenta, yellow, and black inks. The difference in these two color modes can cause images to appear darker on paper than on the screen. As you become familiar with how your printer handles color, adjust your images to compensate. If the printed image appears too dark, use the Brightness/Contrast command to adjust it.

Paper Quality

The texture and color of the paper affects the quality of the printed image. Porous paper can cause colors to bleed into each other; colored paper can alter the image colors; off-white paper can reduce the contrast and vibrancy of colors. For the best results, refer to your printer's owner manual for paper recommendations.

Saving Images for Printing

If you are printing your image on a personal printer, save it in the .PspImage format. This gives you the most flexibility. Paint Shop Pro prints all the layers in an image, so you don't need to flatten it (merge all layers). If you are using a black-and-white printer, choose the Greyscale option in the Print dialog.

If you are sending the image to a printing service, flatten the image before saving it. When you save an image in most formats other than .PspImage, Paint Shop Pro automatically flattens the image. Ask your printer about the requirements for file format, resolution, and color depth. If you need CMYK color separations, choose that option in the Print dialog.

About Printing Options

To open the Print Setup dialog, from the main Paint Shop Pro workspace, choose **File > Print**, or press **Ctrl + P**. From the Print Layout window, choose **File > Print Setup**, or click the Print Setup button.

How to access Print options

From the main Paint Shop Pro workspace, choose **File > Print**, or press **Ctrl + P**.

From the Print Layout window, choose **File > Print Setup**, or click the **Print Setup** button.

Note: Note: You can script most print options. However, all printer settings may not be scriptable due to variations in printer drivers.

The following printing options are available when printing a single image. Most of the options are also available when printing multiple images from the Print Layout window.

Choosing print setup options:

- 1 In the **Printer** group box, choose the printer to send the image to. Click the **Printer** button to select a different printer. Click the **Properties** button to view or change printer properties. For more information, refer to your printer documentation.
- 2 **Print to File** Mark this check box to save the image to a file instead of sending it to a printer. When you click the **Print** button to print the image, Paint Shop Pro prompts you for a file name.
- 3 Enter the number of copies to print in the **Number of Copies** field.
- 4 In the **Orientation** group box choose either the portrait or landscape orientation.

Scripting print options

You can script most print options. However, all printer settings may not be scriptable due to variations in printer drivers.

- 5 In the **Print Output** group box, choose the type of output: **Color**, **Greyscale**, or **CMYK Separations**. For more information on printing CMYK color separations, see “Printing with CMYK Color Separations” on page 452.
- 6 In the **Color options** group box, choose an option:
 - **Negative** Mark this check box to print a negative of the image.
 - **Background** Mark this check box to print a color background around the image, and then click the color box to choose the background color.
- 7 In the **Print Marks** group box, choose from the following options:
 - **Corner Crop Marks** Mark this check box to print crop marks at the corners of the image.
 - **Center Crop Marks** Mark this check box to print crop marks at the center of the image edges.
 - **Registration Marks** Mark this check box to print registration marks at the corners of the image.
 - **CMYK Plate Labels** Mark this check box to print labels (Cyan, Magenta, Yellow, or Black) on each color plate (or page). This check box is available only when you select the **CMYK Separations** option.
 - **Image Name** Mark this check box to print the image file name below the image.
- 8 Mark the **Header** check box to include header text at the top of the page, and then type the text in the edit box.
- 9 Mark the **Footer** check box to include footer text at the bottom of the page, and then type the text in the edit box.
- 10 Click **Close** to apply the settings and close the Print Setup dialog.

How to change the paper size

The paper size (such as letter or legal) is a printer property. At the Print window or the Page Setup window, click the **Properties** button, then the **Paper** tab.

Template printing is scriptable.

The Print command and the Template tab settings can be recorded in a script.

Select Template (Print dialog only) Click this button to open the Templates dialog and choose a template. For more information on choosing templates, see “Printing a Single Image” on page 446.

Fill the template with the current image (Print dialog only) Choose this option to fill the selected template with the current image.

Print the selected template with saved images (Print dialog only) If you select a template that contains links to images, the current image will be ignored and the template and all its images will be printed.

Header (Print Layout window only) Mark the check box to include header text at the top of the page, and then type the text in the edit box.

Footer (Print Layout window only) Mark the check box to include footer text at the bottom of the page, and then type the text in the edit box.

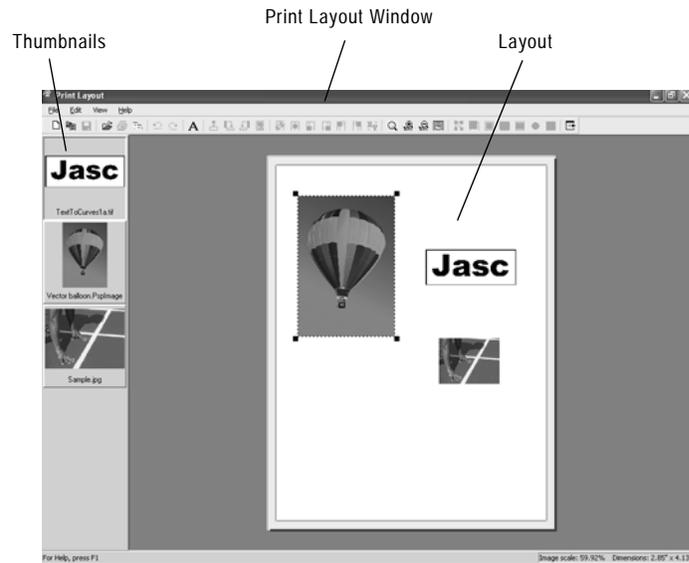
Printing Multiple Images on a Page

Use Paint Shop Pro’s Print Layout window to print multiple images in a variety of ways. For example, print multiple 4” x 6” copies of the same image, print two different images on the same page, or arrange an image to print on labels. You can even add text captions onto the print layout, and place images in rectangular or elliptical cells.

Note

After you arrange a layout, save the layout as a template that you can use later. For more information, see “Saving a Page Layout” on page 445. Paint Shop Pro includes many templates to use or modify. For more information, see “Printing a Single Image” on page 446.

About the Print Layout Window



To print images using the Print Layout Window:

- 1 Open the Print Layout window:
 - From the Paint Shop Pro workspace, open each of the images you want to print, and then choose **File > Print Layout**.
 - From the Paint Shop Pro Browser, select the thumbnail of each image you want to print, and then choose **File > Print Layout**.

Thumbnails of all open images display on the left side. The page layout to be printed displays in the center of a gray area (the print layout workspace).

Note: To select more images from the Print Layout window, choose **File > Open Image** or click the **Open an Image** button .

- 2 Drag the thumbnails of the images you want to print into the print layout. If an image is larger than the page, Paint Shop Pro asks whether you want to scale the image. Click **Yes** to scale the image to fit, or click **No** to place the image at its current size.

Where did the image go?

The print layout workspace extends under the thumbnail list. Zoom out or use the scroll bars to see if your image is hidden under the thumbnail list.

Using the Zoom tools:

- To zoom in on a specific area, click the **Zoom to Rectangle** button . Then click and drag within the page layout to choose an area to zoom in on (make sure you click on a blank part of the page to begin).
- To zoom in, click **Zoom In 10%**.
- To zoom out, click **Zoom Out 10%**.
- To make the page layout fill the workspace, click **Zoom to Page**.

You can also choose any of these commands from the Zoom menu.

Note: To locate an image that is out of view in the Print Layout window, use the scrollbars to scroll through the workspace and locate the image, or choose **Preferences > Auto Arrange**. Paint Shop Pro arranges all images in the workspace onto the page. If the image is still out of view, choose **Zoom > Zoom to Page**.

- 3 Choose **File > Print**, or press **Ctrl + P** to open the Print dialog, or click **Print**  to print the page with the current print settings.

Note: To adjust print settings, choose **File > Print Setup** or click the Print Setup . For more details, see “About Printing Options” on page 437.

- 4 To close the Print Layout window, choose **File > Close** or click the **Close** button .

Note

To remove an image from a print layout, click the image to select it, and then press **Delete**, or choose **Image > Remove**.

Arranging and Sizing Images in a Layout

Once you have images open in the Print Layout window, you can automatically or manually arrange images in a layout.

Save layouts

You can save layouts as templates to make page layout easier. Paint Shop Pro also includes many templates with common layouts. For more information, see “Saving a Page Layout” on page 445 and “Printing a Single Image” on page 446.

