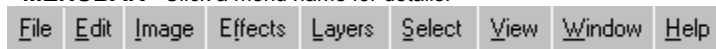


Visual Reference

MENUBAR - Click a menu name for details:



TOOLBARS and TAB WINDOWS - Click an element for details:



Welcome/What's New in PhotoPlus 8!



Welcome to **PhotoPlus 8.0** from **Serif**—more than ever, 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 all 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.

What's New in PhotoPlus 8...

Whether you're a new or returning PhotoPlus user, you're sure to appreciate all the advances that keep it right on the cutting edge of value and performance:

- **Astounding 3D Lighting and Surface Effects**
[Advanced algorithms](#) bring flat shapes to life! Vary surface and source light properties. Start with a pattern or a function, adjust parameters for incredible surface contours, textures, fills. Optimized for Intel® Pentium® 4 processors.
- **3D Painting using Depth Maps**
Add [instant dimensionality](#) to your artwork. Painting or erasing on a layer's depth map appears as raised or lowered strokes on the image! Use with 3D layer effects to achieve "carved" side-view textures.
- **Instant Effects Gallery**
Puts our 3D technology and layer effects at your disposal, with [no learning curve](#)—simply choose a surface texture, pattern, glow, or bevel—then customize as you wish. Add your own categories and effects!
- **Instant Artist Painting Effects**
Customizable, automatic effects that turn your photos into [works of art](#). Choose any style (Expressionist, Impressionist, Pointillist) or medium (Oil, Pencil, Paint and Ink, Watercolor), then dial up the effect you want!
- **Universal Gradient Fill Editing**
One [master dialog](#) allows editing of five fill types, now combining both color and transparency. Choose from a built-in gallery of presets, add your own categories and fills. Works with all PhotoPlus tools and effects that employ gradient fills!
- **Freehand and Bézier Curve and Shape Drawing**
Powerful [vector-drawing tools](#) let you produce any shape under the sun with controllable, connectable, editable line segments.
- **Combinatorial Shapes**
Now create [multiple shapes](#) on a single layer! For each additional shape, you can add, subtract, intersect, or exclude with previous shapes for frames, cutouts and custom contours.
- **Enhanced Selection Modes**
Lots of news here! [Paint to Select mode](#) lets you literally "brush on" selectedness. Border, Threshold, and Smooth commands for more versatility. [Store and load selections](#) between any open file. Use combination buttons (as for shapes) to define cutout selection regions. Create selections from a layer's mask or opacity channel, and convert selections into paths or layers.
- **Paths**
Use the full range of line- and shape-drawing tools to create [editable outlines](#) via the new Paths tab. Convert paths to or from selections on any layer. "Stroke" paths using any brush to create bordered shapes!
- **More Powerful Masking**
Masks now work on [shape and text layers](#), too! Plus they now move independently of their layers and store their own colors. Extra convenience with mask preview thumbnails, key-assisted mode-switching, and much more.
- **UI Improvements**
The new [Layers tab](#) buttons for most-used operations, plus preview thumbnails for masks and depth maps. Zoom to a region. View a shaded [exclusion zone](#) when cropping. A redesigned Export Optimizer. Wheel mouse zoom support. New [Layout Guides](#), plus optional Snapping to grid or guides for finer control when painting or erasing.
- **Extended Import Capabilities**
Support for Paint Shop Pro® 7 (.PSP) files including layer information! And import Paint Shop Pro (.TUB) picture tubes to use as PhotoPlus Picture Brushes!
- **...And More!**

Quickly align shapes or text between multiple linked layers. Smart Resize means more efficiency, less loss. The [Deform Mesh](#) tool for reshaping any freeform region. New [filters](#) like Intelligent Blur, Maximum, and Minimum... All filters rewritten for improvements across the board!

Special Note: If you've upgraded to PhotoPlus 8.0 and want a quick-start preview of what's new and different, check out the "New Features" tutorial on the PhotoPlus 8.0 Resource CD-ROM!

...plus these established features...

PhotoPlus brought professional image editing to everyone—with features like these:

- **Editable QuickShapes**

[Easy to create—now just as easy to change!](#) Simply drag sliders to morph chevrons, hearts, badges, teardrops, moons, zigzags, and many more... apply layer effects and gradient fills... and edit any shape at any time on its own layer with the new Node Edit tool.

- **Browse Image Files and Folders**

The built-in [Image Browser](#) rapidly displays image thumbnails—a folder at a time—so you can preview clip art or saved work and inspect file details in a convenient, Explorer-style interface.

- n **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. Use [Magnetic Selection](#) to find edges as you trace them. Or define a selection shaped like text—using any font and style! Advanced options let you fine-tune the selection and its properties for smoother blends and precise effects.

- **Stamp and Spray**

Use [Picture Brushes](#) to lay down colorful arrays of single or multiple mini-images: realistic machine cogs, colorful tubes, falling leaves, flowers, jelly beans, jewels, raindrops, marbles, planets, and more...

- n **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.

- n **Web Animation Tools**

It's easy and fun to [create and edit animations](#) for the Web. You can import and export animated GIFs, apply special effects, even let PhotoPlus create entire animations for you automatically.

- n **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!

- **Special Erase Options**

Need to remove that blue sky and leave the clouds? Use the [Flood Eraser](#) to fill the blue regions with transparency. Want to isolate a shape from a flat color background? The Background Eraser samples pixels under the brush, so only unwanted colors drop out.

- n **Image Enhancement**

Apply professional, darkroom-style [color and histogram adjustments](#) to your images. Employ the [Blur and Sharpen tools](#) to enhance or reduce local detail... blend multiple layers more cleanly. We've even got a dedicated tool for [removing "red eye"](#) from flash photos.

- n **Special Effects, Image Correction Filters**

A [wild and whimsical assortment](#) for instant creativity! Powerful image correction filters like [Levels](#), [Curves](#), [Color Balance](#), and [Channel Mixer](#) for fingertip control over tones and colors. Add [Shadow, Bevel, and Emboss layer effects](#) for a sophisticated 3D look on text or other image elements. PhotoPlus supports third-party Photoshop [plug-ins](#), and even lets you design your own [custom filters](#).

- **Editable Adjustment Layers**

Now you can not only apply color corrections and special effects, but store each change on a [separate layer](#). To fine-tune any adjustment later, just click its layer and change the settings!

- n **Versatile Deform and Warp Tools**

"Swiss Army Knife" of image tools, Deform lets you [rotate, resize, skew, reshape, or add perspective](#) to any selection or layer. [Warp tools](#) pull, stretch, and distort image details, or shrink and enlarge. Pixels turn to putty with the [Mesh Warp tool](#)! Use a customizable grid of points and lines to bend images with precision.

- n **Gradient Fills**

Take your pick of [radial, linear, conical, or square fills](#)—perfect for masking, to hide or reveal parts of your photo using smooth graduated blends to transparency. (Of course, there's standard flood fill as well.)

- n **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.

- n **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. [Extract command](#) to isolate a face, feature, or object.

n **Professional Output Options**

Output using [CMYK separations](#) or print directly to your desktop printer with useful controls. Include registration marks, crop marks, file information, greyscale and color bars, and tile or scale your output if required.

n **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 Navigator and Layers tabs provide full control over all regions and planes. Each document stores a massive undo range with dynamic memory and disk management, compressing information for optimized performance. Built-in [Autoselect](#) for rapid navigation in multi-layered images... the handy [Measure Tool](#) for checking pixel dimensions... the [Undo History tab](#) so you never lose track of where you've been. 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, opacity, and blend mode settings. Flip, rotate, and crop. Anti-aliasing. TWAIN support for scanner and digital camera input. Bonus TrueType fonts. 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)...

Help on Help: A quick overview

The PhotoPlus online help system is designed to work for you. 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:

- n 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.
- n For help on interface elements like toolbars and tab windows, click the  **Context Help** button on the top toolbar, then click on an element.
- n For help on dialog boxes, click their **Help** button.
- n Choose **PhotoPlus Help** (or press **F1**) to display the help window, which initially displays its Contents pane on the left, and the Visual Reference menu on the right. Click directly on Visual Reference graphics to browse interface features like menus and toolbars. Click the book icons in the Contents list to expand topics, and click a document icon to display a particular How To topic.
- n Click the **Index** tab to pop up the list of key terms, or the Search tab to look up specific terms using full-text search.
- n Click the << (Previous) and >> (Next) buttons at the top of the help window to step through the topic sequence.
- n Choose [Effects Gallery](#) (also a Help menu item) to display a visual sampler of color adjustments, special effects, and blend modes—cross-referenced to help topics.

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 new and established PhotoPlus features, see the previous topic, **Welcome/What's New in PhotoPlus 8**. You can click the links there to learn more about specific features of interest.

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:

- n Is the problem most likely arising within PhotoPlus?
- n Is it a Windows problem?
- n Or is it a "hardware" problem having to do with your PC or its peripherals?
- n 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

Our support mission is to provide fast, friendly technical advice and support from a team of on-call experts. Serif customers are entitled to free, unlimited phone support for the first 30 days following receipt of the product. After that time, pricing policies (per-call or per-year) go into effect.

You can reach our main Web support page at <http://www.serif.com/support.asp> Technical support is provided by telephone and e-mail, as well as through FAQs and forums on our Web site (see below).

| | |
|---------------------------------|--|
| Europe Technical Support | (0115) 914 9090 |
| | (0845) 345 6770 [Local rate, UK only] |
| | e-mail: support@serif.co.uk |
| USA Technical Support | (603) 886-6642 |
| | e-mail: support@serif.com |
| International Technical Support | +44 (115) 914 9090 |

Please do not fax technical support queries.

Additional Serif contact information

World Wide Web:

| | |
|----------------------------|---|
| Serif Web Site | http://www.serif.com |
| Support | http://www.serif.com/support.asp |
| Frequently Asked Questions | http://www.serif.com/faq.asp |
| Forums | http://www.serif.com/forums.asp |

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| Serif Newsgroups | news://news.serif.com |
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| Registration | (0800) 376 1989 |
| Sales | (0800) 376 7070 |

| | | |
|------------------|-----------------|-----------------------|
| Customer Service | (0115) 914 9090 | |
| | (0845) 345 6770 | [Local rate, UK only] |
| General Fax | (0115) 914 2020 | |

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|------------------|----------------------------|
| Main | (603) 889-8650 |
| Registration | (800) 794-6876 |
| Sales | (800) 55-SERIF or 557-3743 |
| Customer Service | (800) 489-6720 |
| General Fax | (603) 889-1127 |
| Sales Fax | (603) 886-4919 |

International enquiries

Please contact our main office.

Credits

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Portions graphics import/export technology Eastman Kodak Company & LEAD Technologies, Inc.

File Menu

Commands for opening, saving, and printing image files.

Shortcut: **Alt+F**

New

Displays the **Startup Wizard**, which gives you five 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); or (5) view the PhotoPlus samples gallery. (See the 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 topic [Opening an existing file.](#))

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

Image Browser...

Displays the built-in PhotoPlus Image Browser, which lets you browse folders and preview thumbnails of image files stored in them. To bring an image into PhotoPlus, drag its thumbnail into an open image window for a new layer, or onto a neutral area of the main window for a new document. Use the Browser tab of **File/Preferences...** to set [options](#). (See the topic [Using the Image Browser.](#))

Browse Resource CD-ROM...

Displays the contents of the PhotoPlus Resource CD-ROM in the Image Browser (see above). Unavailable unless the Resource CD is installed.

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 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 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 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 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 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 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**

Undo <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**.

• Into Selection

Inserts the contents of the Windows Clipboard centered in the current selection, replacing it. You can then drag to position the pasted bitmap within the selection, before clicking elsewhere to complete the action. 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.

Extract...

Displays the Extraction window, with controls that let you isolate one portion of a layer. In the window, you brush an outline around the edges of a region you want to extract from the rest of the image, then mark a foreground area to be retained—usually inside the outline. (See the topic [Extracting part of an image](#).)

Guides...

Displays a dialog that lets you add or remove horizontal or vertical guide lines. To add a guide, select a unit (for example, centimeters or pixels), specify Vertical or Horizontal, select or type a guide location, and click **Add**. To remove a guide, select it in the list and click **Remove**. Use **View/Snap to Guides** to align drawn elements with nearby guide lines.

Tip: You can use the Move tool to reposition guide lines once you've created them. You can delete an individual guide line without using the dialog, simply by dragging it out of the window.

Image Menu

Commands for manipulating properties of the active layer or a selected region. Click [green](#) links for topics, [red](#) for Effects Gallery examples.

Shortcut: **Alt+I**

Adjust >

Displays a submenu with the following choices:

- **Levels...**

Displays a dialog that lets you view a histogram plot of lightness (luminance) values in the image or color channel, and adjust the contrast and tonal range by shifting dark, light, and gamma values. (See [topic](#) or [example](#).)

Tip: You can also create a Levels [adjustment layer](#).

- **Curves...**

Displays a dialog that lets you fine-tune lightness (luminance) values in the image or color channel using a line graph. (See [topic](#) or [example](#).)

Tip: You can also create a Curves [adjustment layer](#).

- **Color Balance...**

Displays a dialog that lets you adjust color and tonal balance for general color correction in the image. (See [topic](#) or [example](#).)

Tip: You can also create a Color Balance [adjustment layer](#).

- **Brightness/Contrast...**

Displays a dialog that lets you vary the brightness and/or contrast. (See [topic](#) or [example](#).)

Tip: You can also create a Brightness/Contrast [adjustment layer](#).

- **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](#).)

Tip: You can also create a Hue/Saturation/Lightness [adjustment layer](#).

- **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](#).)

- **Selective Color**

Displays a dialog that lets you add or subtract a certain percentage of cyan, magenta, yellow, and/or black ink. (See [topic](#) or [example](#).)

- **Channel Mixer...**

Displays a dialog that lets you modify a color channel using a mix of the current color channels. (See [topic](#) or [example](#).)

Tip: You can also create a Channel Mixer [adjustment layer](#).

- **Gradient Map**

Displays a dialog that lets you remap grayscale (lightness) information in the image to a selected gradient. (See [topic](#) or [example](#).)

Tip: You can also create a Gradient Map [adjustment layer](#).

- **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](#).)

Tip: You can also create a Threshold [adjustment layer](#).

- **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](#).)

Tip: You can also create a Negative Image [adjustment layer](#).

- **Grayscale**

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

- **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](#).)

Tip: You can also create a Posterize [adjustment layer](#).

Flip Horizontally >

Displays a submenu with the following choices:

- **I**mage

Flips the entire image left to right.

- **L**ayer

Flips the active layer left to right.

- **S**election

Flips the selection left to right.

Flip Vertically >

Displays a submenu with the following choices:

- **I**mage

Flips the entire image top to bottom.

- **L**ayer

Flips the active layer top to bottom.

- **S**election

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 topic [Resizing and scaling](#).

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 topic [Resizing and scaling](#).

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 topic [Reading the histogram](#).)

Effects Menu

Commands for applying special effects to the active layer or a selected region. Click [green](#) links for topics, [red](#) for Effects Gallery examples.

Shortcut: **Alt+F**

Distort >

Displays a submenu with the following choices:

- **T**wirl...

Displays a dialog that lets you apply the Twirl distortion effect. (See [topic](#) or [example](#).)

- **R**ipple...

Displays a dialog that lets you apply the Ripple distortion effect. (See [topic](#) or [example](#).)

- **W**ave...

Displays a dialog that lets you apply the Wave distortion effect. (See [topic](#) or [example](#).)

- **P**inch/**P**unch...

Displays a dialog that lets you apply the Pinch (concave) or Punch (convex) effect. (See [topic](#) or [examples](#).)

Blur >

Displays a submenu with the following choices:

- **B**lur

Applies a basic Blur effect. Reapply to intensify the effect. (See [topic](#) or [example](#).)

- **B**lur **M**ore

Applies a stronger Blur effect. Reapply to intensify the effect. (See [topic](#) or [example](#).)

- **A**verage **B**lur...

Displays a dialog that lets you apply a basic variable Blur effect. (See [topic](#) or [example](#).)

- **G**aussian **B**lur...

Displays a dialog that lets you apply the Gaussian Blur effect, which averages pixel values along a Gaussian or bell-shaped curve. (See [topic](#) or [examples](#).)

- **B**lur **E**ffects...

Displays a dialog that lets you apply one of these four effects:

- 1** **M**otion **B**lur

Blurs to simulate motion. (See [topic](#) or [example](#).)

- 2** **R**adial **B**lur

Blurs the image to simulate a rotating camera. (See [topic](#) or [example](#).)

- 3** **Z**oom **B**lur

Blurs the image to simulate a zooming camera. (See [topic](#) or [example](#).)

- 4** **F**ragment

Blurs the image to simulate a hand-held camera. (See [topic](#) or [example](#).)

- **I**ntelligent **B**lur...

Displays a dialog that lets you blur portions of the image while leaving edges sharp. (See [topic](#) or [example](#).)

Sharpen >

Displays a submenu with the following choices:

- **S**harpen

Applies a basic Sharpen effect. Reapply to intensify the effect. (See [topic](#) or [example](#).)

- **S**harpen **M**ore

Applies a stronger Sharpen effect. (See [topic](#) or [example](#).)

- **U**nsharp **M**ask...

Displays a dialog that lets you sharpen the image. (See [topic](#) or [example](#).)

Edge >

Displays a submenu with the following choices:

- **E**nhance

Sharply emphasizes both horizontal and vertical edges. (See [topic](#) or [example](#).)

- **Find Horizontal**

Isolates horizontal edges. (See [topic](#) or [example](#).)

- **Find Vertical**

Isolates vertical edges. (See [topic](#) or [example](#).)

- **Find All**

Isolates both horizontal and vertical edges. (See [topic](#) or [example](#).)

Noise >

Displays a submenu with the following choices:

- **Add...**

Displays a dialog that lets you add noise (grain). (See [topic](#) or [examples](#).)

- **Median...**

Displays a dialog that lets you apply the Median effect, which results in broader areas of similar color for a "blotchy" or oil paint appearance. (See [topic](#) or [example](#).)

Render >

Displays a submenu with the following choices:

- **Lighting Effects...**

Displays a dialog that lets you apply either a Spot or Candle lighting effect. (See [topic](#) or [example](#).)

- **Diffuse Glow...**

Displays a dialog that lets you add a Diffuse Glow effect, broadening existing highlights. (See [topic](#) or [example](#).)

- **Lens Flare...**

Displays a dialog that lets you add a Lens Flare effect, simulating the interaction of a strong light source with a camera's optics. (See [topic](#) or [example](#).)

Other >

Displays a submenu with the following choices:

- **Solarize...**

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 [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](#).)

- **Fix Red Eye...**

Displays a dialog that lets you correct the "red eye" effect in photos taken with a flash. (See [topic](#) or [example](#).)

- **Maximum...**

Displays a dialog that lets you broaden highlight regions in the image. (See [topic](#) or [example](#).)

- **Minimum...**

Displays a dialog that lets you broaden shadow regions in the image. (See [topic](#) or [example](#).)

Custom...

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

Instant Artist...

Displays a dialog that lets you choose and customize an "artistic" effect that simulates a painting style. (See [topic](#) or [examples](#).)

Plugin Filters

Plug-in filters located in your PhotoPlus plug-ins folder appear here. Select the filter name to run the effect. (See the topic [Using plug-ins](#).)

Layers Menu

Commands for manipulating layers in the image.

Shortcut: **Alt+L**

See Also:

- n The sequence of topics on "How to Work with Layers and Masks," starting with [Basics of using layers](#)
- n The Visual Reference topic on the [Layers tab](#)

New Layer...


Displays a dialog that lets you specify the name, blend mode, 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 Layers tab and choose **New....**

New Adjustment Layer >

Displays a submenu with the following choices. Click [green](#) links below for topics, [red](#) for Effects Gallery examples.

Note: Each adjustment layer has an equivalent direct command on the **Image/Adjust** submenu. To access adjustment layer properties, double-click the layer's name on the Layers tab. For details on adjustment layers, see the topic [Using adjustment layers](#).

Tip: You can also click the  **New Adjustment Layer** button on the Layers tab.

• **Levels...**

Displays a dialog that lets you add adjustment layer to adjust the tonal range in the image or a color channel by shifting dark, light, and gamma values. (See [topic](#) or [example](#).)

• **Curves...**

Displays a dialog that lets you add an adjustment layer to fine-tune lightness (luminance) values in the image or a color channel using a line graph. (See [topic](#) or [example](#).)

• **Color Balance...**

Displays a dialog that lets you add an adjustment layer for general color and/or tonal correction in the image. (See [topic](#) or [example](#).)

• **Brightness/Contrast...**

Displays a dialog that lets you add an adjustment layer with specific brightness and/or contrast settings. (See [topic](#) or [example](#).)

• **Hue/Saturation/Lightness...**

Displays a dialog that lets you add an adjustment layer with specific hue, saturation, and/or lightness values. (See [topic](#) or [example](#).)

• **Channel Mixer...**

Displays a dialog that lets you add an adjustment layer to modify one color channel using a mix of the current color channels. (See [topic](#) or [example](#).)

• **Gradient Map...**

Displays a dialog that remaps grayscale (lightness) information in the image to a selected gradient. (See [topic](#) or [example](#).)

• **Threshold...**

Displays a dialog that lets you add an adjustment layer with monochromatic (black and white) representation. (See [topic](#) or [example](#).)

• **Negative Image**

Displays a dialog that lets you add an adjustment layer where each color is inverted, replaced with an "opposite" value. (See [topic](#) or [example](#).)

• **Posterize...**

Displays a dialog that lets you add an adjustment layer using 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](#).)

New Layer From Selection Copy

Creates a new layer from the selection, leaving the original region intact.

New Layer From Selection Cut

Creates a new layer from the selection and cuts the originally selected region to the Clipboard.

Add Mask >

To add a mask, first select the layer where you want to create the mask, and select specific region(s) if desired. Then choose one of the following from the submenu. (See the topic [Basics of using masks.](#))

- **Reveal All**

Adds a transparent mask over the whole layer.

- **Hide All**

Adds an opaque mask over the whole layer.

- **Reveal Selection**

Adds an opaque mask with transparent "holes" over the selected region(s).

- **Hide Selection**

Adds a transparent mask with opaque "blocks" over the selected region(s).

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.**)

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.**)

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.

Tip: You can also click the mask preview next to the layer name on the Layers tab.

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.

Tip: You can also **Alt**-click the mask preview next to the layer name on the Layers tab.

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 cancelling Edit Mask mode—it only affects your view of the layer, not which plane (mask or layer) you're working on.

Tip: You can also **Shift**-click the mask preview next to the layer name on the Layers tab.

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.

Effects...

Displays a dialog that lets you apply the following effects. Standard or "2D" effects are especially useful for text layers, while "3D" effects simulate surface texture. Check one or more of the effects listed. Click [green](#) links below for topics, [red](#) for Effects Gallery examples. See the topics, [Applying 2D layer effects](#) and [Applying 3D layer effects](#).

Tip: You can also click the  **Layer Effects** button on the Layers tab.

- **Drop Shadow**

Check to select and customize a diffused shadow effect "behind" solid regions of the active layer. (See [topic](#) or [example](#).)

- **Inner Shadow**

Check to select and customize a diffused shadow effect inside the edge of the solid regions of a layer. (See [topic](#) or [example](#).)

- **Outer Glow**

Check to select and customize a color border (stroke) outside the edge of the solid regions of a layer. (See [topic](#) or [example](#).)

- **Inner Glow**

Check to select and customize a color border (stroke) inside the edge of the solid regions of a layer. (See [topic](#) or [example](#).)

- **Bevel and Emboss**

Check to select and customize an edge effect. Choose one of the following effects in the **Styles** drop-down list:

- Inner Bevel**

- Add a rounded-edge effect inside the solid regions of a layer. (See [topic](#) or [example](#).)

- Outer Bevel**

- Add a rounded-edge effect (resembling a drop shadow) outside the solid regions of a layer. (See [topic](#) or [example](#).)

- Emboss**

- Add a convex rounded edge and shadow effect to the solid regions of a layer. (See [topic](#) or [example](#).)

- Pillow Emboss**

- Add a concave rounded edge and shadow effect to the solid regions of a layer. (See [topic](#) or [example](#).)

- **Color Fill**

Displays a dialog that lets you apply a specific color to a layer. (See [topic](#) or [example](#).)

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.

Align Linked >

To align two or more layers, first click the  **Link Layer** button next to a layer's name on the Layers tab to link it to the active layer. Then choose **Align Linked** and select one of the following commands from the submenu: **T**op, **V**ertical Center, **B**ottom, **L**eft, **H**orizontal Center, or **R**ight.

Select Menu

Commands for defining and modifying a selection within the image.

Shortcut: **Alt+S**

See Also:

- n The sequence of 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 cancelling 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:

• 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.

• 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.

• Border...

Displays a dialog that lets you create a new selection as a "frame" of a specified pixel width around the current selection.

• Threshold...

Displays a dialog that lets you convert a soft-edged, variable selection into a hard-edged, "all or nothing" selection, using a specified cutoff value.

• Smooth...

Displays a dialog that lets you smooth a selection's edges by applying a median cut filter, using a specified Radius setting.

Create from Mask

Creates a selection based on the active layer's mask. Darker areas on the mask become relatively less selected than lighter areas, i.e. more protected from changes.

Tip: You can also **Ctrl**-click the mask preview next to the layer name on the Layers tab.

Create from Layer Alpha

Creates a selection based on the active layer's alpha (opacity) channel. Transparent areas become relatively less selected than opaque areas, i.e. more protected from changes.

Tip: You can also **Ctrl**-click the image preview next to the layer name on the Layers tab.

Load Selection...

Displays a dialog that lets you open a selection previously stored in any

currently open file.

Sore Selection...

Displays a dialog that lets you store the selection as a channel in any open file.

Paint to Select

Enters a mode where you can edit any selection as a mask while viewing your image. For example, use the paintbrush to extend or contract the selection, or apply a filter to distort the edges of the selection. (See [Modifying a selection](#).)

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:

- n The sequence of 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 or use the slider in the Navigator tab window.

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 or use the slider in the Navigator tab window.

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 screen layout tools](#).)

Grid

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

Guides

When checked, layout guide lines you've added are visible. Uncheck to hide the guides.

Snap to Grid

When checked, elements you create with the painting, selection, and shape tools align with the nearest grid line.

Snap to Guides

When checked, elements you create with the painting, selection, and shape tools align with the nearest guide line.

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.

Instant Effects tab

Check to show the [Instant Effects tab](#) window. Uncheck to hide it.

Layers Tab

Check to show the [Layers tab](#) window. Uncheck to hide it.

Paths tab

Check to show the [Paths tab](#) window. Uncheck to hide it.

Color Tab

Check to show the [Color tab](#) window. Uncheck to hide it.

Navigator Tab

Check to show the [Navigator tab](#) window. Uncheck to hide it.

Undo History Tab

Check to show the [Undo History 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:

- n The introductory topic [Help on Help](#).

PhotoPlus Help

Displays the main Help contents page.

Effects Gallery

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

View PhotoPlus Tutorials

Displays the menu of tutorials available if you've installed the PhotoPlus 8 Resource CD-ROM.

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.).

Visit the Serif Web Site

Connects to the World Wide Web and displays the Serif Home Page in your Web browser.

Registration Wizard...

Helps you to register your personal copy of PhotoPlus.

About PhotoPlus...

Displays version and copyright information.



Standard toolbar



New

Click to use the **Startup Wizard**, which gives you five 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); or (5) view the PhotoPlus samples gallery. (See the 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 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 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 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**, or the [Undo History tab](#).



Redo

Click to redo the most recent Undo action. **Redo** is grayed out when not available.

Tip: You can also press **Ctrl+Y** or use menu command **Edit/Redo**, or the [Undo History tab](#).



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 in on a particular region, drag a marquee around it.
- To zoom out, right-click on the image.

Hint: If you're using a wheel mouse, you can simply use the wheel to change the zoom setting.



Pan Tool

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



Measure Tool

Click and drag to display the pixel distance between any two points onscreen.



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 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 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.



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 topic [Working with the toolbars and tabs](#).

Tools toolbar

Click a tool icon:



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...** (or the Deform tool, see below) to scale the image to smaller or larger dimensions. (See the 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. You can move [guide lines](#) with the Move tool, too!

- 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 topic [Manipulating a selection](#).)



Deform Tool

Click to use the **Deform tool** to move, scale, or rotate the selection or layer about a fixed point. Start by making a selection if desired, then choose the Deform tool. A selection rectangle appears with handles at its corners, sides, and center. Watch the HintLine for prompts on many key-assisted options such as skew, squash/stretch, and perspective effects. (See the topic [Deforming](#) for details.)

- To move the fixed point, move the cursor to the exact center until a small "x" appears, then drag.
- To deform the image, drag from any handle. The cursor changes over each handle to indicate the result of the drag.
- To constrain rotation in 15-degree steps, press the **Shift** key after you've begun rotation, and hold it down until after you release the mouse button.



Mesh Warp Tool

Click to use the **Mesh Warp tool** to define a flexible grid of points and lines that you can drag to distort an image, or part of an image (or layer). A rectangular mesh appears over the image. Drag the mesh nodes and lines to "bend" the image. Use the [Mesh toolbar](#) to customize mesh by adding, deleting, or changing nodes. You can also use the tool in Setup mode to create a custom grid for precise control of the warp effect. (See the topic [Mesh warping](#) for details.)



Warp Tools

Click the down arrow button to display a flyout menu of image warping tools, as detailed below. Click the larger button to choose the most recently used Warp tool. Click [green](#) links below for topics, [red](#) for Effects Gallery examples.

- Set [Tool Properties tab](#) options as needed.



Elastic Warp

Drag to pull pixels in the direction of brush motion, for an appearance of elasticity. (See [topic](#) or [example](#).)



Thick/Thin Warp

Drag to push pixels 90° to the right of brush motion, which has the effect of spreading or compressing edges along the stroke. Drag clockwise for a concave (pinch), counter-clockwise for a convex (punch) effect. (See [topic](#) or [example](#).)



Unwarp

Drag across a warped region to reduce the strength of the current warped effect. Unwarp only works as long as you're still using the Warp tools—it's reset if you switch to another tool. (See the topic [Warp effects](#).)



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. The combination buttons (**Standard**, **Add**, **Subtract**, **Intersect**) determine the effect of each new selection operation.
- 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 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.



Magnetic

Click to select the tool, which helps you select along visible edges. Click once on the image to place a starting node along an edge. With the mouse button up, trace along the edge; the marquee line follows the nearest edge. At regular distances, nodes automatically appear along the line. Only the portion of the line beyond the last node remains adjustable.

