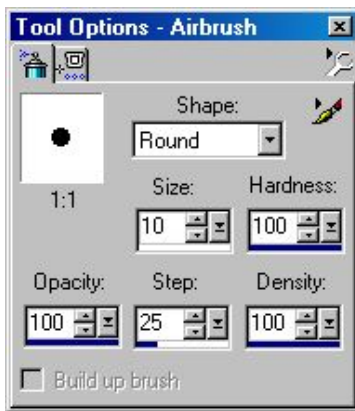




Paint Shop Pro gives you an exciting arsenal of Paint tools to work with. The paint tools covered here will be the Paint Brush, Clone Brush, Color Replacer, Retouch, Scratch Remover, Eraser, Airbrush, Flood Fill and Picture Tubes.

The Paint Brush, Clone Brush, Retouch, Eraser and Airbrush tools all have the following common elements. They all start with an identical first tab on the Tool Options Palette. This tab is illustrated below:



Shape

Your shape choices for this tool are square, round, left slash, right slash, horizontal and vertical. You also have the option of using custom brushes by pressing on the Brush Types button in this dialog box. The following graphic illustrates the brush shapes round, square, left slash, right slash, horizontal and vertical (from left to right)



Size

You can set the size of your brush by typing in a new size (up to a maximum of 255), by clicking on the up and down arrows, or by invoking the slider by depressing the button on the right of the size box. If you click on the black bar under the size box and drag to the right and to the left, you will increase/decrease the size of the text. This is a shortcut to the slider bar.

Hardness

The hardness setting will determine how sharp the edges will be when you apply your paint with the Airbrush tool. The following graphic illustrates a hardness setting of 100%, 75%, 50%, 25% and 0% from left to right.



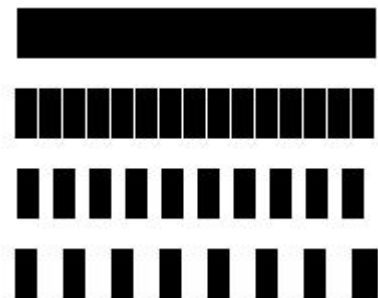
Opacity

The opacity setting will determine the how well the paint covers the image. The following graphic illustrates an opacity setting of 100%, 75%, 50% and 25% from left to right. Since you can build your paint up with subsequent strokes of the Airbrush tool, we recommend you always start with a low opacity setting.



Step

The step determines the spacing between your drops of paint as you apply a stroke. The following graphic illustrates step settings of 25, 50, 75 and 100 from top to bottom. At a step size of 100 with a brush size of 20, the paint will touch the surface once every 20 pixels.



Density

The density setting will determine the amount of paint that will be applied with each stroke. The following graphic illustrates a density setting of 100, 75, 50 and 25 from left to right.



Build up Brush

The Build up Brush checkbox on the Tool Options Palette can sometimes have a big effect on the results of a Paint brush stroke, especially if the Opacity setting is low. When the Build up Brush box is checked, the Paint tools behaves like a normal paint brush would - The more you go over an area, the more paint is applied, and the more the paint covers the underlying graphic. When the box is unchecked, the brush applies color only once to any area, and repeated passes made with the same click of the mouse have no effect.

Brush Type

The Brush Type option allows you to set the Airbrush Tip to replicate specific drawing tools such as a paintbrush, pencil, or charcoal, as illustrated in the following graphic.



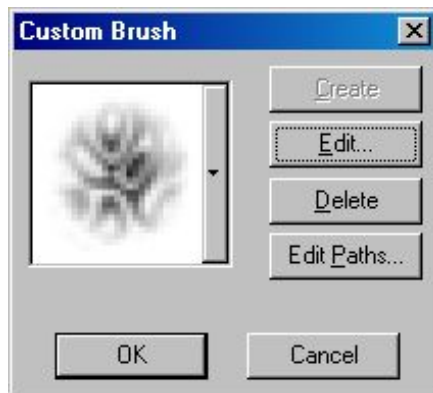
When you choose one of the drawing media types, the program will set the shape, hardness and density of the tool to simulate the drawing tool.