Automatically Arranging Images in a Layout

Use the Auto Arrange command to automatically size and position images on the page of the Print Layout window. Paint Shop Pro divides the page into sections of equal size and places each image in a section. Only images on the page or in the workspace are used.

Before automatically arranging images, specify these preferences:

- To include borders between arranged images, choose **View > Options** to set up border options width (the default is 0.5 inches or 1.27 centimeters). If you do not use borders, Paint Shop Pro may arrange images with touching edges.
- To have Paint Shop Pro enlarge (stretch) images to fit their sections of the page layout, choose **View > Stretch to Fit** or click the **Stretch to fit** button . If you do not choose this option, when Paint Shop Pro automatically arranges photos, it keeps them the same size or, if necessary, makes them smaller to fit.

Manually Arranging and sizing Images in a Layout

Use rotate, resize, position, or zoom the images. Display the grid if you want to precisely position image in the window.

To automatically arrange images:

- 1 Drag each image that you want to arrange onto the page or the workspace.
- 2 Choose **Preferences > Auto Arrange**, or click the **Auto Arrange** button .

To rotate an image:

- 1 Click the image to select it. To select multiple images, press **Shift** and click each additional image.
- 2 On the toolbar, click **Rotate Clockwise 90**  or **Rotate Counterclockwise 90** . Or, select the same commands from the Edit menu.

To resize an image:

- 1 Click the image to select it.
- 2 Resize manually or via the Resize dialog:
 - To resize manually, drag a corner handle until the image is the size you want it. The image maintains its aspect ratio.
 - Click the **Resize** button  on the toolbar, or choose **Edit > Resize**. Use the Resize dialog options to set the desired size.

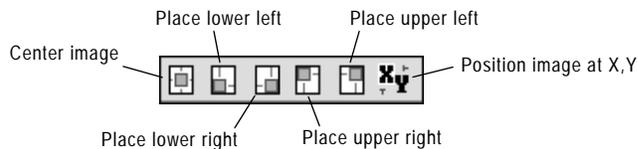
Notes on resizing

Resizing an image for printing can result in poor image quality. When you enlarge an image, the image loses detail and sharpness. As a general rule, don't enlarge or reduce an image more than about 25 percent. If you need more than a 25 percent change, scan or create the image at a different resolution.

To position an image:

Click and drag the image to a new position on the page. You can also temporarily place images in the workspace around the page.

You can also position an image by clicking one of the command buttons. These buttons align the selected image to the layout page.



Position image at X,Y Click this button to open the Place Image dialog. Enter values to set the position of the image's top left corner.

Using the Grid in a Layout

Use the grid to align images evenly on the page.

To display or hide the grid:

Choose **View > Show Grid**.

To snap images to the grid:

- 1 Display the grid.
- 2 Choose **View > Snap to Grid**.

When you click and drag an image to position it, Paint Shop Pro snaps it to the nearest grid line when you release the mouse.

To change the grid settings:

- 1 Choose **View > Options** to open the Print Layout Options dialog.
- 2 Set the grid options on the right side of the dialog. For more information see “In the Grid settings group box, set the following options:” on page 444.
- 3 Click **OK**.

Changing Print Layout Window Options

Use the options in the Print Layout dialog to set auto arrange options, units of measurement, grid settings and template options.

To change Print Layout window settings:

- 1 In the Print Layout window, choose **View > Options** to open the Print Layout Options dialog.
- 2 Choose the **Units**, either inches or centimeters from the drop down list. The dialog's measurements will change to match.
- 3 Mar the **Center to full page** check box to have Paint Shop Pro calculate the page center based on the actual size of the page. Clear this check box to have the page center calculated based on the printer's margins.
- 4 In the **Auto Arrange** group box, choose from the following:
 - **Use borders** Mark this box to have the Auto Arrange function leave a specified border around all images. Enter values for the horizontal and vertical border sizes.
 - **Stretch to fit** Mark this box to have the auto arrange function enlarge images as much as possible (while keeping their aspect ratios).
 - **Horizontal and Vertical border size** Sets the size of the border using the units option chosen above.
- 5 In the **Template options** group box:
 - Choose the Default **Placement** to determine how images will be placed in template cells by default.
 - Mark the **Apply to current template** check box to apply the new default placement option to all the cells of the open template.
- 6 In the Grid settings group box, set the following options:
 - **Show Grid** Mark the check box to show the grid, or clear it to hide the grid.
 - **Dot Grid** Mark the check box to use a dotted-line grid, or clear it to use a solid line grid.
 - **Grid Color** Click the color box to choose another color for grid lines.
 - **Horizontal Spacing** Sets spacing between horizontal grid lines.

- **Vertical Spacing** Sets spacing between vertical grid lines.
- **Snap-to-Grid** Mark the check box to snap images to grid lines when you position them. Clear the check box to position images freely on the page.

Saving a Page Layout

After you set up a page layout, you can save it. You can also save just the formatting of your layout to use with other images. Paint Shop Pro saves the layout as a template.

By default, templates you save are stored in the Print Templates folder of the My Documents\My PSP Files folder.

You can save your layouts in two ways: as a template or as a template with images.

Templates

By default, Paint Shop Pro saves your layout as a template. When you save your layout, Paint Shop Pro uses the size and position of the images in your layout to create blank cells for new images to be placed in. When you open the template later, you must place new images into the blank cells.

Templates with Images

For a layout with certain images that you want to print repeatedly, save the layout as a template with links to the images. Every time you open the template, it will open and display the images you placed in your layout. If you modify images linked to a template, the modified images will appear the next time you open the template.

To save a layout:

- 1 Choose **File > Save Template** or click the **Save Template** button  to open the Save dialog.
- 2 Enter a name for the new template in the **Name** field.
- 3 Choose a save option:
 - Mark the **Save with Images** check box to save image links with the template. When you open the template the images currently on the page will appear. Clear this check box to create a blank template.

4 Click **OK**.

Note

To delete a print layout, use Windows Explorer to navigate to where the template resides, and then delete the layout from the folder.

Printing a Single Image

Quick steps for printing

Press **Ctrl + P** to open the Print dialog, then press **Enter**.

To print the active image:

- 1 Choose **File > Print**, click **Print** , or press **Ctrl + P** to open the Print dialog.
- 2 Do any or all of the following:
 - In the **Printer** group box, select the printer and whether to print to file.
 - On the **Placement** tab, choose the number of copies, the page orientation, and the size and position of the image.
 - On the **Options** tab, choose the print output, color options, and print marks.
 - On the **Template** tab, choose to print a template with images or fill a template with the current image.

Selected options display on the image preview. For more information on the options, see “Printing a Single Image” on page 446.

- 3 Click the **Print** button to print the image. Or, click the **Close** button to save the print options without printing the image.

Printing Images from the Browser

Use the Paint Shop Pro Browser to print all images within a folder, or only selected images. Print the images as thumbnails, or print them any size using a template.

When you print from the Browser, Paint Shop Pro automatically includes the file name under each image, as well as the folder name at the top of the page, and a page number at the bottom.

To print images from the Browser:

- 1 Choose **File > Browse** or press **Ctrl + B**.
The Browse window opens and the main menu updates with Browse commands.

- 2 Navigate to the folder that contains the files you want to print.
- 3 Select files using one of these methods:
 - Click the file's thumbnail.
 - To select more than one file, press **Ctrl** and click each file.
 - To select sequential files, click the first file, then press **Shift** and click the last file.

Note: To deselect a file, press **Ctrl** and click its thumbnail.
- 4 Choose **File > Print** to open the Browser Print dialog.
- 5 Choose options from the **Printer** and **Copies** group boxes. For more information, see "Printing a Single Image" on page 446.
- 6 Choose a thumbnail option:

Use Thumbnails Mark the check box to use thumbnail images, which print faster but are lower resolution and fuzzy. Clear the check box to print the images at normal resolution.
- 7 Choose template options:

Use the standard template

 - Mark this box to print all the images at thumbnail size.
 - Clear this box to choose a template from the drop down list. The Browser will use the template to format your images for printing. To change the folder where Paint Shop Pro loads templates from, click the **Edit Paths** button. For more information, see Chapter 4, Setting File Format Associations.
- 8 Choose a Print Range option:

All Prints all the pages the Browser has created for printing.

Pages Prints only the page range you enter in the **from** and **to** fields.

Selection Prints only the images you selected in the Browser window instead of all the images in the current folder.
- 9 Click the **Print** button to print. Or, click the **Close** button to save the print options without printing the images.

Printing Images Using a Template

To open the Print Layout window

At the Paint Shop Pro main menu, choose **File > Print Layout**.

This command is only available when at least one image is open in Paint Shop Pro.