- To add a node manually (for example, at a corner), click once.
- To "back up," press **Delete** to undo the last node on the line; repeat as needed. To clear the marquee and start over, press **Esc**.
- To temporarily switch to the Polygon selection tool, hold down the **Ctrl** key.
- To complete the selection region, double-click or click again on the starting node.



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 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. Check **Contiguous** to include only pixels connected to the clicked pixel; uncheck to include similar pixels throughout the layer.
- 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 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 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 topic [Painting and airbrushing](#).)



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 topic [Cloning a region](#).)



Picture Brush Tool

Click to use the **Picture Brush tool** to stamp or spray a series of predefined images at regular intervals as you drag. Choose from the variety of sample picture brushes on the [Brush Tip tab](#). Click on the image to stamp individual images, or drag to spray. To control the spacing and sequencing of images, select and then right-click a brush name, and choose **Brush Options**. You can also create your own custom picture brushes. (See the topic [Stamping and spraying pictures](#).)



Retouch Tools

Click the down arrow button to choose a retouching tool, as detailed below. Click the larger button to select the most recently used tool.

Click [green](#) links below for topics, [red](#) for Effects Gallery examples.

- Set [Tool Properties tab](#) options as needed.
- Choose a brush size from the [Brush Tip tab](#)



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. (See [topic](#) or [example](#).)



Blur Tool

Click to use the **Blur tool** to reduce contrast under the brush, softening edges without smearing colors. (See [topic](#) or [example](#).)

Tip: To apply the same effect to a selected region or the active layer, use [Image/Blur>Blur...](#)



Sharpen Tool

Click to use the **Sharpen tool** to increase contrast under the brush, enhancing apparent sharpness. (See [topic](#) or [example](#).)

Tip: To apply the same effect to a selected region or the active layer, use [Image/Other>Sharpen...](#)



Eraser Tools

Click the down arrow button to choose an eraser tool, as detailed below. Click the larger button to select the most recently used eraser. If there is a selection, the tools 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 topic [Erasing](#).)



Standard Eraser

Click to use the **Eraser tool** and left-drag the tool like a brush to erase part of the active layer. On the Background layer, erased pixels reveal the current background color. On other layers, erasing exposes transparency.



Background Eraser

Click to use the **Background Eraser tool** and left-drag to erase pixels similar to a sampled reference color underlying the cursor cross-hair—for example, to paint out unwanted background colors.

- With "Continual" sampling (the default), the reference color is repeatedly updated as you move the cursor. Sampling "Once" means erasure is based on the color under the crosshair when you first click. Use the "Background Swatch" setting to use the current background color as the reference.
- With "Contiguous" limits (the default), the tool erases only within-tolerance pixels adjacent to each other; this tends to restrict erasure to one side of an edge or line. When you set "Discontiguous" limits, all in-range pixels are erased. The "Edge Detected" setting can improve deletion of colors along a contrasting edge or line.
- You also have the option of protecting the current foreground color from erasure.



Flood Eraser

Click to use the **Flood Eraser tool** to fill a region with transparency. The tool erases pixels close in color (based on the Tolerance range) to the color under the cursor when you first click. If you use the tool on the Background layer, it's promoted to a standard layer.

- When the "Contiguous" setting is checked, the tool erases only within-tolerance pixels adjacent to each other; when unchecked, all in-range pixels are erased.



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 topic [Painting and airbrushing](#).)



Fill Tools

Click the down arrow button to choose either of the fill tools. Click the larger button to select the most recently used fill tool.

- 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 topic [Filling a region](#).)



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.

- On the [Tool Properties tab](#), check **Contiguous** to affect only pixels connected to the clicked pixel; uncheck to affect similar pixels throughout the layer.

Note: Use the Gradient Fill tool for solid fills on shapes.



Gradient Fill Tool

Click to use the **Gradient Fill tool** to create a "spectrum" effect, filling the active layer, selection, or shape with colors spreading between the current foreground and background colors. You can choose from Solid, Linear, Radial, Conical, and Square fill types on the Tool Properties tab, and specify starting and ending opacity values for the color spread.



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 topic [Creating and editing 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**.



Outline Tools

Click the down arrow button to choose one of the outline tools. Click the larger button to select the most recently used outline tool.

- Set [Tool Properties tab](#) options, such as line weight, as needed.
- To create a closed shape, connect the two ends of a drawn line. (See the topics [Painting and airbrushing](#) and [Drawing and editing lines and shapes](#).)

Note: Lines and shapes occupy special **shape layers**, indicated with an **S** symbol on the Layers tab. You can create multiple lines or shapes on the same layer: first activate the layer, then make sure its Path thumbnail is selected. Deselect the Path thumbnail to



Straight Outline Tool

Click the button, then click and drag to draw a straight line using the foreground color.

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



Freehand Outline Tool

Click the button, then click and drag to draw a freehand outline.

- Connect the path back to its starting point to create a closed outline, or leave the outline unclosed and continue to extend the path from either end point using the Freehand or Curved Outline tool.
- The **Smoothness** setting evens out jagged contours.



Curved Outline Tool

Click the button, then click where you want the line to start. Click and drag out an attractor node from the initial point. (Attractor nodes act like "magnets," pulling the curve into shape. The distance between attractors determines the depth of the resulting curved line.) Click again where you want the segment to end. A curved line appears after the second click.

- To extend an existing path, repeat the process for each new end point.
- Connect the path back to its starting point to create a closed outline, or leave the outline unclosed and continue to extend the path from either end point using the Freehand or Curved Outline tool.




QuickShape 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 QuickShape 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.
- You can also create freeform closed shapes using the outline tools (see above). (See the topic [Drawing and editing lines and shapes.](#))

Note: Lines and shapes occupy special **shape**

layers, indicated with an  symbol on the Layers tab. You can create multiple lines or shapes on the same layer: first activate the layer, then make sure its Path thumbnail is selected. Shapes remain editable using the Deform tool, the Node Edit tool, etc.



Edit Tools

Click the down arrow button to choose either of the edit tools, which work exclusively on QuickShapes and outline shapes. Click the larger button to select the most recently used edit tool. (See the subtopic [Creating and editing outline shapes.](#))



Node Edit Tool

Click to use the **Node Edit tool** to readjust the handles of a QuickShape, or the nodes and segments of an outline shape. Works on both shape layers and path channels.



Shape Edit Tool

Click to use the **Shape Edit tool** to move, deform, or recombine QuickShapes or outline shapes. Works on both shape layers and path channels. (See the topic [Deforming.](#))

For hints on using toolbars and tabs, see the topic [Working with the toolbars and tabs.](#)



[363pix, 375pix]

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.

Create a new

HintLine

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

For hints on using toolbars and tabs, see the topic [Working with the toolbars and tabs](#).



Mesh toolbar

Visible only when the Mesh Warp tool is in use. For details, see the topic [Mesh warping](#).



Sharp

Click to change selected node(s) so the segments on either side are completely independent, and the intersection can be pointed. Select the leading corner node of the segment (the node nearer the start of the line), then click this button.



Smooth

Click to change selected node(s) so the slope of the segments on either side is the same, but the depth of the two joined segments can be different. Select the leading corner node of the segment (the node nearer the start of the line), then click this button.



Symmetric

Click to change selected node(s) so the segments on either side have equal slopes and equal depth. Select the leading corner node of the segment (the node nearer the start of the line), then click this button.

Add Node

Click where you want to add a node, then click this button.

Tip: You can also double-click to add a node.



Delete Node(s)

Select the node to be deleted, then click this button. The node will be deleted and the line or shape will jump to its new shape.



Reset Mesh

Click to reset the mesh to full-frame and rectangular. (Use **Undo** to remove all warping and reset the mesh to its original 9-node state.)



Deform Mesh

Click to use the **Deform Mesh tool** to move, scale, skew, or rotate a portion of the mesh (as defined by nodes) about a fixed point. Start by **Shift**-clicking or dragging out a marquee to select multiple nodes, then choose the Deform Mesh tool. A selection rectangle appears around the designated nodes, with handles at its corners, sides, and center.

- To deform the mesh region, drag from any handle.
- To rotate the mesh region, drag from just outside any corner handle.
- To move the fixed point, move the cursor to the exact center until a small "x" appears, then drag. To move the entire region, drag from elsewhere within the region.
- Watch the HintLine and see the [Deforming](#) topic for details on many key-assisted options such as skew, squash/stretch, and perspective effects.
- Click the button again to return to standard mode.



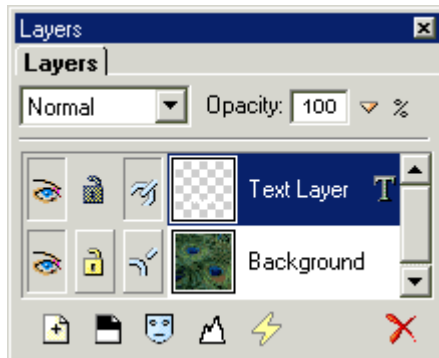
Hide/Show Mesh

Click to hide the mesh for a better preview of the image. Click again to reveal the mesh for editing.

For hints on using toolbars and tabs, see the topic [Working with the toolbars and tabs](#).



Layers tab



The **Layers tab** includes controls for creating, deleting, arranging, merging, and setting properties of layers in the image. A thumbnail image next to the layer's name represents its bitmap content.

(See the series of topics starting with [Basics of using layers.](#))

Layer 2

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.



or T

Layer Symbol

Special layers include a symbol to denote their properties.

- "S" represents a [shape layer](#). Shape layers also include a **path thumbnail** depicting the outline of shape(s) on the layer. (See [Using paths.](#))
- "T" represents a [text layer](#).



Hide/Show Layer

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



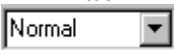
Protect Transparency

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.



Blend Mode

Click to choose a layer's **blend mode**—how its pixels interact with those on the layers below it—from the drop-down list. (See the topic [Using blend modes.](#))



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 topic [Adjusting opacity/transparency.](#))



New Layer

Click to display a dialog that lets you set properties (name, blend mode, 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.



New Adjustment Layer

Click to display a submenu of adjustment layers, which let you insert any number of effects experimentally. (For details and examples, see the topic [Using adjustment layers.](#))



Add Layer Mask

Click to create a transparent (Reveal All, or Reveal Selection if there's a selection) mask over the whole active layer and switch to Edit Mask mode.

A thumbnail representing the mask appears next to the layer name.

- Click the preview thumbnail to enter Edit Mask mode (same as **Layers/Edit Mask**) and reveal the selection, if any. Click the bitmap thumbnail to switch out of Edit Mask mode.
- **Shift**-click to disable/enable the mask (same as **Layers/Disable Mask**).
- **Alt**-click to enter View Mask mode (same as **Layers/View Mask**).
- **Ctrl**-click to create a selection from the mask (same as **Select/Create from Mask**).
- If the mask preview thumbnail is selected, clicking on the layer tab's Delete button deletes the mask.
(See the topic [Basics of using masks](#).)



Add Layer Depth Map

Click to create a depth map on the active layer. Depth maps use lightness values to encode Z-axis or "elevation" data, and let you add remarkable 3D realism to ordinary images. A thumbnail representing the depth map appears next to the layer name.

- To switch the depth map off and on, **Shift**-click the depth map thumbnail.
(See the topic [Using depth maps](#).)



Layer Effects

Click to display a dialog that lets you apply a variety of special effects to the layer. Standard or "2D" effects are especially useful for text layers, while "3D" effects simulate surface texture.

(For details and examples, see the topics, [Applying 2D layer effects](#) and [Applying 3D layer effects](#).)



Delete

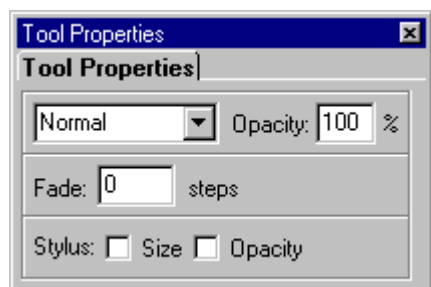
Click to delete the active layer.

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 topic [Working with the toolbars and tabs](#).



Tool Properties tab



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 Tool(s): | Choices and Function: |
|---|--|--|
| Add | Standard, Adjustable, Magnetic Selection; QuickShape, Outline tools; Shape Edit tool | Each new selection operation adds to previous selection; each new shape/outline is separate from previous shape(s) |
| 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 |
| Anti-aliased | Standard, Adjustable, Magnetic Selection; QuickShape, Straight Outline tools; Flood Eraser | On/off; softens color transition between edge and background pixels; preserves edge detail |
| Automatically select layer | Move | On/off; whichever layer is active, tool moves the first visible layer |
| Blend Mode (see Effects Gallery) | Paintbrush, Clone, Smudge, Eraser, Airbrush, Fill, QuickShape, Line, Blur, Sharpen | Drop-down list; determines interaction of newly drawn colors with original pixel values |
| Color | Paintbrush, Airbrush | On/off; whether stylus (pen) pressure has an effect |
| Contiguous | Color Selection, Flood Eraser, Flood Fill | On/off; affect in-range pixels in a single bounded area, or anywhere in image/layer |
| Contrast | Magnetic Selection | Edge sensitivity (Shortcut: Up/Down keys) |
| Density | Warp | Real-time sampling rate; lower means more interpolation |
| Exclude | QuickShape, Outline tools; Shape Edit tool | Create a "hole" where new shape/outline overlaps old |
| Fade | Paintbrush, Eraser, Airbrush | Number of steps; fade-out rate simulates brush strokes. For continuous flow, set to 0. |
| Feather | Standard, Adjustable, Magnetic Selection | Pixel value; creates blurred "transition zone" between selection and surrounding pixels; may lose some edge detail |
| Fill Type | Gradient Fill | Solid, Linear, Radial, Conical, |

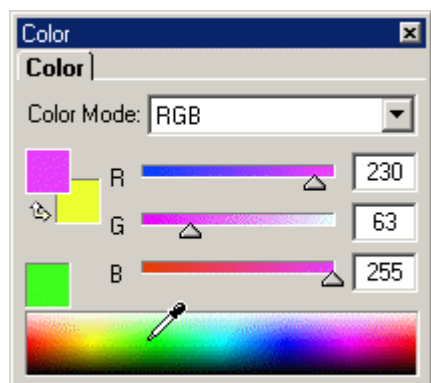
| | | |
|---------------------------------|--|---|
| | | Square |
| Frequency | Magnetic Selection | Distance between automatic nodes |
| Include diagonals | Flood Fill | On/off; consider all eight neighboring pixels, not just four |
| Intersect | Standard, Adjustable, Magnetic Selection; QuickShape, Outline tools; Shape Edit tool | Each new selection operation or shape/outline leaves just the intersection with previous selection or shape(s) |
| Limits | Background Eraser | Contiguous: Erase only in-range pixels adjacent to each other. Discontiguous: Erase all in-range pixels. Edge Detected: Improve deletion of colors along contrasting line or edge |
| Mesh | Mesh Warp | Use Applied to warp image immediately, Setup to customize mesh without warping image |
| New | Standard, Adjustable, Magnetic Selection | New selection operation replaces previous selection |
| Opacity | Paintbrush, Clone, Smudge, Eraser, Fill, QuickShape, Line, Warp, Blur, Sharpen, Flood Eraser | Percent; lower value yields more transparent color in line or shape. For Warp tools, determines tool strength. (Gradient Fill only: specify start/end values) |
| Pressure | Airbrush | Percent |
| Protect foreground color | Background eraser | On/off; don't erase foreground color |
| Refine | Warp | Click button to reinterpret all pixels using bicubic interpolation |
| Resampling | Deform, Mesh Warp | Use Nearest Pixel for hard-edge images, Interpolation for photos (Bilinear to shrink, Bicubic to enlarge) |
| Sampling | Background Eraser | Continual: Reference color is updated as you drag. Once: Reference color is fixed when you first click. Background Swatch: Reference color is current background color |
| Scale | Picture Brush | Size of drawn image relative to brush master image |
| Shade cropped area | Crop | On/off; shade outside crop region prior to cropping |
| Standard | Standard, Adjustable, Magnetic Selection | |
| Stylus Opacity | Paintbrush, Clone, Smudge, Eraser, Airbrush, Blur, Sharpen | On/off; whether stylus (pen) pressure has an effect |
| Stylus Size | Paintbrush, Clone, Smudge, | On/off; whether stylus (pen) |

| | | |
|-----------------------|--|---|
| | Eraser, Blur, Sharpen | pressure has an effect |
| Subtract | Standard, Adjustable, Magnetic Selection; QuickShape, Outline tools; Shape Edit tool | Each new selection operation or shape/outline subtracts from previous selection or shape(s) |
| Synchronize | Mesh Warp | Click button to adopt mesh shape stored in other mode (Applied or Setup), and unwarp image |
| Tolerance | Color Selection, Fill, Background & Flood Eraser | Color value (0-255); tool affects pixels within this range of the pixel clicked |
| Use all layers | Color Selection, Fill, Flood Eraser | On/off; apply tool to all layers below the click point, or just the active layer |
| Weight | Straight Outline | Pixel value; line thickness |

For hints on using toolbars and tabs, see the topic [Working with the toolbars and tabs](#).



Color tab



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

(See the 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, click the selected 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.

Tip: For white, drag off top. For black, drag off bottom.



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**

Note: Changing the color mode doesn't affect the image, only the choice of available colors.

For hints on using toolbars and tabs, see the topic [Working with the toolbars and tabs.](#)



Navigator tab



The **Navigator tab** lets you quickly see different parts of the image and change the zoom view.



View Box

Shows the portion of the image currently displayed in the image window. Drag the view box to change the view.

Tip: You can also click on the Navigator image to reposition the image in its window.



Zoom Controls

Click "-" to zoom out, "+" to zoom in, or drag the slider to change the zoom view. The current view ratio appears at the right.

For hints on using toolbars and tabs, see the topic [Working with the toolbars and tabs](#).



Instant Effects tab



The **Instant Effects tab** lets you apply preset effects to the active layer. Its multiple categories each offer a gallery full of predefined effects, using various settings.

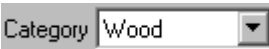
Once you've applied an Instant Effects tab preset you can customize it using the Layer Effects dialog.

(See the topic [Applying 3D layer effects.](#))



Scale

Drag the slider or type a value to make the effect appear smaller or larger in relation to the image.



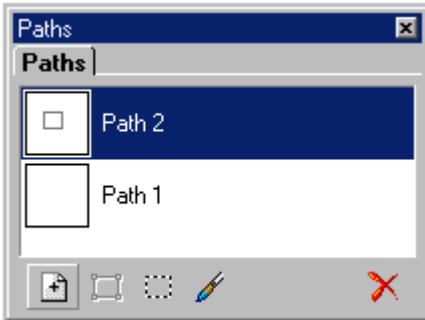
Category

Browse the list of categories. Then, to apply an effect, click its thumbnail.

For hints on using toolbars and tabs, see the topic [Working with the toolbars and tabs.](#)

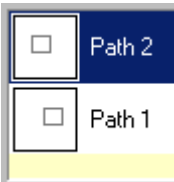


Paths tab



The **Paths tab** lets you create, view, and work with **paths**: vector-based outlines made up of curves and nodes. Paths can be transformed into selections and unfilled (stroked) shapes.

(See the topic [Using paths.](#))



Path Name & Thumbnail

Each entry in the scrolling list represents an independent path channel. The thumbnail depicts the path outline associated with the channel. To select a path for editing, click its name or thumbnail. To deselect a path, click its channel or below the path names (in the region shown as yellow at right).

You can right-click any path name to invoke the following commands, or use the buttons at the bottom of the tab. (The right-click menu includes an additional command, **Duplicate Path.**)



New Path

Click to create a new path channel. You'll be prompted to enter a path name. To create an actual path outline in the channel, draw with the line or shape tools. (You can also right-click a path name and choose **New Path....**)



Selection to Path

Click to create a path outline on a new path channel from the current selection. Choose a **Smoothness** setting (lower means more accurate but more complex) and click **OK**. (You can also right-click a path name and choose **Selection to Path....**)



Path to Selection

Click to create a selection on the active layer that matches the selected path outline. Set options for feathering, anti-aliasing, and combination, and click **OK**. (You can also right-click a path name and choose **Path to Selection....**)



Stroke Path

Click to draw a line (using the current brush) on the active layer that follows the selected path outline. (You can also right-click a path name and choose **Stroke Path.**)



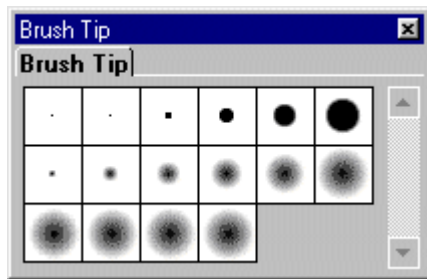
Delete Path

Click to delete the selected path channel. (You can also right-click a path name and choose **Delete Path.**)

For hints on using toolbars and tabs, see the 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, define custom brushes, and import Paint Shop Pro "picture tubes."

- n Click a brush tip to select it.
- n Double-click a brush tip to customize it. The Brush Options dialog (see below) appears.
- n Right-click a brush tip for other options, including **Delete** and **New Brush....** Use **Import...** to locate a Paint Shop Pro picture tube (.TUB) file and bring it into PhotoPlus.
- n To define a custom brush (see below), first make a selection in the image, then right-click a brush tip and choose **Define**.
- n The Brush Tip tab provides entirely different choices when the Picture Brush tool is selected. For details on using picture brushes and creating custom picture brushes, see [Stamping and spraying pictures](#).

Using the Brush Options dialog

The Brush Options dialog lets you customize a brush or define properties for 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. |

Defining a custom brush

You can select part of an image to create a custom brush tip, for example a textured brush or special shape.

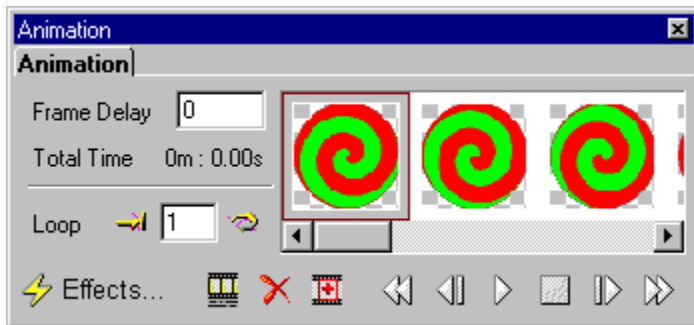
To define a custom brush:

- 1 Select part of the image to be used as a custom brush. For best results, the shape should be on a solid white background.
- 2 Right-click any tip on the Brush Tip tab and choose **Define**.
- 3 Double-click the newly created brush and use the Brush Options dialog to set Spacing (see above).

For hints on using toolbars and tabs, see the topic [Working with the toolbars and tabs](#).



Animation tab



The **Animation tab** provides controls for editing GIF and AVI animation files, and is only available in Animation mode. (See the series of 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.

Note: Not supported in .AVI format.



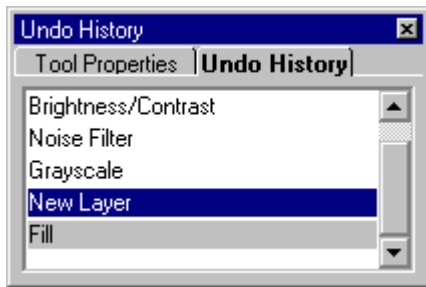
Effects

Click to display the Animation Effects dialog, which lets you apply a variety of special effects (see the [Effects Gallery](#)) as transitions between frames. (For details, see the topic [Applying animation effects](#).)

For hints on using toolbars and tabs, see the topic [Working with the toolbars and tabs](#).



Undo History tab



The **Undo History tab** maintains a record of PhotoPlus actions and lets you retrace your steps.

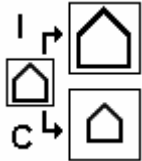
- n When the tab is selected, the current step is highlighted in blue. Previous steps are unhighlighted, while steps you've undone are highlighted in gray.
- n To return to a particular state of the image, click the corresponding step.

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.

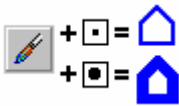
Image size and canvas size



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:

- n [Define](#) just about any selection shape
- n [Modify](#) the extent or properties of the selection
- n [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.

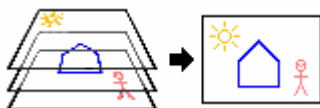
Foreground and background colors



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 [Layers 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.

With few exceptions, you will work on just one layer at any given time, clicking in the Layers 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.

There are a few other special-purpose layers. For example, you can add [adjustment layers](#) that let you try out effects on lower layers without actually applying changes until you're ready to do so. PhotoPlus stores the text you create on [text layers](#), while shapes go on [shape layers](#). In many ways, text and shape layers behave like standard transparent layers—plus they keep their respective elements editable so you can go back and make changes later.

Opacity and transparency



[Opacity and transparency](#) are complementary concepts—like "half full" and "half empty." 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 gauze backdrop (scrim) in a theater: depending on how light falls on it, it can be rendered either visible or invisible, or in between. Fully opaque pixels contribute their full color value to the image. Fully transparent pixels are invisible: they contribute nothing to the image. In-between pixels are called semi-transparent.

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**.

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:

- n 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:

- n See the documentation supplied with the device for operating instructions.

To import a TWAIN image:

- 1 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**.
- 2 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:

- n 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 black-and-white photos using grayscales and save as a grayscale TIFF file. For color images on 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:

- 1 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.
- 2 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:

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

OR

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

- 2 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.
- 3 Click the **Open** button to open the desired image.

The image opens in a separate image window.

Using the image browser

Once you've opened PhotoPlus, you can use the built-in **image browser** to preview thumbnails and access file information for images stored in folders. It automatically generates the thumbnails as you browse, a folder at a time, and can retain (cache) the thumbnail gallery files for faster previewing next time around.

To use the image browser:

- 1 Choose **Image Browser...** from the File menu. (To browse the contents of the Resource CD, choose **Browse Resource CD-ROM....**)
- 2 Use the folder view in the left pane like Windows Explorer to peruse directories. The right pane builds a thumbnail gallery for image files in the current folder.
- 3 Preview thumbnails until you find the image you need.
- 4 To open an image in a new PhotoPlus window, right-click its thumbnail and choose **Open**.
OR
To open an image as a new layer in an existing window, drag and drop its thumbnail into PhotoPlus. If you drop onto an a blank region within the main window, the image opens in a new window.
Tip: You can use the same drag-and-drop technique using file icons from Windows Explorer.
- 5 To view file information, right-click a thumbnail and choose **Information...**

Setting image browser preferences

You can set options for thumbnail display of animated GIFs, number of thumbnails, and caching.

To set preferences:

- n Right-click any thumbnail and choose **Preferences...**.
OR
Choose **Preferences...** from the File menu and select the **Browser** tab.
- n You can select whether animation files should appear as moving or static image thumbnails. Static (single-frame) display is faster, especially if a folder contains lots of animations. As a compromise, you can select **Decide by size** and specify a **Max size** threshold; then only animations smaller than the threshold will appear in motion.
- n Check **Cache Locally** to have PhotoPlus store gallery files for folders you open; this option (off by default) will ensure prompt display the next time you view the gallery. Uncheck to disable caching.
- n Click **Clear Cache Now...** to remove any stored gallery files and free up drive space.

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, paths, 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:

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

OR

- n Click the  **Save** button on the Standard toolbar.

OR

- n 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:

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

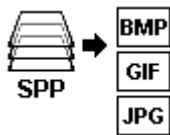
OR

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

Notes:

- n 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.
- n **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:

- 1 Choose **Export...** from the File menu. The Export dialog appears, with the file's current base name shown.
- 2 Change the base name if desired.
- 3 Choose a file format from the "Save as type" drop-down list.
- 4 To open the Export Optimizer to fine-tune export settings, click **Optimizer**. (See below for details.)
- 5 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:

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

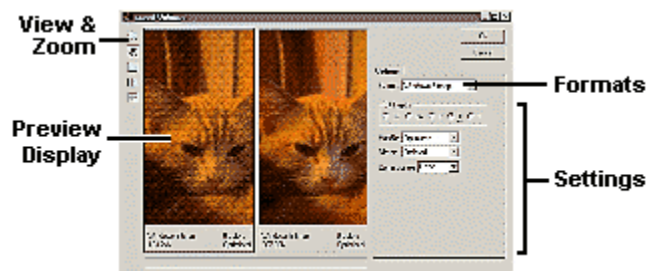
The Export dialog includes additional options for use with Web images (see [Slicing images](#) and [Creating image maps](#)). You also have the option of previewing Web images directly in your browser.

To preview an image in your Web browser:

- 1 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 preview display and a right-hand settings region, with additional buttons at the left side 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:

- 1 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.
- 2 To change the display scale, click the **Zoom** button and then left-click (to zoom in) or right-click (to zoom out) on the preview.

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

To compare export settings:

- 1 Set the preview display for either Double or Quad view.
- 2 Click one of the display panes to select it as the active pane.
- 3 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.
- 4 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:

- 1 Make sure the active preview pane is using the settings you want to apply to the image.
- 2 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.

Exporting autotraced metafiles (Resource CD-ROM only)

The .WMF metafile format used by Windows can include bitmap data, vector data, or both (in vector images the picture is stored compactly as a set of lines). If you've installed the PhotoPlus Resource CD-ROM, you can generate vector information for scalable images you can work with in a draw program. PhotoPlus processes the image and includes traced vector data in the output file.

To export autotraced metafiles:

- n In the Export dialog or Export Optimizer, choose the **Autotraced Metafile (*.wmf)** export option.

Note: In the Export Optimizer, higher Quality settings will require more processing time during export.

Printing

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

To set up your printer or begin printing:

- Click the  **Print** button on the Standard toolbar.

OR

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

The Print dialog appears.

To print:

- If necessary, click the **Properties...** button to select a printer or set up the printer for the correct page size, etc.
- If necessary, click the **Options...** button to set special print options (see below).
- Select the number of copies.
- 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):

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

OR

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

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

To close PhotoPlus:

- n 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

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.

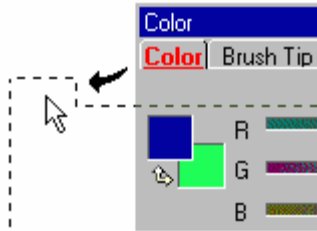
The **Window** menu lets you arrange the open image windows in various ways:

- ▮ 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:

- n 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.)
- n To hide all visible tabs (not toolbars), press the **Tab** key. Press **Tab** again to show the tabs.

To move a toolbar:

- n 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.
- n To move a floating toolbar, click on its titlebar and drag to move it.

To resize a floating toolbar:

- n Click one of its edges and drag.

