pbnArtist

Paint-By-Number and Counted-Cross-Stitch

User's Manual

pbnArtist User's Manual
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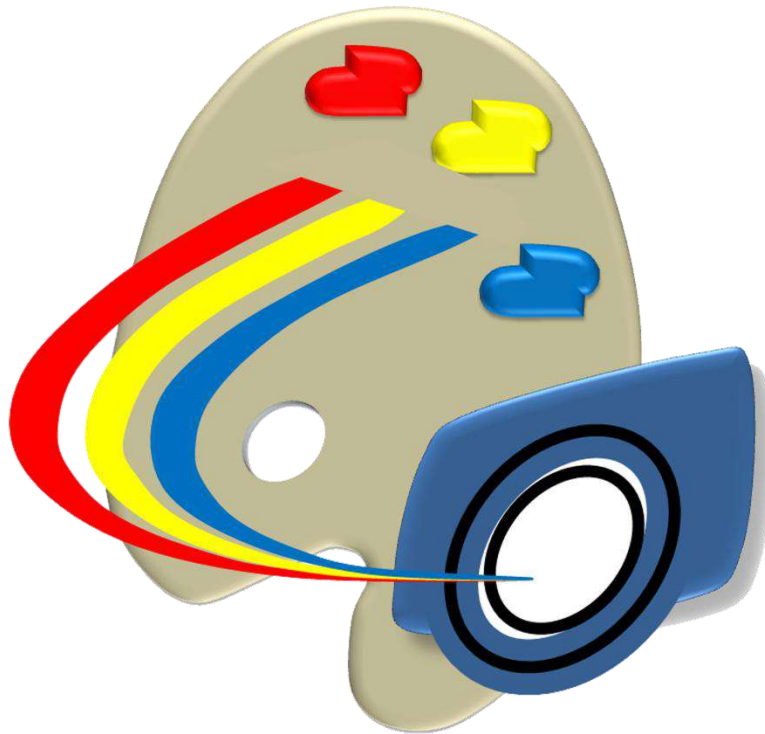
pbnArtist User's Manual

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Welcome to pbnArtist

Thank you for using pbnArtist to create paint-by-number paintings and cross-stitch projects.

This program is available as a trial version, or as a fully-functional version. The trial version runs for a trial period of, in most cases, 15 days. During this trial period, all functions operate normally, but any images that you save, print or copy to another program include an additional watermark that states it was generated using the program's trial version. This watermark is eliminated when you activate the program to its fully-functional version.

This user manual contains information to help you get started quickly. It is divided into the following three sections:

Creating your first paint-by-number and cross-stitch projects is described in the Getting Started guide.

Tutorials are included in the How To section.

Detailed information about the program commands and features are in the Reference Manual.

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PART 1: Getting Started

Making your first Paint-By-Number and Cross-Stitch Project
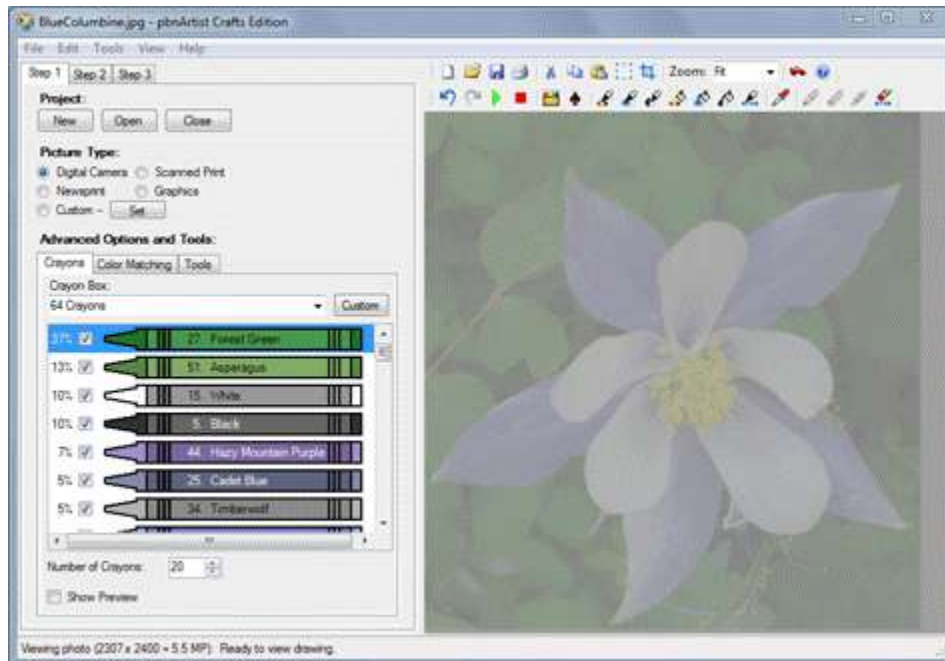
The first time you run pbnArtist, the program will open with the Main Menu on the top of the screen, the Quickstart Panel on the left side of the screen, the Project Workspace on the right side of the screen, and the Standard and Edit Toolbars above the Project Workspace. Some of these items can be moved, resized and/or hidden, so they might not appear in exactly these locations the next time you run the program.

The first time you use pbnArtist to create a paint-by-number or cross-stitch project, use the Quickstart Panel. This is the control panel with the tabs labeled Step 1, Step 2, and Step 3.

Step 1

Begin by clicking the Step 1 tab to select the first step (if it is not already selected).
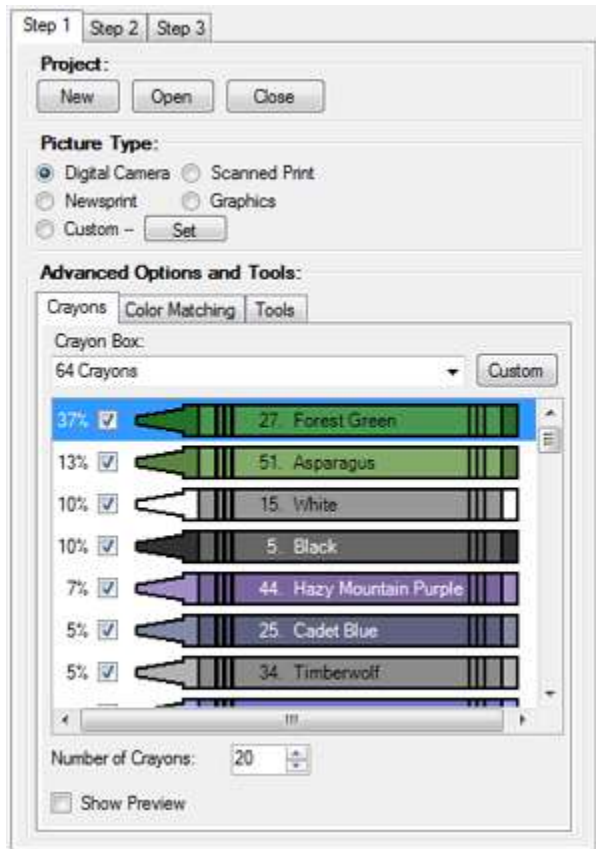
Click *New* and select your digital photograph
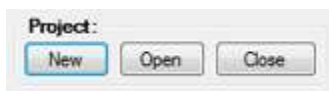
This will begin a new project and will open a window in which you can select the file containing your digital photograph. Select the desired file.

The file window will initially open in the last folder that you used to open or save a graphics or image file, but you can navigate from there to any folder on your computer.

Select the Picture Type.
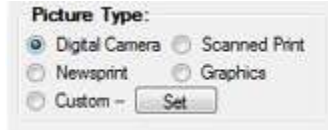
Use the radio buttons to select the image type. In most cases, you should use the first button, labeled *Digital Camera*.
The choices available are:

- Digital Camera
     Use this setting for most photographs.
- Scanned Print
     Use this setting for photographs that have been scanned into your computer using a scanner.
- Newsprint
     Use this setting for half-tones and photographs that were scanned from newsprint. Only use scanned photographs for which you own the copyright or for which you have received permission from the copyright holder.
- Graphics
     Use this setting for images that were drawn by hand or images that were drawn using a computer drawing program. This mode will produce drawing that follow the sharp corners and sharp color transitions in graphics images. It will also run slightly slower than the other modes.
- Custom
     Use this setting to customize the imaging parameters. You may press the "Set" button, which will allow you to manually set the amount of softening and the step size (number of pixels) that will be used when converting your photo to either a paint-by-number or a cross-stitch project. You can experiment with these values, but in general, you will get best results using large amounts of softening for very coarse pictures (like newsprint) and using small amounts of softening for very sharp images (like graphics). You can also select the preset values that are used for the other settings.

After you have processed the photograph, you may wish to return to this step to experiment with the other choices.

Step 2

Click the Step 2 tab and click Run.
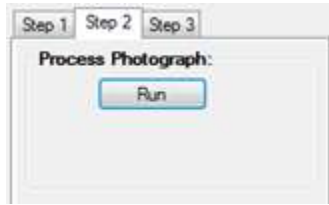
Press the *Run* button to process your photograph. The button's label will change to *Cancel*, and the process will begin running. You can watch your photograph change as it is being processed. If you would like to stop the process, click *Cancel*.

When the process has finished, the Quickstart Panel will automatically advance to *Step 3*. On this panel you can select whether you want a paint-by-number project (using the *Drawing* tab) or a cross-stitch project (using the *Cross Stitch* tab).

That's it!

Your photograph has been processed into a project. You may now select the project type and select from several ways to view and use your drawing. The tabs at the top of the Step 3 window allow you to view your project as a drawing (paint-by-number or coloring picture), a cross-stitch pattern, or the original photograph.

Step 3

Drawing Tab
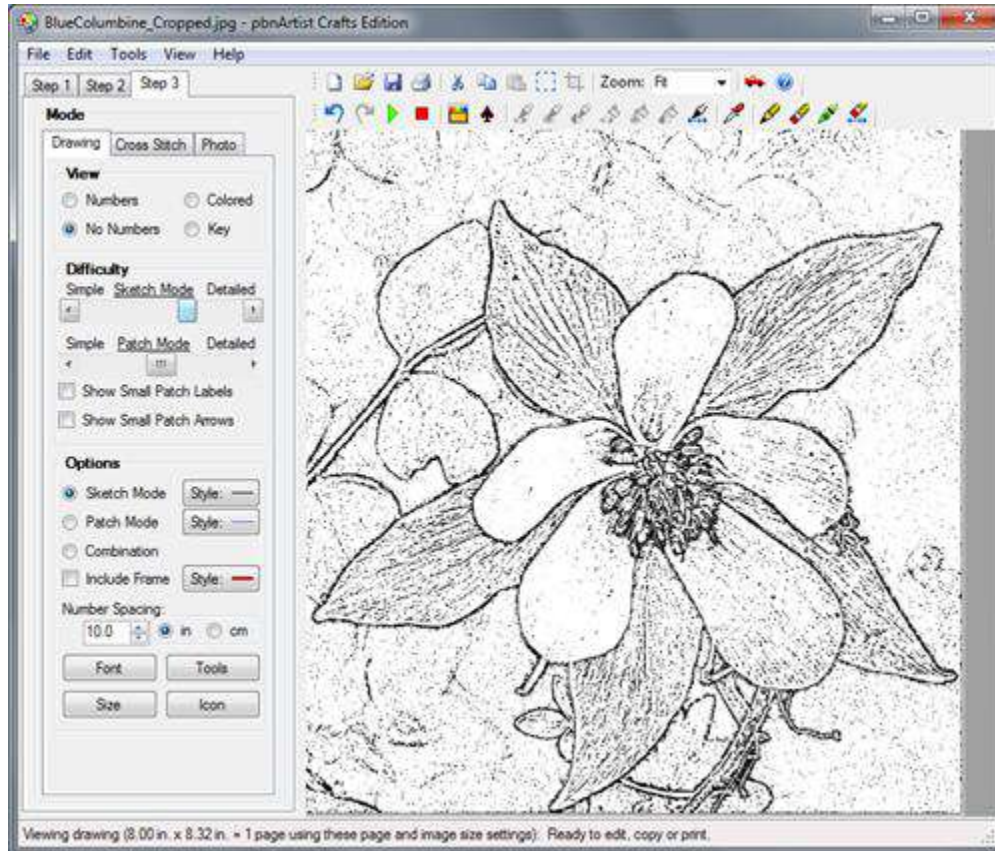
Use the drawing tab to view your project as a paint-by-number or a coloring picture. You can set the complexity as well as determine how to display numbers and lines within the picture. You can find more details by clicking here.
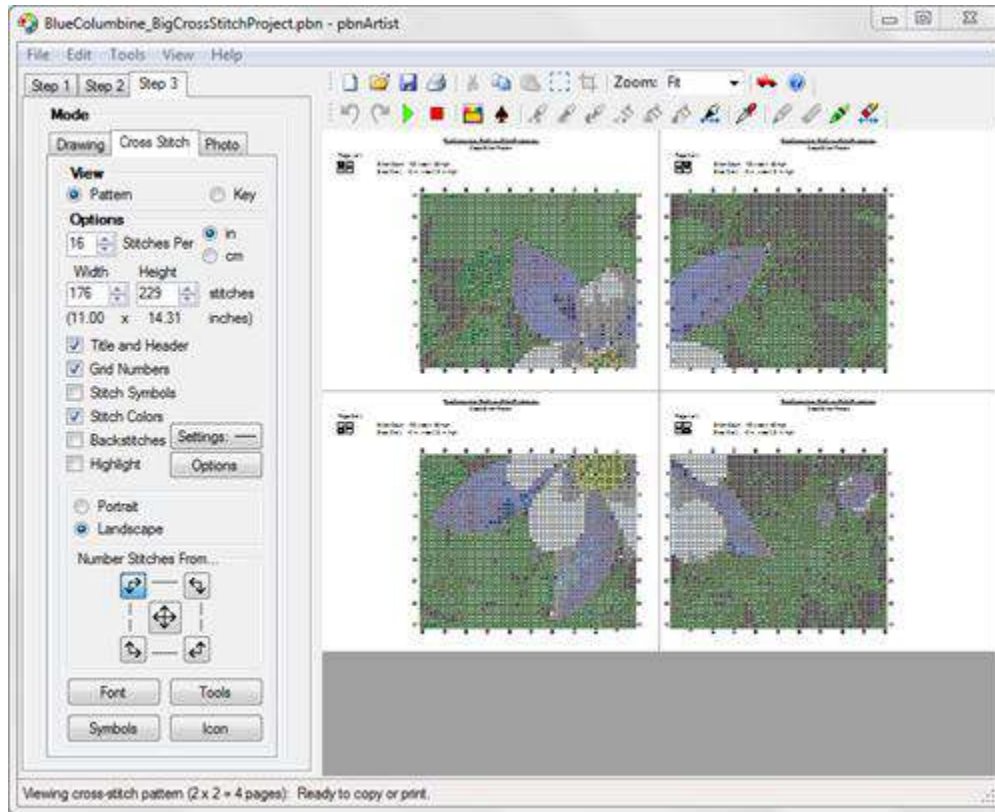
Cross Stitch Tab

Use the cross stitch tab to view your project as a cross stitch or needlepoint pattern. You can set the size and stitch count as well as determine how to display floss symbols and/or colors within the pattern. If the pattern is too large to fit on a single page, it will be spread across multiple pages. You can find more details by clicking here.
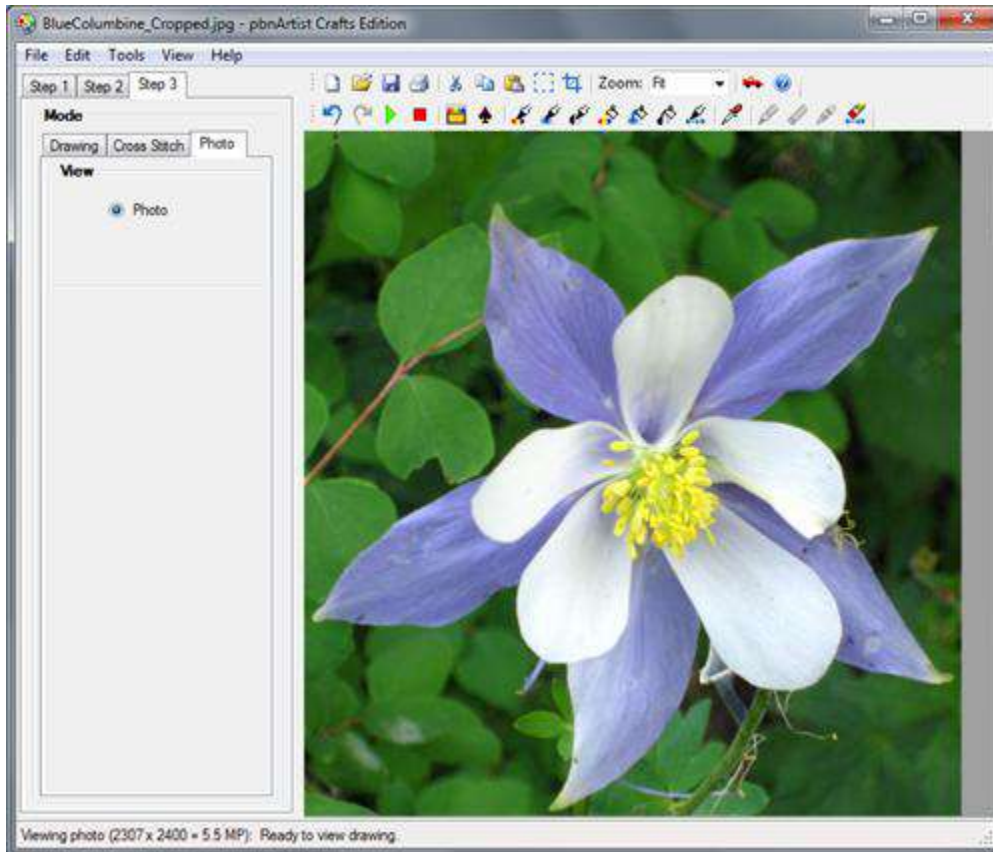
Photo Tab

Use the photo tab to view your original photograph.

Save your project.

To save your entire project, including all of your settings and any work done, select *Save Project As ...* in the File Menu. This will open a window that allows you to navigate to a desired folder and then save your project file.

By default, your project file will have the same name as your original digital photograph, with the extension *.pbn* added at the end of the name.

Save the selected view.

To save the current view as a graphics file, select *Save Graphics As ...* in the File Menu. This will open a window that allows you to navigate to a desired folder and then save the current view as a graphics file. This window will open in the same folder that was used the last time you saved a graphics file, but you can navigate from there to any folder on your computer.

By default, graphics files will be given a name that begins with either the project name or the original photo name, followed by the name of the view, followed by an extension that indicates the file format.

Default view names that are used are shown here. You may change these when you name the file:

- <ProjectName>_PBN:
  The numbered paint-by-number drawing, ready for painting or coloring

- <ProjectName>_LineDrawing:
  The un-numbered line drawing, ready for painting or coloring

- <ProjectName>_ColorDrawing:
  The drawing with all colors filled in

- <ProjectName>_Key:
  The list of paints or crayons used in you paint-by-number project

- <ProjectName>_CrossStitch:
  The cross stitch or needlepoint pattern

- <ProjectName>_csKey:
  The list of flosses used for your cross stitch or needlepoint pattern

- <ProjectName>_Photo:
  The original photograph

Possible file formats are:

- .jpg:
  JPEG format

- .bmp:
  Bitmap format

- .gif:
  GIF format

- .png:
  Ping format

- .tif:
  Tiff format

- .wmf:
  Windows Metafile format

- .emf:
  Extended Windows Metafile format

In general, PNG format will give the best result for the drawing, cross stitch, and color key views, and JPEG will give best results for the photo view.

So for example, if you are working on a photograph named *MyFavoritePhoto*, and you want to save the cross stitch pattern as a PNG file, the program will suggest the name *MyFavoritePhoto_CrossStitch.png* for the file. But you may, of course, change this name when saving the file.

Print the selected view

To print the selected view, select *Print* from the File Menu.

Copy the selected view

To copy the selected view and paste it into another program, click *Select All* in the Edit Menu, and then click *Copy* in the Edit Menu.

You may then navigate into your other program and use that program's *Paste* command to insert a copy of this view into that program.

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Using a few of the Advanced Features

The Quickstart Panel also includes advanced features that you can use to improve the appearance of your paint-by-number drawing. Advanced features are available in Step 1 and in Step 3.

Step 1 Advanced Features
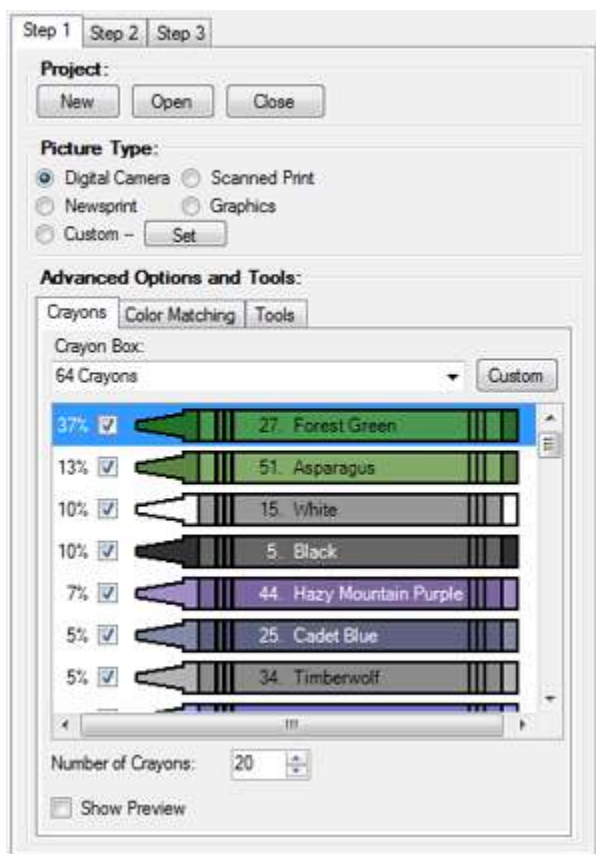
The Step 1 tab has advanced features in the second tab panel near the bottom of the panel.

Show Preview

You may wish to experiment to find the best setting to use for each photograph. The checkbox labeled "Show Preview" (at the bottom of the Step 1 window) will open a window that shows you a preview of the crayon colors assigned to your drawing. The preview window will show any changes you make to the colors in your drawing as you make them. This includes any of the changes you may make as described below.

The preview feature is useful as a fast way to get the colors right in your final painting or stitching project. As you experiment with different crayons and paints, you can immediately see how the colors you have selected will be applied to your photograph. And if you don't like the way the program is assigning colors to your photograph, you can work with the color matching adjustments described below and immediately see how they will affect your project.

The Crayons Tab

pbnArtist provides several groups of colors that you may include in your drawing. These colors are grouped into *Crayonboxes*. Click the dropdown arrow to view the list of crayonboxes and to choose the collection you would like to use.

The dropdown box shows crayonboxes that are included with the program (system crayonboxes) and any custom crayonboxes that you have added or created. Click here to learn how to create custom crayons. Click here to learn how to import custom crayonboxes from an external file.

The list below the crayonbox shows the crayons within the crayonbox. The program automatically analyzes the colors in your photograph and then sorts the crayonbox, so that crayons at the top of the list represent the colors most frequently used in your photo.

A number next to each crayon shows the percentage of the photograph that uses that color.

A checkbox next to each crayon allows you to specify whether a crayon should be used or not. The program will assign the checked crayons to the colors in your photograph. At each pixel in the photo, the program will select the closest crayon from the crayons you have checked, attempting to find the best crayon to match the color in that pixel.

You must have at least one crayons checked before proceeding to step 2.

The *Number of Crayons* numerical entry box below the list of crayons allows you to specify how many crayons should be included in your drawing. Simply enter the number you desire, or use the up/down arrows to increase or decrease the number.

The Color Matching Tab

Paint-By-Number Artist allows you to adjust the color-matching that is used to select crayons for your drawing. You adjust the brightness, contrast, saturation and tint in the crayons that are selected and assigned to your drawing.

When you change a color matching value, you are telling the program to select crayons based on the change you have made. So for example, if you increase the brightness slider, you are telling the program to try to find crayons that are brighter than the actual pixel colors.

The Tools Tab

You can edit the original photo by clicking the *Edit Photo* button. This provides you with tools that can crop the photo, paint colors onto the photo, soften the focus in parts of the photo, or enhance the brightness, contrast and saturation of parts of the photo.

Editing the photograph is explained in detail here.

Step 3 Advanced Features

The Step 3 tab allows you to display your project as either a paint-by-number or coloring picture, or as a cross stitch or needlepoint pattern. The advanced features on this tab allow you to make a wide variety of changes to the way these projects are displayed.

The Drawing Tab

Use the drawing tab to view your project as a paint-by-number or a coloring picture. You can set the complexity as well as determine how to display numbers and lines within the picture. What follows is a brief description of how these options work. You can find more details by clicking here.

Sketch Mode and Patch Mode

Two drawing modes are available for your drawing -- *sketch mode* and *patch mode*. Sketch mode draws lines that give a more lifelike view of your picture. Patch mode draws lines exactly where the colors change, giving a view that will show the actual colors more accurately after the picture has been painted or colored.

Select the Drawing View.

Use the radio buttons to select the view being displayed. You may select from the following views: *Numbers* (a paint-by-number picture), *No Numbers* (a line drawing suitable for coloring), *Colored* (the drawing with all colors filled-in) and *Key* (the list of crayons, paints, or other media used in your picture).

Adjust the Drawing Complexity.

Use the sliders to adjust the difficulty level of your drawing.

Additional Settings in the Drawing Tab

The next set of checkboxes allow you to select how numbers are displayed for very small patches of color in your picture. You may elect to have the number offset from a patch with an arror pointing into the center of the patch, or you may elect to not display numbers for these small patches.

Below these checkboxes is a set of radio buttons that allow you to select the type of drawing being displayed. You may select *sketch mode* or *patch mode*, or a combination of both. You can also specify the type of line (color and thickness) used for each mode, and you can elect to have a frame drawn around your picture.

Number Spacing

The *Number Spacing* numerical entry box lets you adjust the maximum distance between the numbers that indicate crayon colors on you picture. This value may be specified in inches or centimeters by checking the appropriate radio button.

Font Button

The *Font* button allows you to specify the font used for color numbers in your paint-by-number view.

Tools Button

The *Tools* button provides tools that can draw or erase lines on your drawing, and that can change the crayons that are used for portions of your drawing.

Editing the drawing using these tools is explained in detail here.

Size Button

The size button allows you to specify the size of your drawing (in inches or centimeters) when it is printed. You also have the option to print the drawing on a single page of paper or across multiple pages.

Icon Button

The *Icon* button changes the icon that is used in the color key. The color key provides a list of the colors used in your picture. Each color is shown using an icon. The available icons are crayon, pencil, pen, chalk, marker, paint brush, spool of thread, ball of yarn, button, or text only.

The Cross Stitch Tab

Use the cross stitch tab to view your project as a cross stitch or needlepoint pattern. You can set the size and stitch count as well as determine how to display floss symbols and/or colors within the pattern. What follows is a brief description of how these options work. You can find more details by clicking here.

Select the Cross Stitch View.

You can display either the cross stitch pattern or the color key, which shows the flosses used in your project.

Stitch Count and Size

The set of numeric boxes near the top of this window allow you to set the stitch count (number of stitches per inch or per centimeter) to agree with the fabric you are using for your cross stitch project, and the total size of your project, counted in stitches. The program automatically displays this size converted to either inches or centimeters, so as you change the number of stitches you can see the equivalent size.

