PhotoWizard Help Contents.

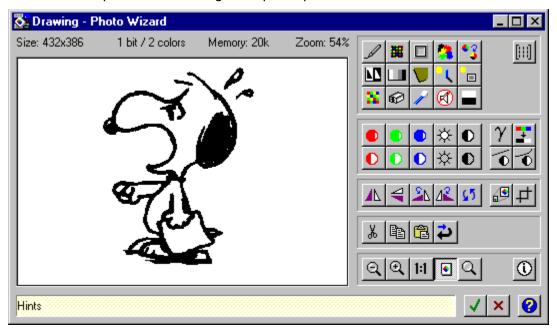
This Contents lists the Help topics available for PhotoWizard.

Overviews

Getting started Hints and tips

Screen layout

Click on the picture below to get Help on specific screen features.



Reference

Status bar

Preview window

Help

Special effects

<u>User defined filters</u>

Color components

Brightness and contrast

Gamma correction

Convert color depth

Histogram equalization/brightening

Flip picture

Rotate picture

Resize picture

Crop tool

Cut, copy and paste

<u>Undo</u>

<u>Zoom</u>

Information...

Instructions for using Help

- Use the scrollbar to see entries not currently visible in the Help window.
- You can visit every topic in turn by clicking on the Browse arrow buttons above.
- You can search for any entry by clicking on the **Search** button above.
- To keep Help visible, choose **Always on Top** from Help's **Help** menu.
- For more information on using Help, press **F1** or choose **How to Use Help** from the **Help** menu.
- To exit Help, choose **Exit** from Help's **File** menu.

<u>Status Bar</u>.- tells you about the current picture and zoom.

<u>Preview Window</u> - your picture is shown here. Drag to zoom in, **SHIFT**-click to zoom out.

 $\underline{Charcoal}, \underline{Mosaic}, \underline{Emboss}, \underline{Posterize}, \underline{Randomize\ colors}\ effects.$ Double-click to control the effect.

 $\underline{\text{Negative}}, \underline{\text{Gray scale}}, \underline{\text{Sepia}}, \underline{\text{Highlights/shadows}}, \underline{\text{Solarize}} \text{ effects.} \\ \\ \text{Double-click to control the effect.}$

 $\underline{\text{Pixellize}}, \underline{\text{Sharpen}}, \underline{\text{Smooth}}, \underline{\text{Remove noise}}, \underline{\text{Monochrome}} \text{ effects.} \\ \\ \text{Double-click to control the effect.}$

<u>User define filter</u>. Apply one of a range of filter effects

<u>Color components</u> - adjust red, green and blue color components. Double-click for more control.

 $\underline{\textsc{Brightness and contrast}}$ - change the picture's brightness and contrast. Double-click for more control.

<u>Gamma correction</u> - compensate for dark pictures. <u>Color depth</u> - change the number of bits per pixel. <u>Histogram equalization/brightening</u> - maximize contrast.

<u>Flip picture</u> - horizontally or vertically. <u>Rotate picture</u> - 90° clockwise, counterclockwise or free rotation.

Resize picture - scale width and height. Crop tool - remove picture borders.

 $\underline{\text{Cut, copy and paste}}_{} \text{- clipboard operations.} \\ \underline{\text{Undo}}_{}.$

 \underline{Zoom} - Zoom out, Zoom in, Actual size, Fit to screen, Custom zoom. Change scale of $\underline{Preview\ Window}.$

 $\underline{\text{Information}...}$ - show color histogram and count colors used.

<u>HintLine</u> - explain purpose of the screen item under the mouse cursor.

Desktop Publishing Made Easy

PhotoWizard provides the features you need to help you get the best out of your bitmap pictures. It provides all the basic tools for gamma correction, adjusting color balance, brightness and contrast, rotating, flipping and cropping. It also has a range of special effects and patterns. You can emboss, posterize and pixellize your pictures, solarize, enhance their shadows and highlights - even make them look hand drawn. Finally it has a selection of digital processing filters.