To dock/undock a tab:

- n 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:

- n 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 of an image. PhotoPlus provides standard Zoom and Pan tools, plus the **Navigator tab** which combines the best of both—it lets you quickly see different parts of the image and change the zoom view. (For details on the Navigator, see the Visual Reference topic [Navigator tab](#).)

To zoom:



- 1 Choose the **Zoom tool** from the Standard toolbar.
- 2 To zoom in, left-click on the image.
To zoom in on a particular region, drag a marquee around it.
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.

Hint: If you're using a wheel mouse, you can simply use the wheel to change the zoom setting.

To select a specific zoom ratio:

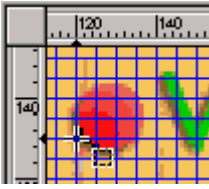
- n Choose **Zoom In** or **Zoom Out** from the View menu and select a ratio from the submenu.
- n To restore a 1:1 ratio, choose **Normal Viewing** from the View menu.

To pan:



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

Using screen layout tools



As an aid to precise alignment and spacing, PhotoPlus gives you the option of displaying horizontal and vertical **rulers**, a set of **grid lines** spaced according to ruler gradations, and/or moveable, horizontal or vertical **guide lines**. With **snapping** enabled, objects and selections align with the grid and/or guides. The **Measure tool** works like an instant ruler that lets you determine onscreen pixel distances.

To hide or show the rulers:

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

With the rulers turned on, you can track the current cursor position by watching the small markers that appear along the edges.

To move the ruler origin:

- 1 Click the square at the ruler intersection and drag to a point on the image.
- 2 Watch the blue crosshair lines and release the mouse where you want to place the origin.
- 3 To reset the ruler origin, double-click the intersection square.

To hide or show the grid:

- Check or uncheck **Grid** on the View menu.
- Check **Snap to Grid** on the View menu to cause elements you create with the painting, selection, and shape tools align with the nearest grid line.

To add a guide line:

- 1 Choose **Add Guide** on the View menu.
 - 2 In the dialog, select a unit (for example, centimeters or pixels), specify Vertical or Horizontal, select or type a guide location, and click **Add**.
 - 3 To remove a guide, select it in the list and click **Remove**.
- Check **Snap to Guides** on the View menu to cause elements you create with the painting, selection, and shape tools align with the nearest guide line.

Tip: You can use the Move tool to reposition guide lines once you've created them. You can delete an individual guide line without using the dialog, simply by dragging it out of the window.


To remove guide lines:

- To delete a single guide line, drag it out of the window.
- To delete all guide lines, choose **Clear Guides** on the View menu.

To set display units and grid color/spacing:

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

To use the Measure tool:

- 1 Click the  **Measure Tool** button on the Standard toolbar.
- 2 Click and drag with the tool to display the pixel distance between any two points onscreen.

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:

Undo tab: Enable/disable the Undo system and/or Compression usage. Set maximum disk usage (in MB) per document.

Transparency tab: Set the grid size and colors of the "checkerboard" pattern denoting transparency; double-click a color sample to adjust the color.

Plugins tab: Browse to choose a different folder for your [plug-in filters](#).

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.

Browser tab: Set options for thumbnail display of animated GIFs, number of thumbnails, and caching. For animations, select whether animation files should appear as moving or static image thumbnails. Static (single-frame) display is faster, especially if a folder contains lots of animations. As a compromise, you can select **Decide by size** and specify a **Max size** threshold; then only animations smaller than the threshold will appear in motion. Check **Cache Locally** to have PhotoPlus store gallery files for folders you open; this will ensure prompt display the next time you view the gallery. Uncheck to disable caching. Click **Clear Cache Now** to remove any stored gallery files and free up drive space.

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.

Using shortcuts

Tool shortcuts

Selection tools

- n To constrain the selection's proportions (for example, to a square or circle), hold down the **Ctrl** key while dragging.
- n To add to the existing selection, hold down the **Shift** key while dragging.
- n To subtract from the existing selection, hold down the **Alt** key while dragging.
- n To move the contents of the selection, press the **Ctrl** key and click, then drag the selection.
- n To duplicate the contents of the selection, press **Ctrl+Alt** and click, then drag the selection.

Move tool

- n To duplicate the contents of the selection, press the **Alt** key and click, then drag the selection.

Crop tool

- n To constrain the selected region to a square, hold down the **Ctrl** key while dragging.

QuickShape tools

- n To constrain the shape's proportions, hold down the **Ctrl** key while dragging.
- n To pick up colors, hold down the **Alt** key and left-click to set foreground color, right-click to set background color.

Straight Outline tool

- n To constrain the angle of the line to 15-degree intervals, hold down the **Shift** key while dragging.
- n 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

- n To pick up colors, hold down the **Alt** key and left-click to set foreground color, right-click to set background color.

Clone tool

- n To define the pickup origin, **Shift**-click with the tool.

Deform tool, Deform Mesh tool, Shape Edit tool

- n To constrain rotation in 15-degree steps, press the **Shift** key after you've begun rotation, and hold it down until after you release the mouse button.
- n To resize the region in 2-D while keeping its aspect ratio (proportions) constant, drag a corner handle while pressing the **Shift** key.
- n To reshape the region relative to the fixed point, drag a corner or edge handle while pressing the **Alt** key. Dragging a corner handle resizes in 2-D; dragging an edge produces a squash/stretch effect.
- n To freely drag only one corner or edge, drag a handle while pressing the **Ctrl** key.
- n To scale the region relative to the fixed point with constant proportions, drag a corner handle while pressing **Shift+Alt**.
- n To distort the region relative to the fixed point, drag a corner handle while pressing **Ctrl+Alt**. The same action on an edge handle produces a skew effect relative to the fixed point.
- n To distort the region along either adjacent edge, drag a corner handle while pressing **Shift+Ctrl**. The same action on an edge handle yields a constrained skew effect, moving the edge along its line.
- n To apply a **perspective** effect, drag a corner handle while pressing **Shift+Ctrl+Alt**. The same action on an edge handle produces constrained skew relative to the fixed point.

Image Slice tool

- n To draw a vertical slice guide, hold down the **Shift** key and click.

Image Map rectangle tool

- n 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 |

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](#).

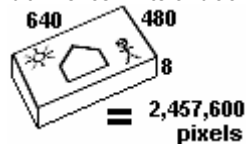
Bitmaps

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 you'd find when 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](#) and [blend modes](#)—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 totalling 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

- n 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.
- n 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.
- n 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 discernably 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](#):

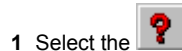


Here, for example, the foreground color is gray and the background color is green. Now, a few things to remember about how these colors are used:

- n 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.
- n 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.)
- n 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:

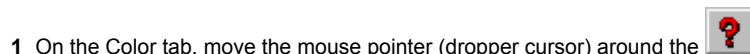


- 1 Select the **Color Pickup tool** on the Tools toolbar.

- 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 **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.

Tip: As a shortcut for white, drag up and off the top of the spectrum; for black, drag down and off.

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:

- n Select a mode from the **Color Mode**  list.

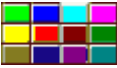
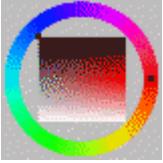
Precise color definition

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:

- n Click the selected color 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.

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.

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

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

Painting and airbrushing

PhotoPlus provides two basic painting/drawing tools on the [Tools toolbar](#):



The **Paintbrush tool** for drawing freehand lines on the active layer



The **Airbrush tool** for "spray painting" on the active layer

Both tools work on [Background and standard layers](#), but not on [text layers](#) or [shape layers](#). The tools work in basically the same way: by changing pixels on the layer's bitmap plane. You can set tool properties including blend mode, opacity, fade, airbrush pressure, and stylus options. (See the Visual Reference topic [Tool Properties tab](#).)



When painting, you can choose a brush tip or define a custom brush. The brush tip determines the thickness of the painted 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 (or define a custom brush) 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.

Besides their usefulness for painting pictures, the painting tools come in handy for these advanced PhotoPlus operations, covered in other topics:

- n In [Paint to Select mode](#) you can actually select a part of the image by painting on it.
- n Painting on a [depth map](#) adds variations that result in a 3D appearance.
- n PhotoPlus also includes [outline tools](#) that let you draw geometric figures; these are initially vector-based but you can **render** or convert them into paint (bitmap) designs if you wish.
- n Using [paths](#), you can draw an outline shape, then use the **Stroke** command to trace it with the current brush.

Notes and Tips:

- n If there is a selection, the painting tools only affect pixels within the selected region.
- n To draw a freehand "pencil" line, choose a single-pixel brush.
- n To switch temporarily to the Color Pickup tool from a painting or drawing tool, press the **Alt** key. Then left-click to define the foreground color, or right-click to define the background color.
- n For continuous paint flow, set the Fade property to 0. Non-zero values produce a "dot trail" effect.

Stamping and spraying pictures



The **Picture Brush tool** works like a custom brush that sprays a series of predefined images at regular intervals as you drag. The Brush Tip tab lets you select from a variety of picture brushes in different categories, and you can import Paint Shop Pro "picture tubes."

You can use the tool either to "stamp" single images at specific points—by clicking and releasing the mouse button each time, as in the letter "S" at left—or to lay out a continuous stream of pictures as you drag along a path.

The Picture Brush tool works on [Background and standard layers](#), but not on [text layers](#) or [shape layers](#). It's especially effective with [paths](#), which let you draw a vector-based outline and then use the Stroke command to trace the outline with the current brush.

To draw with the Picture Brush:

- 1 Choose the Picture Brush tool and (on the Brush Tip tab) pick a brush tip to try out.
- 2 To stamp images, click in various places on your canvas. To spray images, drag in a continuous line.

You can control the size of the image elements produced by the tool, and control the spacing and sequencing of elements for individual brush tips.

To set the size of image elements:

- On the Tool Properties tab, set the **Scale** factor higher or lower as needed.

Note that this isn't an absolute setting, but a relative one. Each picture brush stores its own predefined elements, and the Scale factor determines how the tool scales elements up or down when drawing. The actual size of stored elements varies between brushes, so you may need to adjust scaling when switching to a different brush.

To control image elements:

- Select and then right-click a brush sample in the Brush Tip tab gallery, and choose **Brush Options**.

The **Spacing** setting determines how closely the image elements are packed together when you draw continuously. At the minimum setting of 1%, the brushed line resembles a tube of toothpaste! Higher settings increase the separation between each element.

The **Order** setting controls how the mini-images are laid down. Select **Sequentially** to apply the original element sequence repetitively along the line; Randomly to mix up the order of elements; or **By Direction** to place elements according to the line's local slope (in other words, the direction of your stroke determines which sequence appears).

As a rule, leave the **Rows** and **Columns** settings intact unless creating a custom picture brush tip, as explained below.

To import a Paint Shop Pro picture tube file:

- 1 On the Brush Tip tab, right-click any brush tip and choose **Import...**
- 2 Use the dialog to select the picture tube (.TUB) file to import.

Creating custom picture brush tips

Each picture brush has its own stored **master image** where image elements have been arranged in rows and columns. With a bit of forethought, it's not difficult to lay out your own master images and from them create custom picture brushes. The procedure is quite different from creating or modifying a [standard brush](#). To define a picture brush, you lay out a new master image and specify the number of rows and columns in the layout.

To create a custom picture brush:

- 1 Decide how many separate mini-images the brush will use, and determine the brush size (with each brush having the same dimensions). Also decide in advance how brushes will be laid out into rows and columns—for example, 2x6 or 3x3—depending on the number of elements.
- 2 Calculate the dimensions of the master image from the brush and array dimensions. For example, a 2x6 array with each image element 100 pixels square would require a 200x600 master image.
- 3 Open a blank window for the master image, using the dimensions you calculated in step 2.

- 4 Create the separate mini-images (if they're not already prepared) and paste them into position so that each element occupies exactly its own space in the array.
Tip: For precise placement, you'll find it useful to [turn on the grid](#) and set suitable display units.
- 5 When the images are in position, select the Picture Brush tool and right-click on the Brush Tips tab gallery. Choose **New Brush...**
- 6 In the Brush Options dialog, type a name for the new picture brush and enter the Rows and Columns in your image array. Also specify Spacing and Order properties as defined above.
- 7 Click **OK**. PhotoPlus creates the new brush and adds it to the end of the current brush tip category.

Note: To use the master image of an existing brush as the basis for a new brush, right-click the brush sample in the gallery and choose **Master Image**. The master image opens in a new window. Edit the image and define the new brush as outlined above.

Erasing

The Eraser Tools flyout on the [Tools toolbar](#) provides three ways of enhancing an image by "painting" with transparency rather than with color:



The **Standard Eraser tool** for replacing colors in an image either with the background color or with transparency



The **Background Eraser tool** for erasing pixels similar to a sampled reference color, as when painting out unwanted background colors



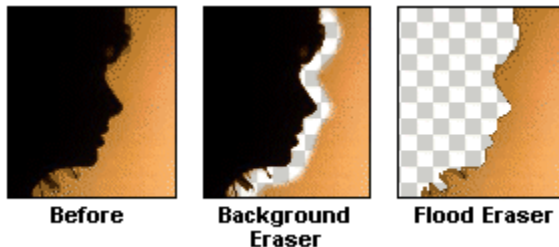
The **Flood Eraser tool** for filling a region with transparency

See below for comparative illustrations and notes on each tool. In general, you can set tool properties including blend mode, opacity, fade, and stylus options, and choose a brush tip or define a custom brush. The Eraser tools work on [Background and standard layers](#), but not on [text layers](#) or [shape layers](#). Erasing on a **depth map** (see [Using depth maps](#)) adds variations that result in a 3D appearance.

To erase with the Standard Eraser:

- 1 Select the tool from the Tools toolbar.
- 2 Change properties, if necessary, on the [Tool Properties tab](#), and choose a brush tip on the [Brush Tip tab](#).
- 3 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.

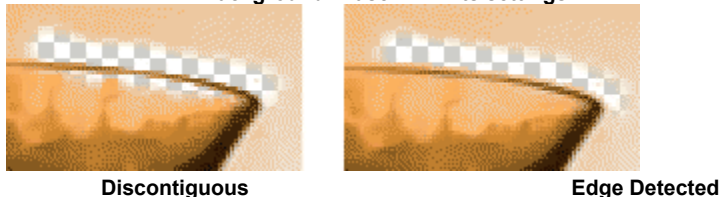
Comparing Background and Flood Eraser tools



To erase with the Background Eraser:

- 1 Select the tool from the Tools toolbar.
- 2 Change properties, if necessary, on the [Tool Properties tab](#), and choose a brush tip on the [Brush Tip tab](#).
- 3 Drag with the tool on the active layer to erase pixels similar to a sampled reference color underlying the cursor cross-hair.
 - With "Continual" sampling (the default), the reference color is repeatedly updated as you move the cursor. Sampling "Once" means erasure is based on the color under the crosshair when you first click. Use the "Background Swatch" setting to use the current background color as the reference.
 - With "Contiguous" limits (the default), the tool erases only within-tolerance pixels adjacent to each other; this tends to restrict erasure to one side of an edge or line. When you set "Discontiguous" limits, all in-range pixels are erased. The "Edge Detected" setting (see illustration below) can improve deletion of colors along a contrasting edge or line.
 - You also have the option of protecting the current foreground color from erasure.
 - If you use the tool on the Background layer, it's promoted to a standard layer.

Background Eraser - Limits settings



To erase with the Flood Eraser:

- 1 Select the tool from the Tools toolbar.

- 2 Change properties, if necessary, on the [Tool Properties tab](#), and choose a brush tip on the [Brush Tip tab](#).
- 3 Drag with the tool on the active layer to erase pixels close in color (based on the Tolerance range) to the color under the cursor when you first click. If you use the tool on the Background layer, it's promoted to a standard layer.
 - n The Tolerance setting determines the breadth of the color range to be erased.
 - n Check **Contiguous** to erase only within-tolerance pixels connected to each other; when unchecked, all in-range pixels are erased.
 - n Check **Use All Layers** to take color boundaries on other layers into account, although erasure happens only on the current layer.

General Notes and Tips:

- n If there is a selection, the Eraser tools only affect pixels within the selected region.
- n You can also completely remove part of an image by [making a selection](#), then pressing the **Delete** key.

Retouching

The Retouch Tools flyout on the [Tools toolbar](#) provides three tools:



The **Smudge tool** for picking up color from the click point and "pushing" it in the brush stroke direction



The **Blur tool** for reducing contrast under the brush, softening edges without smearing colors



The **Sharpen tool** for increasing contrast under the brush, enhancing apparent sharpness

The retouching tools work on [Background and standard layers](#), but not on [text layers](#) or [shape layers](#). Click the [red links](#) below to view Effects Gallery examples of each tool.

[Smudge tool](#)

Smudging may sound silly, but the **Smudge tool** can be quite useful for blending pixels the way an artist might hand-blend pastels. Along with the [Clone tool](#), it's useful for blending together separate images in collage work, where seamless stitching is essential.

To use the Smudge tool:

- 1 Select it from the Tools toolbar.
- 2 Change properties, if necessary, on the [Tool Properties tab](#), and choose a brush tip on the [Brush Tip tab](#).
Note: Smudge tool properties are the same as for the Paintbrush and Airbrush, except that there's no Fade setting. For best results (to avoid "dots" on extended strokes), set the brush tip's Spacing property to 1.
- 3 Drag to pick up color from the initial click point and "push" it in the direction of the brush stroke. Short back-and-forth strokes work well to blend edges.

[Blur tool](#)

The Blur tool reduces contrast under the brush, softening edges without smearing colors.

To use the Blur tool:

- 1 Select it from the Tools toolbar.
 - 2 Change properties, if necessary, on the [Tool Properties tab](#), and choose a brush tip on the [Brush Tip tab](#). Properties include Blend Mode, Opacity, Size, and Stylus.
 - 3 Drag to blur the image under the brush.
- To apply the same effect to a selected region or the active layer, use the [Image/Blur>Blur...](#) command.

[Sharpen tool](#)

The Sharpen tool increases contrast under the brush, enhancing apparent sharpness.

To use the Sharpen tool:

- 1 Select it from the Tools toolbar.
 - 2 Change properties, if necessary, on the [Tool Properties tab](#), and choose a brush tip on the [Brush Tip tab](#). Properties include Blend Mode, Opacity, Size, and Stylus.
 - 3 Drag to blur the image under the brush.
- Use the [Image/Other>Sharpen...](#) command to sharpen an entire selection or layer.

Filling a region

The **Fill Tools flyout** on the Tools toolbar includes two tools for filling regions with color and/or transparency: **Flood Fill** and **Gradient Fill**. If there is a selection, the Fill tools only affect pixels within the selected region. If you're operating on a shape or text layer, a single fill affects the interior of the object(s) on the layer.

Flood Fill



The **Flood Fill tool** works on [Background and standard layers](#), replacing 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. Use the **Gradient Fill** tool (see below) on text and shape layers.

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.

Check **Contiguous** to affect only pixels connected to the clicked pixel; uncheck to affect in-range pixels throughout the region.

Check **Include diagonals** to consider all eight of each pixel's neighbors when filling a region; uncheck to consider only the four neighboring pixels above, below, and to the sides.

The Tool Properties tab also includes a **Use All Layers** option. If checked, the Flood 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:

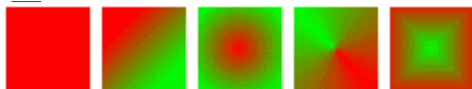
- n If there is a selection, the Flood Fill tool only affects pixels within the selected region.
- n To switch temporarily to the Color Pickup tool from the Flood Fill tool, press the **Alt** key. Then left-click to define the foreground color, or right-click to define the background color.

Gradient Fill tool

Whereas solid fills use a single color, all gradient fills in PhotoPlus utilize at least two "key" colors, with a spread of hues in between each key color, creating a "spectrum" effect. You can fine-tune the actual spread of color between pairs of key colors. Likewise, a gradient fill in PhotoPlus can have either **solid transparency**—one level of opacity, like 50% or 100%, across its entire range—or **variable transparency**, with at least two "key" opacity levels and a spread of values in between. (Remember that opacity is simply an inverse way of expressing transparency.)



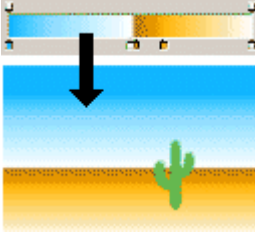
The **Gradient Fill tool** lets you apply variable color and/or transparency fills directly to a layer. (For an overview of layers, see [Basics of using layers](#).) Five types of fill (Solid, Linear, Radial, Conical, and Square) are available on the [Tool Properties tab](#).



Solid Linear Radial Conical Square

Technically, a Solid fill is different (it uses just one color) but in practice you can also achieve a unicolor effect using a gradient fill. Gradient fills are especially effective when used on a selection or [mask](#) (for example, to produce an "aperture" effect).

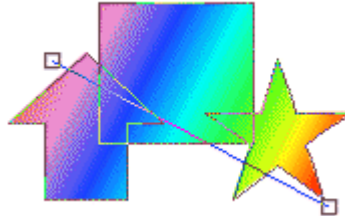
Applying a gradient fill on any kind of layer entails selecting one of the fill types, editing the fill colors and/or transparency, then applying the fill. However, gradient fills behave differently depending on the kind of layer you're working on.



On **standard and Background layers**, the tool creates a "spectrum" effect, filling a defined region with colors spreading between "key colors" defined in the fill. The fill is applied rather like a coat of spray paint over existing pixels on the layer; color and transparency properties in the fill gradient interact with the existing pixels to produce new values. In other words, once you've applied the fill, you can't go back and edit it (except by undoing it and trying again).


Transparency works in a comparable way, affecting how much the paint you apply is "thinned." At full opacity, the fill completely obscures pixels underneath.

On **text and shape layers**, the Gradient Fill tool is even more powerful—the fill's color and transparency properties remain editable. Technically, the fill is a property of the layer, and the shape(s) act as a "window" enabling you to see the fill. Thus a single fill applies to all the shapes on a particular layer. So if you want to draw a red box and a yellow box, for example, you'll need two shape layers.



The transparency gradient determines which portions of the object you can see through. Note that the Flood Fill tool doesn't work with text or shapes. When first drawn, a shape takes a Solid fill using the foreground color. You can change the fill type as described below.

To apply a gradient fill:

- 1 Select the  **Gradient Fill** tool from the Tools toolbar.
- 2 Select a fill type on the Tool Properties tab.
- 3 To choose a preset or to edit the fill's colors and/or transparency values, click the color sample on the Tool Properties tab. For Solid fills, the Adjust Color dialog appears. For gradient fills, the Gradient dialog appears (see "Editing a gradient fill" below).
Tip: For a solid fill or transparency using a gradient, you can delete one of the stops (i.e. leaving just one), or set each stop to the same value.
- 4 Once you've defined the fill, click with the tool where you want to start the fill and drag to the point where you want it to end.
- 5 On text or shape layers, the fill path (the line in the illustration above), remains visible even after you've applied the fill, and you can adjust the fill's placement after the fact by dragging the fill path's end nodes with the Gradient Fill tool.

To change a text or shape layer's fill type, or edit its color(s):

- n Double-click the shape layer (or right-click and choose **Edit Fill...**)
- OR
- Choose the **Gradient Fill** tool and use the Tool Properties tab.

Either option lets you choose a fill type, and/or click the color (or gradient) sample to edit the fill.

Editing a gradient fill

The **Gradient dialog** appears whenever you're editing a gradient fill in PhotoPlus, and lets you adjust the fill's color and/or transparency spreads. Its central feature is a sample window with a spectrum showing both color and transparency. Let's use this gradient as an example:



The little house-shaped pointers above and below the spectrum are the key to making changes in the dialog. Each pointer marks a **stop** where a **spread** of either opacity or color begins and ends. To vary the color gradient, you'll use the lower pointers, which show **key colors**. To vary the transparency gradient, you'll work with the upper set of pointers, which use grayscale values to represent key **opacity** levels (white = 100% opaque). In the above example, the gradient has two color spreads (from red to blue, and from blue to yellow), and two opacity spreads (from 100% to 50%, and 50% to 0%). As you can see, the position of the pointers corresponds to transition points in each gradient.

Whether you're adjusting the fill's color or its opacity properties, the same basic steps are involved. To make life very simple, you can begin by selecting a preset fill from the gallery.

To edit a gradient fill's color and/or transparency:



- 1 (Optional) Select a preset fill from the gallery.

Note: You can change categories, and add or delete items and categories (see below).


- 2 Check the **Automatic** box to preview the fill continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview. In either case, the spectrum updates to show color and/or transparency changes.

For more complex banding in a gradient, add one or more stops to define new key values and spreads.

- 3 Click at the position where you want to place the new stop—either just above the spectrum to add a transparency stop or just below it for to add a color stop.

A new  pointer appears, using an intermediate value. The tip of a selected pointer is black; unselected pointers have  gray tips.

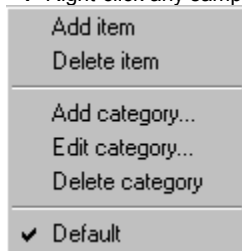
- 4 To change a key color, select its pointer and click the **Color** box (or just double-click the pointer) to display the Adjust Color dialog, then select a color.
- 5 To change a key opacity value, select the pointer and then type a percentage into the **Opacity** box.
- 6 To adjust the length of a spread, move an intermediate stop by dragging its pointer to a new position along the spectrum. You can also select the pointer, then type a number into the **Location** box.
- 7 To delete a stop you've added, click to select its pointer and click the appropriate **Delete** button (or press **Delete**). **Note:** Stop deletion is not reversible using **Undo**.

The diamond-shaped  markers that appear between stops let you adjust the spread of values between the two stops. Initially, values are graduated evenly from one stop to the next.

- 8 To change the value distribution between adjacent stops, simply drag the intermediate marker.
- 9 Adjust the **Smoothness** slider for more even transitions between bands in a multicolor fill.
- 10 Click **OK** to accept changes, or **Cancel** to abandon changes.

To edit the gradient fill gallery:

- 1 Right-click any sample in the gradient fill gallery. The following menu appears:



- 2 Select a category name to display its samples.
- 3 Choose other menu items to add or delete the specific fill you clicked on, add a new category, edit the current category, or delete the current category.

Cloning a region



Use the **Clone tool** on the Tools toolbar to duplicate part of the active layer. The tool works on [Background and standard layers](#), but not on [text layers](#) or [shape layers](#).



The tool is like two magic brushes locked together. While you trace or "pick up" an original drawing with one brush, the other draws ("puts down") an exact duplicate somewhere else—even in another image.

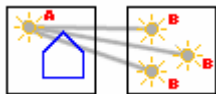
When retouching, for example, you can brush away skin blemishes by cloning some "good skin" over them, or remove an unwanted object from an image by extending some foliage to cover it. The tool works well either on large areas, or zoomed-in to the pixel level.

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 defines a "putdown" or painting point (say, at point B)—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



Non-aligned

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

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 (or define a custom brush) 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:

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

Creating and editing text




Use the **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. Layer effects like Drop Shadow and Bevel are especially impressive with text layers. (See the topic [Applying 2D layer effects](#).)


Note: PhotoPlus ships with a bonus collection of TrueType fonts! You'll find them on your PhotoPlus CD in the \SerifFonts directory.

To create new text:




- 1 Click the **Text Tools** button and choose the standard **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 Layers tab designates **text layers** with a  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** 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 [Layers 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  Text tool and move the mouse pointer over the text until it changes to the

 (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**.

Notes and Tips:

- a You can use the [Gradient fill tool](#) to add a spectrum fill, a solid color fill, and/or a transparency gradient to a text object.
- a To "group" shapes and/or text objects on different layers, you can click the  **Link/Unlink Layer** buttons next to each layer's name to link the layers. Then you can use the **Move tool** to reposition the objects as one, or the **Layers/Align Linked** command to line up their edges.

To create a text selection:



- 1 Click the **Text Tools** button and choose the **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.

Drawing and editing lines and shapes

In addition to the various brush tools, the PhotoPlus Tools toolbar includes these drawing tools:




The **QuickShape Tools** flyout featuring an assortment of tools for creating rectangles, ellipses, polygons, and other shapes.



The tools on the **Outline Tools** flyout for drawing **outline shapes**—skinny ones that serve as straight lines, plus freehand and curved outlines for variety.

Overview

Each of the drawing tools has its own creation and editing rules, as detailed below. Before breaking down the differences, we'll cover some things that all shape objects have in common:

- Shapes have outlines known as **paths**. In a nutshell, shapes as discussed in this topic are filled outlines (i.e. they're closed, with color inside). In the next topic, we'll cover unfilled outlines (paths) separately, and consider their special properties. The various drawing tools are all path-drawing tools, applicable to both the filled and unfilled kind of outline.
- Unlike painted regions you create on **raster** (bitmap) layers, both QuickShapes and outline shapes are **vector objects** that occupy special **shape layers**, marked with an  symbol on the Layers tab. If the active layer is a Background, standard, or text layer, a new shape layer is created automatically for a newly drawn shape. Each shape layer includes a **path thumbnail** representing the shape(s) on that layer.
- Assuming you're working on a non-shape layer when you create a shape, the new shape appears on a new shape layer. But what about the next shape you create? Shape layers can store more than one shape, and it's up to you where the next one will go. The path thumbnail works like a button that lets you select a shape layer for drawing:
 - To draw the next shape on the same layer, leave the same path thumbnail selected (as at left below).
 - For a shape on a brand new layer, first deselect the active layer's path thumbnail (as at right).
 - To create a shape on a shape layer that already exists, simply activate that layer first.

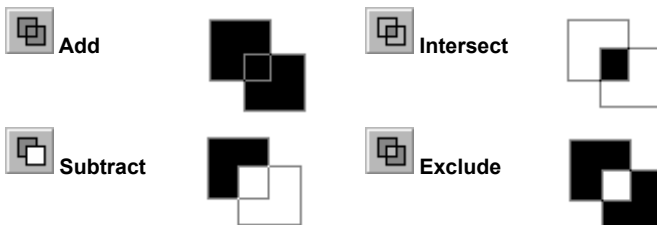


Path thumbnail selected



Path thumbnail deselected

- The four combination buttons (**Add**, **Subtract**, **Intersect**, and **Exclude**) on the Tool Properties tab determine the effect of each new shape-creation operation. For example, starting with an initial square shape, here's what drawing a second such QuickShape might produce with each setting:



- When first drawn, a shape takes a Solid fill using the foreground color.

To change the fill type, or edit its color(s):

- Double-click the shape layer (or right-click and choose **Edit Fill...**)


OR

- Choose the Gradient Fill tool and use the Tool Properties tab.

Either approach lets you add a spectrum fill, a solid color fill, and/or a transparency gradient to a shape or text object. For details on changing fills, see the subtopic [Gradient Fill tool](#).