A quick way to print with templates from the main workspace

The **Template** tab of the **File > Print** command allows you to fill templates with the current image and print templates with saved images. These actions are also scriptable. For more information on the Print to Template option, see "Printing a Single Image" on page 446.

Template Hint

You can also open a template by double clicking its thumbnail.

Use templates to simplify image placement and sizing. Templates, by default, do not contain any specific images. However, Paint Shop Pro can save templates with links to images.

Save your own templates (created from page layouts) or use any of Paint Shop Pro's many templates.

By default, sample templates are stored in the Print Templates folder of Paint Shop Pro program folder. To change where Paint Shop Pro stores and searches for templates, click the **Edit template file locations** button  or choose **File > Template locations**. For more information, see Chapter 4, Setting File Format Associations.

To print images using a template:

1 Open the Print Layout window:

- From the Paint Shop Pro workspace, open each of the images you want to print, and then choose **File > Print Layout**.
- From the Paint Shop Pro Browser, select the thumbnail of each image you want to print, and then choose **File > Print Layout**.

Each open file is displayed in the thumbnail list on the left side. A blank layout is displayed.

2 In the Print Layout window, choose **File > Open Template** or click **Open Template** to open the Templates dialog.

3 Choose a category from the **Select a category** list. Thumbnails of the templates in each category are shown in the window to the left. Templates that have images saved with them will show colored template cells.

Note: When you save custom templates, they will appear under the User Defined category.

4 Select the thumbnail of the template you want to open.

5 Click **OK**. Paint Shop Pro displays the template in the Print Layout window.

Note: If you saved images with the template, the images will appear in the template cells and in the thumbnail list. Templates that have images missing will display a greyed out cell in the template thumbnail.

6 In the Print Layout window, choose **File > Open Template** or click **Open Template** to open the Templates dialog.

- 7 Choose a category from the **Select a category** list.
- 8 Select the thumbnail of the template you want to delete. Click **Delete**.
- 9 Place images into the cells in the template:
 - Place multiple images by dragging each thumbnail into a template cell.
 - Fill the template with copies of the same image, by dragging one image thumbnail onto any cell and then choosing **Edit > Fill Template with Image** or clicking the **Fill template with image** button . Paint Shop Pro fills all cells with the image.

Note: By default, Paint Shop Pro centers the image within the cell and scales the image to fit the cell. To change the default placement method, see “In the Template options group box:” on page 444.

- 10 Choose a cell placement method from the Print Layout window toolbar or from **Edit > Cell Placement**.

Note: You can select the image placement method of a cell before or after you place an image.

Free format  Allows you to freely resize and position the image in the cell.

Size and Center  The image size is *not* changed to match the cell. You can resize the image and the image will always stay centered in the cell.

Fill Cell with the image  Centers the image in the cell and scales the image to fill the cell. The image aspect ratio is maintained, but parts of the image may not be visible.

Fit and center  Scales the image to fit entirely inside the cell and centers the image in the cell. The image aspect ratio is maintained.

Fit and adjust left  Scales the image to fit entirely inside the cell and aligns the image to the left side of the cell. The image aspect ratio is maintained.

Fit and adjust right  Scales the image to fit entirely inside the cell and aligns the image to the right side of the cell. The image aspect ratio is maintained.

Fit and adjust top  Scales the image to fit entirely inside the cell and aligns the image to the top of the cell. The image aspect ratio is maintained.

Quick steps to printing multiple copies of the same image

Open a template, drag one image into any cell of the template, then choose **Templates > Fill Template with Image**. Paint Shop Pro places the same image in every cell. Now choose **File > Print**.

Placing images from the thumbnail list

To control how Paint Shop Pro places an image when you drag it from the thumbnail list, change the template options. For more information see, “In the Template options group box:” on page 444.

Fit and adjust bottom  Scales the image to fit entirely inside the cell and aligns the image to the bottom of the cell. The image aspect ratio is maintained.

To move, rotate, and resize images in cells:

Follow the instructions in “Choose Preferences > Auto Arrange, or click the Auto Arrange button .” on page 442.

To remove an image from a template:

- 1 Click the image to select it.
- 2 Press **Delete**, or choose **Edit > Remove**.

Editing Template Cells

You cannot move or resize cells in a template. A cell’s position and size is locked when a layout is saved as a template.

However, if you saved images with a template, you can revert the template back to a layout.

To revert a template (with images) to a layout:

- 1 Open the template you want to edit. For more information, see “Printing a Single Image” on page 446.
- 2 Choose **File > New Template** or click the **New Template** button . A dialog will open asking, “Do you want to keep the current images in the new template?”
- 3 Click **Yes**.
The Print Layout window will display a new layout that contains all the images that were in the template.

Editing Multiple Cells Simultaneously

Print Layout allows you to apply modifications to multiple cells at the same time. To do so:

- 1 Select the desired cells. Drag the cursor to enclose the cells in a bounding box, or hold down **Ctrl** and click the cells you want to select. When selected, the cell border will turn red.
- 2 Apply the desired edit to the cells. Use the commands in the Edit menu or those in the Print Layout toolbar.

Creating an Elliptical Image Cell

To change a cell from rectangular to elliptical:

- 1 In Print Layout, load a template containing at least one cell.
- 2 Click the cell you want to make elliptical, and then click the **Make cell elliptical** button  on the Print Layout toolbar, or choose **Edit > Set selected cells elliptical**. The cell's image will then appear through the ellipse.

Note: To make the cell rectangular again, click the **Make cell rectangular** button , or choose **Edit > Set selected cells rectangular**.

Placing Text Captions on the Layout

To place a box containing custom text onto your print layout:

- 1 In the main Paint Shop Pro workspace, open the image(s) you wish to print.
- 2 Choose **File > Print Layout**. This puts Paint Shop Pro in Print Layout mode. Your open images will appear along the left side of the window.
- 3 Drag the images into the layout area on the right, or load an existing template and drag your images into the template's cells.
- 4 In the Print Layout toolbar, click the **Text** tool .
- 5 Position the cursor where you want the text to appear, and then drag the cursor to create the text box. When you release the mouse button, the Text Field dialog will appear.
- 6 Enter the text you want to appear on the printed page.
- 7 Set your options for font, size, style, color, and alignment. Note that if you want to continue using these settings, mark the **Retain text** settings check box at the bottom of the Text Field dialog.
- 8 Click **OK** to place your text on the layout.
- 9 If necessary, drag the sides of the text box to fit the text it contains. Drag the text box to move it.
- 10 To rotate the text, select the text box (if isn't already selected), then choose **Edit > Rotate Clockwise 90 / Rotate Counterclockwise 90**. You could also click these buttons on the toolbar, or right-click and choose either rotation command from the context menu.

Printing with CMYK Color Separations

When you print using CMYK separations, Paint Shop Pro prints four pages representing the levels of Cyan, Magenta, Yellow, and Black in the image.

Note

Printing CMYK separations is the opposite of the Colors > Split Channels > Split to CMYK command. When you split channels Paint Shop Pro treats white as full color and black as no color (brighter equals more color). When you print CMYK separations, Paint Shop Pro treats black as full color and white as no color (darker equals more color).

To modify the default CMYK conversion preferences, see “Defining CMYK Profiles” on page 452

To print CMYK color separations:

- 1 Choose **File > Print** to open the Print dialog.
- 2 Click the **Options** tab.
- 3 In the **Print Output** group box, choose **CMYK Separations**.
- 4 Choose other print options as desired. For more information, see “Printing a Single Image” on page 446.
- 5 Click the **Print** button.

Defining CMYK Profiles

In a CMYK (Cyan, Magenta, Yellow, and Black) conversion, Paint Shop Pro replaces the RGB (Red, Green, and Blue) colors you see on the monitor with the CMYK colors used in printing. You can then print a separate page for each CMYK color by selecting the CMYK Separations option in the Page Setup dialog box. This is useful if you are using a pre press shop and doing high-end printing.

Before printing the separations, configure the CMYK preferences to determine how Paint Shop Pro handles the conversion from RGB to CMYK. Save these preferences in a file called a profile.

To set the current profile:

- 1 Choose **File > Preferences CMYK Conversion Preferences** to open the CMYK Conversion Preferences dialog.

- 2 Choose the name of the profile from the **Current Profile** drop down list.
- 3 Click **OK**.

To create a new profile:

Note

Paint Shop Pro uses the program's default settings until you create a profile.