Requirements

Windows should be operating with a display capable of showing at least 256 colors - preferably more. PhotoWizard will work with a monochrome or 16 color display, but it will be almost impossible to judge the effects produced.

Getting started

Here is a guick overview of PhotoWizard fundamentals.

Preview Window

Most of the PhotoWizard window is taken up by the <u>Preview window</u>. This is the workspace where you see the results of your manipulation. If the picture is too big to fit all at once, you can use the scroll bars to see different parts. You can zoom into the picture by dragging the mouse cursor over the area you want to look at, or by clicking on the <u>Zoom</u> buttons. Information about the picture - width, height, color depth and so on - is shown in the <u>Status bar</u> above the Preview window.

HintLine

If you can't remember what a particular part of the screen does, check out the <u>HintLine</u>. The HintLine tells you the purpose of the screen item under the mouse cursor. If it contains ">>" when over a button, this means that double-clicking on that button will bring up a dialog.

Front Panel

All the other controls are placed on the Front Panel. The controls in the top group produce special effects. The second group manipulates color. The controls in the third group perform geometric operations. The next line of controls support the clipboard.

The bottom group of controls manages the Preview Window's Zoom percentage. The final button displays information about the picture, including its color histogram which shows you how its colors are distributed.

All these buttons do something when you click on them. Most of them also bring up dialogs if you double-click.

Undo

PhotoWizard supports multilevel <u>undo</u>. This is really useful when you are not sure how to get the effect you want. You can try a button, and if you don't like the result click on the Undo button and try something else. Undo needs lots of memory because it has to store old copies of the picture, so it defaults to single level. To get more levels (or to turn it off altogether) double-click on the Undo button.

Hints and tips

This section answers the most commonly asked questions about PhotoWizard.

Pictures look poor

If 8-bit, 256 color or 24-bit, TrueColor pictures look poor in PhotoWizard, check your screen is not running in a 4-bit, 16 color mode. The <u>Information</u> button will tell you what mode your screen is in. We recommend you use a 256 color mode or better. Most modern screens can support that, provided they have the right screen driver software installed. You can change your screen driver by running the **Windows Setup** program. Consult the *Microsoft Windows User's Guide* for further details on screen drivers.

PhotoWizard is slow when using 24-bit, TrueColor pictures

24-bit, TrueColor pictures take longer to process because they take up more memory. (Check the **Memory** field in the <u>Status bar</u> to see how big your pictures are.) They will be especially slow if you have a slow machine or don't have much RAM.

Possible solutions include:

- Make more memory available by disabling PhotoWizard <u>Undo</u>, or by closing down other programs while PhotoWizard is running.
- Use smaller pictures <u>crop</u> them, <u>resize</u> them or reduce their <u>color depth</u>.
- Buy memory RAM to put in your machine.

Status bar...

The Status Bar shows information about the current picture. The information includes:

- The width and height of the picture in pixels.
- The picture's color depth, which is the number of bits used to store the color of each pixel. This determines the maximum number of different colors the picture can have, which is also displayed.
- The amount of memory the picture takes up, in kilobytes when uncompressed.
- The current zoom percentage for the Preview Window.

PhotoWizard supports the following Color Depths:

- 1-bit (Monochrome)
- 4-bit (16 colors)
- 8-bit (256 colors)
- 24-bit or TrueColor (16,777,216 colors)

You can get more information about the picture by clicking on the $\underline{\text{Picture Information}}$ button.

Preview window

The Preview Window shows your current picture.

The mouse cursor changes to a magnifying glass when it is over this window, to show that zoom is available. To magnify the view of a particular area, drag the Zoom cursor over the area.

To reset the zoom to **Fit Window**, which means the picture is automatically scaled to fit the Preview Window, hold the **SHIFT** key down and click. To reset the zoom to **1:1**, which means one picture pixel equates to one screen pixel, double-click.