- A single fill is shared by all the shapes on a particular layer. (Technically the fill is a property of the layer, and the shape(s) act like a "window" that lets you see the fill.) So if you want to draw a red box and a yellow box, for example, you'll need two shape layers.
- You can also alter a shape layer's transparency using the Layers tab, or apply effects like bevel or drop shadow by choosing **Effects...** from the Layers menu.
- Painting tools and adjustment filters don't work on shape layers; you'll first need to convert the layer to a standard layer first

(right-click the layer name and choose **Render**).

- To "group" shapes and/or text objects on different layers, you can click the  **Link/Unlink Layer** buttons next to each layer's name to link the layers. Then you can use the **Move tool** to reposition the objects as one, or the **Layers/Align Linked** command to line up their edges.
- To access other layer properties (including its name, Opacity, and Blend Mode), right-click the layer name and choose **Properties....**

Creating and editing QuickShapes

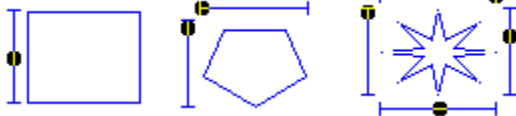
QuickShapes in PhotoPlus are pre-designed, filled contours that let you instantly add shapes to your page, then adjust and vary them using control handles—for innumerable possibilities! (See the overview of shapes above.)

To create a QuickShape:

- 1 If creating the shape on a specific shape layer, make sure the layer is active and its path thumbnail is selected. If creating multiple shapes on a layer, select one of the combination buttons on the Tool Properties tab (see above) to specify how multiple shapes will interact (see above).
- 2 Click the **QuickShape 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.)
Note: If you intend to create multiple QuickShapes without adjusting them right away, hold down the **Shift** key when you click to select a QuickShape tool. This keeps you in shape-drawing mode instead of switching to the Node Edit tool once the shape is drawn.
- 3 Set **Tool Properties tab** options—combination (see below), weight (thickness), blend mode, opacity, anti-alias, and stylus settings—as needed.
- 4 Drag out a shape on the image.

Unless you **Shift**-clicked when selecting the QuickShape tool, the Node Edit tool is activated for editing the shape. Each QuickShape is adjustable, so you can experiment before committing to a particular figure and edit it later—with innumerable possibilities!


- 5 Adjust the shape's handles to fine-tune it. To constrain the shape's proportions, hold down the **Ctrl** key while dragging.




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

To edit a QuickShape:

- 1 Click its layer name to select the layer. Make sure the layer's path thumbnail is selected.

- 2 Use the  **Node Edit tool** to readjust any of the shape's handles, and the

 **Shape Edit tool** (see below for editing outline shapes) to select, move, and deform individual shapes. (If you only have one shape on a layer, you can use the **Move tool** and **Deform tool**.)


Note: QuickShape nodes remain adjustable even after the shape has been deformed with the Shape Edit tool. Below, the original shape was rotated and skewed, and then an extra wiggle was added to the wave:



Creating and editing outline shapes


Outline shapes are shapes you draw yourself with the three Outline tools. (See the overview of shapes above.) A straight line in PhotoPlus is just a very thin shape. The **Freehand Outline** tool, as its name implies, lets you draw a squiggly line (or a connected series, starting each segment from another's end point), then attach it back to itself to create a closed shape. The **Curved Outline** tool can produce complex combination curves and shapes in a highly controlled way.

To create a straight line:

- 1 Select the  **Straight Outline** tool from the Tools toolbar.
- 2 If creating the line on a specific shape layer, make sure the layer is active and its path thumbnail is selected. If creating multiple shapes on a layer, select one of the combination buttons on the Tool Properties tab to specify how multiple shapes will interact (see above). When no path is selected, the outline will appear on a new layer.
- 3 Set line weight and anti-aliasing on the Tool Properties tab.
- 4 Click and drag to draw a straight line using the foreground color.
- 5 To constrain the angle of the line to 15-degree increments, hold down the **Shift** key as you drag.

Note: A "straight line" drawn as an outline is really just a skinny box shape. You can achieve straight lines on Background or standard layers by painting with the [Snap to Guides option](#), by using the [Render](#) command, or by stroking a [path](#).


To create a freehand outline:

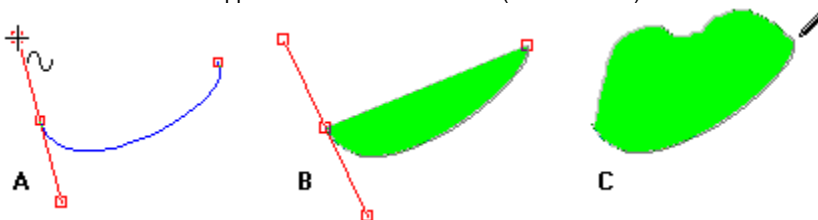
- 1 Select the  **Freehand Outline** tool from the Tools toolbar.
- 2 If creating the shape on a specific shape layer, make sure the layer is active and its path thumbnail is selected. If creating multiple shapes on a layer, select one of the combination buttons on the Tool Properties tab to specify how multiple shapes will interact (see above). When no path is selected, the outline will appear on a new layer.
- 3 Set **Smoothness** to even out jagged contours.
- 4 Click and drag to draw a freehand outline.



- 5 Connect the path back to its starting point to create a closed outline.
OR
Leave the outline unclosed and continue to extend the path from either end point using the Freehand or Curved Outline tool. (Look for a + sign in the cursor when it's over an end point.)
Note: On a shape layer, if you don't close the outline, PhotoPlus will automatically add a straight "closing segment" and fill the shape. As long as you can see the two endpoints, however, you can continue to extend the path.



To create a curved outline:

- 1 Select the  **Curved Outline** tool from the Tools toolbar.
- 2 If creating the shape on a specific shape layer, make sure the layer is active and its path thumbnail is selected. If creating multiple shapes on a layer, select one of the combination buttons on the Tool Properties tab to specify how multiple shapes will interact (see above).
- 3 Select one of the combination buttons on the Tool Properties tab (see above) to specify how multiple shapes will interact.
- 4 Click where you want the line to start.
- 5 Click and drag out an attractor node from the initial point. (Attractor nodes act like "magnets," pulling the curve into shape. The distance between attractors determines the depth of the resulting curved line.) Click again where you want the segment to end. A curved line appears after the second click (as in A below).



- 6 To extend an existing path, repeat the process for each new end point.
- 7 Connect the path back to its starting point to create a closed outline.
OR
Leave the outline unclosed and continue to extend the path from either end point using the Freehand or Curved Outline tool. (Look for a + sign in the cursor when it's over an end point.)
Note: On a shape layer, if you don't close the outline, PhotoPlus will automatically add a straight "closing segment" and fill the shape (as in B above). As long as you can see the two endpoints, however, you can continue to extend the path (as in C).

To edit an outline shape:

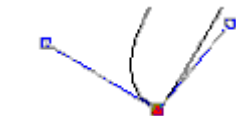
- 1 Click its layer name to select the layer. Make sure the layer's path thumbnail is selected.
- 2 To move, resize, scale, skew, or rotate the outline, choose the  **Shape Edit** tool.
 - The Shape Edit tool duplicates the functionality of the Move and Deform tools, but also lets you work with individual outline shapes on a shape layer. (For details on its use, see [Deforming](#).)
 - In addition, you can use the combination buttons on the Tool Properties tab (see above) to reset how a selected shape interacts with other shapes on the layer.
- 3 To reshape the outline, choose the  **Node Edit** tool. The outline consists of **line segments** and **nodes** (points where the line segments meet). You can drag one or more individual nodes, or click and drag on a line segment. You can also edit nodes or add/delete nodes as described in detail below.

When you select a node, you'll see the **node handles** which control the shape of the adjacent outline segments. The selected node is drawn with a red center, with the node handle(s) attached to the nodes by blue lines. You can fine-tune an outline shape by changing its nodes and/or segments with the aid of the Node Edit tool and buttons on the Tool properties tab.

To edit a node:

- 1 Select it with the Node Edit tool.
- 2 Drag its node handle(s) to fine-tune the curve.

Nodes can be **sharp**, **smooth**, or **symmetric**. Each type's attractor handles behave a bit differently, as you can tell with a bit of experimentation.



Sharp means that the segments to either side of the node are completely independent so that the corner can be quite pointed.







Smooth means that the slope of the outline is the same on both sides of the node, but the depth of the two joined segments can be different.



Symmetric nodes join outline segments with the same slope and depth on both sides of the node.

You can also use the Tool Properties tab to define a line segment as either straight or curved.


To change a line segment from straight to curved, or vice versa:

- With the Node Edit tool, select the leading node of the outline segment (the node nearer the start of the outline).
- To make an outline segment straight, click the  **Straighten Line** button on the Tool Properties tab.
- To make an outline segment curved, click one of the three node buttons on the Tool Properties tab:  **Sharp Corner**,  **Smooth Corner**, or  **Symmetric Corner**.

The more nodes there are on an outline shape, the more control over its shape you have. The fewer nodes there are, the simpler (smoother) the outline. You can add or delete nodes as needed.

To add or delete a node:

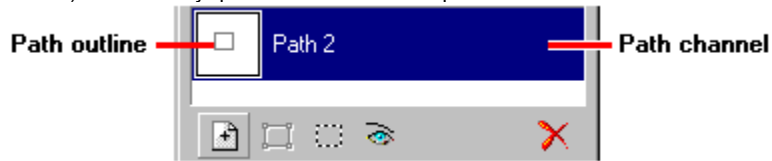
- 1 To add a node, double-click an outline segment with the Node Edit tool to add a new node at that point. The new node will be created and selected.
OR

To delete a node, select it with the Node Edit tool and press the **Delete** key or click the  **Delete Node** button on the Tool Properties tab. The node will be deleted, and the outline will jump to its new shape.

- 2 You can now use the Node Edit tool to reposition the nodes, and reshape the outline, by dragging on the new handles.


Using paths

Paths are basically outlines. As such, every filled shape you draw (see the previous topic) has a path—namely the outline that defines it. In fact, each shape layer has its own path thumbnail next to the layer name, representing the shape(s) that reside on that layer. But more significantly, the concept of a path extends to **independent paths**: unfilled outlines that don't reside on any particular layer, but which are created separately and can be applied in various ways to any layer. In this topic (unless otherwise stated) when we say "path" we mean the independent kind.



Each path consists of a **path channel**, depicted with its own name on the [Paths tab](#), and a **path outline** depicted in the thumbnail on that channel. First you create the channel, then you create the outline—either by drawing it from scratch or basing it on the current selection. Once you've got a path outline, you can reshape it (using the Outline tools), convert it to a selection, or **stroke** a path—that is, draw the path onto a bitmap layer using the current brush. Paths are saved along with the image when you use the .SPP format.


To create an empty path channel:

- 1 Display the Paths tab and click the  **New Path** button.
- 2 In the dialog, provide a name for the path, then click **OK**.

To create a path outline:

- Create an empty path channel or select an existing path channel on the Paths tab, then draw a path outline using the QuickShape and/or Outline tools. (For details on using these tools, see the previous topic.) In path-editing mode, these tools produce unfilled shapes on the path channel.

OR

- 1 To create a path outline whose shape matches the selection marquee, first create the selection on a layer, then click the  **Selection to Path** button on the Paths tab.
- 2 In the dialog, choose a **Smoothness** setting (lower means more accurate but more complex) and click **OK**.
The new path outline appears on a new path channel with a default name (which you can change, as described below).

To duplicate the selected path channel and its outline:

- Right-click its name and choose **Duplicate Path**.

To delete the selected path channel:

- Click the layer tab's  **Delete Path** button.

OR

- Right-click its name and choose **Delete Path**.

To rename the selected path channel:

- Double-click its name.
OR
Right-click its name and choose **Rename Path**.

To edit a path outline:

- Use the **Node Edit tool** and **Shape Edit tool** as described in the subtopic [Creating and editing outline shapes](#).


To edit a path outline, you use the same Node Edit and Shape Edit tools used for shape-editing. With them you can move, resize, reshape, rotate, and skew the path. Since the same tools are used for both independent paths and outline shapes, you'll need to tell PhotoPlus when to switch out of path-editing mode.

To exit path-editing mode:

- Deselect the current path on the Paths tab by clicking its name, or by clicking in the blank space below the path names.

When deselected, the current path's thumbnail loses its border, and you'll no longer see path outlines onscreen. Now you can use the editing tools on a shape layer. To re-enter path-editing mode, click a path's thumbnail again.


To create a selection from a path:

- 1 Select the Background or standard layer where you want to create the selection.
- 2 On the Paths tab, select the path from which you want create the selection.
- 3 Click the  **Path to Selection** button.
- 4 In the dialog, set options for the selection:
 - The **Feather** value blurs the selection's edges by making edge pixels semi-transparent.
 - Check **Antialias** to produce smooth edges by softening the color transition between edge pixels and background pixels.
 - Select **New Selection**, **Add to Selection**, **Subtract from Selection**, or **Intersect with Selection** to determine how the path-based selection should interact with an existing selection, if any. (See the next topic for details.)
- 5 Click **OK**.

Stroking a path is a convenient way of creating painted lines or unfilled shapes without having to draw them directly, as in this example where the path (left) was created with a QuickShape and then stroked (right).



To draw (stroke) a path onto a bitmap layer:

- 1 Select the Background or standard layer where you want to add the bitmap.
- 2 Choose a brush tool (such as the Paintbrush or Picture Brush) and set Color, Brush Tip, and Tool Properties options.
- 3 On the Paths tab, select the path you want to stroke. Make sure the path is positioned where you want it.
- 4 Click the  **Stroke Path** button.

Making a selection

In any photo editing program, the **selection tools and techniques** 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:

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

After an introduction to the concept of a selection, this topic covers the various [selection tools](#), and then [other selection options](#) such as creating a selection from a color range, mask, or alpha channel.

Selection basics

Although the techniques for using the various selection methods differ, 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](#) or [special effect](#), 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.

- n 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.

- n 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:

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

Here's another important point: Just as grayscale is more than black-and-white, a selection can be more complex than an all-or-nothing proposition. Within the selected/marqueed region, individual pixels can have varying degrees of "selectedness". For example, **anti-aliasing** and **feathering** (covered in more detail in the next topic) are properties of the various selection tools that can help you achieve better edge smoothness and multi-image blends.

Note: 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—like an outline map, it just describes a region with boundaries.

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). Note that the selection tools work on [Background and standard layers](#), but not on [text layers](#) or [shape layers](#).



The [Standard Selection Tools](#) flyout includes



Rectangle,



Ellipse,



Freehand,



Polygon , and



Magnetic 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. For details on using the Magnetic selection tool, see the separate section below.



The **Adjustable Selection Tools** flyout provides 24 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.



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.

Check **Contiguous** to include only pixels connected to the clicked pixel; uncheck to include similar pixels throughout the layer.

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.



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**.

The Tool Properties tab includes four combination buttons (**New**, **Add**, **Subtract**, **Intersect**) that determine the effect of each new selection operation with the tools. For example, starting with an initial square selection (shown in black), here's what a second selection operation (shown in red) might produce with each setting:



New



Subtract



Add



Intersect



Using the Magnetic Selection tool



The **Magnetic selection tool** makes it easy to isolate part of an image where there's already a bit of an edge showing. You simply trace around the edge, and PhotoPlus snaps the selection marquee to the nearest dramatic color change.

To use the Magnetic Selection tool:

- 1 Click once on the image to place a starting node along an edge.
- 2 With the mouse button up, trace along the edge; the marquee line follows the nearest edge. At regular distances, nodes automatically appear along the line. Only the portion of the line beyond the last node remains adjustable.

On the Tool Properties tab, you can adjust the tool's **Frequency** (distance between automatic nodes) and **Contrast** (edge sensitivity) for best results. As a shortcut, press the up and down arrow keys (or use your mouse's spinwheel) to adjust the contrast setting on the fly.

- 3 To add a node manually (for example, at a corner), click once.
- 4 To back up, press **Delete** to undo recent nodes one at a time; repeat as needed. To clear the marquee and start over, press

Esc.

- 5 To temporarily switch to the Polygon selection tool, hold down the **Ctrl** key.
- 6 To close the selection region, double-click or click again on the starting node.

Other selection options

Besides the standard selection tools, as detailed above, PhotoPlus also provides several built-in functions that allow you to create an "instant selection" without actually tracing on the image. One is based on the active layer's [mask](#), another on its [alpha \(opacity\) channel](#). In addition, you can create **paths**—outlines stored independent of any layer—from selections, and vice versa (see [Using paths](#) for details). And see the next topic for coverage of **Paint to Select** mode, which lets you create or modify a selected region using the standard painting and editing tools.

To create a selection based on the active layer's mask:

- **Ctrl**-click on the layer's mask thumbnail.
OR
Choose **Create from Mask** from the Select menu.

In the selection that results, darker areas on the mask become relatively less selected than lighter areas, i.e. more protected from changes. (For details, see the topic [Basics of using masks](#).)

To create a selection based on the active layer's alpha (opacity) channel:

- **Ctrl**-click on the layer's image thumbnail.
OR
Choose **Create from Layer Alpha** from the Select menu.

This selects opaque portions of the image. Relatively more transparent areas become relatively less selected than opaque areas, i.e. more protected from changes.

Finally, you can **store selections** (i.e., just the marquee'd region and per-pixel selectedness data) as part of either the current image or any open image file, and load a stored selection at any time. It's often useful to be able to "grab" the same region of an image at different phases of working on it. And, for repetitive tasks (preparing Web buttons, for example) on different but graphically similar files, by storing a selection you can reuse it rather than having to recreate it for each file.

To store a selection:

- 1 Choose **Store Selection...** from the Select menu.
- 2 In the dialog, specify the open file (all open files are listed) where you want to store the selection.
- 3 Select "New" to store the selection under a new name, or choose an existing selection name to overwrite.
- 4 Click **OK**. (If you selected "New" you'll be prompted to type a name.)

To load a selection:

- 1 Choose **Load Selection...** from the Select menu.
- 2 In the dialog, specify the open file (all open files are listed) from which you want to load the selection, and choose the name of the selection to load.
- 3 Select **New Selection**, **Add to Selection**, **Subtract from Selection**, or **Intersect with Selection** to determine how the newly loaded selection should interact with an existing selection, if any.
- 4 Click **OK**.

To delete a stored selection:

- 1 Choose either **Store Selection...** or **Load Selection...** from the Select menu.
- 2 In the dialog, specify the open file and the name of the selection.
- 3 Click **Delete**.

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). Paint to Select mode even lets you use standard painting or editing tools as selection tools!

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:

- n 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:

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

Modifying 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.

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:

- n 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.
- n Choose **Border...** to create a new selection as a "frame" of a specified pixel width around the current selection.
- n **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).
- n If the selected region has ragged edges or discontinuous regions (for example, if you've just used the Color Selection tool), use the **Smooth...** command to even them out. The Intensity setting determines the extent of smoothing.

Soft-edged and hard-edged selections

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.

- n **Anti-aliasing** works as for the Straight Outline tool, producing visibly 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.)
- n **Feathering** reduces the sharpness of a selection's edges, creating a smooth transition to the surrounding area. It doesn't produce an immediately visible effect because it's not achieved by varying transparency, but by partially selecting edge pixels. If you lay down paint on a feathered selection, the paint will actually be less intense around the edges. 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.

- n **Threshold** converts a feathered, soft-edged selection into a hard-edged selection. As with feathering, you won't see an immediate effect on the image, but painting and other editing operations will work differently inside the selection.

Paint to Select mode

You can use **Paint to Select mode** to create a selection from scratch, or to modify an existing selection using standard painting and editing tools. In concept, it's similar to [masking](#) but in this case you're only adjusting what is selected on the layer, rather than the layer's bitmap (image) content.



To use Paint to Select mode:

- 1 Check **Paint to Select** on the Select menu.

The view switches to show the selection as a temporary mask through which you can still view the actual image. Fully selected regions are masked in red, semi-selected regions in pink, and deselected regions appear unaffected. This view shows "selectedness" much more clearly than does the standard marquee mode, so it's also a good way to preview or check a complex selection.

- 2 Paint or use other manipulations on the temporary mask to directly modify the selection according to the lightness of the colors you apply. Painting in white adds to the selection; black subtracts from it; gray creates partial selection (like an interior version of "feathering" as described above).

You can use other tools and adjustments, too. For example, you might use a selection tool to select a region, then fill it with gray paint to create a uniform, partially selected region.

- 3 To switch out of Paint to Select mode, uncheck it on the Select menu.


The view reverts to a marquee indicating the boundary of pixels selected to any degree.

Manipulating a selection

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 do 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  **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.

- n If nothing is selected, dragging with the Move tool moves the entire active layer. (Or, if the Move tool's Automatically Select Layer property is selected, the tool moves the first visible layer.)




- n 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.

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

- n To copy pixels in the selected region, press **Ctrl-C** or click the  **Copy** button on the Standard toolbar. (You can also choose **Copy** from the Edit menu.)
- n To cut the selected pixels, press **Ctrl-X** or choose **Cut** from the Edit menu.
- n 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 Layers tab and choosing **Promote to Layer**.

- n 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.

- n To paste as a new image in an untitled window, press **Ctrl+V** or click the  **Paste** button on the Standard toolbar. (You can also choose **Paste> As New Image** from the Edit menu.)
- n To paste as a new layer above the active layer, press **Ctrl+L** or choose **Paste> As New Layer** from the Edit menu.
- n 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.)
- n 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.

Creating a custom brush tip from a selection

You can select part of an image to create a custom brush shape, for example a textured brush or special shape.

To define a custom brush:

- 1 Select part of the image to be used as a custom brush. For best results, the shape should be on a solid white background.
- 2 Right-click any tip on the Brush Tip tab and choose **Define**.
- 3 Double-click the newly created brush and use the Brush Options dialog to set Spacing (for details, see the Visual Reference topic [Brush Tip tab](#)).

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. The **Deform tool** lets you scale a selection (for details, see the topic [Deforming](#)).

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 drag to move the rectangle or adjust the edges as needed. To constrain the region to a square, hold down the **Ctrl** key while dragging.
- 3 The **Shade cropped area** option on the Tool Properties tab masks the region outside the rectangle, using an adjustable color and opacity setting. Uncheck the option to view only the rectangle, with no shading.
- 4 Double-click in the rectangle to crop to the designated size. To cancel the operation, press **Esc**.

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.

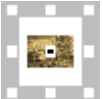
To crop the image to the selection:

- 1 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:

- n 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).
- 3 Select **Image**, **Layer**, or **Selection** and click **OK**.

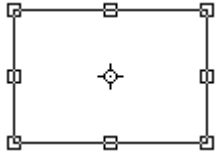
Note: You can also use the Deform tool (see the next topic) to rotate a selection by direct manipulation.

Deforming



The **Deform tool** is a "Jack of all trades" that lets you move, scale, rotate, or skew a selection or layer. It's also the basic tool for manipulating objects on [text layers](#) and [shape layers](#). Try it—for unique results!

Note: For even more precise image control, you can use **mesh warping** (see the next topic). Aside from minor cursor differences, the following instructions also apply to the **Deform Mesh** tool included on the Mesh toolbar.



Start by making a selection if desired, then choose the tool. A rectangle appears with handles at its corners and edges, and a fixed point (initially in the center of the region). If there's no selection, the rectangle includes the whole active layer.

The tool's action depends on the exact position of the mouse pointer. As you move the pointer around the enclosed region, the cursor changes as shown below to indicate which action is possible.



To **move the region** without any deformation, drag from its neutral midsection. This action works just like the Move tool.



To **reshape the region**, drag from an edge or corner handle. A variety of options are available (watch the HintLine for tips):

Over a corner handle:

- Drag to scale region in two dimensions (height and width).
- To maintain constant proportions, drag with the **Shift** key down.
- To scale the region relative to the fixed point, drag with the **Alt** key down. Pixels further from the fixed point will move further than those close to it.
- To freely distort the region from one corner, drag with the **Ctrl** key down.
- To scale relative to the fixed point with constant proportions, drag while pressing **Shift+Alt**.
- To distort relative to the fixed point, drag while pressing **Ctrl+Alt**. The opposite corner mirrors the dragged corner's movement.
- To distort the region along either adjacent edge, drag while pressing **Shift+Ctrl**.
- For a perspective effect, drag while pressing **Shift+Ctrl+Alt**. The adjacent corner mirrors the dragged corner's movement.

Over an edge handle:

- Drag to move the edge in or out, for a squash/stretch effect.
- For a squash/stretch effect relative to the fixed point, drag with the **Alt** key down. Pixels further from the fixed point will move further than those close to it.
- To move the edge freely, for a skew effect, drag with the **Ctrl** key down.
- For a skew effect relative to the fixed point, drag while pressing **Ctrl+Alt**. The opposite edge mirrors the dragged edge's movement.
- For a constrained skew effect, press **Shift+Ctrl** and drag the edge along its line.
- For constrained skew relative to the fixed point, press **Shift+Ctrl+Alt** and drag the edge along its line.



To **rotate the region** about the fixed point, drag from just outside a corner. To constrain rotation in 15-degree steps, press the **Shift** key after you've begun rotation, and hold it down until after you release the mouse button. You can change the location of the fixed point (see below).



To **reposition the fixed point**, move the cursor to the exact center until a small target appears, then drag. The fixed point can be moved anywhere—even outside the deformation region.

Mesh warping



The **Mesh Warp tool** works like a Deform tool (see previous topic) outfitted with complex curves. It lets you define a flexible grid of points and lines that you can drag to distort an image, or part of an image (or layer). You can edit the mesh to vary its curvature. And you can custom-design a mesh to match a particular image's geometry—for example, curves that follow facial contours—for more precise control of the warp effect.

Note: The Mesh Warp tool works on [Background and standard layers](#), but not on [text layers](#) or [shape layers](#).



When you first select the tool, a simple rectangular mesh appears over the image, with 9 nodes: one at each corner, one at the center, and one at the midpoint of each edge. Straight lines connect adjacent nodes. The [Mesh toolbar](#) also appears.

The straight line segments are actually bendable curves. When you alter the contours of the mesh and distort the initial rectangular grid, the underlying image deforms accordingly. To change the mesh, you simply move nodes, handles, or connecting lines; add or subtract nodes as needed; and/or edit nodes to change the curvature of adjoining lines.

To select a mesh node:

- Click it. (**Shift**-click or drag a marquee to select multiple nodes.)

One or more **attractor handles** appear on the selected node(s) and on any adjacent nodes. The number of handles per node will vary depending on the number of adjacent nodes.

To warp the mesh:

- Drag a mesh node to move it.

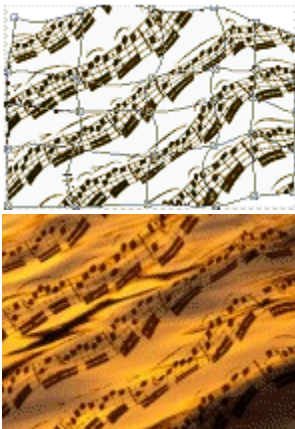
OR

- Drag a line segment to reshape it.

OR

- Drag a node's attractor handles.

Unless you're working in Setup mode, the image responds immediately as the mesh is warped. The bendability of line segments depends on the type of nodes at either end. (Both Setup mode and node types are detailed below.)



The special **Deform Mesh** tool makes it easy to move, scale, skew, or rotate a portion of the mesh about a fixed point.

To deform the mesh systematically:

- 1 **Shift**-click or drag a marquee to select multiple nodes.



- 2 Click the **Deform Mesh** button on the Mesh toolbar.

A selection rectangle appears around the designated nodes, with a fixed point in the center and handles at its corners, sides, and center.

3 Click to use the **Deform Mesh** tool to move, scale, or rotate a portion of the region (as defined by nodes) about a fixed point.


- To deform the mesh region, drag from any handle.
- To rotate the mesh region, drag from just outside any corner handle.
- To move the fixed point, move the cursor to the exact center until a small "x" appears, then drag. To move the entire region, drag from elsewhere within the region.
- Watch the HintLine for details on many key-assisted options such as skew, squash/stretch, and perspective effects. In this respect, the tool works almost exactly like the regular Deform tool; see the previous topic for details.

4 Click the button again to return to standard mode.

To add a new node:

- Double-click on a line segment.

OR

- Click the  **Add Node** button on the Mesh toolbar.


The new node appears, along with extra nodes where the new connecting lines intersect existing lines. Adding a new node further subdivides the mesh.

To delete one or more nodes:

1 Select the node(s).

2 Press **Delete**.

OR

- Click the  **Delete Node** button on the Mesh toolbar.

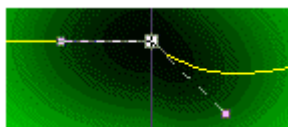
Deleting a node also deletes lines and nodes connected to it. If you delete a corner or edge node, the overall mesh area will decrease. To delete a specific grid line and its nodes, click to place a marker on the line, then press **Delete**.


Mesh nodes can be **sharp**, **smooth**, or **symmetric** (see illustrations below). Changing a node's type lets you control the bendability of the curved segments on either side of the node. To determine a node's current type, select it and check to see which Mesh Node button on the toolbar is also selected.

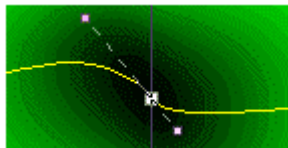
To change a node to a different type:


- Select it and click one of the other node buttons.

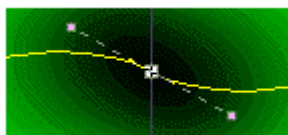
Experiment, and you'll begin to appreciate the fine control that these settings afford.




 **Sharp** means that the curves on either side of the node are completely independent, so the contours can be adjusted separately.



 **Smooth** means that the slope of the curve is the same on both sides of the node, but the depth of the contours on either side can differ.



 **Symmetric** nodes join curves with the same slope and depth on both sides of the node.

To reset the mesh to full-frame and rectangular:


- Click the  **Reset Mesh** button on the Mesh toolbar.

Note: In Applied mode, this action warps the image as if you'd straightened all the mesh lines by dragging; the number of nodes stays the same. To reset the mesh without further warping the image, first switch to Setup mode. (For details on Applied and Setup modes, see below.)

OR

- Use **Undo** to remove all warping and reset the mesh to its original 9-node state.

To hide the mesh for a better preview of the image:

- Click the  **Hide/Show Mesh** button. Click again to reveal the mesh for editing.

Designing a custom mesh in Setup mode

Up to this point, we've been using the Warp Mesh tool in the default **Applied mode**. In this mode, any alteration to the mesh immediately warps the image. This is fine for many purposes. But what if you want to reshape subtle or complex image contours—for example, the lines of a person's face? The solution is to begin by setting up a custom (bespoke) mesh that closely matches the underlying image. By switching to **Setup mode**, you can shape the mesh exactly as needed without immediately affecting the image.