Title and Header

This checkbox causes patterns to be displayed with a title and additional information at the top of the page. If the pattern is large enough to cover multiple pages, the header also includes a map of the pages which shows where each page fits into the overall pattern.

If you want your pattern to fit on one page, you will probably need to have this option turned off.

Grid Numbers

Your project have numbers along the sides of the pattern, making it easier to count stitches, or you can leave these out.

Stitch Symbols

Your pattern can display symbols for each floss being uses, or you can turn this option off and show the floss color instead. When using symbols, the program selects from the character fonts available on your computer.

Stitch Colors

Select this option to display the floss color for every stitch shown in your pattern.

Backstitches

The sketch mode lines, described for the *drawing* tab, can be overlaid on top of your cross stitch pattern. These can be shown as individual stitches (single strands that extend horizontally, vertically, or diagonally across individual intersections in the weave) or as a line drawing (similar to the sketch line mode in the *drawing* tab). You can change the color, thickness, and complexity level of these backstitches by clicking the *Settings:* button.

Portrait or Landscape

Your cross stitch pattern can be printed from any computer picture. This option selects whether the pattern will be printed vertically (portrait) or horizontally (landscape) on the page. If the pattern is too large to fit on a single sheet of paper, it will automatically be spread across multiple pages. (You can return it to a single page by reducing the size of the project or by selecting smaller font sizes).

Number Stitches From

This option is used along with the *Show Grid Numbers* option. You can elect to have the stitch numbering start from any corner or from the center of the pattern.

Font Button

You can use the *font* button to specify the font used for the title and labels shown on your cross stitch pattern.

Tools Button

You can used the *tools* button to activate editing tools to make changes to your pattern. You can change the colors that are used for individual stitches or for groups of stitches. Editing a cross stitch pattern is similar to editing a coloring or paint-by-num picture, and is described in more detail here.

Symbols Button

Cross stitch patterns show the floss used for each stitch by showing a symbol that is unique for each stitch. pbnArtist uses the character fonts that are available on your computer, primarily using *dingbat* font types if they are available on your computer. You can change the collection of symbols by clicking the *symbols* button.

For more fun with your cross stitch patterns, you might enjoy adding additional symbol fonts. There are a wide variety of symbol fonts available on the internet, and many of these fonts are available for free. To find these, search the internet using the search term "dingbat fonts."

After you have found and installed new symbol fonts onto your computer, use the *symbols* button to select and add each symbol to your collection.

Icon Button

The *Key* view shows each floss used in your pattern, drawing each floss as a colored icon. Normally, it uses the default icon that is defined for each crayonBox, but you can use the *icon* button to select a different icon.

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Printing tip: Papers for Crayons and Paints

If you are printing a drawing that will be colored using crayons, pencils or other art media, you may encounter a problem. Most papers that are designed for computer printers are coated with a material that gives them a shiny finish. This is desirable for most types of printouts, but it can prevent drawing materials from adhering to them. You might notice that crayons, for example, slide off of this finish without leaving much color.

Art papers, on the other hand, are designed to work well with these drawing media. Art papers have a coarse finish, which provides a so-called *bite* that causes these colors to adhere.

But art papers, unfortunately, are usually cut to sizes that don't fit computer printers, and they may be able to damage your printer. Especially stiff or thick papers might damage the rollers that push paper through your printer. The lack of finish on these papers may cause printer inks to leave the paper and stay on the rollers, causing smears on future printouts.

There are two options you may wish to try. For coloring pages, using crayons, we recommend using *100% Cotton Resume Paper*, that is specifically designed for inkjet or laser printers. This type of paper has a coarser finish that will adhere well to coloring materials, and it will work well with your home computer printer. *100% Cotton Resume Paper* is produced by several well-known paper manufacturers, and is available at most office supply stores or college bookstores. Check the label, and make sure that the paper you are using is *inkjet printer compatible*, or *laser printer compatible*, depending on the type of printer you are using.

For paintings, purchase a tablet of artist's paper that is designed specifically for the type of paint you will be using. This paper will probably be two large for your printer, but you can easily cut it to a smaller size. In most cases, it will only be necessary to trim it to the correct width; the longer length should still work with most printers. Test the result -- the ink or toner your printer uses may not adhere perfectly to this type of paper, but it should be good enough to enable you to complete your painting.

But be careful when using these papers. Some printers are not designed to use thick papers, and other printers, while compatible, may still require you to use a special "thick paper" setting. Incorrectly using thick paper can, in some cases, cause the printer's rollers to wear-out prematurely, preventing them from working properly with thinner papers. Check your printer's user manual before using thick papers.

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Program Activation
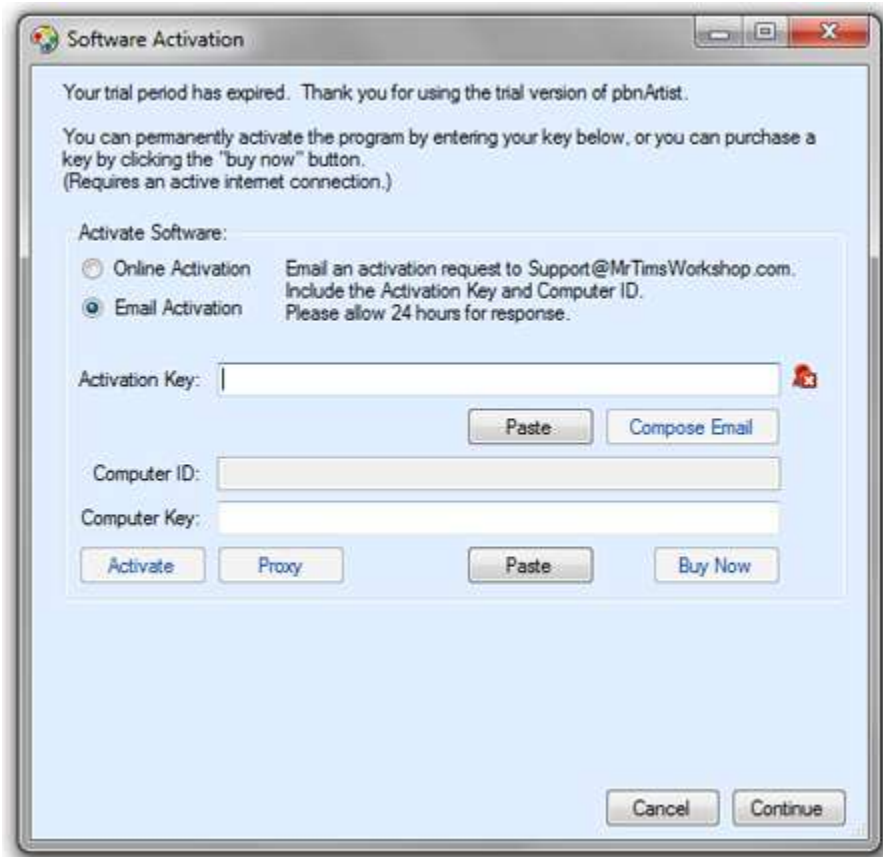
We hope you have been enjoying pbnArtist, and that the *Getting Started* section of this user manual has helped you learn how to use the program.

If you are using the trial version of the program, we hope that you will activate to the fully-functional version.

To activate the program, you can purchase an activation code by clicking the *Buy Now* button. This button appears in the notification window that appears when the trial version of the program is started.

You can also display the notification window using the *Software Activation* command in the Help Menu.

Clicking the *Buy Now* button will open your internet browser to a web page where you can purchase the program. Upon completing your purchase, you will receive an email that gives you an activation code. Activate the program by copying this code into the activation box that is in the notification window.

To make this a little easier, you can copy the activation code from your email by double-clicking it (or simply selecting it), and then right-clicking to select "Copy". In the program's notification

window, simply click the "Paste" button to paste the code into the activation box.

You can activate either online (automatically) or manually by sending an email request.

To activate online, select the "Online Activation" option, insert your activation key in the "Activation Key" textbox, and click "Activate".

To activate manually, select the "Email Activation" option and insert your activation key in the "Activation Key" textbox. The "Compose Email" button will become active when you have inserted a correctly formatted key. Click the "Compose Email" button to get instructions on how to email the request, copy the information into an email message, and send it. You will receive a response that includes a computer key. When you receive the response, return to this window, again select the "Email Activation" option, insert both the activation key and the computer key in their respective text boxes, and click "Activate".

Upgrading from the Basic Version to the Cross Stitch Version

Use the *Software Activation* window to upgrade from the Basic version of pbnArtist to the Cross Stitch version.

First, run *About pbnArtist* in the *Help Menu* to make sure you are running version 2 of pbnArtist. If you have an earlier version, you will need to download the newer version at http://www.pbnArtist.com.

If you are already running the basic mode of version 2, open the *Software Activation* command in the *Help Menu*. The *activation button* will be relabeled to "upgrade". Press the *Upgrade button* to enable the textbox and then paste your new license key in the box. The button will now be relabeled "activate" again. Press the *Activate button* and wait for the dialog to say that your upgrade was successful (It might take as long as two minutes, depending on the internet connection).

Once again, thank you for trying pbnArtist, and we hope that you are enjoying this program!

PART 2: Tutorials

How to Create a Project

Creating a project using the Quickstart Panel
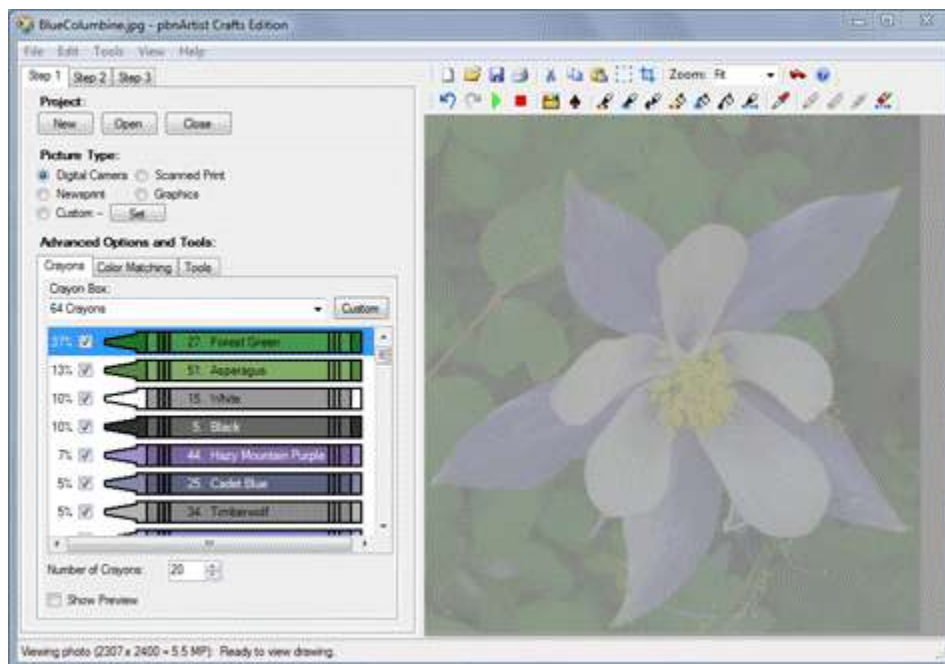
The first time you run Paint-By-Number Artist, the program will open with the Main Menu on the top of the screen, the Quickstart Panel on the left side of the screen, the Project Workspace on the right side of the screen, and the Standard and Edit Toolbars above the Project Workspace. Some of these items can be moved, resized and/or hidden, so they might not appear in exactly these locations the next time you run the program.

The first time you create a paint-by-number drawing, use the Quickstart Panel. This is the control panel with the tabs labeled *Step 1*, *Step 2*, and *Step 3*.

Begin by clicking *Step 1* to select the first step (if it is not already selected).
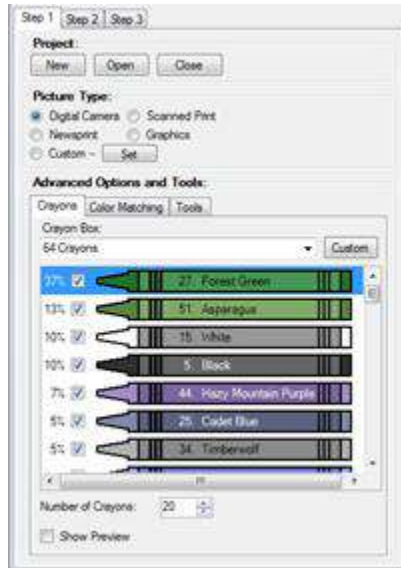
Click *New.*

This will begin a new project and will open a window in which you can select the file containing your digital photograph. Select the desired file.

Select the photograph type.
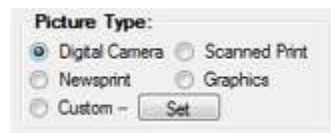
Select the type of photograph. In most cases, you should use the first choice from the left, labeled *Digital Camera*.

The choices available are:

- Digital Camera
  Use this setting for most photographs.

- Scanned Print
  Use this setting for photographs that have been scanned into your computer using a scanner.

- Newsprint
  Use this setting for half-tones and photographs that were scanned from newsprint. Only use scanned photographs for which you own the copyright or for which you have received permission from the copyright holder.

- Graphics
  Use this setting for images that were drawn by hand or images that were drawn using a computer drawing program. This mode will produce drawing that follow the sharp corners and sharp color transitions in graphics images. It will also run slightly slower than the other modes.

- Custom
  Use this setting to customize the imaging parameters. You may press the "Set" button, which will allow you to manually set the amount of softening and the step size (number of pixels) that will be used when converting your photo to either a paint-by-number or a cross-stitch project. You can experiment with these values, but in general, you will get best results using large amounts of softening for very coarse pictures (like newsprint) and using small amounts of softening for very sharp images (like graphics). You can also select the preset values that are used for the other settings.

After you have processed the photograph, you may wish to return to this step to experiment with the other choices.

Click the *Step 2* tab.
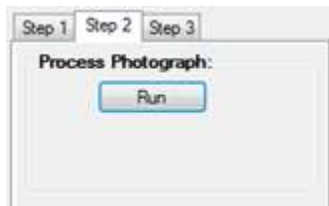
Click *Run*.

The button's label will change to *Cancel*, and the process will begin running. You can watch your photograph change as it is being processed. If you would like to stop the process, click *Cancel*.

When the process has finished, the Quickstart Panel will automatically advance to *Step 3*.

That's it!

Your photograph has been processed into a project. You may now select the project type and select from several ways to view and use your drawing. The tabs at the top of the Step 3 window allow you to view your project as a drawing (paint-by-number or coloring picture), a cross-stitch pattern, or the original photograph.

Drawing Tab

Use the drawing tab to view your project as a paint-by-number or a coloring picture. You can set the complexity as well as determine how to display numbers and lines within the picture. You can find more details by clicking here.
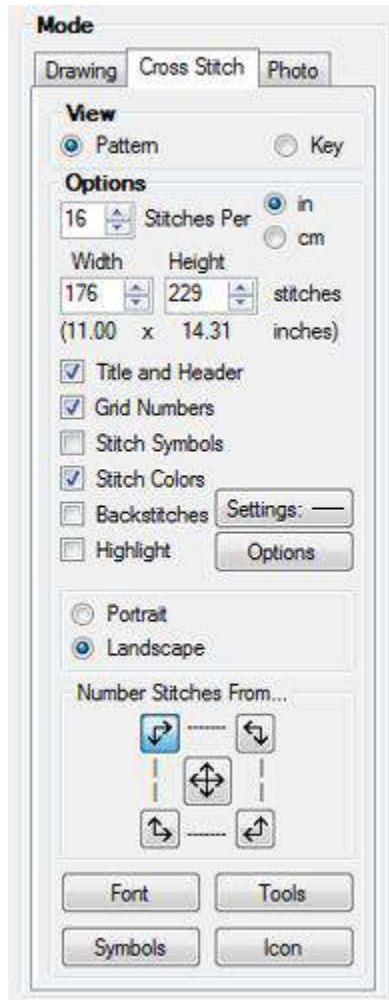
Cross Stitch Tab

Use the cross stitch tab to view your project as a cross stitch or needlepoint pattern. You can set the size and stitch count as well as determine how to display floss symbols and/or colors within the pattern. You can find more details by clicking here.

Photo Tab

Use the photo tab to view your original photograph.

Creating a project using the Advanced Features

The Quickstart Panel also includes advanced features that you can use to improve the appearance of your paint-by-number drawing. Advanced features are available in Step 1 and in Step 3.

Step 1

In step1, the advanced features are organized into three tabs, the *Crayons* tab, the *Color Matching* tab, and the *Tools* tab.

Step 1 also includes a preview window, so you can make changes and see how they will affect your project before processing the photograph. To enable the preview, click the *Show Preview* checkbox near the bottom of the panel.

The Crayons Tab

pbnArtist provides several groups of colors that you may include in your drawing. These colors are grouped into *Crayonboxes*. Click the dropdown arrow to view the list of crayonboxes and to choose the collection you would like to use.

The dropdown box shows crayonboxes that are included with the program (system crayonboxes) and any custom crayonboxes that you have added or created. Click here to learn how to create custom crayons. Click here to learn how to import custom crayonboxes from an

external file.

The list below the crayonbox shows the crayons within the crayonbox. The program automatically analyzes the colors in your photograph and then sorts the crayonbox, so that crayons at the top of the list represent the colors most frequently used in your photo.

A number next to each crayon shows the percentage of the photograph that uses that color.

A checkbox next to each crayon allows you to specify whether a crayon should be used or not. The program will assign the checked crayons to the colors in your photograph. At each pixel in the photo, the program will select the closest crayon from the crayons you have checked, attempting to find the best crayon to match the color in that pixel.

You must have at least one crayons checked before proceeding to step 2.

The *Number of Crayons* numerical entry box below the list of crayons allows you to specify how many crayons should be included in your drawing. Simply enter the number you desire, or use the up/down arrows to increase or decrease the number.

The Color Matching Tab

Paint-By-Number Artist allows you to adjust the color-matching that is used to select crayons for your drawing. You adjust the brightness, contrast, saturation and tint in the crayons that are selected and assigned to your drawing.

When you change a color matching value, you are telling the program to select crayons based on the change you have made. So for example, if you increase the brightness slider, you are telling the program to try to find crayons that are brighter than the actual pixel colors.

The Tools Tab

You can edit the original photo by clicking the *Edit Photo* button. This provides you with tools that can crop the photo, paint colors onto the photo, soften the focus in parts of the photo, or enhance the brightness, contrast and saturation of parts of the photo.

Editing the photograph is explained in detail here.

Step 3

The Step 3 tab allows you to display your project as either a paint-by-number or coloring picture, or as a cross stitch or needlepoint pattern. The advanced features on this tab allow you to make a wide variety of changes to the way these projects are displayed.

The Drawing Tab

Use the drawing tab to view your project as a paint-by-number or a coloring picture. You can set the complexity as well as determine how to display numbers and lines within the picture.

Sketch Mode and Patch Mode

Two drawing modes are available for your drawing -- *sketch mode* and *patch mode*. Sketch mode draws lines that give a more lifelike view of your picture. Patch mode draws lines exactly where the colors change, giving a view that will show the actual colors more accurately after the picture has been painted or colored.

Select the Drawing View.

Use the radio buttons to select the view being displayed. You may select from the following views: *Numbers* (a paint-by-number picture), *No Numbers* (a line drawing suitable for coloring), *Colored* (the drawing with all colors filled-in) and *Key* (the list of crayons, paints, or other media used in your picture).

Adjust the Drawing Complexity.

Use the sliders to adjust the difficulty level of your drawing.

Additional Settings in the Drawing Tab

The next set of checkboxes allow you to select how numbers are displayed for very small patches of color in your picture. You may elect to have the number offset from a patch with an arrow pointing into the center of the patch, or you may elect to not display numbers for these small patches.

Below these checkboxes is a set of radio buttons that allow you to select the type of drawing being displayed. You may select *sketch mode* or *patch mode*, or a combination of both. You can also specify the type of line (color and thickness) used for each mode, and you can elect to have a frame drawn around your picture.

Number Spacing

The *Number Spacing* numerical entry box lets you adjust the maximum distance between the numbers that indicate crayon colors on you picture. This value may be specified in inches or centimeters by checking the appropriate radio button.

Font Button

The *Font* button allows you to specify the font used for color numbers in your paint-by-number view.

Tools Button

The *Tools* button provides tools that can draw or erase lines on your drawing, and that can change the crayons that are used for portions of your drawing.

[Editing the drawing](#) using these tools is explained in detail [here](#).

Size Button

The size button allows you to specify the size of your drawing (in inches or centimeters) when it is printed. You also have the option to print the drawing on a single page of paper or across multiple pages.

Icon Button

The *Icon* button changes the icon that is used in the color key. The color key provides a list of the colors used in your picture. Each color is shown using an icon. The available icons are crayon, pencil, pen, chalk, marker, paint brush, spool of thread, ball of yarn, button, or text only.

The Cross Stitch Tab

Use the cross stitch tab to view your project as a cross stitch or needlepoint pattern. You can set the size and stitch count as well as determine how to display floss symbols and/or colors within the pattern.

Select the Cross Stitch View.

You can display either the cross stitch pattern or the color key, which shows the flosses used in your project.

Stitch Count and Size

The set of numeric boxes near the top of this window allow you to set the stitch count (number of stitches per inch or per centimeter) to agree with the fabric you are using for your cross stitch project, and the total size of your project, counted in stitches. The program automatically displays this size converted to either inches or centimeters, so as you change the number of stitches you can see the equivalent size.

Grid Numbers

Your project have numbers along the sides of the pattern, making it easier to count stitches, or you can leave these out.

Stitch Symbols

Your pattern can display symbols for each floss being uses, or you can turn this option off and show the floss color instead. When using symbols, the program selects from the character fonts available on your computer.

Stitch Colors

Select this option to display the floss color for every stitch shown in your pattern.

Backstitches

The sketch mode lines, described for the *drawing* tab, can be overlaid on top of your cross stitch pattern. These can be shown as individual stitches (single strands that extend horizontally, vertically, or diagonally across individual intersections in the weave) or as a line drawing (similar to the sketch line mode in the *drawing* tab). You can change the color, thickness, and complexity level of these backstitches by clicking the *Settings:* button.

Portrait or Landscape

Your cross stitch pattern can be printed from any computer picture. This option selects whether the pattern will be printed vertically (portrait) or horizontally (landscape) on the page. If the pattern is too large to fit on a single sheet of paper, it will automatically be spread across multiple pages. (You can return it to a single page by reducing the size of the project or by selecting smaller font sizes).

Number Stitches From

This option is used along with the *Show Grid Numbers* option. You can elect to have the stitch numbering start from any corner or from the center of the pattern.

Font Button

You can use the *font* button to specify the font used for the title and labels shown on your cross stitch pattern.

Tools Button

You can used the *tools* button to activate editing tools to make changes to your pattern. You can change the colors that are used for individual stitches or for groups of stitches. Editing a cross stitch pattern is similar to editing a coloring or paint-by-num picture, and is described in more detail [here](#).

Symbols Button

Cross stitch patterns show the floss used for each stitch by showing a symbol that is unique for each stitch. pbnArtist uses the character fonts that are available on your computer, primarily using *dingbat* font types if they are available on your computer. You can change the collection of symbols by clicking the *symbols* button.

For more fun with your cross stitch patterns, you might enjoy adding additional symbol fonts. There are a wide variety of symbol fonts available on the internet, and many of these fonts are available for free. To find these, search the internet using the search term "dingbat fonts."

After you have found and installed new symbol fonts onto your computer, use the *symbols* button to select and add each symbol to your collection.

Icon Button

The *Key* view shows each floss used in your pattern, drawing each floss as a colored icon. Normally, it uses the default icon that is defined for each crayonBox, but you can use the *icon* button to select a different icon.

Creating a project using the Menus and Toolbars
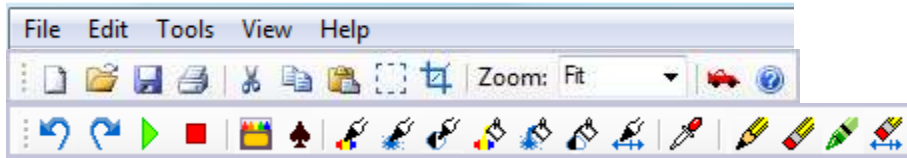
The first time you run Paint-By-Number Artist, the program will open with the Main Menu on the top of the screen, the Quickstart Panel on the left side of the screen, the Project Workspace on the right side of the screen, and the Standard and Edit Toolbars above the Project Workspace. Some of these items can be moved, resized and/or hidden, so they might not appear in exactly these locations the next time you run the program.

Rather than using the Quickstart Panel, you may prefer to run the program using the Main Menu or the Toolbars. You may prefer these options because you can hide the Quickstart Panel, making more space available to the Project Workspace, or because you may find the toolbar buttons easier to use.

Show or Hide the Quickstart Panel

If you would like to hide the Quickstart Panel, click the *Toggle Quickstart Panel* button shown here, which is in the Standard Toolbar. You can also hide the Quickstart Panel by using the *Toolbars* command in the View Menu.

Move the toolbars

The toolbars can be moved (docked) to any of the four sides of the project workspace. To move a toolbar, select its docking handle shown here, and drag to the desired location.

Enable or Disable Popups

If you would like a quick reminder telling you what each toolbar button does, enable the *Show Popups* command in the Help Menu. When you allow the cursor to hover over a button, a brief description will appear telling you what the button does. After you have become familiar with these buttons, you may wish to disable these popups by removing the check next to the *Show Popups* command.

Click *New* or *Open*

Create a new project by clicking the *New* button, or open an existing project by clicking the *Open* button. Both of these buttons are on the Standard Toolbar. You can also use the *New Project From Photograph*, and *Open Project* commands from the File Menu.

This will either begin a new project and will open a window in which you can select the file containing your digital photograph, or will open an existing project which you saved previously.

The *New Project* command will initially open in the folder you have been using for graphics files. The *Open Project* command will initially open in the folder you have been using for project files. This is for your convenience, allowing you to keep projects and images in separate folders if you desire. Or you can use the same folder for both types of files. These locations will reset every time you open or save a project or image file.

Select the photograph type.

Select the photograph type using the *Process Settings --> Photograph Type* command in the Edit Menu. In most cases, you should use the second choice from the left, labeled *Digital Camera*.

After you have processed the photograph, you may wish to experiment with the other choices and re-process the photograph.

Select the appropriate Crayon settings and Color-Matching Setting

By default, the crayon settings and the color-matching setting will be the same as the last time you used the program if this is a new project, or the settings that were saved with the project if this is an existing project.

Crayon selections and color matching can not be changed from the main menu. To change these, you will need to use the Step 1 of the Quickstart Panel. You may need to show the panel temporarily using the *Toggle Quickstart Panel* command that was described above.

Process the Photograph

Begin the process by clicking the *Process Photo* button shown above, or by using the Process Photograph in the Edit Menu.

You can watch your photograph change as it is being processed.

■ Cancel the Process (if you want)

If you would like to stop the process, click the *Cancel* button shown above, or use the *Cancel Process* in the Edit Menu. You can also cancel the process by typing the ESC key or Ctrl-C on your computer keyboard.

Advanced Functions

The advanced functions described earlier can also be found in the Main Menu and on the Standard Toolbar and on the Edit Toolbar. You identify each button by allowing the cursor to hover over the buttons in the toolbars, or by studying the Reference Manual.

(Hovering over a button will only work if the *Show Popups* command has been enabled in the Help menu).

