PhotoPlus 5.0 Help Contents

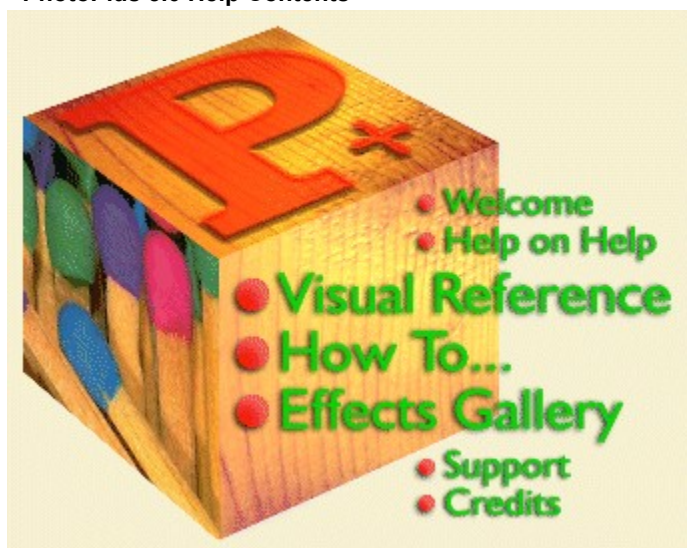Welcome
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Help on Help: A quick overview

The PhotoPlus online help system is designed to work for <u>you</u>. For suggestions based on your specific needs, see the **Where do I begin...?** section below. Whatever your background, you'll find it easy to navigate through online help:

- To begin learning about PhotoPlus tools and menus, just move the mouse pointer around the screen. Watch the **HintLine** window at the lower right for capsule descriptions of various features.

- For help on interface elements like toolbars and tab windows, click the ![Context Help icon] **Context Help** button on the top toolbar, then click on an element.

- For help on dialog boxes, click their **Help** button.

- Choose **Contents** (click button above, or select the Help menu item) to display the main help menu screen, including links to the Welcome and Support pages.

- Choose **Index** (click button above, or select the Help menu item) to pop up the alphabetical list of help topics.

- Choose **Effects Gallery** (also a Help menu item) to display a visual sampler of color adjustments and special effects —cross-referenced to help topics.

- Choose **Visual Reference** or **How To** to peruse help information using either a graphical or step-by-step approach—whichever you prefer. Each section displays its own table of contents in the main window, while help topics appear in a second window. Extensive cross-references make sure all the information is interlinked.

Note: Both the Visual Reference and HowTo sections display their tables of contents in the main window, while help topics appear in a second window.

- To make more room on-screen while you are reading help topics, click the main window's ![Minimize icon] **Minimize** button.

- To restore the main window, click the **PhotoPlus 5** Help button on the Windows Taskbar.

Where do I begin...?

If you have the **PhotoPlus Companion**, that's the logical starting point for learning about PhotoPlus. Its chapter sequence begins with basic concepts and proceeds gradually through various tools and features—and the final chapter provides useful background on color theory and terminology. Hands-on Projects are integrated each step of the way.

In online help, you'll find much of the same coverage—minus the tutorials and the ease of flipping through pages. Whatever your starting level, we recommend you begin by reading the Overview of key concepts, and then branch out from there using the help options described above. The Color concepts topic provides more theoretical material that's sure to prove valuable as you continue to work with digital pictures.

For a quick summary of PhotoPlus features, see the next topic, **Welcome to PhotoPlus 5**. (You can click the links there to learn more about specific features of interest.)

Welcome to PhotoPlus 5!

Welcome to **PhotoPlus 5.0** from **Serif**—the best value in image creation and editing software for any home, school, organization, or growing business. PhotoPlus is your number one choice for working with photographs and paint-type images, whether for the Web, multimedia, or the printed page.

PhotoPlus has the features you'll need... from importing or creating pictures and animations, through manipulating colors and effects all the way to final export. Built-in support for TWAIN scanners and cameras makes it easy to bring in your own photos, while comprehensive import filters let you open just about any standard bitmap image.

Once you've got your image into PhotoPlus, you can enhance and alter its onscreen appearance with a diverse toolkit of functions and effects. A full range of export options (with special attention to Web graphics), plus powerful optimization capabilities, round out this high-performing package.

Here's a more detailed summary of what you'll find (click the links to display related help topics):

- **Powerful Image Export Optimizer**
  The Export Optimizer lets you see how your image will look (and how much space it will take up) before you save it! Its multi-window display provides side-by-side WYSIWYG previews of image quality at various output settings, so you can make the best choice every time.

- **Web Animation Tools**
  Now it's easy and fun to create and edit animations for the Web. You can import and export animated GIFs and even let PhotoPlus create entire animations for you automatically. As a bonus, we've included hundreds of sample animations to get you started.

- **Editable Text**
  Add formatted color text to an image, reposition and scale it, integrate it with your design. Text layers keep the contents separate so you can go back and alter the words or formatting at any time!

- **Image Enhancement**
  Apply professional, darkroom-style color and histogram adjustments to your images.

- **Special Effects Filters**
  A wild and whimsical assortment for instant creativity! PhotoPlus even lets you design your own custom filters.

- **Unique Selection Options**
  PhotoPlus goes beyond well the basic rectangle and lasso tools, adding more than a dozen completely customizable selection shapes like polygons, spirals, and stars. Or define a selection shaped like text—using any font and style! Advanced options let you fine-tune the selection and its properties for precise effects.

- **Smart Shapes**
  Choose from a panoply of fully adjustable filled shapes to produce chevrons, hearts, badges, teardrops, moons, zigzags, and many more. Just drag sliders to control each shape's appearance!

- **Image Slicing and Image Maps**
  Now it's not just the pros who can use these techniques to add links to Web graphics! Simply click to subdivide images into segments—each with its own hyperlink and popup text—or add hotspots to specific regions. PhotoPlus outputs the required HTML code and lets you preview the results directly in your Web browser.

- **Advanced Tools and Features**
  Built-in support for most pressure-sensitive graphics tablets. RGB, CMYK, HSV, and Grayscale color modes. Robust and convenient layer management with pop-up preview and masking support.

- **Professional Output Options**
  Output using CMYK separations or print directly to your desktop printer with useful controls. Include registration marks, crop marks, file information, grayscale and color bars, and tile or scale your output if required.

- **All in a Productive MDI Interface**
  Open and view multiple images and edit them simultaneously. Dockable, floating tab windows work in conjunction with convenient toolbars. The Layer Manager provides full control over all planes. Each document stores a massive undo range with dynamic memory and disk management, compressing information for optimized performance. And PhotoPlus remembers your preferred export settings, so your creative flow is undisturbed.

And that's only part of the story!

The PhotoPlus feature set includes all the standard capabilities you'd expect in a photo editor. Tools like Paintbrush, Airbrush, Clone, Smudge, and Erase. Customizable brush tips and opacity. Flip, rotate, and crop. Anti-aliasing. TWAIN support for scanner and digital camera input. A full range of supported file formats for both import and export. In short, more features for the price than allowed by law in some jurisdictions (but don't tell anyone)...

Credits

Visual Reference   {button Effects Gallery,JI(`>Second',`Gall_Menu')}
                              {button How To...,JI(`>Main',`Step_by_Step')}

MENUBAR - Click a menu name for details:

File   Edit   Image   Layers   Select   View   Window   Help
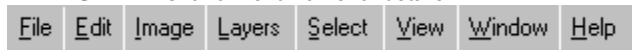
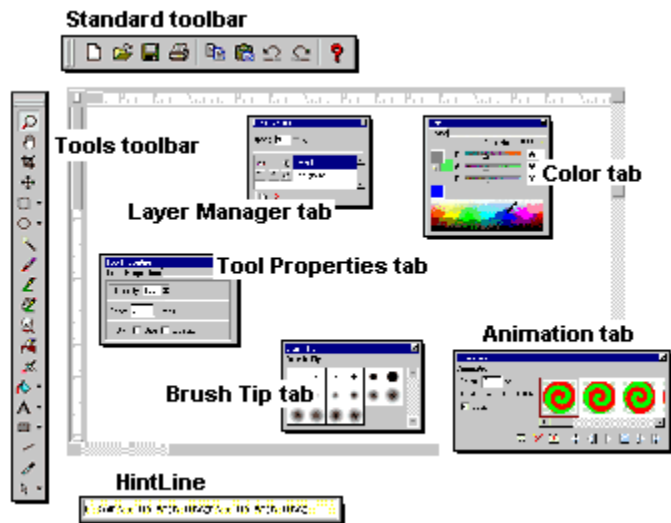**TOOLBARS and TAB WINDOWS** - Click an element for details:

Standard toolbar

Tools toolbar

Layer Manager tab

Color tab

Tool Properties tab

Animation tab

Brush Tip tab

HintLine

File Menu

Commands for opening, saving, and printing image files.
Shortcut: **Alt+F**

New
> Displays the **Startup Wizard**, which gives you six options: (1) open a saved image file; (2) create a new picture; (3) create a new animation; (4) import from a TWAIN source (such as a scanner); (5) view the PhotoPlus samples gallery; or (6) access online resources. (See the How To topic Starting with a new picture or animation.)
> **Tip:** You can also use the **New** button on the Standard toolbar, or press **Ctrl+N**.

Open...
> Displays a standard Windows dialog which allows you to open an existing image file of any supported format. (See the How To topic Opening an existing file.)
> **Tip:** You can also use the **Open** button on the Standard toolbar, or press **Ctrl+O**.

Close
> Closes the current image file. If it's still unsaved ("Untitled") or there are unsaved changes, you'll be prompted to save changes.

Save
> Saves the current image as a PhotoPlus (.SPP) file under its current name. If it's still unsaved ("Untitled"), the Save As... dialog automatically appears. (See the How To topic Saving a file.) To save the image in another format, use **File/Export...**.
> **Tip:** You can also use the **Save** button on the Standard toolbar, or press **Ctrl+S**.

Save As...
> Displays a dialog prompting you to enter a directory and file name for the image file, then saves it as a PhotoPlus (.SPP) file under that name. To save the image in another format, use **File/Export...**.

Save Original...
> Saves the current image under its original name, using the original file format (such as .BMP or .JPG) rather than the PhotoPlus format.

Save Original As...
> Displays a dialog prompting you to enter a directory and file name for the image file, then saves it using the original file format.

Import >
> Displays a submenu with the following choices:

> **• Select Source**
> Displays a dialog that lets you choose a TWAIN source (such as a scanner or digital camera) from those currently set up on your computer. For instructions on setting up a TWAIN device, see the documentation supplied with the device.

> **• Acquire**
> Displays the acquisition dialog associated with the selected TWAIN source. (See the How To topic Acquiring a TWAIN image.)

Export…
> Displays a dialog that lets you save the current image in a file format other than the native PhotoPlus (.SPP) format. Enter the desired file name. To set export options, click the dialog's **Optimizer** button. (See the How To topic Exporting to another file format.)

Export Optimizer…
> Displays the Export Optimizer dialog, which lets you preview and select various export formats and options. Click the dialog's **Export** button to continue exporting the current image. (See the How To topic Exporting to another file format.)

Preview in Browser...
> Exports the image as a temporary file, then opens the file for preview in your World Wide Web browser.

Print...
> Displays a standard dialog box for printing the current image. The **Properties** button displays a standard Windows printer setup dialog. The **Options** button

lets you control scaling, tiling, color separations, and other useful features. (See the How To topic Printing.)

Tip: You can also use the **Print** button on the Standard toolbar, or press **Ctrl+P**.

Preferences...

Displays a dialog that lets you customize a wide range of PhotoPlus settings, including undo, plug-in, layout, and startup options. (See the How To topic Setting PhotoPlus preferences.)

Recent Files List

Lists the names of the four most recently saved PhotoPlus files. Click a file name to open that file.

Exit

Closes PhotoPlus. You'll be prompted to save changes made since the last save.

Edit Menu

Commands for Clipboard (cut & paste) and related actions.
Shortcut: **Alt+E**

<u>U</u>ndo <action>
>   Undoes the most recent change to the current image. **Undo** is grayed out when
>   not available. To set undo options, choose **Preferences...** from the File menu.
>   **Tip:** You can also use the **Undo** button on the Standard toolbar, or press
>   **Ctrl+Z**.

Redo <action>
>   Reverses the most recent undo action. Grayed out when not available.
>   **Tip:** You can also use the **Redo** button on the Standard toolbar, or press
>   **Ctrl+Y**.

Cut
>   Deletes the contents of the selected region of the active layer (or of the whole
>   layer if there's no selection) and places a copy on the Windows Clipboard. On
>   the Background layer, the cut region exposes the current background color. On
>   other layers, it exposes transparency.
>   **Tip:** You can also use the **Cut** button on the Standard toolbar, or right-click on
>   the object, or press **Ctrl+X**.

Copy
>   Copies the contents of the selected region of the active layer (or of the whole
>   layer if there's no selection) to the Windows Clipboard.
>   **Tip:** You can also use the **Copy** button on the Standard toolbar or press
>   **Ctrl+C**. To duplicate a selection on the same layer, hold down the **Alt** key and
>   drag with the Move tool.

Copy Merged
>   Copies the contents of the selected region (on all visible layers) to the Windows
>   Clipboard.
>   **Tip:** You can also press **Shift+Ctrl+C**.

Paste >
>   Displays a submenu with the following choices:
>
>   **• As New Image**
>   Creates a new image file from the contents of the Windows Clipboard.
>   **Tip:** You can also use the **Paste** button on the Standard toolbar, or press
>   **Ctrl+V**.
>
>   **• As New Layer**
>   Inserts the contents of the Windows Clipboard as a new layer above the active
>   layer in the current image.
>   **Tip:** You can also press **Ctrl+L**.
>
>   **• <u>I</u>nto Selection**
>   Inserts the contents of the Windows Clipboard centered in the current
>   selection, replacing it. Grayed out if nothing is selected, or if the active layer is
>   a text layer.
>   **Tip:** You can also press **Shift+Ctrl+L**.

Clear
>   Deletes the contents of the selected region without placing a copy on the
>   Windows Clipboard. On the Background layer, the deleted region is replaced
>   with the current background color. On other layers, it is replaced with
>   transparency.
>   **Tip:** You can also press the **Delete** key. If you accidentally delete a selection,
>   immediately choose **Undo** from the Edit menu.

Image Menu

Commands for manipulating properties of the active layer or a selected region. Click green links for How To topics, red for Effects Gallery examples.
Shortcut: **Alt+I**

Adjust >
Displays a submenu with the following choices:

• **Brightness/Contrast...**
Displays a dialog that lets you vary the brightness and/or contrast. (See topic or example.)

• **Hue/Saturation/Lightness...**
Displays a dialog that lets you vary the hue, saturation, and/or lightness values. You can also colorize an image; this varies only the hue. (See topic or example.)

• **Replace Color...**
Displays a dialog that lets you vary the hue, saturation, and/or lightness of a portion of the color range. (See topic or example.)

• **Gamma...**
Displays a dialog that lets you vary the distribution of lightness (luminance) values in the red, green, and blue channels, either separately or linked. Gamma adjustment can correct the appearance of an image on a particular color monitor. (See topic or example.)

• **Threshold...**
Displays a dialog that lets you create a monochromatic (black and white) representation. You can adjust the threshold or transition point while viewing a plot of lightness levels. (See topic or example.)

• **Equalization**
Applies a filter that evenly distributes the lightness levels. (See topic or example.)

• **Stretch**
Applies a filter that spreads out the lightness levels. (See topic or example.)

• **Negative Image**
Inverts each color, replacing it with an "opposite" value. Especially useful for creating a positive image from a scanned photographic negative. (See topic or example.)

• **Grayscale**
Removes color information while retaining light and dark gradations, yielding a 256-shade grayscale image. (See topic or example.)

Flip Horizontally >
Displays a submenu with the following choices:

• **Image**
Flips the entire image left to right.

• **Layer**
Flips the active layer left to right.

• **Selection**
Flips the selection left to right.

Flip Vertically >
Displays a submenu with the following choices:

• **Image**
Flips the entire image top to bottom.

• **Layer**
Flips the active layer top to bottom.

• **Selection**
Flips the selection top to bottom.

Rotate...
Displays a dialog that lets you rotate the image, layer, or selection through a preset or variable angle, either clockwise or counter-clockwise.

Image Size...
Displays a dialog that lets you change the pixel size and/or print size of the whole image. You can vary width and height independently or maintain a fixed aspect ratio. In addition, you can select from several different resampling

methods. For details, see the How To topic <u>Resizing and scaling</u>.

Canvas Size...
Displays a dialog that lets you change the width and/or height of the image canvas (frame) by adding or subtracting pixels at the image edges. Rather than scaling the image (as with the Image Size command), the Canvas adjustment extends or crops from the image borders. For details, see the How To topic <u>Resizing and scaling</u>.

Crop to Selection
Eliminates the portion of the image (on all layers) outside the edges of the selection. This reduces the canvas size without changing the image content within the selected region.

Histogram...
Displays the Histogram window, which provides image statistics and a graph of the distribution of Red, Green, Blue, or Lightness (luminance) values. The histogram is useful for evaluating the kinds of image adjustments that may be needed. (See the How To topic <u>Reading the histogram</u>.)

Blur >
Displays a submenu with the following choices:

• **<u>B</u>lur...**
Displays a dialog that lets you apply a basic variable Blur effect. (See <u>topic</u> or <u>example</u>.)

• **<u>G</u>aussian Blur...**
Displays a dialog that lets you apply the Gaussian Blur effect, which averages pixel values along a Gaussian or bell-shaped curve. (See <u>topic</u> or <u>examples</u>.)

• **<u>S</u>often**
Applies a subtle blur effect. (See <u>topic</u> or <u>example</u>.)

• **Blur Effects...**
Displays a dialog that lets you apply one of these four effects:

1 Motion Blur
Blurs to simulate motion. (See <u>topic</u> or <u>example</u>.)

2 Radial Blur
Blurs the image to simulate a rotating camera. (See <u>topic</u> or <u>example</u>.)

3 Zoom Blur
Blurs the image to simulate a zooming camera. (See <u>topic</u> or <u>example</u>.)

4 Fragment
Blurs the image to simulate a hand-held camera. (See <u>topic</u> or <u>example</u>.)

Edge >
Displays a submenu with the following choices:

• **<u>E</u>nhance**
Sharply emphasizes both horizontal and vertical edges. (See <u>topic</u> or <u>example</u>.)

• **Find Horizontal**
Isolates horizontal edges. (See <u>topic</u> or <u>example</u>.)

• **Find Vertical**
Isolates vertical edges. (See <u>topic</u> or <u>example</u>.)

• **Find All**
Isolates both horizontal and vertical edges. (See <u>topic</u> or <u>example</u>.)

Noise >
Displays a submenu with the following choices:

• **<u>A</u>dd...**
Displays a dialog that lets you add noise (grain). (See <u>topic</u> or <u>examples</u>.)

• **<u>M</u>edian Cut...**
Displays a dialog that lets you apply the Median Cut effect, which results in broader areas of similar color for a "blotchy" or oil paint appearance. (See <u>topic</u> or <u>example</u>.)

Other >
Displays a submenu with the following choices:

• **<u>S</u>olarize...**
Displays a dialog that lets you apply the Solarize effect. Solarization is a darkroom technique in which a partially developed image is re-exposed to light, producing dramatic changes in mid-tone regions. (See <u>topic</u> or <u>example</u>.)

• Posterize...
Displays a dialog that lets you apply the Posterize effect. You can specify the number of tonal levels (lightness values). PhotoPlus then maps pixels to the nearest level. (See topic or example.)

• Emboss...
Displays a dialog that lets you apply the Emboss effect, which remaps contours to simulate a bas-relief impression. (See topic or example.)

• Mosaic...
Displays a dialog that lets you apply the Mosaic effect, which breaks the image into blocks of uniform color for a tiled appearance. (See topic or example.)

• Sharpen...
Displays a dialog that lets you sharpen the image. (See topic or example.)

Custom...
Displays a dialog that lets you define custom filters. (See the topic Defining custom filters.)

Layers Menu

Commands for manipulating layers in the image.
Shortcut: **Alt+L**

See Also:

- The sequence of How To topics on "How to Work with Layers and Masks," starting with <u>Basics of using layers</u>

- The Visual Reference topic on the <u>Layer Manager tab</u>

New...
> Displays a dialog that lets you specify the name and opacity for a new layer.
> Click **OK** to add the layer above the active layer.
> **Tip:** You can also right-click a layer name on the Layer Manager tab and choose **New...**.

Duplicate
> Clones the contents of the active layer onto a new layer.

Delete
> Deletes the active layer.
> **Tip:** You can also right-click a layer name on the Layer Manager tab and choose **Delete**.

Properties...
> Displays a dialog that lets you view and/or change the name and opacity of the active layer.
> **Tip:** You can also right-click a layer name on the Layer Manager tab and choose **Properties**.

Add Mask >
> Displays a submenu with the following commands for adding a mask to an active layer other than the Background (see the How To topic <u>Basics of using masks</u>):

> **• Reveal All**
> Creates a mask that reveals the entire layer.

> **• Hide All**
> Creates a mask that hides the entire layer.

> **• Reveal Selection**
> Creates a mask that reveals the selected region and hides the remaining portion of the layer.

> **• Hide Selection**
> Creates a mask that hides the selected region and reveals the remaining portion of the layer.

Delete Mask
> Removes the mask from the active layer and cancels the mask's effects, if any. (To remove the mask and update the layer, choose **Delete Mask**.)

Edit Mask
> Check to make the active layer's mask available for editing. Uncheck to stop working on the mask and edit the active layer directly.

View Mask
> Check to reveal the active layer's mask as a grayscale plane. Darker mask values impose transparency on the corresponding layer pixels (hiding them), while lighter values impose opacity (revealing pixels). Thus a Hide All mask initially appears as pure black, while a Reveal All mask appears white. View Mask is mainly used for checking purposes—normally you'll edit while viewing the layer, rather than the mask.

Disable Mask
> Check to temporarily switch off the active layer's mask so you can see how the layer looks without the mask's effects. Uncheck to enable masking again. Note that disabling the mask is not the same as canceling Edit Mask mode—it only affects your view of the layer, not which plane (mask or layer) you're working on.

Merge Mask
> Imposes the mask's effect onto the active layer, permanently updating it and at the same time removing the mask. (To remove the mask without updating the layer, choose **Delete Mask**.)

Merge Down
Combines the active layer with the visible layer below it, forming a new single layer.

Merge Visible
Combines the visible layers into a single layer.

Merge All
Combines all layers, visible and invisible, into a single layer.

Arrange >
Displays a submenu with the following choices:

• Bring to Top
Moves the active layer to the top of the layer stack.

• Move Up
Moves the active layer up one level in the layer stack.

• Move Down
Moves the active layer down one level in the layer stack.

• Send to Bottom
Moves the active layer to the bottom of the layer stack.