- 1 Choose **File > Preferences > CMYK Conversion Preferences** to open the CMYK Conversion Preferences dialog.
- 2 Do one of the following:
 - Choose the name of a profile from the **Current Profile** drop down list and click **New**. This will base the new profile on the settings of the selected profile.
 - Click **New**. This will base the new profile on the program's defaults.

The New CMYK Profile dialog will open.

- 3 Type a name for the new profile in the **Enter profile name** field.
- 4 Choose the initial setting:
 - Reset to defaults** Base the new profile on the program's defaults.
 - Use current settings** Base the new profile on the settings in the current profile.
- 5 Click **OK**.

To remove a profile:

- 1 Choose **File > Preferences > CMYK Conversion Preferences** to open the CMYK Conversion Preferences dialog.
- 2 Choose the name of the profile from the **Current Profile** drop down list.
- 3 Click **OK**.

Modifying a CMYK Profile

Use the tabs on the CMYK Profile dialog to configure the CMYK black generation, transfer and components, and to adjust the for color shifts.

To open the CMYK Profile dialog:

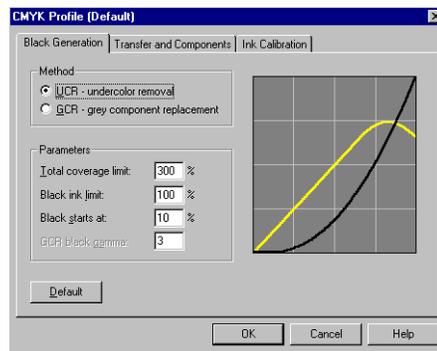
- 1 Choose **File > Preferences > CMYK Conversion Preferences** to open the CMYK Conversion Preferences dialog.
- 2 Choose the name of the profile from the **Current Profile** drop down list.
- 3 Click **Modify** to open the CMYK Profile dialog

Note

Clicking **Default** in any of the profile tabs will reset the tab to the program's default settings.

To configure the Black Generation tab:

- 1 In the CMYK Profile dialog click the Black Generation tab.



- 2 In the **Method** group box, choose from the following options:

UCR - Undercolor Removal Replaces some of the cyan, magenta, and yellow components of neutral grey and shadow areas with black. This helps compensate for some of the trapping problems that occur in multi-color printing.

GCR - Grey Component Replacement Replaces grey components in colored areas with black. The least prominent color is reduced or removed completely, along with proportional amounts of the other two colors, to define a grey component, which is then replaced with black ink.

- 3 In the Parameters group box, configure the following settings:

Total coverage limit This can range from 200 to 400%

Blank ink coverage limit This can range from 0 to 200%

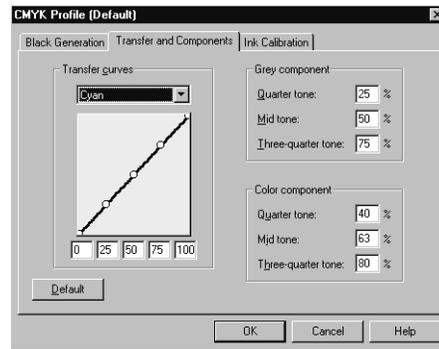
Black starts at This can range from 0 to 100%

GCR Black Gamma This can range from 1 to 4. This option is inactive unless the GCR option is selected.

Note: The black line in the graph represents the black value and updates as you change the settings.

To configure the Transfer and Components tab:

- 1 In the CMYK Profile dialog click the Transfer and Components tab.

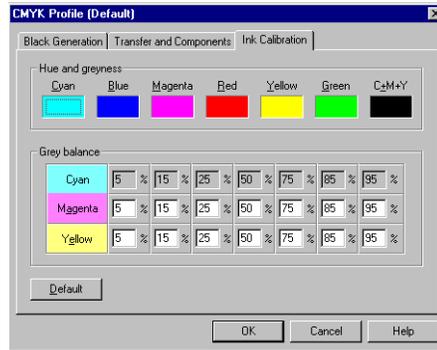


The left panel of the Transfer and Components tab displays a graph of the transfer curves for cyan, magenta, yellow, and black. The right panels display parameters for grey and color components.

- 2 In the **Transfer Curves** group box, adjust the transfer curves by highlighting the name of a curve in the **Transfer Curves** drop-down list, and then dragging the points of the curve up or down. Each transfer curve contains five adjustable points that define the curve based on its zero-tone, quarter-tone, mid-tone, three-quarter-tone, and full-tone percentages. The default curve is a straight line from 0 to 100%. A curve that slopes above this 45° line produces darker tones.
- 3 In the **Grey Component** group box, set the percentages by typing values into the corresponding fields. Values can range from 0 to 100%.
- 4 In the **Color Component** group box, set the percentages by typing values into the corresponding fields. Values can range from 0 to 100%.

To configure the Ink Calibration tab:

- 1 In the CMYK Profile dialog click the **Ink Calibration** tab.



- 2 In the **Hue and Greyness** group box, click in the color box of the color you want to change to open the **Color** dialog. Adjust the color settings and click **OK**.
- 3 In the **Grey Balance** group box, type values in the text fields to adjust the individual CMY percentages.

Saving Images for Printing

If you are printing your image on a personal printer, save it in the .PspImage format. This gives you the most flexibility. Paint Shop Pro prints all the layers in an image, so you don't need to flatten it (merge all layers). If you are using a black-and-white printer, choose the Greyscale option in the Print dialog.

If you are sending the image to a printing service, flatten the image before saving it. When you save an image in most formats other than .PspImage, Paint Shop Pro automatically flattens the image. Ask your printer about the requirements for file format, resolution, and color depth. If you need CMYK color separations, choose that option in the Print dialog.



CHAPTER 19

Sharing and Creating Images for the Web

Use the Web tools to create backgrounds for your Web pages, map and slice images to create hotspots or rollovers. Optimize images for the Web to reduce the image file size and make images load more quickly. Share your images by sending them via e-mail. Protect your images by adding a watermark with creator and copyright information.

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Sending Images via E-Mail

Use Paint Shop Pro to e-mail any open image to friends, family, or colleague using an e-mail program. The image is in its current file format whenever possible.

Note

In order to send images via e-mail your computer must have a default e-mail application that supports the MAPI standard such as Microsoft Outlook, or Outlook Express

To send the image via e-mail:

Choose **File > Send** or click the **Send Mail** button on the toolbar.

Your current mail program opens with the file attached. Enter the recipient, type a message, and then send it.

Uploading Images to a Photo Sharing Service

Use Paint Shop Pro to easily upload your images to a photo sharing service. Photo sharing services allow you to upload and store your images online, order high-quality prints and greeting cards, and share your images online.

Before you can add, share, and print pictures at a photo sharing service, you must enroll. Signing up is free and gives you space to store, print, and share your images. Visit the Web site for the photo sharing to obtain your user name and password.

Using other photo sharing services

As Paint Shop Pro is updated, support for additional photo sharing services may be included. To find out if support for additional photo sharing services is available, be sure your computer is connected to the Internet, and then choose **Help > Check for Updates**. To change your service choose **File > Preferences > General Program Preferences**, click the **PhotoSharing** tab, and then choose the photo sharing service from the list of available services.

Uploading Images a Photo Sharing Service

You can use Paint Shop Pro to upload images to a photo sharing service.

To upload images to a photo sharing service:

- 1 Choose **File > Browse** or click the **Browse** button  on the toolbar to open the Paint Shop Pro Browser.
- 2 Select the images that you want to upload to a photo sharing service.

- 3 To open the PhotoSharing dialog:
 - Click the PhotoSharing button  on the Browser toolbar.
 - Choose **File > Export > PhotoSharing**.
 - Right-click to display a context menu and select **PhotoSharing**.
- 4 The **Upload Album** field displays the name of the album where the images will be stored on the PhotoSharing site. By default the album is named with the current date, but you can enter a different name for the album.
- 5 In the **Connection Info** group box, enter the user name (e-mail address) and password for the photo sharing service.

Note: Mark the **Remember Password** check box if you want the system to remember the login information.
- 6 Click the **Upload** button to upload the images to the photo sharing site.
- 7 Once the images are uploaded, you will be prompted to visit the photo sharing site, click **Yes** to automatically access the web site for the photo sharing service.

Notes about Uploading

If you are unable to log-in to a photo sharing service, first make sure that your computer is connected to the Internet, and that you have entered the correct e-mail address and password on the login screen.

If you are unable to log-in and are using Paint Shop Pro in a corporate environment, you may need to modify the Proxy Server settings. Check with your Network Administrator to get the Proxy Server information for your corporate network.