The Custom selection allows you to use any of the Custom brushes you have available to the program.

Custom Brushes

Using a Custom Brush allows you to paint with almost any brush shape you wish. Paint Shop Pro 7 comes with several custom brushes pre-installed, and many more can be downloaded from Paint Shop Pro sites on the Web. You can also make and install your own custom brushes quite easily.

When you choose to use a Custom Brush, the Custom Brush dialogue box will open (as illustrated in the following graphic). From this dialogue you can view and select any installed brush, edit the preset step size of a brush, or delete a brush that you no longer want. You can also load other brushes you have saved in a different directory by clicking on the Edit Paths button. To select a brush, simply click on the thumbnail image, choose your brush and click OK. A blue box will appear around the selected thumbnail image. To Delete a brush, simply select it and click the Delete button.



Paint Brush



The Paint Brush is used to apply paint to an image. How the paint is applied is determined by the various settings for the tool. Following are some drawing styles:

Freehand - For freehand drawing, simply set the brush to the style you want to use and using the mouse or a drawing tablet pen to draw on your graphic. From the time you start to the point where you either release the mouse or remove the pen from the tablet, you will have created one brush stroke. If you hit Undo, only that one stroke will be removed.

Straight Lines - To draw a straight line, click once on your graphic to start the line and click again at the point where you want the line to end. Turning on the gridlines can help you create straight lines by giving you a focal point to start your line and to end your line. You can create a series of connected lines by continuing to click on a new point. When

you "close" your line by clicking again on the starting point, the "connecting" aspect of creating the lines will disappear.

Clone Brush



The Clone Brush is used to duplicate pixels in a graphic and replicate them elsewhere. This tool is very handy for touch-up work on photos and for photo enhancement. Since the Clone Brush duplicates pixels, you need to have a graphic open on your workspace that contains the pixels you wish to duplicate. You can clone from one area of a graphic to another on the same graphic or you can clone from one graphic to another. The second tab of the Clone Brush Options Palette present you with options for cloning.

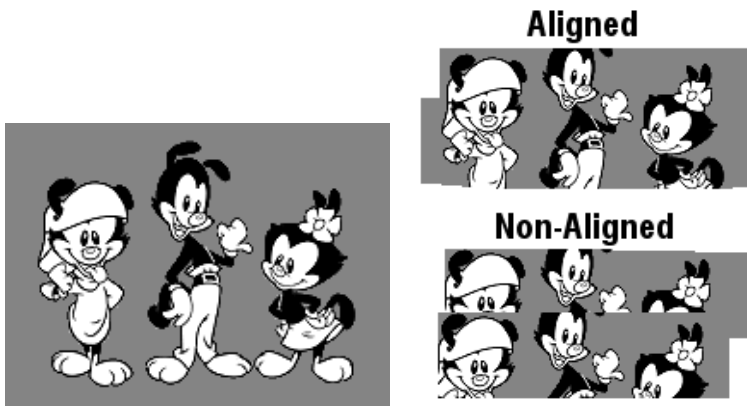
Aligned Mode

Aligned Mode is a mode in which the source area moves with the brush each time you release the mouse. When you release and then re-click the mouse, the brush resumes cloning the image relative to the distance from the source area. With aligned mode, you can replicate an entire image, or part of an image, from one graphic to another graphic.

Nonaligned Mode

Nonaligned mode is similar to the aligned option except that it will always sample from the original point specified. This sampling occurs even if the sampling point is not visible within the working window. You will choose this option if you want to apply a particular cloned portion of an image to various points on the image.

The following graphic is an example of aligned and non-aligned mode applied from one graphic to a blank new graphic. Both clones were from a starting point of the left-most characters head.