Select Menu

Commands for defining and modifying a selection within the image.
Shortcut: **Alt+S**

See Also:

- The sequence of How To topics on "How to Manipulate All or Part of an Image," starting with Making a selection

Select All
Selects the entire active layer.
Tip: You can also press **Ctrl+A**.

Deselect
Selects nothing.
Tip: Clicking with any selection tool has the same effect of canceling the selection. You can also press **Ctrl+D**.

Invert
Selects the portion of the active layer outside the current selection. Unselected pixels become selected, and vice versa.
Tip: You can also press **Ctrl+Shift+I**.

Modify >
(See the How to topic Modifying a selection)
Displays a submenu with the following choices:

• Contract...
Displays a dialog that lets you shrink the borders of the selection by a specified number of pixels.

• Expand...
Displays a dialog that lets you expand the borders of the selection by a specified number of pixels.

• Feather...
Displays a dialog that lets you blur outward from the edges of the selection by a specified value.

• Grow
Extends the selection to include adjacent pixels that are close in color value, as determined by the Color Selection tool's tolerance setting on the Tool Properties tab.

• Similar
Extends the selection to include pixels anywhere in the active layer (not just adjacent) that are close in color value, as determined by the Color Selection tool's tolerance setting on the Tool Properties tab.

Show Marquee
Check to show the marquee defining the edges of the selection. Uncheck to hide the marquee (without changing the selected region, which remains actively selected).

View Menu
Commands for setting display options.
Shortcut: **Alt+V**

See Also:

- The sequence of How To topics on "How to Configure the Workspace," starting with Working with PhotoPlus windows

Normal Viewing (1:1)
  Restores the zoom view to 100%.

Zoom In >
  Displays a submenu that lets you increase the zoom ratio at which your image
  is displayed, in a range from 2:1 to 16:1.
  Tip: You can also left-click with the Zoom tool**.**

Zoom Out >
  Displays a submenu that lets you decrease the zoom ratio at which your image
  is displayed, in a range from 1:2 to 1:16.
  Tip: You can also right-click with the Zoom tool**.**

Grid
  When checked, the alignment grid is visible. Uncheck to hide the grid.

Rulers
  When checked, rulers are visible at the top and left of the document window.
  Uncheck to hide rulers. (See the Visual Reference topic Using the rulers and
  grid.)

Tool Properties Tab
  Check to show the Tool Properties tab window. Uncheck to hide it.

Brush Tip Tab
  Check to show the Brush Tip tab window. Uncheck to hide it.

Layer Manager Tab
  Check to show the Layer Manager tab window. Uncheck to hide it.

Color Tab
  Check to show the Color tab window. Uncheck to hide it.

Tools Toolbar
  Check to show the Tools toolbar. Uncheck to hide it.

Standard Toolbar
  Check to show the Standard toolbar. Uncheck to hide it.

Hintline
  Check to show the HintLine. Uncheck to hide it.

Window menu
Commands for arranging image windows.
Shortcut: **Alt+W**

New Window
Open another window for the active image.

Cascade
Arranges the windows as overlapping tiles.

Tile
Arranges the windows as horizontal, non-overlapping tiles. Useful for side-by-side comparisons.

Arrange Icons
Arranges the minimized windows.

Window List
Shows the names of open image windows, with the current window checked. Click a window's name to work on that image.

Help Menu

Help, hints, tips, and options for learning PhotoPlus.
Shortcut: **Alt+H**

See Also:

- The introductory topic <u>Help on Help</u>.

Contents
Displays the main Help contents page.

Index
Displays the index of Help topics.

Effects Gallery
Displays the PhotoPlus Effects Gallery, which includes examples of image effects, with links to related Help topics.

Visit the PhotoPlus Web Site
Connects to the World Wide Web and displays the PhotoPlus Web site section in your Web browser. (By default, this feature activates periodically. To change the defaults, choose **Preferences...** from the File menu and use the Startup tab.)
Hint: You can also access the PhotoPlus Web site via the Startup Wizard's **Online Resources** option.

Visit the Serif Web Site
Connects to the World Wide Web and displays the Serif Home Page in your Web browser.
Hint: You can also access the Serif Web site via the Startup Wizard's **Online Resources** option.

Registration Wizard...
Helps you to register your personal copy of PhotoPlus.

About PhotoPlus...
Displays version and copyright information.

Standard toolbar

New
the **Startup Wizard**, which gives you six options: (1) open a saved image file; (2) create a new picture; (3) create a new animation; (4) import from a TWAIN source (such as a scanner); (5) view the PhotoPlus samples gallery; or (6) access online resources. (See the How To topic Starting with a new picture or animation.)
Tip: You can also press **Ctrl+N** or use menu command **File/New**.

Save
Click to save the current image as a PhotoPlus (.SPP) file under its current name. If it's still unsaved ("Untitled"), the Save As... dialog automatically appears. (See the How To topic Saving a file.) To save the image in another format, use **File/Export...**.
Tip: You can also press **Ctrl+S** or use menu command **File/Save**.

Open
Click to display a standard Windows dialog which allows you to open an existing image file of any supported format. (See the How To topic Opening an existing file.)
Tip: You can press **Ctrl+O** or use menu command **File/Open**.

Print
Click to display a standard dialog box for printing the current image. The **Properties** button displays a standard Windows printer setup dialog. The **Options** button lets you control scaling, tiling, color separations, and other useful features. (See the How To topic Printing.)
Tip: You can also press **Ctrl+P** or use menu command **File/Print**.

Copy
Click to copy contents of the selected region (on the active layer only) to the Windows Clipboard.
Tip: You can also press **Ctrl+C** or use menu command **Edit/Copy**.

Paste as New Image
Click to create a new image file from the contents of the Windows Clipboard.
Tip: You can also press **Ctrl+V** or use menu command **Edit/Paste**.

Undo
Click to undo the most recent change to the current image. **Undo** is grayed out when not available.
Tip: You can also press **Ctrl+Z** or use menu command **Edit/Undo**.

Redo
Click to undo the most recent Undo action. **Undo** is grayed out when not available.
Tip: You can also press **Ctrl+Y** or use menu command **Edit/Redo**.

Context Help
Click to display a special cursor, then click on a toolbar or tab to display the associated Help topic. Clicking other interface elements displays the introductory section of the How To menu.

For hints on using toolbars and tabs, see the How To topic Working with the toolbars and tabs.

Tools toolbar Click a tool icon:

Zoom Tool
Click to use the **Zoom tool** to change your view of the image in its window.
• To zoom in, left-click on the image.
• To zoom out, right-click on the image.

Pan Tool
Click to use the **Pan tool** to move the image in relation to its window.
Select the tool, then drag the image.

Crop Tool
Click to use the **Crop tool** to crop the image. Select the tool and drag out a selection rectangle, adjust the edges as needed, then double-click in the rectangle to crop to the specified size.
• To constrain the selection to a square, hold down the **Ctrl** key while dragging.
Tip: You can use **Image/Crop to Selection** or **Image/Canvas Size...** to crop the image, or **Image/Image Size...** to scale the image to smaller or larger dimensions. (See the How To topic Changing image and canvas size).

Move Tool
Click to use the **Move tool** to move the contents of the selection, or the entire active layer if nothing is selected. Select the tool, then drag to move.
• To duplicate the contents of the selection on the same layer, press the **Alt** key and click, then drag with the Move tool.
Tip: You can also press the **Ctrl** key and drag with any selection tool (see below).
(See the How To topic Manipulating a selection.)

Standard Selection Tools
Click the down arrow button to display a flyout menu of selection tools, as detailed below. Click the larger button to choose the most recently used selection tool.
• Set Tool Properties tab options as needed.
• To constrain the selection's proportions (for example, to a square or circle), hold down the **Ctrl** key while dragging.
• To add to the existing selection, hold down the **Shift** key while dragging.
• To subtract from the existing selection, hold down the **Alt** key while dragging.
• To move the selection (not its content) after it's defined, drag from its center.
• To move the contents of the selection, press the **Ctrl** key, then drag from the center of the selection. To duplicate, press **Ctrl+Alt**.
(See the How To topic Making a selection.)

Rectangle
Click to select the tool. Drag on the image to define a rectangular selection region on the active layer.

Ellipse
Click to select the tool. Drag on the image to define an elliptical selection region on the active layer.

Freehand
Click to select the tool. Hold down the left mouse button and draw on the image to outline a selection region on the active layer. Release the mouse button to close the selection curve.

Polygon
Click to select the tool. Draw a series of line segments on the image to define a polygonal selection region on the active layer. Release the mouse button to define the end point of each segment. Double-click to close the polygon.

Adjustable Selection Tools
Click the down arrow button to display a flyout menu of selection tools. Click the larger button to choose the most

recently used selection tool. Drag out a shape on the image, then adjust its handles to fine-tune the shape. Double-click within the shape to select the region on the active layer.

• Set Tool Properties tab options as needed.

• To constrain the selection's proportions, hold down the **Ctrl** key while dragging.

• To add to the existing selection, hold down the **Shift** key while dragging.

• To subtract from the existing selection, hold down the **Alt** key while dragging.

• To move the selection (not its content) after it's defined, drag from its center

• To move the contents of the selection, press the **Ctrl** key, then drag from the center of the selection. To duplicate, press **Ctrl+Alt**.

(See the How To topic Making a selection.)

Color Selection Tool

Click to use the **Color Selection tool** to select a region based on color similarity. Clicking on a pixel selects any adjacent pixels on the active layer whose color falls within a specified range (tolerance) with respect to the clicked pixel.

• Set Tool Properties tab options as needed. You can adjust the tolerance and sample pixels on either the active layer or all layers.

• To add to the existing selection, hold down the **Shift** key and click.

• To subtract from the existing selection, hold down the **Alt** key and click.

• Use menu items on the **Select/Modify** flyout to expand or shrink the selection, select similar pixels elsewhere in the image, etc.

• To move the selection (not its content) after it's defined, drag from its center.

• To move the contents of the selection, press the **Ctrl** key, then drag from the center of the selection. To duplicate, press **Ctrl+Alt**.

(See the How To topic Making a selection.)

Color Pickup Tool

Click to use the **Color Pickup tool** to choose new foreground or background colors from the colors available in the image. Left-click on an image color to define it as the foreground color; right-click to define the background color. The current foreground and background colors are shown as swatches on the Color tab.

• Alternatively, you can use the Color tab to define colors using a color spectrum.

Tip: To switch temporarily to the Color Pickup tool from most of the creation tools, press the **Alt** key.

(See the How To topic Choosing colors.)

Paintbrush Tool

Click to use the **Paintbrush tool** to draw freehand lines on the active layer. Left-drag to paint in the foreground color. If there is a selection, the tool only affects pixels within the selected region.

• Set Tool Properties tab options as needed.

• Choose a brush size from the Brush Tip tab.

(See the How To topic Painting, drawing, airbrushing, and smudging.)

Clone Tool

Click to use the **Clone tool** to duplicate part of the active layer. The tool works like a brush that lets you "pick up" the image from one place and "paint" it onto another place—even between images. To define the pickup origin, **Shift**-click with the tool. Click again where you want to start the copy, then drag to paint the copy onto the new location. Repeat as needed. A crosshair marks the pickup point, which moves relative to your brush movements. If there is a selection, the tool only affects pixels within the selected region.

• Set Tool Properties tab options as needed. Check "Aligned" to keep the pickup point moving between brush strokes. Uncheck to reset the pickup point to the initial origin between brush strokes.

• Choose a brush size from the Brush Tip tab.

(See the How To topic Cloning a region.)

Smudge Tool

Click to use the **Smudge tool** to simulate smudging by picking up color

from the click point and "pushing" it in the brush stroke direction. If there is
a selection, the tool only affects pixels within the selected region.
• Set Tool Properties tab options as needed.
• Choose a brush size from the Brush Tip tab.
(See the How To topic Painting, drawing, airbrushing, and smudging.)

Eraser Tool

Click to use the **Eraser tool** to erase part of the active layer. Left-drag the
tool like a brush. On the Background layer, erased pixels reveal the current
background color. On other layers, erasing exposes transparency. If there
is a selection, the tool only affects pixels within the selected region.
• Set Tool Properties tab options as needed.
• Choose a brush size from the Brush Tip tab.
(See the How To topic Erasing.)

Airbrush Tool

Click to use the **Airbrush tool** to "spray paint" on the active layer. Left-drag
to paint in the foreground color. If there is a selection, the tool only affects
pixels within the selected region.
• Set Tool Properties tab options as needed.
• Choose a brush size from the Brush Tip tab.
(See the How To topic Painting, drawing, airbrushing, and smudging.)

Flood Fill Tool

Click to use the **Flood Fill tool** to replace an existing color region with
the foreground color. Clicking with the tool on a pixel fills any adjacent
pixels whose color falls within a specified range (tolerance) with
respect to the clicked pixel. If there is a selection, the tool only affects
pixels within the selected region.

• Set Tool Properties tab options as needed. You can adjust the
tolerance and sample pixels on either the active layer or all layers.
(See the How To topic Filling a region.)

Text Tools

Click the down arrow button to choose either of the text tools. Click
the larger button to select the most recently used text tool. (See the
How To topic Creating text.)

Text Tool

Click to use the **Text tool** to create text. Click with the tool to display the Add
Text dialog. Type or revise your text, set color and formatting options, then
click **OK**. The new text appears on a separate **text layer**. To edit existing text,
click on it with the Text tool.

Text Selection Tool

Click to use the **Text Selection tool** to create a selection in the form of text.
Click with the tool to display the Add Text dialog. Type your text, format as
needed, and click **OK**.

Shape Tools

Click the down arrow button to display a flyout menu of
adjustable shapes. Click the larger button to choose the
most recently used shape. Drag out a shape on the image,
then adjust the handles to fine-tune the shape. Double-
click within the shape to draw it.
• Set Tool Properties tab options as needed.
• To constrain the shape's proportions, hold down the **Ctrl**
key while dragging.

Line Tool

Click the button, then click and drag to draw a straight line using the
foreground color.
• Set Tool Properties tab options, such as line weight, as needed.
• To constrain the angle of the line to 15-degree increments, hold down the
Shift key as you drag.

Image Slice Tool

Click to use the **Image Slice tool** to divide the image into sections, which
can be exported separately as GIFs or JPGs (to be reassembled
seamlessly in a Web browser). Click with the tool to place a horizontal slice
guide (a red line) on the image. **Shift**-click to place a vertical guide. To
move a guide, simply drag it. To delete a guide, drag it to the top or bottom
of the image.

(See the How To topic Slicing images)

Image Map Tools
Click to display a flyout menu of tools for creating and editing image maps—that is, graphics with overlaid hotspots for use on Web pages. (See the How To topic Creating image maps.)

Image Map Selection
Choose this tool to select an existing hotspot. Drag an edge to resize the hotspot, or drag from the center to move it. Right-click to delete, set layer options, or access hotspot properties (popup text and target URL).

Image Map Rectangle
Choose this tool to draw a rectangular hotspot.
• To constrain the hotspot to a square, hold down the **Ctrl** key while dragging.

Image Map Circle
Choose this tool to draw a circular hotspot.

Image Map Polygon
Choose this tool to draw a polygonal hotspot as a series of line segments. Release the mouse button to define the end point of each segment. Double-click to close the polygon.

For hints on using toolbars and tabs, see the How To topic Working with the toolbars and tabs.

HintLine

Image Information
Displays a continuously updated readout of useful data about the pixel directly below the cursor position. The readout varies depending on the selected tool or mode—most often it shows the pixel's position (with 0,0 as the top left corner of the image). When you use the Color Selection tool, the readout shows color values and opacity.

`[363pix, 375pix]`

HintLine
Displays helpful, context-sensitive messages about PhotoPlus interface elements, as well as status information for selected operations.

`Create a new`

For hints on using toolbars and tabs, see the How To topic <u>Working with the toolbars and tabs</u>.

■ Layer Manager tab
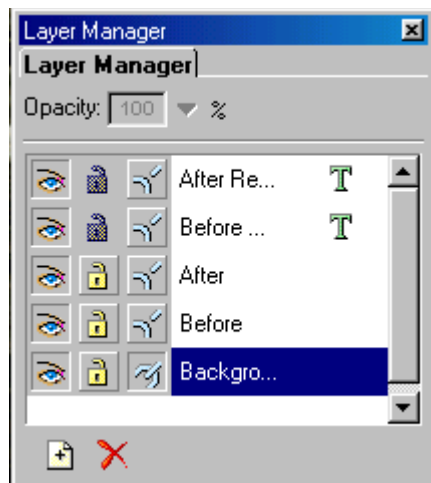
The **Layer Manager tab** includes controls for creating, deleting, arranging, merging, and setting properties of layers in the image.

(See the series of How To topics starting with Basics of using layers.)

Layer Name
Typically, each image has a Background layer, and may also have one or more standard (transparent) layers. To work on a layer, click its name; the currently active layer is highlighted. The ordering of layer names reflects how layers are stacked in the image. To change a layer's position in the stack, drag its name up or down. Right-click layer names for more options.

Layer Preview
Appears when you pause the mouse pointer over a layer name. The window provides a quick view of the layer's contents—even if the layer is hidden.

Hide/Show Layer
Click (push button down) to make a layer's contents visible; click again to make the layer invisible.

Protect Transparency
Click (push button down) to prevent further editing of transparent regions on a layer.

Link/Unlink Layer
Click (push button down) to link a layer to the active layer. When two or more layers are linked, they move as one when manipulated with the Move tool.

Opacity
Enter a value (from 0-100), or click the down arrow and use the popup slider, to set the layer's overall **opacity**. Note that this setting does not affect the transparency of individual pixels on the layer. (See the How To topic Adjusting opacity/transparency.)

New Layer
Click to display a dialog that lets you set properties (name and opacity) for a new layer. The new, empty layer appears above the active layer in the stack.
Tip: You can also right-click a layer name and choose **New...**, or choose **New** from the Layers menu.

Delete Layer
Click to delete the active layer.
Tip: You can also right-click a layer name and choose **Delete** or choose **Delete** from the Layers menu.

For hints on using toolbars and tabs, see the How To topic .

Tool Properties tab

Tool Properties

Tool Properties

Opacity: 100 %

Fade: 0 steps

Stylus: ☐ Size ☐ Opacity
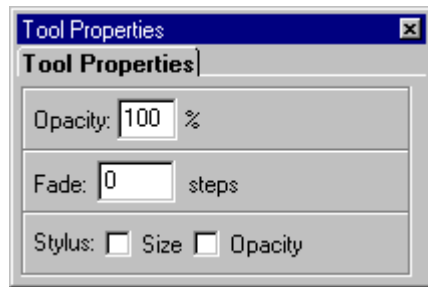
The **Tool Properties tab** lets you customize the settings for many of the tools on the Tools toolbar. The master table below explains the various tool properties.

Property:	Associated Tools:	Choices and Function:
Aligned	Clone	On/off; "on" keeps a fixed distance between the origin point and brush tip on separate strokes; "off" keeps the origin point fixed
Antialias	Standard and Adjustable Selection, Shape, Line	On/off; produces smooth edges by making edge pixels semi-transparent
Color	Paintbrush, Airbrush	On/off; whether stylus (pen) pressure has an effect
Fade	Paintbrush, Eraser, Airbrush	Number of steps; fade-out rate simulates brush strokes. For continuous flow, set to 0.
Feather	Standard and Adjustable Selection	Pixel value; varies sharpness of selection's edges by transition with surrounding region
Opacity	Paintbrush, Clone, Smudge, Eraser, Fill, Shape, Line	Percent; lower value yields more transparent color in line or shape.
Opacity	Paintbrush, Clone, Smudge, Eraser, Airbrush	On/off; whether stylus (pen) pressure has an effect
Pressure	Airbrush	Percent
Size	Paintbrush, Clone, Smudge, Eraser	On/off; whether stylus (pen) pressure has an effect
Tolerance	Color Selection, Fill	Color value (0-255); tool affects pixels within this range of the pixel clicked
Use All Layers	Color Selection, Fill	On/off; apply tool to all layers below the click point, or just the active layer
Weight	Line	Pixel value; line thickness

For hints on using toolbars and tabs, see the How To topic <u>Working with the toolbars and tabs</u>.

Color tab
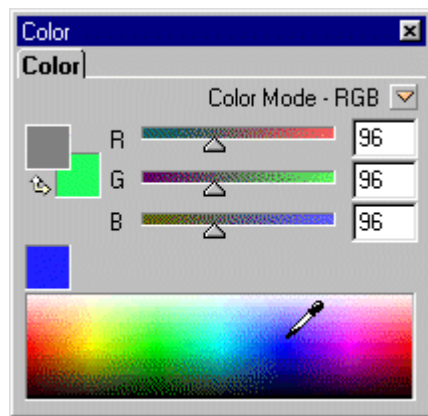
The **Color tab** lets you select foreground and background colors and change the color mode.

(See the How To topic Choosing colors.)

Foreground/Background swatches
The left swatch shows the foreground color, and the right swatch shows the background color. The white-outlined swatch is the one currently selected for editing; click either swatch to select it.
• To swap foreground and background colors, click the double arrow.
• To define or apply custom colors using the Adjust Color dialog, double-click either swatch. (See the How To subtopic, Precise color definition.)

Color Spectrum
Displays the current color spectrum. As you move the dropper cursor around the spectrum, the preview swatch on the left shows the color at the cursor position. Left-click in the spectrum to set a new foreground color. Right-click to set a new background color.

Color Values
Show the current color component values of the selected color (top swatch). You can change the value by typing a specific value or by dragging the corresponding color slider.

Color Sliders
Drag a slider to "remix" the selected color (top swatch) by changing one of its components. The corresponding color value box updates interactively, as does the selected color's swatch.
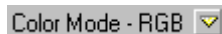
Color Mode Selector
Click the down arrow and choose from the menu to change the current color mode to one of the following:
• **RGB** (Red, Green, Blue)
• **CMYK** (Cyan, Magenta, Yellow, Black)
• **HSL** (Hue, Saturation, Lightness)
• **Grayscale**

For hints on using toolbars and tabs, see the How To topic Working with the toolbars and tabs.

 Brush tip tab
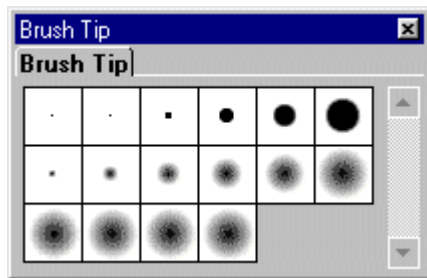
The **Brush Tip tab** lets you choose and customize brush tips for the painting tools.

- Click a brush tip to select it.
- Double-click a brush tip to customize it. The Brush Options dialog (see below) appears.
- Right-click a brush tip for other options, including **Delete** and **New Brush...**.