How To View and Use The Project

How to select views
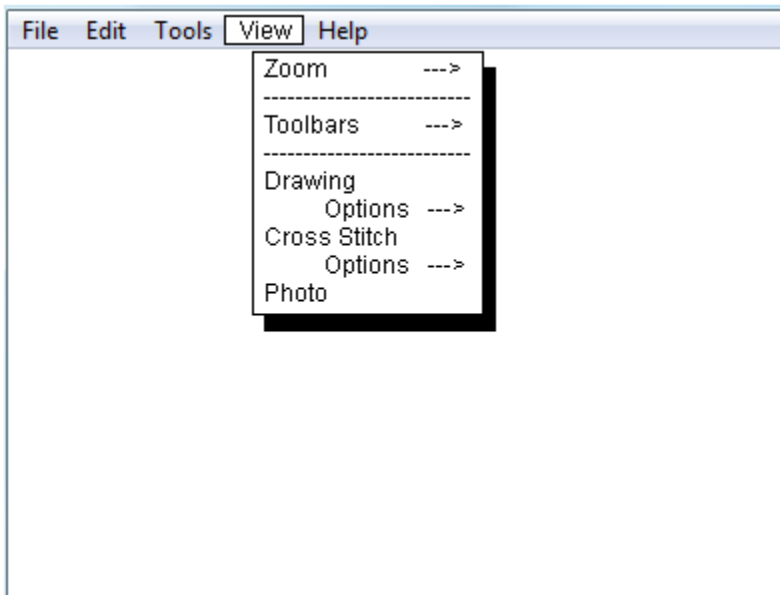
You can use either the Main Menu or the Quickstart Panel to select the drawing view. In the main menu you will find these commands in the View Menu. In the Quickstart Panel you will find this selection under Step 3 in either basic or advanced mode.

In the View Menu, these choices act as radio buttons. When you select one, a bullet will appear next to the choice you have selected and will disappear from the previous choice. In the Quickstart Panel, the radio buttons will operate in a similar manner.

In the *view* menu, you can select the *drawing* view, the *cross stitch* view, or the *photograph* view (assuming that you have already processed the photograph into a project). Below each of these selections is an entry named *options* that you can click to specify the display options for that view.

How to print drawing views

To print the selected view, click the *Print* button in the Standard Toolbar, or select the *Print* command from the File Menu. The program will then print the same view that is currently displayed in the work area.

How to save a view as a Graphics File
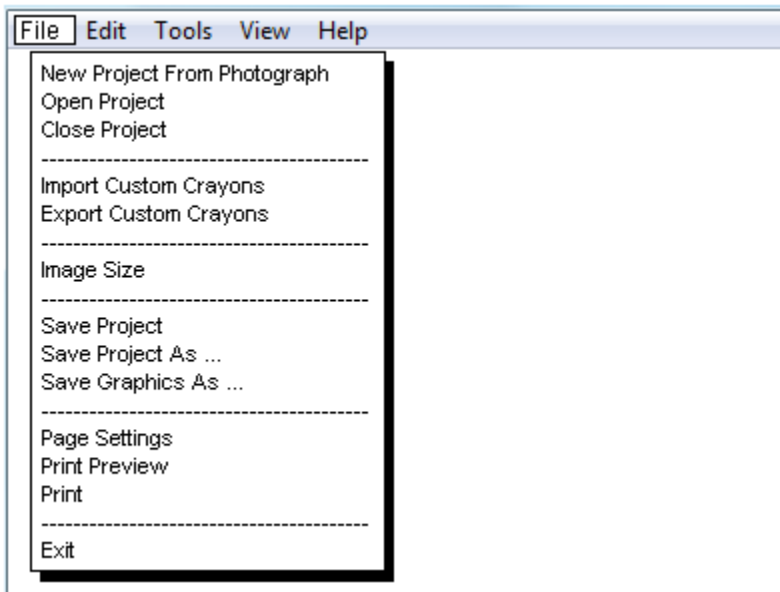
To save the current view as a graphics file, select *Save Graphics As ...* in the File Menu (there is no equivalent shortcut in either of the toolbars). This will open a window that allows you to navigate to a desired folder and then save the current view as a graphics file. This window will open in the same folder that was used the last time you saved a graphics file, but you can navigate from there to any folder on your computer.

By default, graphics files will be given a name that begins with either the project name or the original photo name, followed by the name of the view, followed by an extension that indicates the file format. You can change the name when saving the file.

View names that are used are:
- _PBN
  The numbered paint-by-number drawing, ready for painting or coloring

- _LineDrawing
  The un-numbered line drawing, ready for painting or coloring

- _ColorDrawing
  The drawing with all colors filled in

- _Key
  The list of paints or crayons used in you paint-by-number project

- _CrossStitch
  The cross stitch or needlepoint pattern

- _csKey
  The list of flosses used for your cross stitch or needlepoint pattern

- _Photo
  The original photograph

Possible file formats are:
- .jpg
  JPEG format

- .bmp
  Bitmap format

- .gif
  GIF format

- .png
  Ping format

- .tif
  Tiff format

- .wmf
  Windows Metafile format

- .emf
  Extended Windows Metafile format

In general, PNG format will give the best result for the drawing and color key views, and JPEG will give best results for the photo view.

In some cases, large drawings or multiple page cross stitch patterns will be saved into multiple files. In this case, each file name will have a file number added to the name.

How to Copy and Paste a drawing view

To copy the selected view and paste it into another program, click the *Select All* button on the Standard Toolbar, or use the *Select All* command in the Edit Menu. Then immediately click the *Copy* button on the Standard Toolbar, or use the *Copy* command in the Edit Menu.

You may then navigate into your other program and use that program's *Paste* command to insert a copy of this view into that program.

You may have also noticed that the Standard Toolbar includes buttons for the *Cut*, *Crop* and *Paste* operations. These commands are only available if you are viewing the photograph, and they are used for making alterations to the photograph.

How to save a project file
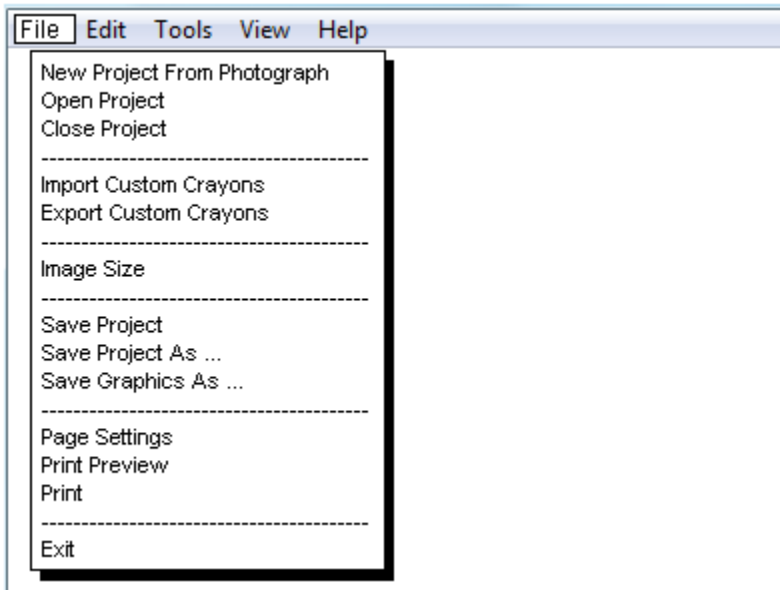
To save your project, select *Save Project As ...* in the File Menu. This will open a window that allows you to navigate to a desired folder and then save your project file.

By default, your project file will have the same name as your original digital photograph, with the extension *.pbn* added at the end of the name.

You can also save your project by clicking the *Save* button shown here, which is on the Standard Toolbar, or by using the *Save* command in the File Menu. These commands will ask you to specify a project name and location if it is the first time you have saved this project, or will immediately save the project if you have already defined these with the *Save Project As ...* command.

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How to Resize or Print on Multiple Pages

Resizing or Printing on Multiple Pages

The photograph can be resampled, which means its resolution can be changed, using the *Image Size* command in the File Menu. You can change this value by adjusting either the width or height of the picture in pixels, or by entering a total number of megapixels. (When you enter a total amount, it may be necessary for the program to adjust the number slightly so that the ratio of width to height doesn't change).

This window can also be used to specify the size of drawing views, in inches or centimeters. You may select a size that is larger than a single sheet of paper. When you do this, drawings will automatically be printed across multiple sheets of paper.

Sometimes it is desirable to save a drawing view as a graphics file but to have it split across multiple files, so that the saved files will be identical to large views that were printed across several pages. Clicking the *Split Saved Graphics ...* checkbox will automatically save views into multiple graphics files.

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How to Create and Share Custom Crayons

Creating Custom Crayons
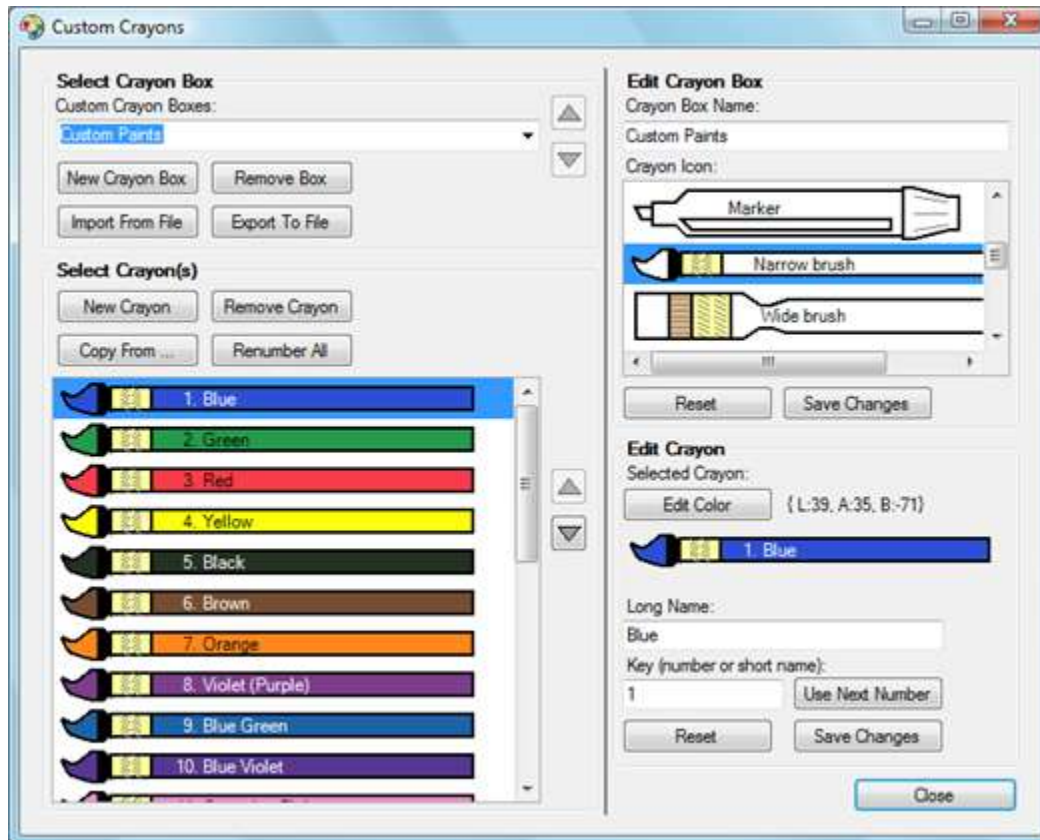
You can use the Custom Crayon Editor to create custom crayons that you can use in your project. This page gives step-by-step instructions to create a new group of crayons. You can also read a detailed description of the Custom Crayons Editor in the Reference Manual.

Activate the editor

Click the *Custom Crayons* button shown here, which is on the Edit Toolbar to activate the editor, or use the Custom Crayons command in the Tools Menu.

New Crayon Box

In Paint-By-Number Artist, colors are grouped together in crayonboxes. Click the *New Crayon Box* button to create a new box of crayons. This button is in the section of the editor labeled *Select Crayon Box*.

Crayon Box Name

Enter a name for this crayonbox in the *Crayon Box Name* text entry box.

Crayon Icon

Select the icon to be used for these colors in the *Crayon Icon* list.

Save Crayon Box Changes

Save the crayonbox name and icon by clicking the button labeled *Save Changes* in the *Edit Crayon Box* section of the editor.

New Crayon

Create a new crayon by clicking the *New Crayon* button. This button is in the section of the editor labeled *Select Crayon(s)*.

Copy Crayons From Another Box

If you would like, you can also begin by copying crayons from one of the other crayonboxes. The crayons you copy will have the same names and colors as they did in the original box, but their icons will be replaced with the icon for this crayonbox.

To do this, click the *Copy From* ... button. This will open a new window that lets you select the other crayonboxes and check the crayons you want to copy.

Select each crayon and edit

You can specify the name, key and color for each crayon.

Select one of the crayons in the *Select Crayon(s)* section, and then edit it using the commands in the *Edit Crayon* section.

To specify the name, type a name in the box labeled *Long Name*.

To specify a key, type a key in the box labeled *Key*. The key is the number or abbreviation that will show up on your drawing every place where this crayon is to be used. You may use a number or text for this key.

If you would like, you can automatically assign numbers for these keys by pressing the *Use Next Number* button, or by waiting until you have created all crayons and then pressing the *Renumber All* button in the *Select Crayon(s)* section of the editor.

To specify a color for this crayon, press the Edit Color button, which will open the Color Editor. This is described in the next two pages. You can specify a color by entering the color directly, or by sampling a color from a scanned image.

When you are satisfied with this crayon, press the *Save Changes* button in the *Edit Crayon* section, and then continue with the next crayon.

Re-arrange the crayons and crayonboxes

If you would like to change the order in which crayons are listed, you may select individual crayons and then move them up or down using the arrow buttons in the *Select Crayon(s)* section.

If you would like to change the order in which crayonboxes are listed, you may do the same thing in the *Select Crayon Box* section by selecting a crayonbox in the dropdown list, and then using the arrow buttons in this section to move the box up or down within the list.

Finishing Up

When you are done creating custom crayons, press the Close button at the bottom-right corner of the editor. The crayons you have created will be added to the list in Step 1 of the Quickstart Panel. They will be available whenever you run the program.

This will run a process that profiles the crayons and prepares them for use. Profiling your crayons may require a minute or so to complete.

For more information

Click Here for more detailed information about the Custom Crayons Editor.

Defining Colors with the Color Editor
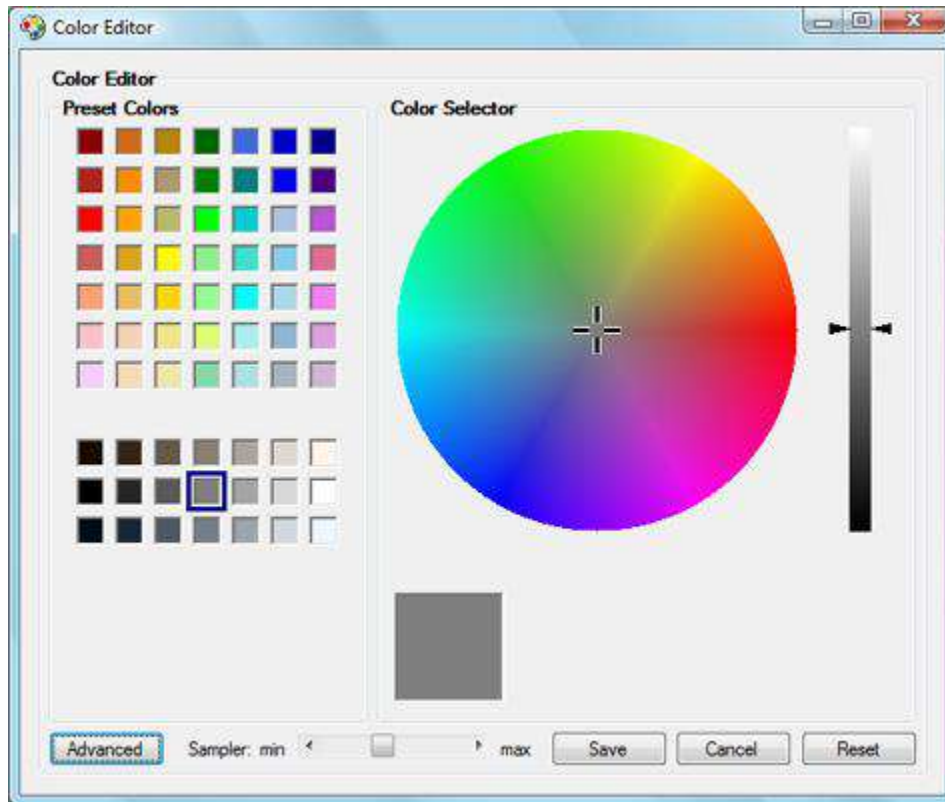
The Color Editor will open when you press the *Edit Color* button on the *Custom Crayons Editor*, described in the previous page in this manual. This tool lets you define a color for each crayon, either by selecting the color, by entering its numerical value, or by sampling a color from a photograph.

Selecting a color

You can select a color by clicking on any of the pre-defined color boxes, or by clicking a color on the color wheel and vertical slider.

The pre-defined color boxes provide commonly used colors and grayscales (including warm, neutral and cool grays). If you have enabled the *Show Popups* command in the Help Menu, then you can see the names of these colors and grayscales by allowing the cursor to hover over each box.

To use the color wheel and vertical slider, click an area on the color wheel to select the color value (hue) and saturation (richness), and move the slider to select the color's brightness. You can use these in either order, but you will notice that when you click an area on the color wheel the entire vertical slider changes to show the entire range of brightnesses available.

When you have selected a color using either the pre-defined boxes or the color wheel and slider, the square color box will change to show you the selected color.

The Color Editor's basic mode is described in [more detail](#) in the Reference Manual.

Entering a color's numerical value

To enter numerical values, you need to press the *Advanced* button. The advanced mode allows you to enter numerical values. It also allows you to use all of the colorspaces that are available in Paint-By-Number Artist.

The Color Editor's advanced mode is described in [more detail](#) in the Reference Manual.

Sampling Colors from a Scanned Image

You can also sample a color from a photograph or image that you have opened into pbnArtist.

Prepare a page of color samples. Use your crayons or other media to color swatches onto a sheet of paper. Then use a computer scanner to scan this image into your computer, and open the scanned image into pbnArtist, using the New Project command in the File Menu.

Open the Custom Crayons Editor as described previously, and when you have a new crayon that is ready to be edited, click the *Edit Color* button to open the Color Editor.

Arrange the windows so you can see both the Color Editor and the Main Program window. Move the cursor into the Main Program window. When it is over your scanned image it will change to the pixel sampler image shown here.

Move the pixel sampler over the desired color sampler, and click the mouse. The sampled color will be selected in the Color Editor.

The actual pixels being sampled are indicated by the circle in the Pixel Sampler. The color selected will be the *average color* from all of these pixels. You can change the size of the sampling circle by adjusting the horizontal *Sampler* slider in the Color Editor.

Sharing Custom Crayons with Other Users

After you have created custom crayons, you may wish to save them to an external file and share them with your friends.

Exporting Custom Crayons

To save custom crayons to an external file, press the *Export To File* button in the Custom Crayons Editor, or use the *Export Custom Crayons* command in the File Menu.

This will open the window shown above. Select which crayonboxes to include. You may include any number of crayonboxes in an external file. Only custom crayonboxes are available; system crayons are not available for exporting (they can, however, by copied into a custom crayonbox).

After selecting the crayonbox(es) to include, press the *Continue* button. This will open a window that allows you to navigate to a desired folder on your computer and save the file.

Crayonbox files are saved with the extension *.pbx* added to the file name.

Importing Custom Crayons

To add crayonboxes from an external file, press the Import From File button on the Custom Crayons Editor, or use the *Import Custom Crayons* command in the File Menu.

This will open a window that allows you to navigate to a desired folder on your computer and open a crayonbox file. By default, crayonbox files have the extension *.pbx* added to the file name.

Select the desired file. All crayonboxes in this file will be added to the list of crayonboxes shown in Step 1 of the Quickstart Panel. The imported crayons will continue to be available every time you use Paint-By-Number Artist, unless you eventually remove them from the list.

Removing Custom Crayonboxes

If you decide that you no longer wish to use a custom crayonbox, you may remove it by using the Custom Crayons Editor. Be careful if you decide to do this -- it can not be undone.

Open the Custom Crayons Editor by pressing the *Custom Crayons* button on the Edit Toolbar, or by using the *Custom Crayons* command in the Tools Menu.

Use the dropdown list in the *Select Crayon Box* section to select the crayonbox that you wish to remove.

Press the *Remove Box* button. You will be asked to confirm this operation. Be careful -- once you do this it can not be undone.

Only custom crayonboxes can be removed. System crayonboxes can not be removed.

Changing the Crayon Assigned to a Patch

You can use the Pixel Sampler tool and the Patch Crayon Changer to examine and change crayons that have been assigned to individual patches within your drawing. You can also modify individual stitches in a cross stitch pattern with these tools.

Examining Pixel Colors with the Patch Sampler

Clicking the *Pixel Sampler* button (this is the button with an eyedropper for its icon, as shown above) opens the Pixel Sampler window, shown here. This tool is described in more detail here.

The Patch Sampler can be accessed in the Tools Menu, on the Edit Toolbar, or by pressing the *Edit Drawing* button in Step 3 of the Quickstart Panel.

You can used the sampler to see the color of an individual pixel or a group of pixels by clicking on your drawing. The window that appears will show both the actual color of the pixel and the crayon assigned to that pixel. This window will also allow you to change the sampling size, so the tool will select either an individual pixel or a circular group of pixels. When a group is selected, the color displayed will be the *average* color of all of the selected pixels.

The sampling window also allows you to activate the Patch Crayon Changer.

✏ Changing Crayons with the Patch Crayon Changer

Clicking the *Patch Crayon Changer* button (this is the button with a crayon for its icon, as shown above) opens the Patch Crayon window, shown here. This tool is described in more detail <u>here</u>.
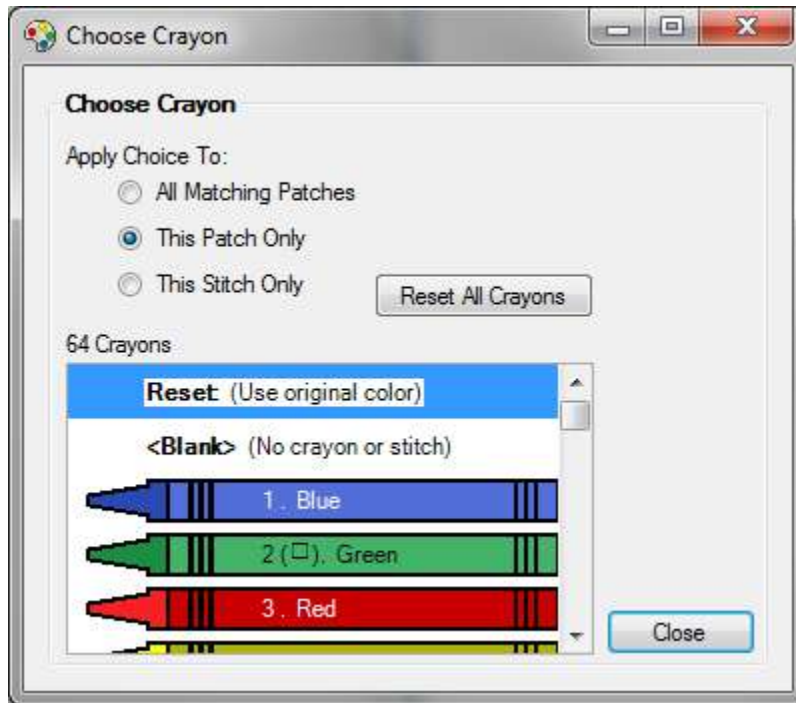
Select whether you would like to change a single patch, all patches that use this crayon, or an individual stitch (in cross stitch view).

Move the cursor over the desired color in your drawing. Click on that point to change the crayon to the selected crayon.

The patch will change to the crayon highlighted in the crayon list. You can also reset the patch to its original crayon, and you can set it to be blank (no crayon).

You can also quickly sample a patch by shift-clicking the point (holding down your keyboard's SHIFT button while clicking). Shift clicking on a patch will cause that patch's crayon to be selected in the tool, and then you can immediately assign that crayon to other patches.

How to Change the Cross Stitch Symbol Collection
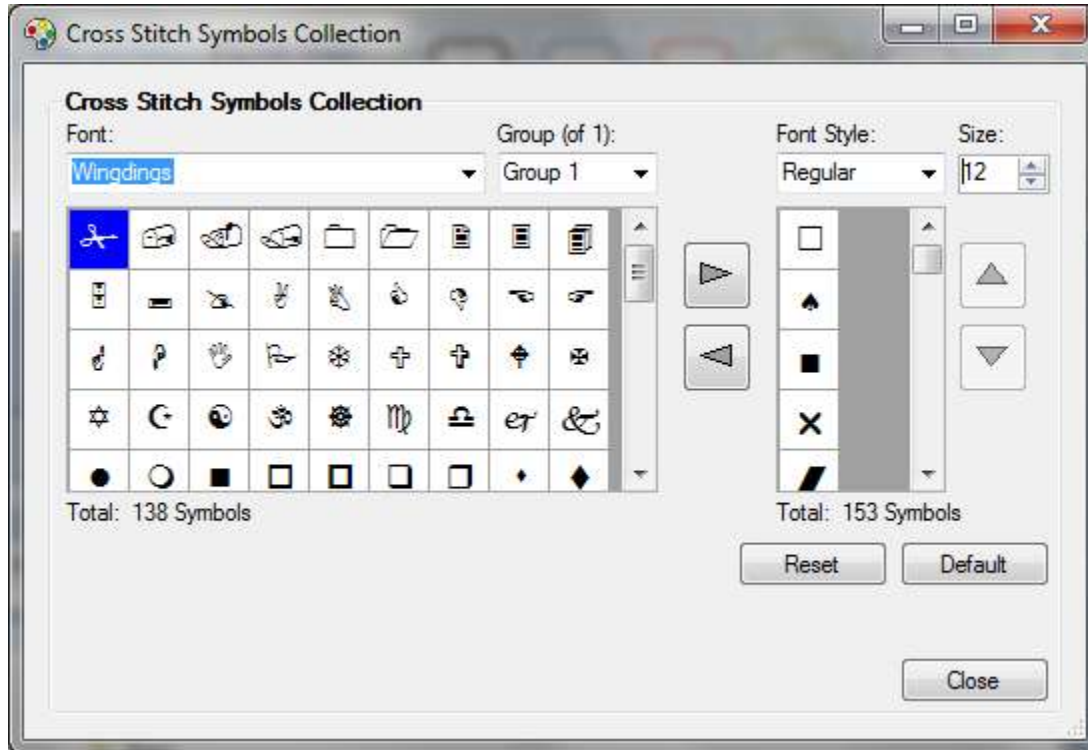
Accessing the cross stitch symbol collection will open the window shown above. In this window you can select the actual symbols that will be assigned to the stitches in your project. These symbols come from the character fonts that are available in your computer.

♠ Activate the editor

There are three ways that you can access the cross stitch symbol collection. You can press the *symbol* button in the edit toolbar (this is the button with an *Ace* for its icon, as shown above). You can also select *Cross Stitch Symbols* from the *Tools* menu, or you can press the *Tools* button in the *Step 3 -- Cross Stitch* tab on the Quickstart panel.

Using the editor

Symbols will be assigned to colors in the order they are listed in this collection. The symbol at the top of the list will be assigned to the most frequently used color, or floss, in your project.

The left side of this window allows you to examine each font type that is available in your computer. Some font types are divided into multiple groups. If that is the case for the font you are examining, the number of groups available will be displayed along with the currently

selected group number.

The right side of this window shows the symbols that you have included in your font collection.