You can also change zooms by using the row of <u>Zoom</u> buttons in the Front Panel. The current zoom percentage is displayed in the <u>Status bar</u>.

If you have the <u>Crop tool</u> selected, the mouse cursor will change to the crop symbol and dragging over the Preview Window will crop the picture to the area you drag.

Help

The Help button brings up the Help file you are currently reading. You can also get help by pressing **F1**.

HintLine

If you can't remember what a particular part of the screen does, check out the HintLine. The HintLine tells you the purpose of the screen item under the mouse cursor. If it contains ">>" when over a button, this means that double-clicking on that button will bring up a dialog.

When PhotoWizard is engaged in a time-consuming operation, for example loading a picture or applying a filter, the HintLine is used to display the progress of the current operation via a bar gauge.

Special Effects

These buttons perform a range of special effects and distortions. Click on the picture below for details on each button.



Charcoal

Mosaic

Emboss

<u>Posterize</u>

Randomize colors

Negative

Gray scale

<u>Sepia</u> <u>Highlight/shadow</u>

Solarize

Pixellize

<u>Sharpen</u>

Smooth

Remove noise

Monochrome

<u>Charcoal</u> - make picture look hand drawn in charcoal.

Mosaic - make the picture look like it is made out of small tiles.

<u>Emboss</u> - draw the picture using 3-dimensional shadows.

<u>Posterize</u> - reduce the number of colors in the picture.

Randomize colors - give a pop-art effect by randomizing the colors.

Negative - turn black into white and vice-versa.

<u>Gray scale</u> - convert colors to shades of gray.

<u>Sepia</u> - produce an old, faded photograph look.

<u>Highlight/shadow</u> - make bright areas brighter and dark areas darker.

<u>Solarize</u> - negate the brightest parts of the picture.

<u>Pixellize</u> - give a big, tiled pixel effect.

<u>Sharpen</u> - enhance detail in the picture.

Smooth - remove fine detail from the picture.

Remove noise - remove noise from the picture.

<u>Monochrome</u> - convert bright areas to solid white and dark ones to black.

Charcoal

This button makes the picture look as if it were hand drawn in charcoal. It does this by detecting outlines, converting to gray scales, negating, smoothing and sharpening again. You can achieve a similar result by performing the same operations manually.

Charcoal is only available for 24-bit, TrueColor pictures. PhotoWizard will automatically convert the picture if you try to use it on other formats.

Mosaic

This button produces a mosaic effect, making the picture look like it is made out of small tiles. It does this by pixellizing, then enhancing edges. You can achieve a similar effect by performing the same operations manually.

Double-click on the Mosaic button to change the size of the tiles. A value of about 4 works well. Larger values make the picture less recognizable.

Mosaic is only available for 24-bit, TrueColor pictures. PhotoWizard will automatically convert the picture if you try to use it on other formats.

Emboss

This button gives the picture an embossed look by adding three dimensional shadows. It looks for edges, then highlights the top left and darkens the bottom right. You can achieve a similar effect using the **Emboss** <u>User Defined Filter</u>; the difference is that this button also converts the picture to gray scales giving a better effect.

Emboss is only available for 24-bit, TrueColor pictures. PhotoWizard will automatically convert the picture if you try to use it on other formats.

Posterize

This button produces a poster effect, which looks as if the picture were painted on a poster with a small number of colors instead of in full color.

Posterize often gives better results if you <u>Smooth</u> the picture first - that reduces the number of very small, isolated single color areas. The amount of smoothing required depends on the picture. Once or twice is usually enough.

Double-click on the Posterize button to set the number of colors used. Small numbers change the picture most dramatically.

Posterize is only available for 8-bit, 256 color pictures. PhotoWizard will automatically convert the picture if you try to use it on other formats.

Randomize Colors

This button produces a pop-art effect, by changing every color into another color, chosen at random. It works best if the number of different colors is small - try <u>Posterizing</u> the picture first.