Using the Brush Options dialog

The Brush Options dialog lets you customize a brush or add   a new one. Brush options include:

Diameter	Size of the brush itself
Hardness	Size of the hard center of the brush, as a percentage of the diameter. The value determines the size of the brush's soft edge
Spacing	Distance between the brush marks in a stroke
Angle	For an elliptical brush, the degree by which its long axis is offset from the horizontal
Roundness	Brush shape, expressed as a ratio between the brush's width and length. 100% is fully round; 0% is linear.

For hints on using toolbars and tabs, see the How To topic Working with the toolbars and tabs.

? **Animation tab**

?
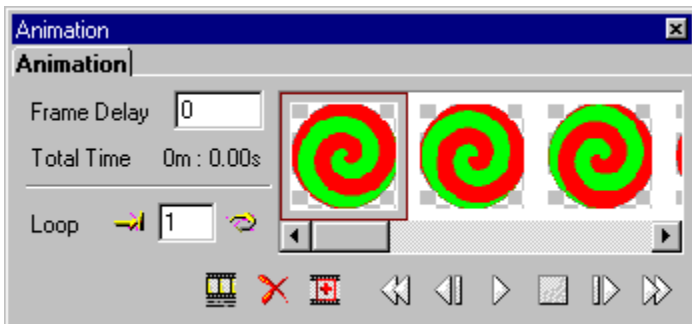
The **Animation tab** provides controls for editing GIF animation files, and is only available in Animation mode. (See the series of How To topics beginning with Getting started with animation.)

- To resize the Animation tab, drag one of its edges.

 Frame thumbnail
Thumbnails represent the sequence of frames in the animation. Each frame is a different state of the image, defined in terms of which layers are shown or hidden, the position of content on each shown layer, and the opacity of each shown layer.

- To select a frame, click its thumbnail.
- To select multiple frames, hold down the **Ctrl** key when selecting each one.
- To select a range of adjacent frames, hold down the **Shift** key and click the first and last thumbnail in the range.
- To select all frames, right-click any thumbnail and choose **Select All**.
- To reposition a frame in the sequence, drag its thumbnail and drop it before or after another frame.

 Show/Hide Captions
Click (push button down) to display each frame's caption under its thumbnail. Click again to hide captions.

 Delete Frame
Click to delete the selected frame(s). To delete a single frame, you can also right-click it and choose **Delete**.

 New Frame
Click to clone the selected frame as a new frame. You can also right-click a thumbnail and choose **New Frame**.

 First Frame
Click to select the first frame of the sequence.

 Previous Frame
Click to select the previous frame of the sequence. If the first frame was selected, you'll cycle back to the last frame.

 Play
Click to play the sequence by stepping rapidly through the frames.
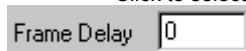
 Stop
Click to halt playback.

 Next Frame
Click to select the next frame of the sequence. If the last frame of the sequence was selected, you'll cycle forward to the first frame.

 Last Frame
Click to select the last frame of the sequence.

 Frame Delay
Shows the delay interval (in milliseconds) for the selected frame. If greater than 0, the animation will pause accordingly on that frame during playback. To change the interval, enter a new value.

Loop
• Click the left (**Fixed Loop**) button to have the sequence repeat a certain number of times and end displaying the first frame. Enter the number of times in the box.
• Click the right (**Endless Loop**) button to have the sequence repeat forever.

For hints on using toolbars and tabs, see the How To topic Working with the toolbars and tabs.

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Troubleshooting and support

Troubleshooting a problem

Don't panic! Remember that all technical problems, no matter how bizarre they may seem, have a cause and a solution. By patiently applying a logical approach, you can often identify the source of the problem and fix it yourself. In general, try simplifying your PC's setup until the problem is no longer present. Then, incrementally restore the original setup, testing to see which component makes the problem recur. Be careful!

Initially, try to establish:

- Is the problem most likely arising within PhotoPlus?

- Is it a Windows problem?

- Or is it a "hardware" problem having to do with your PC or its peripherals?

- Have you made any recent changes to your system configuration that might be responsible for the problem?

-

If it's a PhotoPlus issue, perhaps there's a procedure you need to know more about. Check online Help for information on the specific task you're trying to accomplish.

For Windows or hardware issues, click the **Start** button and choose **Help** for troubleshooting information—or check the specific manuals for the peripheral.

Printing problems with Windows are generally caused by using an incorrect or outdated printer driver, or a third-party printer driver. Make sure that you use the Windows printer driver designed specifically for your printer. To check printer drivers, click **Start**, choose **Settings > Printers**.

Contacting Serif technical support

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An overview of key concepts

If you're new to photo editing programs, or perhaps have only worked with a basic painting program like Microsoft Paint, a number of the concepts in PhotoPlus may be new to you. Don't be daunted! Many thousands of artists have made the leap, and the rewards are well worth it. This topic collects in one place some of the background material that's scattered elsewhere in PhotoPlus online help—in hopes that it will provide a concise introduction and save you some "head-scratching" later on. Click the green, underlined links for more details on any concept.

You should also peruse the separate topic on Color concepts, which likewise tries to bring together terms and definitions related to electronic color theory. Understanding these will help you exploit all the creative possibilities PhotoPlus opens up.

Image size and canvas size
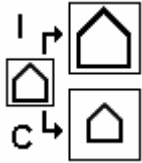
This is sometimes a tricky distinction if you haven't encountered it before, but it's an important one when working with digital pictures. You probably know that image dimensions are given in **pixels** (think of pixels as the "dots of paint" that comprise a screen image)—say, 640 wide by 480 high. If you want to change these dimensions, there are two ways to go about it, and that's where **image** and **canvas** come into play.

Changing the image size (I) means scaling the whole image or just a selected region up or down. Changing the canvas size (C) means adding or taking away pixels at the edges of the image—rather like adding a border around a mounted photo, or taking a pair of scissors and cropping the photo to a smaller size. Either way, after resizing the image and canvas dimensions are once again the same. Both concepts are discussed in Changing image and canvas size.

Interacting tools and tabs
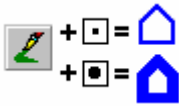
The Tools toolbar is at the heart of PhotoPlus. Among its many offerings you'll find several basic painting/drawing tools, plus tools for erasing, filling a region, and cloning a region).

As you try each of these tools, keep in mind that the Tool Properties tab and Brush Tip tab extend each tool's functionality by letting you customize its settings. Only with the aid of the tabs can you choose a wide brush as opposed to a pencil point, or experiment with the full range of effects each tool can command.

Making a selection

In any photo editing program, the **selection tools** are as significant as any of the basic brush tools or commands. The basic principle is simple: quite often you'll want to perform an operation on just a portion of the image.

The wide range of selection options in PhotoPlus lets you:

- Define just about any selection shape
- Modify the extent or properties of the selection
- Carry out various manipulations on the selected pixels, including cut, copy, paste, rotate, adjust colors, apply special effects, etc.

Although the techniques for using each selection tool vary a bit, the end result of making a selection is always the same: a portion of the active layer has been roped off from the rest of the image. The boundary is visible as a broken line or **marquee** around the selected region.

Foreground and background colors

At any given time, PhotoPlus allows you to work with two colors—a **foreground** color and a **background** color. These are always visible as two swatches on the Color tab.

Electronic artists expend much of their creative energy deciding which of the millions of available colors should fill those two slots. The actual steps involved, however, can be quite simple. Both the simple steps and more complex options (for custom color definition) are covered in the topic Choosing colors.

Layers
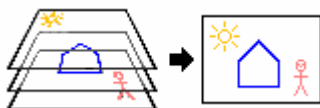
If you're accustomed to thinking of pictures as flat illustrations in books, or photographic prints, the concept of **image layers** may take some getting used to.

In a typical PhotoPlus image—for example, a photograph you've scanned in, a new picture file you've just created, or a bitmap file you've opened—there is one layer that behaves like a conventional "flat" image. This is called the **Background layer**, and you can think of it as having paint overlaid on an opaque, solid color surface.

On top of the Background layer, you can create any number of new layers in your image. Each new one appears on top of another, comprising a stack of layers that you can view and manipulate with the Layer Manager tab. We call these additional layers **standard layers** to differentiate them from the Background layer. Standard layers behave like transparent sheets through which the underlying layers are visible.

There's a third kind of layer, called a **text layer**, which resembles a standard transparent layer but can only contain text. Text layers keep blocks of text editable so you can go back and change the font or retype characters. (For details, see the topic Creating text.)

With few exceptions, you will work on just one layer at any given time, clicking in the Layer Manager tab to select the current or **active layer**. Selections and layers are related concepts. Whenever there's a selection, certain tools and commands operate only on the pixels inside the selection—as opposed to a condition where nothing is selected, in which case those functions generally affect the entire active layer.

If your image has multiple layers, and you switch to another layer, the selection doesn't stay on the previous layer—it follows you to the new active layer. This makes sense when you realize that the selection doesn't actually include image content—it just describes a region with boundaries. And following the old advice "Don't confuse the map with the territory," you can think of the selection as a kind of outline map, and the active layer as the territory.

Opacity and transparency

Opacity and **transparency** are complementary—two sides of the same coin. They both refer to the degree to which a particular pixel's color contributes to the overall color at that point in the image.

Varying opacity is rather like lighting a stage backdrop (scrim) in a theater: depending on how you light the fine gauze sheet, you can render the backdrop image either visible or invisible. Fully opaque pixels contribute their full color value to the image. Fully transparent pixels are invisible: they contribute nothing to the image.

You'll mainly encounter these terms in two contexts. First, as a property of the pixels laid down by individual **paint tools**, which can be more or less opaque, depending on the tool's opacity setting. Second, as a property of individual **layers**, where opacity works like a "master setting" that you can vary after paint has been laid down.

Saving and exporting

Saving a file in PhotoPlus means storing the image in the native PhotoPlus file format, using the **.SPP** extension. This format preserves image information, such as multiple layers, masks, or image map data, that would be lost in conversion to another graphic format.

On the other hand, suppose you've opened a .BMP or .JPG file and want to save it back to its original format. In this case, use the **Save Original** command.

In yet another instance, you may be ready to save an .SPP file (or convert some other image type) to one of the standard graphic formats. In PhotoPlus, this is known as **exporting**. PhotoPlus include a powerful **Export Optimizer** that serves as your "command center" for exporting images to various formats. It not only provides a variety of options for each supported format, but lets you compare image quality using different settings and even retains your preferred settings for each format!

Starting with a new picture or animation

PhotoPlus deals with two basic kinds of image files. We'll differentiate them as **pictures** (still images) and **animations** (moving images). The two types are closely related, and creating either from scratch in PhotoPlus involves the same series of steps.

To create a new picture or animation:

1 The first time you launch PhotoPlus, you'll see the **Startup Wizard**, with a menu of six choices. Click **Create New Picture** or **Create New Animation**.
OR

During your PhotoPlus session, choose **New...** from the File menu (or click the [?] **New** button on the Standard toolbar). If the Startup Wizard is turned on, click **Create New Picture** or **Create New Animation**.

2 The New Image dialog appears. If the Startup Wizard is turned off, check (or uncheck) the "Animation" box to specify which type of image file PhotoPlus should create.

3 In the dialog, set width, height, and resolution values for the new image file.
Tip: Although you can resize the image **canvas area** (width x height) later, it's usually best to allow some extra canvas area at first. Leave the resolution at 96 pixels per inch unless you're sure a different value is required.

4 Select a background type in the "Background" drop-down list.
  • When painting a picture from scratch, you'll normally choose White.
  • When creating an animation, Transparent is often called for.
  • You can also choose Background Color, to use the current background color shown on the Color tab.

5 When you've made your selections, click **OK.**

6 The new image opens in a separate image window.

As you become more accustomed to PhotoPlus menus, you may find you no longer need the Startup Wizard screen.

To turn off the Startup Wizard:

  • Choose **Preferences...** from the File menu, click the **Startup** tab, and uncheck **Use Startup Wizard**.

Acquiring a TWAIN image

If your scanner or digital camera supports the industry-wide **TWAIN** standard, you can bring pictures from these devices directly into PhotoPlus.

To set up your TWAIN device for importing:

• See the documentation supplied with the device for operating instructions.

To import a TWAIN image:

• The first time you launch PhotoPlus, you'll see the **Startup Wizard**, with a menu of six choices. Click **Import From TWAIN**.
  OR
  During your PhotoPlus session, choose **Import** from the File menu, then select **Acquire**.

• Complete the procedure using the acquisition dialog associated with the selected TWAIN source.

If you have more than one TWAIN-compatible device installed, you may need to select which source you wish to scan with.

To select a different TWAIN source for scanning:

• Choose **Import** from the File menu, then select **Select Source** from the submenu.

More about scanned images...

For **line art** and **halftone images**, scan at the highest resolution possible and (if saving) save as a black-and-white TIFF or PCX.

For **photographic images**, scan using grayscales and save as a grayscale TIFF file. If you have a color scanner, save a color TIFF. You can resize these images and still maintain reasonable quality, provided you don't make them significantly larger than the original. In general, the number of grayscales or colors is a more important issue than the actual resolution (dpi).

Scanned images, especially color, can get very large and you need to take this into consideration. Large files take a long time to load, save and print and eat your disk space!

Opening an existing file

You can use the Startup Wizard to access image files recently viewed in PhotoPlus, or use a standard file dialog to open any image file. PhotoPlus supports all the standard image formats for print and Web graphics, in addition to its native .SPP format.

To open a recently viewed image file using the Startup Wizard:

- On the Startup Wizard screen (at startup time or via **File/New...**), click **Open Saved Work**. You'll see a list of recently opened files. To see a preview of any file, click its name in the list.

- To open a selected file, click **OK**.
  OR
  Click **Browse** to locate a different file. To narrow or expand the list of file types shown in the Open dialog, select from the "Files of type" list. Select the folder and file name and click the **Open** button.

The image opens in a separate image window.

Note: Recently viewed files also appear at the bottom of the File menu. Simply select the file name to open it.

To open any image file:

- Choose **Open...** from the File menu.

  OR

  Click the **Open** button on the Standard toolbar.

- In the Open dialog, select the folder and file name. To open multiple files, press the **Ctrl** or **Shift** key when selecting their names. To display a thumbnail of each image as its name is selected, check **Show preview** (this may slow down the display somewhat). Note that the dialog also displays image dimensions and bit depth information.

- Click the **Open** button to open the desired image.

The image opens in a separate image window.

Saving a file

PhotoPlus offers several save/export options, and it's a good idea to learn about all of them...

Saving a file in PhotoPlus means storing the image in the native PhotoPlus file format, using the **.SPP extension**. This format preserves image information, such as multiple layers, masks, or image map data, that would be lost in conversion to another graphic format.

On the other hand, suppose you've opened a .BMP or .JPG file, done some editing (without adding layers), and now wish to save it back to its original format. In this case, use the **Save Original** command—but note some limitations below.

In yet another instance, you may be ready to save an .SPP file (or convert some other image type) to one of the standard graphic formats. In PhotoPlus, this is known as **exporting**—and it's covered in the next topic.

To save the image as a PhotoPlus file:

- To save using the current base name (shown in the window titlebar), choose **Save...** from the File menu.

OR

- Click the **Vis Ref | How To** **Save** button on the Standard toolbar.

OR

- To save under a different base name, choose **Save As...** from the File menu. The window titlebar is updated accordingly.

Note: If the current window is untitled or non-native, the Save As dialog appears automatically, using the base name shown in the titlebar.

To save the image in its original file format:

- To save using the current base name (shown in the window titlebar), choose **Save Original...** from the File menu.

OR

- To save under a different base name, choose **Save Original As...** from the File menu. The window titlebar is updated accordingly.

Notes:

- If the current image uses features that can only be preserved in the native PhotoPlus (.SPP) format, you'll be given the option of doing a native save in addition to the original format save.
- **Save Original** uses the same file name as, and thus overwrites, the file you originally loaded. Although the file format and number of colors (bit depth) will match those of the originally loaded image, other properties may have changed. For example, Save Original doesn't preserve the specific colors (palette) used in 256-color images, but applies its own dithered, optimized palette. Chances are you'll be quite happy with the results—but for greater control over image properties, you may wish to use the Export Optimizer (see next topic).

Exporting to another file format

 Exporting an image means converting it to a specified graphic file format other than the native PhotoPlus (.SPP) format. Note that only the .SPP format preserves image information, such as multiple layers, masks, or image map data, that would be lost in conversion to another format.

To learn about saving in the native format, or in the original format of a non-native image, see the previous topic.

For a discussion of basic color concepts in PhotoPlus, see the topic Color concepts. For details on Web graphics, see the topic Image formats for the World Wide Web.

PhotoPlus include a powerful **Export Optimizer** that serves as your "command center" for exporting images to various formats. It not only provides a variety of options for each supported format, but lets you compare image quality using different settings and even retains your preferred settings for each format! You can access the Export Optimizer at any time—not just at export time—to take advantage of its comparison capabilities.

To export an image:

- Choose **Export...** from the File menu. The Export dialog appears, with the file's current base name shown.
- Change the base name if desired.
- Choose a file format from the "Save as type" drop-down list.
- To open the Export Optimizer to fine-tune export settings, click **Optimizer**. (See below for details.)
- Click **Save**.

You can also open the Export Optimizer first and (at your option) proceed to the exporting step after checking your settings.

To open the Export Optimizer directly:

- Choose **Export Optimizer...** from the File menu.

The Export dialog includes additional options for use with Web images (see Slicing images and Creating image maps). You also have the option of previewing Web images directly in your browser.

To preview an image in your Web browser:

- Choose **Preview in Browser...** from the File menu. PhotoPlus exports the image as a temporary file, then opens the file for preview in your World Wide Web browser.

Using the Export Optimizer

The Export Optimizer consists of a left-hand settings region and a right-hand preview display, with additional buttons along the bottom of the dialog. In animation mode, there's an extra tab for changing output settings. (For a discussion of standard settings and options, see the subtopic on Optimizing images in the "Color concepts" topic. For additional information on specific Web graphics formats, see Image formats for the World Wide Web.)

To adjust the preview display:

- Click one of the View buttons to select Single, Double, or Quad display. The multi-pane (Double and Quad) settings let you compare different export settings for one or more file formats.
- To change the display scale, click the **Zoom In** or **Zoom Out** button. The current ratio appears just to the right of the buttons.

- To display a different portion of the image, drag the image in the active preview pane.

To compare export settings:

- Set the preview display for either Double or Quad view.
- Click one of the display panes to select it as the active pane.
- On the Options panel, choose an export format and specific settings. Each time you make a new choice, the active pane updates to show the effect of filtering using the new settings, as well as the estimated file size.
- To compare settings, select a different display pane and repeat the process. The Export Optimizer lets you experiment freely and "eyeball" the results.

To proceed with exporting:

- Make sure the active preview pane is using the settings you want to apply to the image.
- Click the dialog's **Export** or **OK** button to display (or redisplay) the Export dialog.

Note: The Export Optimizer saves settings for particular formats according to the most recent update to the Options tab. In other words, if you have two or more preview windows displaying the same file format, the settings for the last of them you click in will be those associated with exporting in that format.

Printing

For professional printing, PhotoPlus supports scaling, tiling, printer marks, and color separations.

To set up your printer or begin printing:

- Click the   **Vis Ref How To**   **Print** button on the Standard toolbar.

OR

- Choose **Print...** from the File menu.

The Print dialog appears.

To print:

1. If necessary, click the **Properties...** button to select a printer or set up the printer for the correct page size, etc.

2. If necessary, click the **Options...** button to set special print options (see below).

3. Select the number of copies.

4. Click **OK**.

The image will be printed in color on a color printer or in shades of gray on a black and white printer.

Note: The printed size depends on the dimensions you've specified in the Image Size dialog (choose **Image Size...** from the Image menu). For details, see the topic Changing image and canvas size.

Setting print options

Use the **Layout**, **Output**, and **Separations** tabs on the Options dialog to select from a range of printing choices.

Note: Print options are reset each time PhotoPlus is restarted. Changes you make during a session are "remembered" for the duration of the session.

Layout tab (scaling and tiling)

The Preview window shows a line view of your publication setup.

- Set the "Scale" option to specify a custom scaling percentage. The default is 100% or normal size. To scale your work to be printed at a larger size, specify a larger value; to scale down, specify a smaller value. Select "Reduce to fit" to adjust artwork automatically to fit neatly on the printed page.

- Check the "Tile" option to print large (or enlarged) pages using multiple sheets of paper. Each section or tile is printed on a single sheet of paper; the various tiles can then be joined to form the complete page. Use this option for printing at larger sizes than the maximum paper size of your printer, typically for creating banners and posters. To simplify arrangement of the tiles and to allow for printer margins, you can specify an overlap value.

Output tab (file information and printer marks)

- Check boxes to include file information and/or printer marks on the printout.

Note: The printer page size must be at least 1" x 1" larger than the actual artwork being printed, to ensure that the information is entirely visible on the final print. For PostScript printing, the Windows printer driver normally has some "extra" page sizes which can be used with standard artwork paper sizes.

Color Separations tab (CMYK process color)

An offset press needs one independent plate for each color that will print on the job. PhotoPlus will let you print color separations which are used when printing the job to an imagesetter. If the job is created properly, you then get, for each page, one complete negative for each color.

- Check the "Print Separations" box to specify that color separations are to be printed. This option is only available if the currently selected Windows printer is a PostScript printer.

Normally, process color output gives you four sheets or "separations" per publication page: one each for the Cyan, Magenta, Yellow, and blacK (CMYK) ink components in the image. Only these color separations will be printed.

- To select or deselect a color, click on it.

- Select a screen from the drop-down list appropriate for the paper type you'll be using, or choose "Custom" and click the **Properties** button to define a custom screen.

Closing files and exiting

To close a single image window (file):

- Choose **Close** from the File menu.

OR

- Click the Close button on the window's titlebar.

You'll be prompted to save changes made since the last save.

To close PhotoPlus:

- Choose **Exit** from the File menu.

For each open file, you'll be prompted to save changes made since the last save.

Working with PhotoPlus windows   Vis Ref | How To

PhotoPlus provides a multiple-document interface (MDI) that lets you open more than one image at a time. Each image appears in its own **image window** with the file name displayed in the window's titlebar. The image windows are surrounded by the PhotoPlus main window, which includes the toolbars and tab windows (see next topic) and whose titlebar displays the name of the **active image**—the image in the currently selected image window.

The **Window** menu lets you arrange the open image windows in various ways:

- Click **Cascade** to arrange the windows as overlapping tiles.
- Click **Tile** to arrange the windows as non-overlapping tiles. This is a useful mode when you need to make side-by-side comparisons of two images.
- Click **Arrange Icons** to arrange any minimized windows along the bottom of the workspace.

The **Window** menu also lists the names of open windows, with the current window checked. You can click a window's name, or use **Alt+W** plus the window's number on the menu, to switch into another window.