To add a symbol to your collection, select the desired symbol on the left side of this window, and click the right arrow (-->) in the middle of the window.

Each symbol will be added at the currently selected location. If you would like to move a symbol up or down within your collection, select the symbol and click either the up arrow or the down arrow.

If you would like to remove a symbol from your collection, select the symbol (in the right side of this window) and click the left arrow (<--).

You can also set the size of all of the symbols in the collection. The symbol size will affect how large your cross stitch pattern is when printed on paper. For very large projects, you may wish to use a smaller font size so that the pattern can be printed on a single page. In other cases, you might wish to use a larger font size to make the pattern more readable, and to make it easier for a person to count stitches.

You can also select whether the symbols should be printed using regular, bold, or italic type. (Bold and italic options are not available for all font types, so these settings might not be applied to your entire collection).

To have some fun, insert additional character fonts onto your computer and add them to your symbol collection. There are hundreds of symbol fonts available on the internet, and many of them are available for free. To find new fonts, search the internet using the search term "dingbat fonts". Follow the provider's directions to insert new fonts onto your computer, and then use this tool to add them to your cross stitch symbol collection.

How to get Best Results

Optimizing the Program Settings

How to Select the Photo Type
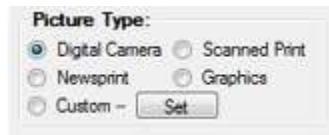
The line detection algorithm that Paint-By-Number Artist uses can be fine-tuned to work with different types of photographs.

Normally, you will obtain best results using the setting labeled *Digital Camera*. This setting is designed to work with photograph files that come directly from a digital camera, and with scans of photographs that are printed on film or photographic paper. However, some types of images will work better using the other choices.

Use the *Scanned Print* when scanning photographs that were printed with a computer printer.

Use the *Newsprint* setting when using photographs that are printed on newsprint (also called a halftone print).

Use the *Graphics* setting when you are working with graphics images, which you have drawn using an illustration or presentation type of program.

You can also experiment with the settings. Here are some more suggestions:

Processing may take a long time if you use the *Graphics* setting on photographs, but it might be worth the wait. Graphics images typically have sharp lines and corners, so the program needs to analyze them in much more detail (the other settings will round the corners of graphics images). But these images also have less detail, so the program can afford to take more time analyzing them. Photographs have a lot more detail than graphics images, which is why this setting may take longer when used on photographs.

Using the other settings on graphics images will result in rounded corners and edges that may be too soft.

Some photographs have a softer focus, which is sometimes used to increase the emotional impact of a photograph. This type of photograph may work better using either the *Scanned Print* or *Newsprint* setting, so you can also try these settings. These settings don't generally work as well as the *Digital Camera* setting with sharply focused photographs, but you may find that the result is more pleasing for photographs with a soft focus or a hazy appearance.

You can also experiment with the custom setting. pbnArtist uses a softening filter (technically called a gaussian filter) to process each photograph. You can adjust the amount of softening and the step size that this filter uses, in order to fine-tune your drawing, and you can also see

the values used for the other presets.

How to Select Which Crayons To Include

You can normally allow pbnArtist to select the crayons to include in your drawing. However, there are times when you may want to select the crayons yourself. The two pictures here show an example of such a case. The picture on the left shows an original photograph of a black-collared swan. The picture on the right shows the crayons pbnArtist has decided to assign, when limited to 10 crayons.

Sometimes, the most important part of your photograph will be so small that its color doesn't make it to the *Top 10* list! (or whatever number of crayons you are hoping to use). If that happens, you may find that your favorite color in the photograph doesn't even show up as one of the crayons used for the drawing.

This is shown in the above example. The reddish color on the bridge of the swan's beak takes up an area that is less than 1% of the entire picture. In this example, that amount is so low that pbnArtist didn't even select its color as one of the crayons to include in the picture.

However, we can fix the problem manually.

Select the *Photo* view in *Step 3* on the *QuickStart* panel, and then return to the *Step 1* tab. Select the *Crayons* tab, and check the *Show Preview* checkbox. We see the view shown here:
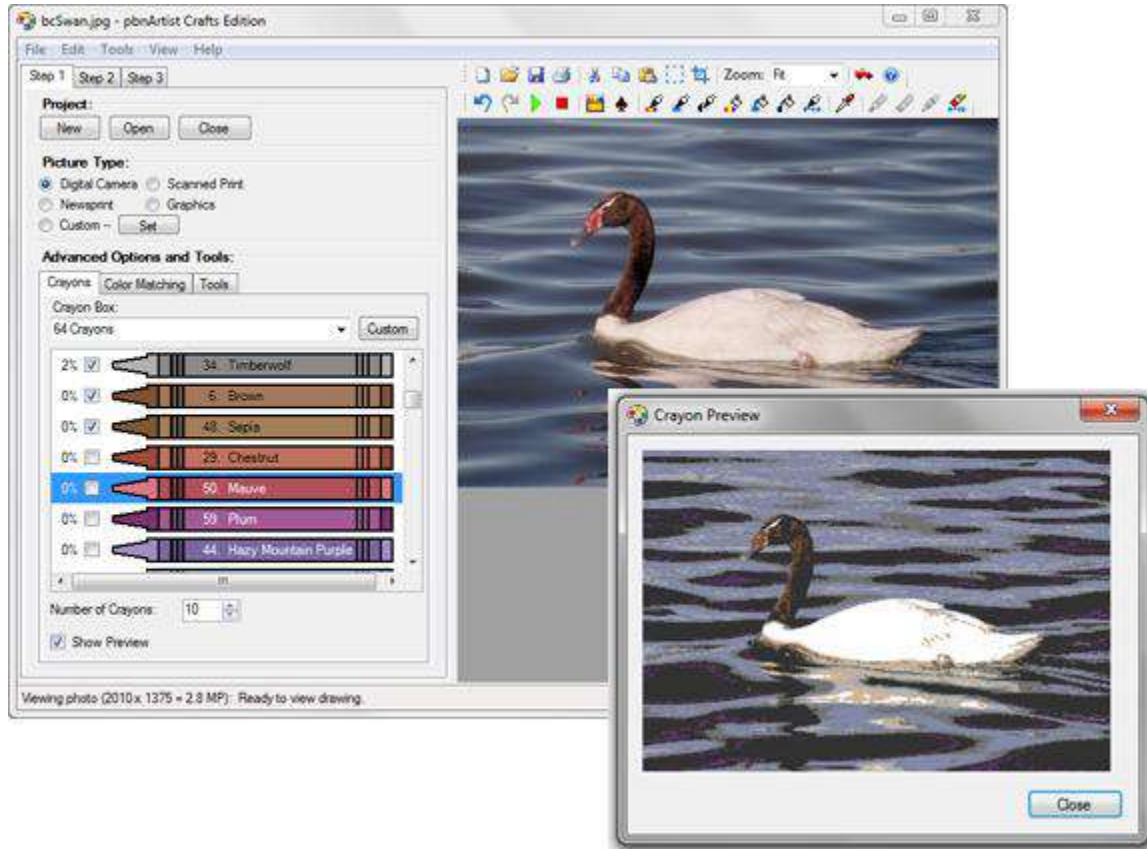
With the preview turned on, we see that, as before, pbnArtist is using a shade of brown for the swan's beak.

In the list of crayons, scroll down until you find a reddish crayon. In this example, we see Mauve as the first red shade listed, (and we see that pbnArtist is saying that this crayon applies to less than 1% of the picture's area). Check the checkbox next to the Mauve crayon to force pbnArtist to include that crayon.

(Or if you prefer, experiment with other shades of red. For this photograph, brick red also gave a nice result).

The preview now shows that Mauve will be applied to the swan's beak, giving an improved match to the color in the original photograph.
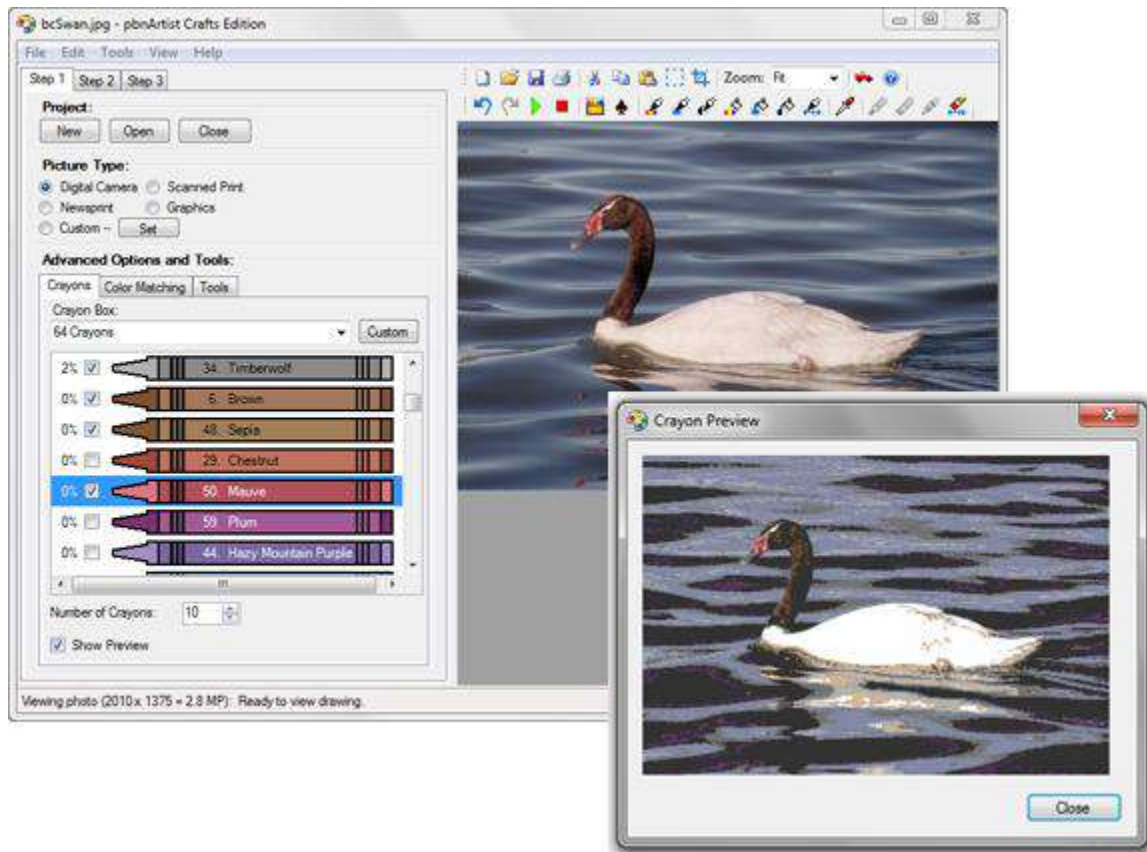
Editing Your Original Photograph

How to Change the Image Resolution

One more technique you can use to improve the quality of your paint-by-number drawings is to change the resolution of your photograph. This is the number of pixels used to represent your photo. Changing this value can sometimes improve the quality of the lines in your drawing.

The resolution can be changed using the *Image Size* command in the File Menu. You can change this value by adjusting either the width or height of the picture in pixels, or by entering a total number of megapixels. (When you enter a total amount, it may be necessary for the program to adjust the number slightly so that the ratio of width to height doesn't change).

You will usually obtain best results using a total value between 1 and 5 MegaPixels. Larger values will cause the program to run more slowly, and values above 10 MegaPixels will usually be unnecessary.

This window can also be used to specify the size of drawing views, in inches or centimeters. You may select a size that is larger than a single sheet of paper. When you do this, drawings will automatically be printed across multiple sheets of paper.

Sometimes it is desirable to save a drawing view as a graphics file but to have it split across multiple files, so that the saved files will be identical to large views that were printed across several pages. Clicking the *Split Saved Graphics ...* checkbox will automatically save views into multiple graphics files.

Altering Your Photograph

Paint-By-Number Artist provides several tools to make alterations to your photograph. These techniques can make considerable improvements to your final drawing because you can emphasize the important areas in your picture while removing detail from the less important parts.

The tools that are available include cut, copy, crop and paste, as well as brush and bucket tools. Use the cut, copy, crop or paste commands to change your photograph's size and aspect ratio, as well as removing the less important parts of the photo. Use the brush and bucket tools to change colors, soften and enhance parts of the photo.

All of these tools are described in more detail in the Reference Manual.

Cut, Copy and Crop Tools

Use these tools to remove or copy portions of your photograph. The cut tool will replace a rectangular region with white space, and the crop command will reduce the size of your photograph. The Copy command can copy part of your photograph onto another part, or into another software program.

These tools are available from the Standard Toolbar, the Edit Menu, or the *Edit Photo* button in Step 1 of the Quickstart Panel.

To use any of these tools, begin by selecting the tool. Drag the cursor across your photograph to select a rectangular portion of the photo. When you release the mouse button a rectangle will appear on the photo with small selection squares at its corners and sides. You may drag any one of these squares to adjust the size of the selection rectangle, or you may drag the larger square to move the entire rectangle.

To create a square selection angle, hold down the shift key when you make the initial selection. To use a predefined aspect ratio (ratio of width to height or height to width), use the *Aspect Ratio* settings that are available in the *Photo Tool Settings* command in the Tools Menu, or use the *Brush and Bucket Settings* button on the Edit Toolbar.

When you are satisfied with the selection, move the cursor to the center of the rectangular selection area and click the mouse. Or if you change your mind and decide to cancel the operation, move the cursor outside of the selection area and click the mouse.

Paste Tool

After you have cut or copied a section of the photograph, you may paste it onto another part of the photo. The paste command is available in the Edit Menu or on the Standard Toolbar.

This command operates similarly to the cut, copy and crop commands. When you activate the paste command, a preview of the pasted image will appear on your photograph, and it will be surrounded by a selection area rectangle. You may move and resize this image before finalizing the operation.

When you are satisfied with the size and location of the pasted image, move the cursor to the center of the preview and click the mouse. If you change your mind and wish to cancel the operation, move the cursor outside of the preview and click the mouse.

Brush and Bucket Tools

You can use the brush and bucket tools to paint a color on top of your photograph, to soften the focus in parts of the photograph, or to enhance the brightness, contrast and saturation in parts of the photograph.

The brush tools allow you to modify the photo by stroking over parts of it, similar to using a paint brush. As you stroke the photo, you will see the modification taking place.

The circle on the cursor indicates the region that will be affected by the operation -- you can change the size of this circle in the settings for this tool. The brush tool also includes a *feather* option which reduces the affect along the edges of the stroke.

If you are moving the brush faster than the program can process the operation, you will see a dotted line that traces your brush stroke, followed by the operation taking place. If the program is unable to keep up with you, don't worry -- the cursor will change to a *wait cursor*, which looks like a sand-filled hourglass. This indicates that the program is requesting you to wait for a few seconds while it catches up with you.

The bucket tools work similarly to the cut, copy and crop commands. With the bucket tools, you first select a rectangular selection area, adjust its size and position, and then fill the section with the desired operation. You complete the operation by clicking the mouse in the center of the selection area, or you can cancel by clicking the mouse outside of the selection area.

The bucket tool also includes a *feather* operation.

The values for color and amount of softening or enhancing can be accessed and set in the *Brush and Bucket Settings* command which you can access within the Edit Menu, on the Edit Toolbar, or by clicking the *Edit Photo* button in Step 1 of the Quickstart Panel.

For your convenience, the symbols that identify the buttons on the Edit Toolbar are shown here:

Paint Brush and Paint Bucket (adds color)

Soften Brush and Soften Bucket (softens focus)

Enhance Brush and Enhance Bucket (adjusts brightness, contrast and saturation)

Brush and Bucket Settings

Editing and Printing Your Final Drawing

Altering the Final Drawing

pbnArtist includes tools that allow you to make alterations to your drawing after your photograph has been processed into a drawing. These tools allow you to change the crayons that are assigned to individual patches of the drawing, draw additional sketch lines onto the drawing, or erase sketch lines from the drawing.

All of these tools are described in more detail in the Reference Manual.

Examining Pixel Colors with the Patch Sampler

Activating the Pixel Sampler opens the Pixel Sampler window, shown here.

The Patch Sampler can be accessed in the Tools Menu, on the Edit Toolbar, or by pressing the *Edit Drawing* button in Step 3 of the Quickstart Panel.

You can used the sampler to see the color of an individual pixel or a group of pixels by clicking on your drawing. The window that appears will show both the actual color of the pixel and the crayon assigned to that pixel. This window will also allow you to change the sampling size, so the tool will select either an individual pixel or a circular group of pixels. When a group is selected, the color displayed will be the *average* color of all of the selected pixels.

The sampling window also allows you to activate the Patch

Changing the Crayon assigned to a Patch

Clicking the Patch Crayon Chooser button (shown above) opens the Patch Crayon window, shown here.
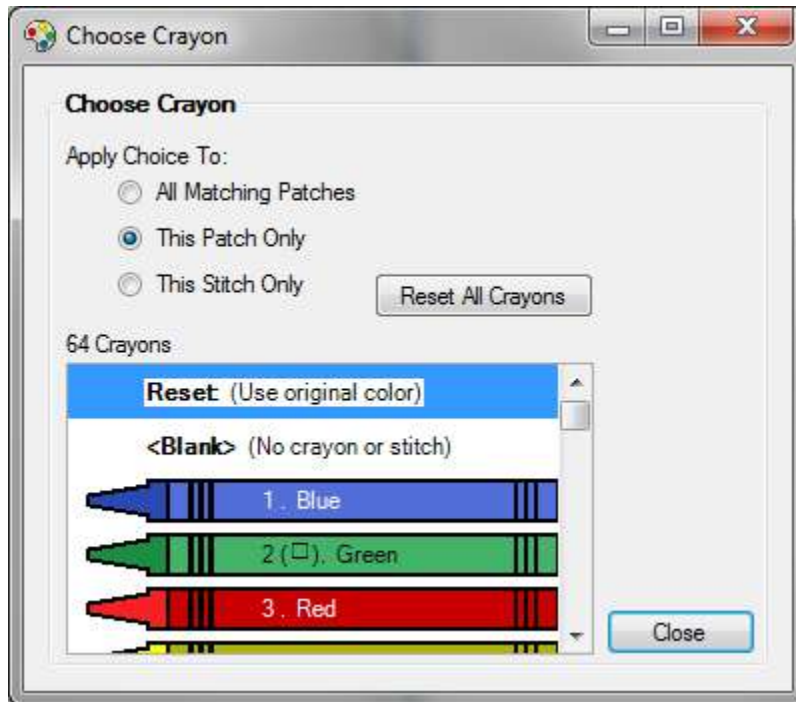
Select whether you would like to change a single patch, all patches that use this crayon, or an individual stitch (in cross stitch view).

Move the cursor over the desired color in your drawing. Click on that point to change the crayon to the selected crayon.

You can also quickly sample a patch by shift-clicking the point (holding down your keyboard's SHIFT button while clicking). Shift clicking on a patch will cause that patch's crayon to be selected in the tool, and then you can immediately assign that crayon to other patches.

Adding Sketchlines with the Sketchline Pencil

The Sketchline Pencil allows you to draw additional sketchlines onto your drawing. It can be accessed in the Tools Menu, on the Edit Toolbar, or by pressing the *Edit Drawing* button in Step 3 of the Quickstart Panel.

To use this tool, select the *Color By Numbers* view, the *Line Drawing* view, or the *Color Drawing* view of your paint-by-number drawing. You can make this selection in the View Menu or in Step 3 of the Quickstart Panel.

Activate the tool. You use this tool simply by stroking over the drawing.

There are no settings for this tool. The lines that are added will have the same color and width as all sketchlines, which can be changed by pressing the *Line Style* button next to the *Sketch Mode* radio button in Step 3 of the Quickstart Panel, or by using the *View Settings* command in the View Menu.

Removing Sketchlines with the Sketchline Eraser

The Sketchline Eraser allows you to remove sketchlines onto your drawing. It can be accessed in the Tools Menu, on the Edit Toolbar, or by pressing the *Edit Drawing* button in Step 3 of the Quickstart Panel.

To use this tool, select the *Color By Numbers* view, the *Line Drawing* view, or the *Color Drawing* view of your paint-by-number drawing. You can make this selection in the View Menu or in Step 3 of the Quickstart Panel.

Activate the tool. You use this tool simply by stroking over the drawing. The tool will erase any sketchlines that are within the circular area on the tool's cursor image. You can change the size of this circle within the *Eraser Settings*.

The settings for this tool can be changed by using the *Drawing Tool Settings* command in the Tools Menu, by pressing the *Edit Drawing* button in Step 3 of the Quickstart Panel, or by pressing the *Eraser Settings* button on the Edit Toolbar.

For your convenience, the *Eraser Settings* button is shown here:

Eraser Settings

Printing Tip: Papers for Crayons and Paints

If you are printing a drawing that will be colored using crayons, pencils or other art media, you may encounter a problem. Most papers that are designed for computer printers are coated with a material that gives them a shiny finish. This is desirable for most types of printouts, but it can prevent drawing materials from adhering to them. You might notice that crayons, for example, slide off of this finish without leaving much color.

Art papers, on the other hand, are designed to work well with these drawing media. Art papers have a coarse finish, which provides a so-called *bite* that causes these colors to adhere.

But art papers, unfortunately, are usually cut to sizes that don't fit computer printers, and they may be able to damage your printer. Especially stiff or thick papers might damage the rollers that push paper through your printer. The lack of finish on these papers may cause printer inks to leave the paper and stay on the rollers, causing smears on future printouts.

There are two options you may wish to try. For coloring pages, using crayons, we recommend using *100% Cotton Resume Paper*, that is specifically designed for inkjet or laser printers. This type of paper has a coarser finish that will adhere well to coloring materials, and it will work well with your home computer printer. *100% Cotton Resume Paper* is produced by several well-known paper manufacturers, and is available at most office supply stores or college bookstores. Check the label, and make sure that the paper you are using is *inkjet printer compatible*, or *laser printer compatible*, depending on the type of printer you are using.

For paintings, purchase a tablet of artist's paper that is designed specifically for the type of paint you will be using. This paper will probably be two large for your printer, but you can easily cut it to a smaller size. In most cases, it will only be necessary to trim it to the correct width; the longer length should still work with most printers. Test the result -- the ink or toner your printer uses may not adhere perfectly to this type of paper, but it should be good enough to enable you to complete your painting.

But be careful when using these papers. Some printers are not designed to use thick papers, and other printers, while compatible, may still require you to use a special "thick paper" setting. Incorrectly using thick paper can, in some cases, cause the printer's rollers to wear-out prematurely, preventing them from working properly with thinner papers. Check your printer's user manual before using thick papers.

Photography Tips

Types of Photos that Work Best

Paint-By-Number Artist will work with all types of digital photographs. However, it is designed to work best with photographs of people, animals and plants. Photographs of scenery will also work well if the scenery has a clearly defined subject. Paint-By-Number Artist is intended to be used to let you preserve your most important memories, and that is why it is targeted to these types of photographs.

Choose photographs that have a clearly defined subject. This means that the most important part of the photo, which is the part you want people to notice, should fill most of the photograph, and not be distracted by other items in the photograph.

When you are using a photograph of a person or an animal, the eyes are almost always the *subject*. This is because we communicate with our eyes. When we talk to each other, we watch each others' eyes. In photography, this means that the eyes should be clearly in focus, and the face should fill enough of the picture so that you can easily see the eyes.

When you are using a photograph of plants, try to pick one plant in a group, or one part of a plant, that you want to use as the subject. This part of the photograph should stand out from the rest, by being larger, by being brighter, or by using compositional techniques to direct attention to that part of the picture.

When you are using a photograph of scenery, use the same idea to pick one part of the scenery as the most important part. This might be one mountain or hill in a group of hills, one tree in a group of trees, the sun in a photograph of the sunset, or other items. Again, this part should stand out, by being larger or brighter, or by using compositional techniques to attract attention to it.

In Paint-By-Number Artist, photographs with a clearly defined subject should produce better paint-by-number drawings, as the subject matter will then also stand out in the drawing. You can use the tools and techniques offered in earlier sections to help emphasize these parts of your drawings. For example, you may want to use the Sketchline Eraser to erase parts of the drawing that are not part of the subject, or you may want to use the Sketchline Pencil to add detail to the subject.

Composition Tips

When you take photographs that you intend to use with Paint-By-Number Artist, you will get best results if you try to emphasize the *subject* in the photograph.

The *subject* is that one part of the photograph that *you* consider to be the most important. It is the item that attracted your attention and motivated you to take the picture.

Sometimes we assume everybody else will notice the same thing that we noticed. But that is not usually the case. Photographs are two-dimensional and flat, and they make it difficult for other people to notice and focus on the same items that we noticed in *real-life*.

So here are some tips.

First of all, *identify* the subject. This means you should really *think* about it. What is the *one thing* that caught your attention? Is it enough to say that I am photographing a person? Or am I really photographing her eyes, her hair, her cute nose?

Arrange your photo to attract attention to this one thing. (And to flatter it without embarrassing it).

Experiment with placing the subject in different locations on the picture. Usually, the center of the picture is the *worst* place to locate your subject. Centering your subject can be distracting, and can add an uncomfortable feeling to your photo. It is not clear why this makes us uncomfortable -- it has something to do with the psychology of the eyes, if the term can be used that way.

Instead, place your subject off-center. Try dividing your photograph into three vertical and three horizontal sections, kind of like a *Tic-Tac-Toe* game. Place the subject at one of the places where the cross-lines intersect.

Look for lines in your photograph, and use these lines to point toward the subject. Lines may be straight or wavy. In fact, wavy lines can add interest. These lines might be the shape of a tree, a road or a river, the sides of a building, the wings of a bird, or other items.

And look for lines that can *frame* or surround your subject. Framing a subject can add interest and can draw attention to your subject.

Use highlights and colors to help emphasize the subject. Our eyes are naturally drawn toward brighter colors, so take advantage of this.

Finally, think of the way we use our eyes in day-to-day life. If you read the english language, then you normally read from left-to-right, and your eyes habitually move in this direction. Experiment with items that point in opposite direction -- forcing the eyes to do something new, or forcing them to stop when they reach the subject.

Anyway, those are just a few suggestions to help you create great drawings with Paint-By-Number Artist. Sometimes these suggestions will help. But they are not rules -- sometime doing the *exact opposite* and *breaking* the rules will give you the best result. So above all, experiment and have fun!