Sample Merged

Check the Sample Merged box to clone anything visible on your graphic rather than just what's available on the current layer. If the check box is not selected, you can clone only what is available on the layer you are working on. If the check box is selected, you will select the portion of the graphic that is visible from the layer you are currently on down to the background layer.

***Taking Advantage of Sample Merged** - If you are cloning elements of a graphic into the same graphic, having sample merged selected can be very handy. Add a new transparent layer, select the area to be cloned and click on the new transparent layer. The data you cloned is now on a transparent layer separate from the remainder of the graphic. This can be very advantageous if you need to smooth the edges of the cloned area or if you need to lower the opacity of the cloned area.*

Set "Show brush outlines" - Setting the "Show brush outlines" option on the third tab in the Clone Brush Options Palette will help you define the area the brush will cover.

To clone either aligned or non-aligned, choose a shape and size that will outline the area you want to clone. Then set the opacity, hardness and density options.

Select or clear the "Build Up Brush" check box. When the check box is selected, each clone stroke you apply will increase the density of your cloned data.

To define an area to clone, place the cursor over the area to be cloned and right-click. Set the shape and hardness options to a lower value if you need to merge the outline of the area selected into the underlying graphic. Move to the area where you want to place the cloned data and click with the left mouse button.

Color Replacer

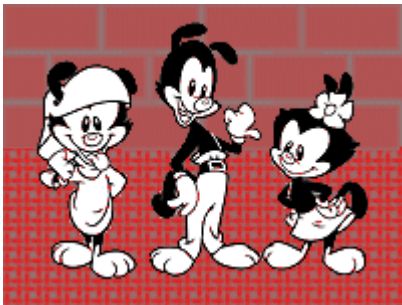


The Color Replacer tool is used to replace one color in a graphic with another color in a graphic. To use the color replacer, set the color you want to replace as the background color and the replacement color as the foreground color. A quick way to set the color to be replaced is to right click on the color with the eyedropper tool. Once you have your colors set, either paint across your graphic or to replace all instances of the color at once, double click on the graphic.

The only setting available for change on this tool is the density. Setting the density to a lower value will replace fewer pixels of color with the new color. The following graphic demonstrates the gray background replaced by red, the top with density set to 25 and the bottom with density set to 100.

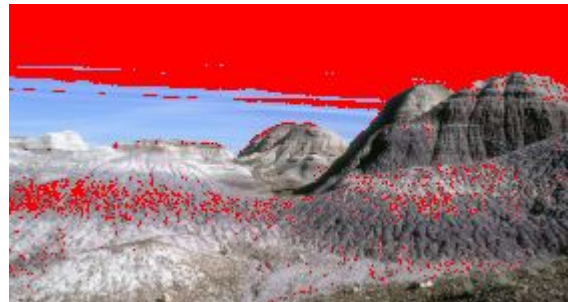


You can also set a texture in the Color Palette to use with the color replacer. Set the texture as the Foreground texture. The following graphic demonstrates a brick texture applied on the top of the graphic and a weave texture applied on the bottom of the graphic.



Tolerance Setting

The second tab on the Color Replacer Options Palette contains the tolerance setting. Tolerance settings only apply to a graphic that has variations of a color in the graphic. A lower tolerance setting will replace all instances of the color wherein a higher tolerance setting will replace instances of the color that vary in intensity. At a tolerance setting of 0, only pixels that exactly match the color will be replaced. As an example, the following graphics have a blue sky color replaced by red with a tolerance setting of 10 (left) and a tolerance setting of 40 (right).



Retouch Tool



The Retouch tool can be very valuable for special effects while creating graphics and for cleaning up photographs. You can use the Retouch tool when you want to paint with an effect rather than applying it to the entire image. The Retouch Modes all keep the brush settings you used the last time, so you can find yourself confused when each Retouch Setting has a different configuration for the Brush settings. The following image will be used to demonstrate the various Retouch Tool Modes. Unless otherwise indicated, all modes were applied with the Hardness set to 100, Opacity set to 100 and Density set to 100.