Working with the toolbars and tabs

The **toolbars** and **tab windows** (**tabs** for short) group together related controls and settings, and are essential features of the PhotoPlus environment. This topic provides basic information and tips on how to arrange these elements to best suit your needs. (To learn about each toolbar and tab, consult the Visual Reference.)
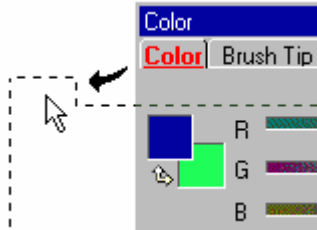
When you first launch PhotoPlus, it opens with the toolbars and tabs all visible in default positions, with certain tabs "docked" or joined together. You can hide, show, or move them individually as needed, and dock or undock the tabs.

Chances are you'll want to keep the Tools toolbar visible, but if your display area is large enough you might consider moving it to a horizontal position alongside the Standard toolbar—or "floating" it as a separate palette. Remember, there's nothing fixed about the PhotoPlus interface, so feel free to try different arrangements until you're satisfied!

To show or hide toolbars and tabs:

- To show/hide a particular toolbar or tab, check or uncheck its item on the View menu. (You can also close any tab window by clicking the ⊠ **Close** button on its titlebar.)
- To hide all visible tabs (not toolbars), press the **Tab** key. Press **Tab** again to show the tabs.

To move a toolbar:

- Click on a neutral portion of the toolbar and drag to the new position. You can float toolbars anywhere in the main window or dock them at the top, bottom, left, or right edge of the window.
- To move a floating toolbar, click on its titlebar and drag to move it.

To resize a floating toolbar:

- Click one of its edges and drag.

To dock/undock a tab:

- Click on the tab's label and drag to the new position, either floating independently or docked in a window next to another tab.

To move a tab window:

- Click on its titlebar and drag to the new position.

Zooming and panning

Zooming (changing the relative size of the image in relation to its window) and **panning** (moving the image in relation to its window) are essential when you're operating at different levels of detail, or on different portions or an image. PhotoPlus provides standard Zoom and Pan tools.

To zoom:

1 Choose the **Zoom tool** from the Tools toolbar.

2 To zoom in, left-click on the image. To zoom out, right-click on the image.

The current zoom ratio appears in the titlebar of the image window, next to the file name.

To select a specific zoom ratio:

• Choose **Zoom In** or **Zoom Out** from the View menu and select a ratio from the submenu.

• To restore a 1:1 ratio, choose **Normal Viewing** from the View menu.

To pan:

Choose the **Pan tool** from the Tools toolbar.
Drag the image to move it in relation to its window.

Using the rulers and grid
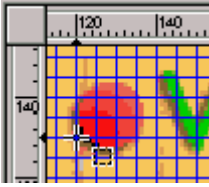
As an aid to precise alignment and spacing, PhotoPlus gives you the option of displaying horizontal and vertical rulers, and/or a set of grid lines spaced according to ruler gradations. With the rulers turned on, you can track the current cursor position by watching the small markers that appear along the edges.

To hide or show the rulers:

- Check or uncheck **Rulers** on the View menu.

To hide or show the grid:

- Check or uncheck **Grid** on the View menu.

To set display units and grid color/spacing:

- Choose **Preferences...** from the File menu and select the **Layout** tab.

Setting PhotoPlus preferences

The **Preferences dialog** lets you customize a wide range of PhotoPlus settings, including Undo, transparency display, plug-in filters, layout options, and the Startup Wizard. As a rule, Preference settings are global—that is, changing them affects all open windows, and when you close PhotoPlus, your current Preference settings remain in effect the next time you open the program.

To set PhotoPlus options:

1. Choose **Preferences...** from the File menu.

2. Click one of the four tabs and set your preferences. Settings include:

3. **Undo** tab**:** Set options for the Undo function (see below).
   Transparency tab: Set the grid size and colors of the "checkerboard" pattern denoting transparency; double-click a color sample to adjust the color.
   Layout tab: Set display units for the ruler, and spacing and color for the alignment grid (see the previous topic).
   Startup tab: Check or uncheck to set whether the Startup Wizard appears when you start PhotoPlus. We recommend you retain the Startup Wizard until you've had a chance to explore PhotoPlus sample files. You can also set the interval at which the Online Resources reminder appears, or turn it off. (Note that these resources are also accessible via the Help menu.)

Note on Undo in PhotoPlus:

Unlike most programs, which allow only a limited number of "undo" operations without regard to system resources, the Undo function in PhotoPlus actively monitors available system resources in relation to the demands of each operation. This allows you thousands of undo's for smaller images! For greatest efficiency, the function intelligently compresses operational data. You can use the dialog's slider control to adjust the tradeoff between compression and speed. The **memory** setting lets you assign a certain percentage of system RAM to the undo function (the default is 50%)—adjust this higher or lower depending on the demands of the applications currently in use. The **disk space** setting (default 128MB) allows PhotoPlus to utilize a hard disk buffer if the RAM limit is reached, allowing even more undo's. If you use this option, set the value no higher than available disk capacity.

Color concepts

It's always difficult to draw a line between concepts you should understand when you're getting started, and those that can wait until you absolutely need them. Here we've collected a few key terms and concepts relating to color, and presented them roughly in order of priority, trying to keep it simple without oversimplifying. So we suggest you just begin at the beginning, and treat this as a reference section you can revisit at any time.

For a similar treatment of PhotoPlus terms, see An overview of key concepts. For additional information on specific Web graphics formats, see Image formats for the World Wide Web.

Bitmaps

First of all, PhotoPlus is all of the following things and more: a "photo editor," a "paint program," a "bitmap editor." It lets you create and manipulate images called "bitmaps," "paint-type images," or "raster graphics." Don't be overwhelmed by the jargon— all these terms communicate a single concept! **Bitmaps** (let's settle on that term) are digital pictures (which may or may not be photographs) represented by lots of colored dots ("pixels") on a computer screen ("raster"). You create these images by "painting" or filling in regions on the screen, regions that can be as small as a single pixel or as large as the whole screen (or larger).

Bit depth

A bitmap is basically a bunch (literally a "map") of numbers that tell each dot (pixel) on a computer monitor what color it should be. And since computer numbers consist of binary digits (1's and 0's, or "bits"), each pixel in effect has one or more bits backing it up, telling it what to do. From this fact arises the concept of **bit depth** (also known as "pixel depth"), one of the essential attributes of any bitmap image. Bitmaps not only have height and width, they have depth. The more bits assigned to each pixel, the more possible color states the pixel can be told to take—the greater its "color depth."

For example: If you're only using 1 bit per pixel, the pixel can only be ON or OFF, in other words "1" or "0," the two states of the bit—hence white or black (**monochrome**).
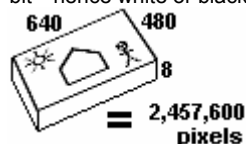
By comparison, a bit depth of 4 bits per pixel can store 16 values; 8 bits per pixel, 256, and so on. 16-bit images have roughly "thousands" of values to describe each pixel's color, and 24-bit images have "millions."

Of course, the appearance of a bitmap on a screen depends not only on the bit depth of the picture but on that of the computer screen displaying it. Just a few years ago (in the "old days"), many monitors were limited to 16 colors, and 256 was a big deal. There were "VGA" and "SVGA," and today the choices include "High Color" (16 bit) and "True Color."

Just because you may have a higher-end system, don't forget that many others do not. A 24-bit image with millions of colors may look abysmal on a 256-color monitor—a key consideration when it comes to creating graphics for the Web, as opposed to CMYK separations for a print publication. In print publishing, designers must worry about whether the colors specified in their electronic images will produce "true" output when reproduced in ink, under standard lighting conditions. In Web or CD-ROM publishing, the main worry is how to **optimize** or reduce the file size as far as possible, while maintaining some semblance of quality in the image (more about optimizing below). Fortunately, PhotoPlus includes tools to support all these needs.

Bit depth in PhotoPlus

One of the main differences between PhotoPlus and most other paint programs is that we've put aside the restrictive notion of working with a limited number of colors. You can work on any image in 24-bit mode, accessing the full color spectrum via the Color tab. Native format (.SPP) images are stored in this mode. When and if the time comes to save in a different format, and reduce colors, PhotoPlus provides the Export Optimizer for maximum quality control.

While novices will appreciate the ease of use this approach brings, more experienced users may at first need to adjust to the absence of color swatches and the constraints of working in 256-color mode. Still, we're confident that the benefits of concentrating on image production first, and color reduction last, will soon become apparent!

Tip: You can use the Open dialog to browse images on your system. The dialog displays the bit depth and dimensions (as well as an optional preview thumbnail) of any selected image in a supported format.

Resolution

Bitmaps are created at a fixed **resolution**, measured in **dpi** (dots per inch) and hence lose quality if resized upwards. Resizing downwards is a different matter, which is why it's always a good idea to scan pictures at higher dpi settings and scale down later. The reproduction quality of bitmaps can vary dramatically, and depends on factors such as the dpi stored in the original file, the dpi used for reproduction (printing), the bit depth, and the scaling factor used in reproduction.

High resolution bitmaps compensate for quality problems, but tend to be very large files.

Color modes

The PhotoPlus Color tab includes a control that lets you select one of four **color modes**: RGB, HSL, CMYK, or Grayscale. You should know something about these modes, even if you only have occasion to work in one or two of them. Much of the terminology overlaps. Let's consider these, starting with the simplest.

A **grayscale** image looks like what we would call a "black and white" photograph, which properly speaking has many levels of black, white, and gray (not just two, as in a monochrome line drawing). In PhotoPlus, Grayscale mode stores 256 shades of gray or levels of lightness. A value of 0 represents pure black, a value of 255 pure white. Sometimes we speak of the "tones" in a grayscale image—it's just another word for the different "values" or "lightness levels."

To understand **HSL**, imagine the difference between watching a TV program on a black and white set as opposed to a color set. It's the same color signal, right? But the black and white set doesn't reproduce the color. What it does pick up is the grayscale or lightness channel of the signal. In the same way, any color image in PhotoPlus has a channel that stores lightness information: the "L" in HSL, which stands for **Lightness**. To repeat—and this is important when it comes to understanding topics like masking —lightness and grayscale values (and for that matter tones, luminance, and brightness) refer to the same basic information.

The additional **Hue** and **Saturation** channels in HSL mode together store all the color information that's missing from a simple grayscale image. Like Lightness/Grayscale values, Hue and Saturation channel values are expressed in numbers, ranging from 0 to 255. (If you're alert, you'll note that 256 is equivalent to 8 bits of information, so H+S+L has three 8-bit channels totaling 24 bits—which is where the "24" in "24-bit" comes from.)

Hue refers to the color's tint—what most of us think of as rainbow or spectrum colors with name associations, like "blue" or "magenta." A **color wheel** (like the one in the PhotoPlus Adjust Color dialog) is useful for representing the spectrum of hues as a continuous cycle, like a clock. The hue "red" is arbitrarily assigned the value 0 at a certain position, and the values run around the circle. **Saturation** describes the color's purity—a totally unsaturated image has only grays.

RGB mode is much less intuitive than HSL as a method of mixing colors, but it's the standard way of describing colors the way they're displayed on computer monitors—as mixtures of separate **Red**, **Green**, and **Blue** components. Anyone who's seen (in a museum, perhaps) a demonstration of three projector beams, one of each color, merging to produce a pool of white light, has seen a primitive version of the RGB system. On computers, as with the HSL system, 8 bits are used to encode each of the three channels, for a total of 24 bits, and with 256 possible levels (0-255) for each channel. An RGB value of "0,0,0" represents pure black, while a value of "255,255,255" represents pure white.

To quickly get a feel for the HSL and RGB color mode variables, double-click either the foreground or background color swatch on the Color tab and try mixing your own colors using the Adjust Color dialog. (For details, see the subtopic Precise color definition in the next topic.)

Finally, **CMYK** is a color model used for preparing printed work, where ink on paper is the medium that determines color reproduction. It's based on the "subtractive" principle by which our perception of a pigment's color depends on the light wavelengths it absorbs and reflects. Traditional color printing creates colors by mixing inks and absorbing light, so that your eyes can mix the reflected light.

The four process inks are Cyan, Magenta, Yellow, and Black (Black is referred to as Key). Mix the four process inks, and you get black. No ink gives you white (or the color of the paper). In PhotoPlus, the C, M, Y, and K channel values are given percentages, from 0 to 100%. PhotoPlus supports CMYK output of process color separations (for details, see the Printing topic).

Color mode tips

- The color mode setting (on the Color tab) determines how image data gets pasted from the Windows Clipboard—in other words, as grayscale values in Grayscale mode, or as full 24-bit color in any of the other modes.
- If you start editing a layer mask (which represents opacity values by shades of gray), the Color tab switches temporarily to Grayscale mode. Applying the **Image/Adjust/Grayscale** filter, however, doesn't affect the color mode.
- You can use the Color Pickup tool as a probe to read component values in an image. Move the tool around the image and watch the HintLine. Depending on the color mode, you'll see a readout of values (R, G, B, H, S, L, O, etc.) under the current cursor position. By the way, the "O" represents Opacity.

Optimizing images

In a perfect world, there would be just one digital picture format that everybody used. Infinite storage capacity and bandwidth would allow full-color images to be stored and transmitted instantly, uncompressed... but let's leave that for a sci-fi novel. The reality is that at least hundreds of picture formats have been created, with more ever on the way. A dozen or so are currently in widespread use among computer professionals. The tradeoff between image quality and file size will remain a fact of life. Hence the need to **optimize images**—that is, achieve the best quality in the least file size, and within whatever other constraints (such as number of colors) the job may impose.

PhotoPlus features a powerful **Export Optimizer** that serves as your "command center" for exporting images to various formats. It not only provides a variety of options for each supported format, but lets you compare image quality using different settings and even retains your preferred settings for each format. You can access the Export Optimizer at any time—not just at export time—to take advantage of its comparison capabilities. While the visual comparisons speak for themselves, some of the available settings may need some explanation...

Palettes

The PhotoPlus Export Optimizer offers two standard **Palette** options when you export using 8 bits or less. A color palette (no relation to a "floating" palette) is a table of color values that gets stored with any image having 256 colors or less. This could

mean a .BMP, .GIF, .PCX, or .WMF image—plus quite a few more. Computer users with high-color monitors may not give it much thought, but in the realm of 256-color displays, palettes can make a great deal of difference. Windows itself reserves "slots" for its own "system" colors, and each application must "declare" a palette while the graphics system tries to ensure peaceful coexistence. When several colorful applications are in use, and you switch from one you another, you sometimes see the ghastly result of palettes clashing as neither application wants to relinquish its hold on a scarce system resource.

To avoid that kind of calamity when displaying Web pages, both Netscape and Microsoft browsers use the same **Web-safe** palette of 216 colors to display images. You may be interested to know that the Web-safe palette is based on *RGB values that are either 0, or divisible by 51*. Permissible values are in the series 0, 51, 102, 153, 204, 255. So, for example, the RGB definition "0,102,51" would be a safe Web color, while "0,102,52" would not.

If you're exporting at 256 colors or less, and Web display is not an issue, there's no question you should choose the **Optimized** setting—as a quick side-by-side comparison in the preview window will always confirm. The program will always do a better job when it's allowed to select a range of color values that best match those in the 24-bit version, rather than having to apply the same 216 colors every time.

Note: When you open an image that already has an associated palette, PhotoPlus doesn't attempt to hold on to the palette—it always re-optimizes, even if you use the **Save Original** command. Usually this yields the best possible results; but if keeping exactly the same image palette is essential to your particular application, our advice would be to export from PhotoPlus in 24-bit mode and use a third-party program to apply the palette.

Dithering

Dithering (not to be confused with "showing flustered excitement or fear") comes into play with images being reduced to 256 colors or less. It's a method of approximating colors outside the actual image palette—for example, by alternating pixels of red and blue from within the palette to produce the visual impression of a purple color that's not in the palette. Applications (including Web browsers) use dithering in 256-color mode if the images being displayed include colors outside the application palette. This can degrade solid-color areas and is one of the main reasons to export Web-bound images using the Web-safe palette.

When you're exporting to 256 colors or less, PhotoPlus lets you choose whether or not to use dithering. If you have an image with few colors, and preserving areas of solid color is essential, you should opt for **no dithering**—and the export filter will pick "nearest-match" color values from the palette being applied. You may see some color shifting, but the solid color areas will be preserved. For photographic images, on the other hand, dithering is clearly the best choice. With the "optimized palette" option, you can choose either **ordered** or **error diffusion** dithering. The former produces a discernibly patterned effect, while the latter tends to average away the patterns for a more natural result.

Compression

Compression schemes, which apply different algorithms to encode the image information with fewer total bits and bytes, are used in many formats. With some, like .BMP and .TIF, the Export Optimizer gives you a choice of compression scheme. In general, use the default setting unless you know for a fact that some other scheme is called for.

The .JPG format, widely used for photographs (and detailed in Image formats for the World Wide Web), is unusual in that you can set the level of quality desired using a slider. As you might expect, the highest-quality setting uses least compression, with no loss of image quality but the largest file size. The lowest-quality setting applies maximum compression for smallest size, but yields rather poor quality. With the aid of the Export Optimizer, you can judge for yourself—but another factor to keep in mind is the number of times you expect to be re-exporting a particular image. A photograph may look fine the first time you export it at JPG level 6, but after several such saves, you'll really see the quality loss. As a rule, keep images in the native .SPP format, or export them using only lossless compression schemes, until it's time for the final export.

Choosing colors

At any given time, PhotoPlus allows you to work with just two colors—a **foreground** color and a **background** color. These are always visible as two swatches on the Color tab:
Vis Ref | How To Here, for example, the foreground color is gray and the background color is green. Now, a few things to remember about how these colors are used:

- When you paint with one of the brush tools, or draw a line or shape, left-dragging (that is, dragging with the left mouse button down) applies the foreground color.

- When you cut, delete, or erase an area on the Background layer, the area exposes the background color—as if that color were there "behind" the portion of the image being removed. (By the way, layers other than the Background behave differently: on these, a removed area exposes transparency.)

- To swap foreground and background colors, click the double arrow next to the Color tab swatches.

Electronic artists expend much of their creative energy deciding which of the millions of available colors should fill those two slots. The actual steps involved, however, can be quite simple.

To define foreground and background color:

1. Select the Vis Ref | How To **Color Pickup tool** on the Tools toolbar.

2. Left-click with the tool anywhere on an image to "pick up" the color at that point as the new foreground color. (To set a new background color, first swap foreground and background colors using the Color tab as noted above.)
   Tip: To switch temporarily to the Color Pickup tool from a paint, line, shape, fill, or text tool, hold down the **Alt** key, then click to define the foreground color.

OR

1. On the Color tab, move the mouse pointer (dropper cursor) around the Vis Ref | How To Color Spectrum. As you move the dropper cursor around the spectrum, the preview swatch above the spectrum shows the color at the cursor position.

2. Left-click in the spectrum to set a new foreground color. Right-click to set a new background color.

OR

1. On the Color tab, click either the foreground or the background swatch. A white border around the box tells you it's selected.

2. Use the slider(s) or enter numeric values in the boxes to define a specific color. The selected swatch updates instantly.

The Color tab makes it possible to set the working **color mode** to any one of the following: **RGB** (Red, Green, Blue); **HSL** (Hue, Saturation, Lightness); **CMYK** (Cyan, Magenta, Yellow, Black); or **Grayscale**. (For a discussion of the various color modes, see the subtopic Color modes in the previous topic.)

To set the color mode:

- Click the Vis Ref | How To down arrow on the Color tab and choose from the menu.

Precise color definition

The **Adjust Color dialog**, which you can access via the Color tab and from other dialogs, provides another way of modifying the foreground or background color, and also lets you define and store a set of custom colors using a color wheel.

To display the Adjust Color dialog from the Color tab:

- Double-click either the foreground or background swatch.

Here's a visual guide to using the Adjust Color dialog:

The **color wheel** displays **hues** around the outer circle.

1 Click with the dropper cursor to select a hue.
The inner square updates to show gradations of **saturation** and **lightness** for the selected hue.
2 Click in the square to complete the HSL color definition.

Below the color wheel, the sample boxes display the **Current Color** (continuously updated) and the Old Color.

At the left, six boxes show RGB and HSL values for the current color.

- To define a color using RGB or HSL values, type new values into the boxes. The color wheel displays the new color.

#F0ECEC

Below the HSL boxes, another box displays the hexadecimal value (used in HTML) for the current color.

- Click **OK** to confirm the new color definition, or **Cancel** to abandon changes.
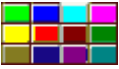
For quick color selection, you can also define and maintain a list of custom colors you use frequently.

- To update the current color from your Custom Colors list, click a color swatch.
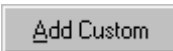
Add Custom

- To add the current color to the swatch panel, click the **Add Custom** button.

Delete Custom

- To delete a swatch from the panel, select it and click the **Delete Custom** button.

Painting, drawing, airbrushing, and smudging   [Vis Ref] [How To]

PhotoPlus provides three basic painting/drawing tools on the Tools toolbar (see also the following topics on Erasing, Filling a region, and Cloning a region):

[Vis Ref] [How To]   **Paintbrush tool** for drawing freehand lines on the active layer

[Vis Ref] [How To]   **Airbrush tool** for "spray painting" on the active layer

[Vis Ref] [How To]   **Smudge tool** for picking up color from the click point and "pushing" it in the brush stroke direction

All three tools work in basically the same way. You can set tool properties including opacity, fade, airbrush pressure, and stylus options. (See the Visual Reference topic Tool Properties tab.)

[Vis Ref] [How To]   You can also choose a brush tip. The brush tip determines the thickness of the drawn line. (See the Visual Reference topic Brush Tip tab.)

To use the painting/drawing tools:

1. Select the tool from the Tools toolbar.

2. Change properties, if necessary, on the Tool Properties tab.

3. Choose a brush tip on the Brush tip tab.

4. Drag with the tool on the active layer, holding the left mouse button down to paint in the foreground color.

Notes and Tips:

- If there is a selection, the tools only affect pixels within the selected region.

- To draw a "pencil" line, choose a single-pixel brush.

- To draw straight lines, use the Line tool.

- To switch temporarily to the Color Pickup tool from the Paintbrush or Airbrush tool, press the **Alt** key. Then left-click to define the foreground color, or right-click to define the background color.

- For continuous paint flow, set the Fade property to 0. Non-zero values produce a "dot trail" effect.

- For best results with the Smudge tool (to avoid "dots" on extended strokes), set the brush tip's "Spacing" property to 1.

Erasing   Vis Ref   How To

Use the   Vis Ref   How To   **Eraser tool** on the Tools toolbar like a brush, to replace colors in an image either with the background color or with transparency. You can set tool properties including opacity, fade, and stylus options, and choose a brush tip. (For details, see the Visual Reference topics Tool Properties tab and Brush Tip tab.)