Saving Images for the Web

Because the majority of Web browsers recognize GIF and JPEG images, these two formats are used most often for saving Web images. Newer versions of the Web browsers can also recognize the more recent PNG format, and many Web browsers also support Windows Wireless Bitmap (WBMP) and iMode formats, which are popular to display when using wireless devices.

When you save images for the Web, there are three major issues to consider: layers, color depth, and file size.

Lossy vs. Lossless compression

Lossy compression is a compression method that eliminates data to reduce the file size, while **lossless** compression retains all of the original image data and reduces the file size by storing patterns of pixels in the image.

Layers

Because none of the current Web browsers can display layered images, you need to flatten an image before saving it for the Web. Flatten it by choosing **Layers > Merge > Merge All (Flatten)**.

Color Depth

Some computers are only capable of displaying up to 256 colors. If an image on a Web page contains more colors, the Web browser uses its own dithering method to display the image. This can produce color distortion. If you reduce the color depth of the image to 8 bits (256 colors) before placing it on your Web page, its appearance will be more consistent.

File Size

File size affects the majority of users accessing a Web page. As the size of an image file increases, it takes more time to download, so viewers have a longer wait. Use a file format that reduces the image size most efficiently while keeping the quality as high as possible.

Web File Formats

Choose from the following file formats when saving image for use on the Web:

- **GIF** Use this format to compress line art and images with areas of similar colors. It supports 8-bit (256) color. There are two versions of GIF: 89a, which can save transparency and animation information, and 87a, which cannot. Both are recognized by most browsers and use lossless compression.
- **JPEG** Use this format to compress photographic images. It supports 24-bit (16 million) color, uses lossy compression, and is recognized by most browsers.
- **PNG** This format compresses most images efficiently. It supports up to 24-bit (16 million) color and uses lossless compression. It is recognized by most browsers, however many features of this format are not available.
- **Wireless Bitmap (WBMP)** This format is used with many wireless devices. The images are black and white and have lossless compression.

Optimizing GIF Files

Use the Paint Shop Pro GIF Optimizer feature to save GIF files that maximize quality while minimizing file size. You can save images with or without transparency, depending on how you want to display them on your Web pages.

Paletted images (those with 256 or fewer colors, such as GIF or PNG files) do not support transparent backgrounds, but you often need to make part of your image transparent when displayed on a Web page. For example, you may have a round logo and you want the background of the Web page to display around the logo.

Most Web browsers can choose not to display one color, effectively making that color transparent. Use the GIF optimizer to choose the color to make transparent.

To optimize and save a GIF file:

- 1 Choose **File > Export > GIF Optimizer** to open the GIF Optimizer dialog. The preview windows show the current image on the left and the resulting GIF file on the right.
- 2 Do one of the following:
 - Configure the settings on the Transparency, Partial Transparency, Colors, and Format tabs. For more information, see “Choosing GIF Optimizer Settings” below.
 - Click the **Use Wizard** button to let Paint Shop Pro guide you through the process.

Choosing GIF Optimizer Settings

The GIF Optimizer dialog contains four tabs where you configure the transparency, color, and format options for the file. The fifth tab displays estimated download times of the image at various modem speeds.

GIF Optimizer Transparency Tab

The option you choose in this tab determines which area of the image becomes transparent:

None Produces a GIF file that does not contain one color set to transparency.

Existing Image or Layer Transparency Uses the current transparency information from the image.

Inside the Current Selection For images with a selection, this option makes everything within the selection transparent.

Outside the Current Selection For images with a selection, this option makes everything outside the selection transparent.

Areas that Match this Color Click the color box to select any color. Or, to choose a color from the image, move the cursor over the image, and click the color. In the **Tolerance** edit box, set a tolerance factor that indicates how closely colors must match the selected color before they become transparent.

GIF Optimizer Partial Transparency Tab

A GIF file cannot contain partially transparent pixels. All pixels must be either transparent or opaque (visible). Original images may contain partially transparent pixels if the image does not have a background layer, and you have reduced the opacity of a layer, added a mask, feathered a selection, or used a brush at a reduced opacity setting. Use the options in the Partial Transparency tab to determine whether the partially transparent pixels become transparent or opaque, and whether they are blended with another color. If you chose the None option in the Transparency tab, the options in this tab are unavailable.

- To determine how Paint Shop Pro represents partially transparent pixels, choose from these options:

Use Full Transparency for Pixels Below x% Opacity Pixels below the opacity value you enter become transparent. Pixels above the opacity value become opaque. As you lower the value, you reduce the number of transparent pixels.

Use a 50% Dither Pattern Paint Shop Pro makes partially transparent pixels opaque using either the color chosen for blending or the image color (depending on the blending option), then applies a 50% dither pattern to make colors look more natural.

Use Error Diffusion Dither Paint Shop Pro makes partially transparent pixels opaque using either the color chosen for blending or the image color (depending on the blending option), then applies an error diffusion dither to make colors look more natural.

- To determine how partially transparent pixels are blended, choose one of these options:

Yes Blends the partially transparent pixels with the color in the Blend color box. To choose a new color, click in the color box to choose from the Color dialog. Partially transparent pixels below the value you entered above are blended with this color.

No Uses the existing image color at 100% opacity.

GIF Optimizer Colors Tab

GIF images have an 8-bit color depth, which means they can display up to 256 colors. Because these colors are stored in a palette, an image containing 256 or fewer colors is called a paletted image. To reduce file size, you can have fewer than 256 colors. Use the options in this tab to select the colors and type of palette used.

- 1 Choose **how many colors** you want the saved image to contain. As you remove colors, the size of the file decreases, but so does the quality of the image. Use the preview windows to help you determine the best balance between file size and image quality.
- 2 Choose the **amount of dithering**, which refers to the way Paint Shop Pro arranges pixels in an image to compensate for missing colors in the adjacent pixels.
- 3 Choose a **method of color selection** for the palette that will be used for the image:
 - Choose the **Existing Palette** option if your image is already paletted and you want to use its palette.
 - Choose the **Standard/Web-safe** option if your image will be used on the Web.
 - Choose the **Optimized Median Cut** option if you need to reduce the image to only a few colors.
 - Choose the **Optimized Octree** option if your original image contains only a few colors.

Note: Depending on your needs, you may want to try both “Optimized” options and choose the one that gives you the best looking result or the smallest file size.
- 4 In the **Options** group box:
 - Mark **Boost selected colors** to give selected colors more weight by a factor of the value you enter. Use this if you have made a selection in the image and you want its colors stand out from the rest of the image. After marking the check box, and set the value to determine the amount of color boosting.

- Mark the **Include Windows' colors** check box to include the 16 standard Windows colors in the palette. If the image will be used on the Web, mark this check box.

GIF Optimizer Format Tab

- 1 Choose a **type of file**, to determine how the image is displayed as it downloads:
 - **Non-interlaced** The image downloads one line at a time, starting from the top.
 - **Interlaced** The image is displayed incrementally in several passes, and detail is added each time. Use this option with larger images so that the viewer can get an idea of how the image looks while waiting for it to download.
- 2 Choose a **version** for the file. Choose **Version 89a** to save transparency information. It is selected automatically if the image contains transparent pixels. **Version 87a** is available only if the image does not contain a transparency.

GIF Optimizer Download Times Tab

This tab displays the size of the compressed file and an estimate of the download time at four Internet speeds. If the file size is too large, decrease it by clicking the Colors tab and reducing the number of colors.

Saving the GIF File

After you have selected the options, click **OK** to open the Save As dialog. Navigate to the folder in which you want to save the new image and type a name for the file. When you click **Save**, Paint Shop Pro saves a copy of the image as a GIF file.

Optimizing JPEG Files

Paint Shop Pro provides a JPEG Optimizer feature to assist you in saving JPEG files that maximize quality while minimizing file size.

To optimize and save a JPEG file:

- 1 Choose **File > Export > JPEG Optimizer** to open the JPEG Optimizer dialog. The preview windows show the current image on the left and the resulting JPEG file on the right.
- 2 Do one of the following:

- Configure the settings on the Quality and Format tabs, and view estimated download times on the Download Times tab.
- Click the **Use Wizard** button to let Paint Shop Pro guide you through the process.

Choosing JPEG Optimizer Settings

The JPEG Optimizer dialog contains two tabs where you configure the settings and a third that displays estimated download times of the image at various Internet speeds.

Don't lose more data

Each time you open and save a JPEG, image data is discarded. It is a good idea to keep a copy of the original image.

Lossy vs. Lossless compression

Lossy Compression is a compression method that eliminates data to reduce the file size, while **lossless** compression retains all of the original image data and reduces the file size by storing patterns of pixels in the image.