The Retouch Tool Modes are:

Lighten RGB/Darken RGB

These settings will lighten or darken the RGB pixels in an image. The following example has Lighten RGB applied to the left half of the image and Darken RGB applied to the right side of the image.



Soften/Sharpen

The Soften setting will smooth edges and reduce contrast. The Sharpen setting will emphasize edges and heighten contrast. The following example has Soften applied to the left of the image and Sharpen applied to the right of the image.



Emboss

The Emboss setting works the same as the Emboss Effect except that you can vary the embossing by reducing the hardness and the opacity. Reducing the opacity will allow the retention of some of the color in the underlying image. The following example has Emboss applied with full Hardness and Opacity on the left and Opacity reduced to 50 on the right.



Smudge

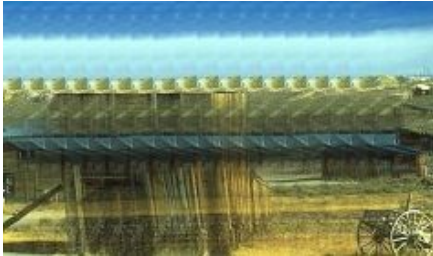
Smudge picks up colors at the starting point and adds new colors as it moves across the image. The effect is similar to smearing paint. The Hardness and Opacity settings on this mode dramatically effect the way it works. The following graphic demonstrates smudge set to 100% for Hardness and Opacity in the top part of the image, 50% Hardness and Opacity in the middle portion of the image and 25% Hardness and Opacity in the lower portion of the image.



The Smudge mode of this tool is very handy for blending the edges of an image that has been selected and pasted onto a new layer. Smudge will help reduce the jaggies that can remain after a selection and paste operation.

Push

Push is similar to Smudge except that it does not pick up new color as the brush travels across the graphic. The following graphic demonstrates the same settings as the Smudge Tool.



Dodge/Burn

Dodge lightens and brings out areas in an image that are in a shadow. Burn Darkens areas in an image that are too light. Both these effects are very intense and are best applied at very low Hardness and Opacity settings. The image on the left has Dodge applied at 40% and the image on the right has Burn applied at 20%.



Saturation Up/Saturation Down

Saturation Up and Saturation down increase and decrease the HSL values of an image. The example on the left below demonstrates Saturation Up on the left and Saturation Down on the right.

This tool comes in very handy if you want to convert part of a graphic to black and white, leaving part the original color. All you need to do is to paint the part you want to convert to black and white with the retouch tool set to Saturation Down with Hardness, Density and Opacity all set to 100%. The graphic on the right below demonstrates this technique:



Lightness Up/Lightness Down

Lightness Up and Lightness Down increase and decrease the lightness of an image effecting the HSL values. The following example demonstrates Lightness Up on the Left and Lightness Down on the right.



Hue Up/Hue Down

Hue Up and Hue down effects the hues of an image effecting the HSL values. The following example demonstrates Hue Up on the left and Hue Down on the right.



Saturation to Target/Lightness to Target

Saturation to Target changes the saturation of an image to match the currently selected foreground color. The hue and Lightness of the image should remain unchanged.

Lightness to Target changes the lightness of an image until it matches that of the currently selected foreground color. The Hue and Saturation of the image should remain unchanged.

The following examples demonstrate Saturation to Target on the left and Lightness to Target on the right. Both had the foreground color set to white and Opacity set to 25.



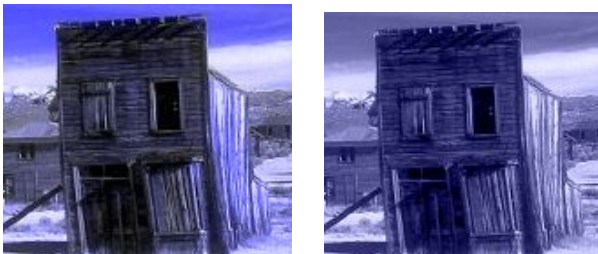
Hue to Target

Hue to Target changes the Hue of your image to match that of the current foreground color.