To switch to Setup mode:

- On the Tool Properties tab, choose **Setup** from the Mesh list.

Now go ahead and edit the mesh—you'll see that the image itself is unchanged. Then, once you've carefully set up a custom mesh with the desired contours, you can transfer it to Applied mode and use it to warp the image. Transferring the custom mesh is a two-step process.

To work with the custom mesh in Applied mode:

- 1 On the Tool Properties tab, choose **Applied** from the Mesh list. You'll see the image warp; at this intermediate stage, the mesh-bending you did in Setup mode is simply applied to the image.
- 2 To restore the original, unwarped image, click the **Synchronize** button. Now the mesh appears as it did in Setup mode, and you're ready to proceed with warping the image.

To understand what synchronizing does, note that merely switching modes doesn't switch mesh shapes. It's as if each mode "remembers" its former mesh shape until you expressly click Synchronize. Then PhotoPlus grabs the mesh shape stored in the other mode, and unwarps the image. Synchronizing works in both directions. For example, if you're working in Setup mode, clicking Synchronize resets the mesh so it matches the Applied shape—thus serving as a kind of Undo operation.

Notes:

- You can add or subtract nodes to the basic mesh in either mode. The number of nodes on the underlying mesh will be the same in either mode, although node positions may differ as a result of reshaping.
- In Setup mode, as you'd expect, the **Reset Mesh** button on the Mesh toolbar restores a rectangular mesh without affecting the underlying image.

Extracting part of an image

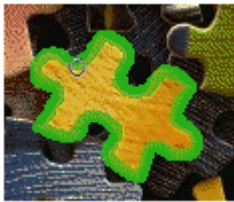
The **Extract** command on the Edit menu simplifies the task of isolating one portion of a layer. You simply brush an outline around the edges of a region you want to extract from the rest of the image, then mark a foreground area to be retained—usually inside the outline. PhotoPlus applies sophisticated edge detection within the marked edge band, decides which pixels to keep, and turns the rest transparent, with variable blending along the edge. In preview mode, you can fine-tune and reapply the extraction settings, and manually touch up the image until the result is just right.




To mark a region for extraction:

- 1 Choose **Extract...** from the Edit menu.

The Extraction window opens, displaying the image (or selected region).



- 2 Choose the  **Edge Marker** tool and draw an outline around the region you want to extract. By default, the marker color is green; this has no effect on colors in the extracted image. You don't need to be extremely precise, as long as your highlighting overlaps the region's edges.

Note: Tool options on the right side of the window let you select an appropriate brush width or marker color. Zoom and Pan buttons are available on the left side.

- 3 To apply instantaneous edge detection as you mark the edge region, so that the brush stroke attempts to follow visible edges, check the **Magnetic Edges** box, or Ctrl-drag with the Edge Marker.

- 4 To subtract from the marked edge region, brush with the  **Edge Eraser** tool, or Shift-drag with the Edge Marker.

Once you've outlined the region to be extracted, you need to tell PhotoPlus how to judge which pixels to keep and which to discard. As shown in the illustrations below, you can either:

- Identify a **foreground region** (usually inside the edge region you marked) to be kept with the extracted image;

OR

- Pick a specific **key color** to which edge pixels can be compared. Similar pixels within the marked edge region will be kept, all others discarded. Use this option if the shape you want to extract has uniform color.




Foreground region marked



Full region marked; key color selected



To extract based on a foreground region:

- Choose the  **Foreground** tool and click on the part of the image you wish to keep. The region fills with a marker color (red by default). Click again if you need to undo the fill. **Note:** Tool options let you select the foreground marker color; this has no effect on extracted image colors.

To extract based on a key color:

- 1 Use the Edge Marker tool as described above, but be sure to mark all of the region you want to extract (not just along its edges).
- 2 Under Tool Options, check **Use Key Color**.



- 3 Choose the **Key Color** tool and click (usually within the marked region) to select the reference color. The selected color appears next to the Use Key Color box.

Tip: To hide the edge region marker color when selecting a key color, uncheck **Show Edge**. This won't affect the area you've marked.

Note: You can only choose one of the two extraction methods. Once you've marked a foreground region, the Use Key Color box becomes grayed out; and if you check Use Key Color, the Foreground tool is no longer available. Should you change your mind and want to switch to the other extraction method, first undo the one you selected.

Previewing and adjusting the extracted image

To see the results of the current extraction settings:

- Click the **Preview** button.

The window switches to preview mode, showing only the extracted region. In preview mode, you can view the region against a variety of backgrounds, experiment with different extraction settings, and touch up the image. If you need to revise edge or foreground marking (or key color), click **Revert** to return to standard mode.

To display the image against a different background:

- 1 Click the **Background** list.
- 2 Select the background that provides the best view of the extracted region's edges and transparency: **None** (with squares representing transparency); **Black**, **Grey**, or **White Matte** (for a solid background); or **Other** (for a dialog that lets you pick any color).

To view advanced extraction settings, click the **More** button (also available in standard mode). Use the value boxes and sliders to adjust how edge pixels are processed:

- **Recoloration** affects semi-transparent portions of the edge region by blending in the nearest foreground color to a greater or lesser degree depending on the setting.
- **Smoothing** applies a median cut blur filter, over a wider or lesser area depending on the setting.
- **Thresholding** determines the proportion of extracted pixels that end up as completely opaque (Upper value) or completely transparent (Lower value). In general, lower threshold settings yield more semi-transparency for softer edges, while higher settings produce harder edges. You can set the upper and lower values independently, or check **Link** to adjust the sliders in unison.

In preview mode, two more buttons become available to help you fine-tune the image.



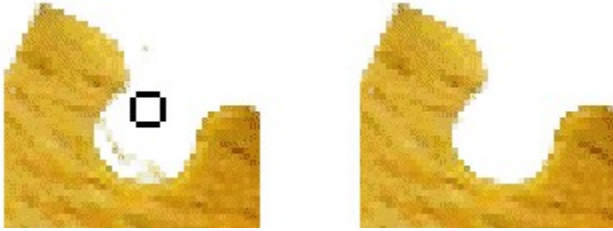
- Choose the **Touchup** tool (see illustration below) to increase or decrease transparency locally. Simply brush to erase, or drag with the Shift key down to "unerase" (add opacity). Press the numbers 1 to 9 on your keyboard to adjust the tool's pressure from low to high.



- Choose the **Edge Cleanup** tool to smooth jagged edges. The more you sweep along an edge, the straighter it becomes. Press 1 to 9 on the keyboard to adjust the tool's strength.

To apply changed settings:

- Click **Reapply**.



Using the Touchup tool along an edge

- Click **OK** to complete the extraction process and return to the main PhotoPlus window.

Overview: Adjusting image colors

[Brightness/Contrast](#)

[Levels & Curves](#)

[Negative Image](#)

[Hue/Saturation/Lightness](#)

[Threshold & Grayscale](#)

[Channel Mixer](#)

[Replace Color & Color Balance](#)

[Equalization & Stretch](#)

[Gradient Map & Selective Color](#)

— 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. These adjustments—to brightness, contrast, hue, and so on—are usually carried out in order to improve a deficient image, while commands on the Effects menu fall more into the category of special effects (see the overview 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. Many color adjustments are also available as [adjustment layers](#).

For an introduction to PhotoPlus color concepts and terminology, see the topic [Color concepts](#).

Note: The links above take you to topics explaining each color adjustment function. The **Effects Gallery** provides before/after illustrations for each manipulation. Clicking the [green](#) links in either window brings up the help topics, while clicking [red](#) links displays Gallery examples.

Brightness/Contrast adjustment

[Brightness/Contrast](#)

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— Click [green](#) for help topic, [red](#) for Image Gallery —

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.) Check **Preview** to see the effect applied to the image.
- 3 Click **OK** to apply the adjustment, or **Cancel** to abandon changes.

Note: The Brightness/Contrast adjustment is also available as an [adjustment layer](#).

Hue/Saturation/Lightness adjustment

[Brightness/Contrast](#)
[Levels & Curves](#)
[Negative Image](#)

[Hue/Saturation/Lightness](#)
[Threshold & Grayscale](#)
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[Replace Color & Color Balance](#)
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— Click [green](#) for help topic, [red](#) for Image Gallery —

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 also use the filter to 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" (upper) and "After" (lower) spectrum bars.

To adjust Hue, Saturation, and Lightness:

- 1 Choose **Adjust** from the Image menu, then select **Hue/Saturation/Lightness...** from the submenu.
- 2 In the Edit list, choose a color range to adjust, or leave the setting at "Master" to adjust the entire range. Slider pairs appear between the two spectrum bars to show affected color ranges at each setting. You can drag these sliders left or right to adjust the extent of each range.
- 3 Drag 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.) Check **Preview** to see the effect applied to the image.
As you drag the slider(s), the lower spectrum bar changes to show how original values in the upper bar have been remapped.
- 4 To add color to a grayscale image, check **Colorize** and adjust the Hue slider.
- 5 Click **OK** to apply the adjustment, or **Cancel** to abandon changes.

Note: The Hue/Saturation/Lightness adjustment is also available as an [adjustment layer](#).

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 and Color Balance adjustments

[Brightness/Contrast](#)
[Levels & Curves](#)
[Negative Image](#)

[Hue/Saturation/Lightness](#)
[Threshold & Grayscale](#)
[Channel Mixer](#)



[Replace Color & Color Balance](#)
[Equalization & Stretch](#)
[Gradient Map & Selective Color](#)

— Click [green](#) for help topic, [red](#) for Image Gallery —

Replace Color adjustment

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.
- 3 Click the  **Initial Colors** button to reset the adjustment and then drag across a section of the image to tag a color range.
- 4 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.)
- 5 To preview 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 black.)
- 6 To tag additional color ranges, click the  **Add Colors** button and again drag across a section of the image. Repeat the adjustment as needed.
- 7 Click **OK** to apply the adjustment, or **Cancel** to abandon changes.

Color Balance adjustment

The **Color Balance** adjustment lets you adjust color and tonal balance for general color correction in the image.

To balance color:

- 1 Choose **Adjust** from the Image menu, then select **Color Balance...** from the submenu.
- 2 Select **Shadows**, **Midtones**, or **Highlights** to determine which range of pixels in the image (dark, midrange, or bright) will be affected by the color correction. You can set independent adjustments for each range. To keep the overall brightness of the image the same, check **Preserve Lightness**.
- 3 To adjust color balance, drag one or more of the three sliders to shift colors along the Cyan/Red, Magenta/Green, and Yellow/Blue scales. The corresponding Color Levels boxes update to show the degree of adjustment. Check **Preview** to see the effect applied to the image.
- 4 Click **OK** to apply the adjustment, or **Cancel** to abandon changes.

Note: The Color Balance adjustment is also available as an [adjustment layer](#).

Levels and Curves adjustments

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The **Levels** and **Curves** adjustments let you correct the tonal range of an image—the spread of lightness values through shadow, midtone, and highlight regions—and control individual color components. The two methods rely on different graphing techniques for similar results, so you can pick the one that you prefer.

Levels adjustment

The Levels dialog uses a histogram (comparable to the [Histogram](#) window) that tells you at a glance the proportion of image pixels at each lightness value, ranging from shadows through highlights. For example, you can see if the image lacks a "high end" or a "low end", or if too many pixels are clustered in the shadows. You can then increase or decrease image contrast and the **gamma** or weighting of midtone pixels.

To use the Levels adjustment:

- 1 Choose **Adjust** from the Image menu, then select **Levels...** from the submenu. The Levels dialog appears. The **Input** and **Output** boxes initially show 0 and 255. The **Gamma** box shows 1.00, the nominal slope of the midtone distribution curve prior to adjustment. To adjust a color channel independently, select Red, Green, or Blue in the **Channel** list.
- 2 To increase image contrast, narrow the spread between top and bottom Input values by raising the bottom value and/or lowering the top value.
- 3 To reduce image contrast, narrow the spread between top and bottom Output values. Check **Preview** to see the effect applied to the image.
- 4 To adjust the midtone values, raise or lower the Gamma value.
- 5 Click **OK** to apply the adjustment, or **Cancel** to abandon changes.

Note: The Levels adjustment is also available as an [adjustment layer](#).

Curves adjustment

Like the **Levels** adjustment (see above), the **Curves** adjustment lets you correct the tonal range of an image—the spread of lightness values through shadow, midtone, and highlight regions—and control individual color components. In the Curves dialog, the tonal range is represented initially as a straight, sloping line representing a "before adjustment" spread of lightness values, from low to high. By bending the line slightly at various points, you can shift those pixels to new values (lighter or darker), so the resulting "after adjustment" curve yields a corrected image.

To use the Curves adjustment:

- 1 Choose **Adjust** from the Image menu, then select **Curves...** from the submenu. The Curves dialog appears. To adjust a color channel independently, select Red, Green, or Blue in the channel list.

Time out for a short explanation. The line plots Input values to Output values for all the pixels in the image, from dark to light. The horizontal axis represents Input values; the vertical axis, Output values. Before you make any adjustments, each pixel's Input value matches its Output value, which explains the nice straight line (with a slope of 1). The nodes you see initially at the bottom and top end of the line represent the darkest and lightest pixels in the image. Simply by dragging these nodes, you can achieve what the Levels adjustment accomplished with numbers: To increase overall image contrast, narrow the horizontal (Input) separation between the nodes; to decrease contrast, narrow the vertical (Output) separation.

The real power of the Curves adjustment lies in the fact that you can add new nodes to the line and adjust them individually, thus achieving fine control over different tonal regions of the image.

- 2 To place a new adjustment node, click anywhere on the line.
- 3 To change a node's Input value, drag it horizontally. To change its Output value, drag vertically. Check **Preview** to see the effect applied to the image.
- 4 Click **OK** to apply the adjustment, or **Cancel** to abandon changes.

Note: The Curves adjustment is also available as an [adjustment layer](#).

Threshold and Grayscale adjustments

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— Click [green](#) for help topic, [red](#) for Image Gallery —

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

- n 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.
- n 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.) Check **Preview** to see the effect applied to the image.
- 3 Click **OK** to apply the adjustment, or **Cancel** to abandon changes.

Note: The Threshold adjustment is also available as an [adjustment layer](#).

To convert to grayscale:

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

Equalization and Stretch adjustments

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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](#).

- n 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.
- n 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:

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

To stretch:

- n 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

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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:

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

Note: The Negative Image adjustment is also available as an [adjustment layer](#).

Channel Mixer adjustment

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The Channel Mixer lets you adjust each separate color channel (Red, Green, or Blue) using a mix of all the current color channels. Like the [Color Balance](#) or [Hue](#) adjustments, you can use it for creative effects. Supplementing the [Grayscale](#) adjustment, it lets you fine-tune grayscale images by specifying exactly how each color channel contributes to the whole.

To mix color channels:

- 1 Choose **Adjust** from the Image menu, then select **Channel Mixer...** from the submenu.
- 2 Select an output channel (Red, Green, or Blue) from the list.
- 3 Drag one or more **Source Channels** sliders to vary the contribution of each separate channel to the selected output channel. Alternatively, enter a value in the box to the right of the slider. Check **Preview** to see the effect applied to the image.
- 4 To change the output channel's contribution to the whole image, drag the **Constant** slider.
- 5 To apply the same settings to all the output channels, check **Monochrome** (note that the output channel changes to Black). This option lets you control the amount of detail and contrast in an image being converted to grayscale.
Tip: For a hand-tinted look, check and uncheck the Monochrome option, then adjust the contribution of each output channel separately using the Constant slider.
- 6 Click **OK** to apply the adjustment, or **Cancel** to abandon changes.

Note: The Channel Mixer adjustment is also available as an [adjustment layer](#).

Gradient Map and Selective Color adjustments

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Gradient Map adjustment

The **Gradient Map** adjustment is for remapping grayscale (lightness) information in the image to a selected gradient. A gradient is basically a "spectrum" with a spread of hues between two or more defined "key" color values. If we take this spectrum and sample it at 256 points along its length, we get 256 values ranging from color 0 through color 255. The Gradient Map function replaces pixels of a given lightness in the original image with the corresponding color value from the gradient spectrum. So, for example, lightness 0 pixels (deep shadow) are replaced with the color 0 value, and so on.

To take a basic example, if the gradient you select spreads between two key colors, black and white, then it's simply a grayscale spread. The original image will simply have its colors replaced by grayscale tones according to lightness—in other words, it will convert from a color image to a grayscale image! By adding hue to the darker key color, you can quickly create colorized images (sepia-toned, for example). Inserting more key colors for more color-banding in the gradient results in "posterized" effects, as each hue maps to a specific lightness range in the original image. The more dissonant the key colors... the more bizarre the effect!

To mix color channels:

- 1 Choose **Adjust** from the Image menu, then select **Gradient Map...** from the submenu. The Gradient Map dialog appears, with a sample gradient displayed.
- 2 Click on the sample gradient to display the Gradient dialog, where you can choose from preset gradients, edit these or create (and even save) your own gradients from scratch. This is the heart of the process, and is covered fully in the subtopic [Editing a gradient fill](#).
- 3 Check **Preview** to see the effect applied to the image.
- 4 Check **Reverse** to flip the gradient as it's applied to the image. Note that this an "after-effect" that doesn't alter the definition in the Gradient dialog.
- 5 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Note: The Gradient Map adjustment is also available as an [adjustment layer](#).

Selective Color adjustment

Selective Color is a CMYK printing adjustment that lets you add or subtract a certain percentage of cyan, magenta, yellow, and/or black ink. You can target any of six color ranges or three lightness ranges. For example, if you're creating output for professional printing and need to add 10% more Blue, Selective Color will accomplish this in one step.

- 1 Choose **Adjust** from the Image menu, then select **Selective Color...** from the submenu.
- 2 In the Colors list, select which color or lightness range to target.
- 3 Adjust the ink sliders (Cyan, Magenta, Yellow, and/or Black) from -100 to 100 to increase or decrease the percentage of ink in pixels that fall within the target range.
- 4 **Relative** and **Absolute** determine how the ink percentage change is calculated per pixel. Select **Absolute** to apply the same percentage change across all pixels in the target range. Select **Relative** to vary the change in proportion to the strength of the target component in each pixel. For example, if the target range was "Reds" and you selected Relative, pixels that were only slightly red would only be slightly changed, while saturated reds would be affected more dramatically.
- 5 Check **Preview** to see the effect applied to the image.
- 6 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Reading the histogram

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:

- n Choose **Histogram...** from the Image menu.
- n Select **Lightness**, **Red**, **Green**, or **Blue** channel display. The window shows the distribution of color values in the selected channel. For each **Level** of gray (from 0-255), the height of the curve shows the number of pixels (**Count**) at that level.
- n Read image statistics below the value window.
 - As you move the mouse pointer over the distribution, the Count, Level, and **Percent** readouts update at the right to show the pixel statistics at each gray level. To view statistics for a range of lightness values, highlight the range by dragging from one part of the distribution to another.
 - The **Mean** is the average lightness (brightness or luminance) value in the distribution.
 - The **Median** is the middle 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.

Overview: Applying special effects

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The PhotoPlus **Effects 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, for example by sharpening or removing "red eye," but more often the emphasis here is on the wild and wacky (or shall we say, creative) possibilities. If you're creating .GIF animations, you can turn these effects into animated transitions (see the topic [Applying animation effects](#)).

By the way, if you missed the introduction to PhotoPlus color concepts and terminology, see the topic [Color concepts](#).

Note: The links above take you to topics explaining each special effect. The **Effects Gallery** provides before/after illustrations for each effect. Clicking the [green](#) links in either window brings up the help topics, while clicking [red](#) links displays Gallery examples.

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Twirl

The **Twirl** effect produces a "spin art" effect—liquid paint on a surface revolving around a center point in the active layer or selection.


To apply the effect:

- 1 Choose **Distort** from the Effects menu, then select **Twirl...** from the submenu. The Twirl 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.
- 3 Drag the  marker to designate a center point for the effect. Adjust the **Angle** slider (or enter specific values from 0 to 360) to vary the effect, as the preview window updates. (You can also use the keyboard arrows.)
- 4 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Ripple

The **Ripple** effect distorts the the active layer or selection in a pattern of concentric waves around a center point.


To apply the effect:

- 1 Choose **Distort** from the Effects menu, then select **Ripple...** from the submenu. The Ripple 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.
- 3 Drag the  marker to designate a center point for the effect. Adjust the **Ripples** slider (or enter specific values from 0 to 200) to vary the effect, as the preview window updates. (You can also use the keyboard arrows.)
- 4 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Wave

The **Wave** effect distorts the active layer or selection in a pattern of parallel waves.


To apply the effect:

- 1 Choose **Distort** from the Effects menu, then select **Wave...** from the submenu. The Wave 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.
- 3 Drag the  marker to designate an origin point for the effect. 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.)
 - **Intensity** (0 to 100) controls the degree of distortion.
 - **Waves** (0 to 100) controls the number of waves.
- 4 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Pinch/Punch

The **Pinch/Punch** effect applies a concave or convex spherical distortion to the active layer or selection.

To apply the effect:

- 1 Choose **Distort** from the Effects menu, then select **Pinch/Punch...** from the submenu. The Pinch/Punch 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.
- 3 Drag the  marker to designate an origin point for the effect. Adjust the **Intensity** slider (or enter specific values from -100 to 100) to vary the effect, as the preview window updates. Negative values produce Pinch (concave) distortion, while positive values produce Punch (convex) distortion. (You can also use the keyboard arrows.)

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

Blur and Sharpen effects

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See also the [topic](#) and [example](#) for the **Blur tool**, and the [topic](#) and [example](#) for the **Sharpen tool**.

[Blur](#)

The **Blur** effect works without a dialog to apply a small amount of blurring in a single pass.

To apply the effect:

- Choose **Blur** from the Effects menu, then select **Blur** from the submenu.

[Blur More](#)

The **Blur More** effect works without a dialog to apply blurring (somewhat more than **Blur**) in a single pass.

To apply the effect:

- Choose **Blur** from the Effects menu, then select **Blur More** from the submenu.

[Average Blur](#)

The **Average Blur** effect smooths the active layer or selection by softening hard edges and contours with abrupt color transitions. It provides a dialog for variable control over the effect.

To apply the effect:

- Choose **Blur** from the Effects menu, then select **Average Blur...** from the submenu. The Average Blur Filter dialog appears, with the image visible in the preview window.
- To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out.
- 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.)
- Click **OK** to apply the effect, or **Cancel** to abandon changes.

[Gaussian Blur](#)

The **Gaussian Blur** effect smooths 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:

- Choose **Blur** from the Effects menu, then select **Gaussian Blur...** from the submenu. The Gaussian Blur Filter dialog appears, with the image visible in the preview window.
- To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out.
- 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.
- Click **OK** to apply the effect, or **Cancel** to abandon changes.

[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:

- Choose **Blur** from the Effects menu, then select **Blur Effects...** from the submenu. The Blur Effects Filter dialog appears, with the image visible in the preview window.
- Select **Motion** as the Blur Type.
- To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out.
- 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 Effects 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.
- 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 Effects 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.
- 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 Effects 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.
- 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.

Intelligent Blur

The **Intelligent Blur** effect lets you blur portions of the image while leaving edges sharp. The result can vary from a mild facelift to a cartoony [Posterize](#) effect with few colors in large blobs.

To apply the effect:

- 1 Choose **Blur** from the Effects menu, then select **Intelligent Blur...** from the submenu. The Intelligent 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.
- 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 extent of blurring; higher settings produce more blur.
 - **Threshold** (0 to 255) determines to what extent the filter ignores edges; at higher settings, more differences (in color or tone) need to exist between adjacent areas to be recognized as an "edge".

Sharpen

The **Sharpen** effect enhances differences between adjacent pixels of different colors. It works without a dialog to apply a small amount of sharpening in a single pass. (See also the [topic](#) and [example](#) for the **Sharpen tool**.)

To apply the effect:

- n Choose **Sharpen** from the Effects menu, then select **Sharpen** from the submenu.

Sharpen More

The **Sharpen More** effect works without a dialog to apply sharpening (somewhat more than **Sharpen**) in a single pass.

To apply the effect:

- n Choose **Sharpen** from the Effects menu, then select **Sharpen More** from the submenu.

Unsharp Mask

Unlike **Sharpen** and **Sharpen More**, which affect the entire image, the **Unsharp Mask** effect works mainly at edges. It's excellent for improving image quality, especially with scanned or resized pictures.

To apply the effect:

- 1 Choose **Other** from the Effects menu, then select **Unsharp Mask...** from the submenu. The Unsharp Mask 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.
- 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.)
 - **Amount** (1 to 500) controls the degree of sharpening at an edge.
 - **Radius** (0.1 to 250) determines how many pixels in from the color edge will be affected. Use higher settings with higher resolution images, where pixels are smaller relative to image elements.
 - **Threshold** (0 to 255) sets the degree of color difference required across an edge before the effect "kicks in." Use a higher Threshold for grainy images or skin tones, so the filter won't merely amplify noise in the image.
- 4 Click **OK** to apply the effect, or **Cancel** to abandon changes.

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Enhance Edges

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

To apply the effect:

- n Choose **Edges** from the Effects 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:

- n Choose **Edges** from the Effects 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:

- n Choose **Edges** from the Effects 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:

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

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[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 Effects 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.
- 3 Select a color channel (Red, Green, or Blue) to target, or All to target the whole color range.
- 4 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.)
- 5 Click **OK** to apply the effect, or **Cancel** to abandon changes.

[Median](#)

The **Median** effect broadens color regions in the image. At low settings it's useful for removing noise—for example, artifacts in digital photos—while at higher intensity it introduces an "oil paint" effect.

To apply the effect:

- 1 Choose **Noise** from the Effects menu, then select **Median...** 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.
- 3 Adjust the **Intensity** slider (or enter a specific value from 0 to 20) to control the amount of noise removed, 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.

Render effects

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Lighting Effects

The **Lighting Effects** filter lets you place an artificial "light source" on the active layer or selection and manipulate its properties.

To apply the effect:

- 1 Choose **Render** from the Effects menu, then select **Lighting Effects...** from the submenu. The Lighting Effects 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.
- 3 To place a source, click the  **New Source** button and then click in the preview window. You can place multiple sources, and a source can be located outside the image area if necessary (zoom out to see the image edges).
- 4 For each source, **Spot** (projected source) is the default Light Type. Click **Candle** (radiated source) as the Light Type if desired. In the preview window, click a source's handles to select it, then drag handles as needed to set the radius, direction and (for the Spot source) beam angle.
- 5 To delete a source if necessary, select it and click the  **Delete Source** button.
- 6 Adjust the sliders (or enter specific values) for each source to vary the combined effect, as the preview window updates. (You can also select a slider and use the keyboard arrows.)
 - **Intensity** (-100 to 100) controls the degree of illumination.
 - **Red, Green, and Blue** (0 to 100) together control the hue of the light source.
- 7 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Diffuse Glow

The **Diffuse Glow** filter broadens highlights in the active layer or selection by brightening gradually outward from existing highlights.


To apply the effect:

- 1 Choose **Render** from the Effects menu, then select **Diffuse Glow...** from the submenu. The Diffuse Glow 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.
- 3 Adjust the sliders (or enter specific values) for each source to vary the combined effect, as the preview window updates. (You can also select a slider and use the keyboard arrows.)
 - **Intensity** (2 to 50) controls the degree of diffuseness. A low value produces more of a pinpoint glow.
 - **Tolerance** (0 to 255) determines the range of lightness values (starting from white) affected. As the tolerance increases, the effect spreads to areas that were darker to begin with.
- 4 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Lens Flare

The **Lens Flare** filter adds optical artifacts in the active layer or selection to simulate the interaction of a strong light source with a camera's compound lens.

To apply the effect:

- 1 Choose **Render** from the Effects menu, then select **Lens Flare...** from the submenu. The Lens Flare 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.
- 3 Drag the  marker to place the light source. It can be located outside the image area if necessary (zoom out to see the image edges).
- 4 The default Lens Type is **Normal**. Select **35mm** (wide angle lens) or **105mm** (telephoto lens) for different effects.
- 5 Adjust the **Brightness** slider (or enter a specific value from 0 to 200) to control the intensity of the effect, as the preview window updates. (You can also select the slider and use the keyboard arrows.)
- 6 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Solarize and Posterize effects

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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 Effects 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.
- 3 Adjust the **Threshold** slider (or enter a specific value from 0 to 256) 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 **Adjust** from the Image menu, then select **Posterize...** from the submenu. The Posterize dialog appears.
- 2 Adjust the **Levels** slider (or enter a specific value from 2 to 64) to control the number of color levels. (You can also select the slider and use the keyboard arrows.)
- 3 Check **Preview** to see the effect applied to the image.
- 4 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Note: The Posterize adjustment is also available as an [adjustment layer](#).

Maximum and minimum effects

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Maximum

The **Maximum** filter broadens highlight regions in the image. It works by comparing each pixel to its neighbor and replacing darker pixels with lighter pixels.

To apply the effect:

- 1 Choose **Other** from the Effects menu, then select **Maximum...** from the submenu. The Maximum 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.
- 3 Adjust the **Intensity** slider (or enter a specific value from 0 to 100) to control the extent of 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.

Minimum

The **Minimum** filter broadens shadow regions in the image. It works by comparing each pixel to its neighbor and replacing lighter pixels with darker pixels.

To apply the effect:

- 1 Choose **Other** from the Effects menu, then select **Minimum...** from the submenu. The Minimum 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.
- 3 Adjust the **Intensity** slider (or enter a specific value from 0 to 100) to control the extent of 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.

Emboss effect

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The [Emboss](#) filter remaps contours to simulate a bas-relief effect in the active layer or selection.

To apply the effect:

- 1 Choose **Other** from the Effects 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.
- 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

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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 Effects 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.
- 3 Adjust the **Tile Size** slider (or enter a specific value from 0 to 250) 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.

Fixing red eye

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The [Fix Red Eye](#) filter is specifically designed to correct the "red eye" phenomenon common in color snapshots. It lets you isolate small regions on the active layer or selection and then converts red pixels to black in the designated regions.

To apply the effect:

- 1 Choose **Other** from the Effects menu, then select **Fix Red Eye...** from the submenu. The Red Eye 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.
- 3 You work on one eye region at a time. To designate each eye, click the  **Select Area** button and then click on an eye in the preview window. Immediately, a circular selection mask appears around the designated region and the current correction settings are applied there.
- 4 If fine-tuning is needed, adjust the sliders as the preview window updates.
 - **Redness Cutoff** controls how much red is located and removed.
 - **Highlight Cutoff** controls how much of the reflection is retained.
 - **Pupil Lightness** helps to match the surrounding eye tone.
 - **Soften** expands the black area to form a bigger pupil.
- 5 Designate and correct additional regions as needed. Click a circle to select the region for fixing. To remove a selection mask if necessary, click the  **Remove** button. To hide/show the selection mask circles, click the  **Hide Mask** button.
- 6 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Instant Artist effects

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The **Instant Artist** effects let you transform the active layer or selection to simulate various styles of painting.