JPEG Optimizer Quality Tab

Use this tab to set a compression value and chroma subsampling for the file.

- The **compression value** reduces the file size by deleting image information. This means that as you increase the compression, you lower the quality of the image. Use the image preview window to help you find the best balance between the two.
- With **Chroma subsampling** the file size of the JPEG is reduced by averaging the color information for every 2 x 2 square of pixels. You can change this setting to have a larger area of color information averaged.

JPEG Optimizer Format Tab

The options on this tab determine how an image appears as it is being loaded:

Standard The image downloads one line at a time, starting from the top.

Progressive The image is displayed incrementally in several passes, and detail is added each time. Use this option with larger images so that the viewer can get an idea of how the image looks while waiting for it to download.

JPEG Optimizer Download Times Tab

This tab displays the size of the compressed file and an estimate of the download time at four modem speeds. To change the file size, click the Quality tab and increase or reduce the compression value.

Saving the JPEG File

After you have selected the options, click **OK** to open the Save As dialog. Navigate to the folder in which you want to save the new image, and type a name for the file. When you click **Save**, Paint Shop Pro saves the image in the JPEG format.

Optimizing PNG Files

Paint Shop Pro provides a PNG Optimizer feature to assist you in saving PNG files that maximize quality while minimizing file size.

To optimize and save a PNG file:

- 1 Choose **File > Export > PNG Optimizer** to open the PNG Optimizer dialog. The preview windows show the current image on the left and the resulting PNG file on the right.
- 2 Do one of the following:
 - Configure the settings on the Colors, Transparency, and Format tabs, and view estimated download times on the Download Times tab. For more information, see “Choosing PNG Optimizer Settings” below.
 - Click the **Use Wizard** button to let Paint Shop Pro guide you through the process.

Choosing PNG Optimizer Settings

The PNG Optimizer dialog contains three tabs where you configure the color, transparency, and format options of the file. The fourth page displays estimated download times of the image at various modem speeds.

PNG Optimizer Colors Tab

Use this tab to select a color depth for your PNG image and, for paletted images, the method of color reduction, number of colors, and amount of dithering.

- 1 Select the **image type** to determine whether the saved image is **Palette-Based** (256 colors or less), **Greyscale (8-bit)**, or **16 million color (24-bit)**. Remember that a 24-bit image is larger and takes more time to download than an 8-bit image. If you want to use the Alpha Transparency option (on the Transparency tab) with your image, you must choose either the Greyscale or 24-bit color option. Paletted images cannot display alpha transparency.

Note: When you choose to create a Palette-Based image, the other options on this tab become available.

- 2 Choose **how many colors** you want the image to contain. As mentioned, a paletted image contains 256 or fewer colors. As you remove colors, the size of the file decreases, but so does the quality of the image. Use the preview windows to help you determine how small you can make the image without compromising quality.
- 3 Choose **how much dithering** you want in the image. This refers to the way the program arranges pixels to compensate for missing colors in the adjacent pixels. Use the preview windows to help you determine the best setting.
- 4 Select a **method of color selection** to determine how Paint Shop Pro reduces the number of colors in the image:
 - Select **Existing Palette** if your image is paletted and you want to use its palette.
 - Select **Standard/Web-safe** if your image will be used on the Web.
 - Select **Optimized Median Cut** if you need to reduce the image to only a few colors.
 - Select **Optimized Octree** if your original image contains only a few colors.

Note: Depending on your needs, try both “Optimized” options and select the one that produces the better-looking image or the smaller file size.

- 5 In the **Options** group box:
 - Mark **Boost selected colors** to give selected colors more weight by a factor of the value you enter. Use this if you have made a selection in the image and you want its colors stand out from the rest of the image. After marking the check box, and set the value to determine the amount of color boosting.
 - Mark the **Include Windows' colors** check box to include the 16 standard Windows colors in the palette. If the image will be used on the Web, mark this check box.

PNG Optimizer Transparency Tab

The option you choose in this tab determines which area of the image becomes transparent. To create a transparency from a selection, make the selection before opening the PNG Optimizer dialog.

- 1 For the **type of transparency**, choose from these options:
 - **No transparency** Saves the image without transparency.
 - **Single color transparency** Makes one color transparent. If the image contains transparency, then you can then select the Existing Image or Layer Transparency option (described below). If the image does not contain a transparency, then select the Areas that Match this Color option. The Single Color Transparency option usually creates a smaller file than the Alpha Channel Transparency option, but selecting it causes the image to lose existing alpha channel transparency.
 - **Alpha channel transparency** Uses the image's alpha channel transparency. Because paletted images cannot contain alpha channels, this option is available only when you select Greyscale or 16 million color option on the Colors tab.
- 2 For the **areas of the image to be transparent**, choose from these options:
 - **Existing image or layer transparency** Uses the current transparency information. For paletted transparency and alpha transparency images, the alpha channel is used to create transparency
 - **Inside the current selection** For images with a selection, this option makes transparent everything within the selection.
 - **Outside the current selection** For images with a selection, this option makes transparent everything outside the selection.
 - **Areas that match this color** Click the color box to select any color. Or, to choose a color from the image, move the cursor over the image, and click the color. In the **Tolerance** edit box, set a tolerance factor that indicates how closely colors must match the selected color before they become transparent.

PNG Optimizer Format Tab

Use this tab to determine how an image appears as it is downloaded:

Non-interlaced The image downloads one line at a time, starting from the top.

Interlaced The image is displayed incrementally in several passes, and detail is added each time. Use this option with larger images so that the viewer can get an idea of how the image looks while waiting for it to download.

PNG Optimizer Download Times Tab

This tab displays the size of the compressed file and an estimate of the download time at four modem speeds. If the file size is too large, decrease it by clicking the Colors tab and reducing the number of colors.

Saving the PNG File

After you have selected the options, click **OK** to open the Save As dialog. Navigate to the folder in which you want to save the new image, and type a name for the file. When you click **Save**, Paint Shop Pro saves a copy of the image and leaves the original image unchanged.

Saving Images for Use In Animation Shop

If you want to save an image for use in Animation Shop, you must be aware of the following:

- Animation Shop can only open .PspImage format images saved with the PSP 7 or earlier compatibility option. In the Save As dialog, choose either of these file formats:

Choose the **Animation Shop** format; or

Choose the **Paint Shop Pro Image** format, click **Options**, and then choose an earlier Paint Shop Pro version compatibility option.

- Animation Shop also supports popular file formats such as GIF and JPG. Note that JPEG 2000 is not supported by Animation Shop.

Previewing Images in a Web Browser

If you have a Web browser installed on your computer, you can use the Web Browser feature to see how your active image will look on the Web. Paint Shop Pro creates an HTML page that displays your image in Windows Bitmap, GIF, JPEG, or PNG format.

To preview image files in Web browsers:

- 1 Choose **View > Preview in Web Browser** to open the Preview in Web Browser dialog.
- 2 To change or add Web browsers, click the **Edit Web Browsers** button. For more information, see “Setting File Format Associations” on page 79. You can select up to three browsers.
- 3 In the **Select image formats** list, click each format in which you want to preview your image.
- 4 To select a background color for the Web page, left-click the **Background color** box to choose from the Color dialog or right-click it to choose a recently used color.
- 5 In the **Image size** group box:
 - Mark the **Use default** check box to keep the original image dimension. Clear the check box to enter new image dimensions (in pixels) in the Width and Height edit boxes. The resizing is done using HTML and not by Paint Shop Pro.
 - Mark the **Lock Aspect Ratio** check box to keep the image’s current height to width ratio when it is resized.

6 Click the **Preview** button.

- If you selected to preview only the Bitmap format, the program launches the Web Browser and displays the image.
- If you selected any other format, the program opens the appropriate Optimization dialog (see “Saving Images for the Web” on page 459). Select your choices for optimizing the image and click **OK**.

The Web browser or browsers display your image in the selected formats. You may need to scroll to see them. For each format, the browser displays the file size, color depth, and approximate download times at different modem speeds.

Creating Image Rollovers

A rollover is an image or section of an image that changes appearance when the user activates it. Web designers frequently create rollovers for the buttons of a navigation bar. When a user clicks a button, the browser displays the linked Web page (or file), and the rollover area displays a different button.

You can assign a rollover to both sliced and mapped images by choosing a file for the slice or area to display when the user performs a specific mouse action.