Color to Target

Color to Target changes the color of your stroke to match that of the foreground color. The Luminance of your image should not change.

The following examples demonstrate Hue to Target on the left and Color to Target on the right.



Red Eye Removal - Using Color to Target is a perfect solution to removing red-eye in a photo. Select the iris area of the eye with the selection tool and set the foreground color to the color you want the eye to be. Then paint over the selected area with the retouch tool set to Color to Target. This changes the color of the eye and leaves the highlights.

Eraser



The Eraser tool is used to replace colors in an image with the currently selected background color or with a transparency when you are working on a layer. When you use the eraser tool on a background layer, as you drag the tool, all color pixels are replaced

by the background color. When you use the eraser tool on a transparent layer, all color pixels are replaced by the transparency, allowing any underlying layers to show through.

Eraser Undo - If you erase an area by mistake, you can always hit the undo button. But, with this tool when you are working on a transparent layer, you can right click and drag over the area you have erased and this will restore the color pixels you previously erased.

The Eraser Tool is a very handy tool to use when you want to extract an image from a complicated background or a background that has colors that are too close to the image for using the magic wand tool. Following are some tips for erasing a background from an image:

- Promote the image to a layer, then place new layer under your graphic and flood fill the underlying layer with a contrasting color. As you erase, the underlying color will show through and show you how well the edges blend.
- Set the eraser tool to a large brush size to erase large portions of the background and reduce the size of the brush as you move in on the edges of the graphic.
- When you get to the edges, it helps to zoom in on your image.
- Reducing the hardness level will allow you to blend your edges smoothly.
- Setting Precise Cursors and Show Brush Outlines will also assist you when you are using the Eraser tool.

You can also set a Paper Texture before erasing to create interesting special effects or to reduce the intensity of the Eraser tool.

The Build up brush option works the same with the Eraser tool as it works with the Paint Brush. When the box is checked, each stroke removes more pixels (assuming you have your opacity set to something other than 100). When the box is unchecked, subsequent brush strokes over the same area do not remove any more pixels of color.

Picture Tubes

Paint Shop Pro's Picture Tubes allows you to "paint" with a variety of objects. The program comes with a large library of Picture Tubes to get you started. You can also create your own Picture Tubes (see my Creating Picture Tubes tutorial) and use tubes created by other people. There is a large community of "Tubaholics" on the Internet who maintain sites where you can pick up an infinite variety of Picture Tubes.

The first tab on the Picture Tube Control Palette shows a sample of the currently selected tube in a view window as illustrated in the following graphic. If you click on the currently selected tube, you will be presented with a window displaying all the currently installed tubes as thumbnails. You can then click on the tube you want to select from the display box. This palette also allows you to set the scale and step for the picture tube.

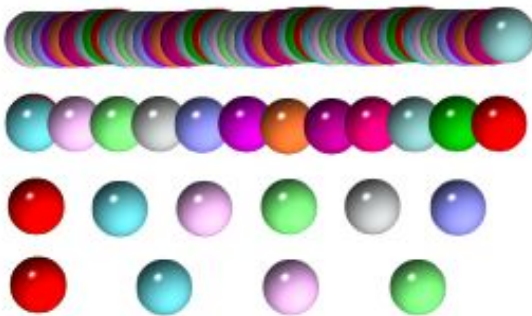


Scale

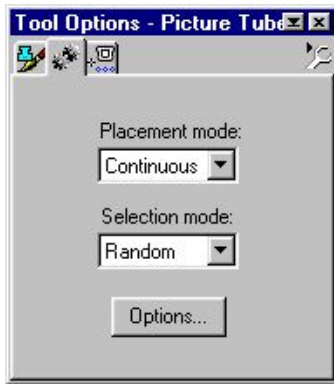
The scale determines the percentage of the original tube size to be rendered when you apply the tube. Lowering the scale of the tube will keep the tube looking crisp and clear. Raising the scale of the tube will, after a certain percentage, start dithering the tube and will result in a blurry looking tube.