Note: Instant Artist effects include a **Preserve Region** option that lets you use a stored selection to vary the final result. (See [Making a selection](#) for details on making and storing selections.) The information in the stored selection (in effect, the "degree of selectedness" of each pixel) will be applied in addition to the settings you've entered in the dialog, and more image detail will emerge in regions that are more selected. A good way to use this feature is to turn the dialog settings down somewhat to give a "rough" look (e.g. turn down Accuracy in the Oil effect), then use a stored selection where the foreground elements are more selected. The result will more closely resemble a real painting where the artist took greater care detailing the foreground!

Note that the "current" selection—that is, those pixels within the selection marquee when you choose the Instant Artist command—doesn't work like a stored selection to preserve a region. Rather, as with other effects, the current selection only determines the boundaries within which the effect will be applied.

[Expressionist](#)

The **Expressionist** effect adds "brush strokes" including random color offsets with variable brush size, stroke length, and curvature.

To apply the effect:



- 1 Choose **Instant Artist** from the Effects menu. The Instant Artist dialog appears, with the image visible in the preview window. Select **Expressionist** in the list.
- 2 To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Adjust the sliders (or enter specific values) to vary the combined effect.
 - **Brush Size** (2 to 20) controls the size of the brush used to draw the strokes.
 - **Color Jitter** (0 to 255) adds random offsets to the brush stroke color. A higher setting means more variance in color; lower means a closer match between the brush color and the original image.
- 4 For additional settings, click the **Advanced**  button.
 - **Stroke Length** (0 to 100) includes separate settings (Minimum and Maximum) that determine the range of possible strokes used in the effect.
 - **Stroke Curve** controls the shape of brush strokes. Choose **Static** for straight strokes, or **Follow Image** to stroke along edges; the **Curve** setting (0 to 100) determines how closely edges are followed.
 - Adjust the **Offset** dial (0 to 359), or enter values, to set the starting angle of the brush stroke. In Follow Image mode, the angle is relative (applied as an offset) to the edges of the original image.
- 5 To emphasize image detail in certain regions, create and store a selection beforehand (for example, with foreground elements more selected) as described in the Note above. Then check **Preserve Region** and choose the stored selection from the list.
- 6 Click the **Default** button to revert to the standard settings for this effect.
- 7 To save the current settings as a custom style you can use later, click the  **Add Style** button and provide a name for the new style. The style name appears in the master list. (To delete a style you've added, select it and click the  **Delete Style** button.)
- 8 Click **OK** to apply the effect, or **Cancel** to abandon changes.

[Giger](#)

The **Giger** effect blurs the original image and superimposes wavy lines called "tendrils."

To apply the effect:



- 1 Choose **Instant Artist** from the Effects menu. The Instant Artist dialog appears, with the image visible in the preview window. Select **Giger** in the list.
- 2 To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Adjust the sliders (or enter specific values) to vary the combined effect.
 - **Tendril Length** (1 to 100) controls the length of the wavy lines.

- **Tendrill Frequency** (0 to 100) determines how many wavy lines are drawn.
 - **Focus** (0 to 100) varies the blurriness of the underlying original image.
- 4 To emphasize image detail in certain regions, create and store a selection beforehand (for example, with foreground elements more selected) as described in the Note above. Then check **Preserve Region** and choose the stored selection from the list.
 - 5 Click the **Default** button to revert to the standard settings for this effect.
 - 6 To save the current settings as a custom style you can use later, click the  **Add Style** button and provide a name for the new style. The style name appears in the master list. (To delete a style you've added, select it and click the  **Delete Style** button.)
 - 7 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Impressionist

The **Impressionist** effect broadens and enhances color regions into blotches.



To apply the effect:

- 1 Choose **Instant Artist** from the Effects menu. The Instant Artist dialog appears, with the image visible in the preview window. Select **Impressionist** in the list.
- 2 To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Adjust the sliders (or enter specific values) to vary the combined effect.
 - **Color Strength** (0 to 255) is effectively a contrast control, ranging from Normal (like the original image) to Vibrant (more vivid colors).
- 4 To emphasize image detail in certain regions, create and store a selection beforehand (for example, with foreground elements more selected) as described in the Note above. Then check **Preserve Region** and choose the stored selection from the list.
- 5 Click the **Default** button to revert to the standard settings for this effect.
- 6 To save the current settings as a custom style you can use later, click the  **Add Style** button and provide a name for the new style. The style name appears in the master list. (To delete a style you've added, select it and click the  **Delete Style** button.)
- 7 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Munchist

The **Munchist** effect broadens and enhances color regions into streaks. **Tip:** For best results, use a **stored selection** to preserve image detail with this effect. As a starting point, you might switch to [Paint to Select mode](#), fill the channel with light gray (for a fairly strong selection), then switch back to normal mode and use **Store Selection**.




To apply the effect:

- 1 Choose **Instant Artist** from the Effects menu. The Instant Artist dialog appears, with the image visible in the preview window. Select **Munchist** in the list.
- 2 To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Adjust the **Color Strength** slider (or enter a specific value from 0 to 255) to vary the color contrast, ranging from Normal (like the original image) to Vibrant (more vivid colors).
- 4 To emphasize image detail in certain regions, create and store a selection beforehand (for example, with foreground elements more selected) as described in the Note above. Then check **Preserve Region** and choose the stored selection from the list.
- 5 Click the **Default** button to revert to the standard settings for this effect.
- 6 To save the current settings as a custom style you can use later, click the  **Add Style** button and provide a name for the new style. The style name appears in the master list. (To delete a style you've added, select it and click the  **Delete Style** button.)
- 7 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Oil

The **Oil** effect adds bristled "brush strokes" with variable length and curvature, plus various settings to preserve the degree of detail retained from the original image.

To apply the effect:

- 1 Choose **Instant Artist** from the Effects menu. The Instant Artist dialog appears, with the image visible in the preview window. Select **Oil** in the list.
- 2 To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Adjust the sliders (or enter specific values) to vary the combined effect.
 - **Brush Size** (2 to 20) determines the size of the brush.
 - **Accuracy** (1 to 100) sets how closely the function tries to match the original image.
- 4 For additional settings, click the  **Advanced** button.
 - **Brush Weight** (0 to 100) affects the strength of the brush artifacts. At the lowest extreme, each stroke is just a block of color. The higher the setting, the more you see the effect of "bristles" in the brush.
 - **Length** (0 to 100) controls the length of the strokes, within a range from Minimum to Maximum.
 - **Curve** (0 to 100) determines how closely the original edges are followed.
 - **Edge Blur** (0 to 100) affects detail: more blur means more sweeping brush strokes but less image detail.
 - **Enhance** (Off, Low, Medium, High) restores detail in the image by enhancing edges.
 - Check **Segment** to preserve edges between blocks of color in the original image, by preventing strokes from one segment overlapping into another segment.
- 5 To emphasize image detail in certain regions, create and store a selection beforehand (for example, with foreground elements more selected) as described in the Note above. Then check **Preserve Region** and choose the stored selection from the list.
- 6 Click the **Default** button to revert to the standard settings for this effect.
- 7 To save the current settings as a custom style you can use later, click the  **Add Style** button and provide a name for the new style. The style name appears in the master list. (To delete a style you've added, select it and click the  **Delete Style** button.)
- 8 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Old Master

The **Old Master** effect is a "one shot" transformation that adds ribbons and swirls of color.


To apply the effect:

- 1 Choose **Instant Artist** from the Effects menu. The Instant Artist dialog appears, with the image visible in the preview window. Select **Old Master** in the list.
- 2 To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Paint and Ink

The **Paint and Ink** effect produces the appearance of an inked-in outline based on the original image.

To apply the effect:

- 1 Choose **Instant Artist** from the Effects menu. The Instant Artist dialog appears, with the image visible in the preview window. Select **Paint and Ink** in the list.
- 2 To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Adjust the sliders (or enter specific values) to vary the combined effect.
 - **Ink Level** (0 to 20) determines the strength of the outline, with higher settings yielding more image detail.
 - **Paint Detail** (0 to 100) controls how carefully the brush strokes are generated.
- 4 To emphasize image detail in certain regions, create and store a selection beforehand (for example, with foreground elements more selected) as described in the Note above. Then check **Preserve Region** and choose the stored selection from the list.
- 5 Click the **Default** button to revert to the standard settings for this effect.
- 6 To save the current settings as a custom style you can use later, click the  **Add Style** button and provide a name for the

new style. The style name appears in the master list. (To delete a style you've added, select it and click the





Delete Style button.)

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

Pencil

The **Pencil** effect renders the image using grayscale strokes with variable thickness, angle, and direction.

To apply the effect:

- 1 Choose **Instant Artist** from the Effects menu. The Instant Artist dialog appears, with the image visible in the preview window. Select **Pencil** in the list.
- 2 To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Adjust the sliders (or enter specific values) to vary the combined effect.
 - **Edge Strength** (0 to 100) controls how much edge detail is added to the result.
 - **Image Contrast** (0 to 100) affects how transparency is added (providing **Leave Gaps** is checked). A low contrast results in smoother graduation from opaque to transparent.
 - Check **Leave Gaps** to make brighter areas of the original image transparent—more like a real pencil drawing where light areas are left blank.
 - **Stroke Angle** (0 to 359) determines the angle of pencil strokes.
- 4 For additional settings, click the  **Advanced** button.
 - **Stroke Direction** (0 to 180) sets the degree of freedom in the strokes. The higher the setting, the more possible variation in direction (up to 180 degrees).
 - **Stroke Emphasis** (0 to 255) enhances the visibility of the individual strokes.
 - **Pencil Nib** (Thin, Medium, Thick) equates with stroke width, the size of the pencil.
 - **Stroke Length** (Short, Medium, Long) sets the length of pencil strokes.
- 5 To emphasize image detail in certain regions, create and store a selection beforehand (for example, with foreground elements more selected) as described in the Note above. Then check **Preserve Region** and choose the stored selection from the list.
- 6 Click the **Default** button to revert to the standard settings for this effect.
- 7 To save the current settings as a custom style you can use later, click the  **Add Style** button and provide a name for the new style. The style name appears in the master list. (To delete a style you've added, select it and click the




Delete Style button.)

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


Pointillist

The **Pointillist** effect "dabs on" small dots (instead of painting with linear strokes as in the Oil effect), with variable length and curvature.

To apply the effect:

- 1 Choose **Instant Artist** from the Effects menu. The Instant Artist dialog appears, with the image visible in the preview window. Select **Pointillist** in the list.
- 2 To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Adjust the sliders (or enter specific values) to vary the combined effect.
 - **Dot Size** (2 to 20) determines the size of the brush.
 - **Color Jitter** (0 to 255) adds random offsets to the brush stroke color. A higher setting means more variance in color; lower means a closer match between the brush color and the original image.
- 4 For additional settings, click the  **Advanced** button.
 - **Brush Weight** (0 to 100) affects the strength of the brush artifacts. At the lowest extreme, each stroke is just a block of color. The higher the setting, the more you see the effect of "bristles" in the brush.
 - **Length** (0 to 100) controls the length of the strokes in a range from Minimum to Maximum.
 - **Curve** (0 to 100) determines how closely the original edges are followed.
 - **Edge Blur** (0 to 100) affects detail: more blur means more sweeping brush strokes but less image detail.
 - **Enhance** (Off, Low, Medium, High) restores detail in the image by enhancing edges.
 - Check **Segment** to preserve edges between blocks of color in the original image, by preventing strokes from one segment overlapping into another segment.

- 5 To emphasize image detail in certain regions, create and store a selection beforehand (for example, with foreground elements more selected) as described in the Note above. Then check **Preserve Region** and choose the stored selection from the list.
- 6 Click the **Default** button to revert to the standard settings for this effect.

- 7 To save the current settings as a custom style you can use later, click the  **Add Style** button and provide a name for the new style. The style name appears in the master list. (To delete a style you've added, select it and click the

 **Delete Style** button.)


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


Van Gogh

The **Van Gogh** effect applies short strokes using a fairly thick brush.

To apply the effect:

- 1 Choose **Instant Artist** from the Effects menu. The Instant Artist dialog appears, with the image visible in the preview window. Select **Van Gogh** in the list.
- 2 To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Adjust the sliders (or enter specific values) to vary the combined effect. .
 - **Stroke Size** (2 to 4) determines the size of the brush.
 - **Color Jitter** (0 to 255) adds random offsets to the brush stroke color. A higher setting means more variance in color; lower means a closer match between the brush color and the original image.
- 4 To emphasize image detail in certain regions, create and store a selection beforehand (for example, with foreground elements more selected) as described in the Note above. Then check **Preserve Region** and choose the stored selection from the list.
- 5 Click the **Default** button to revert to the standard settings for this effect.

- 6 To save the current settings as a custom style you can use later, click the  **Add Style** button and provide a name for the new style. The style name appears in the master list. (To delete a style you've added, select it and click the


 **Delete Style** button.)


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

Watercolor I

The **Watercolor I** effect simulates relatively desaturated colors on a textured canvas, with control over the amount of image detail preserved.

To apply the effect:

- 1 Choose **Instant Artist** from the Effects menu. The Instant Artist dialog appears, with the image visible in the preview window. Select **Watercolor I** in the list.
- 2 To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Adjust the **Detail** slider (or enter a specific value from 0 to 100) to control the precision with which the original image is followed.
- 4 For additional settings, click the  **Advanced** button.
 - **Canvas** (0 to 100) determines how smooth or rough the "canvas" appears through the image.
 - **Edges** (0 to 100) provides another level of detail control: higher settings produce a sharper image but one that takes longer to render.
- 5 To emphasize image detail in certain regions, create and store a selection beforehand (for example, with foreground elements more selected) as described in the Note above. Then check **Preserve Region** and choose the stored selection from the list.
- 6 Click the **Default** button to revert to the standard settings for this effect.

- 7 To save the current settings as a custom style you can use later, click the  **Add Style** button and provide a name for the new style. The style name appears in the master list. (To delete a style you've added, select it and click the



 **Delete Style** button.)

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

Watercolor II

The **Watercolor II** effect produces desaturated colors with broad color areas.

To apply the effect:

- 1 Choose **Instant Artist** from the Effects menu. The Instant Artist dialog appears, with the image visible in the preview window. Select **Watercolor II** in the list.
- 2 To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out. Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Adjust the **Accuracy** slider (or enter a specific value from 0 to 100) to control the precision with which the original image is painted.
- 4 To emphasize image detail in certain regions, create and store a selection beforehand (for example, with foreground elements more selected) as described in the Note above. Then check **Preserve Region** and choose the stored selection from the list.
- 5 Click the **Default** button to revert to the standard settings for this effect.
- 6 To save the current settings as a custom style you can use later, click the  **Add Style** button and provide a name for the new style. The style name appears in the master list. (To delete a style you've added, select it and click the  **Delete Style** button.)
- 7 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Warp effects

[Distortion](#)
[Noise](#)
[Emboss](#)

[Blur & Sharpen](#)
[Render](#)
[Mosaic](#)

[Edge](#)
[Solarize & Posterize](#)
Fixing red eye

[Smudge & Warp](#)
[Maximum & Minimum](#)
[Instant Artist](#)

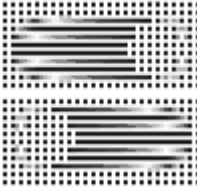
— Click [green](#) for help topic, [red](#) for Image Gallery —

The three entries on the **Warp Tools flyout** work as a group. Note that these are brush-on effects rather than dialog-based filters. Two of the tools shift pixels that the brush passes over, while the third undoes the effects of the other two. The actual amount of pixel displacement depends on the direction of brush movement, the brush tip, and the tool properties settings. To deform larger regions of an image using a flexible grid of points and lines, use the [Mesh Warp tool](#).

Elastic Warp tool



The **Elastic Warp tool** shifts pixels in the direction of brush motion, hence the appearance of pulling or elasticity.



In this magnified view of the Elastic Warp tool's effect, we dragged a hard brush (diameter 19 pixels) straight across a grid of black, single-pixel dots—above, left to right; below, right to left. Notice the distinct trails left by the brush; also note that pixels below the end point of its brush stroke are unaffected.

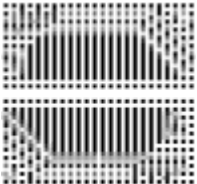
To apply the effect:

- 1 Choose the **Elastic Warp tool** from the from the Warp Tools flyout on the Tools toolbar.
- 2 Change properties, if necessary, on the [Tool Properties tab](#) (see below) and choose a brush tip on the [Brush Tip tab](#).
- 3 Drag across the image to shift pixels in the direction of brush motion.

Thick/Thin Warp tool



The **Thick/Thin Warp tool** shifts pixels 90° to the right of the brush direction, which has the effect of spreading or compressing edges along the stroke. Creatively speaking, if you drag the Thick/Thin tool clockwise, you'll get a concave "pinch" effect, while counter-clockwise motion results in a convex "punch" effect.



In this magnified view of the Thick/Thin Warp tool's effect, we dragged a hard brush (diameter 19 pixels) straight across a grid of black, single-pixel dots—above, left to right; below, right to left. The Thick/Thin Warp effect follows a "right hand rule"—displacing pixels to the right of the drag trajectory.

To apply the effect:

- 1 Choose the **Thick/Thin Warp tool** from the from the Warp Tools flyout on the Tools toolbar.
- 2 Change properties, if necessary, on the [Tool Properties tab](#) (see below) and choose a brush tip on the [Brush Tip tab](#).
- 3 Drag across the image to shift pixels 90° to the right of the brush direction.

Unwarp tool



The **Unwarp tool** reduces the strength of the current warped effect under the brush.

To restore an unwarped state:

- 1 Choose the **Unwarp tool** from the from the Warp Tools flyout on the Tools toolbar.
- 2 Change properties, if necessary, on the [Tool Properties tab](#) (see below) and choose a brush tip on the [Brush Tip tab](#).
- 3 Drag the Unwarp brush across a warped region.

Note that Unwarp only works as long as you're still using the Warp tools. Once you select some other tool that's not on the Warp Tools flyout, in effect your "warping session" is over. If you return to the flyout later, it's a new session: Unwarp will reset itself and forget any previous warping. Similarly, PhotoPlus treats all your operations during one warping session as a single, cumulative event; using the Undo command clears the whole session.

Tip: As a safety measure, occasionally switch to a non-Warp tool in the midst of warping, just to record your work up to that point as a separate event.

Warp Tools properties

On the Tool Properties tab, the **Opacity** setting determines the degree of warping or unwarping that takes place.

The **Density** setting relates to how carefully each tool calculates new pixel values while you're moving the brush, as opposed to using interpolation to speed things up. A higher Density setting will produce better results on most systems, but try a lower setting if brush movement appears jerky.

However powerful your system, it's a good idea to click the **Refine** button when you're done, to update the image using fully recalculated pixel values.

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:

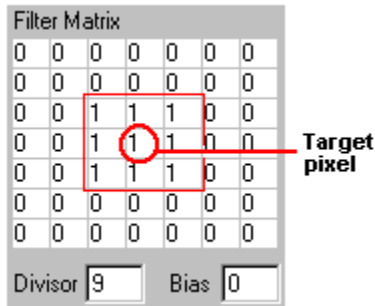
- 1 Choose **Custom...** from the Effects menu. The Custom Filter dialog appears, with the image visible in the preview window.
- 2 To see a different part of the image, drag it with the hand cursor. Click the Zoom buttons to zoom in or out.
- 3 To apply a custom filter, click its name in the Custom 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  **New Filter** button. (To delete a selected filter, click the  **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.



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Divisor: Bias:

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 offset (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.

Using plug-ins

PhotoPlus supports Adobe Photoshop-compatible plug-in filters. Any such filters located in your PhotoPlus plug-ins folder will appear on the Effects menu. For any filters that are stored outside the designated folder, you can create Windows shortcuts within the folder, pointing to the actual files.

To apply a plug-in filter:

- n Choose it from the Effects menu. Either the effect will be applied immediately, or the plug-in will display its own dialog.

To check or change the plug-in filter folder:

- 1 Choose **Preferences...** from the File menu and select the **Plugins** tab. Initially the dialog shows the path you selected at the time of installation.
- 2 To change the designated folder, click the **Browse...** button and use the dialog to locate the correct folder.

Basics of using layers

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.



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

Separate topics cover [shape layers](#) and [text layers](#)—specifically designed to keep objects (either shapes or text) separate from the other layers so that they remain editable—and [adjustment layers](#), which apply filter effects to lower 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 [Layers 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.

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:

- n 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 Layers tab 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.



- 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, setting up different color interactions ([blend modes](#)) between layers, varying layer [opacity \(transparency\)](#), applying [2D layer effects](#) and [3D layer effects](#), using [depth maps](#), [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 [Layers tab](#).

To carry out basic layer operations:

- n To create a new standard layer, click the  **New Layer** button on the Layers tab, or right-click a layer name and choose **New Layer...**

- n To create a new standard layer from the current selection, choose **New Layer from Selection Copy** or **New Layer from Selection Cut** from the Layers menu. The former command leaves the original region intact; the latter cuts the original region to the Clipboard.
- n To select a layer, click on its name in the Layers tab. The selected layer is now the active layer.
- n To clone the active layer and its contents as a new standard layer, choose **Duplicate...** from the Layers menu, or right-click the layer name on the tab and choose **Duplicate....**
- n To convert the Background layer to a standard (transparent) layer, right-click "Background" on the Layers tab and choose **Promote to Layer**. The layer's name changes from "Background" to "Layer <number>."
- n To remove the active layer, click the  **Delete** button on the Layers tab. (You can delete the Background layer, as long as it's not the only layer.)
- n To make a layer's contents visible or invisible, click the  **Hide/Show Layer** button next to its name on the Layers 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.
- n To prevent further editing of transparent regions on a standard layer, click the  **Protect Transparency** button next to its name on the Layers tab.
- n To convert any shape or text layer to a standard layer, right-click on the layer name and choose **Render** from the menu.

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:


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

Note: [Color adjustments](#) from the Image menu and [special effects](#) from the Effects menu typically are applied to the current **selection**; if there's no selection, they affect the **active layer** (the one currently selected in the Layers 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 and editing 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 an entire layer:


- n With nothing selected (press **Ctrl+D** to remove any selection), drag with the  **Move tool**.

If the Move tool's **Automatically Select Layer** property is selected on the Tool Properties tab, the tool moves the first visible layer. Otherwise, it moves the active layer.

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 Layers tab's Preview Window lets you see the entire layer's contents (unlike the Navigator tab view, which only displays the canvas area inside the image window).

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. You can also align linked layers with each other.

To link other layers to the active layer:

- n Click the  **Link Layer** button next to the layer's name on the Layers 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.


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

To align linked layers with each other:

- n Choose **Align Linked** from the Layers menu, then select **Top**, **Vertical Center**, **Bottom**, **Left**, **Horizontal Center**, or **Right** from the submenu.

The active layer stays where it is; other linked layers move into alignment with it.

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

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

- n 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:

- n Click on the layer's name in the Layers 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

- n 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:

- n To merge the active layer with the layer below it, choose **Merge Down** from the Layers menu.
- n To merge just the currently visible layers into a single layer, choose **Merge Visible** from the Layers menu.
- n 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.
- n 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.

Using adjustment layers


Adjustment layers let you insert any number of effects experimentally. Unlike the [other layer types](#), adjustment layers don't store content in the form of bitmap images, text, or shapes. Rather, each adjustment layer applies one effect to content on the layers below it. You can even combine multiple effects by stacking several adjustment layers.

Adjustment layers all have corresponding entries on the Image menu—but instead of altering the image or layer directly as with the **Image/Adjust** commands, adjustment layers let you revisit the settings for a given effect as often as needed, while continuing to edit the image in other ways. If you later decide you don't even need an effect, you can simply remove it!

The following effects are available as adjustment layers. Click [green](#) links for topics, [red](#) for Effects Gallery examples:

- **Levels:** Adjust contrast and tonal range by shifting dark, light, and mid-tone values. (See [topic](#) or [example](#).)
- **Curves:** Fine-tune lightness (luminance) values in the image or color channel using a line graph. (See [topic](#) or [example](#).)
- **Color Balance:** Adjust color and tonal balance for general color correction in the image. (See [topic](#) or [example](#).)
- **Brightness/Contrast:** Vary brightness and/or contrast. (See [topic](#) or [example](#).)
- **Hue/Saturation/Lightness:** Vary hue, saturation, and/or lightness values, or colorize an image. (See [topic](#) or [example](#).)
- **Channel Mixer:** Modify a color channel using a mix of the current color channels. (See [topic](#) or [example](#).)
- **Gradient Map:** Remap grayscale (lightness) information in the image to a selected gradient. (See [topic](#) or [example](#).)
- **Threshold:** Create a monochromatic (black and white) representation. (See [topic](#) or [example](#).)
- **Negative Image:** Invert each color, replacing it with an "opposite" value. (See [topic](#) or [example](#).)
- **Posterize:** Apply the Posterize effect by limiting the number of lightness levels. (See [topic](#) or [example](#).)

To create an adjustment layer:

- 1 Click the  **New Adjustment Layer** button on the Layers tab (or choose **New Adjustment Layer** from the Layers menu) and select the name of the adjustment from the submenu.
- 2 Use the dialog to pick the settings to be applied. A new adjustment layer is inserted above the active layer.

To change the specific settings for an effect:

- Double-click the adjustment layer's name in the list and then use the dialog again.
OR
Right-click the layer name and choose **Edit Adjustment Layer**.

To access layer properties for an adjustment layer:

- Right-click the layer name and choose **Properties....**

As with other layers, you can change the adjustment layer's name, or set Opacity and/or Blend Mode.

Notes on using adjustment layers

- You can drag an adjustment layer up or down within the list to determine exactly which other layers are below and therefore affected by it.
- To see how the image looks without the effect, click the **Hide Layer** button next to the adjustment layer's name.
- If you decide to permanently remove an effect, simply delete its adjustment layer.
- Most of the time, you'll leave adjustment layers separate from the rest of the document. Note, however, that the **Merge Down** command will apply the effect to the layer immediately below it, in this case removing the effect on layers further down. To preview the effect of merging down on a single layer, hide the other lower layers.

Using blend modes

— Click [red](#) terms for Effects Gallery examples —

You can think of **blend modes** as different rules for putting pixels together to create a resulting color. In PhotoPlus, you'll encounter blend modes in three contexts:

- n As a property of individual **tools** (Paintbrush, Clone, Eraser, Airbrush, Fill, Smudge, QuickShape, and Line), the tool's blend mode determines what happens if you use the tool to apply a new color pixel on top of an existing color pixel. Note that once you've applied paint to a region, that's it—you've changed the color of pixels there. Subsequently changing a tool's blend mode won't alter brush strokes you've already laid down!
- n As a property of individual **layers**, a layer's blend mode determines how each pixel on that layer visibly combines with those on layers below. (Because there are no layers below the Background layer, it can't have a blend mode.) Note that changing a layer's blend mode property doesn't actually alter the pixels on the layer—so you can create different blend mode effects after creating the image content, then merge layers when you've achieved the result you want.
- n As a property of certain [3D layer effects](#), where the blend mode is one of many settings that determine a color change superimposed on the layer's pixels. The effects themselves are editable and don't alter the actual pixel values—nor does the effect's blend mode alter the layer's blend mode setting.

A tool or layer's **opacity** setting interacts with its blend mode to produce varying results. For details, see the next topic.

To set a tool's blend mode:

- n Select the tool and use the drop-down list on the Tool Properties tab.

To set a layer's blend mode:

- n Select the layer's name on the Layers tab and use the drop-down list.

Blend Mode options

The subtopics below describe the combinatorial results of each of the PhotoPlus blend modes. Note that we're using the terms "top color" and "bottom color" rather loosely, to avoid technicalities.

- For tool operations, "top color" refers to the color being applied with a tool, while "bottom color" refers to the image color being painted over.
- For layer operations, "top color" refers to the active layer's pixels, while "bottom color" refers to the combined color of pixels on layers immediately below.
- For effect operations, "top color" refers to the color superimposed by the effect, while "bottom color" refers to the color of pixels prior to applying the effect.

Note: The **Effects Gallery** window is designed to work in conjunction with the subtopic text, providing an illustration for each blend mode. Clicking a [red](#) link in either window displays the corresponding example, while clicking [green](#) links in the Effects Gallery displays the associated text.

Normal

The default blend mode. Blending of top color and bottom color pixels occurs only by varying the opacity setting. If the top color's opacity setting is 100%, no blending occurs and only the top color is visible.

Dissolve

Similar to **Normal**, but randomly selected top color pixels are replaced with the bottom color to create a speckled effect. The number of replaced pixels depends on the top color's opacity (lower opacity, more replacements).

Multiply

The result is a combination of the top and bottom color at each pixel position, always producing a darker value. Multiplying any color with black yields black. Multiplying any color with white leaves the color unchanged. Successive multiplied paint strokes (other than black or white) produce a progressively darker "magic marker" effect.

Screen

Like **Multiply**, but the result is a combination of the inverse of the top and bottom color at each pixel position, always producing a lighter value. Screening any color with white yields white. Screening any color with black leaves the color unchanged. Successive screened paint strokes (other than black or white) produce a progressively lighter "bleaching" effect.

Overlay

Applies either **Multiply** or **Screen**, depending on the bottom color at each pixel position. If the bottom is less than 50% gray, it multiplies; if greater, it screens. This tends to preserve highlights and shadows from the bottom along with main colors and patterns from the top. Compare to **Hard Light**.

Soft Light

Applies either **Burn** or **Dodge**, depending on the top color at each pixel position. If the top is less than 50% gray, it burns; if greater, it dodges. This tends to add soft highlights and shadows to the image.

Hard Light

Applies either **Multiply** or **Screen**, depending on the top color at each pixel position. If the top is less than 50% gray, it multiplies; if greater, it screens. This tends to add soft highlights and shadows to the image. Compare to **Overlay**.

Dodge

Lightens the image using lightness values of the top color at each pixel position. Dodging with black has no effect.

Burn

Darkens the image using the lightness values of the top color at each pixel position. Burning with white has no effect.

Darken

The result is either the top or bottom color at each pixel position, depending which is darker. Lighter colors are replaced.

Lighten

The result is either the top or bottom color at each pixel position, depending which is lighter. Darker colors are replaced.