To erase:

1. Select the tool from the Tools toolbar.
2. Change properties, if necessary, on the Tool Properties tab.
3. Choose a brush tip on the Brush tip tab.
4. Drag with the tool on the active layer. On the Background layer, erased pixels expose the current background color. On other layers, they expose transparency.

Notes and Tips:

- If there is a selection, the Eraser tool only affects pixels within the selected region.
- You can also completely remove part of an image by making a selection, then pressing the **Delete** key.

Filling a region

Flood Fill

The **Flood Fill tool** [**Vis Ref** | How To] is found on the Tools toolbar. It replaces an existing color region with the foreground color. How large a region is "flooded" with the fill color depends on the difference between the color of the pixel you initially click and the color of surrounding pixels.

You can use the Tool Properties tab to set a **tolerance** value—how much of a color difference the tool looks for. With a low tolerance setting, the tool "gives up easily" and only fills pixels very close in color to the one you click (a setting of 0 would fill only pixels of the same color; 255 would fill all pixels). As the tolerance increases, so does the tool's effect on pixels further in color from the original pixel, so a larger region is flooded.

The Tool Properties tab also includes a "Use All Layers" option. If checked, the Fill tool samples pixels on all layers (both shown and hidden) underlying the click point, as if the layers were merged into one. If unchecked, it only samples pixels on the active layer. In either case, it only fills pixels on the active layer.

To apply a flood fill:

1. Select the tool from the Tools toolbar.

2. Set tolerance and layer fill options on the Tool Properties tab.

3. Click with the tool where you want to start the fill.

Notes and Tips:

- If there is a selection, the Fill tool only affects pixels within the selected region.

- To switch temporarily to the Color Pickup tool from the Flood Fill tool, press the **Alt** key. Then left-click to define the foreground color, or right-click to define the background color.

Cloning a region `Vis Ref` `How To`

Use the `Vis Ref` `How To` **Clone tool** on the Tools toolbar to duplicate part of the active layer.

The tool is essentially a high-tech version of a "pantograph"—the device with two connected stylus points, one that traces an original drawing, the other that draws an exact duplicate somewhere else.

It works like a brush that lets you pick up the image from one place and put it down in another place—even between images. For example, you can brush away skin blemishes by cloning some "good skin" over them, or remove an unwanted object from an image by extending some foliage to cover it. The tool works well either on large areas, or zoomed-in to the pixel level.

To tell the Clone tool exactly where to start picking up the image, you **Shift**-click to define a pickup point (let's call it point A). Your next click (say, at point B) defines a "putdown" or painting point—and begins the first brush stroke. During the stroke, imagine you have one brush picking up the image from point A, while another puts it down at point B. As long as the mouse button is down, the A-B distance stays the same, and the two points move as if locked together. The A point—marked by a crosshair cursor—follows the stroke of the B brush and the region surrounding A is cloned.

The Tool Properties tab includes an **Aligned** option that affects what happens if you use more than one brush stroke. There are two possibilities when you click to begin a second stroke:
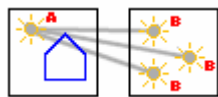
Aligned

1 The pickup point resets itself at a new point "A," a fixed distance form the brush tip—maintaining the same separation between the cursors as on the first stroke.

Non-aligned

OR

2 The pickup point resets itself to the original point "A."

In the first case (called "aligned" because the two cursors remain in A-B alignment), subsequent brush strokes extend the cloned region rather than producing multiple copies. In non-aligned mode, you begin cloning the same pixels all over again from the original pickup point.

To clone a region:

1. Select the tool from the Tools toolbar.
2. Change properties, if necessary, on the Tool Properties tab. For example, reducing the tool's Opacity setting results in a "ghosted" copy of the original pixels.
3. Choose a brush tip on the Brush tip tab.
4. To define the pickup origin, **Shift**-click with the tool.
5. Click again where you want to start the copy, then drag to paint the copy onto the new location. Repeat as needed. A crosshair marks the pickup point, which moves relative to your brush movements.

Notes and Tips:

- If there is a selection, the Clone tool only affects pixels within the selected region.

Creating text   **Vis Ref** | **How To**

Use the **Vis Ref** | **How To** **Text Tools flyout** on the Tools toolbar to select from two text tools. One is for entering solid, colorful text on a new layer. In PhotoPlus, solid text is editable: as long as it remains on a separate layer, you can go back and change its properties at any time. The other text tool lets you create a selection in the shape of text with which to manipulate content on an existing layer.

To create new text:

1. Click the **Text Tools** button and choose the standard **Vis Ref** | **How To** **Text** tool.

2. Click with the tool where you want to insert text (it can be moved later). The Add Text window opens.

3. Type your text into the window.

4. To apply formatting (pointsize, bold/italic, alignment), click the top buttons as needed. Formatting is applied to all the text in the window, so you don't need to select the text first.

5. To apply semi-transparent edges to the characters, check the **Anti-Aliased** box. Anti-aliasing is generally recommended with text sizes 14pt or larger.

6. To set text color, click the **Adjust Color** button. (For details on using the Adjust Color dialog, see the subtopic Precise color definition.) You won't see the effect of the new color until you close the Add Text window.

7. When you're done, click **OK**. The text appears on a new transparent layer in the image. You can now use the Move tool or other tools and commands to manipulate it, just like the contents of any layer.

The Layer Manager tab designates **text layers** with a $\mathbb{T}$ symbol. In order to keep text editable, only one block of text can occupy a text layer, and various functions—such as painting functions or the **Paste Into Layer** command—are disabled on text layers. If you cut/copy a text layer and paste it elsewhere as a new layer, it becomes a standard layer and its text is no longer editable. To convert any text layer to a standard layer, right-click on the layer name and choose **Render Text Layer** from the menu.

Tip: To switch temporarily to the Color Pickup tool from the Text tool, press the **Alt** key. Then left-click to define the foreground color, or right-click to define the background color.

To edit existing text:

1. On the Layer Manager tab, double-click the name of the text layer to be edited.
   OR
   With the text layer to be edited as the active layer, choose the standard
   Vis Ref | **How To** Text tool and move the mouse pointer over the text until it changes to the

$\mathbb{I}$ (I-beam) cursor, then click on the text.

The Add Text window appears, with the text block displayed.

2 Make your formatting or color changes and click **OK**.

To create a text selection:

1. Click the **Text Tools** button and choose the **Vis Ref** | **How To** **Text Selection** tool.

2. Click at the location on the image where you want to begin the selection. The Add Text window appears.

3. Type your text into the window and apply formatting, just as when creating solid text.

4. When you're done, click **OK**. A selection marquee appears on the active layer. In effect, the portion of the layer inside the text selection turns into a "fill" for the selection.

5. You can now cut, copy, move, modify, and apply various effects to the selection. (For details, see the topics Modifying a selection and Manipulating a selection.)

Note: Unlike solid text, the text selection doesn't occupy a separate layer. Nor can you edit a text selection after you've created it.

Creating straight lines and shapes   [Vis Ref] [How To]

In addition to the various brush tools, the PhotoPlus Tools toolbar includes the [Vis Ref] [How To] **Line tool** for drawing straight lines, and the
[Vis Ref] [How To] **Shape Tools** flyout featuring an assortment of tools for creating rectangles, ellipses, polygons, and other shapes. Each shape is adjustable, so you can experiment before committing to a particular figure—with innumerable possibilities!

To draw a straight line:

1. Select the Line tool from the Tools toolbar.

2. Set Tool Properties tab options, such as line weight, as needed.

3. Click and drag to draw a straight line using the foreground color.

4. To constrain the angle of the line to 15-degree increments, hold down the **Shift** key as you drag.

To create a shape:

1. Click the **Shape Tools** button's down arrow to display the flyout, then select a shape. (To choose the most recently used shape, just click the larger button.)

2. Set Tool Properties tab options—weight (thickness), opacity, anti-alias, and stylus settings—as needed.

3. Drag out a shape on the image, then adjust the shape's handles to fine-tune it. To constrain the shape's proportions, hold down the **Ctrl** key while dragging.
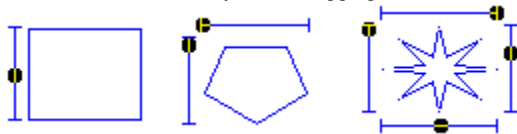
4 When you're satisfied, double-click within the shape to draw it, or click outside the shape to cancel it.

Tip: To switch temporarily to the Color Pickup tool from the Line tool or a shape tool, press the **Alt** key. Then left-click to define the foreground color, or right-click to define the background color.

Making a selection   `Vis Ref` `How To`

In any photo editing program, the **selection tools** are as significant as any of the basic brush tools or commands. The basic principle is simple: quite often you'll want to perform an operation on just a portion of the image. The wide range of selection options in PhotoPlus lets you:

- Define just about any selection shape (covered in this topic)
- Modify the extent or properties of the selection (see next topic)
- Carry out various manipulations on the selected pixels, including cut, copy, paste, rotate, etc. (see Manipulating a selection)

Selection tool options

We'll begin by introducing the various selection tools and their common features (click the links for more details on each tool).

`Vis Ref` `How To` The **Standard Selection Tools** flyout includes

`Vis Ref` `How To` **Rectangle**,

`Vis Ref` `How To` **Ellipse**,

`Vis Ref` `How To` **Freehand**, and

`Vis Ref` `How To` **Polygon** selection shapes. Choose a tool, then drag on the image to define a selection region. (The Polygon Selection tool lets you draw a series of line segments; double-click to close the polygon.)

`Vis Ref` `How To` The **Adjustable Selection Tools** flyout provides 16 different variable shapes, including pie, star, arrow, heart, spiral, wave, and so on. Choose a tool, drag out a shape on the image, then adjust the handles to fine-tune the shape. Double-click within the shape to select the region.

`Vis Ref` `How To` The **Color Selection tool** lets you select a region based on the color similarity of adjacent pixels. It works much like the fill tool, but the result is a selected region rather than a region flooded with a color.

> With this tool, you can use the Tool Properties tab to set a **tolerance** value—how much of a color difference the tool looks for. With a low tolerance setting, the tool "gives up easily" and only includes pixels very close in color to the one you click (a setting of 0 would select only pixels of the same color; 255 would select all pixels). As the tolerance increases, so does the tool's effect on pixels further in color from the original pixel, so a larger region is selected.

> The Tool Properties tab also includes a "Use All Layers" option. If checked, the Color Selection tool samples pixels on all layers (both shown and hidden) underlying the click point, as if the layers were merged into one. If unchecked, it only samples pixels on the active layer. In either case, the actual selection only applies to pixels on the active layer.

`Vis Ref` `How To` The **Text Selection tool** lets you create a selection in the form of text. Click with the tool to display the Add Text dialog. Type your text, format as needed, and click **OK**.

Selection basics

Although the techniques for using each tool vary a bit, the end result is always the same: a portion of the active layer has been roped off from the rest of the image. The boundary is visible as a broken line or **marquee** around the selected region.

The cursor over the selection changes to the Move Marquee cursor, which lets you reposition just the marquee as needed without affecting the underlying pixels.

Whenever there's a selection, certain tools and commands operate only on the pixels inside the selection—as opposed to a condition where nothing is selected, in which case those functions generally affect the entire active layer.

For example, when there's a selection, the brush tools only work inside the selection; the color simply doesn't affect outside pixels. If you apply an adjustment from the Image menu, it only affects the selected region.

Sometimes the marquee gets in the way—for example, if you're trying to achieve precise alignment in a small area. You can hide or show the marquee as you see fit, without altering the selection itself.

- To hide or show the marquee, uncheck or check **Show Marquee** on the Select menu.

You may occasionally (especially if the marquee is hidden) find yourself using a tool or command that seems to have no effect... it's probably because there's still a selection somewhere, and you're trying to work outside the selection. In this case, just cancel the selection.

- To cancel the selection (select nothing), simply click with a selection tool anywhere outside the selection or choose **Deselect** from the Select menu. You can also press **Ctrl+D**.

The opposite of selecting nothing is selecting everything:

- To select the entire active layer, press **Ctrl+A**, or choose **Select All** from the Select menu.

Finally, here's an important point: If your image has multiple layers, and you switch to another layer, the selection doesn't stay on the previous layer—it follows you to the new active layer. This makes sense when you realize that the selection doesn't actually include image content—it just describes a region with boundaries. And following the old advice "Don't confuse the map with the territory," you can think of the selection as a kind of outline map, and the active layer as the territory. Political boundaries may change... but the landscape remains.

Modifying a selection

Once you've used a selection tool to select a region of the active layer (see the previous topic), you can carry out a number of additional steps to fine-tune the selection before you actually apply an effect or manipulation to the selected pixels (see next topic). This topic deals with these ways of modifying the selection.

Moving the selection (marquee)

Sometimes, for example with a text selection, you need to adjust the position of the marquee without affecting the underlying pixels. Any time you're using one of the selection tools, the cursor over a selected region changes to the

Move Marquee cursor. This indicates you can drag the marquee outline to reposition it.

Bear in mind the distinction between the "selection" as an outline, and the image content inside the selection. You'd use the Move tool to drag the image content around, as covered in the next topic.

Tip: As a shortcut if you're working with any one of the selection tools, you can press the **Ctrl** key to switch temporarily to the Move tool. Press **Ctrl+Alt** to duplicate. Release the key(s) to revert to the selection tool.

Making the selection larger or smaller

If the selection you've made isn't quite the right shape, or doesn't quite include all the necessary pixels (or perhaps includes a few too many), you can continue to use the selection tools to add to, or subtract from, the selected region.

To add to the existing selection with a selection tool:

- Select the tool and drag while holding down the **Shift** key. The newly selected pixels don't have to adjoin the current selection —it's possible to select two or more separate regions on the active layer.

To subtract from the existing selection with a selection tool:

- Select the tool and drag while holding down the **Alt** key.

The **Modify** item on the Select menu provides a submenu with several functions that can save you the trouble of hand-drawing to change the selection boundaries:

- Choose **Contract...** to shrink the borders of the selection, or **Expand...** to extend its borders. Each command displays a dialog that lets you enter a specific pixel value.
- **Grow** and **Similar** both expand the selection by seeking out pixels close (in color terms) to those in the current selection. **Grow** only adds pixels adjacent to the current selection, while **Similar** extends the selection to any similar pixels in the active layer.
  Both commands use the tolerance setting entered for the Color Selection tool on the Tool Properties tab; this determines how much of a color difference the tools look for. With a low tolerance setting, they only include pixels very close in color to those already selected. As the tolerance increases, a larger region is selected. Typically when using these tools, you'll start by selecting a very small region (the particular color you want to "find" in the rest of the image).

Anti-aliasing and feathering

Anti-aliasing and **feathering** are different ways of controlling what happens at the edges of a selection. Both produce softer edges that result in smoother blending of elements that are being combined in the image. You can turn either option on or off for the Standard and Adjustable Selection tools, using the check boxes on the Tools Properties tab.

- **Anti-aliasing** works as for the Line tool, producing smooth edges by making the selection's edge pixels semi-transparent. (As a layer option, it's not available on the Background layer, which doesn't support transparency.)
- **Feathering** reduces the sharpness of a selection's edges, creating a smooth transition to the surrounding area, You can apply feathering "after the fact" to an existing selection (but before applying any editing changes) using the Select menu's **Feather...** command. In the dialog, enter the width (in pixels) of the transition area. A higher value produces a wider, more gradual fade-out.

Inverting the selection

The **Invert** command on the Select menu (shortcut **Ctrl+Shift+I**) selects the portion of the active layer outside the current selection. Unselected pixels become selected, and vice versa.

Manipulating a selection [Vis Ref] [How To]

Once you have selected precisely the pixels you want to work on (as explained in the two previous topics), the question arises, what can you <u>do</u> with the selection—or technically speaking, with the pixels you've outlined? This topic will provide some basic answers.

Note: A great many PhotoPlus adjustments and effects can be applied directly to selections. (See the several following topics as well as those in the section on How to Apply Image Effects.)

Using the Move tool

The [Vis Ref] [How To] **Move tool** (unlike the Move Marquee cursor associated with the selection tools) is for pushing actual pixels around. With it, you can drag the content of a selection from one place to another, rather than just moving the selection outline. To use it, simply click on the selection and drag to the new location. The selected part of the image moves also.

- If nothing is selected, dragging with the Move tool moves the entire active layer.

   The "hole" left behind when the image content is moved exposes the current background color (on the Background layer), or transparency (on standard layers), shown with a "checkerboard" pattern.

- To duplicate the contents of the selection on the active layer, press the **Alt** key and click, then drag with the Move tool.

- As a shortcut if you're working with any one of the selection tools, you can press the **Ctrl** key to switch temporarily to the Move tool. Press **Ctrl+Alt** to duplicate. Release the key(s) to revert to the selection tool.

Cut/Copy/Delete/Paste

Cut and copy operations involving the Clipboard work just as in other Windows programs.

- To copy pixels in the selected region, press **Ctrl-C** or click the [Vis Ref] [How To] **Copy** button on the Standard toolbar. (You can also choose **Copy** from the Edit menu.)

- To cut the selected pixels, press **Ctrl-X** or choose **Cut** from the Edit menu.

- To delete the selected pixels, press the Delete key or choose **Clear** from the Edit menu.

Note: Cut or deleted pixels expose the current background color (on the Background layer) or transparency (on standard layers) with transparency. If you want to create transparency on the Background layer, first "promote" it to a standard layer by right-clicking its name on the Layer Manager tab and choosing **Promote to Layer**.

- If nothing is selected, a cut or copy operation affects the whole active layer, as if **Select All** were in effect.

When pasting from the Clipboard, PhotoPlus offers several options.

- To paste as a new image in an untitled window, press **Ctrl+V** or click the [Vis Ref] [How To] **Paste** button on the Standard toolbar. (You can also choose **Paste> As New Image** from the Edit menu.)

- To paste as a new layer in the current image, press **Ctrl+L** or choose **Paste> As New Layer** from the Edit menu.

- To paste into the current selection, press **Shift+Ctrl+L** or choose **Paste> Into Selection** from the Edit menu. The Clipboard contents appear centered in the currently selected region. (This choice is grayed out if there's no selection, or if the active layer is a text layer.)

- To duplicate part of the active layer on the same layer, press the **Alt** key and click, then drag with the Move tool. (Or if you're working with a selection tool, press **Ctrl+Alt** and drag to duplicate.)

Creating a mask from a selection

Masking is a relatively advanced technique that's described in detail in the topic Basics of using masks. In brief, masks let you paint on, adjust, or otherwise manipulate any standard layer without permanently affecting it. Just as a selection is a "map" outlining a region of pixels, a mask is a map of variations in opacity.

For example, a very simple mask might look like a 100% opaque rectangle blocking the whole layer, but with a 100% transparent "hole" in the middle. With the mask enabled, painting on the layer would only affect pixels inside the "hole." In this case, the mask would function much like a selection—pixels outside the "hole" region would be unaffected.

Suffice it to say that a selection, which lets you isolate specific parts of the active layer, often makes an ideal basis for a mask. Once you've created, modified, and manipulated a selection, it's easy to turn it into a mask.

To create a mask from a selection:

1. Choose **Add Mask** from the Layers menu.
2. To create a mask revealing the selected region, choose **Reveal Selection** from the submenu. Pixels outside the selection will

be 100% masked.
OR
To create a mask hiding the selected region, choose **Hide Selection** from the submenu. Pixels outside the selection will be revealed.

Changing image and canvas size

Changing the **image size** (top example below) means scaling the whole image (or just a selected region) up or down. Resizing is actually a kind of distortion because the image content is being stretched or squashed. However, especially when downsizing, the distortion is subtle because the program does a good job of **resampling** the image—that is, recalculating how to distribute the image pixels.

Changing the **canvas size** (bottom example) just involves adding or taking away pixels around the edges of the image. It's like adding to the neutral border around a mounted photo, or taking a pair of scissors and cropping the photo to a smaller size. In either case, the remaining image pixels are undisturbed so there's no distortion.

Note that once you've changed either the image size or the canvas size, the image and canvas are exactly the same size again!

Changing image size

The **Image Size dialog** lets you specify a new size for the whole image, in terms of its screen dimensions and/or printed dimensions.

To resize the whole image:

1. Choose **Image Size...** from the Image menu.
2. To specify just the printed dimensions, uncheck **Resize layers**. Check the box to link the Pixel Size (screen) settings to the Print Size settings.
3. To retain the current image proportions, check **Maintain aspect ratio**. Uncheck the box to alter the dimensions independently.
4. If adjusting screen dimensions:
   • Select a preferred scale (either "Pixels" or "Percent") in the drop-down list.
   • Select a resampling method. As a rule, use Nearest Pixel for hard-edge images, Bilinear Interpolation when shrinking photos, and Bicubic Interpolation when enlarging photos.
5. If adjusting printed dimensions, select your preferred units of measurement and resolution.
6. Enter the new values and click **OK**.

Changing canvas size

PhotoPlus provides several ways of changing the canvas size. If you just want to reduce the canvas area, you can use the **Crop tool** or the **Image/Crop to Selection** command. To either enlarge or reduce the canvas, the **Image/Canvas Size...** command provides a dialog that lets you specify where pixels should be added or subtracted.

To crop the image with Crop tool:

1. Select the **Crop tool** from the Tools toolbar.
2. Drag out a rectangle and adjust the edges as needed. To constrain the region to a square, hold down the **Ctrl** key while dragging.
3. Double-click in the rectangle to crop to the designated size.

Note: Cropping with the Crop tool affects all image layers. Everything outside the designated region is eliminated. If there's a marquee-based selection, it is ignored and deselected during cropping.

To crop the image to the selection:

• Choose **Crop to Selection** from the Image menu.

Note: Cropping to the selection affects all image layers. Everything outside the selected region is eliminated.

To use the Canvas Size dialog:

1. Choose **Canvas Size...** from the Image menu.
2. Enter new Width and/or Height values (the current values are also shown for comparison).

3 In the Anchor box, click to position the image thumbnail with respect to edges where pixels should be added or subtracted. For example, if you want to extend the canvas from all sides of the image, click the center anchor point.

4 Click **OK**.

Note: If the canvas size is increased, the new canvas area is filled (on the Background layer) with the current background color and (on standard layers) with transparency.

Flipping and rotating

Flipping and rotating are standard manipulations that you can carry out on the whole image, the active layer, or just on a selection. Flips are used to change the direction of a subject's gaze, fix composition, and so on. Among other things, rotating can restore proper vertical alignment in a scanned image that wasn't aligned correctly on the scanner. In PhotoPlus, flipping is carried out with a single menu command, while rotating involves using a dialog.

To flip:

• Choose either **Flip Horizontally** or **Flip Vertically** from the Image menu, then select **Image**, **Layer**, or **Selection** from the submenu.

To rotate:

1 Choose **Rotate...** from the Image menu.

2 In the Rotate dialog, set the rotation angle (90, 180, or 270 degrees, or enter a custom angle) and the direction (clockwise or counter-clockwise).

Select **Image**, **Layer**, or **Selection** and click **OK**.