Step

Step selection determines the spacing between your tube images as you apply a stroke. Each tube will be selected with the scale set by the tubes creator but can be changed in the options palette before applying. The following graphic illustrates the application of a single sphere tube set to a Placement Mode of Continuous and a step mode of (top to bottom) 10, 50, 100 and 150.



The second tab on the Picture Tube Control Palette, as illustrated the following graphic, allows you to further options for how the tube will be placed on your graphic.



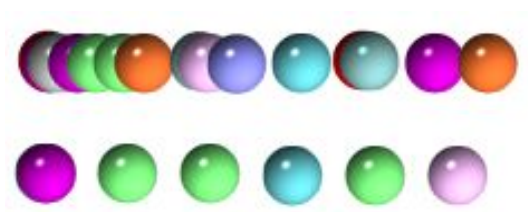
Placement Mode

The options for the Placement Mode are Random and Continuous.

Random - Random mode places the picture tube on the graphic at random intervals.

Continuous - Continuous mode places the picture tube on the graphic at equal intervals.

The following graphic demonstrates Random Placement Mode on the top and Continuous Placement Mode on the bottom.



Selection Mode

The options for the Selection Mode are Random, Incremental, Angular, Pressure and Velocity.

Random - Random mode randomly selects images contained within a Picture Tube. Every time you click on the image, a random image is selected from the Picture Tube. This can result in repeat applications of the same image.

Incremental - Incremental selects a starting image within the Picture Tube (not necessarily the first image) and repeats it only after all the other images in the tube have been applied. Incremental mode is a good choice if you are applying images when you don't want unexpected repeats to occur.

Angular - Angular mode selects images based on the direction you drag the cursor as you paint. If you follow a straight path as you drag the cursor, Angular mode will result in the same image being applied as you drag the cursor. If you set the mode to Angular,

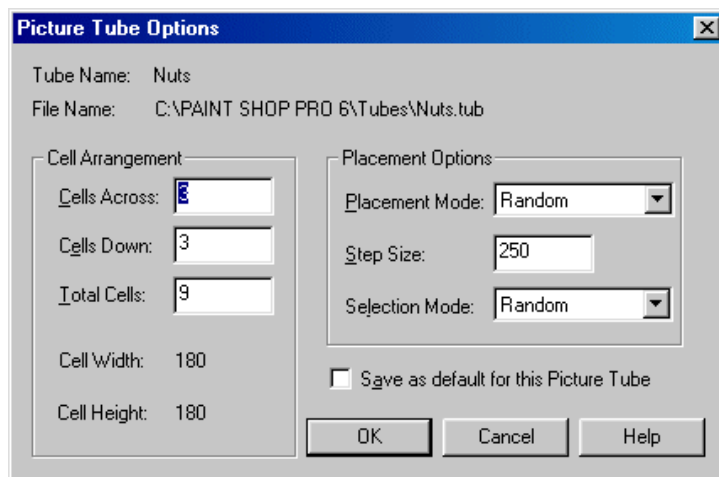
you must drag the cursor to apply an image. Just clicking on the graphic will not result in an image being applied.

Pressure - Pressure mode uses pressure from a pressure sensitive pad to determine which image to select. It will result in the last image in the Picture being consistently applied as you drag the cursor with a mouse.

Velocity - Velocity mode selects images based on the speed you drag the cursor as you paint.

Options

The Picture Tube Options box, as illustrated below, allows you to save a preferred setting with a tube. If you find you are always setting a particular tube to a specific Placement Mode, Step Size and Selection mode, choose the settings you want to save with the tube and check the "Save as default for this Picture Tube" box and hit OK.



Do not, under any circumstances, change the Cell Arrangement of your tubes. If you do, you will end up with unexpected results when you apply a Picture Tube.