Part 3: Reference Manual

Summary

The rest of this user manual is intended for people who want detailed information about the program features. It contains the following sections:

Main Menu
- File Menu
- Edit Menu
- Tools Menu
- View Menu
- Help Menu

Quickstart Panel
- Summary
- Step 1
- Step 2
- Step 3

Toolbars
- Standard Toolbar
- Edit Toolbar

Editing Tools
- Image Size Window
- Photo Edit Tools
- Drawing Edit Tools
- Patch and Pixel Sampler
- Patch Crayon Changer
- Custom Crayons Editor
- Color Editor: Basic View
- Color Editor: Advanced View
- Cross Stitch Symbol Collection

Colorspaces
- How Paint-By-Number Artist uses Colorspaces
- RGB Colorspace
- HLS Colorspace
- LAB Colorspace
- Other Colorspaces

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Main Menu

File Menu

```
File  Edit  Tools  View  Help
      New Project From Photograph
      Open Project
      Close Project
      ----------------------------------------
      Import Custom Crayons
      Export Custom Crayons
      ----------------------------------------
      Image Size
      ----------------------------------------
      Save Project
      Save Project As ...
      Save Graphics As ...
      ----------------------------------------
      Page Settings
      Print Preview
      Print
      ----------------------------------------
      Exit
```
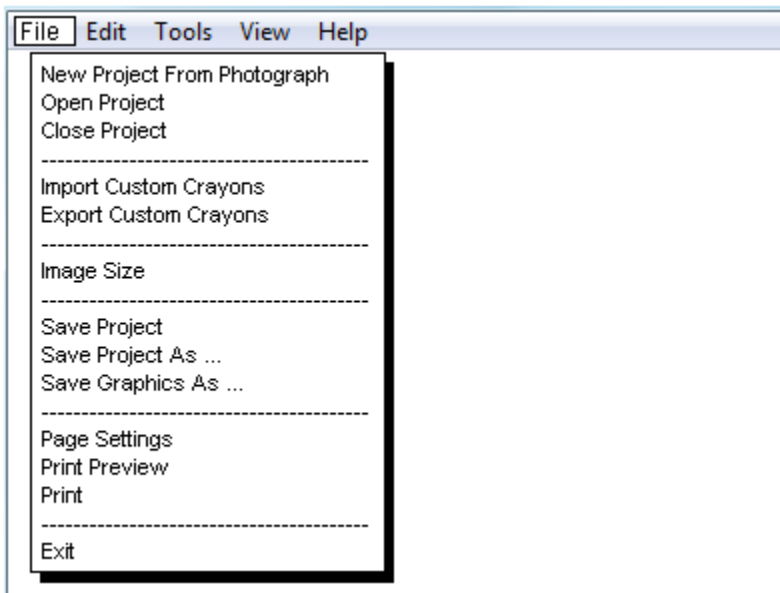
These are the commands that are available in the File Menu.

New Project From Photograph

The *New Project From Photograph* command creates a new project and allows you to open an image file to place into this project.

The command opens a window that lets you navigate to and select an image file. The directory will initially be the same directory you have previously used for opening or saving graphics images. The file type is set to *All Image Files* but you can also specify individual graphics formats.

This command is identical to the *New* button in Step 1 of the Quickstart Panel, and the *Create New Project* button on the Standard Toolbar.

Open Project

The *Open Project* command opens an existing project file.

The command opens a window that lets you navigate to and select a project file. The directory will initially be the same as the directory you have previously used for opening or saving project files. The file type is set to PbnArtist project files, which have the extension *.pbn* added to their file name.

This command is identical to the *Open* button in Step 1 of the Quickstart Panel, or the *Open Existing Project* button on the Standard Toolbar.

Close Project

This command closes the current project.

If the project file has not been saved, or if changes have been made since the last time it was saved, the program will ask if you want to save the file. If this is the first time the project has been saved, a window will open that allows you to navigate to a folder and specify a name for the file. Project file names end with the extension *.pbn*.

Import Custom Crayons

This command allows you to read crayons from an external file. The command will open a window that allows you to navigate to a desired folder on your computer and open a crayonbox file. Crayonbox files may hold a single crayonbox or multiple crayonboxes. These files have the extension *.pbx* added to the file name.

All crayonboxes in the selected file will be added to the list of crayonboxes shown in Step 1 of the Quickstart Panel. The imported crayons will continue to be available every time you use Paint-By-Number Artist, unless you eventually remove them from the list.

This command is identical to the *Import From File* button in the Custom Crayons Editor.

Export Custom Crayons

This command allows you to save custom crayons to an external file. The command will open a window that asks you to select which crayonboxes to include. You may include any number of crayonboxes in an external file. Only custom crayonboxes are available; system crayons are not available for exporting (they can, however, by copied into a custom crayonbox).

After selecting the crayonbox(es) to include, press the *Continue* button. This will open a window that allows you to navigate to a desired folder on your computer and save the file. Crayonbox files are saved with the extension *.pbx* added to the file name.

This command is identical to the *Export To File* button in the Custom Crayons Editor.

Image Size

This command lets you change the resolution (number of pixels) of your photograph. You may change either the height, width, or total number of pixels -- the other values will change accordingly to keep the ratio between height and width constant. (Sometimes you may notice that the total value changes slightly to accommodate this constant ratio requirement).

You will usually obtain best results using a total value between 1 and 5 MegaPixels. Sizes outside of this range might create drawings that don't look as good as possible, and larger values will also cause the program to run slowly.

The size setting only affects the size of the photograph within your project. It does not affect your original photograph file.

NOTE: Only the photograph size will be changed. The size of the drawing views are not affected by this setting -- they are controlled by the page size used for printing.

Save Project

This command saves your project file. If this is the first time you have saved the project, then the command automatically runs the *Save Project As ...* command, which asks you to provide a file name and location before saving the file.

This command is identical to the *Save Project* button on the Standard Toolbar.

Save Project As ...

This command saves your project to a location and name that you specify.

The command opens a window that allows you to navigate to a desired folder and specify a name for the file. The window will initially open to the last location where you stored a project file. Project file names end with the extension *.pbn*.

Save Graphics As ...

This command saves the current view as a graphics file. This is different than saving your entire project -- only the current view will be saved. Doing this allows you to save the view in formats that can be used by other computer programs.

The command opens a window that allows you to navigate to a desired folder and specify a name for the file. The window will initially open to the last location where you stored a graphics file. This might be different from the location used for project files, making it easier for you to store project files and graphics files in separate locations if you desire.

To specify the view that you are saving, select the view either in Step 3 of the Quickstart Panel, or in the View Menu. The view being saved will be the same as the view you see displayed in the project workspace.

By default, graphics files will be given a name that begins with either the project name or the original photo name, followed by the name of the view, followed by an extension that indicates the file format.

View names that are used are:

- _PBN
  The numbered paint-by-number drawing, ready for painting or coloring

- _LineDrawing
  The un-numbered line drawing, ready for painting or coloring

- _ColorDrawing
  The drawing with all colors filled in

- _Key
  The list of paints or crayons used in you paint-by-number project

- _CrossStitch
  The cross stitch or needlepoint pattern

- _csKey
  The list of flosses used for your cross stitch or needlepoint pattern

- _Photo
  The original photograph

Possible file formats are:

- .jpg
  JPEG format

- .bmp
  Bitmap format

- .gif
  GIF format

- .png
  Ping format

- .tif
  Tiff format

- .wmf
  Windows Metafile format

- .emf
  Extended Windows Metafile format

In general, PNG format will give the best result for the drawing and color key views, and JPEG will give best results for the photo view.

Page Settings

This command allows you to change the size of the paper being used for printing, its orientation (portrait or landscape) and margins on the sides of the page.

Print Preview

This command displays a preview of your printout, giving you an on-screen view that shows how the printout will look on paper.

Print

Sends the current view to the printer.

This command is identical to the *Print Current View* button on the Standard Toolbar.

Exit

Closes and exits the program. If a project is open, you will be asked to confirm that you want to close the project before exiting. If the project has not been saved, then you will also be asked to save the project before exiting.

This command is identical to the big red *X* in the upper right corner of the program's main window.

Edit Menu

File [Edit] Tools View Help
Undo
Redo

Cut
Copy
Paste
Select All
Crop

Process Photograph
Cancel Process
Process Settings -->
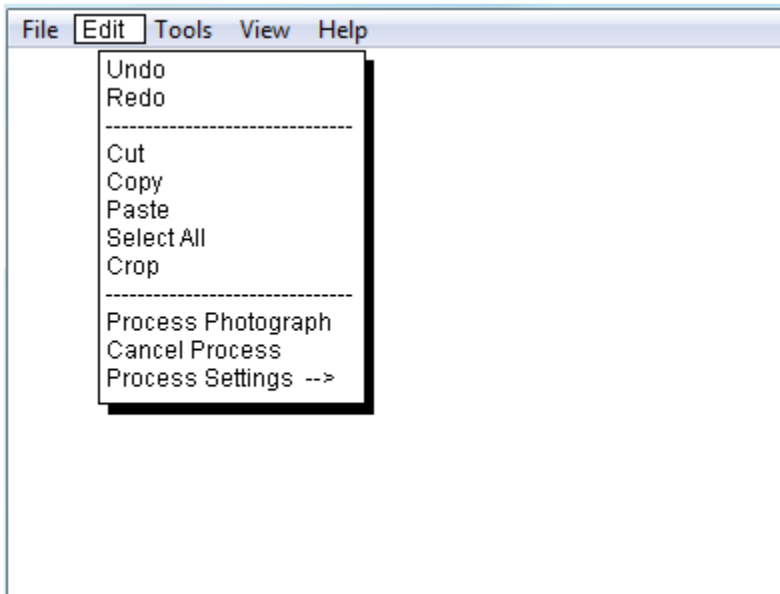
These are the commands that are available in the Edit Menu.

Undo

Many of Paint-By-Number Artist's commands can be undone. For example, if you are using the Paintbrush to paint a color onto your photograph, and you change your mind, you can remove individual brush stroke's by running this command.

This command will indicate if it is available or not, by whether its color is black (available) or gray (unavailable).

This command is identical to the *Undo* button on the Edit Toolbar.

Redo

If you have used to the *Undo* command to undo an operation, you can re-apply the operation by using the *Redo* command.

This command will indicate if it is available or not, by whether its color is black (available) or gray (unavailable).

This command is identical to the *Redo* button on the Edit Toolbar.

Cut

The *Cut* command removes a rectangular portion of your image and replaces it with a white rectangle. The cut portion is available for a later *Paste* operation. The *Cut* command may be used on either the Photograph or the Drawing views.

To use this command, select the command and then drag the cursor across the rectangular region that you wish to cut. A selection rectangle will be drawn that indicates the region to be cut.

The shape of the selection rectangle is controlled by the Photo Tool Settings. You may specify a fixed aspect ratio (ratio between height and width), or you may specify a variable (free-format) aspect ratio. In free-format mode, you may also force the rectangle to be square by holding down the *Shift* key as you drag the cursor across the selection.

You can access these settings by running the *Photo Tool Settings* command in the Tools Menu, by clicking the *Edit Photo* button in Step 1 of the Quickstart Panel, or by clicking the *Brush and Bucket Settings* button on the Edit Toolbar.

You may adjust the size of the selection rectangle by dragging any of its sides or corners to a desired location, or you may move the entire rectangle by dragging its upper-left corner.

When you are satisfied with the selection, move the cursor to the interior of the selection rectangle and click the mouse. If you would like to cancel the operation, move the cursor outside of the rectangle and click the mouse.

To deselect the cutting tool without using it, click the *Cut* command a second time.

You may also use this tool by selecting your selection rectangle first, and then clicking the *Cut* command. When used this way, the cut operation will happen immediately.

This command is identical to the *Cut* button on the Standard Toolbar and the *Cut* button in the Photo Edit Tools. When the tool is active, a box will surround its button on the Standard Toolbar, and a check will appear next to the command on the Edit Menu.

Copy

The *Copy* command copies a rectangular portion of your image and replaces it with a white rectangle. The copied portion is available for a later *Paste* operation, and may also be used to copy the current view into another computer program. The *Copy* command may be used on either of the Photograph, Drawing, or Color Key views.

To use this command, select the command and then drag the cursor across the rectangular region that you wish to copy. A selection rectangle will be drawn that indicates the region to be copied.

The shape of the selection rectangle is controlled by the Photo Tool Settings. You may specify a fixed aspect ratio (ratio between height and width), or you may specify a variable (free-format) aspect ratio. In free-format mode, you may also force the rectangle to be square by holding down the *Shift* key as you drag the cursor across the selection.

You can access these settings by running the *Photo Tool Settings* command in the Tools Menu, by clicking the *Edit Photo* button in Step 1 of the Quickstart Panel, or by clicking the *Brush and Bucket Settings* button on the Edit Toolbar.

You may adjust the size of the selection rectangle by dragging any of its sides or corners to a desired location, or you may move the entire rectangle by dragging its upper-left corner.

When you are satisfied with the selection, move the cursor to the interior of the selection rectangle and click the mouse. If you would like to cancel the operation, move the cursor outside of the rectangle and click the mouse.

To deselect the copy tool without using it, click the *Copy* command a second time.

You may also use this tool by selecting your selection rectangle first, and then clicking the *Copy* command. When used this way, the copy operation will happen immediately.

This command is identical to the *Copy* button on the Standard Toolbar and the *Copy* button in the Photo Edit Tools. When the tool is active, a box will surround its button on the Standard Toolbar, and a check will appear next to the command on the Edit Menu.

Paste

The *Paste* command pastes an image that you have previously cut or copied, onto your photograph. The *Paste* command may only be used on the Photograph view. Pasting is not available for any of the Drawing views.

To use this command, begin by using either the *Cut* command or the *Copy* command, or you may also use the equivalent of these commands in another computer program. Click the *Paste* command, and a preview of your cut or copied image will appear over a rectangular portion of your photograph, with a selection rectangle drawn around it.

You may adjust the size of the image by dragging any of its sides or corners to a desired location, or you may move the entire image by dragging its upper-left corner. Hold down the *Shift* key while you are adjusting the image's size to maintain its original aspect ratio.

When you are satisfied with the image's size and location, move the cursor to the interior of the selection rectangle and click the mouse.

If you would like to cancel the operation, move the cursor outside of the rectangle and click the mouse. You can also cancel the operation by clicking the *Paste* command a second time. The preview of the copied image will disappear.

This command is identical to the *Paste* button on the Standard Toolbar and the *Paste* button in the Photo Edit Tools. When the tool is active, a box will surround its button on the Standard Toolbar, and a check will appear next to the command on the Edit Menu.

Select All

This command is useful when used with the *Cut* command or the *Copy* command. To select the entire image, click the *Select All* command. To cancel the selection, click the command a second time.

This command is identical to the *Select All* button on the Standard Toolbar.

Crop

The *Crop* command resizes your image and removes anything that is outside of the rectangular selection region. The *Crop* command may only be used on the Photograph view. Cropping is not available for any of the Drawing views.

To use this command, select the command and then drag the cursor across the rectangular region that you wish to cropped. A selection rectangle will be drawn that indicates the region to be cropped.

The shape of the selection rectangle is controlled by the Photo Tool Settings. You may specify a fixed aspect ratio (ratio between height and width), or you may specify a variable (free-format) aspect ratio. In free-format mode, you may also force the rectangle to be square by holding down the *Shift* key as you drag the cursor across the selection.

You can access these settings by running the *Photo Tool Settings* command in the Tools Menu, by clicking the *Edit Photo* button in Step 1 of the Quickstart Panel, or by clicking the *Brush and Bucket Settings* button on the Edit Toolbar.

You may adjust the size of the selection rectangle by dragging any of its sides or corners to a desired location, or you may move the entire rectangle by dragging its upper-left corner.

When you are satisfied with the selection, move the cursor to the interior of the selection rectangle and click the mouse. If you would like to cancel the operation, move the cursor outside of the rectangle and click the mouse.

To deselect the cropping tool without using it, click the *Crop* command a second time.

You may also use this tool by selecting your selection rectangle first, and then clicking the *Crop* command. When used this way, the crop operation will happen immediately.

This command is identical to the *Crop* button on the Standard Toolbar and the *Crop* button in the Photo Edit Tools. When the tool is active, a box will surround its button on the Standard Toolbar, and a check will appear next to the command on the Edit Menu.

Process Photograph

This command processes your photograph into a paint-by-number drawing. Click it when you are satisfied with your photograph or any changes you have made to the photograph or any of the settings.

This command is identical to the *Run* button in Step 2 of the Quickstart Panel, and the *Process Photo* button on the Edit Toolbar.

Cancel Process

This command cancels the Process Photograph command while it is running, in case you have a reason to cancel the process. Click it once while the process is running, and wait for the process to stop.

This command is identical to the *Cancel* button in Step 2 of the Quickstart Panel, and the *Cancel* button on the Edit Toolbar.

Process Settings

This command allows you to change the setting listed below. This setting can also be changed in Step 1 of the Quickstart Panel.

- ***Photograph Type***

  This command lets you set the photograph type, by selecting one of the displayed options. The options are Sharp Graphics for an image created by a drawing program, Sharp Photo for a sharply focused photograph, and Medium Photo, Soft Photo and Hazy Photo for photographs that were taken using soft focus effects or that were taken under hazy or foggy conditions.

  In most cases you will get best results using the Sharp Photograph setting, but you may wish to experiment with the other options.

  This command is identical to the *Photograph Type* selection slider in Step 1 of the Quickstart Panel.

Tools Menu
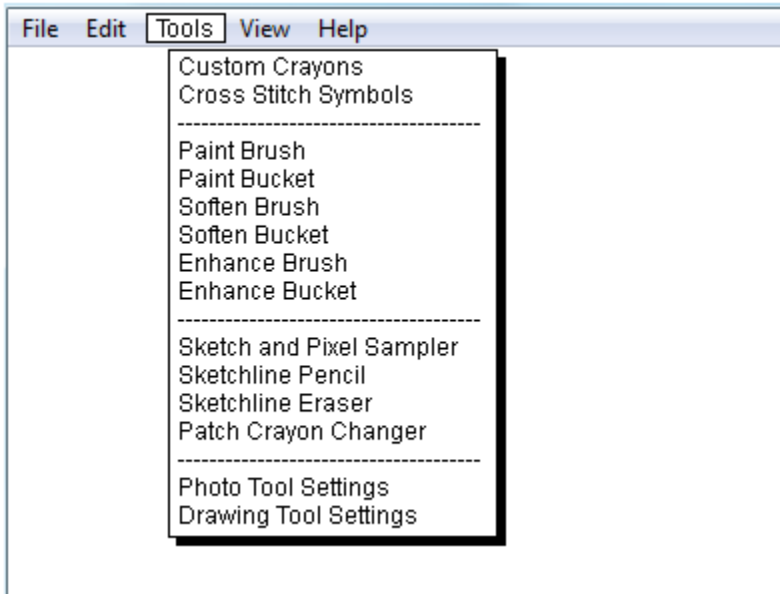
These are the commands that are available in the Tools Menu.

Custom Crayons

pbnArtist allows you to manage the colors that are included in your drawings. Colors are modeled as crayons, and groups of crayons are stored in crayonboxes.

The Custom Crayons command opens the Custom Crayons Editor. The operation of this editor is described in detail by clicking here.

This command is identical to the *Custom Crayons* button on the Edit Toolbar and the *Custom Crayons* button in the Photo Edit Tools.

Cross Stitch Symbols

pbnArtist allows you to manage the symbols that are assigned to stitches in cross stitch patterns.

The Cross Stitch Symbols command opens the Cross Stitch Symbols Collection. The operation of this editor is described in detail by clicking here.

This command is identical to the *Cross Stitch Symbols* button on the Edit Toolbar and the *Symbols* button in the *Step 3 -- Cross Stitch* tab in the *Quickstart Panel*.

Paint Brush

The *Paint Brush* command allows you to paint a solid color onto your photograph, by stroking over the region you wish to color. The brush's color, size, and feather option can be set in the Photo Edit Tools, where you will also find more information about this tool's operation.

This command is identical to the *Paint Brush* button on the Edit Toolbar and the *Paint Brush* button in the Photo Edit Tools.

Paint Bucket

The *Paint Bucket* command allows you to fill a rectangular region of your photograph with a solid color, by selecting and adjusting the region and then clicking the mouse within the selection area to finalize the operation. The bucket's color and feather option can be set in the Photo Edit Tools, where you will also find more information about this tool's operation.

This command is identical to the *Paint Bucket* button on the Edit Toolbar and the *Paint Bucket* button in the Photo Edit Tools.

Soften Brush

The *Soften Brush* command allows you to soften the focus in a portion of your photograph, by stroking over the region you wish to soften. This can help remove detail from parts of your drawing that have too many lines. The amount of softening can be set in the Photo Edit Tools, where you will also find more information about this tool's operation.

This command is identical to the *Soften Brush* button on the Edit Toolbar and the *Soften Brush* button in the Photo Edit Tools.

Soften Bucket

The *Soften Bucket* command allows you to soften the focus in a rectangular region of your photograph, by selecting and adjusting the region and then clicking the mouse within the selection area to finalize the operation. This can help remove detail from parts of your drawing that have too many lines. The amount of softening can be set in the Photo Edit Tools, where you will also find more information about this tool's operation.

This command is identical to the *Soften Bucket* button on the Edit Toolbar and the *Soften Bucket* button in the Photo Edit Tools.

Enhance Brush

The *Enhance Brush* command allows enhance the brightness, contrast or saturation in a region of your photograph, by stroking over the region you wish to enhance. This can help increase the detail in important areas of your drawing. The brightness, contrast and saturation amounts can be set in the Photo Edit Tools, where you will also find more information about this tool's operation.

This command is identical to the *Enhance Brush* button on the Edit Toolbar and the *Enhance Brush* button in the Photo Edit Tools.

Enhance Bucket

The *Enhance Bucket* command allows you to enhance the brightness, contrast or saturation of a region of your photograph, by selecting and adjusting the region and then clicking the mouse within the selection area to finalize the operation. This can help increase the detail in important areas of your drawing. The brightness, contrast and saturation amounts can be set in the Photo Edit Tools, where you will also find more information about this tool's operation.

This command is identical to the *Enhance Bucket* button on the Edit Toolbar and the *Enhance Bucket* button in the Photo Edit Tools.

Patch and Pixel Sampler

This command actives the Patch and Pixel Sampler, which displays numerical values of the colors within the sampled pixels, and the crayon assigned to the selected region. Click here for a detailed description of this tool's operation.

This command is identical to the *Patch and Pixel Sampler* button on the Edit Toolbar.

Sketchline Pencil

The *Sketchline Pencil* command allows you to draw a line onto the paint-by-number drawing. Click here for a detailed description of its operation.

This command is identical to the *Sketchline Pencil* button on the Edit Toolbar.

Sketchline Eraser

The *Sketchline Eraser* command allows you to erase sketchlines from your paint-by-number drawing. Click here for a detailed description of its operation.

This command is identical to the *Sketchline Eraser* button on the Edit Toolbar.

Patch Crayon Changer

This button actives the Patch Crayon Changer, which allows you to change the crayons assigned to individual patches in your drawing, and to individual stitches in a cross stitch pattern. Click here for a detailed description of this tool's operation.

This button is identical to the *Patch Crayon Changer* button on the *edit toolbar*.

Photo Tool Settings

This command opens the Photo Edit Tools window, which allows you to adjust the settings for the photo editing tools.

This command is identical to the *Brush and Bucket Settings* command in the Edit Toolbar and the *Edit Photo* button in Step 1 of the Quickstart Panel.

Drawing Tool Settings

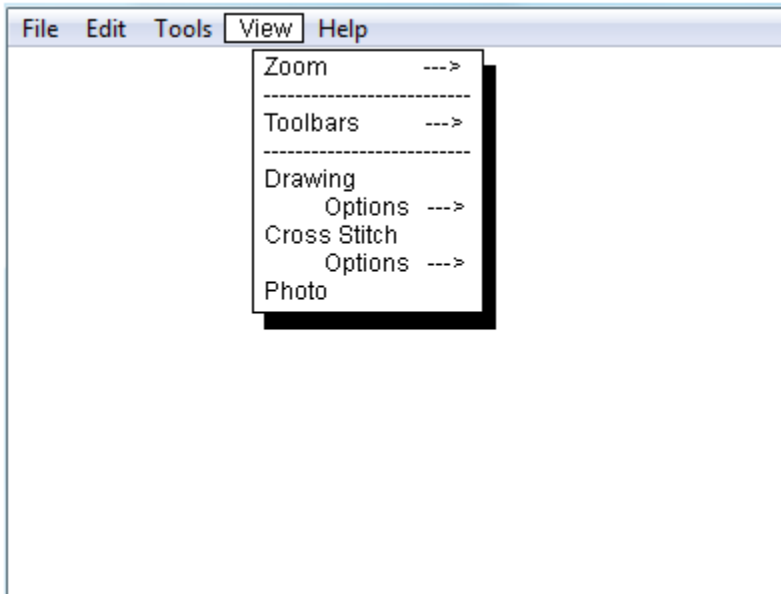This command opens the Drawing Edit Tools window, which allows you to adjust the settings for the drawing editing tools.

This command is identical to the *Eraser Settings* command in the Edit Toolbar and the *Edit Drawing* button in Step 3 of the Quickstart Panel.

View Menu

```
File   Edit   Tools   View   Help
                Zoom          --->
                -------------------------
                Toolbars      --->
                -------------------------
                Drawing
                    Options   --->
                Cross Stitch
                    Options   --->
                Photo
```

These are the commands that are available in the View Menu.

Zoom

The *Zoom* command sets the size of the picture displayed in the project workspace. You may select from any of several fixed sizes, or you may select the Fit option, which fits the picture to the size of the workspace.

This command is identical to the *Zoom* drop-down list on the Standard Toolbar.

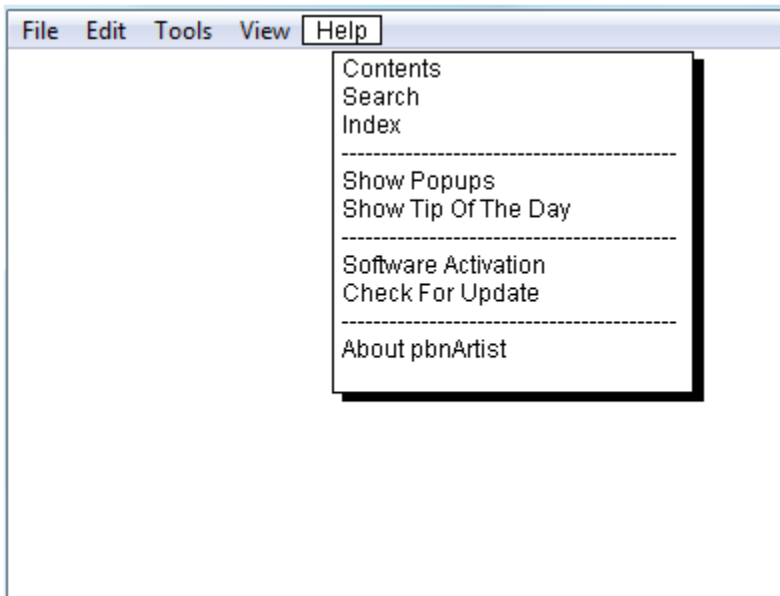## Toolbars

The *Toolbars* command enables or disables viewing of the Quickstart Panel, the Standard Toolbar and the Edit Toolbar.

Drawing, Cross Stitch, Photo

The three check items labeled Drawing, Cross Stitch, and Photo are used to select the view displayed in step 3. Below each of these is a menu item labeled options, which lets you select the options for each view.

Help menu

These are the commands that are available in the Help Menu.

Contents

The *Contents* command opens the user manual (this document) with its table of contents displayed.

This command is identical to the *Help* button on the Standard Toolbar.

Search

The *Search* command opens the user manual (this document) with its search window displayed.

Index

The *Index* command opens the user manual (this document) with its index displayed.

Show Popups

When you allow the cursor to hover over a button, a popup will appear giving you a brief description of the item.

The *Show Popups* command enables or disables viewing of these popups.

Show Tip Of The Day

The *Show Tip Of The Day* command allows you to view the current tip-of-the-day, as well as to scroll forward or backward through all of the available suggestions.

Program Activation

The *Program Activation* command displays a window that gives information about the program's activation license, and allows you to [activate the program](#) if you have not already done so.

Check For Updates

The *Check For Updates* command accesses the internet to determine if a newer version of Paint-By-Number Artist is available. If a newer version is available, a window will open that gives you the option to download it.

After downloading the new version, you should exit out of Paint-By-Number Artist and then install the new version by double-clicking the file that you just downloaded.

About pbnArtist

The *pbnArtist* command displays a window that gives information about this program.

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Quickstart Panel

Summary

The Quickstart Panel contains only the commands you need to create a paint-by-number drawing from a photograph. It provides a simple, three-step approach.

The panel is divided into three tabbed sections, labeled *Step 1*, *Step 2* and *Step 3*. You can jump to the desired step by clicking the tab at the top of the panel.