Adjusting image colors

Brightness/Contrast	Hue/Saturation/Lightness	Replace Color
Gamma	Threshold & Grayscale	Equalization & Stretch
Negative Image	Histogram	

— Click green for help topic, red for Image Gallery —

The PhotoPlus **Image menu** includes a wide variety of color adjustment functions that you can apply to the active layer or to a selection. Some adjustments—to brightness, contrast, hue, and so on—are usually carried out in order to improve a deficient image, while others fall more into the category of special effects (see also the topic Applying special effects). The **histogram** is a window that displays statistics and image color values, helping you to evaluate the kinds of image adjustments that may be needed.

For an introduction to PhotoPlus color concepts and terminology, see the topic Color concepts.

Note: This **Help Topics** window includes subtopics (as shown by the menu links above) that explain each color adjustment function. The **Effects Gallery** window is designed to work in conjunction with these subtopics, providing "before/after" illustrations for each one. Clicking the green links in either window brings up help topics, while clicking red links displays Gallery examples.

Brightness/Contrast adjustment

Brightness refers to overall lightness or darkness, while **contrast** describes the tonal range, or spread between lightest and darkest values. This is a "quick and dirty" way of correcting an image, for example one that was not properly scanned.

To adjust Brightness and Contrast:

1. Choose **Adjust** from the Image menu, then select **Brightness/Contrast...** from the submenu. The Brightness and Contrast Filter dialog appears.

2. Adjust the Brightness slider left or right to lower or raise brightness (as a percentage from -100 to +100). Adjust the Contrast slider to lower or raise contrast (also as a percentage). The active layer or selection updates each time you release the mouse button. (You can also select a slider and use the keyboard arrows.)

3. Click **OK** to apply the adjustment, or **Cancel** to abandon changes.

Hue/Saturation/Lightness adjustment

Hue, saturation, and lightness are components of a standard color model that's used (along with RGB and other models) to identify colors. Generally speaking, **Hue** refers to the color's tint—what most of us think of as rainbow or spectrum colors with name associations, like "blue" or "magenta." **Saturation** describes the color's purity—a totally unsaturated image has only grays. **Lightness** is what we intuitively understand as relative darkness or lightness—ranging from full black at one end to full white at the other. The Hue/Saturation/Lightness adjustment lets you alter these components independently.

You can use the filter to also colorize an image (typically a grayscale image) by adjusting only its hue.

For a firsthand look, experiment with the separate Hue, Saturation, and Lightness sliders in the dialog and compare the "Before" and "After" spectrum bars.

To adjust Hue, Saturation, and Lightness:

1. Choose **Adjust** from the Image menu, then select **Hue/Saturation/Lightness...** from the submenu.

2. Adjust the Hue slider left or right to change the hue (values range from -180 to +180). Adjust the Saturation slider to change saturation (-255 to +255). Adjust the Lightness slider to change lightness (-255 to +255). The active layer or selection updates each time you release the mouse button. (You can also select a slider and use the keyboard arrows.)

3. To add color to a grayscale image, check **Colorize** and adjust the Hue slider (Saturation and Lightness are disabled).

4. Click **OK** to apply the adjustment, or **Cancel** to abandon changes.

Tip: You can use the Color Pickup tool to probe actual brightness levels in an image. On the Color tab, switch to the HSL color mode, then observe the HintLine's "L" (Lightness) value as you move the Color Pickup tool around.

Replace Color adjustment | **Vis Ref** | How To |

The **Replace Color** adjustment is used mainly for color correction. You can "tag" one or more ranges of the full color spectrum that require adjustment in the image, then apply variations in hue, saturation, and/or brightness to just those color regions.

To replace color:

1. Choose **Adjust** from the Image menu, then select **Replace Color...** from the submenu. The Replace Color Filter dialog appears, with the image visible in the preview window.

2. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.

3. To view the in-range regions of the image, check **Show Selected Regions**. In-range areas appear as white, those out of range as black. (Before you've tagged a color range, the entire preview window will appear white.)

4. Click the [icon] **Initial Colors** button and then drag across a section of the image to tag a color range. A scroll bar appears below the Color Range spectrum bars, showing which portion of the color spectrum has been tagged.

5. To tag additional color ranges, click the [icon] **Add Colors** button and again drag across a section of the image. An additional scroll bar appears with each selection.

6. Drag the **Hue**, **Saturation**, and **Brightness** sliders (or enter specific values) to adjust the tagged color ranges. Each time you release the mouse button, the lower spectrum bar updates, providing a before/after comparison, and the preview window shows the effect on the image. (You can also select a slider and use the keyboard arrows.)

7. You can drag the Color Range scroll bars and buttons as needed to fine-tune the tagged colors.

8. Click **OK** to apply the adjustment, or **Cancel** to abandon changes.

Gamma adjustment

Without getting too technical, **gamma** describes a curve comparing how evenly darks and lights from some source, such as an image, are reproduced in some other form, such as a computer display. A gamma of 1.0 describes a "perfect" straight line—no portion of the brightness range is being accentuated or diminished. Because the phosphors on computer screens don't respond in a straight-line way across the brightness range, computer monitors can introduce a certain amount of gamma distortion. Sometimes the distortion is worse in one channel (e.g. red) than another (e.g. blue).

Gamma adjustment in the image itself can compensate for the effect of a particular monitor (or perhaps an error introduced by an artist working on an uncalibrated monitor). The corrected image will appear truer to the depicted scene or original picture. The PhotoPlus Gamma Correction Filter dialog lets you vary the distribution of lightness values in the red, green, and blue channels, either separately or linked.

To adjust gamma:

1. Choose **Adjust** from the Image menu, then select **Gamma...** from the submenu. The Gamma Correction Filter dialog appears, with the image visible in the preview window.

2. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.

3. The dialog initially displays a gamma curve of 1.0 for all three channels. To adjust the gamma in a single channel, drag its slider and a separate curve appears. To adjust the channels together, check the **Link Channels** box. The resulting change appears in the preview window. (You can also select a slider and use the keyboard arrows.)

4. Click **OK** to apply the adjustment, or **Cancel** to abandon changes.

Threshold and Grayscale adjustments

The **Threshold** and **Grayscale** adjustments both remove color information from the active layer or selection.

- The Threshold adjustment lets you quickly create a **monochromatic** (black and white) rendering. You can adjust the threshold (transition point between black and white) while viewing a plot of brightness levels. Besides being a nice special effect, you can use the dialog without actually applying the adjustment, just as a way to quickly identify the darkest and lightest portions of the image—not always easy to judge in full color.

- The Grayscale adjustment retains light and dark variations, yielding a 256-shade grayscale rendering.

To convert to monochromatic (with threshold adjustment):

1. Choose **Adjust** from the Image menu, then select **Threshold...** from the submenu. The Threshold Filter dialog appears, and the active layer or selection is immediately converted to a monochrome rendering using an estimated threshold value.

2. Drag the slider left or right to adjust the threshold value if necessary. The current threshold value appears at the upper right, and the image updates. (You can also enter a new value directly into the box.)

3. Click **OK** to apply the adjustment, or **Cancel** to abandon changes.

To convert to grayscale:

- Choose **Adjust** from the Image menu, then select **Grayscale**. (No dialog appears.)

Equalization and Stretch adjustments

The **Equalization** and **Stretch** adjustments work without dialogs to normalize the distribution of brightness levels in the active layer or selection. Both commands affect the image histogram.

- Equalization applies a filter that evenly distributes the lightness levels between existing bottom (darkest) and top (lightest) values. It evens out "bumps" or "dips" in the histogram.

- Stretch applies a filter that establishes new bottom and top values and spreads out the existing lightness levels between them. It extends the histogram's distribution.

To equalize:

- Choose **Adjust** from the Image menu, then select **Equalization** from the submenu.

To stretch:

- Choose **Adjust** from the Image menu, then select **Stretch** from the submenu.

Tip: You can use the Color Pickup tool to probe actual lightness levels in an image. On the Color tab, switch to the HSL color mode, then observe the HintLine's "L" (Lightness) value as you move the Color Pickup tool around.

Negative Image adjustment

The **Negative Image** adjustment inverts each color in the active layer or selection, replacing it with an "opposite" value. It can be used as a special effect, or for creating a positive image from a scanned photographic negative.

To apply the Negative Image adjustment:

- Choose **Adjust** from the Image menu, then select **Negative Image** from the submenu.

Reading the histogram

Brightness/Contrast   Hue/Saturation/Lightness   Replace Color
Gamma   Threshold & Grayscale   Equalization & Stretch
Negative Image   Histogram

— Click green for help topic, red for Image Gallery —

The **Histogram window** provides image statistics and a graph of the distribution of Red, Green, Blue, or Lightness (luminance) values in the active layer or selection. The histogram doesn't carry out any adjustments by itself, but it is useful for evaluating the kinds of image adjustments that may be needed. For example, you can see at a glance if true "bottom" and "top" (dark and light) values are present. If not, you may wish to apply the Stretch adjustment.

To read the histogram:

- Choose **Histogram...** from the Image menu.

- Select **Red**, **Green**, **Blue**, or **Lightness** channel display. The window shows the distribution of color values in the channel. For each **Level** of gray (from 0-255), the height of the curve shows the number of pixels (**Count**) at that level.

- Read image statistics below the value window.
  • The count and level readout updates at the right as you move the mouse pointer over the distribution, showing the pixel count at each gray level.
  • The **Mean** is the average lightness (brightness or luminance) value in the distribution.
  • The **Standard Deviation** reflects the average difference of all pixels from the mean value. In general, a higher number indicates a wider spread. (Usually the curve's general shape is enough to convey what you need to know about how lightness values are distributed.)
  • **Pixels** equals the total number of pixels in the image or selection.

Applying special effects

Blur & Sharpen   Edge   Noise   Solarize &
Posterize   Emboss   Mosaic
    — Click green for help topic, red for Image Gallery —

The PhotoPlus **Image menu** includes a number of commands that apply special effects to the active layer or selection. As with the image adjustment filters (see the topic Adjusting image colors), you can use these effects to improve the image, but more often the emphasis here is on the wild and wacky (or shall we say, creative) possibilities.

By the way, if you missed the introduction to PhotoPlus color concepts and terminology, see the topic Color concepts.

Note: This **Help Topics** window includes subtopics (as shown by the menu links above) that explain each special effect. The **Effects Gallery** window is designed to work in conjunction with these subtopics, providing "before/after" illustrations for each one. Clicking the green links in either window brings up help topics, while clicking red links displays Gallery examples.

Blur and Sharpen effects | Vis Ref | How To |

Basic Blur

The **Blur** effect smoothes the active layer or selection by softening hard edges and contours with abrupt color transitions.

To apply the effect:

1. Choose **Blur** from the Image menu, then select **Blur...** from the submenu. The Blur Filter dialog appears, with the image visible in the preview window.
2. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.
3. Adjust the Intensity slider (or enter a specific value from 0 to 40) to vary the effect, as the preview window updates. (You can also select the slider and use the keyboard arrows.)
4. Click **OK** to apply the effect, or **Cancel** to abandon changes.

Gaussian Blur

The **Gaussian Blur** effect smoothes the active layer or selection by averaging pixels using a weighted curve. It's especially useful for removing a moiré (interference) pattern from scanned images.

To apply the effect:

1. Choose **Blur** from the Image menu, then select **Gaussian Blur...** from the submenu. The Gaussian Blur Filter dialog appears, with the image visible in the preview window.
2. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.
3. Adjust the sliders (or enter specific values) to vary the effect as the preview window updates. (You can also select a slider and use the keyboard arrows.)
    • **Radius** (0 to 100) controls the amount of blurring.
    • **Falloff** (0 to 100%) controls the degree of weighting or localization of the effect, as shown in the inset graph.
4. Click **OK** to apply the effect, or **Cancel** to abandon changes.

Soften

The **Soften** effect works without a dialog to apply a subtle blurring effect in a single pass. You can repeat the effect for increased softening.

To apply the effect:

• Choose **Blur** from the Image menu, then select **Soften** from the submenu.

Motion Blur

The **Motion Blur** effect applies straight streaks to the image to simulate the effect of camera or subject movement.

To apply the effect:

1. Choose **Blur** from the Image menu, then select **Blur Effects...** from the submenu. The Blur Effects Filter dialog appears, with the image visible in the preview window.
2. Select **Motion** as the Blur Type.
3. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.
4. Adjust the **Intensity** slider (or enter a specific value from 0 to 40) to control the amount of blurring as the preview window updates. (You can also select the slider and use the keyboard arrows.)
5. Adjust the dial at the lower right to control the **direction** of the effect.
6. Click **OK** to apply the effect, or **Cancel** to abandon changes.

Radial Blur

The **Radial Blur** effect applies concentric streaks to the image to simulate a rotating camera or subject.

To apply the effect:

1. Choose **Blur** from the Image menu, then select **Blur Effects...** from the submenu. The Blur Effects Filter dialog appears, with the image visible in the preview window.

2. Select **Radial** as the Blur Type.

3. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.

4. Adjust the **Intensity** slider (or enter a specific value from 0 to 40) to control the amount of blurring as the preview window updates. (You can also select the slider and use the keyboard arrows.)

5. Adjust the dial at the lower right to control the **direction** of the effect.

6. Click **OK** to apply the effect, or **Cancel** to abandon changes.

Zoom Blur

The **Zoom Blur** effect applies converging streaks to the image to simulate a zoom lens.

To apply the effect:

1. Choose **Blur** from the Image menu, then select **Blur Effects...** from the submenu. The Blur Effects Filter dialog appears, with the image visible in the preview window.

2. Select **Zoom** as the Blur Type.

3. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.

4. Adjust the **Intensity** slider (or enter a specific value from 0 to 40) to control the amount of blurring, as the preview window updates. (You can also select the slider and use the keyboard arrows.)

5. Adjust the dial at the lower right to control the **direction** of the effect.

6. Click **OK** to apply the effect, or **Cancel** to abandon changes.

Fragment

The **Fragment Blur** effect breaks up the image to simulate a jittery hand-held camera.

To apply the effect:

1. Choose **Blur** from the Image menu, then select **Blur Effects...** from the submenu. The Blur Effects Filter dialog appears, with the image visible in the preview window.

2. Select **Fragment** as the Blur Type.

3. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.

4. Adjust the **Intensity** slider (or enter a specific value from 0 to 40) to control the amount of blurring, as the preview window updates. (You can also select the slider and use the keyboard arrows.)

5. Adjust the dial at the lower right to control the **direction** of the effect.

6. Click **OK** to apply the effect, or **Cancel** to abandon changes.

Sharpen

The **Sharpen** effect enhances differences between adjacent pixels of different colors.

To apply the effect:

1. Choose **Other** from the Image menu, then select **Sharpen...** from the submenu. The Sharpen Filter dialog appears, with the image visible in the preview window.

2. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.

3. Adjust the **Intensity** slider (or enter a specific value from -100 to +100) to vary the degree of sharpening, as the preview window updates. (You can also select the slider and use the keyboard arrows.)

4. Click **OK** to apply the effect, or **Cancel** to abandon changes.

Edge effects

Enhance Edges

The **Enhance Edges** effect locates and emphasizes both vertical and horizontal edges in the active layer or selection.

To apply the effect:

- Choose **Edges** from the Image menu, then select **Enhance Edges** from the submenu.

Find Horizontal

The **Find Horizontal Edges** effect isolates horizontal edges in the active layer or selection.

To apply the effect:

- Choose **Edges** from the Image menu, then select **Find Horizontal** from the submenu.

Find Vertical

The **Find Vertical Edges** effect isolates vertical edges in the active layer or selection.

To apply the effect:

- Choose **Edges** from the Image menu, then select **Find Vertical** from the submenu.

Find All

The **Find All Edges** effect isolates all edges in the active layer or selection.

To apply the effect:

- Choose **Edges** from the Image menu, then select **Find All Edges** from the submenu.

Noise effects

Add Noise

The **Add Noise** effect introduces pixels with randomly distributed color levels into the active layer or selection, increasing graininess.

To apply the effect:

1. Choose **Noise** from the Image menu, then select **Add...** from the submenu. The Noise Filter dialog appears, with the image visible in the preview window.
2. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.
3. Adjust the **Percentage** slider (or enter a specific value from 0 to 100) to control the amount of noise added, as the preview window updates. (You can also select the slider and use the keyboard arrows.)
4. Adjust the dial at the lower right to control the **direction** of the effect.
5. Click **OK** to apply the effect, or **Cancel** to abandon changes.

Median Cut

The **Median Cut** effect broadens color regions in the image, introducing an "oil paint" effect.

To apply the effect:

1. Choose **Noise** from the Image menu, then select **Median Cut...** from the submenu. The Median Filter dialog appears, with the image visible in the preview window.
2. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.
3. Adjust the **Intensity** slider (or enter a specific value from 0 to 40) to control the amount of noise added, as the preview window updates. (You can also select the slider and use the keyboard arrows.)
4. Adjust the dial at the lower right to control the **direction** of the effect.
5. Click **OK** to apply the effect, or **Cancel** to abandon changes.

Solarize and Posterize effects

Solarize

The **Solarize** filter is similar to the Negative Image function, but lets you set the lightness value above which colors are inverted in the active layer or selection.
(Solarization is a darkroom technique in which a partially developed image is re-exposed to light, producing dramatic changes in mid-tone regions.)

To apply the effect:

1. Choose **Other** from the Image menu, then select **Solarize...** from the submenu. The Solarize Filter dialog appears, with the image visible in the preview window.

2. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.

3. Adjust the **Threshold** slider (or enter a specific value from 0 to 255) to control the lightness above which colors are inverted, as the preview window updates. At a value of 0, the effect is the same as the Negative Image function. (You can also select the slider and use the keyboard arrows.)

4. Click **OK** to apply the effect, or **Cancel** to abandon changes.

Posterize

The **Posterize** filter reduces the number of lightness levels in each color channel, painting the active layer or selection in fewer colors with more abrupt color boundaries.

To apply the effect:

1. Choose **Other** from the Image menu, then select **Posterize...** from the submenu. The Posterize Filter dialog appears, with the image visible in the preview window.

2. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.

3. Adjust the **Levels** slider (or enter a specific value from 2 to 64) to control the number of color levels, as the preview window updates. (You can also select the slider and use the keyboard arrows.)

4. Click **OK** to apply the effect, or **Cancel** to abandon changes.

Emborn effect

Blur & Sharpen   Edge   Noise   Solarize &
Posterize   Emboss   Mosaic
              — Click green for help topic, red for Image Gallery —

The **Emboss** filter re-maps contours to simulate a bas-relief effect in the active layer or selection.

To apply the effect:

1. Choose **Other** from the Image menu, then select **Emboss...** from the submenu. The Emboss Filter dialog appears, with the image visible in the preview window.

2. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.

3. Adjust the **Depth** slider (or enter a specific value from 0 to 100) to control the intensity of the effect, as the preview window updates. (You can also select a slider and use the keyboard arrows.)

4. Adjust the dial at the lower left to control the **Direction** of the effect.

5. Click **OK** to apply the effect, or **Cancel** to abandon changes.

Mosaic effect

The **Mosaic** filter breaks the active layer or selection into blocks of uniform color for a tiled appearance.

To apply the effect:

1. Choose **Other** from the Image menu, then select **Mosaic...** from the submenu. The Mosaic Filter dialog appears, with the image visible in the preview window.

2. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.

3. Adjust the **Tile Size** slider (or enter a specific value from 0 to 40) to control the size of same-color blocks, as the preview window updates. (You can also select the slider and use the keyboard arrows.)

4. Click **OK** to apply the effect, or **Cancel** to abandon changes.

Defining custom filters

In addition to using the built-in set of PhotoPlus filters, you can define your own using the Custom Filter dialog. User-defined filters use a process called **convolution** to alter the lightness value of each image pixel, one at a time. You plug in numbers that specify exactly how each pixel's value will change, and how neighboring pixel values are taken into account.

Each pixel's starting value can be multiplied, divided, added to, or subtracted from. The dialog includes a matrix that lets you enter different multipliers for the target pixel and its neighbors, so the new calculated value for the target pixel is the sum of the math carried out on both it and its neighbors.

Let's run through the steps involved, and then look at an example...

To apply a custom filter:

1. Choose **Custom...** from the Image menu. The Custom Filter dialog appears, with the image visible in the preview window.

2. To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. To view the current layer only, check **Preview Current Layer Only**.

3. To apply a custom filter, click its name in the Custom Filters list. Initially, one custom filter (Sample Blur) appears there. Click **OK**.

To modify or define a new custom filter:

1. Open the Custom Filter dialog.

2. To modify an existing filter, click its name in the Custom Filters list. To define a new filter, click the [icon] **New Filter** button. (To delete a selected filter, click the
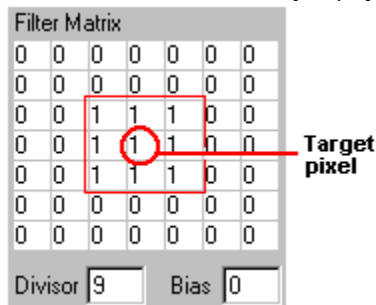
   [icon] **Delete Filter** button.)

3. Type a name for the new filter in the Filter Name box and click elsewhere to enter it in the list. All values are reset to 0.

4. Enter new Filter Matrix, Divisor, and/or Bias values (see "Filter Math" below), as the preview window updates.

5. When you're done entering values, click **OK** to apply the new filter to the active layer or selection, or **Cancel** to close the dialog without applying the filter. Either way, any newly defined filters are saved.

Filter Math: A Working Example

Let's look at the values initially displayed for the Sample Blur filter.

When a filter is applied to an image, each pixel's brightness value is recalculated according to a formula. The filter does the math for each target pixel in turn, storing each new value separately before displaying the preview (which then shows all the new values).

The cells in the **Filter Matrix** represent a target pixel (at the center of the matrix) and its surrounding pixels. The whole numbers in these cells are multipliers ("coefficients") by which each pixel's brightness will be multiplied. The filter zips along, pixel by pixel, takes the sum of all these multiplications and comes up with a new value for each target pixel.

If the cell's value is 0, the corresponding pixel makes no contribution to the recalculated value of the target pixel. In the Sample Blur filter, you can see that only the pixels immediately adjacent to the target pixel (those outlined above with a red box) have an effect. If you think about it, you'll realize that the net result of this filter is to average in the brightness values of a pixel's neighbors with its original value, producing a general blurring effect.

If we consider the matrix values as numerators, the **Divisor** works like a denominator in the recalculations. First the pixel multiplication is carried out, then the result is divided by the Divisor. In other words, a divisor of 1 has no effect at all, while a divisor of 9 reduces the recalculated brightness of each target pixel to 1/9 of what it would otherwise be.

In the Sample Blur filter, the divisor of 9 compensates for nine pixels (those marked off by the red box) having been summed—

each contributing its actual brightness (multiplied by 1)—in the recalculation, thereby giving an average value. The Divisor can also let you apply fractional changes rather than just whole-number changes. For example, if the Divisor is 100, then a net matrix value of 150 actually counts as 1.5, and so on.