Hints for Painting with a Picture Tube

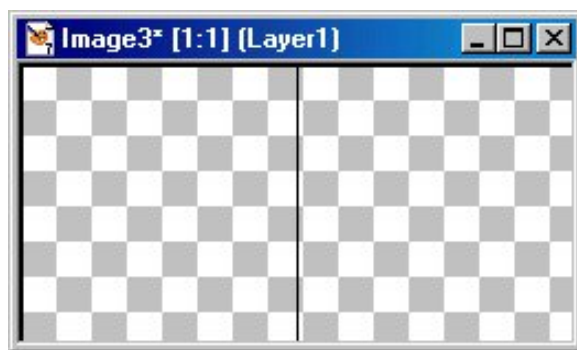
- If you are using a picture tube to build a picture or to enhance a picture, we recommend you apply each subsequent tube on a new layer. With this arrangement, you can move the applied tube independent of the other layers. This helps greatly in placement of a tube.
- Sometimes finding the particular image you want from a tube that contains numerous images can be very frustrating. If you choose "Incremental" as the Selection mode, then continuously apply the tube on a separate layer, you can then select the one image you were after, invert your selection and delete the remaining images. Then move the image into position over the underlying image.

- If there are only a few images in the Picture Tube you are using, just apply a tube, and if it is not the one you wanted, hit Undo and apply another image until you get the particular image you were looking for.
- Sometimes it is easier to open the actual Picture Tube image in Paint Shop Pro, select the image you want, copy your selection then go back to the image you are working on and paste the selected image.
- You can create a straight line of tubes by clicking on a start point once then move the cursor to an end point and click again while holding down the shift key. This method works best with a tube that is a single object. Setting the Placement mode to Continuous will allow for even spacing between the individual tube images. Using the gridlines is handy for lining up your clicks to ensure that your line is straight.
- You can use Paint Shop Pro's Browse feature to view the contents of Picture Tube files.

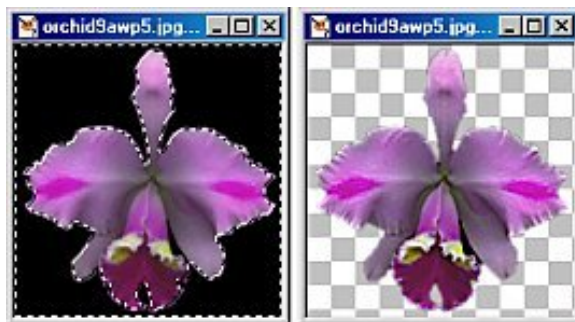
Creating Picture Tubes

It is very easy to create your own Picture Tubes. All you need to do is to place an image or a series of images on a transparent graphic, define the tube and Export as a Picture Tube.

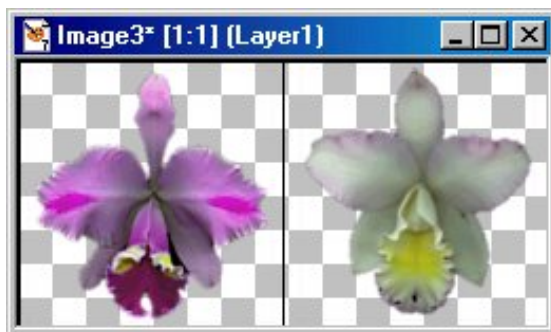
1. Open a new Transparent Image large enough to fit the number of graphics you are going to place in the tube.
2. Set the Grid Lines (See the View Menu tutorial for instructions on how to set gridlines) to an exact division of the number of images you will be placing on the image. If you create a 300 by 200 pixel transparent image that will hold 6 images, you would set your grid to 100 pixels. Turn on the gridlines (View>Grid). The following graphic illustrates a transparent graphic 250x125 with gridlines set to 125 pixels, turned on under View mode.