Each click on the button makes a different selection of colors. The selection depends on a number called the seed. You can change the seed by double-clicking on the Randomize Colors button. The same seed with the same start picture will reproduce the same effect.

Negative

This button turns a picture into its color negative. The whites become black and the blacks become white. Pure red becomes a green/blue mixture, because the red, green and blue color components are negated independently.

Gray Scale

This button converts all colors to shades of gray. Varying pixel color intensities become varying shades of gray. Gray Scale is useful to let you see how a picture will appear on a monochrome printer.

Sepia

The color dies used in old photographs gradually fade into shades of sepia. The Sepia button simulates this aged appearance. It works by converting the picture to gray scale, then adjusting the color balance to give the sepia color.

Highlight/Shadow

This button emphasizes the highlights and shadows of the picture. It makes the bright parts brighter and the shadows darker while leaving the rest of the picture unchanged.

Double-click on the Highlight/Shadow button to adjust the intensity levels to be affected. PhotoWizard uses two threshold values, one for highlights and one for shadows. Pixels will only be affected if they are brighter than the highlight threshold or darker than the shadow threshold. For example, setting the highlight threshold to 100% and the shadow threshold to 10% would make shadows darker while leaving the highlights unchanged.

Solarize

This button distorts the picture by inverting only the brightest parts of the picture.

You can change the brightness threshold by double-clicking on the Solarize button. Solarize affects pixels brighter than the threshold. For example, setting the threshold to 0% will cause the whole picture to invert; a value of 90% will invert only very bright areas.

An interesting effect is obtained by clicking on Solarize and then on $\underline{\text{Negative}}$, this inverts only the darkest regions of the picture.

Pixellize

This button distorts the picture, giving it a big, tiled pixel appearance. It does this by replacing square groups of pixels with pixels of the average color of all the pixels in the square.

You can change the size of the square groups by double-clicking on the Pixellize button. The larger the value the greater the squaring effect and the more unrecognizable the original picture.

Pixellize is only available for 24-bit, TrueColor pictures. PhotoWizard will automatically convert the picture if you try to use it on other sorts.

Sharpen

This button enhances detail in the picture. It does this by increasing the differences in brightness levels of neighboring pixels.

Sharpen is available in two strengths: **Gentle** and **Normal**. Double-click on the button to choose between them.

Sharpen is only available for 24-bit, TrueColor pictures. PhotoWizard will automatically convert the picture if you try to use it on other sorts.

Smooth

This button removes fine detail from the picture. It does this by replacing each pixel with the average of it and its neighbors. One use of Smooth is to remove "noise" before applying a different effect button such as posterize.

If you double-click on Smooth you can change the **Smooth Threshold**. Smooth doesn't change pixels if the difference between the pixel and the average of its neighbors is greater than the **Smooth Threshold**.

If you set the threshold to 255 all pixels will be smoothed, setting it to 0 will leave all pixels alone. Choosing a value between 0 and 255 will make gradual color changes within the picture, more gradual without affecting sharp edges. This is especially useful after increasing a picture's color depth to make color changes more gradual now that more colors are available.

Smooth is only available for 24-bit, TrueColor pictures. PhotoWizard will automatically convert the picture if you try to use it on other sorts.

Remove Noise

This button removes noise from the picture. By noise we mean odd pixels which have a very different color to other adjacent pixels. These pixels have somehow been given the wrong color - perhaps a grain of dust on a camera lens or on a picture being scanned.

Noise is removed by replacing each pixel with the median of it and its neighbors. The effect is broadly similar to <u>Smooth</u>.

Remove Noise is only available for 24-bit, TrueColor pictures. PhotoWizard will automatically convert the picture if you try to use it on other sorts.

Monochrome

This button produces a black and white picture. It sets pixels to white if their brightness is above a threshold, and black otherwise. It never produces gray pixels.