### Enabling the Quickstart Panel

The Quickstart Panel can be shown or hidden using the Toolbars command in the View Menu, or by clicking the Toggle Quickstart Panel button on the Standard Toolbar.

↔ Resize

The Quickstart Panel can be resized. To resize it, move the cursor to the right side of the panel. When the cursor changes to the image above, click and drag it to the desired size.

Step 1
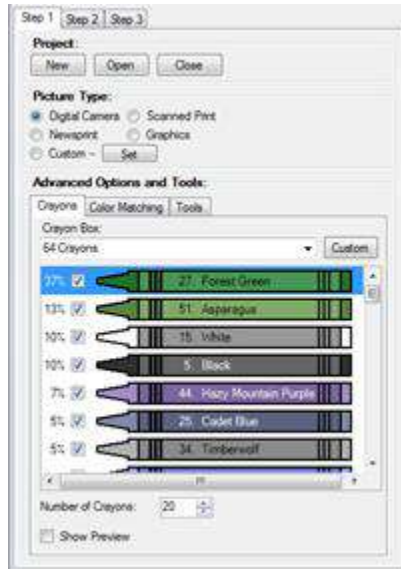
In Step 1, you open a digital photograph file and select the settings you will use to create a paint-by-number drawing.

Step 1 has a basic mode and an advanced mode. Its commands are described here.

Photograph Type Selection Slider

Use the adjustment slider to select the type of photograph. There are five possible selections, based primarily on the image's focus, ranging from sharpest (*Sharp Graphics*) to softest (*Hazy Photo*).

Use *Sharp Graphics* for images that were drawn with a graphics program. Use the other settings for photographs, depending on the sharpness or clarity of the photograph.

In most cases, you should use the second choice from the left, labeled *Sharp Photo*. After you have processed the photograph, you may wish to return to this step to experiment with the other choices.

This adjustment is identical to the options available under *Process Settings --> Photograph Type* in the Edit Menu.

New Button

The *New* button creates a new project and allows you to open an image file to place into this project.

The command opens a window that lets you navigate to and select an image file. The directory will initially be the same directory you have previously used for opening or saving graphics images. The file type is set to *All Image Files* but you can also specify individual graphics formats.

This command is identical to the *New Project From Photograph* command in the File Menu, and the *Create New Project* button on the Standard Toolbar.

Open Button

The *Open Project* button opens an existing project file.

The command opens a window that lets you navigate to and select a project file. The directory will initially be the same as the directory you have previously used for opening or saving project files. The file type is set to PbnArtist project files, which have the extension *.pbn* added to their file name.

This command is identical to the *Open Project* command in the File Menu, and the *Open Existing Project* button on the Standard Toolbar.
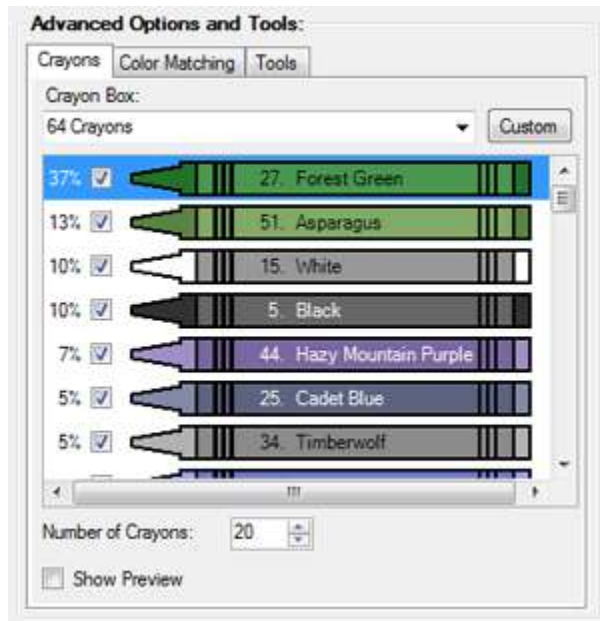
Close Button

The *Close* button closes the current project file. You will be given the option to save it if it has changed since the last time you saved it.

Advanced Tabs

The advanced tabs are described in the following pages.

Crayons Tab

pbnArtist provides several groups of colors that you may include in your drawing. These colors are grouped into *Crayonboxes*. Click the dropdown arrow to view the list of crayonboxes and to choose the collection you would like to use.

The dropdown box shows crayonboxes that are included with the program (system crayonboxes) and any custom crayonboxes that you have added or created. Click here to learn how to create custom crayons. Click here to learn how to import custom crayonboxes from an external file.

The list below the crayonbox shows the crayons within the crayonbox. The program automatically analyzes the colors in your photograph and then sorts the crayonbox, so that crayons at the top of the list represent the colors most frequently used in your photo.

A number next to each crayon shows the percentage of the photograph that uses that color.

A checkbox next to each crayon allows you to specify whether a crayon should be used or not. The program will assign the checked crayons to the colors in your photograph. At each pixel in the photo, the program will select the closest crayon from the crayons you have checked, attempting to find the best crayon to match the color in that pixel.

You must have at least one crayons checked before proceeding to step 2.

The *Number of Crayons* numerical entry box below the list of crayons allows you to specify how many crayons should be included in your drawing. Simply enter the number you desire, or use the up/down arrows to increase or decrease the number.

Color Matching Tab
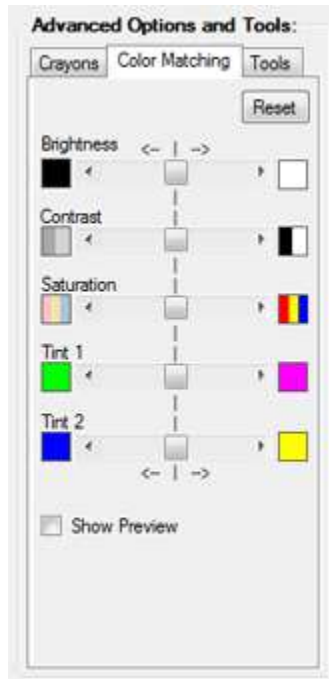
pbnArtist allows you to adjust the color-matching that is used to select crayons for your drawing. You adjust the brightness, contrast, saturation and tint in the crayons that are selected and assigned to your drawing.

When you change a color matching value, you are telling the program to select crayons based on the change you have made. So for example, if you increase the brightness slider, you are telling the program to try to find crayons that are brighter than the actual pixel colors.

Tools Tab

You can edit the original photo by clicking the *Editing Tools* button. This provides you with tools that can crop the photo, paint colors onto the photo, soften the focus in parts of the photo, or enhance the brightness, contrast and saturation of parts of the photo. Editing the photograph is explained in detail here.

The Image Size button allows you to resample the photograph (changing its resolution) and to specify the size (in inches or centimeters) of your drawing. The image size window is described in detail here.

Step 2
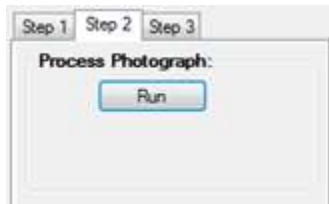
In Step 2 you will process the photograph, converting it into a paint-by-number drawing. There is only one command in this step.

Run Button

The *Run* button activates the process, converting your photograph into a paint-by-number drawing.

When you press this button, its text will change to *Cancel* as shown here, and the process will begin.

This command is identical to the *Process Photograph* command in the Edit Menu, and the *Process Photo* button on the Edit Toolbar.
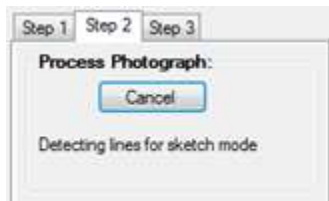
Cancel Button

While the process is running, if you decide you would like to stop the process, you may do so by pressing the *Cancel* button.

This button is identical to the *Cancel Process* command in the Edit Menu, and the *Cancel* button on the Edit Toolbar.

Step 3

In Step 3, you will decide how you would like to view your pbnArtist project. You can view your project as a drawing (paint-by-number or coloring picture) or as a cross stitch (or needlepoint) pattern.

To select the project type, click either the *Drawing* tab or the *Cross Stitch* tab. The options provided under these tabs are described in the next pages.

Drawing Tab

Use the drawing tab to view your project as a paint-by-number or a coloring picture. You can set the complexity as well as determine how to display numbers and lines within the picture. What follows is a brief description of how these options work. You can find more details by clicking here.

Select the Drawing View.

Use the radio buttons to select the view being displayed. You may select from the following views:

- *Numbers*:
  This view shows your paint-by-number picture, including numbers indicating the colors to be used.

- *No Numbers*:
  This view shows your paint-by-number drawing without including the color numbers. This is useful for a coloring picture.

- *Colored*:
  This view shows your drawing with the colors filled-in.

- *Key*:
  This view shows the list of crayons to use to color your drawing.

Adjust the Drawing Complexity.

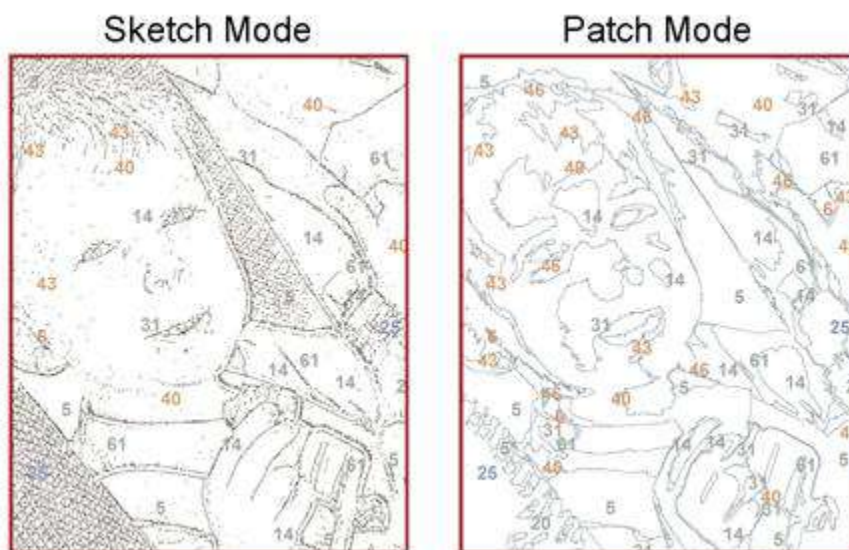Use the sliders to adjust the difficulty level of your drawing.

The drawing includes two types of lines: *sketch* lines and *patch* lines. Sketch lines are used to add a more lifelike appearance to your picture. Patch lines are used to show exactly where the colors may be filled in.

Both sketchlines and patchlines can be adjusted using the adjustment sliders. Moving the sliders to the left will reduce the amount of detail shown in your picture. Moving them to the right will increase the amount of detail.

Additional Settings in the Drawing Tab

The next set of checkboxes allow you to select how numbers are displayed for very small patches of color in your picture. You may elect to have the number offset from a patch with an arror pointing into the center of the patch, or you may elect to not display numbers for these small patches.

Below these checkboxes is a set of radio buttons that allow you to select the type of drawing being displayed. You may select *sketch mode* or *patch mode*, or a combination of both. Sketch mode draws lines that give a more lifelike view of your picture, as shown below. Patch mode draws lines exactly where the colors change, giving a view that will show the actual colors more accurately after the picture has been painted or colored.

Number Spacing

The *Number Spacing* numerical entry box lets you adjust the maximum distance between the numbers that indicate crayon colors on you picture. This value may be specified in inches or centimeters by checking the appropriate radio button.

Font Button

The *Font* button allows you to specify the font used for color numbers in your paint-by-number view.

Tools Button

The *Tools* button provides tools that can draw or erase lines on your drawing, and that can change the crayons that are used for portions of your drawing.

Editing the drawing using these tools is explained in detail here.

Size Button

The size button allows you to specify the size of your drawing (in inches or centimeters) when it is printed. You also have the option to print the drawing on a single page of paper or across multiple pages.

Icon Button

The *Icon* button changes the icon that is used in the color key. The color key provides a list of the colors used in your picture. Each color is shown using an icon. The available icons are crayon, pencil, pen, chalk, marker, paint brush, spool of thread, ball of yarn, button, or text only.

Cross Stitch Tab
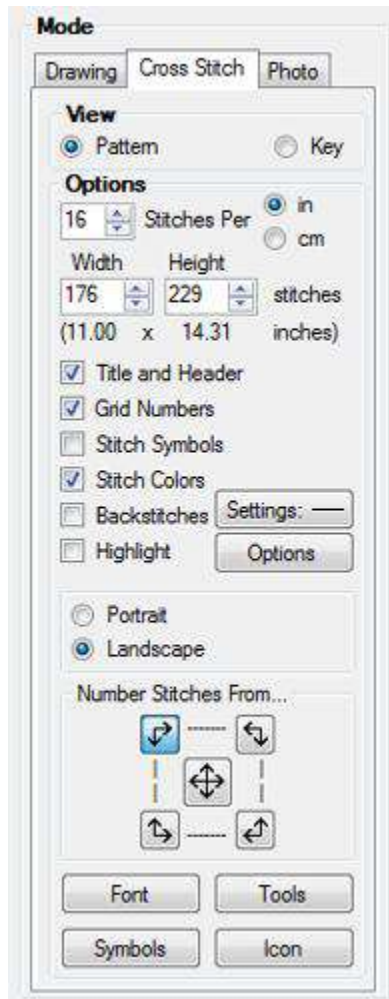
Use the cross stitch tab to view your project as a cross stitch or needlepoint pattern. You can set the size and stitch count as well as determine how to display floss symbols and/or colors within the pattern. What follows is a brief description of how these options work.

Select the Cross Stitch View.

Use the radio buttons to select the view being displayed. You may select from the following views:

- *Pattern*:
  This view shows your cross stitch or needlepoint pattern, including symbols indicating the flosses to be used.

- *Key*:
  This view shows the list of flosses to use in your cross stitch or needlepoint project. This key is slightly different from the key given in the *drawing* tab. The flosses are identified by a symbol rather than a number.

Stitch Count and Size

The set of numeric boxes near the top of this window allow you to set the stitch count (number of stitches per inch or per centimeter) to agree with the fabric you are using for your cross stitch project, and the total size of your project, counted in stitches. The program automatically displays this size converted to either inches or centimeters, so as you change the number of stitches you can see the equivalent size.

Title and Header

This checkbox causes patterns to be displayed with a title and additional information at the top of the page. If the pattern is large enough to cover multiple pages, the header also includes a map of the pages which shows where each page fits into the overall pattern.

If you want your pattern to fit on one page, you will probably need to have this option turned off.

Grid Numbers

Your project have numbers along the sides of the pattern, making it easier to count stitches, or you can leave these out.

Stitch Symbols

Your pattern can display symbols for each floss being uses, or you can turn this option off and show the floss color instead. When using symbols, the program selects from the character fonts available on your computer.

Stitch Colors

Select this option to display the floss color for every stitch shown in your pattern.

Backstitches

The sketch mode lines, described for the *drawing* tab, can be overlaid on top of your cross stitch pattern. These can be shown as individual stitches (single strands that extend horizontally, vertically, or diagonally across individual intersections in the weave) or as a line drawing (similar to the sketch line mode in the *drawing* tab). You can change the color, thickness, and complexity level of these backstitches by clicking the *Settings:* button.

Highlight

This function allow you to print a highlighted version of the cross stitch pattern, that is, a pattern in which all stitches from an individual thread are highlighted. The options button lets you specify the color to be used for the highlight, and it lets you select the thread or threads to be highlighted. Note that one copy of the pattern will be produced for each thread you select, so this may result in very many pages being printed.

The highlighted plan that you select will appear in the main window, and will print when you select the print function.

Portrait or Landscape

Your cross stitch pattern can be printed from any computer picture. This option selects whether the pattern will be printed vertically (portrait) or horizontally (landscape) on the page. If the pattern is too large to fit on a single sheet of paper, it will automatically be spread across multiple pages. (You can return it to a single page by reducing the size of the project or by selecting smaller font sizes).

Number Stitches From

This option is used along with the *Show Grid Numbers* option. You can elect to have the stitch numbering start from any corner or from the center of the pattern.

Font Button

You can use the *font* button to specify the font used for the title and labels shown on your cross stitch pattern.

Tools Button

You can used the *tools* button to activate editing tools to make changes to your pattern. You can change the colors that are used for individual stitches or for groups of stitches. Editing a cross stitch pattern is similar to editing a coloring or paint-by-num picture, and is described in more detail [here](#).

Symbols Button

Cross stitch patterns show the floss used for each stitch by showing a symbol that is unique for each stitch. pbnArtist uses the character fonts that are available on your computer, primarily using *dingbat* font types if they are available on your computer. You can change the collection of symbols by clicking the *symbols* button.

For more fun with your cross stitch patterns, you might enjoy adding additional symbol fonts. There are a wide variety of symbol fonts available on the internet, and many of these fonts are available for free. To find these, search the internet using the search term "dingbat fonts."

After you have found and installed new symbol fonts onto your computer, use the *symbols* button to select and add each symbol to your collection.

Icon Button

The *Key* view shows each floss used in your pattern, drawing each floss as a colored icon. Normally, it uses the default icon that is defined for each crayonBox, but you can use the *icon* button to select a different icon.
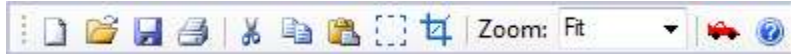
Photo Tab

Use the photo tab to view your original photograph.

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Toolbars

Standard Toolbar

The Standard Toolbar provides buttons that access the most commonly used standard commands.

Enabling The Toolbar

The Standard Toolbar can be shown or hidden using the Toolbars command in the View Menu.

Docking Handle

This toolbar is dockable, which means it can be moved around in the workspace. It can be docked to any one of the four sides of the workspace.

To move the toolbar, select the docking handle and drag it to the desired side of the workspace.

Create New Project From Photograph

The *Create New Project From Photograph* button creates a new project and allows you to open an image file to place into this project.

The command opens a window that lets you navigate to and select an image file. The directory will initially be the same directory you have previously used for opening or saving graphics images. The file type is set to *All Image Files* but you can also specify individual graphics formats.

This command is identical to the *New Project From Photograph* command in the File Menu, and the *New* button in Step 1 of the Quickstart Panel.

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Open Existing Project

The *Open Existing Project* command opens an existing project file.

The command opens a window that lets you navigate to and select a project file. The directory will initially be the same as the directory you have previously used for opening or saving project files. The file type is set to PbnArtist project files, which have the extension *.pbn* added to their file name.

This command is identical to the *Open Project* command in the File Menu , and the *Open* button in Step 1 of the Quickstart Panel.

Save Project

This command saves your project file. If this is the first time you have saved the project, then the command automatically runs the *Save Project As* ... command in the File Menu, which asks you to provide a file name and location before saving the file.

This command is identical to the *Save Project* command in the File Menu.

Print Current View

Sends the current view to the printer.

This command is identical to the *Print* command in the File Menu.

Cut

The *Cut* button removes a rectangular portion of your image and replaces it with a white rectangle. The cut portion is available for a later *Paste* operation. The *Cut* button may be used on either the Photograph or the Drawing views.

To use this button, click the button and then drag the cursor across the rectangular region that you wish to cut. A selection rectangle will be drawn that indicates the region to be cut.

The shape of the selection rectangle is controlled by the Photo Tool Settings. You may specify a fixed aspect ratio (ratio between height and width), or you may specify a variable (free-format) aspect ratio. In free-format mode, you may also force the rectangle to be square by holding down the *Shift* key as you drag the cursor across the selection.

You can access these settings by running the *Photo Tool Settings* command in the Tools Menu, by clicking the *Edit Photo* button in Step 1 of the Quickstart Panel, or by clicking the *Brush and Bucket Settings* button on the Edit Toolbar.

You may adjust the size of the selection rectangle by dragging any of its sides or corners to a desired location, or you may move the entire rectangle by dragging its upper-left corner.

When you are satisfied with the selection, move the cursor to the interior of the selection rectangle and click the mouse. If you would like to cancel the operation, move the cursor outside of the rectangle and click the mouse.

To deselect the cutting tool without using it, click the *Cut* button a second time.

You may also use this tool by selecting your selection rectangle first, and then clicking the *Cut* button. When used this way, the cut operation will happen immediately.

This button is identical to the *Cut* command in the Edit Menu and the *Cut* button in the Photo Edit Tools. When the tool is active, a box will surround its button on the Standard Toolbar, and a check will appear next to the command on the Edit Menu.

Copy

The *Copy* button copies a rectangular portion of your image and replaces it with a white rectangle. The copied portion is available for a later *Paste* operation, and may also be used to copy the current view into another computer program. The *Copy* button may be used on either of the Photograph, Drawing, or Color Key views.

To use this button, click the button and then drag the cursor across the rectangular region that you wish to copy. A selection rectangle will be drawn that indicates the region to be copied.

The shape of the selection rectangle is controlled by the Photo Tool Settings. You may specify a fixed aspect ratio (ratio between height and width), or you may specify a variable (free-format) aspect ratio. In free-format mode, you may also force the rectangle to be square by holding down the *Shift* key as you drag the cursor across the selection.

You can access these settings by running the *Photo Tool Settings* command in the Tools Menu, by clicking the *Edit Photo* button in Step 1 of the Quickstart Panel, or by clicking the *Brush and Bucket Settings* button on the Edit Toolbar.

You may adjust the size of the selection rectangle by dragging any of its sides or corners to a desired location, or you may move the entire rectangle by dragging its upper-left corner.

When you are satisfied with the selection, move the cursor to the interior of the selection rectangle and click the mouse. If you would like to cancel the operation, move the cursor outside of the rectangle and click the mouse.

To deselect the copy tool without using it, click the *Copy* button a second time.

You may also use this tool by selecting your selection rectangle first, and then clicking the *Copy* button. When used this way, the copy operation will happen immediately.

This button is identical to the *Copy* command in the Edit Menu and the *Copy* button in the Photo Edit Tools. When the tool is active, a box will surround its button on the Standard Toolbar, and a check will appear next to the command on the Edit Menu.

Paste

The *Paste* button pastes an image that you have previously cut or copied, onto your photograph. The *Paste* button may only be used on the Photograph view. Pasting is not available for any of the Drawing views.

To use this button, begin by using either the *Cut* command or the *Copy* command, or you may also use the equivalent of these commands in another computer program. Click the *Paste* button, and a preview of your cut or copied image will appear over a rectangular portion of your photograph, with a selection rectangle drawn around it.

You may adjust the size of the image by dragging any of its sides or corners to a desired location, or you may move the entire image by dragging its upper-left corner. Hold down the *Shift* key while you are adjusting the image's size to maintain its original aspect ratio.

When you are satisfied with the image's size and location, move the cursor to the interior of the selection rectangle and click the mouse.

If you would like to cancel the operation, move the cursor outside of the rectangle and click the mouse. You can also cancel the operation by clicking the *Paste* button a second time. The preview of the copied image will disappear.

This button is identical to the *Paste* command in the Edit Menu and the *Paste* button in the Photo Edit Tools. When the tool is active, a box will surround its button on the Standard Toolbar, and a check will appear next to the command on the Edit Menu.

Select All

This button is useful when used with the *Cut* command or the *Copy* command. To select the entire image, click the *Select All* button. To cancel the selection, click the button a second time.

This button is identical to the *Select All* command in the Edit Menu.

Crop

The *Crop* button resizes your image and removes anything that is outside of the rectangular selection region. The *Crop* button may only be used on the Photograph view. Cropping is not available for any of the Drawing views.

To use this button, click the button and then drag the cursor across the rectangular region that you wish to cropped. A selection rectangle will be drawn that indicates the region to be cropped.

The shape of the selection rectangle is controlled by the Photo Tool Settings. You may specify a fixed aspect ratio (ratio between height and width), or you may specify a variable (free-format) aspect ratio. In free-format mode, you may also force the rectangle to be square by holding down the *Shift* key as you drag the cursor across the selection.

You can access these settings by running the *Photo Tool Settings* command in the Tools Menu, by clicking the *Edit Photo* button in Step 1 of the Quickstart Panel, or by clicking the *Brush and Bucket Settings* button on the Edit Toolbar.

You may adjust the size of the selection rectangle by dragging any of its sides or corners to a desired location, or you may move the entire rectangle by dragging its upper-left corner.

When you are satisfied with the selection, move the cursor to the interior of the selection rectangle and click the mouse. If you would like to cancel the operation, move the cursor outside of the rectangle and click the mouse.

To deselect the cropping tool without using it, click the *Crop* button a second time.

You may also use this tool by selecting your selection rectangle first, and then clicking the *Crop* button. When used this way, the crop operation will happen immediately.

This button is identical to the *Crop* command in the Edit Menu and the *Crop* button in the Photo Edit Tools. When the tool is active, a box will surround its button on the Standard Toolbar, and a check will appear next to the command on the Edit Menu.

 Zoom

The *Zoom* button sets the size of the picture displayed in the project workspace. You may select from any of several fixed sizes, or you may select the Fit option, which fits the picture to the size of the workspace.

This button is identical to the *Zoom* command in the View Menu.

 Toggle Quickstart Panel

The *Toggle Quickstart Panel* button enables or disables viewing of the Quickstart Panel.

 Help

The *Help* button opens the user manual (this document) with its table of contents displayed.

Edit Toolbar

The Edit Toolbar provides buttons that access the most commonly used commands for processing or modifying your photograph or drawing.

Enabling The Toolbar

The Edit Toolbar can be shown or hidden using the Toolbars command in the View Menu.

Docking Handle

This toolbar is dockable, which means it can be moved around in the workspace. It can be docked to any one of the four sides of the workspace.

To move the toolbar, select the docking handle and drag it to the desired side of the workspace.

Undo

Many of Paint-By-Number Artist's commands can be undone. For example, if you are using the Paintbrush to paint a color onto your photograph, and you change your mind, you can remove individual brush stroke's by running this command.

This button will indicate if it is available or not, by whether its color is blue (available) or gray (unavailable).

This command is identical to the *Undo* command in the Edit Menu.

Redo

If you have used to the *Undo* command to undo an operation, you can re-apply the operation by using the *Redo* command.

This button will indicate if it is available or not, by whether its color is blue (available) or gray (unavailable).

This command is identical to the *Redo* command in the Edit Menu.

▶ Process Photograph

This button processes your photograph into a paint-by-number drawing. Click it when you are satisfied with your photograph or any changes you have made to the photograph or any of the settings.

This button is identical to the *Run* button in Step 2 of the Quickstart Panel, and the *Process Photograph* command in the Edit Menu.

■ Cancel

This button cancels the Process Photograph command while it is running, in case you have a reason to cancel the process. Click it once while the process is running, and wait for the process to stop.

This button is identical to the *Cancel* button in Step 2 of the Quickstart Panel, and the *Cancel Process* command in the Edit Menu.

Custom Crayons

pbnArtist allows you to manage the colors that are included in your drawings. Colors are modeled as crayons, and groups of crayons are stored in crayonboxes.

The Custom Crayons command opens the Custom Crayons Editor. The operation of this editor is described in detail by clicking here.

This command is identical to the *Custom Crayons* command in the Tools Menu and the *Custom Crayons* button in the Photo Edit Tools.

♠ Cross Stitch Symbol Collection

pbnArtist allows you to manage the symbols that are assigned to stitches in cross stitch patterns.

The Cross Stitch Symbols command opens the Cross Stitch Symbols Collection. The operation of this editor is described in detail by clicking here.

This command is identical to the *Cross Stitch Symbols* command in the Tools Menu and the *Symbols* button in the *Step 3 -- Cross Stitch* tab in the *Quickstart Panel*.