Difference

The result is the difference between the top and bottom color at each pixel position, with the same result no matter which color is on top.

Exclusion

Similar to **Difference**, but a softer effect, with the same result no matter which color is on top.

Hue

The result is a combination of the hue of the top color with the lightness and saturation of the bottom color.

Saturation

The result is a combination of the saturation of the top color with the hue and lightness of the bottom color. No change over grayscale (0% saturation) regions.

Color

The result is a combination of the hue and saturation of the top color with the lightness of the bottom color. Because lightness values (grayscale levels) are preserved, this mode is useful for tinting grayscale images. Compare **Lightness**.

Lightness

The inverse of the **Color** blend mode. The result is a combination of the lightness (luminance) of the top color with the hue and saturation of the bottom color.

Adjusting opacity/transparency

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 gauze backdrop in a theater: depending on how light falls on it, it can be rendered either visible or invisible, or in between. Fully opaque pixels contribute their full color value to the image. Fully transparent pixels are invisible: they contribute nothing to the image. In-between pixels are called semi-transparent. You'll primarily encounter opacity in one of these two contexts:

- n As a property of the pixels laid down by individual **tools** (Paintbrush, Clone, Eraser, Airbrush, Fill, Smudge, QuickShape, 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!

The map of opacity values for all the pixels on a particular layer is stored along with the layer and is known as its **opacity channel** or **alpha channel**.

- n 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. Distinct from the alpha channel which stores values for each pixel, it's like a "master setting" that you can vary after paint has been laid down.

A tool or layer's **blend mode** interacts with its opacity setting to produce varying results. For details, see the previous topic.


To set a tool's opacity:

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

To set a layer's opacity:

- n Right-click its name in the Layers 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  **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.

- n 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.
- n 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](#).)
- n Cut, deleted, or selected-and-moved pixels expose the current background color (on the Background layer) or transparency (on standard layers).
- n 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). If you use the [Background Eraser or Flood Eraser](#) on the Background layer, it's automatically promoted to a standard layer.
- n To prevent further editing of transparent regions on a standard layer, click the **Protect Transparency** button next to its name on the Layers tab.
- n You can create a selection based on the active layer's alpha (opacity) channel using the **Select/Create from Layer Alpha** command. In the selection that results, transparent areas become relatively less selected than opaque areas, i.e. more

protected from changes.

- n You can use **anti-aliasing** to produce smooth, semi-transparent edges on selections. (See the topic [Modifying a selection](#).)
- n When using the **Gradient Fill tool**, you can select starting and ending opacity values on the Tool Properties tab. Note that the tool treats transparency differently on text and shape layers than it does on standard layers or the Background. (See the topic [Filling a region](#).)
- n **Drop shadow** and **bevel** are two special effects, especially effective on text, that include opacity as a filter parameter. (See the next topic.)
- n **Masking** lets you paint on, adjust, or otherwise manipulate any non-Background 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. Masking on an adjustment layer lets you vary the adjustment's effect on different parts of the image. (See the topic [Basics of using masks](#).)
- n 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](#).)

Applying 2D layer effects

[Drop Shadow](#)
[Inner Bevel](#)

[Inner Shadow](#)
[Outer Bevel](#)

[Outer Glow](#)
[Emboss](#)

[Inner Glow](#)
[Pillow Emboss](#)

[Color Fill](#)


— Click [green](#) for help topic, [red](#) for Image Gallery —

Layer effects are creative effects that you can apply to the contents of [standard \(transparent\) layers](#), [text layers](#), or [shape layers](#). Standard or "2D" layer effects are particularly well adapted to text, while 3D layer effects (see the next topic) create the impression of a textured surface. Because the Background layer doesn't support transparency (see the previous topic), the effects are not available there. You can use the Layer Effects dialog to apply one or more effects to the same layer. Keep in mind that none of the layer effects will "do" anything to an empty layer—you'll need to have some color there to see the difference they make!

[Drop Shadow](#)

The **Drop Shadow** filter adds a diffused shadow "behind" solid regions on a layer.


To apply the effect:

- 1 Click the  **Layer Effects** button on the Layers tab (or choose **Effects** from the Layers menu) and check **Drop Shadow** in the Layer Effects dialog.
- 2 Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Choose a [blend mode](#) from the list.
- 4 Adjust the sliders (or enter specific values) to vary the combined effect. (You can also select a slider and use the keyboard arrows.)
 - **Opacity** (0 to 100%) controls the opacity of shadow pixels.
 - **Blur** (0 to 20) controls the "fuzziness" of the shadow effect.
 - **Distance** (0 to 40) controls the apparent separation between the original shape(s) and the plane on which the shadow is cast. With 0 depth and a larger blur factor, you can achieve a unique "glow" effect.
 - **Intensity** (0 to 100) varies the strength of the effect.
- 5 Adjust the **Angle** dial, or enter a value, to control the direction of the cast shadow.
- 6 Click the **Color** swatch to display the Adjust Color dialog and change the base shadow color from its default (black).
- 7 Click **OK** to apply the effect, or **Cancel** to abandon changes.

[Inner Shadow](#)

The **Inner Shadow** filter adds a diffused shadow effect inside the edge of the solid regions of a layer.


To apply the effect:

- 1 Click the  **Layer Effects** button on the Layers tab (or choose **Effects** from the Layers menu) and check **Inner Shadow** in the Layer Effects dialog.
- 2 Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Choose a [blend mode](#) from the list.
- 4 Adjust the sliders (or enter specific values) to vary the combined effect. (You can also select a slider and use the keyboard arrows.)
 - **Opacity** (0 to 100%) controls the opacity of shadow pixels.
 - **Blur** (0 to 20) controls the "fuzziness" of the shadow effect.
 - **Distance** (0 to 40) controls the apparent separation between the original shape(s) and the plane on which the shadow is cast. With 0 depth and a larger blur factor, you can achieve a unique "glow" effect.
 - **Intensity** (0 to 100) varies the strength of the effect.
- 5 Adjust the **Angle** dial, or enter a value, to control the direction of the cast shadow.
- 6 Click the **Color** swatch to display the Adjust Color dialog and change the base shadow color from its default (black).
- 7 Click **OK** to apply the effect, or **Cancel** to abandon changes.

[Outer Glow](#)

The **Outer Glow** filter adds a color border (stroke) outside the edge of the solid regions of a layer.


To apply the effect:

- 1 Click the  **Layer Effects** button on the Layers tab (or choose **Effects** from the Layers menu) and check **Outer Glow** in the Layer Effects dialog.
- 2 Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Choose a [blend mode](#) from the list.
- 4 Adjust the sliders (or enter specific values) to vary the combined effect. (You can also select a slider and use the keyboard arrows.)
 - **Opacity** (0 to 100%) controls the opacity of shadow pixels.
 - **Blur** (0 to 20) controls the "fuzziness" of the shadow effect.
 - **Intensity** (0 to 100) varies the strength of the effect.
- 5 Click the **Color** swatch to display the Adjust Color dialog and change the base shadow color from its default (black).
- 6 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Inner Glow

The **Inner Glow** filter adds a color border (stroke) inside the edge of the solid regions of a layer.


To apply the effect:

- 1 Click the  **Layer Effects** button on the Layers tab (or choose **Effects** from the Layers menu) and check **Inner Glow** in the Layer Effects dialog.
- 2 Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Choose a [blend mode](#) from the list.
- 4 Adjust the sliders (or enter specific values) to vary the combined effect. (You can also select a slider and use the keyboard arrows.)
 - **Opacity** (0 to 100%) controls the opacity of shadow pixels.
 - **Blur** (0 to 20) controls the "fuzziness" of the shadow effect.
 - **Intensity** (0 to 100) varies the strength of the effect.
- 5 Click the **Color** swatch to display the Adjust Color dialog and change the base shadow color from its default (black).
- 6 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Inner Bevel

The **Inner Bevel** filter, one of the styles available when you choose **Bevel and Emboss**, adds a rounded-edge effect inside the solid regions of a layer.


To apply the effect:

- 1 Click the  **Layer Effects** button on the Layers tab (or choose **Effects** from the Layers menu) and check **Bevel and Emboss** in the Layer Effects dialog.
- 2 Select **Inner Bevel** from the Styles list at the lower right.
- 3 Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 4 Choose a Highlight [blend mode](#) from the list and set the Opacity slider. Click the **Color** swatch to display the Adjust Color dialog and change the highlight color from its default (white).
- 5 Choose a Shadow blend mode, opacity, and color (default black).
- 6 Adjust the sliders (or enter specific values) to vary the combined effect.
 - **Blur** (0 to 20) controls the "fuzziness" of the shadow effect.
 - **Depth** (0 to 1000) determines the intensity of the effect.
 - **Soften** (0 to 20) blurs the lighting.
- 7 Adjust the **Angle/Elevation** dial, or enter values, to control the direction of the effect.
- 8 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Outer Bevel

The **Outer Bevel** filter, one of the styles available when you choose **Bevel and Emboss**, adds a rounded-edge effect (resembling a drop shadow) outside the solid regions of a layer.


To apply the effect:

- 1 Click the  **Layer Effects** button on the Layers tab (or choose **Effects** from the Layers menu) and check **Bevel and Emboss** in the Layer Effects dialog.
- 2 Select **Inner Bevel** from the Styles list at the lower right.
- 3 Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 4 Choose a Highlight **blend mode** from the list and set the Opacity slider. Click the **Color** swatch to display the Adjust Color dialog and change the highlight color from its default (white).
- 5 Choose a Shadow blend mode, opacity, and color (default black).
- 6 Adjust the sliders (or enter specific values) to vary the combined effect.
 - **Blur** (0 to 20) controls the "fuzziness" of the shadow effect.
 - **Depth** (0 to 1000) determines the intensity of the effect.
 - **Soften** (0 to 20) blurs the lighting.
- 7 Adjust the **Angle/Elevation** dial, or enter values, to control the direction of the effect.
- 8 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Emboss

The **Inner Bevel** filter, one of the styles available when you choose **Bevel and Emboss**, adds a convex rounded edge and shadow effect to the solid regions of a layer.


To apply the effect:

- 1 Click the  **Layer Effects** button on the Layers tab (or choose **Effects** from the Layers menu) and check **Bevel and Emboss** in the Layer Effects dialog.
- 2 Select **Inner Bevel** from the Styles list at the lower right.
- 3 Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 4 Choose a Highlight **blend mode** from the list and set the Opacity slider. Click the **Color** swatch to display the Adjust Color dialog and change the highlight color from its default (white).
- 5 Choose a Shadow blend mode, opacity, and color (default black).
- 6 Adjust the sliders (or enter specific values) to vary the combined effect.
 - **Blur** (0 to 20) controls the "fuzziness" of the shadow effect.
 - **Depth** (0 to 1000) determines the intensity of the effect.
 - **Soften** (0 to 20) blurs the lighting.
- 7 Adjust the **Angle/Elevation** dial, or enter values, to control the direction of the effect.
- 8 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Pillow Emboss

The **Inner Bevel** filter, one of the styles available when you choose **Bevel and Emboss**, adds a concave rounded edge and shadow effect to the solid regions of a layer.


To apply the effect:

- 1 Click the  **Layer Effects** button on the Layers tab (or choose **Effects** from the Layers menu) and check **Bevel and Emboss** in the Layer Effects dialog.
- 2 Select **Pillow Emboss** from the Styles list at the lower right.
- 3 Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 4 Choose a Highlight **blend mode** from the list and set the Opacity slider. Click the **Color** swatch to display the Adjust Color dialog and change the highlight color from its default (white).
- 5 Choose a Shadow blend mode, opacity, and color (default black).
- 6 Adjust the sliders (or enter specific values) to vary the combined effect.
 - **Blur** (0 to 20) controls the "fuzziness" of the shadow effect.
 - **Depth** (0 to 1000) determines the intensity of the effect.
 - **Soften** (0 to 20) blurs the lighting.
- 7 Adjust the **Angle/Elevation** dial, or enter values, to control the direction of the effect.
- 8 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Color Fill

The **Color Fill** filter lets you apply a specific color to a layer.

To apply the effect:

- 1 Click the  **Layer Effects** button on the Layers tab (or choose **Effects** from the Layers menu) and check **Color Fill** in the Layer Effects dialog.
- 2 Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- 3 Choose a blend mode from the list.
- 4 Click the **Color** swatch to display the Adjust Color dialog and choose the applied color.
- 5 Click **OK** to apply the effect, or **Cancel** to abandon changes.

Applying 3D layer effects

[3D Bump Map](#)

[2D Bump Map](#)

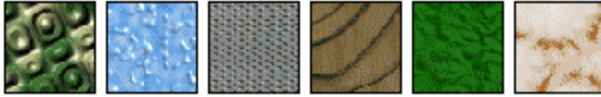
[3D Pattern Map](#)

[2D Pattern Map](#)

[3D Lighting](#)

— Click [green](#) for help topic, [red](#) for Image Gallery —

Layer effects are creative effects that you can apply to the contents of [standard \(transparent\) layers](#), [text layers](#), or [shape layers](#). **3D layer effects** create the impression of a textured surface, while standard or "2D" layer effects (see the previous topic) are particularly well adapted to text. Because the Background layer doesn't support [transparency](#), the effects are not available there. You can use the Layer Effects dialog to apply one or more effects to the same layer. Keep in mind is that none of the layer effects will "do" anything to an empty layer—you'll need to have some color there to see the difference they make!



The [Instant Effects tab](#) is a good place to begin experimenting with 3D layer effects. Its multiple categories each offer a gallery full of predefined effects, using various settings.

To apply an Instant Effects tab preset to the active layer:

- Display the **Instant Effects** tab and select a category, then click a gallery thumbnail.
- To make the effect appear smaller or larger in relation to the image, drag the **Scale** slider or type a value.

You can customize an Instant Effects tab preset, or apply one or more specific effects from scratch, using the Layer Effects dialog. There you'll find a wide variety of controls for fine-tuning each 3D layer effect; some effects have sub-stages for more options. For details on what each control does, click the [green](#) links above.

You don't need to grasp the inner workings of the 3D Effects to experiment with them... but you're unlikely to get beyond trial-and-error without absorbing a few basic concepts. The overview below should give you a running start... and the additional notes that follow shed even more light on how PhotoPlus processes depth information.

Overview

☒ 3D Effects

☐ 3D Bump Map

Function

Advanced

☐ 2D Bump Map

☐ 3D Pattern Map

Function

Advanced

☐ 2D Pattern Map

☒ 3D Lighting

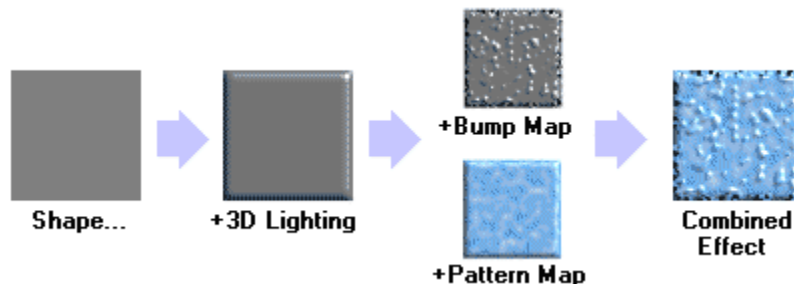
Suppose you've applied a 3D layer effect preset from the Instant Effects tab, and then you bring up the Layer Effects dialog. On inspecting the settings used in the preset, the first thing you'll notice is that two boxes are checked.

- **3D Effects** is a master switch for this group, and its settings of **Blur** and **Depth** make a great difference; you can click the "+" button to unlink them for independent adjustment.

- **3D Lighting** provides a "light source" without which any depth information in the effect wouldn't be visible. The lighting settings let you illuminate your 3D landscape and vary its reflective properties.

Another thing you'll probably wonder about is that all the 3D effects seem to have "map" in their name. The concept of a **map** is the key to understanding how these effects work: it means a channel of information overlaid on the image, storing values for each underlying image pixel. You can think of the layer as a picture printed on a flexible sheet, which is flat to start with. Each 3D layer effect employs a map that interacts with the underlying image on a layer to create the visual impression of a textured surface.

Bump Maps superimpose depth information for a bumpy, peak-and-valley effect. Using the flexible sheet metaphor, the bump map adds up-and-down contours and the image "flexes" along with these bumps, like shrink-wrap, while a light from off to one side accentuates the contours. **Pattern Maps** contribute color variations using a choice of blend modes and opacity, for realistic (or otherworldly!) depictions of wood grain, marbling, and blotches or striations of all kinds.

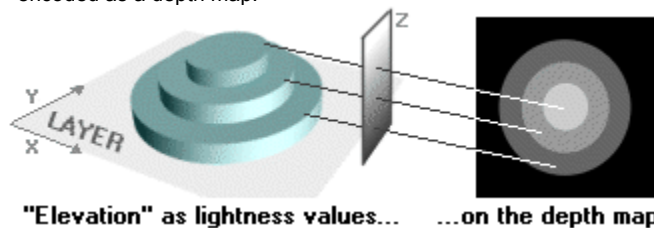


You'll notice that Bump Maps and Pattern Maps come in two varieties: "2D" and "3D." Don't confuse these with the "2D layer effects" (like Drop Shadow) covered in the previous topic. The map-based effects are all three-dimensional effects—the distinction in name has to do with how each one achieves its result. Here's the difference: With the "3D" Bump Maps and Pattern Maps, you first pick a mathematical function. With the "2D map" variants, you begin by selecting a bitmap from a gallery. The function-based maps include data about the interior of the "space," while the bitmap-based maps describe only surface characteristics. (You'll see this distinction more clearly if you experiment with depth maps, as covered briefly below, and in more detail in the next topic.)

Additional notes

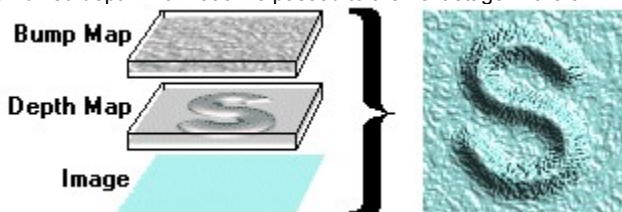
Multiple effects. You can combine multiple 3D layer effects, as in the illustration above. The effects are applied cumulatively, in a standard "pipeline" sequence: 3D Bump > 2D Bump > 3D Pattern > 2D Pattern > 3D Lighting.

Depth maps and bump maps. As detailed in the next topic, a **depth map** is a separate channel you can explicitly add to a layer in PhotoPlus, for storing Z-axis (depth) information to supplement the underlying image information—in effect adding "volume" to the image. It's as if the original image acquires a surface with peaks and valleys—and you can play with the elevation of the landscape to achieve different visual results. The depth map itself is a grayscale representation that uses lightness values to encode the Z-axis or "elevation" data, with 256 possible levels for each underlying image pixel. Lighter areas represent peaks and darker areas represent valleys. Here's a schematic view of how an imaginary 3D volume (the stack on the left) might be encoded as a depth map:



Once you create a depth map on a layer, painting or erasing to vary lightness on the depth map produces interesting depressions and ridges on the image (again, see the next topic for details). And all the layer effects in the 3D Effects category interact with variations in the depth map. (Standard layer effects like Drop Shadow don't use the depth map.)

The 2D and 3D Bump Map layer effects provide yet another way to add "depth" to an image, whether or not the layer already has a depth map. The bump map actually works like another depth map, storing Z-axis data per your choices in the Layer Effects dialog. As depicted in simplified form below, the bump data is combined with the layer's existing depth map, if any, or otherwise by default with its alpha (opacity) channel and mask. (If the layer has a depth map, the alpha channel isn't used.) Then the combined depth information is passed to the next stage in the 3D Effect pipeline.



To illustrate how these manipulations work together, we started with the depth map from the "3D stack" shown above. Then we added 3D Lighting for dimensionality (first with minimal Blur, then with increased Blur). Next we applied a 3D Pattern effect using the SineSumAbs function. The final illustration shows a zoomed-in view: by adding depth and texture cues we've re-created a birds-eye view of the "3D stack" we started with!




Functions. The basic **Noise** function is made from a set of pseudo-random values at discrete points, interpolated by straight lines. By summing noise values at different frequencies, very natural textures can be achieved without the problems of large memory usage or tiling that occur with bitmap textures. The next three functions are based on the basic Noise function. **Sum** is the sum of noise values at different wavelengths; **SumAbs** sums the absolute value of noise functions at different wavelengths; and **SineSumAbs** takes the sine of the output position perturbed by the SumAbs function value (try it for great marble effects!). Finally, the **Checkerboard** function varies linearly between the minimum and maximum values in a saw-tooth shape, while **Stripe** extends a linear fill into three dimensions.

Lighting. The 3D Effects pipeline uses advanced shading techniques to render the surface. Two light sources are employed: **ambient lighting** and a **point light** source at infinity. The point light source gives rise to two types of reflection: **diffuse** reflection and **specular** reflection. Unchecking the "3D Lighting" entry is equivalent to lighting the surface with 100% ambient lighting only. You'll find other 3D Lighting terminology explained in the description of the effect itself [below](#).

3D Bump Map

The **3D Bump Map** effect creates the impression of a textured surface by applying a mathematical function you select to add depth information, for a peak-and-valley effect. You can use 3D Bump Map in conjunction with one or more additional 3D layer effects—but not with a 2D Bump Map. (See the [overview](#) above for background and technical details on these effects.)

To apply the effect:

- Click the  **Layer Effects** button on the Layers tab (or choose **Effects** from the Layers menu) and check **3D Effects** in the Layer Effects dialog. Adjust the "master control" sliders here to vary the overall properties of any individual 3D effects you select.
 - Blur** (0 to 500) specifies the amount of smoothing applied. Larger blur sizes give the impression of broader, more gradual changes in height.
 - Depth** (0 to 500) specifies how steep the changes in depth appear.
 - The



button is normally down, which links the two sliders so that sharp changes in Depth are smoothed out by the Blur parameter. To adjust the sliders independently, click the button so it's up.

- Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- Check **3D Bump Map**. Note that the final effect depends greatly on which function and settings you choose (see the next step), so feel free to experiment with those choices first. Use the controls in this dialog to affect the end result regardless of other settings.
 - Z Depth** (0 to 1000) is a factor applied to the initial depth map (or alpha channel) pixel intensity before the bump map function is applied. Lower settings tend to flatten the initial surface; higher settings to steepen it.
 - B Depth** (0 to 1000) means "Bump Depth" and is a factor applied to the bump map after it's been generated. Lower settings translate into shallower bumps; higher settings, deeper bumps.
 - Use the **contour** line to (in effect) adjust the "side view profile" of the generated bumps. You're actually boosting or lowering lightness values on the bump map (see the Note below) but the process is quite intuitive in a visual way. Click on the contour line to add a control node, then drag the line to reshape it and produce a corresponding contour on the bumps. Click the line again to add more nodes as needed. To delete a node, select it and press **Delete**. For a straight-line plot between nodes, check **Linear**.


Note: Contour is a before-and-after or input-output operation using a graph which will look familiar if you've used the [Curves](#) adjustment. In this case, the horizontal axis represents possible lightness values on the bump map, ranging from black to white, "before" any adjustment; the vertical axis depicts the same spread of values after adjustment. The line relates these Input and Output values to each other, with boxes that provide a readout of any node you select. Initially, the graph depicts "no change": i.e. each Input value along the horizontal scale corresponds to the exact same Output value along the vertical. Pushing the mid-section of the curve upward, for example, is a way of brightening the middle gray values, because their Output values are now higher than before. It's intriguing to see how these simple changes translate immediately into the shape of the terrain we are mapping on the image!
- Click **Function** to choose which procedural function will generate the bump map. Choices in the drop-down list include: **Noise**, **Sum**, **SumAbs**, **SineSumAbs**, **Checkerboard**, and **Stripe**. Once you've selected a function, use this dialog to set general parameters, and the **Advanced** dialog to fine-tune the effect.
 - X-Scale** (1 to 1000) compresses or stretches the effect along the X or horizontal axis.
 - Y-Scale** (1 to 1000) compresses or stretches the effect along the Y or vertical axis.
 - Bias** (0 to 100) works like a brightness adjustment, with lower settings yielding darker tones; higher settings, lighter tones.
 - Gain** (0 to 100) works like a contrast adjustment, with lower settings yielding a narrower range of output values between dark and light; higher settings, a wider spread.
- Click **Advanced** to set additional options for the selected function; actual choices vary, depending on the function. The following notes may be helpful, but try-it-and-see is often the best approach!
 - Wavelength** (1 to 1000) determines (for the basic Noise function) how widely spaced the random values are, or (for other noise effects) the wavelength of the first noise function to be summed. For Checkerboard and Stripe, it determines the wavelength of the underlying wave.
 - Amplitude** (0 to 1000) is a scaling factor applied to the random values, or the height of the first noise function to be summed.
 - Seed** (0 to 32767) is used to initialize the pseudo-random number generator. Size doesn't matter; only the sequence changes.
 - Clipping** determines what happens if the noise value overflows the allowable range. **Saturate** means the value "sticks" at the maximum or minimum value. **Signed** values restart from the opposite extreme, while **Unsigned** allows values to restart from zero.
 - Lacunarity** (1 to 100) is a multiplier applied to the current wavelength to calculate each successive wavelength.

- **Persistence** (0.05 to 3.00) is a multiplier applied to the current amplitude to calculate each successive amplitude.
- **Octaves** (1 to 12) is the maximum number of noise functions to sum.
- **Turbulence** (0 to 500) is a scaling factor applied to the SineSumAbs perturbations.
- **Phase Scale** (0 to 500) determines the wavelength of the sine wave.
- The **Plane Orientation** dial determines the Angle and Elevation of the Stripe function (you can also type in values).
- Finally, click **OK** to apply the effect, or **Cancel** to abandon changes.

2D Bump Map


The **2D Bump Map** effect creates the impression of a textured surface by applying a grayscale bitmap you select to add depth information, for a peak-and-valley effect. You can use 2D Bump Map in conjunction with one or more additional 3D layer effects—but not with a 3D Bump Map. (See the [overview](#) above for background and technical details on these effects.)

To apply the effect:

- Click the  **Layer Effects** button on the Layers tab (or choose **Effects** from the Layers menu) and check **3D Effects** in the Layer Effects dialog. Adjust the "master control" sliders here to vary the overall properties of any individual 3D effects you select.
 - **Blur** (0 to 500) specifies the amount of smoothing applied. Larger blur sizes give the impression of broader, more gradual changes in height.
 - **Depth** (0 to 500) specifies how steep the changes in depth appear.
 - The




button is normally down, which links the two sliders so that sharp changes in Depth are smoothed out by the Blur parameter. To adjust the sliders independently, click the button so it's up.

- Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- Check **2D Bump Map** and click the **Pattern** thumbnail to display the Patterns gallery, then select a pattern sample. To switch to another pattern category, right-click any sample and select the category name.
 - The right-click menu also lets you add or delete the specific pattern you clicked on, add a new category, edit the current category, or delete the current category.
 - Bitmaps may appear in color, but only their lightness information will be used.
 - The galleries are shared with the 2D Pattern Map effect.
- Use the dialog controls to adjust how the effect appears.
 - The **X Curvature** and **Y Curvature** settings (0 to 100) determine how convex the bump map surface will appear. Lower values tend to flatten the surface along that axis, so for example if one value is minimum and the other maximum, the surface will take on a cylindrical look. The  button is normally down, which links the two sliders to maintain sphericity. To adjust the sliders independently, click the button so it's up.
 - **Depth** (1 to 1000) scales the depth of the bumps that are produced by the process.
 - **Scale** (1 to 1000) is a factor applied to the selected bitmap to make it larger or smaller in both X and Y dimensions.
 - **Flip-flop** determines how the bitmaps are tiled across the plane. Select this option to avoid discontinuities across bitmap boundaries.
- Click **OK** to apply the effect, or **Cancel** to abandon changes.

3D Pattern Map

The **3D Pattern Map** effect creates the impression of a textured surface by applying a mathematical function you select to introduce color variations. You can use 3D Pattern Map in conjunction with one or more other 3D layer effects. (See the [overview](#) above for background and technical details on these effects.)

To apply the effect:

- Click the  **Layer Effects** button on the Layers tab (or choose **Effects** from the Layers menu) and check **3D Effects** in the Layer Effects dialog. Adjust the "master control" sliders here to vary the overall properties of any individual 3D effects you select.
 - **Blur** (0 to 500) specifies the amount of smoothing applied. Larger blur sizes give the impression of broader, more gradual changes in height.
 - **Depth** (0 to 500) specifies how steep the changes in depth appear.
 - The



button is normally down, which links the two sliders so that sharp changes in Depth are smoothed out by the Blur parameter. To adjust the sliders independently, click the button so it's up..


- Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.

- Check **3D Pattern Map**. Note that the final effect depends greatly on which function and settings you choose (see the next step), so feel free to experiment with those choices first. Use the controls in this dialog to affect the end result regardless of other settings.
 - **Blend Mode** determines how the pattern's colors interact with original pixel values on the layer. The various blend modes are illustrated in the [Effects Gallery](#).
 - **Opacity** (0 to 100) determines the degree to which the pattern covers up image pixels on the layer. Lower values yield more transparency, i.e. more image pixels showing through.
 - **Depth** (0 to 1000) is a scaling factor applied to the initial depth map (or alpha channel) pixel intensity before the function is applied. Lower settings tend to flatten the initial surface; higher settings to steepen it.
 - **Displacement** (0 to 100) is applicable only if you've enabled a 2D or 3D Bump Map (see above) for this layer. It is a scaling factor applied to the bump map data when combining it with the initial depth map (or alpha channel) data, before the function is applied.
 - **Soften** (0 to 100) is the number of pixels by which to blur the generated pattern before blending it onto the layer. It's useful for smoothing out any sharp discontinuities or aliasing that may have been introduced by the function.
 - Click the **gradient sample** to display the Gradient dialog, where you can choose from preset gradients, edit these or create (and even save) your own gradients from scratch. This process is covered fully in the subtopic [Editing a gradient fill](#).
- Click **Function** to choose which procedural function will generate the pattern. Choices in the drop-down list include: **Noise**, **Sum**, **XAbs**, **SineSumAbs**, **Checkerboard**, and **Stripe**. Once you've selected a function, use this dialog to set general parameters, and the **Advanced** dialog to fine-tune the effect.
 - **X-Scale** (1 to 1000) compresses or stretches the effect along the X or horizontal axis.
 - **Y-Scale** (1 to 1000) compresses or stretches the effect along the Y or vertical axis.
 - **Bias** (0 to 100) works like a brightness adjustment, with lower settings yielding darker tones; higher settings, lighter tones.
 - **Gain** (0 to 100) works like a contrast adjustment, with lower settings yielding a narrower range of output values between dark and light; higher settings, a wider spread.
- Click **Advanced** to set additional options for the selected function; actual choices vary, depending on the function. For details on the various parameters, consult the notes for [3D Bump Map](#) above—but a try-it-and-see approach may work best!
- Finally, click **OK** to apply the effect, or **Cancel** to abandon changes.