It doesn't affect the color depth, so applying Monochrome to a 24-bit TrueColor picture will leave it as a 24-bit picture which only uses 2 colors. You can then use the **Error Diffusion** method in <u>Convert Color Depth</u> to make it a 1-bit picture without losing information.

Double-click on the Monochrome button to change the threshold. A value of 128 works well for many pictures. Large values make more of the picture become black.

User Defined Filter

This button provides many other image processing effects. It also lets you create your own effects. Each effect is defined by a filter, which is a 3 by 3 matrix of numbers, a divisor and a bias.

PhotoWizard is supplied with the following standard effects:

- Blur Heavy
- Blur Light
- Edge Detect Heavy
- Edge Detect Medium
- Edge Detect Light
- Edge Enhance
- Emboss
- Enhance Detail
- Sharpen Heavy
- Sharpen Medium
- Sharpen Light
- Soften Light
- Soften Medium
- Soften Heavy

To create a filter of your own, click on the **New** button. You can also **Edit** existing filters - try looking at the ones we supply to get an idea of how they work. Creating custom matrix transformations is a bit technical - even we don't understand it! The best thing is to experiment.

The **Delete** button removes unwanted filters.

User defined filters are only available for 24-bit, TrueColor pictures. PhotoWizard will automatically convert the picture if you try to use them on other sorts.

Editing user defined filters

The **New** and **Edit** buttons lead to a dialog which lets you give a name to your effect, and edit the numbers which determine the filter's effect. When PhotoWizard applies the filter it generates a new picture whose color at each point is calculated from the pixels neighboring the corresponding point in the old picture.

For the mathematical, the exact relationship for a point at (x, y), is:

For example, the <u>Smooth</u> button sets every pixel to be the average of its neighbors. Its filter would look like this:

1	1	1 1
1	1	1
1	1	1

with a Divisor of 9 and a Bias of 0.

Color Components

These buttons adjust the color balance of the picture by changing the proportions of the primary colors. The primary colors are red, green and blue, and you can make any other color by mixing these three together.

There are two buttons for each primary color, one above the other. The top button increases the proportion of the color, the bottom one decreases it. For example, if you have a gray scale picture (click on the <u>Gray scale</u> button to convert a color picture to gray) and click once on the top red and green buttons, the picture will acquire a yellow/brown tint.

Editing Color Components

If you double-click on any of the color component buttons, a dialog pops up which provides more control over the color.

- The first three scroll bars set the change in the red, green and blue components. Positive numbers increase the color components value, negative numbers decrease it
- The bottom scroll bar determines default step, which is the change applied when you single-click on one of the color component buttons. You can increase or decrease the default step if you prefer a more or less dramatic change from the buttons.

Brightness and Contrast

These buttons adjust the brightness and contrast of the picture. The top row increases them, the bottom row decreases them. Their effect is similar to that of the brightness and contrast controls on a television.

Editing Brightness and Contrast

If you double-click on any of the Brightness or Contrast buttons, a dialog pops up which provides more control.

- The first scroll bar sets the change in brightness. Positive numbers increase the brightness, negative numbers decrease it. The changes are proportional, so that adding +100% will make the picture twice as bright.
- The second scroll bar sets the change in contrast. Positive numbers increase the contrast, negative numbers decrease it. The changes are proportional, so that adding +100% will double the contrast in the picture.
- The bottom scroll bar determines default step, which is the change applied when you single-click on one of the Brightness or Contrast buttons. You can increase or decrease the default step if you prefer a more or less dramatic change from the buttons.

Gamma Correction

Click on this button to apply Gamma Correction to the picture. Gamma Correction helps to compensate for differences in brightness between various input and display devices. For example, PhotoCD pictures are designed to be viewed on a television and don't look so good on a computer monitor. They come out too dark, and the dark areas lose definition. They look right on the TV because TV screens have brighter displays.

Gamma Correction makes the dark parts brighter without losing much definition in parts which are already bright enough. This gives a better result than adjusting the brightness and contrast.