The **Bias** is an <u>offset</u> (either positive or negative) that gets added to the recalculated value. This means that positive numbers have an overall brightening effect, while negative numbers darken the image.

Basics of using layers   `Vis Ref` `How To`

If you're accustomed to thinking of pictures as flat illustrations in books, or as photographic prints, the concept of **image layers** may take some getting used to. In fact, layers are hardly unique to electronic images. The emulsion of photographic film has separate layers, each sensitive to a different color—and we've all noticed multiple-image depth effects like shop window reflections or mirrored interiors. There is still something magical about being able to build up an image in a series of planes, like sheets of electronic glass, each of which can vary in transparency and interact with the layers below to produce exciting new images and colors.

`Vis Ref` `How To`

This topic introduces the basic idea of layers as implemented in PhotoPlus. The topics that follow delve into the creative possibilities of layers.

Kinds of layers

In a typical PhotoPlus image—for example, a photograph you've scanned in, a new picture file you've just created, or a standard bitmap file you've opened—there is one layer that behaves like a conventional "flat" image. This is called the **Background layer**, and you can think of it as having paint overlaid on an opaque, solid color surface.

You can create any number of new layers in your image. Each new one appears on top of the currently active layer, comprising a stack that you can view and manipulate with the Layer Manager tab. We call these additional layers **standard layers** to differentiate them from the Background layer. Standard layers behave like transparent sheets through which the underlying layers are visible. (**Text layers**, which differ from the other two types of layers, are covered in the topic Creating text.)

A key distinction is that pixels on the Background layer are always opaque, while those on standard layers can vary in opacity (or transparency—another way of expressing the same property). A couple of examples will show how this rule is applied in PhotoPlus:

- Suppose you are creating a new picture image. The New Image dialog provides three choices for Background: White, Background Color, and Transparent. If you pick White or Background Color, the Layer Manager shows a single layer in the new image named "Background." If you pick Transparent, however, the single layer is named "Layer 1"—and in this case, the image (typically an animation file) has no Background layer.

`Vis Ref` `How To`   n   If you cut, delete, or move a selection on the Background layer, the "hole" that's left exposes the current background color (as shown on the Color tab). The same operations on a standard layer expose a transparent hole.

Tip: If you want to manipulate the Background layer using transparency, you can either duplicate it or use the **Promote to Layer** command (see below).

Tip: To adjust the grid size and colors of the "checkerboard" pattern denoting transparency, choose **Preferences...** from the File menu and select the **Transparency** tab.

Operations involving layers

Many standard operations, such as painting, selecting and moving, Clipboard actions, adjusting colors, applying effects, and so on, are possible on both the Background layer and standard layers.

Others, such as rearranging the order of layers in the stack, varying layer opacity (transparency), masking, or creating animation frames, only work with standard layers.

See the linked topics for details on these operations.

Once an image has more than just a background layer, the layer information can only be preserved by saving the image in the native PhotoPlus (.SPP) format. Exporting the image to standard "flat" bitmap formats requires that multiple layers first be merged (see the next topic).

Here's a brief summary of the commands you'll need to create new standard layers and set layer properties. See also the Visual Reference topic on the Layer Manager tab.

To carry out basic layer operations:

- To create a new standard layer, click the `Vis Ref` `How To` **New Layer** button on the Layer Manager tab.

- To select a layer, click on its name in the Layer Manager tab. The selected layer is now the active layer.

- To clone the active layer and its contents as a new standard layer, choose **Duplicate...** from the Layers menu.

- To convert the Background layer to a standard (transparent) layer, right-click "Background" on the Layer manager tab and choose **Promote to Layer**. The layer's name changes from "Background" to "Layer <number>."

- To remove the active layer, click the [Vis Ref] [How To] **Delete** button on the Layer Manager tab. (You can delete the Background layer, as long as it's not the only layer.)

- To make a layer's contents visible or invisible, click the [Vis Ref] [How To] **Hide/Show Layer** button next to its name on the Layer Manager tab. The icon switches between an open and closed eye. **Shortcut:** Left- or right-click a hidden layer's name to make the layer visible again.

- To prevent further editing of transparent regions on a standard layer, click the [Vis Ref] [How To] **Protect Transparency** button next to its name on the Layer Manager tab.

- To convert any text layer to a standard layer, right-click on the layer name and choose **Render Text Layer** from the menu.

[Vis Ref] [How To] For a visual preview of layers (including hidden layers) in the image, pause the mouse pointer over a layer name and the **Layer Preview** window appears. It's especially handy if you're working with many similar layers, image fragments, and/or hidden layers.

Manipulating layers

The previous topic provides an overview of image layers and how to create them in PhotoPlus. This topic looks at some of the creative options available involving the **Background** (opaque) and **standard** (transparent) layers, such as:

- Moving the contents of one or more layers
- Clipboard operations involving layers
- Rearranging standard layers in the stack
- Merging layers

Note: Commands on the Image menu, such as color adjustments and special effects, typically are applied to the current **selection**; if there's no selection, they affect the **active layer** (the one currently selected in the Layer Manager tab). Click the links for details on the many available options.

For details on using **text layers**, which behave differently from the other two types of layers, see the topic Creating text.

For details on masking, which lets you manipulate a layer's contents without permanently affecting it, see the topic Basics of using masks.

To move the contents of the entire active layer:

- With nothing selected (press **Ctrl+D** to remove any selection), drag with the Vis Ref | How To **Move tool**.

Note that layer content moved in this way outside the image window (canvas area) survives—you can drag it back inside the window later if desired. The Layer Manager tab's Preview Window lets you see the entire layer's contents.

You can link one or more layers to the active layer so that when you drag with the Move tool, the contents of all linked layers move together.

To link other layers to the active layer:

- Click the Vis Ref | How To **Link Layer** button next to the layer's name on the Layer Manager tab.

The link button is always "down" for the active layer; you can see which others are linked to it by checking to see which other layers also have "down" link buttons. Once layers are linked, they remain so regardless of which layer in a linked group is active.

- To unlink a layer from the active layer, click its link button again (so it's now "up").

To copy (or cut) the contents of the entire active layer to the Clipboard:

- To copy, select nothing and click the Vis Ref | How To **Copy** button (or press **Ctrl+C** or use menu command **Edit/Copy**).

- To cut, select nothing and press **Ctrl+X** or use menu command **Edit/Cut**.

Note: Cut or deleted pixels expose the current background color (on the Background layer) or transparency (on standard layers).

- To paste as a new layer from the Clipboard, press **Ctrl+L** or choose **Paste> As New Layer** from the Edit menu.

Note: If you cut/copy a text layer and paste it elsewhere as a new layer, it becomes a standard layer and its text is no longer editable.

To move a standard layer up or down in the layer stack:

- Click on the layer's name in the Layer Manager tab and drag up or down. A black line "drop target" appears between layers as you drag. Drop the layer on a target to relocate it in the stack.

OR

- Select the layer and choose **Arrange** from the Layers menu, then choose from the submenu:
  - **Bring to Top** places the layer on the top of the stack.
  - **Move Up** moves the layer up one in the stack.
  - **Move Down** moves the layer down one in the stack.
  - **Send to Bottom** places the layer just above the Background layer (if present) in the stack.

Note: You cannot move a standard layer below the Background layer, nor can you move the Background layer itself. To turn the Background layer into a standard layer, either use **Layers/Duplicate** to clone it, or right-click its name and choose **Promote to Layer**. The former action keeps the original Background layer in place; the latter removes it.

Merging layers combines multiple layers into one, decreasing the memory required to store the image. Once layers have been merged, they become a single layer and their previous contents are no longer separately editable.

To merge layers:

- To merge the active layer with the layer below it, choose **Merge Down** from the Layers menu.

- To merge just the currently visible layers into a single layer, choose **Merge Visible** from the Layers menu.

- To merge all image layers into a single layer, choose **Merge All** from the Layers menu. This is called **flattening** the image because the result is a "flat" file with just a Background layer.

- To copy the selection (or image, if there's no selection) to the Clipboard in flattened form without physically merging its layers, choose **Copy Merged** from the Edit menu.

Adjusting opacity/transparency   `Vis Ref` `How To`

First, a word on terminology. In this overview, we'll be using the term "opacity," which is standard in PhotoPlus as in other photo editors. But note that **opacity** and **transparency** are essentially the same (just different ends of the same scale). They both describe the degree to which a particular pixel's color contributes to the overall color at that point in the image. (**Pixels** are the "dots of paint" that comprise a bitmap image in PhotoPlus.) For color basics, see the topic Color concepts. For information on transparency in Web graphics, see the topic Image formats for the World Wide Web.

Varying opacity is rather like lighting a stage backdrop (scrim) in a theater: depending on how you light the fine gauze sheet, you can render the depicted scene either visible or invisible. Fully opaque pixels contribute their full color value to the image. Fully transparent pixels are invisible: they contribute nothing to the image. You'll primarily encounter opacity in one of these two contexts:

- As a property of the pixels laid down by individual **tools** (Paintbrush, Clone, Eraser, Airbrush, Fill, Smudge, Shape, and Line). When you paint on-screen with one of these tools, you're applying pixels—pixels that are more or less opaque, depending on the tool's opacity setting. Note that once you've applied paint to a region, that's it—you've changed the opacity of pixels there. Subsequently changing a tool's opacity setting won't alter brush strokes you've already laid down!

- As a property of individual **standard layers**. The layer's opacity setting affects all the pixels on the layer, and is cumulative with the opacity of individual pixels already there. It's like a "master setting" that you can vary after paint has been laid down.

To set a tool's opacity:

- Select the tool and enter a percentage value on the Tool Properties tab.

To set a layer's opacity:

- Right-click its name in the Layer Manager tab and choose **Properties...**, then enter a percentage value.

To read the opacity values of pixels on the active layer:

1. Set the Color Mode to "RGB" on the Color tab.
2. Select the `Vis Ref` `How To` **Color Pickup tool** from the Tools tab and move it around the image.
3. Note the value shown for "O" (Opacity) on the HintLine. The readout updates constantly, showing the opacity value of each pixel under the cursor.

Opacity in action

Opacity crops up as a concept quite often in PhotoPlus operations. Here's a handy summary, with links to other topics where you can explore these features in more detail.

- Transparency is denoted by a "checkerboard" grid pattern, light gray and white by default. To adjust the grid size and colors, choose **Preferences...** from the File menu and select the **Transparency** tab.

- Although pixels painted onto the Background layer can vary in opacity, once laid down they are fully opaque. Pixels on standard layers can vary in opacity, because standard layers have a "master" opacity setting that you can vary. (See the topic Basics of using layers.)

- Cut, deleted, or selected-and-moved pixels expose the current background color (on the Background layer) or transparency (on standard layers).

- If you want to manipulate Background layer content using transparent pixels, you can either duplicate it or use the **Promote to Layer** command (right-click on the layer's name).

- To prevent further editing of transparent regions on a standard layer, click the **Protect Transparency** button next to its name on the Layer Manager tab.

- You can use **anti-aliasing** and **feathering** to produce smooth, semi-transparent edges on selections for smooth transitions to surrounding pixels. (See the topic Modifying a selection.)

- **Masking** lets you paint on, adjust, or otherwise manipulate any standard layer without permanently affecting it. Just as a selection is a "map" outlining a region of pixels, a mask is a map of variations in a layer's transparency. (See the topic Basics of using masks.)

- When creating an **animation**, you can vary the opacity of a single layer between frames—for example, to make an object "fade in" or "fade out." (See the topic Getting started with animation.)

Basics of using masks

Note: If you're unfamiliar with selections, layers, and opacity, you're not quite ready for masking. First review the topics Making a selection, Basics of using layers, and Adjusting opacity/transparency.

Masking in a program like PhotoPlus is a bit more complicated than applying masking tape to the screen! But fundamentally the concept is the same: you can hide certain parts of an image—in this case by rendering them transparent, hence invisible. To do that, you create a **mask** on a standard layer.
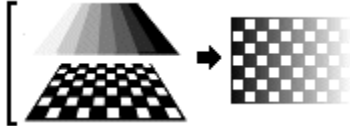
By changing the **grayscale** values on the mask (using the paint tools and other devices), you can impose corresponding changes in the **opacity** of the underlying layer's pixels. For example, by "blacking out" on the mask, you render the layer's underlying pixels transparent, and they disappear from the image. Because you're working with 256 levels of gray (i.e. opacity), tremendous variations are achievable.

Besides the creative possibilities, including vignetting and multi-layer montage masking and beyond, a great feature of working on a mask is that it is "temporary." If you don't like the way things are going, you can abandon your changes and start over without ever having affected the actual pixels on the layer!

A couple of things worth noting:

- Mask information, like layer information, can only be preserved by saving the image in the native PhotoPlus (.SPP) format.

- Each standard layer can have one mask at any given time. The Background layer can't have one because it doesn't support transparency.

The three basic steps in using a mask:

1. Create the mask on a layer.
2. Edit the mask itself to "preview" changes to the layer.
3. Merge the mask with the layer to make the changes permanent, or delete the mask without applying changes.

1   Creating the mask

Before you can use a mask, you have to create it on a particular layer. The mask can start out as transparent (revealing the whole layer), opaque (hiding the whole layer), or—if you create it from a selection—a bit of both (with only the selected region hidden or revealed). The choice depends on how you want to work with the layer's contents. By darkening portions of a clear mask, you can selectively fade underlying layer pixels. By lightening an opaque mask, you selectively reveal layer pixels.

To create a mask:

1. Select the layer where you want to create the mask, and select specific region(s) if desired.
2. Choose **Add Mask** from the Layers menu and then one of the following from the submenu:
   - **Reveal All** for a transparent mask over the whole layer
   - **Hide All** for an opaque mask over the whole layer
   - **Reveal Selection** for an opaque mask with transparent "holes" over the selected region(s)
   - **Hide Selection** for a transparent mask with opaque "blocks" over the selected region(s)

On the Layer Manager tab, a [icon] appears next to the layer name, indicating that a mask now exists.

2   Editing on the mask

In Edit Mask mode, you can use the full range of painting tools, selection options, flood fills, and effects to alter the mask's grayscale values. These manipulations cause corresponding changes in opacity, which in turn change the appearance of the pixels on the layer itself.

Remember, as long as you are editing the mask, you're only seeing a preview of changes on the layer. No permanent changes will be applied until you actually merge the mask with the layer. You can switch out of Edit Mask mode at any time to work directly on the layer (or any other part of the image), then switch back to resume work on the mask.

To edit the active layer's mask:

- Check **Edit Mask** on the Layers menu. (Uncheck to discontinue editing the mask.)

The image window's titlebar shows "[MASK]," indicating that a mask is currently being edited. The Color tab switches to Grayscale mode when you're editing a mask, and reverts to the previous setting when you exit Edit Mask mode. This means anything you paste from the Clipboard onto the mask will automatically be converted to grayscale.

In Edit Mask mode, you're normally viewing not the mask, but rather the effects of changes "as if" you were making them on the layer below. Adding a Reveal All mask can be a bit confusing, because there's initially no evidence the mask is there at all (i.e. the layer appears exactly the same as it did before you added the mask)!

It's sometimes helpful to switch on the **View Mask** setting, which hides the layer and lets you see <u>only</u> the mask, in all its grayscale glory. For example, a Reveal All mask appears pure white in View Mask mode—the white represents a clear mask with no effect on the underlying layer pixels' opacity. View Mask can also be useful in the latter stages of working on a mask, to locate any small regions that may have escaped your attention.

To view the active layer's mask:

- Check **View Mask** on the Layers menu.

White or light portions of the mask reveal layer pixels (make them more opaque). Black or dark portions hide layer pixels (make them more transparent).

You can **disable** the mask to see how the layer looks without the mask's effects. Note that disabling the mask is not the same as canceling Edit Mask mode—it only affects your view of the layer, not which plane (i.e. mask or layer) you're working on.

To disable the active layer's mask:

- Check **Disable Mask** on the Layers menu. (Uncheck to enable masking again.)

3   Applying changes to the layer

When you're satisfied with the appearance of the layer as seen with the mask enabled, you can **merge** the mask with the layer to make the changes permanent. Merging the mask is optional; the effects of unmerged masks will appear in an exported image—but merging reduces the .SPP file's size and makes the layer available for further masking. Of course, you can choose to **delete** a mask without applying changes... perhaps to try again. In either case, whether merged or deleted, the old mask is no longer present and the layer is ready to accept a new mask.

To impose the mask's effects onto the layer:

- Choose **Merge Mask** from the Layers menu. At the same time, the layer is removed.

To remove the mask and cancel its effects on the layer:

- Choose **Delete Mask** from the Layers menu.

Getting started with animation

Animation creates an illusion of motion or change by displaying a series of still pictures, rapidly enough to fool the eye—or more accurately, the brain. With PhotoPlus, it's easy to create and edit images with multiple frames, then export them as **animated GIFs** that a Web browser can play back. You use exactly the same tools and interface as for creating standard, multi-layer PhotoPlus images, with an extra tab window that includes all the additional controls you need to set up frames, add special effects, and preview the animation. Once you're satisfied, use the Export Optimizer to output to the .GIF file format.

This topic will introduce a few basic concepts that will help you to quickly master the mechanics of animation, which are covered in the next topic. (If you're not already familiar with the concept of layers, we suggest you first look at Basics of using layers.)

The **.GIF** format is what makes Web animation possible, for a couple of reasons. First, it's universally supported by Web browsers. Second, it's a multi-part format, capable of encoding not just one image but multiple images in the same file. A .GIF animation player or Web browser can display these images in sequence, in accordance with certain settings (looping, frame delay, etc.) included in the file. The result—it moves!

PhotoPlus gives you the choice of either creating your animations from scratch, then exporting to .GIF, or starting out by importing a .GIF animation and then editing it. (Click the links for details.) Either way, once PhotoPlus detects an animation file, it switches on the Animation tab. If the image file is new, you'll see a single, blank frame, labeled "Frame 1." If you've imported an animation, the tab displays each frame separately. Animation files can have one layer, or many (see below), but all their layers are standard (transparent) layers; there's no Background layer.

Note: By the way, PhotoPlus ships with a bonus collection of .GIF animations! You'll find them on your PhotoPlus CD in the \Serif\Animations folder.

Layers and frames

Animations are defined by the **Animation tab** working together with the **Layer Manager tab**. Let's consider this little animated GIF of a rotating spiral. Here's how its frames appear when it's imported into PhotoPlus. If you inspect each frame, you can "animate" the sequence in your mind's eye. In what direction is the spiral rotating?

In this file (as in any imported .GIF animation) the individual frames each occupy one layer in the PhotoPlus image.

 On the Layer Manager tab, the layer stack for this animation corresponds to the frame sequence, with default names—in this case, "Frame 1 of 6" through "Frame 6 of 6."

If you select Frame 1 on the Animation tab, you'll see that on the Layer Manager (see left) only the "Frame 1" layer is marked as shown, with an open-eye button; the other layers are all hidden, with closed-eye buttons.

If you then select Frame 2, only the "Frame 2" layer will be shown, and the rest will be hidden. And so on with the other frames.

The above example, with its one-to-one correspondence between frames and layers, is easy to grasp—but don't make the mistake of thinking that a "frame" is just another name for a "layer." Frames in PhotoPlus are actually much more versatile!

Key point: A so-called "frame" is really just a particular state or snapshot of the various layers in the image, in terms of three layer properties:

1. **Shown/Hidden:** Which layers are shown and which are hidden

2. **Position:** The position of the contents of each "shown" layer

3. **Opacity:** The opacity setting of each "shown" layer

As you switch between frames, you switch between states. In the simple example above, the six frames define six states in terms of Property 1—each of the six frames defines a different layer as "shown." We could rearrange the stacking order of the layers, or rename them—the animation itself wouldn't change.

When you create a new frame on the Animation tab, you're not adding a new layer. The new frame merely enables you to define a new state of the layers that already exist. Of course, you could go on and create an additional layer (using the Layer Manager), but then all your animation frames would need to take that layer into account—in other words, hide it when it wasn't needed.

Single-layer animation

Let's look at a different example. This one shows a bouncing ball, and although it has four frames it only has one layer:

In this animation, the four frames define four states in terms of Property 2—the position of the layer contents. The image was created from scratch in PhotoPlus, starting with a dark blue circle on a white square. Besides Frame 1, three additional frames were created, and then, stepping from one frame to the next, the layer was dragged slightly in each frame (with the Move tool) to reposition its contents in the window. In each of the four frames, you can see where the opaque white square sits in relation to the transparent background pixels.

We'll leave it to you to imagine a third example, varying only opacity on a single layer: say, some text (like "CLICK HERE") blinking on and off. Two frames could accomplish that—in one, the layer set to 0% opacity, and in the other, to 100%.

Additional notes

- In practice, you can use one, two, or even all three of the above approaches when creating a given piece of animation. Just remember that a separate layer is only required for each element that moves independently, or each differently-drawn state of a given element. An element that doesn't change its shape or color, but merely moves about or changes opacity (appears or disappears), can be animated on a single layer.

- With a little forethought and sketching, you can figure out in advance how many layers you'll need. Then you can set up the image with the right number of layers to begin with.

- Animations, which depend on at least one transparent layer, can only be preserved by saving the image in the native PhotoPlus (.SPP) format. The image can be exported and then re-imported, but any layer properties will be lost in the conversion.

- Although .SPP animations and .SPP pictures share the same file extension, there's no direct conversion option—a file either has animation properties, or it doesn't. To convert an .SPP picture file to an animation, or extract a single frame from an animation to a picture, first create a new image window and then use conventional copy/paste commands to copy elements and/or layers from one file to the other.

Working with animation frames   `Vis Ref` `How To`

This topic covers the basic mechanics of creating and arranging animation frames using the Animation tab. It assumes you've read the previous topic for background, and that you know how to create a new animation (or import an existing animated .GIF). The next topic goes on to deal with creative options such as special effects, delays, and loops.

`Vis Ref` `How` The Animation tab displays a sequence of **frame thumbnails**. Each frame is a different state of the image, defined in terms of which layers are shown or hidden, the position of content on each shown layer, and the opacity of each shown layer (see the previous topic).

To create a new frame:

- Click the `Vis Ref` `How To` **New Frame** button (or right-click a thumbnail and choose **New Frame**).

The previously selected frame is cloned as a new frame, immediately following it in the sequence.

To build the animation:

1. Create the number of image layers you'll need (as few as possible).
2. Create enough frames to define the separate states of the animation.
3. Step through the frames, adjusting layer content and state for each frame. You can delete or reposition frames as needed, and preview the animation at any time.
4. Save the animation as a regular PhotoPlus (.SPP) file, and export it to the .GIF format.

To select a single frame:

- To select any one frame, click its thumbnail.