To create image rollovers:

- 1 Create the image that will be used as the rollover image. Often this second image is a duplicate of the original, but modified to appear differently when the mouse rolls over the original image.
- 2 Choose **File > Export > Image Mapper** or **Image Slicer** to open the Image Mapper or Image Slicer dialog.
- 3 If necessary, navigate to an image region, and then use the appropriate tool (rectangle, ellipse, polygon) to specify the region where you want to add a rollover.
- 4 Click the **Rollover Creator** button to open the Rollover Creator dialog.
- 5 Select the check box of the action you want used to activate the rollover: **Mouse over**, **Mouse out**, **Mouse click**, **Mouse double-click**, **Mouse up**, **Mouse down**, and then click the **Open** button  to open the Select Rollover dialog.
- 6 Navigate to and select the graphics file you want to use as the rollover image.

Viewing a Preview

Click the Preview button  to view your work in a Web browser window.

- 7 Click **Open**. On the Rollover Creator dialog, the File box displays the file path.
- 8 For each action you want associated with a rollover, mark the check box and choose a rollover file.
Note: If you do not select a file, then the original file is used.
- 9 Click **Close** to return to the Image Mapper or Image Slicer dialog.

Mapping Images

Use the Image Mapper dialog to create image maps for your Web pages. An image map is a graphic that contains a mapped areas (called cells), that link to URLs. Cells can be circles, rectangles, or irregular shapes. When user moves the mouse over a cell, the cursor changes to a hand indicating that you can click that area to jump to another Web page.

To map an image, first create the map areas (cells), then assign the URLs, set cell properties, and then save the map file as GIF, JPEG, or PNG file. When you save the file, a HTML page is automatically generated and copied to the clipboard, so all you have to do is paste it into the source files for the Web page.

Creating Map Areas

On the Image Mapper dialog, use the tools in the Tools group box to create and edit the mapped areas.

To create a map area:

Tips:

- Use the **Pan** tool drag the image in the preview to view hidden areas of the image.
- Increase the size of the dialog to view more of the image in the preview area.
- Use the **Zoom** buttons to magnify a specific area of the image.

- 1 Choose **File > Export > Image Mapper** to open the Image Mapper dialog.
- 2 Choose the shape of a mapped area.
The **Rectangle** tool creates square or rectangular map areas, the **Circle** tool creates circular map areas, and the **Polygon** tool creates map areas enclosed with multiple straight line segments.
- 3 Do either of the following:
 - With the **Rectangle** or **Circle** tool, click the image in the preview window (not the original image) and drag the cursor until the area you want map is enclosed.

- With the **Polygon** tool, click the image in the preview window to set the starting point, move the cursor to where you want the line to change directions, and click the image. Continue clicking new positions in the image to change the direction of the line. To complete the polygon, left-click on or near the starting point, or right-click the image.

To change the shape of a map area:

Select the **Pan** tool , and then:

- Click and drag any point on a rectangle or a polygon.
- Click and drag a circle by the dot at its upper left or lower right.

To move the entire map area:

Select the **Move** tool , click inside the map area, and then drag it to a new position.

To remove a map area from the image:

Select the **Eraser** tool , and then click inside the map area.

To remove all of the map areas:

Click the **Clear** button.

Assigning Map Area Properties

After you have created the map areas (or cells), use the settings in the Cell Properties group box to assign URLs, alternate text, and targets.

To assign map area properties:

- 1 Make a map area active by clicking inside it with the Pan or Move tool. Its boundaries are displayed in the lower portion of the **Cell Properties** group box.
- 2 In the **URL** field, type the address of the Web page that you want to link to (example: <http://www.jasc.com>), or select an recently used address from the drop-down list. If you do not want to link to a Web page, type #.

Viewing a Preview

Click the Preview button  to view your work in a Web browser window.

URL and Alt text tip

The recent information typed in the URL and Alt text fields is remembered by the program. To adjust how much information is remembered, see “Setting Map Preferences” on page 474.

- 3 In the **Alt text** field, type the text that displays if image doesn't load or if the user has images disabled in their Web browser. This text also appears as a ToolTip in some versions of Internet Explorer. You can also select recently typed text from the drop-down list.
- 4 In the **Target** box, select the target frame in which to open the linked page:
 - _blank** Loads the linked page in a new browser window.
 - _parent** Loads the linked page in the parent frameset of the link. If the link is not in a nested frame, the image loads in the full browser window.
 - _self** Loads the linked page in the same frame as the link.
 - _top** Loads the linked page in the full browser window and removes all frames.
- 5 To assign a rollover to a map area, click the **Rollover Creator** button, see “Slicing Images” on page 476.

Setting Map Preferences

Using the Map Preferences dialog to select new colors for the border lines of the active and inactive map areas and enter the number of entries that the URL and Alt text drop-down lists display.

- 1 In the Image Mapper dialog, click the **Preferences** button to open the Map Preferences dialog.
- 2 For the **Active map border color**, click the color box and choose a color.
- 3 For the **Inactive map border color**, click the color box and choose a color.
- 4 For the **Maximum history list**, enter the number of entries stored in the URL and Alt text drop-down lists.
- 5 Click **OK**.

Saving and Loading the Map Settings

When you save the map settings, you save the map area arrangement and the information you entered in the Image Mapper dialog. You can then re-load the settings into the same image, or use the settings with a different image.

To save the map settings:

- 1 In the Image Mapper dialog, click the **Save Settings As** button to open the Save Map Settings dialog.
- 2 Navigate to the folder in which you want to save the settings file. The file is saved in the .JMD format.
- 3 Type a name for the file and click **Save**.

To load the map settings:

- 1 Open the image in which you want to load map settings.
- 2 Choose **File > Export > Image Mapper** to open the Image Mapper dialog.
- 3 Click the **Load Settings** button to open the Load Map Settings dialog.
- 4 Navigate to and select the .JMD file you want to load.
- 5 Click **Open**.

Saving an Image Map to the Clipboard

Save map settings to the clipboard so you can paste them into the HTML code.

To save an image map to the clipboard:

- 1 In the Image Mapper dialog, click the **Save to Clipboard** button to open the HTML Destination Folder dialog.
- 2 Navigate to the folder where the HTML file is saved, and click **OK** to open the Image Map Save as dialog.
- 3 Navigate to the folder where the image file is saved, and click **Save**.
- 4 Open the HTML file, place the cursor where you want to insert the HTML map code, and press **Ctrl + P**.

Saving Image Maps

Save image maps to a directory on your hard drive so you can use or edit them.

To save image maps:

- 1 In the Image Mapper dialog, click the **Save** or **Save as** button to open the HTML Save As dialog.
- 2 Navigate to the folder where you want to save the HTML code and click **OK**.

Slicing Images

When you slice an image, you divide it into several smaller images that you can save in different formats or at different levels of optimization. Because these optimized images can take less time to download than one large image, your Web pages may load more quickly.

Slicing an image also can reduce the number of graphics you need to save. If your Web site displays the same logo or other graphic in more than one image, you only need to save that section once if you slice the images; you reload the same logo or graphic section into all the images.

The Imager Slicer works by creating a table from the image, saving the location of each sliced section as a region in the table, and generating the HTML code for the column and cells. Copy this code into your source files so that the image can be reassembled when the user downloads the Web page.

The Image Slicer can also create rollovers, which are areas that display secondary images when the user clicks or moves a mouse over them.

Creating and Editing Cells

In the Image Slicer dialog, use the tools in the Tools group box to divide the image into cells and to edit the cell boundaries. The Grid tool creates a grid of evenly spaced cells, either over the entire image or within another cell. The Line tool creates a horizontal or vertical line.

To create the cells:

- 1 Choose **File > Export > Image Slicer** to open the Image Slicer dialog.
- 2 Do either of the following:
 - To create evenly spaced and sized cells, click the Grid tool . Click in the image. The Grid Size dialog opens. Set the number of **Rows** and **Columns**.
 - To isolate a specific area, such as a logo, click the Slice tool . Click and drag in the image where you want a line to appear. To create a vertical line, click and drag vertically; to create a horizontal line, click and drag horizontally.

Tips:

- Use the **Pan** tool drag the image in the preview to view hidden areas of the image.
- Increase the size of the dialog to view more of the image in the preview area.
- Use the **Zoom** buttons to magnify a specific area of the image.

To move a line or grid border:

- 1 Choose either the **Pan** tool  or **Slice** tool .
- 2 Move the cursor over a line.
- 3 When the cursor changes to the double-sided arrow , click and drag the line to a new position. To move only the segment within the current cell, press the **Shift** key before clicking the line.

Note: You can move lines up, but not across adjacent parallel lines. You can move individual lines and lines that are part of a grid. As you drag a line, Paint Shop Pro moves the longest segment that can be repositioned without creating a non-rectangular cell.