Paint Brush

The *Paint Brush* command allows you to paint a solid color onto your photograph, by stroking over the region you wish to color. The brush's color, size, and feather option can be set in the Photo Edit Tools, where you will also find more information about this tool's operation.

This command is identical to the *Paint Brush* command in the Tools Menu and the *Paint Brush* button in the Photo Edit Tools.

Soften Brush

The *Soften Brush* command allows you to soften the focus in a portion of your photograph, by stroking over the region you wish to soften. This can help remove detail from parts of your drawing that have too many lines. The amount of softening can be set in the Photo Edit Tools, where you will also find more information about this tool's operation.

This command is identical to the *Soften Brush* command in the Tools Menu and the *Soften Brush* button in the Photo Edit Tools.

Enhance Brush

The *Enhance Brush* command allows enhance the brightness, contrast or saturation in a region of your photograph, by stroking over the region you wish to enhance. This can help increase the detail in important areas of your drawing. The brightness, contrast and saturation amounts can be set in the Photo Edit Tools, where you will also find more information about this tool's operation.

This command is identical to the *Enhance Brush* command in the Tools Menu and the *Enhance Brush* button in the Photo Edit Tools.

Paint Bucket

The *Paint Bucket* command allows you to fill a rectangular region of your photograph with a solid color, by selecting and adjusting the region and then clicking the mouse within the selection area to finalize the operation. The bucket's color and feather option can be set in the Photo Edit Tools, where you will also find more information about this tool's operation.

This command is identical to the *Paint Bucket* command in the Tools Menu and the *Paint Bucket* button in the Photo Edit Tools.

Soften Bucket

The *Soften Bucket* command allows you to soften the focus in a rectangular region of your photograph, by selecting and adjusting the region and then clicking the mouse within the selection area to finalize the operation. This can help remove detail from parts of your drawing that have too many lines. The amount of softening can be set in the Photo Edit Tools, where you will also find more information about this tool's operation.

This command is identical to the *Soften Bucket* command in the Edit Tools Menu and the *Soften Bucket* button in the Photo Edit Tools.

Enhance Bucket

The *Enhance Bucket* command allows you to enhance the brightness, contrast or saturation of a region of your photograph, by selecting and adjusting the region and then clicking the mouse within the selection area to finalize the operation. This can help increase the detail in important areas of your drawing. The brightness, contrast and saturation amounts can be set in the Photo Edit Tools, where you will also find more information about this tool's operation.

This command is identical to the *Enhance Bucket* command in the Tools Menu and the *Enhance Bucket* button in the Photo Edit Tools.

Brush and Bucket Settings

This button opens the Photo Edit Tools window, which allows you to adjust the settings for the photo editing tools.

This button is identical to the *Photo Tool Settings* command in the Tools Menu and the *Edit Photo* button in Step 1 of the Quickstart Panel.

Patch and Pixel Sampler

This button actives the Patch and Pixel Sampler, which displays numerical values of the colors within the sampled pixels, and the crayon assigned to the selected region. Click here for a detailed description of this tool's operation.

This button is identical to the *Patch and Pixel Sampler* command in the Tools Menu.

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✏️ Sketchline Pencil

The *Sketchline Pencil* button allows you to draw a line onto the paint-by-number drawing. [Click here](#) for a detailed description of its operation.

This command is identical to the *Sketchline Pencil* command in the [Tools Menu](#).

✏️ Sketchline Eraser

The *Sketchline Eraser* button allows you to erase sketchlines from your paint-by-number drawing. [Click here](#) for a detailed description of its operation.

This command is identical to the *Sketchline Eraser* command in the [Tools Menu](#).

✏️ Patch Crayon Changer

This button actives the Patch Crayon Changer, which allows you to change the crayons assigned to individual patches in your drawing, and to individual stitches in a cross stitch pattern. [Click here](#) for a detailed description of this tool's operation.

This button is identical to the *Patch Crayon Changer* command in the [Tools Menu](#).
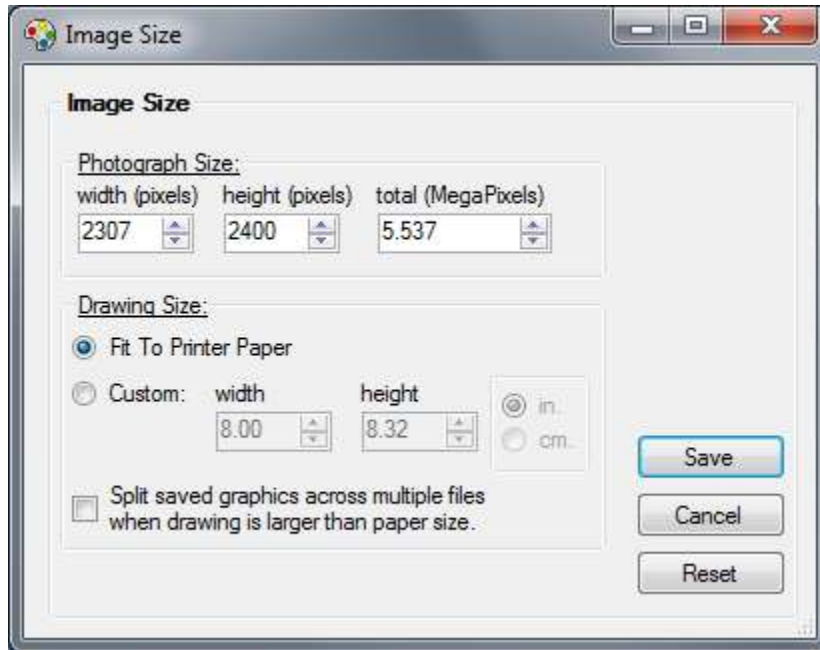

✏️ Eraser Settings

This button opens the [Drawing Edit Tools](#) window, which allows you to adjust the settings for the drawing editing tools.

This button is identical to the *Drawing Tool Settings* command in the [Tools Menu](#) and the *Edit Drawing* button in [Step 3](#) of the Quickstart Panel.

Editing Tools

Image Size Window

The photograph can be resampled, which means its resolution can be changed, using the *Image Size* command in the <u>File Menu</u>. You can change this value by adjusting either the width or height of the picture in pixels, or by entering a total number of megapixels. (When you enter a total amount, it may be necessary for the program to adjust the number slightly so that the ratio of width to height doesn't change).

This window can also be used to specify the size of drawing views, in inches or centimeters. You may select a size that is larger than a single sheet of paper. When you do this, drawings will automatically be printed across multiple sheets of paper.

Sometimes it is desirable to save a drawing view as a graphics file but to have it split across multiple files, so that the saved files will be identical to large views that were printed across several pages. Clicking the *Split Saved Graphics ...* checkbox will automatically save views into multiple graphics files.

Photo Edit Tools
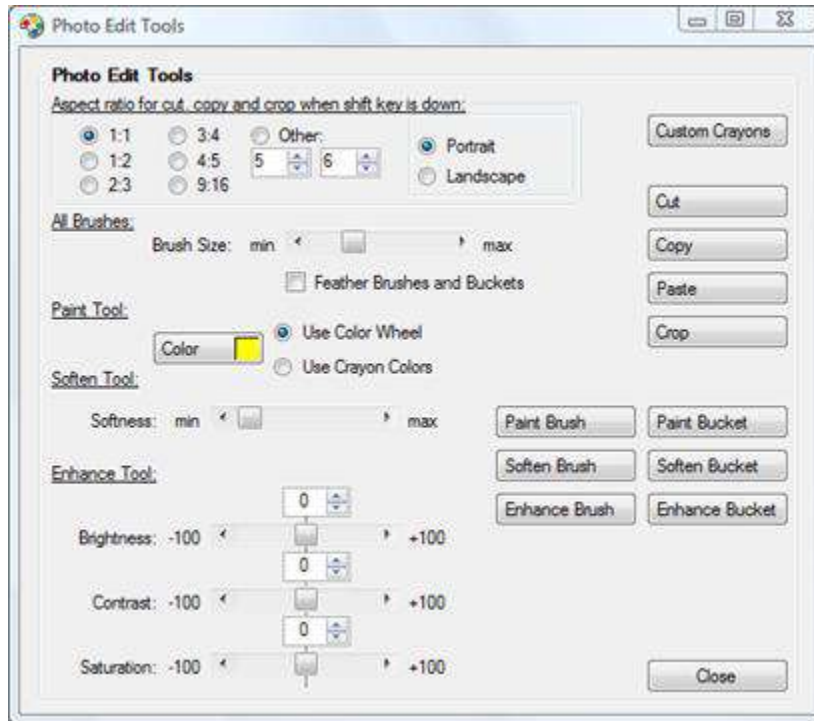
The Photo Edit Tools dialog contains tools that let you modify your original photograph. The sections of the dialog and the tools provided are described here.

Activating The Tool

The Photo Edit Tools dialog can be activated from Step 1 of the Quickstart Panel, from the Brush and Bucket Settings button on the Edit Toolbar, and from the Photo Tool Settings command in the Tools Menu.

Custom Crayons

Although not technically a photo edit tool, this dialog also provides you with a means to access the Custom Crayons Editor.

Operation of the cut, copy, paste and crop tools

The cut, copy and crop tools are described below. These tools allow you to select a rectangular region of the photograph, and then remove or copy it.

Normally, tools of this type allow users to select a region that has any size. However, for

photography and art, it is sometimes beneficial to select a size that has a specific aspect ratio (ratio between height and width), because aspect ratio can have a strong impact on a picture's composition. The *Aspect ratio* section of the dialog lets you select whether the selected area is free-form (variable aspect ratio) or has a fixed aspect ratio. It also lets you select either a vertically oriented (*Portrait*) or a horizontally oriented (*Landscape*) region.

The cut, copy and crop tools all work as follows. To select a region, drag the mouse across the region. A rectangle will appear that indicates the region that was selected.

To adjust the size of the region, move the cursor to a side or corner point on the rectangle and drag that point to its desired new location. (The cursor will change to indicate that clicking and dragging will move that point to a new location).

To move the entire rectangle to a new region, move the cursor to the upper-left corner and drag it to the desired location. (The cursor will change to indicate that clicking and dragging it will move the entire rectangle to a new location).

To cancel the selection, move the cursor outside of the selected region and click. (The cursor will change to indicate that clicking will cancel the selection).

To finalize the selection, move the cursor inside the selected region and click. (The cursor will change to indicate that clicking will finalize the selection).

Cut tool

The cut tool deletes the selected portion of the photograph, replacing it with a white rectangle, and copying the selected portion into the Windows clipboard. Once cut, this region may be pasted onto another portion of the photograph, or into another software program.

When the cut tool is selected, the cursor will change to the above symbol. Operation is as described above.

Copy tool

The copy tool copies a rectangular portion of the photograph into the Windows clipboard. Once copied, this region may be pasted onto another portion of the photograph, or into another software program.

When the copy tool is selected, the cursor will change to the above symbol. Operation is as described above.

Paste tool

After the cut or copy tools have been used, the paste tool may be used to insert the cut or copied portion onto another part of the photograph. Click the mouse to insert a preview the copied portion onto the photograph. A rectangle will be placed around the new portion, indicating that it can be moved or resized before finalizing (or canceling) the operation.

When the paste tool is selected, the cursor will change to the above symbol. Moving the cursor to different parts of the preview will cause it to change, indicating the action that will happen if you click the mouse.

Crop tool

The crop tool resizes the photograph, eliminating any parts of the photo that are outside of the selected rectangle.

When the crop tool is selected, the cursor will change to the above symbol. Operation is as described above.

Operation of the Brush and Bucket Tools

Brush and bucket tools are provided to make other modifications to your photograph.

When using a brush, the operation will only apply to a region that you stroke, similar to using an actual paint brush.

All brushes have a size that you can change using the *Brush Size* adjustment slider. Each brush cursor includes a circle that indicates the size of the brush and the region that will be affected by the brush.

Brushes also have a *Feather* mode, that softens the effect near the edge of the brush.

When using a bucket, you will have the opportunity to select a rectangular region of the photograph, and then apply the operation to that region. The operation is similar to spilling a bucket into an entire region.

Paint Brush and Bucket

The paint tool applies a solid color to part of the photograph. You can select the color by pressing the *Color* button. You can specify a color or select from one of the current crayons.

If you have selected the *Use Color Wheel* option, pressing the *Color* button will activate the Color Editor tool, which allows you to specify a color directly, or select a color by clicking a region of the photograph using the Pixel Sampler.

If you have selected the *Use Crayon Colors*, pressing the *Color* button will activate the [Crayon Chooser](), from which you can select the crayon color you wish to use.

Soften Brush and Bucket

The soften tool allows you to soften the focus, or even blur, part of the photograph. You can select the amount of softening by setting the *Softness* adjustment slider.

When creating a paint-by-number drawing, you can use the soften tool to remove detail from a portion of the photograph. You will usually find that the end result is very sensitive to this adjustment, so it is best to start with small amounts of softness and experiment with increasing values.

Enhance Brush and Bucket

The enhance tool allows you to enhance part of the photograph, by adjusting its brightness, contrast and saturation. These values can be changed by setting the *Brightness*, *Contrast* and *Saturation* adjustment sliders, or by inserting numerical values in the number boxes above these sliders.

When creating a paint-by-number drawing, you can use the enhance tool to add detail to a portion of the photograph. You will find that, although this tool may exaggerate the appearance of the original photograph, it can add desirable detail to the final drawing.

Drawing Edit Tools
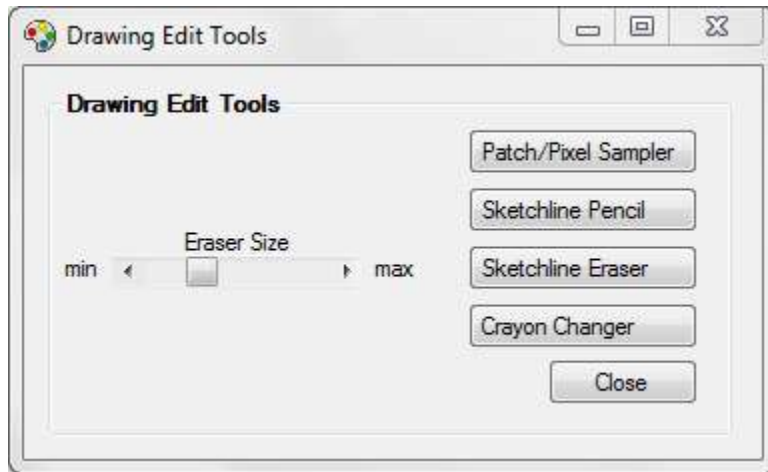
The Drawing Edit Tools dialog contains tools that let you modify your paint-by-number drawing. The sections of the dialog and the tools provided are described here.

Activating The Tool

The Drawing Edit Tools dialog can be activated from Step 3 of the Quickstart Panel, from the Eraser Settings button on the Edit Toolbar, and from the Drawing Tool Settings command in the Tools Menu.

Patch and Pixel Sampler

The patch and pixel sampler lets you select individual pixels in either your original photograph or your final drawing. It displays the color of the original pixel and the crayon selected to represent that pixel. The pixel color is the average of all of the pixels within the circle indicated on this cursor. If you have not yet generated a paint-by-number picture, then the crayon is actually a prediction of the crayon that will probably be used for this pixel.

This tool allows you to change the crayon selected for a region of the final drawing. It also allows you to copy a pixel's color into the Color Editor tool. It's operation is described in full here.

Sketchline Pencil

The sketchline pencil allows you to draw a line onto the paint-by-number drawing. This tool is only available after you have generated a paint-by-number drawing from your original photograph.

This tool will draw a line when you click the mouse and drag it. Before clicking the mouse, the cursor will show a "+" that indicates the exact location where the line will be drawn.

The line drawn will be identical to other sketchlines. The color and thickness of these lines can be adjusted using the *View --> Drawing Options* command in the View Menu or the *Line Style* button adjacent to the *Sketch Mode* radio button in Step 3 of the Quickstart Panel.

Sketchline Eraser

The sketchline eraser allows you to erase lines from your paint-by-number drawing. This tool is only available if you have generated a paint-by-number drawing from your original photograph.

This tool will erase any sketch line that falls within the region indicated by the circle in the cursor. The size of this region may be changed by setting the *Eraser Size* adjustment slider.

Note that the lines being erased are sketch lines, which means they are the lines that appear when the drawing is viewed in Sketch Mode. Patch lines will not be erased. To erase patch lines, use the *Drawing Complexity* slider for Color Patches in Step 3 of the Quickstart Panel.

Patch Crayon Changer

The patch crayon changer lets you select individual patches in a drawing view and assign different crayons to them. Its operation is described in full here.

Patch and Pixel Sampler
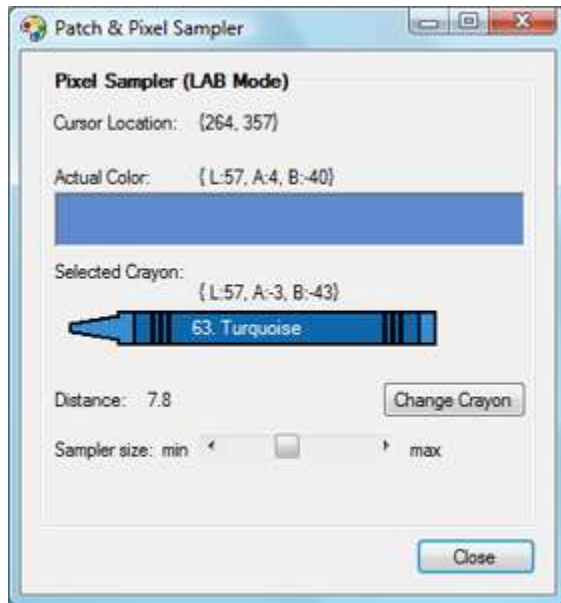
The patch and pixel sampler lets you sample pixels in your photograph and patches of crayon colors in your paint-by-number drawing. It is useful for analyzing the colors in your drawing, for changing the crayon used in a part of the drawing, and for creating new crayons from a scanned color sample.

The tool displays the color value of the pixels being sampled and the crayon selected for that region of the photograph. If you have not yet processed your photograph into a paint-by-number drawing, then the tool forecasts the crayon that will be selected based on the current settings.

Activating The Tool

The Patch and Pixel Sampler can be activated from the Tools Menu, from the Edit Toolbar, from the Color Editor, and from the Drawing Edit Tools dialog.

The Cursor

When the patch and pixel sampler tool is selected, the cursor will change to the above image when it is over your picture. This image will appear whenever the cursor is over the photograph or drawing.

The circle on this image indicates the region of pixels that will be sampled. When you click the mouse, the sampler will report the average color of all of the pixels that are within the sampling region. The size of this region can be changed using the Sample Size adjustment described below.

Cursor Location

This value indicates the location of the pixels you have selected. The location is given as a pair of {x, y} coordinates, counting the number of pixels horizontally from the left side of the photograph, and downward from the top of the photograph. The upper-left corner has location {0, 0}. The point reported is the center of the circular region you have selected.

Actual Color

This value indicates the numerical color value of the pixels you have selected, using the average of all pixels in the selected region. The value is given in LAB coordinates.

Selected Crayon / Nearest Crayon

This picture shows the crayon selected to represent the region of pixels you have selected.

If you are viewing the paint-by-number drawing (using either the *Color-By-Numbers*, *Line Drawing*, or *Color Drawing* view), this picture shows the actual crayon (*Selected Crayon*) that was selected.

If you are viewing the original photograph (using the *Photograph* view), this picture shows the crayon that is nearest to the color of the selected pixels, which might be different from the actual crayon used in your drawing. You can experiment by changing the crayonbox, colorspace, or selected crayons to see which crayon would have been selected for this part of your picture.

If you are viewing the color key (using the *Color Key* view), the sampler will sample the color key icons and show the colors and nearest crayons of the pixels in these icons.

The label above the picture gives the numerical value of the color used for this crayon, reported in LAB coordinates.

Distance

This value reports the distance from the pixels' color to the crayon's color. This distance is the value the program uses to select the nearest crayon.

Sampler Size

This adjustment slider allows you to change the size of the region of pixels that will be selected by the patch and pixel sampler. The size of this region is indicated by the circle on the cursor.
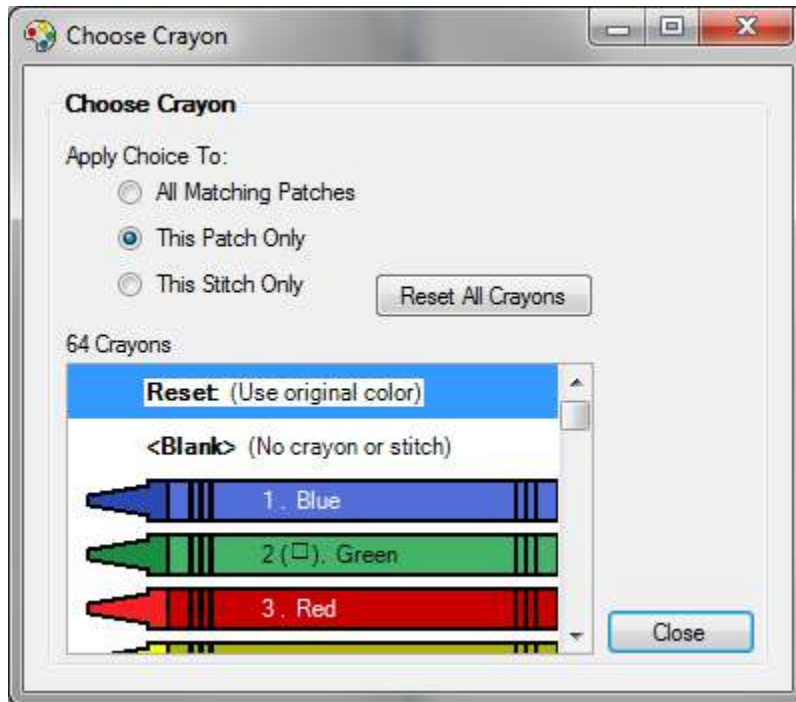
Change Crayon

Activates the Patch Crayon Changer tool, which allows you to change the crayon used for the selected region of pixels. This button is only available after you have generated a paint-by-number drawing from your original photograph.

Using the Sampler with the Color Editor

The patch and pixel sampler can also be used to sample colors into the color editor. When the color editor is active, moving the cursor into the work area (on the program's main window) automatically changes it to the eyedropper cursor. Sampling a color in the work area will automatically transfer that color into the color editor, and select its location in the displayed color space.

Patch Crayon Changer

The Patch Crayon Changer tool lets you change the crayon assigned to a region (*patch*) in your paint-by-number picture. The patch that will be affected must be selected using the Patch and Pixel sampler. The tool allows you to replace a single color patch, or replace all patches that have the same original crayon assigned to them.

Activating The Tool

The Crayon Chooser can be activated from the edit toolbar or the tools menu. Once activated, any changes made will be applied to the colored region of the drawing (*patch*) that was selected by the Patch and Pixel Sampler.

The Crayon Changer tool is only available after you have processed your photograph into a paint-by-number drawing or a cross stitch pattern.

The Cursor

When the patch crayon changer tool is selected, the cursor will change to the above image when it is over your picture. This image will appear whenever the cursor is over the photograph or drawing.

The cross on this image indicates the location that will be changed.

Using the tool

When the tool is active, you move the cursor over the drawing, to the patch or color that you would like to change. When you click on that point, the crayon will change to the one you have selected (below). If you have set the tool to change multiple patches, all patches that have the same crayon will change to the new crayon.

Quick Sample (Shift Click)

When the tool is active, you can shift click (hold the keyboard's SHIFT key while clicking) on a point on the drawing to quickly set that crayon as the selected crayon in the tool.

Apply Choice To

You can change the crayon for all patches that use the same crayon as the selected patch, a single selected patch, or a single selected stitch (in cross stitch view).

Reset All Crayons

You can quickly undo all changes you have made by clicking the *Reset All Crayons* button.

Crayon List

This list displays the crayons that may be assigned to the patch. The list only displays crayons that are in the crayonbox selected for this project, which is set in Step 1 of the Quickstart Panel. The name of the selected crayonbox is shown above the list.

To change a patch, select the desired crayon from this list, and then move the cursor to the patch you want to change and click on it. You will see the change immediately in *Drawing* mode if the current view is either *Numbers* or *Colored*, or in *Cross Stitch* mode if the view is Pattern and either *Show Stitch Symbols* or *Show Stitch Colors* is selected.

Using The "Reset:" Crayon

Selecting *Reset:* in the crayon list will cause selected patches or stitches to be returned to their original crayon.

Using The "<Blank>" Crayon

Selecting *<Blank>* in the crayon list will cause the selected patches or stitches to be set so that they have no crayon assigned to them. This can be useful on cross stitch patterns if you wish to use the fabric as the background color.

Crayon Symbols

The list of crayons will show colors using the default icon for the current crayonBox. Each crayon will show its number within the collection. If the current view is a cross-stitch pattern, then crayons that are currently in use on the pattern will also show the cross stitch symbol assigned to them (as on the Green crayon in the above picture). When you add new crayons to a cross stitch pattern, they will automatically have symbols assigned to them as well.

Custom Crayons Editor
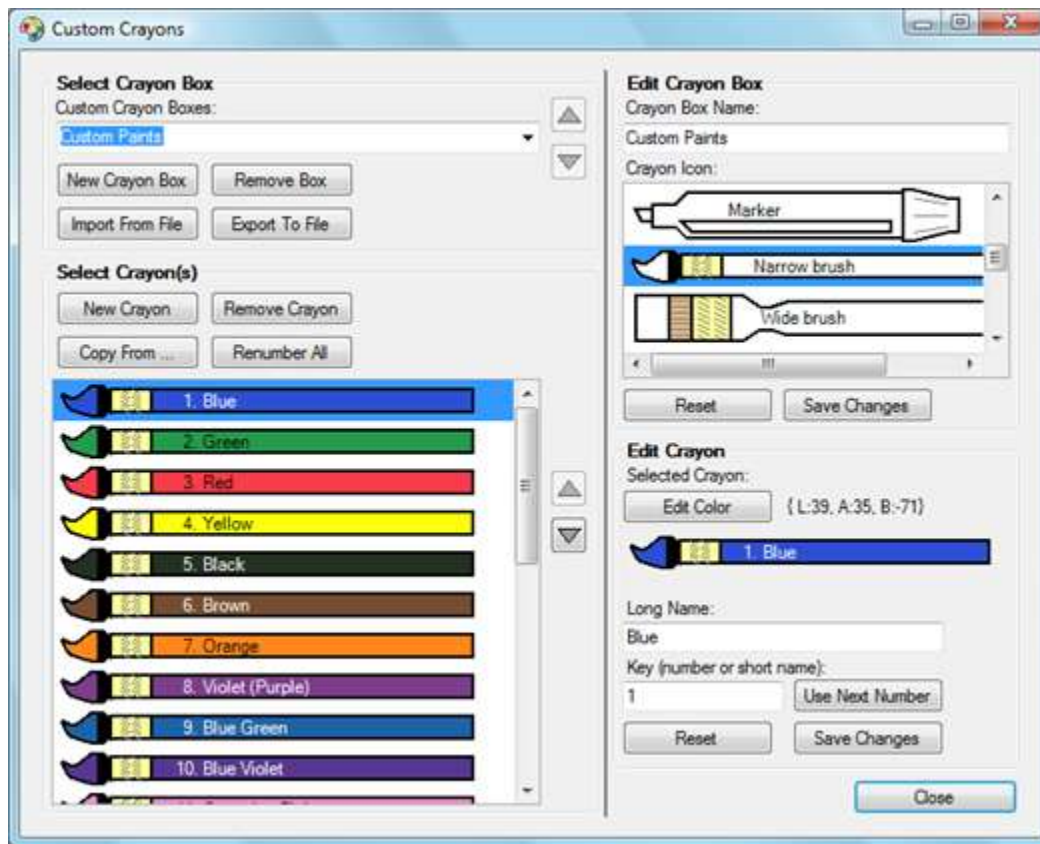
The Custom Crayons Editor allows you to create new crayonboxes that can be used in your pictures. Crayons can be created by editing colors directly, by copying crayons from other crayonboxes, or by selecting colors on an existing photograph.