3. Open an image you want to place in your Picture Tube. Images with a solid colored background are the easiest to create picture tubes since eliminating the background is the essential step to creating tubes.
4. Promote the image to a layer (right click on the background layer in the Layers Palette and choose "Promote to Layer").
5. Create a new layer and drag the new layer under the image.
6. Flood fill the new (bottom) layer with black (or white if the background on your image is a dark color). By working on a colored background, you will be able to see if you have a smooth image with no spare colored pixels remaining after you remove the background from the image.
7. Click on the background of the image with the Magic Wand tool set to a Feather of 2-3. Hit the Delete key a few times. This will remove the background from the image. The feathering removes spare colored pixels from the edges of the image. The following graphic illustrates the selection (on the left) and the image after removing the background with the white background turned off.



8. Resize the graphic if necessary to fit in the space allotted on the transparent graphic.
9. Select the image (Selections>Select All or Ctrl A), copy the selection (Edit>Copy or Ctrl C). Switch to the Picture Tube Image and Paste the selection into the image (Edit>Paste>As a New Selection or Ctrl E).
10. Move your image with the Mover tool into the center of one of the grid squares.
11. Repeat for the remaining images. The following graphic illustrates the finished tube with two orchids:



12. Choose File>Export>Picture Tube.

13. Set the Cell Arrangement for the configuration of the Picture Tube. In our tutorial example, you would enter 2 cells across and one cell down.
 14. You can set the Placement Options at this point, but since you can set them when you apply a tube, you might want to leave the options set to the defaults.
 15. Enter a tube name and hit OK.
-

Airbrush



To activate the Airbrush Tool click on the icon or type "." (period).

The Airbrush Tool is mainly used as an art tool to apply tones and colors gradually. The edges of a stroke are softer than those of the Paintbrush resulting in a simulation of a traditional Airbrush. The longer you hold the mouse button down, the more paint is applied. This tool is useful for enhancing highlights and shadows, retouching, and tinting areas with soft color.

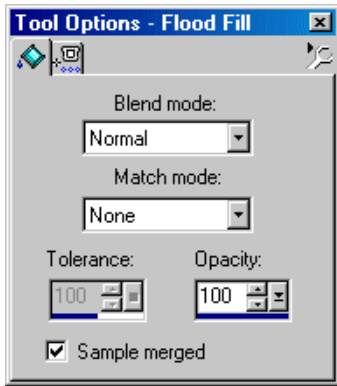
Flood Fill



If you use Paint Shop Pro to create web graphics, the Flood Fill tool is one tool you will find you use frequently. It is used to flood fill a selection with a solid color, a pattern and various versions of gradient color fills. The options available on the Flood Fill tool make this an extremely powerful tool.

Before you use the Flood Fill tool, you will need to set a color, gradient or fill pattern in the Color Palette.

When you have selected your fill, you will now have further options as illustrated in the following graphic.



Blend Mode

Blend Mode is a method of combining pixels from the current layer with the underlying layers. Blend Modes will be covered in my Layers tutorial.

Match Mode

Match Mode is a method of determining what pixels will be covered by the flood fill. If you set your Match Mode to None or if you have your Tolerance set to 200%, you will cover the entire underlying image. If you set your Match Mode to RGB Value, Hue or Brightness and the Tolerance to 100, you will flood fill only parts of your image with the solid color or fill depending on which mode you are using. To experiment with Match Mode, open a photograph or some other colored graphic. Set the Tolerance to 100 and then apply a color to your image picking the various Match Modes.

Tolerance

The Tolerance value determines how closely the color of a pixel must match the color of the selected pixel before it is overwritten. The Tolerance works in conjunction with the Match Mode option.

Opacity

The Opacity setting determines how heavily your flood fill will cover your graphic. The lower the opacity setting on the Flood Fill tool the lower the coverage and vice versa.

Sample Merged

Select the Sample Merged check box to have the Match mode select pixels from the entire image including all underlying layers. Clear the check box to limit it to the current (active) layer.