You can change the amount of Gamma Correction by double-clicking on the Gamma Correction button. The amount you need depends on where the picture comes from. You should experiment to find the best values but for Kodak PhotoCD pictures a value of 1.81 is normally good.

Convert Color Depth

This button brings up a dialog which converts the image between various color depths. The color depth determines how many bits are used to store each pixel in the picture, and so the maximum number of colors possible in the image and the total amount of memory it needs.

Reducing the color depth reduces the picture's memory requirements but loses quality. PhotoWizard has several algorithms to minimize the loss of information; which is best depends on circumstances. The algorithms are:

- **Popularity color.** This converts from TrueColor to 256 color by preserving the 256 most common colors exactly, and matching the remaining colors to them.
- Median cut color. This converts from TrueColor to 256 color by dividing the picture into 256 blocks, finding the average color of each block and then matching all colors to them.
- **Error diffusion.** This converts down to 16-color or monochrome and gives the best results, but is the slowest method.
- **Bayer dither.** This converts down by using a Bayer dithering algorithm, this is faster than error diffusion but the results are not as good.
- **Halftone.** This produces clusters of black pixels of varying sizes to simulate grays within a monochrome (1-bit) picture.

Increasing color depth does not lose any information so no clever algorithms are needed. However, it doesn't add information either. If you take a TrueColor picture, convert it into monochrome, then convert back to TrueColor, the picture will still appear to be monochrome, even though it is now in the TrueColor format.

Although it uses more memory, converting to TrueColor is necessary for some effects which need the increased number of available colors. For example, the <u>Smooth button</u> sets each pixel to the average color of its neighbors - this average could be a new color. TrueColor is the only format which has enough color depth "spare" to store the extra colors. PhotoWizard will offer to convert to TrueColor whenever necessary so you don't need to remember which effects need it and which don't.

Histogram Equalization/Brightening

These two buttons maximize contrast by expanding the range of colors used. As a result, they make dark pictures look brighter, bright pictures look darker and tend to make obscure detail more apparent.

Histogram Equalize treats all colors the same, giving a roughly linear distribution of pixel intensity.

Histogram Brighten increases contrast in the dark areas at the expense of contrast in the bright areas.

Flip Picture

These buttons flip the picture horizontally or vertically. The result is similar to holding the picture up against a mirror. Most images look fine when flipped. Remember any text in a picture may no longer be readable.

Horizontal flipping reverses left and right, and vertical flipping reverses up and down.

Rotate Picture

The first two of these buttons rotate the picture by 90° clockwise and counter-clockwise. You can use them to convert a landscape picture into portrait. They are especially useful when you want to scan a picture which is too wide for your scanner. You can turn the picture on its side, scan it that way and then rotate it back in PhotoWizard.

The third button provides free rotation. You can rotate the picture to any angle. When a picture is rotated to an irregular angle, the resultant picture is larger than the original as the corners of the picture have "pushed" the sides out. The extra areas will be filled in with white pixels.

Resize Picture

This button brings up a dialog which lets you scale the picture to an exact size in pixels.

Common picture sizes are shown in the radio buttons on the left. If you select **Custom**, you can enter any size you want into the edit boxes on the right. If the **Maintain Aspect Ratio** button is checked, the width and height of the picture will remain in proportion, so that, for example, a square object within the picture will remain square and not become rectangular.

Crop Tool

This button selects the Crop Tool. You can use the Crop Tool to cut unwanted information from a picture. If you have a picture and you only want a portion of it, use the crop tool to discard the unwanted areas. The new picture is smaller and hence faster to manipulate and save.

You crop an image by selecting the Crop Tool then dragging out a rectangle over the <u>Preview Window</u>. The picture will be cropped to the rectangle with everything outside the area thrown away.

The mouse cursor changes in to the crop symbol when Crop Tool is selected and the mouse is over the Preview Window.

If you start to drag your crop area and then realize you've made a mistake, hit **ESCAPE** to abort the cropping operation.