The term *crayon* is used somewhat generically. Crayons can also represent pencils, paints, markers, chalk and other artistic media. Crayons are grouped together into *crayonboxes*, making it possible to specify an individual group of crayons when you are creating a paint-by-number drawing.

The commands in the Custom Crayons Editor are divided into four sections, labeled *Select Crayon Box*, *Select Crayon(s)*, *Edit Crayon Box*, and *Edit Crayon*. The four sections are explained below.

Activating The Tool

The Custom Crayons Editor can be activated from the Photo Edit Tools dialog, from the Custom Crayons button on the Edit Toolbar, and from the Custom Crayons command in the Tools Menu.

Select Crayon Box Section

Use the commands in the Select Crayon Box section to create and modify crayonboxes. Crayonboxes are used to keep crayons together in groups, so that a specific group of crayons can be specified when you are creating a paint-by-number drawing.

Select the crayonbox that you wish to modify from the list. Only custom crayonboxes are displayed. System crayonboxes that are built-in to Paint-By-Number Artist are not displayed because these can not be modified.

You can modify this list, using the buttons immediately below the list.

The *New Crayon Box* button creates a new unnamed crayon box. You will have to assign a name and icon for this box using the commands in the *Edit Crayon Box* section.

The *Remove Box* deletes a crayonbox from the list. Be careful when using this command. It removes an entire crayonbox from the program, and this can not be undone.

The *Import From File* button opens a file dialog that allows you to select a file containing other crayonboxes. Crayonbox files have names that end in the *.pbx* extension. This command is identical to the Import Custom Crayons command in the File Menu.

The *Export To File* button opens a dialog that allows you to save crayonboxes into an external file. You may select any number of your custom crayonboxes to include in this file. Crayonbox files have names that end in the *.pbx* extension. This command is identical to the Export Custom Crayons command in the File Menu.

You can move boxes up and down within the list, using the arrow buttons at the right side of the list.

Select Crayon(s) Section

Use the commands in the Select Crayon(s) section to select individual crayons to be modified. Once selected, crayons can be modified using the commands in the *Edit Crayon* section.

It is possible to select multiple crayons at the same time. Use the shift key or the ctrl key when clicking a crayon in order to add it to the selection.

Commands that are within this section can be applied to a group of crayons. However, the commands that are in the *Edit Crayon* section will only be applied to the top crayon in a selected group.

You can modify the list of crayons, using the buttons in this section.

The *New Crayon* button adds a new crayon to the list, immediately below the selected crayon or group of crayons. The new crayon will be unnamed and have a gray color. You will need to assign a key, name and color using the commands in the *Edit Crayon* section.

The *Remove Crayon* will remove the selected crayon or the selected group of crayons from the list. Be careful when using this command -- it can not be undone.

The *Copy From ...* button opens a new dialog box that allows you to select crayons from other crayonboxes. This dialog allows you to select from custom crayonboxes as well as the built-in system crayonboxes. Crayons that are copied from other crayonboxes will have their names, key numbers, and colors copied into the new crayonbox, but they will be drawn with the icon assigned to this crayonbox.

The *Renumber All* button replaces the crayon keys with numbers, beginning with 1 and continuing to the end of the list.

The arrow buttons on the right side of the list enable you to move a crayon or group of crayons up or down within the list.

Edit Crayon Box Section

Use the commands in the Edit Crayon Box section to rename a crayonbox and to assign an icon to this crayonbox. There are several icons available, including crayon, pencil, pen, marker, narrow paint brush, wide paint brush, and more.

Use the *Reset* button if you change your mind and want to cancel changes made.

Use the *Save Changes* button to make your changes permanent and to apply them to the selected crayonbox.

Edit Crayon Section

Use the commands in the Edit Crayon section to modify the crayon that is selected in the *Select Crayon(s)* section. If multiple crayons are selected, the commands in this section will be applied only to the top crayon in the selection.

You may change the color of a crayon using the *Edit Color* button. This button activates the Color Editor, which allows you to specify colors by selecting predefined colors or from a color wheel, by entering numeric values for a color, or by sampling a portion of your photograph.

Enter a name for this crayon into the box entitled *Long Name*. This name will appear in the color key created for each paint-by-number drawing.

Enter a key for this crayon into the box entitle *Key (number or short name)*. This key may be a number or an abbreviation using either numbers or text. The key will appear in your paint-by-number picture to identify the crayon to use for each color patch.

You can automatically assign a number to the key by pressing the *Use Next Number* button. You can also assign keys to all of the crayons automatically by pressing the *Renumber All* button in the Select Crayon(s) section.

Use the *Reset* button to undo any changes you have made in this section.

When you are satisfied with the changes you have made to the selected crayon, press the *Save Changes* button in this section.

Finishing and Closing the Custom Crayons Editor

When you are satisfied with all of the changes you have made to your crayonboxes, press the *Close* button. This will insert all of the custom crayonboxes into the list shown in Step 1 of the Quickstart Panel. This will also run a process which analyzes and profiles all of your crayons. It may take a minute or so for the profiling process to complete.

Color Editor: Basic View
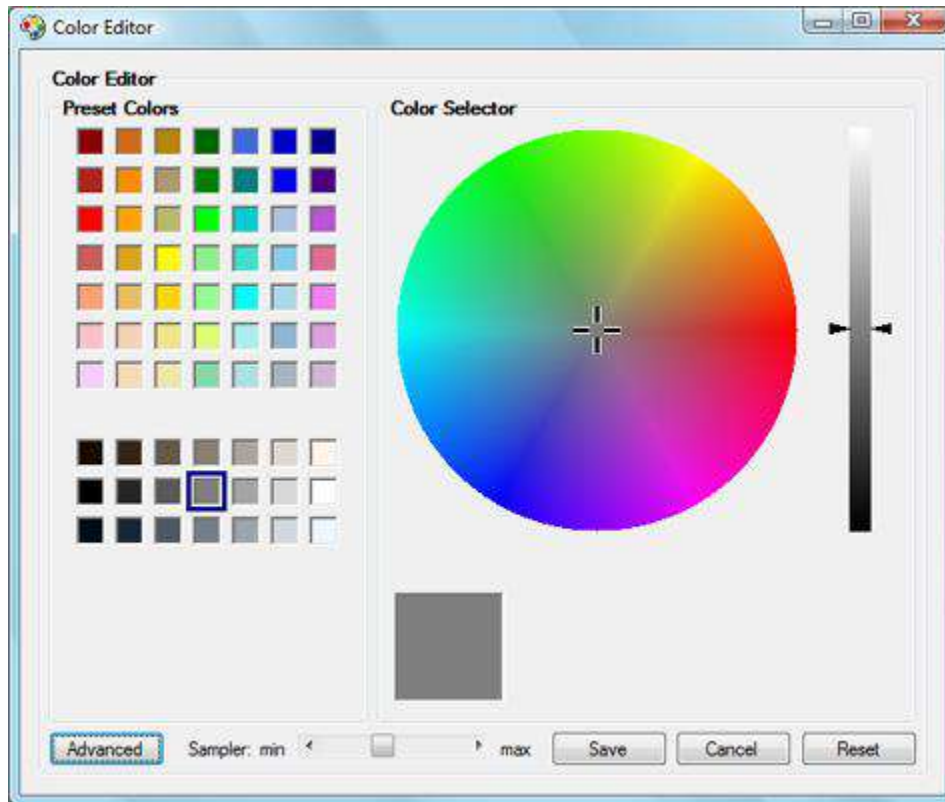
The Color Editor can be used to select or create colors that can be used to create new crayons and to set line and font colors on your paint-by-number drawing. Colors can be selected from all colors available to your computer, which usually amount to millions of possibilities.

The Basic View of this tool allows you to select colors from a predefined set of colors, from a *Color Wheel* type of display, or from a photograph using the *Pixel Sampler*.

Activating The Tool

The Color Editor can be activated from the Custom Crayons Editor, from the Line Style settings in Step 3 of the Quickstart Panel, and from the Font Style settings in Step 3 of the Quickstart Panel.

Preset Colors

Click any one of the colored boxes in this section to select that color. Allowing the cursor to hover over a box will display the name of that color, if you have enabled the Show Popups option in the Help Menu.

The boxes are arranged with commonly-used colors at the top, and grayscale colors at the bottom. The three rows of grayscale colors include so-called *warm* grays, *neutral* grays, and *cool* grays.

Color Selector

In basic view, the Color Selector displays a color wheel and a vertical brightness bar.

Move the slider adjacent to the brightness bar up or down to adjust the brightness of the colors available in the color wheel.

Select a color within the wheel by moving the cursor to that position and clicking the mouse button.

Patch and Pixel Sampler

You may also select a color by sampling a portion of your photograph, using the Patch and Pixel Sampler.

Move the cursor into the program's main window. When it is over the photograph, the cursor will change to the image shown above.

Click the mouse button to sample the pixels that are within the circle on the cursor. The indicator in the Color Selector will immediately move to the color which is the average of the pixels within this circle.

You can change the size of the circular sampling region by moving the *Sampler* adjustment slider near the bottom of the Color Editor.

Advanced Button

Clicking the *Advanced* button displays and enables the additional commands that are available in the Color Editor's Advanced mode.

Finishing and Closing the Color Editor

When you are satisfied with the color you have selected, click the *Save* button. Or if you have changed your mind and do not wish to use the color you have selected, click either the *Cancel* button or the *Reset* button.

Closing the Color Editor will cause the color you have selected to be applied to the tool that was used to activate the color editor.

Color Editor: Advanced View
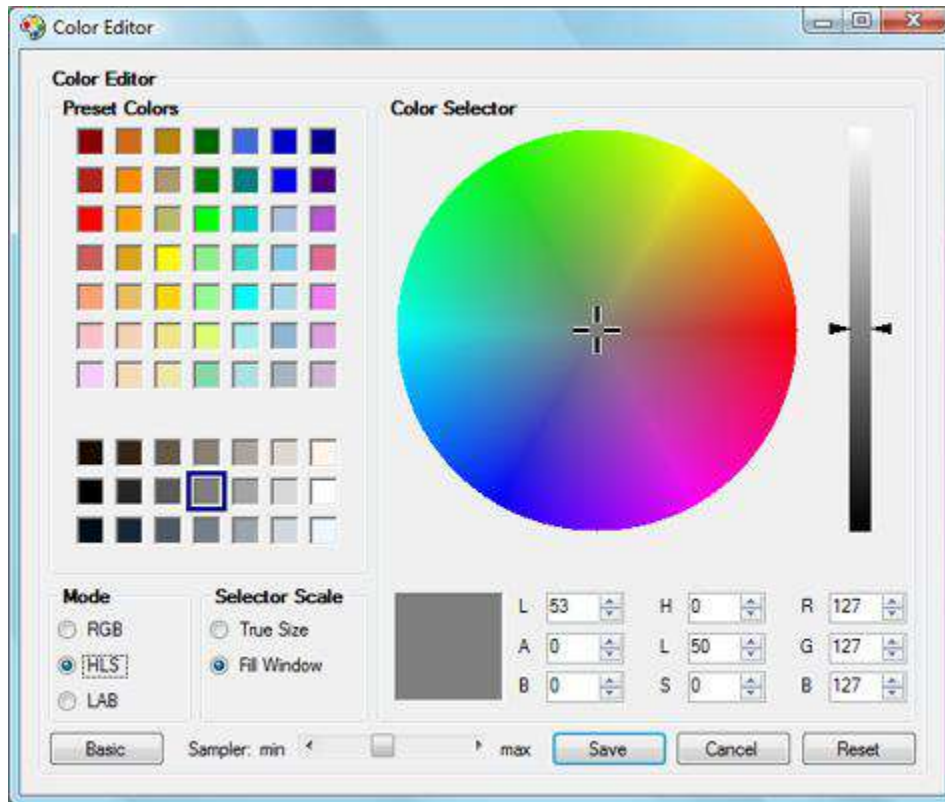
The Color Editor also has an advanced view. This mode of operation allows you to work with all of the colorspaces used by Paint-By-Number Artist, and it allows you to enter numeric values for colors in addition to the other selection methods.

Activating The Tool

The Color Editor advanced view can be activated by clicking the Advanced button in the Color Editor basic view.

Mode

Selecting one of these mode causes the *Color Selector* to display colors using the colorspace you have selected. You may select colors using the RGB, HLS, or LAB colorspaces. Click here to read more about the colorspaces used in Paint-By-Number Artist.

In RGB mode, the Color Selector will display a square representing the red and green values. Red is measured from left-to-right, and Green is measured vertically within this square. The vertical bar will represent the blue value.

In HLS mode, the Color Selector will display a circle representing the Hue and Saturation values. Hue is measured in degrees as the angular position around the circle (counter-clockwise), and Saturation is measured as the distance from the center of the circle. The vertical bar will represent the Luminosity value.

In LAB mode, the Color Selector will display a complex shape representing the A and B values. A is measured from left-to-right, and B is measured from bottom-to-top within this shape. The vertical bar will represent the L value.

Selector Scale

The shape of the HLS and LAB colorspaces causes them to become narrower when the vertical bar is at its high or low ends. You can see this affect by selecting the *True Size* option, or you can compensate for this affect by selecting the *Fill Window* option.

When the Color Editor is in Basic mode, the color wheel being displayed is actually using the *HLS* colorspace mode with the selector scale set to *Fill Window*.

Numerical Entry Boxes

Advanced mode also allows you to enter numerical values directly for the color you are selecting. You can enter or view any of the L, A, B values for the LAB colorspace, the H, L, S values for the HLS colorspace, or the R, G, B values for the RGB colorspace.

Basic Button

The *Basic* button returns the Color Editor to its Basic mode.

Cross Stitch Symbol Collection
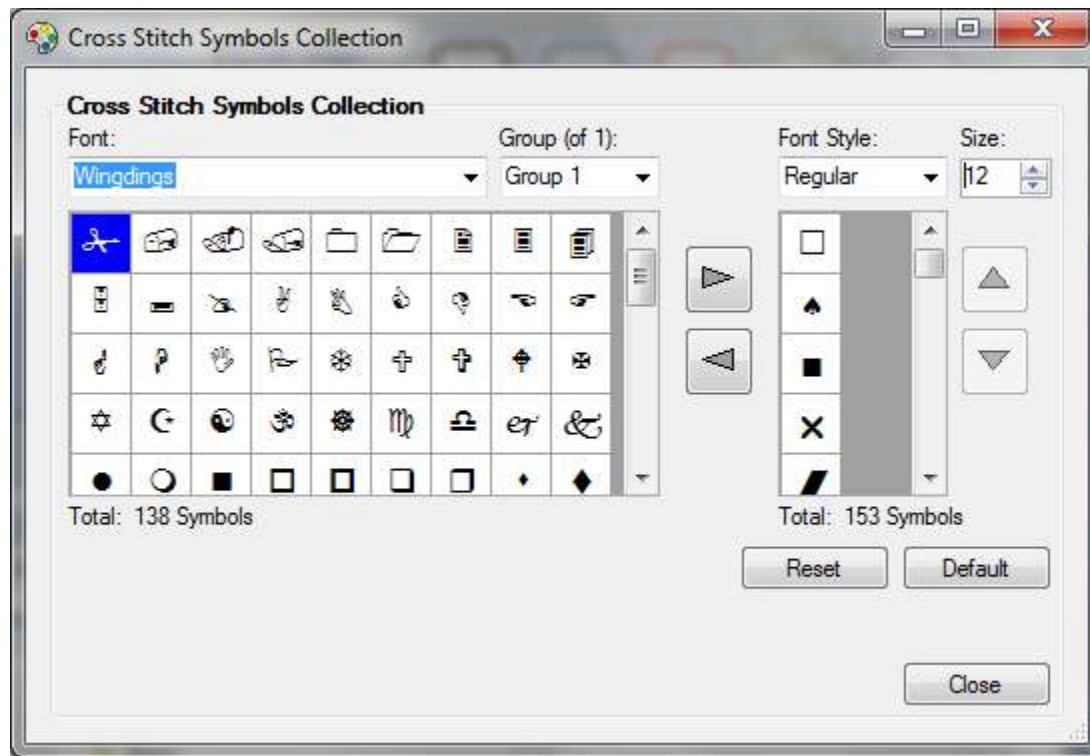
Accessing the cross stitch symbol collection will open the window shown above. In this window you can select the actual symbols that will be assigned to the stitches in your project. These symbols come from the character fonts that are available in your computer.

Activating the editor

The Cross Stitch Symbol Collection Editor can be activated from the the the *Cross Stitch Symbol Collection* button on the Edit Toolbar, from the *Cross Stitch Symbols* command in the Tools Menu, and by clicking the *Symbols* button in the *Step 3 -- Cross Stitch* tab in the Quickstart panel.

Using the editor

Symbols will be assigned to colors in the order they are listed in this collection. The symbol at the top of the list will be assigned to the most frequently used color, or floss, in your project.

The left side of this window allows you to examine each font type that is available in your computer. Some font types are divided into multiple groups. If that is the case for the font you are examining, the number of groups available will be displayed along with the currently selected group number.

The right side of this window shows the symbols that you have included in your font collection.

To add a symbol to your collection, select the desired symbol on the left side of this window, and click the right arrow (-->) in the middle of the window.

Each symbol will be added at the currently selected location. If you would like to move a symbol up or down within your collection, select the symbol and click either the up arrow or the down arrow.

If you would like to remove a symbol from your collection, select the symbol (in the right side of this window) and click the left arrow (<--).

You can also set the size of all of the symbols in the collection. The symbol size will affect how large your cross stitch pattern is when printed on paper. For very large projects, you may wish to use a smaller font size so that the pattern can be printed on a single page. In other cases, you might wish to use a larger font size to make the pattern more readable, and to make it easier for a person to count stitches.

You can also select whether the symbols should be printed using regular, bold, or italic type. (Bold and italic options are not available for all font types, so these settings might not be applied to your entire collection).

To have some fun, insert additional character fonts onto your computer and add them to your symbol collection. There are hundreds of symbol fonts available on the internet, and many of them are available for free. To find new fonts, search the internet using the search term "dingbat fonts". Follow the provider's directions to insert new fonts onto your computer, and then use this tool to add them to your cross stitch symbol collection.

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Colorspaces

How pbnArtist uses Colorspaces

pbnArtist uses a computer algorithm to match crayons to the colors in your photograph. The goal is that the program should always select the same crayon that a human would select when matching these colors. This task is straightforward for humans, but it is more complicated for computers because computers don't perceive colors the way humans do.

In order to choose the crayons to match the colors in your photograph, Paint-By-Number Artist must examine each pixel in the photograph and choose the crayon that is *closest* to the color in that pixel. But the concept of *closeness* is not defined for colors. So the program must first assign a *position* to each color, and then use this position to find the crayon that is closest to each color in your photograph.

pbnArtist uses the *LAB Colorspace* to arrange colors in three-dimensional space in order to select the crayons that match each pixel.

The Color Editor allows you to display colors using the LAB colorspace, and also allows you to display colors using the RGB and HLS colorspaces.

These three colorspaces are described in the following sections, in order from the simplest to the most complex colorspace.
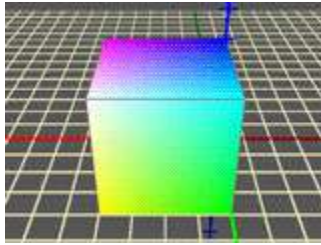
The RGB Colorspace

The HLS Colorspace

The LAB Colorspace

Other Colorspaces

The RGB Colorspace

The RGB (Red, Green, Blue) colorspace arranges colors in a three-dimensional cube. Each direction in this cube relates to one of the three colors that computer monitors and digital photographs use to construct colors. If you start in the black corner, proceeding in any one of these three directions shows the effect of adding more and more of that particular color.

If on the other hand, you start at the white corner, proceeding in any one of these three directions shows the effect of removing that color from white light. This is the same as adding the complementary colors of red, green and blue, which are cyan, magenta and yellow. This second group of colors are the three colors that are combined in computer printers to construct colors.

The RGB colorspace is available in the Color Editor tool, when it is used in its advanced mode. The cross-sections below show how the RGB colorspace appears when it is used in the color editor tool.

RGB Cross Sections (Top View):
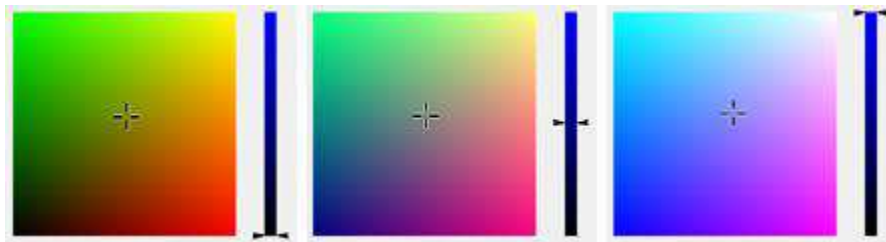
The HLS Colorspace
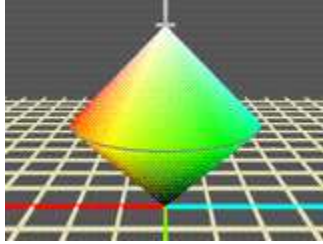
The HLS (Hue, Luminosity, Saturation) colorspace arranges colors in a three-dimensional double cone. You can think of this shape as a three-dimensional version of the color wheels that are used in some art classes. The colors are arranged around this double cone, progressing in a circle around the vertical axis.

Hue, which we typically think of as a color's *name*, is found by measuring the position, or *angle* , found if you follow this circle counter-clockwise around the vertical axis. Hue is measured in degrees (°), with values from 0° to 360°. Some commonly recognized colors around this axis are red (0° or 360°), orange (30°), yellow (60°), green (120°), cyan (180°), blue (240°), violet (270°) and magenta (300°).

Luminosity is a color's brightness. It has values that range from 0 to 100. Black has a value of 0, white has a value of 100, and the other colors have luminosity values between 0 and 100. In the HLS colorspace, luminosity is indicated by a color's vertical height in the double-cone structure.

Saturation is a color's richness. Colors with large values of saturation are what we typically think of as *colors*, while colors that have small saturation values are what we typically think of as *grays*. In the HLS colorspace, saturation is determined by finding a color's distance from the vertical axis. In other words, saturation is the distance from the center of the circle. It has values that range from 0 to 50. All of the fully-saturated colors are positioned at the far reaches of the double-cone, while white, black, and the grays lie on the central axis of the double-cone structure.

The HLS colorspace is available in the Color Editor tool, in both basic mode and advanced mode. The cross-sections below show how this colorspace looks in the color editor tool.

Notice that the cross-sections get narrower for colors that are near the top or bottom of the luminosity scale. This is because of the colorspace's double-cone structure. This narrowing effect can be compensated by using the color editor's Fill Window option.

HLS Cross Sections (Top View):
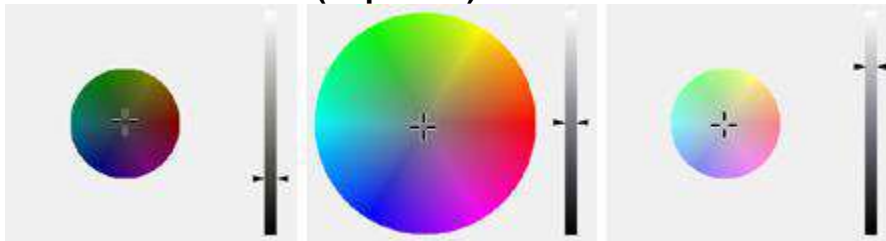
The LAB Colorspace
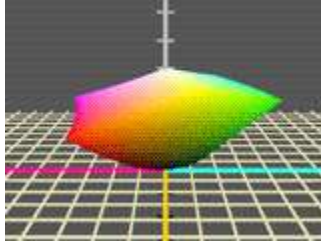
The LAB (pronounced "Ell-Aye-Bee") colorspace arranges colors in a complicated three-dimensional shape. This colorspace was developed to represent the way humans perceive colors. Its intention is that the *distance* between any two colors should be the same as the *difference* that humans perceive between them. Paint-By-Number Artist uses this characteristic to find the crayon that is *closest* to each pixel in a photograph.

The letters in LAB's name don't mean anything -- they are just three random letters used to label the three axes in the shape. The "L" direction (vertical) represents the brightness or darkness of a color. The horizontal directions represent a color's warmth, with the "A" direction displaying warmth and coolness in terms of red and magenta versus cyan and green, and the "B" direction displaying warmth and coolness in terms of yellow versus blue.

The LAB colorspace was developed in the 1920's and 1930's, primarily by the *Commission Internationale de l'Eclairage* (International Commission on Illumination) in France, based on experiments on how humans perceive colors. It is commonly used in other software programs to color-correct digital photographs. If you would like to learn more about using the LAB colorspace for this purpose, you may be interested in the book *Photoshop LAB Color: The Canyon Conundrum and Other Adventures in the Most Powerful Colorspace*, by Dan Margulis.

pbnArtist uses the LAB colorspace to match crayons to the colors in a photograph. A benefit of the LAB colorspace (over the HSL and RGB colorspaces) is that it is specifically designed to mimic the way humans think about colors, therefore it will usually select the same crayon a human would select.

The LAB colorspace is also available in the Color Editor tool, when it is used in its advanced mode. The cross-sections below show how this colorspace looks in the color editor.

Notice that the cross-sections get narrower for colors that are near the top or bottom of the L axis. This is because the colorspace also gets narrower in these regions, as can be seen in the 3-dimensional picture above. This narrowing effect can be compensated by using the color editor's Fill Window option.
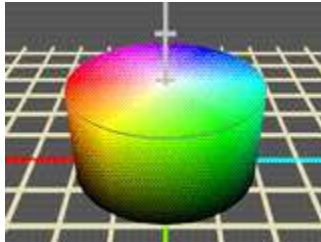
LAB Cross Sections (Top View):
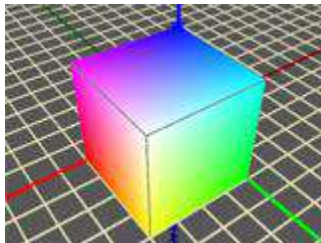
Other Colorspaces

There are dozens of other colorspaces that can be used to arrange colors in three-dimensions. Although they are not used in pbnArtist, a few of them are described here.

The HSB Colorspace

The HSB colorspace (Hue, Saturation, Brightness) arranges colors in a three-dimensional cylinder. It is similar to the HLS colorspace, which arranges colors in a three-dimensional double-cone.

The CMY(K) Colorspace

If you are familiar with inks used by your computer printer, then you are probably aware that your printer uses the CMY colorspace (sometimes called CMYK). The letters in this name stand for the colors of the inks being used, which are Cyan, Magenta, Yellow, and sometimes blacK.

The CMY colors are complements to red, green and blue, which are used in the RGB colorspace. The picture above shows that the CMY colorspace can be represented by the same cube that represents the RGB colorspace, and simply orienting it from the its white corner.

The RYB Colorspace
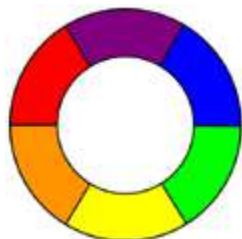
The RYB (Red, Yellow, Blue) colorspace is used by painters and other artists to represent three colors that can be combined to construct other colors.