2D Pattern Map

The **2D Pattern Map** effect creates the impression of a textured surface by applying a grayscale bitmap you select to introduce color variations. You can use 2D Pattern Map in conjunction with one or more other 3D layer effects. (See the [overview](#) above for background and technical details on these effects.)


To apply the effect:

- Click the  **Layer Effects** button on the Layers tab (or choose **Effects** from the Layers menu) and check **3D Effects** in the Layer Effects dialog. Adjust the "master control" sliders here to vary the overall properties of any individual 3D effects you select.
 - **Blur** (0 to 500) specifies the amount of smoothing applied. Larger blur sizes give the impression of broader, more gradual changes in height.
 - **Depth** (0 to 500) specifies how steep the changes in depth appear.
 - The



button is normally down, which links the two sliders so that sharp changes in Depth are smoothed out by the Blur parameter. To adjust the sliders independently, click the button so it's up.

- Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- Check **2D Pattern Map** and click the **Pattern** thumbnail to display the Patterns gallery, then select a pattern sample. To switch to another pattern category, right-click any sample and select the category name.
 - The right-click menu also lets you add or delete the specific pattern you clicked on, add a new category, edit the current category, or delete the current category.
 - Bitmaps may appear in color, but only their lightness information will be used.
 - The galleries are shared with the 2D Bump Map effect.
- Use the dialog controls to adjust how the effect appears.
 - The **X Curvature** and **Y Curvature** settings (0 to 100) determine how convex the bump map surface will appear. Lower values tend to flatten the surface along that axis, so for example if one value is minimum and the other maximum, the surface

will take on a cylindrical look. The  button is normally down, which links the two sliders to maintain sphericity. To adjust the sliders independently, click the button so it's up.

- **Blend Mode** determines how the pattern's colors interact with original pixel values on the layer. The various blend modes are illustrated in the [Effects Gallery](#).
- **Opacity** (0 to 100) determines the degree to which the pattern covers up image pixels on the layer. Lower values yield more transparency, i.e. more image pixels showing through.
- **Scale** (1 to 1000) is a factor applied to the selected bitmap to make it larger or smaller in both x and y dimensions.
- **Displacement** (0 to 100) is applicable only if you've enabled a 2D or 3D Bump Map (see above) for this layer. It is a scaling

factor applied to the bump map data when combining it with the pattern.


- **Flip-flop** determines how the bitmaps are tiled across the plane. Select this option to avoid discontinuities across bitmap boundaries.
- Click **OK** to apply the effect, or **Cancel** to abandon changes.

3D Lighting

The **3D Lighting** effect works in conjunction with other 3D effects to let you vary the surface illumination and reflective properties. It is switched on by default when you create a depth map on the layer (as described in the next topic) in order to reveal the depth differences. (See the [overview](#) above for background and technical details on 3D layer effects.)

Unchecking the 3D Lighting entry is equivalent to lighting the surface with 100% ambient lighting only.

To apply the effect:

- Click the  **Layer Effects** button on the Layers tab (or choose **Effects** from the Layers menu) and check **3D Effects** in the Layer Effects dialog. Adjust the "master control" sliders here to vary the overall properties of any individual 3D effects you select.
 - **Blur** (0 to 500) specifies the amount of smoothing applied. Larger blur sizes give the impression of broader, more gradual changes in height.
 - **Depth** (0 to 500) specifies how steep the changes in depth appear.
 - The



button is normally down, which links the two sliders so that sharp changes in Depth are smoothed out by the Blur parameter. To adjust the sliders independently, click the button so it's up.

- Check the **Automatic** box to preview the effect continually applied to the image as you make adjustments, or uncheck it and click the **Manual** button when you want to update the preview.
- Check **3D Lighting** and use the dialog controls to adjust the lighting. Two light sources are used: an **Ambient Light** and a **Point Light** source at infinity. The Point light source gives rise to two types of reflection: **Diffuse** reflection and **Specular** reflection.
- Use the **Material Properties** section to set surface properties.
 - **Diffuse** (0 to 100) reflection is the amount of the surface's **diffuse color** reflected when lit by the Point Light source. Set the value higher for matte materials like chalk or rubber, and lower for metallic materials. The diffuse color of the surface is how it appears when **3D Lighting** is unchecked.
 - **Specular** (0 to 100) reflection is a highlight or hotspot; the setting determines the amount of the surface's **Specular Color** reflected when lit by the Point Light source. Set the value lower for matte materials like wood or rubber; higher for shiny materials like plastic or metal. You won't see any highlights if **3D Lighting** is unchecked. To change the Specular Color, click the color sample.
 - **Shininess** (0 to 100) controls the spread of specular reflection (see above). Set the value lower for larger and more widespread highlights; higher for smaller, sharper highlights.
- Use the **Light Properties** section to set the origin of the point light source, which provides all the non-ambient light for the surface. Imagine the point light positioned on an imaginary hemisphere above the surface, with the **Angle** and **Elevation** controls specifying the light's exact placement. You can drag the crosshair marker within the circle, or type specific values for each parameter.
 - **Ambient** (0 to 100) lighting affects the entire surface uniformly and is useful for raising the overall light level if it appears too dark without ambient lighting. Generally, the ambient light level should be set as low as possible so as not to undermine the 3D look.
 - To change the color of the **Ambient Light** source or the **Point Light** source, click the corresponding color sample.
 - **Angle** (0 to 359) corresponds to "longitude" around the hemisphere.
 - **Elevation** (1 to 90) corresponds to "latitude" above the "equator" of the hemisphere.
- Adjust the **Soften** (0 to 100) slider to specify the amount of blurring applied to the light maps after they are calculated. It's especially useful to help blend away discontinuities or artifacts introduced by using 3D effects at certain settings.
- Click **OK** to apply the effect, or **Cancel** to abandon changes.

Using depth maps

Depth maps let you add remarkable 3D realism to ordinary images. A standard "flat" image, of course, has only two dimensions: X and Y, or width and height. Adding a depth map to a layer gives you an extra channel that stores information for a third (Z-axis or depth) dimension, in effect adding "volume" to the image. It's as if the original image acquires a surface with peaks and valleys—and you can play with the elevation of the landscape to achieve different visual results.

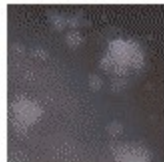
The depth map itself is a grayscale representation that uses lightness values to encode the Z-axis or "elevation" data, with 256 possible levels for each underlying image pixel. Lighter areas represent peaks and darker areas represent valleys. Here's a schematic view of how an imaginary 3D volume (the stack on the left) might be encoded as a depth map:



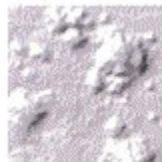
Typically, you'll begin by creating a new blank depth map on a layer, then modify it by painting or erasing directly on the map. Changes on the grayscale map layer produce the effect of highs and lows in the "surface"... it's like using a 3D brush! The example below was created simply by painting in white with a fuzzy brush on the depth map:



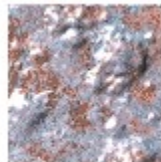
You can combine depth maps with **3D layer effects** or **Instant Effects tab presets** (see the previous topic) to create fascinating surfaces and textures. Here's how blotches on a depth map turn into bumps on a surface with the aid of 3D Lighting and an applied pattern:



Depth map



+3D Lighting



+ 2D Pattern

Note: Non-3D layer effects, such as Drop Shadow, don't interact with depth map data—only with the layer's alpha channel and mask.

To create a depth map on a layer:

- Select the layer in the Layers tab and click the  **Add Layer Depth Map** button.

You'll see a thumbnail of the depth map appear next to the layer name.



Bitmap selected

Depth Map selected

Notes on producing 3D effects

- When you create a depth map, the "3D Effects" and "3D Lighting" layer effects are switched on by default; otherwise any changes on the map wouldn't be visible! You may want to unlink the Depth and Blur settings for "3D Effects". This will let you increase one while decreasing the other, so even small changes in depth are clear and visible.
- Initially, the depth map appears solid black, i.e. with zero depth. The 3D Lighting adds a bevel effect around the edge, providing some initial relief.
- Since the depth map is a grayscale image, the Colors tab switches to Grayscale mode with White initially the foreground color and Black the background color.
- The basic way to produce an effect is to paint or erase on the depth map. Painting in a lighter shade adds "highs," while painting in a darker shade adds "lows."
- The fill and selection tools, work, too! For example, instead of starting with an all-black depth map, you can fill all or part of the depth map with gray, and then use painting or eraser tools.
- Each layer supports only one depth map, although "Bump Map" layer effects also contribute depth information. See the previous topic for details on these 3D effects.
- Try using the Text tool to create a selection in the shape of text, then paint inside it.
- Depth maps work on shape layers and text layers, too!

While working on the layer, you can switch back and forth between the image level, depth map, and (optional) mask by clicking the appropriate thumbnail. You can also switch the depth map off and on to assess its contribution to the image, or subtract it for creative reasons.

To switch the depth map off and on:

- **Shift**-click its preview thumbnail, next to the layer name.

Importing a depth map

Another way of incorporating a depth map is to create a suitable bitmap image separately (or borrow one from somewhere else) and then paste it via the Clipboard to an existing PhotoPlus depth map.

To import a depth map image:

- 1** Open a bitmap file in PhotoPlus and copy it to the Clipboard.
- 2** In the target PhotoPlus image, create a depth map or click an existing layer's Depth Map thumbnail.
- 3** Choose **Edit/Select All** to select the whole depth map, then choose **Edit/Paste Into Selection**.

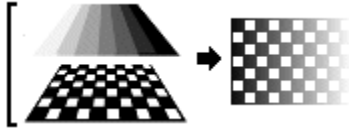
The Clipboard contents are pasted in grayscale onto the depth map.

Note: It's a good idea to match the dimensions of the image you're pasting to the dimensions of the target PhotoPlus image.

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 non-Background layer. (The Background layer doesn't support transparency.)



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 (values stored as the layer's **alpha channel**). For example, by "blacking out" on the mask, you render the layer's underlying pixels transparent, and they disappear from the image. On an [adjustment layer](#), blacking out hides the adjustment's effect. Because you're working with 256 levels of gray (i.e. opacity), tremendous variations are achievable.

Besides the creative possibilities, ranging from vignetting to multi-layer montage to gradient-fill 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.


Note: The description assumes you're working with a standard layer, but the procedures are similar for adjustment layers.

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)

Note: You can also click the layer's  **Add Layer Mask** button to create a Reveal All mask (or Reveal Selection if there is one).

On the Layers tab, a mask preview thumbnail appears, confirming that a mask exists.

To delete a mask:

- Select the mask preview thumbnail and click the layer tab's  **Delete** button. (Don't press the **Delete** key!)

2 Editing on the mask

In Edit Mask mode, you can use a very wide range of painting tools, selection options, flood and gradient 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 (or on an adjustment layer, the intensity of the applied effect).

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:

- Click the mask preview thumbnail, or check **Edit Mask** on the Layers menu. (Click the layer's bitmap thumbnail or uncheck the menu item to switch out of Edit Mask mode.)

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 only 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. In this mode, you can use the Move tool to reposition the mask if necessary. 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:

- Alt**-click the mask preview thumbnail, or check **View Mask** on the Layers menu. **Alt**-click again or uncheck the menu item to exist View Mask mode.

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). Using painting tools to lighten or darken regions of the mask produces a corresponding effect on the

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 cancelling 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:

- Shift**-click the mask preview thumbnail, or check **Disable Mask** on the Layers menu. (**Shift**-click again or uncheck the menu item to enable masking again.)

When the mask is disabled, a red "X" appears across its thumbnail.

You can also **create a selection** directly from the mask. Within the resulting selection, pixels that are lighter on the mask (conferring more opacity) become relatively more selected. This correlates with [Paint to Select mode](#), where painting in lighter tones also confers "selectedness."

To create a selection from a mask:

- Ctrl**-click on the layer's mask thumbnail, or select the mask preview thumbnail and choose **Create from Mask** from the Select menu.

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, or **AVI movies** for multimedia applications. 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 or .AVI 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!

The **.AVI** (Audio-Video Interleaved) format is commonly used on the Windows platform to encode image sequences in sync with a mono or stereo sound track. PhotoPlus can import the video component of stored .AVI files, and export to uncompressed .AVI format using 24-bit color. If the file you're importing includes an audio track you want to retain, save the audio separately (for example, as a .WAV file) before importing, then add it back later using a third party multimedia editor. Likewise, if you want to apply a **codec** to reduce the file size, do so in a dedicated video editor. Also, note that .AVIs don't support certain playback properties of the animated .GIF format, such as "Loop" and "Ping Pong."

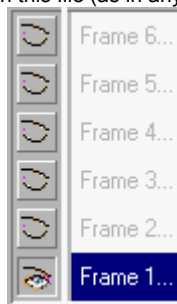
PhotoPlus gives you the choice of either [creating your animations from scratch](#), then exporting, or starting out by [importing a .GIF or .AVI file](#) and then editing it. Either way, once PhotoPlus detects an animation file, it switches on the **Animation tab**. If the image file is new, you'll 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.

Layers and frames

Animations are defined by the **Animation tab** working together with the **Layers 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 Layers 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 Layers tab (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 Layers tab), 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. (For now, we'll ignore the transparency issue—it can make a difference when you export, but this is covered in the topic [Applying animation effects](#).)

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

- n 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.
- n 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.
- n 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.
- n 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

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.



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:





- n Click the  **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:

- n To select any one frame, click its thumbnail.
- n To select the first frame of the sequence (rewind), click the  **First Frame** button.
- n To select the previous frame of the sequence, click the  **Previous Frame** button.
If the first frame was selected, you'll cycle back to the last frame of the sequence.
- n To select the next frame of the sequence, click the  **Next Frame** button.
If the last frame of the sequence was selected, you'll cycle forward to the first frame.
- n To select the last frame of the sequence, click the  **Last Frame** button.

To select more than one frame:

- n To select multiple frames, hold down the **Ctrl** key when selecting each one.
- n 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:

- n Select the thumbnail(s) and click the  **Delete Frame** button. (To delete a single frame, you can also right-click it and choose **Delete**.)


To reposition a frame in the sequence:

- n Drag its thumbnail and drop it before or after another frame.

To play back the animation:

- n Click the  **Play** button.

To stop the animation:

- n Click the  **Stop** button.

To export the animation as a .GIF file:

- n 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:

- n 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.

Applying animation effects

The two previous topics covered the basic concepts and mechanics behind creating animated GIFs in PhotoPlus. This topic considers additional features that can help you achieve great results with your Web creations.


Special effects

You can turn a variety of PhotoPlus effects (those found on the Effects menu, plus **Fade** and **Move**, described below) into animated transition sequences. The process "in-betweens" or "morphs" a layer from a designated starting frame into an end state over a specified number of frames, creating one new layer per frame. You have the option of creating brand new frames or spreading the sequence over existing frames. If you like, you can select a "Ping Pong" option that builds in a reverse sequence so the end state visually matches the starting point.

Note: Text and shape layers can only use the Fade and Move effects. To use text or shapes with one of the other animation effects, first merge the text or shape layer into a standard layer, or convert it to a standard layer by right-clicking on the layer name and choosing **Render** from the menu. (See the topics [Creating and editing text](#) and [Manipulating layers](#).)

To apply a special effect:

- 1 Select the frame, and the specific layer on the frame, you want to use as the starting point (we'll just call this the "Start frame").

- 2 Click  on the Animation tab to display the Animation Effects dialog. The dialog provides two preview windows (for the Start and End frames) that initially display the contents of the selected layer.

- 3 Click an effect name in the Effects list. The dialog changes to provide custom controls for each effect.

Note: For details on a particular effect's settings, display the topic [Applying special effects](#) and click the effect name on the menu. The topic descriptions are accompanied by examples in the [Effects Gallery](#).


- 4 Click the left-hand (Start Preview) window to set properties for the starting frame, adjust the controls or enter values, then click the right-hand (End Preview) window and choose settings for the final frame, as the preview windows update.


- 5 To set the length of the sequence, enter a value in the **Num. Frames** box. The process will create a series of new "shown" layers, with one new layer per frame. In other words, a six-frame sequence always adds six new layers to the image.

- 6 Check **Create as new frames** if you want to put the sequence into a series of new frames, beginning immediately after the designated Start frame. If you uncheck this option, the new layers will be integrated into existing frames (which should be blank if you want to see the results!), beginning with the Start frame.

- 7 To set a delay factor (to be applied to each frame in the sequence), enter a value in the **Frame Delay** box.

- 8 Check **Ping Pong** to build a "two-way" sequence that morphs to the end state and back again. This works for .GIFs, but not .AVIs. (If you choose this option, remember to increase the number of frames or cut the frame delay to maintain visual pacing.)

- 9 To preview the animation, click the  **Play** and


 **Stop** buttons. The sequence appears in the End preview window. (Note that because the effect filter must work "on the fly," timing in preview mode may not be accurate.)

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

The Fade effect

This effect steps the opacity of each frame in the sequence up or down between the Start and End values, for a fade-in or fade-out. Adjust the Intensity control to set the values.


The Move effect

This effect displaces the contents of the frame in a straight line between designated Start and End positions. Drag the  marker in each preview window to set initial and final positions relative to the frame edge.

Playback settings

The Animation tab includes two options—one global, the other local—that you should consider before exporting the animation.

- a For .GIFs (not .AVIs), you can set a **loop** property for the animation as a whole. (You can also set this property on the Animation tab of the Export Optimizer.)

If you want the sequence to play through only once and end displaying the first frame, click the  **Fixed Loop** button and enter "1" in the box. Enter a higher value to repeat the sequence a fixed number of times.

Click the



Endless Loop button to have the sequence repeat indefinitely.

- n If the playback of certain frames (or all frames) seems too fast, you can select any frame and enter a value greater than 0 in the **Frame Delay** field. The frame's delay factor (in milliseconds) will be exported along with the .GIF. Sometimes all frames may require a delay factor in order to achieve proper pacing. You can select multiple (or all) frames and enter a common value in the Frame Delay field. Experiment!

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 choose 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...



...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 [Exporting to another file format](#). For information on the .GIF and .JPG formats, see the previous topic.)

To slice the image:

- n Choose the  **Image Slice tool** from the Standard toolbar.
- n 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.
- n To move a guide, simply drag it.
- n To delete a guide, drag it out of the image window.

To specify the alternate text and/or link:

- n Right-click an image slice and enter the alternate text and link (URL) information in the dialog.

To export a sliced image:

- n When exporting, check the **Create Image Slices** box on the Export dialog and use either the .GIF or .JPG format.
- n 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

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.




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  **Image Map Tools** flyout on the Standard 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  **Rectangle**,


 **Circle**, or

 **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  **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:

n 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.

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Normal

Dissolve

Multiply

Screen

Overlay

Soft Light

Hard Light

Dodge

Burn

Darken

Lighten

Difference

Exclusion

Hue

Saturation

Color

Lightness

Click an effect category or name to see examples

Filters & Tools

Blend Modes

— Click red for an example, green for help topic —

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- Stretch
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- Posterize*

*Adjustment layer available

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- /OTHER>/INSTANT ARTIST>2D LAYER EFFECTS
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- TOOLS

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Original,Next()}



Input: 20, 255
Gamma: .5

Filters & Tools

Blend Modes

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- Curves*

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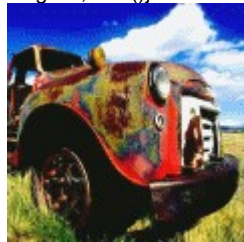
[TOOLS](#)

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Original

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Original,Next()}



Top: In 91, Out 245

Mid: In 24, Out 75

Bottom: In 8, Out 15

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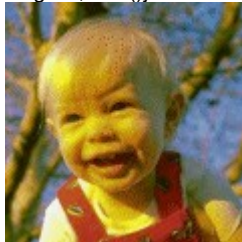
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Original

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Shadows 85, 100, 37
Midtones -25, 39, 0
Highlights 51, 46, 100
Preserve Lightness - on

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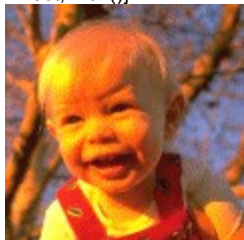
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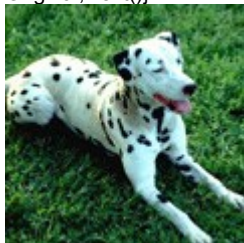
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Original

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Brightness 10
Contrast 75

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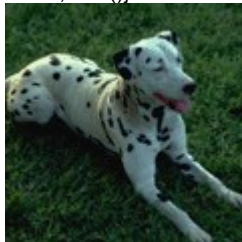


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Original

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Original,Next()}}



Hue 160
Saturation 30
Lightness 20

[Negative Image*](#)

[Grayscale](#)

[Posterize*](#)

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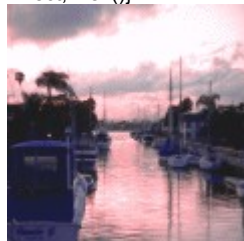
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Magentas, Magenta +35

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Monochrome checked,
then unchecked;

Blue output:
Constant -24;

Red output:
Constant +9



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Pink/Green/Magenta/
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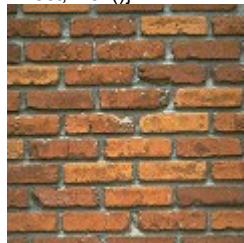
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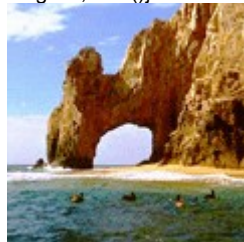
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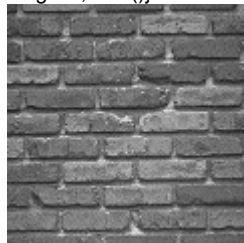
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Intensity 170



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Intensity 15, Waves 50

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Intensity -75 (Pinch)

[> Punch](#)

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Intensity 75 (Punch)

[> Pinch](#)

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Gaussian Blur

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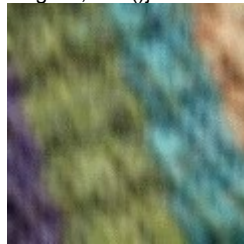
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Intensity 4

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Radius 5, Falloff 5%

[> Falloff 15%](#)



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Radius 5, Falloff 15%
[> Falloff 5%](#)



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Intensity 7, to West

3D LAYER EFFECTS TOOLS



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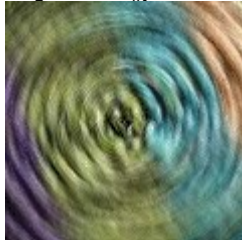
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Intensity 10



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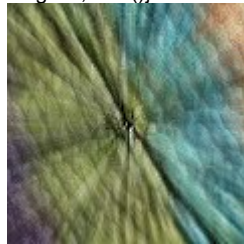
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Intensity 22



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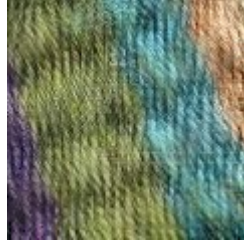
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Intensity 5

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Radius 10

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Threshold 165



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Intensity 100



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Amount 370%
Radius 1.0
Threshold 5



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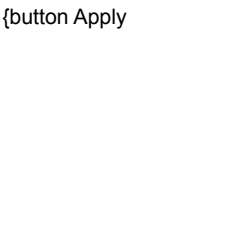
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All channels, 50%

[> Green only](#)



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Green only, 15%

[> All channels](#)



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Intensity 10



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Candle, Intensity 20



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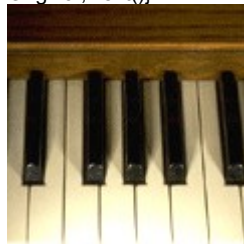
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Intensity 5
Tolerance 200



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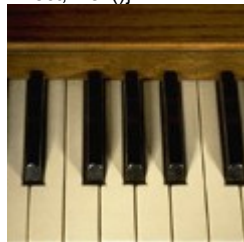
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Original



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EFFECTS
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Brightness 100



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Solarize

Emboss

Mosaic

Fix Red Eye

Maximum

Minimum/INSTANT

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Intensity 200



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Solarize

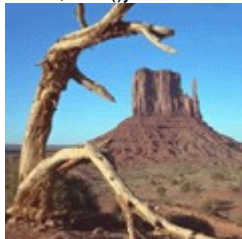
Emboss

Mosaic

Fix Red Eye

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```
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Fix Red Eye

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Depth 50, to Southeast



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Solarize

Emboss

Mosaic

Fix Red Eye

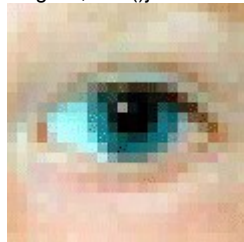
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Intensity 12



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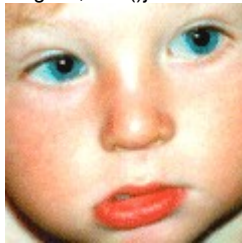
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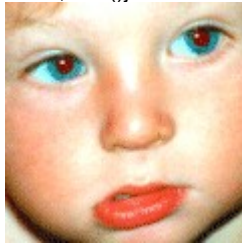
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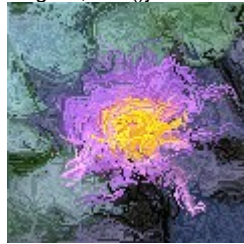
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Brush Size 2
Jitter 5
Stroke Min 8, Max 25



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3D LAYER EFFECTS
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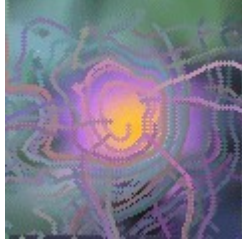
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Tendrill Length 73
Tendrill Frequency 77
Focus 60

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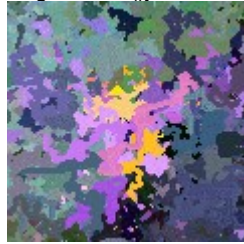
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Color Strength 2

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(with 80% selection
 applied)
 Color Strength 167

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 Accuracy 50
 Advanced Defaults

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Im

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Ink Level 5
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Edge Strength 60
Leave Gaps - No
Advanced Defaults

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Dot Size 4
Jitter 90
Advanced Defaults

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Stroke Size 2
Jitter 110

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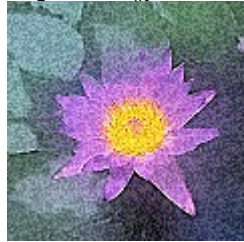
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Detail 70
Canvas 70
Edges 82

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Accuracy 70

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Opacity 75

Blur 5

Distance 5

Intensity 0

[Outer Bevel](#)

Angle 45

[Emboss](#)

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[Inner Glow](#)

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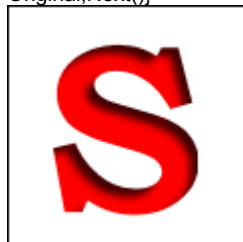
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— Click **red** for an example, **green** for help topic —

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Opacity 75
Blur 5
Distance 5
Intensity 0
Angle 45

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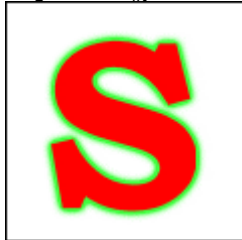
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Opacity 75

Blur 5

Intensity 38

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{button View
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Opacity 75
Blur 5
Intensity 27
Edge

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Inner Glow

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Effects Menu/DISTORT>
/BLUR>
/SHARPEN>
/EDGE>

{button View
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Highlight White 75
Shadow Black 75
Blur 5
Depth 100
Angle 45
Distance 45

{button Apply
Effect,Prev()}



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— Click **red** for an example, **green** for help topic —



Highlight White 75
Shadow Black 75
Blur 5
Depth 100
Angle 45
Distance 45

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{button View
Original,Next()}}



Highlight White 75
Shadow Black 75
Blur 5

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Depth 100

Angle 45

Distance 45

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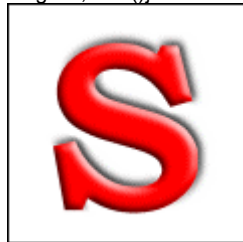
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Highlight White 75

Shadow Black 75

Blur 5

Depth 100

Angle 45

Distance 45

Image Menu/ADJUST>
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Opacity 100
Color Blue

— Click **red** for an example, **green** for help topic —

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Effects Menu/DISTORT>
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Drop Shadow

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SineSumAbs
Blur 6

{button Apply
Effect,Prev()}}



Depth Map
+ 3D Lighting only

{button View
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/NOISE>
/RENDER>
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2D Bump Map
3D Pattern Map
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TOOLS



— Click **red** for an example, **green** for help topic —



Checkerboard pattern
Depth 70
Scale 90

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Effects Menu/DISTORT>
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/SHARPEN>
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Depth Map
+ 3D Lighting only

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SineSumAbs
Default settings

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/BLUR>
/SHARPEN>

{button Apply
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/NOISE>
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Depth Map
+ 3D Lighting only

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/SHARPEN>
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Checkerboard pattern
Opacity 45
Scale 80

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3D Pattern Map
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Depth Map
+ 3D Lighting only

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Blur 3
Depth 10

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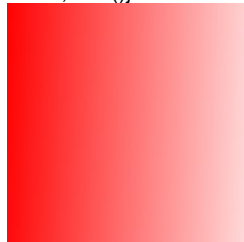
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No 3D Lighting
(Depth Map invisible)

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```
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Opacity 50%

[Image Menu/ADJUST>](#)
[Effects Menu/DISTORT>](#)

```
{button Apply
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{button View
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Opacity 50%

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{button Apply
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Original

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Thick/Thin Warp

Smudge

Blur

Sharpen



— Click **red** for an example, **green** for help topic —

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Opacity 50%

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Thick/Thin Warp

Smudge

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Opacity 50%

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{button View
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Opacity 100%
applied three times

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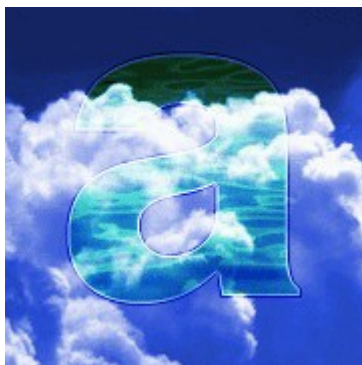
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[Dissolve](#)
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[Screen](#)
[Overlay](#)
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[Hard Light](#)
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[Burn](#)
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