When you have finished the cropping operation, the mouse cursor goes back to being the Zoom Tool.

Cut, Copy and Paste

These buttons manage the Windows Clipboard. The Windows Clipboard is an area shared between all Windows applications, which provides a way to move pictures between applications which is sometimes more convenient than saving them to disk. See *Using PhotoWizard* chapter in the *Owner's Handbook* for more details on using PhotoWizard with other applications.

Cut puts the picture onto the clipboard and clears it.

Copy copies the picture to the clipboard, without clearing it.

Paste replaces the picture with whatever is on the clipboard.

Cut and Copy put the picture onto the Clipboard as a Windows Metafile, a Windows bitmap and as an OLE object. These formats take up a lot of memory, so PhotoWizard clears the clipboard when you exit it.

Consult the Microsoft Windows User's Guide for further details on the Clipboard.

Undo

This button reverses the previous operation. Use it when you've made a mistake, or when a transformation didn't work out the way you hoped it would.

Undo works by keeping a copy of the picture as it was before the last change. This takes up memory. If you have a low powered PC, or are using large pictures, you can reduce the memory requirements by disabling Undo.

Alternatively, if memory is not a problem, you can increase the number of undo levels.

To edit the undo settings, double-click on the Undo button and set the undo value as required.

Zoom

This row of buttons controls the zoom of the <u>Preview Window</u>. The buttons are:

- **Zoom out.** This makes the picture look smaller.
- **Zoom in.** This makes the picture look bigger.
- **1:1.** This makes one picture pixel equate to one screen pixel. Double-clicking on the Preview Window has the same effect.
- **Fit to window.** This makes the picture as large as it can be and still all be visible at once. **SHIFT** + click on the Preview Window has the same effect.
- **Custom.** Double-click on this to set a custom zoom percentage. Single-click to zoom to the current custom zoom percentage.

The current zoom percentage is displayed in the <u>Status bar</u>.

Information

This button brings up a dialog which provides more information about your picture.

The **color histogram** displays information about colors and how they are distributed within the picture. A picture is made up of pixels, each pixel can have a different color and the color of a pixel is determined by mixing red, green and blue components.

For example, a pixel containing mostly red and blue will appear as a purple color because when red and blue are combined, purple is created.

The amount of any component of red, green or blue in a color is known as the intensity. For example a bright purple pixel will have a high blue intensity, a high red intensity and a low green intensity.

The color histogram has a graph to display intensity versus number of pixels of that intensity, for each of the red, green and blue components.

You can get a lot of information about your picture by looking at its color histogram. Bright pictures have taller bars to the right hand end of the graphs, showing that a bright picture contains pixels with high intensity values. Dark pictures have taller bars to the left showing that dark pictures contain pixels of low intensity. High contrast pictures have taller bars at both ends showing that pixels tend to be either quite bright or quite dark.

Gamma Correction Histogram Brightening and Histogram Equalization all change the distribution of pixel intensities. You can see their effect most clearly by looking at the color histogram before and after applying them. In short, the histogram helps you understand why your picture looks the way it does.

A "natural" picture will show a smooth graph without sudden spikes, as natural colors generally blend into each other.

If you notice lots of gaps and isolated peaks in the graphs, it means that the picture isn't using all the colors available - the gaps represent unused colors. This can make the picture look unnatural or artificial. Converting pictures up to TrueColor and increasing contrast will also tend to create gaps in the graphs where colors are not being used. A combination of smoothing and sharpening may improve the appearance of the picture.

Colors used tells you how many different colors the picture uses. Again, a small number of colors in a TrueColor picture shows it could be made more natural by Smoothing. It also tells you how much information would be lost if you converted the picture to a smaller color depth.

Screen information tells you the screen dimensions in pixels, and the color depth. If your screen color depth is less then that of your picture, it means the picture can't be displayed with perfect accuracy. We recommend you use PhotoWizard on a PC with a display capable of showing at least 256 colors.