To delete a line or grid border:

- 1 Select the **Eraser** tool  and move the cursor over the line.
- 2 When the cursor changes to the Eraser, click to delete the line. If deleting the line would create an invalid area, Paint Shop Pro displays an icon  to indicate that you cannot erase the line.

Assigning Slice Cell Properties

After you have created sliced cells, use the settings in the Cell Properties group box to assign URLs, alternate text, and targets to each cell. You also set whether the cell should appear in the downloaded image. By omitting cells, you can add cells from other images (such as logos or text) and create images in non-rectangular shapes.

To assign cell properties:

- 1 Choose the **Pan** tool , then click inside the cell to make it active. The cell boundary information displays in the lower portion of the Cell Properties group box.
- 2 In the **URL** drop-down list, type the address of the Web page where you want the cell to appear. Click the arrow in the box to display and select recently used addresses.
- 3 In the **Alt text** box, type alternate text that the browser can display while the cell is downloading, if the cell doesn't download, or if the user has images disabled in the Web browser. This text also appears as a ToolTip in some versions of Internet Explorer.
- 4 In the **Target** box, select the target frame or window in which you want the image to open:
 - _blank** Loads the linked page in a new browser window.
 - _parent** Loads the linked page in the parent window or frameset of the link. If the link is not in a nested frame, the image loads in the full browser window.
 - _self** Loads the linked page in the same window or frame as the link.
 - _top** Loads the linked page in the full browser window and removes all frames.
- 5 To omit the cell from the downloaded image, clear the **Include cell in table** check box. No image will be saved for that cell. By default, this check box is marked and the cell appears in the image.
- 6 To assign a rollover to a map area, click the **Rollover Creator** button. For more information, see “Slicing Images” on page 476.

Setting Slice Preferences

In the Slice Preferences dialog, select new colors for the border lines of the active and inactive areas and enter the number of entries URL and Alt text drop-down lists display.

- 1 In the Image Mapper dialog, click the **Preferences** button to open the Slice Preferences dialog.
- 2 For the **Active tile border color**, click the color box and choose a color.

- 3 For the **Inactive tile border color**, click the color box and choose a color.
- 4 For the **Maximum history list**, enter the number of entries stored in the URL and Alt text drop-down lists.
- 5 Mark the **Prompt for image folder on Save or Save As** check box to indicate that you want to be prompted for a file location and name for your slices when you save the HTML code.
- 6 Click **OK**.

Saving and Loading Slice Settings

When you save the slice settings, you save the cell arrangement and the information you entered in the Image Slicer dialog. You can then re-load the settings into the same image or use them with a different image.

To save the slice settings:

- 1 In the Image Mapper dialog, click the **Save Settings** button to open the Save Slice Settings dialog.
- 2 Navigate to the folder in which you want to save the settings file. The file is saved in the .JSD format.
- 3 Type a name for the file and click **Save**.

To load the slice settings:

- 1 In the Image Mapper dialog, click the **Load Settings** button to open the Load Slice Settings dialog.
- 2 Select the JSD file you want to load and click **Open**.

If you are loading a grid to a different image, Paint Shop Pro automatically adjusts the grid size if the dimensions of the image are not the same.

Saving Image Slices to the Clipboard

Save slice settings to the clipboard so you can paste them into your HTML code.

To save Image Slices to the clipboard:

- 1 In the Image Slicer dialog, click the **Save to Clipboard** button to open the HTML Destination Folder dialog.

- 2 Navigate to the folder where the HTML file is saved, and click **OK** save the slice settings.
- 3 Open the HTML file, place the cursor where you want to insert the HTML slice code, and press **Ctrl + P**.

Saving Slices

Save slices to a directory on your hard drive so you can use or edit them.

To save slices:

- 1 In the Image Slicer dialog, click the **Save or Save as** button to open the HTML Save As dialog.
- 2 Navigate to the folder where you want to save the HTML code and click **OK**.

Using Digital Watermarks

A digital watermark is a permanent proof of authenticity for an image. While a computer can detect it, it is invisible to the viewer. A watermark contains information about the creator, the copyright, and the image. When a viewer chooses to see this information, the program opens a dialog that contains a link to the Digimarc® Web page, which displays contact information for the artist.

Note

A layer can contain only one watermark. You cannot embed a new watermark in a layer that already contains one.

Embedding a Digital Watermark

A digital watermark can only be embedded on a layer once since this prevents its quality from being degraded by further changes to the layer. If you try to embed a watermark in a layered image, Paint Shop Pro displays a message recommending that you flatten the image before proceeding.

When you embed a watermark, you can select the following options: creator ID, image copyright dates, image attributes and restrictions on use, and watermark durability. You can change the copyright date, image attributes, and durability each time you embed a watermark. You only need to configure the creator ID the first time you embed a watermark.

To embed a watermark:

- 1 Choose **Image > Watermarking > Embed Watermark** to open the Embed Watermark dialog.

- 2 Choose the information you want the watermark to contain:

Creator ID The identification of the creator of the image. Initially set to “Jasc Watermark Demo.” To receive your own Creator ID, register with Digimarc; click the **Personalize** button. See “Personalizing the Creator ID” on page 482.

Copyright year(s) Type either one or two years in the copyright boxes. Digimarc accepts years from 1922 to the present.

Image Attributes The Image Attributes are the restrictions shown when the program displays the watermark information. Mark the check boxes of the attributes you want to apply to the image: **Restricted Use**, **Do Not Copy**, or **Adult Content**.

Watermark Durability The durability indicates how visible watermarks are on the image. For more information, see “Setting the Watermark Durability” below.

- 3 Click **OK**.

Setting the Watermark Durability

The watermark durability indicates how visible watermarks are on the image. For images to be printed, use stronger watermarks. For images to be displayed on a monitor, use weaker watermarks because they are not as visible. While stronger watermarks are easier to detect, and harder to remove, they are also more visible in the image. You can make two copies of the image and apply a stronger watermark to the copy you are printing and a weaker one to the copy you are displaying electronically.

To set the watermark durability:

- 1 From the Target Output drop-down list, choose how the image will be displayed: **Monitor** or **Print**. If you select the Print option for an image with a resolution under 300 dpi, Paint Shop Pro displays a message recommending that you increase the image resolution before embedding the watermark.
- 2 To set the watermark strength, in the **Watermark Durability** field type a number from 1 to 16, drag the slider below it, or use the default values. The default Monitor option is 8; the default Print option is 12.
- 3 To verify that the watermark information is embedded correctly, mark the **Verify** check box. The program checks that the watermark has been applied and displays its attributes and durability.

Personalizing the Creator ID

Initially, Paint Shop Pro's watermark Creator ID is set to "Jasc Watermark Demo." Customizing the watermark with your own identification number is a two-step process:

- First, register with Digimarc to obtain your own ID number.
- Second, enter the information in the Personalize Creator ID dialog.

To personalize the Creator ID:

- 1 Display the Embed Watermark dialog. See "Embedding a Digital Watermark" on page 481.
- 2 Click the **Personalize** button to open the Personalize Creator ID dialog.

- 3 To register with Digimarc, do one of the following:
 - If your computer has Web access, click **Register**. Your Web browser opens and navigates to the Digimarc Web page. Follow the on-screen instructions to receive a Creator ID number, a PIN number, and a password. You should write them down for later use. Close the browser to return to the Personalize Creator ID dialog.
 - If your computer does not have Web access, phone Digimarc using the toll-free number to register and receive your Creator ID number, a PIN number, and a password.
- 4 Type the PIN and Creator ID numbers in the appropriate fields.
- 5 Click **OK**. The Embed Watermark dialog opens.
- 6 Click **OK**.

If the “Verify” check box is selected, the Embed Watermark: Verify dialog opens. It lets you know that the watermark has been embedded and displays the creator, copyright, image attribute, and durability information from the Embed Watermark dialog.

Reading a Digital Watermark

Whenever Paint Shop Pro opens an image, it automatically checks for a digital watermark. If one is detected, the program displays a copyright symbol in front of the filename on the title bar. View the watermark information by choosing **Image > Image Information**, and then clicking the **Watermark Information** tab.

While most watermarks are detected, some may be too weak to read. To do a more thorough search, use the Read Watermark command by choosing **Image > Watermarking > Read Watermark**. If Paint Shop Pro does not detect a watermark, it displays a message stating that no watermark was found. If it detects a watermark, it opens the Watermark Information dialog.

If your computer is connected to the Web, click the Web Lookup button to open your browser and view the Digimarc Web page that displays information about the creator.



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