- To select the first frame of the sequence (rewind), click the `Vis Ref` `How To` **First Frame** button.

- To select the previous frame of the sequence, click the `Vis Ref` `How To` **Previous Frame** button. If the first frame was selected, you'll cycle back to the last frame of the sequence.

- To select the next frame of the sequence, click the `Vis Ref` `How To` **Next Frame** button. If the last frame of the sequence was selected, you'll cycle forward to the first frame.

- To select the last frame of the sequence, click the `Vis Ref` `How To` **Last Frame** button.

To select more than one frame:

- To select multiple frames, hold down the **Ctrl** key when selecting each one.

- To select a range of adjacent frames, hold down the **Shift** key and click the first and last thumbnail in the range.

To delete one or more frames:

- Select the thumbnail(s) and click the `Vis Ref` `How To` **Delete Frame** button. (To delete a single frame, you can also right-click it and choose **Delete**.)

To reposition a frame in the sequence:

- Drag its thumbnail and drop it before or after another frame.

To play back the animation:

- Click the `Vis Ref` `How To` **Play** button.

To stop the animation:

- Click the [Vis Ref | How To] **Stop** button.

To export the animation as a .GIF file:

- Choose **Export...** from the File menu.

(For details on exporting, see the topic Exporting to another file format. For specifics on the .GIF format, including transparency options, see the topic Image formats for the World Wide Web.)

To preview the animation in your Web browser:

- Choose **Preview in Browser...** from the File menu. PhotoPlus exports the image as a temporary file, then opens the file for preview in your World Wide Web browser.

Image formats for the World Wide Web

Here are some notes on the principal file formats used for Web pictures and animation—.GIF, .JPG, and .PNG—and the options you'll encounter in the PhotoPlus Export Optimizer. (For background on the color terminology here, see the topic Color concepts and specifically the subtopic Optimizing images.)

.GIF format

The **.GIF** (Graphics Interchange Format) file format is universally supported in Web browsers for both static and animated Web graphics. It's a **lossless** format (there's no image degradation) with excellent compression but a limitation of 256 colors. Use it for non-photographic images with sharp edges and geometrics—for example buttons, bursts, decorative elements, and text graphics. It's suitable for grayscale photos as well.

In PhotoPlus, you can take advantage of the fact the GIFs, unlike other 256-color formats, don't insist on using 8-bit pixels. If the number of colors in the image is 128, GIFs can encode using 7 bits; with 64 colors, 6 bits, and so on. The Export Optimizer lets you specify not the bit depth, but the number of colors, in each exported GIF.

The .GIF format supports "binary" transparency. That is, any portion of the image may be either fully opaque or fully transparent. Typically, this is used to eliminate the box-shaped frame around the graphic that would otherwise be present. Elements with rounded edges, such as characters or shapes, preserve their contours over any background color or pattern.

If you're producing transparent GIFs, try to avoid **anti-aliasing** and **feathering** (i.e. turn them off in the Tool Properties tab). The semi-transparency these functions impart may look fine in PhotoPlus, but remember that .GIF wants "all or nothing." Pixels that aren't 100% transparent will end up opaque, and the exported graphic will display sharp or even ragged edges when viewed over a Web page background.

Finally, .GIF is a "multi-part" format, which means one file can store multiple images. That's what makes it the preferred format for Web animations.

Recommended export settings

Number of colors: 256 is the maximum supported by the format. You can select a lower value from the list, or type in a specific value. Try typing successively lower values and use the multiple view feature to arrive at the lowest file size that preserves an acceptable appearance. For animations, 256 colors (8 bits) is the only available setting.

Dithering (None, Ordered, Error diffusion): **Dithering** schemes substitute pixel patterns for original colors to preserve apparent coloration when the actual number of colors in the image is being reduced. Choose **Ordered** (not available for animations) for a more regular dot pattern, and **Error diffusion** for a more adaptive dot pattern.

Palette (Web-safe, Optimized): Choose **Optimized** to let the PhotoPlus export filter determine the best colors to apply, but without regard for standard colors. Choose **Web-safe** to reduce the colors to only those found in the 216-color palette used by Web browsers. This will ensure that an image you place on a Web page won't change its appearance when viewed by users of most other systems or browsers.

GIF Options (Transparent, Interlaced): .GIF files support **transparency**—one reason they're commonly used over backgrounds on Web pages. PhotoPlus gives you the option of exporting GIFs with or without a transparent background. Check **Transparent** to turn clear "checkerboard" regions of your graphic (those with no pixels or 0% opacity) into transparent regions in the GIF. All other regions will become opaque. If unchecked, transparent regions will become white. Check **Interlaced** to use an image format that will display "progressively" in a browser: first a low-quality image will display, followed by an improved image as the complete GIF is loaded.

.JPG format

The **.JPG** or **.JPEG** (Joint Photographic Experts Group) file format, like .GIF, is universally supported in Web browsers. Unlike .GIF, it encodes 24-bit images but is a **lossy** format depending on the selected compression setting. .JPG is clearly the format of choice for full-color photographic images. For "black and white" (256-level, 8-bit grayscale) photos, it has no particular advantages over .GIF.

The unique aspect of exporting as a JPG is in fact the slider control you use to chose one setting from 10 possible levels. At one end of the scale, the export applies maximum compression and produces an extremely small (but quite ugly) image. At the other end, there is effectively no loss of quality, but file sizes are relatively much larger, although still compact compared to BMPs, for example.

When choosing a quality setting for .JPG export, keep in mind the number of times you expect to be re-exporting a particular image. A photograph may look fine in the Export Optimizer the first time you export it at JPG level 6, but after several such saves, you'll really see a quality loss.

PNG format

For Web graphics, the new **.PNG** (Portable Network Graphics, pronounced "ping") format has a number of advantages over .GIF —the main ones, from an artist's perspective, being "lossless" 24-bit images and support for variable transparency. Whereas .GIF supports simple binary ("on-off") transparency, .PNG allows up to 254 levels of partial transparency for normal images. The image file includes an "alpha channel" that directs pixels in the foreground image to merge with those in a

background image. Most commonly used with 24-bit images, anti-aliasing creates the illusion of smooth curves by varying pixel colors—for rounded images that look good against any background, not just against a white background. It's especially useful for the small graphics commonly used on Web pages, such as bullets and fancy text.

.PNG's most obvious drawback at the present time is that the major Web browsers don't yet provide full .PNG support—but this will change, we hope, as more graphic artists become aware of the format's advantages.

Slicing images

Image slicing and **image maps** (see the next topic) are two convenient ways to create navbars (navigation bars) and clickable graphics for Web pages. With image slicing, a graphic is carved up into smaller graphics—each of which can have its own link, like any Web graphic—and PhotoPlus saves the sections as separate files when you export the image. The process also outputs HTML tags describing a table containing the separate image files, so that a Web browser can reassemble them seamlessly. The result appears as a single larger graphic, but with different regions linked to different targets.

For example, this menubar graphic...

Home Updates Products Links

Home | Updates | Products | Links

...can be "sliced" into four separate graphics, each linked to a different Web page.
The Image Slice tool lets you cut up the image into sections which can be exported using the .GIF or .JPG format. You can specify alternate text and URL links for each of the image sections individually. (For details on exporting and the Export Optimizer, see the topic <u>Exporting to another file format</u>. For information on the .GIF and .JPG formats, see the previous topic.)

To slice the image:

- Choose the ⌐ **Vis Ref | How To** ⌐ **Image Slice tool** from the Tools toolbar.

- To place a horizontal slice guide on the image, click with the tool. **Shift**-click to place a vertical guide. A red guide line appears with each click.

- To move a guide, simply drag it.

- To delete a guide, drag it out of the image window.

To specify the alternate text and/or link:

- Right-click an image slice and enter the alternate text and link (URL) information in the dialog.

To export a sliced image:

- When exporting, check the **Create Image Slices** box on the Export dialog and use either the .GIF or .JPG format.

- Since exporting slices creates multiple files, you may wish to create a separate folder for them.

The output consists of a series of image files (for example, MYFILEH0V0.GIF, MYFILEH0V1.GIF, etc.) and a single HTML file (for example, MYFILE.HTM). The HTML file contains the tags for the set of image slices, ready to be pasted into the source code for the Web page.

Creating image maps   Vis Ref | How To

Image maps and **image slicing** (see the previous topic) are two convenient ways to create navigation bars and clickable graphics for Web pages. Whereas image slicing subdivides an entire graphic into smaller graphics and exports them separately, image maps consist of **hotspots** that you draw with special tools over selected parts of an image.

Home Updates Products Links

You assign each hotspot its own target—for example, the URL of a Web page. Hotspots aren't attached to a particular image, but become part of a larger "map" that gets exported along with an image and turns into HTML code. It's then up to the Web developer to embed the image map code properly into the Web page. (For details on exporting and the Export Optimizer, see the topic Exporting to another file format. For information on the .GIF and .JPG formats, see Image formats for the World Wide Web.)

Image maps are useful if you want to define isolated and/or irregularly shaped clickable regions on a Web graphic, as opposed to subdividing the entire graphic into rectangular image slices.

The ⌐Vis Ref | How To⌐ **Image Map Tools** flyout on the Tools toolbar displays a flyout menu of tools for creating and editing image maps. You generally draw the hotspots

To draw a hotspot:

1. Click the **Image Map Tools** flyout and choose the ⌐Vis Ref | How To⌐ **Rectangle**, ⌐Vis Ref | How To⌐ **Circle**, or ⌐Vis Ref | How To⌐ **Polygon** tool.

2. Use the tool to draw a hotspot on the active layer. To draw a polygon, drag and release the mouse button to define each line segment; double-click to close the polygon.

Tip: When using the **Rectangle** tool, hold down the **Ctrl** key while dragging out to constrain the hotspot's shape to a square.

To edit a hotspot:

1. Click the **Image Map Tools** flyout and choose the ⌐Vis Ref | How To⌐ **Image Map Selection** tool.

2. To resize the hotspot, drag from an edge.

3. To move the hotspot, drag from the center.

4. Right-click the hotspot to delete it, set layer options, or access hotspot properties (popup text and target URL). Previously-used URLs are saved and can be selected from the drop-down list in the dialog.

To export an image map:

• When exporting, check the **Create HTML for Image Maps** box on the Export dialog.

The output consists of an image file and an HTML file with the same base name. The HTML file contains the tags for the image map, ready to be pasted into the source code for the Web page.

Using shortcuts

Tool shortcuts

Selection tools

- To constrain the selection's proportions (for example, to a square or circle), hold down the **Ctrl** key while dragging.
- To add to the existing selection, hold down the **Shift** key while dragging.
- To subtract from the existing selection, hold down the **Alt** key while dragging.
- To move the contents of the selection, press the **Ctrl** key and click, then drag the selection.
- To duplicate the contents of the selection, press **Ctrl+Alt** and click, then drag the selection.

Move tool

- To duplicate the contents of the selection, press the **Alt** key and click, then drag the selection.

Crop tool

- To constrain the selected region to a square, hold down the **Ctrl** key while dragging.

Shape tools

- To constrain the shape's proportions, hold down the **Ctrl** key while dragging.
- To pick up colors, hold down the **Alt** key and left-click to set foreground color, right-click to set background color.

Line tool

- To constrain the angle of the line to 15-degree intervals, hold down the **Shift** key while dragging.
- To pick up colors, hold down the **Alt** key and left-click to set foreground color, right-click to set background color.

Paintbrush, Airbrush, Fill, and Text tools

- To pick up colors, hold down the **Alt** key and left-click to set foreground color, right-click to set background color.

Clone tool

- To define the pickup origin, **Shift**-click with the tool.

Image Slice tool

- To draw a vertical slice guide, hold down the **Shift** key and click.

Image Map rectangle tool

- To constrain the hotspot to a square, hold down the **Ctrl** key while dragging.

Menu shortcuts

Every menu item has a keyboard shortcut (useful in the event your mouse stops working!).

To display a menu:

- Press the **Alt** key followed by the underlined letter in the menu name. The menu appears. For example, pressing **Alt+F** displays the File menu.

To select an item from a displayed menu:

- Press the key underlined in the menu item. For example, pressing **Alt+F+S** is the same as choosing **Save** from the File menu.

Here's a summary of shortcuts for commonly used PhotoPlus menu items:

Ctrl+Z	Undo last action
Ctrl+Y	Redo last undone action
Ctrl+C	Copy selection or layer to Clipboard

Shift+Ctrl+C	Copy merged (all layers as one) to Clipboard
Ctrl+X	Cut selection to Clipboard
Ctrl+V	Paste from Clipboard as new image
Ctrl+L	Paste from Clipboard as new layer
Shift+Ctrl+L	Paste from Clipboard centered into selection
Ctrl+D	Deselect pixels (select nothing)
Shift+Ctrl+I	Invert selection
Ctrl+A	Select all
Ctrl+N	New image
Ctrl+O	Open file
Ctrl+P	Print
Ctrl+S	Save
Ctrl+F4	Close current image window
Alt+F4	Exit PhotoPlus

-

- **Other keyboard shortcuts**

F1	Display the Help Contents screen
Tab	Show/hide all visible tabs (not toolbars)
Alt+Tab	Switch between image windows

-

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
Brightness/Contrast
Hue/Saturation/Lightness
Replace Color
Gamma
Threshold
Grayscale
Equalization
Stretch
Negative Image
BLUR
EDGE
NOISE
OTHER

{button View Original,Next()}

Brightness 10
Contrast 75

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
Brightness/Contrast
Hue/Saturation/Lightness
Replace Color
Gamma
Threshold
Grayscale
Equalization
Stretch
Negative Image
BLUR
EDGE
NOISE
OTHER

{button Apply Effect,Prev()}

Original

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
Brightness/Contrast
Hue/Saturation/Lightness
Replace Color
Gamma
Threshold
Grayscale
Equalization
Stretch
Negative Image
BLUR
EDGE
NOISE
OTHER

{button View Original,Next()}

Hue 160
Saturation 30
Lightness 20

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
Brightness/Contrast
Hue/Saturation/Lightness

{button Apply Effect,Prev()}

Original

IMAGE EFFECTS
— Click red for example(s), green for help topic —

{button View Original,Next()}

IMAGE EFFECTS
— Click red for example(s), green for help topic —

{button Apply Effect,Prev()}

Original

IMAGE EFFECTS
— Click red for example(s), green for help topic —

{button View Original,Next()}

-5, channels linked

IMAGE EFFECTS
— Click red for example(s), green for help topic —

{button Apply Effect,Prev()}

Original

IMAGE EFFECTS
— Click red for example(s), green for help topic —

{button View Original,Next()}

Threshold 108

IMAGE EFFECTS
— Click red for example(s), green for help topic —

{button Apply Effect,Prev()}

Original

IMAGE EFFECTS
— Click red for example(s), green for help topic —

{button View Original,Next()}

IMAGE EFFECTS
— Click red for example(s), green for help topic —

{button Apply Effect,Prev()}

Replace Color
Gamma
Threshold
Grayscale
Equalization
Stretch
Negative Image
BLUR
EDGE
NOISE
OTHER

| Vis Ref | How To |
Original

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
Brightness/Contrast
Hue/Saturation/Lightness
Replace Color
Gamma
Threshold
Grayscale
Equalization
Stretch
Negative Image
BLUR
EDGE
NOISE
OTHER

{button View Original,Next()}

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
Brightness/Contrast
Hue/Saturation/Lightness
Replace Color
Gamma
Threshold
Grayscale
Equalization
Stretch
Negative Image
BLUR
EDGE
NOISE
OTHER

{button Apply Effect,Prev()}

Original

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
Brightness/Contrast
Hue/Saturation/Lightness
Replace Color
Gamma
Threshold
Grayscale
Equalization
Stretch
Negative Image
BLUR
EDGE
NOISE
OTHER

{button View Original,Next()}

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
Brightness/Contrast
Hue/Saturation/Lightness

{button Apply Effect,Prev()}

Original

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST

{button View Original,Next()}

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST

{button Apply Effect,Prev()}

Original

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
BLUR

{button View Original,Next()}

Blur 5

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
BLUR
Blur

{button Apply Effect,Prev()}

Original

IMAGE EFFECTS
— Click red for example(s), green for help topic —

{button View Original,Next()}

Radius 5, Falloff 5%
> Falloff 15%

IMAGE EFFECTS
— Click red for example(s), green for help topic —

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Original

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Radius 5, Falloff 15%
> Falloff 5%

IMAGE EFFECTS
— Click red for example(s), green for help topic —

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| **Vis Ref** | How To |

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Intensity 7, to West

IMAGE EFFECTS

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| **Vis Ref** | How To |

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Intensity 10

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Original

IMAGE EFFECTS
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{button View Original,Next()}
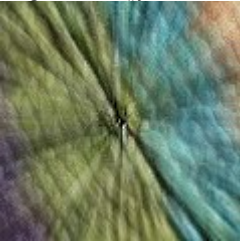
Intensity 22

IMAGE EFFECTS
— Click red for example(s), green for help topic —

{button Apply Effect,Prev()}
| **Vis Ref** | How To |

Original

IMAGE EFFECTS

ADJUST
BLUR
   Blur
   Gaussian Blur
   Soften
   Blur Effects > Motion
   Blur Effects > Radial
   Blur Effects > Zoom
   Blur Effects > Fragment
EDGE
NOISE
OTHER

{button View Original,Next()}
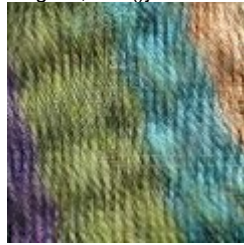
Intensity 5

IMAGE EFFECTS

ADJUST
BLUR
   Blur
   Gaussian Blur
   Soften
   Blur Effects > Motion
   Blur Effects > Radial
   Blur Effects > Zoom
   Blur Effects > Fragment
EDGE
NOISE
OTHER

{button Apply Effect,Prev()}

| Vis Ref | How To |

Original

IMAGE EFFECTS

ADJUST
BLUR
EDGE
   Enhance
   Find Horizontal
   Find Vertical
   Find All
NOISE
OTHER

{button View Original,Next()}

IMAGE EFFECTS

ADJUST
BLUR
EDGE
   Enhance
   Find Horizontal
   Find Vertical
   Find All
NOISE
OTHER

{button Apply Effect,Prev()}

Original

IMAGE EFFECTS

ADJUST

BLUR
EDGE
   Enhance
   Find Horizontal
   Find Vertical
   Find All
NOISE
OTHER

{button View
Original,Next()}

<div align="center">

IMAGE EFFECTS
— Click red for example(s), green for help topic —

</div>

ADJUST
BLUR
EDGE
   Enhance
   Find Horizontal
   Find Vertical
   Find All
NOISE
OTHER

{button Apply
Effect,Prev()}
Vis Ref | How To
Original

<div align="center">

IMAGE EFFECTS
— Click red for example(s), green for help topic —

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ADJUST
BLUR
EDGE
   Enhance
   Find Horizontal
   Find Vertical
   Find All
NOISE
OTHER

{button View
Original,Next()}

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IMAGE EFFECTS
— Click red for example(s), green for help topic —

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ADJUST
BLUR
EDGE
   Enhance
   Find Horizontal
   Find Vertical
   Find All
NOISE
OTHER

{button Apply
Effect,Prev()}
Vis Ref | How To
Original

<div align="center">

IMAGE EFFECTS
— Click red for example(s), green for help topic —

</div>

ADJUST
BLUR
EDGE
   Enhance
   Find Horizontal
   Find Vertical
   Find All
NOISE
OTHER

{button View
Original,Next()}

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
BLUR
EDGE
  Enhance
  Find Horizontal
  Find Vertical
  Find All
NOISE
OTHER

{button Apply Effect,Prev()}

Original

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
BLUR
EDGE
NOISE
  Add
  Median Cut
OTHER

{button View Original,Next()}

All channels, 50%
> Green only

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
BLUR
EDGE
NOISE
  Add
  Median Cut
OTHER

{button Apply Effect,Prev()}

Original

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
BLUR
EDGE
NOISE
  Add
  Median Cut
OTHER

{button View Original,Next()}

Green only, 15%
> All channels

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
BLUR
EDGE
NOISE
   Add
   Median Cut
OTHER

{button Apply Effect,Prev()}
| Vis Ref | How To |
Original

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
BLUR
EDGE
NOISE
   Add
   Median Cut
OTHER

{button View Original,Next()}

Intensity 20

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
BLUR
EDGE
NOISE
   Add
   Median Cut
OTHER

{button Apply Effect,Prev()}
| Vis Ref | How To |
Original

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
BLUR
EDGE
NOISE
OTHER
   Solarize
   Posterize
   Emboss
   Mosaic
   Sharpen

{button View Original,Next()}

Intensity 200

IMAGE EFFECTS
— Click red for example(s), green for help topic —

ADJUST
BLUR
EDGE
NOISE
OTHER
   Solarize
   Posterize
   Emboss
   Mosaic
   Sharpen

{button Apply Effect,Prev()}

Original

IMAGE EFFECTS
⎯ Click red for example(s), green for help topic ⎯

ADJUST
BLUR
EDGE
NOISE
OTHER
   Solarize
   Posterize
   Emboss
   Mosaic
   Sharpen

{button View Original,Next()}

Levels 2

IMAGE EFFECTS
⎯ Click red for example(s), green for help topic ⎯

ADJUST
BLUR
EDGE
NOISE
OTHER
   Solarize
   Posterize
   Emboss
   Mosaic
   Sharpen

{button Apply Effect,Prev()}

Original

ADJUST
BLUR
EDGE
NOISE
OTHER
    Solarize
    Posterize
    Emboss
    Mosaic
    Sharpen

{button View
Original,Next()}

Depth 50, to Southeast

ADJUST
BLUR
EDGE
NOISE
OTHER
    Solarize
    Posterize
    Emboss
    Mosaic
    Sharpen

{button Apply
Effect,Prev()}

Original

ADJUST
BLUR
EDGE
NOISE
OTHER
    Solarize
    Posterize
    Emboss
    Mosaic
    Sharpen

{button View
Original,Next()}

Intensity 12

ADJUST
BLUR
EDGE
NOISE
OTHER
    Solarize
    Posterize
    Emboss
    Mosaic
    Sharpen

{button Apply
Effect,Prev()}

Original

— Click red for example(s), green for help topic —

ADJUST
BLUR
EDGE
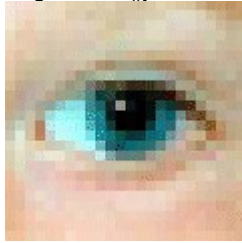**NOISE**
OTHER
    Solarize
    Posterize
    Emboss
    Mosaic
    Sharpen

{button View
Original,Next()}

Intensity 100

IMAGE EFFECTS

— Click red for example(s), green for help topic —

ADJUST
BLUR
EDGE
NOISE
OTHER
    Solarize
    Posterize
    Emboss
    Mosaic
    Sharpen

{button Apply
Effect,Prev()}

Original