Painter's Picker 2.2

1. Introduction

Thank you for downloading and trying Painter's Picker. Painter's Picker is an extension to Apple's Color Picker that adds a color wheel control to the old staple of Apple Color Picker panels. It will let you choose single colors in a very simple way, but also very quickly find relationships between colors.

If you've ever played with a color wheel or just looked at a color chart in an optometrist's office, then you're familiar with the kind of color wheel that Painter's Picker uses.

If you've ever stood in a paint store looking at swatches and wondered how to find 2, 3 or four colors that will look decent together, then you will appreciate Painter's Picker's system for choosing color schemes.

If you've ever used some other color wheel programs for Mac OS X, but disliked having to open another application and interrupt your workflow, then you'll like the fact that Painter's Picker appears right in the color picker, so it's that much easier to use.

If you're a person who needs to work with color, and make sure that colors work together, whether for print or the web or computer graphics, then you'll find Painter's Picker to be simple, available and powerful.

You can always find the latest information about Painter's Picker at Painter's Picker by Old Jewel Software

2. Reporting a Bug

We have tried very hard to make Painter's Picker as stable and useful a product as we can. However, sometimes bugs appear. If you discover a bug, you can follow the following steps:

1) click the Actions Popup Menu and choose "Report a Bug". Your favorite email program will open and create a new message addressed to our bug report address at Old Jewel Software.

2) Type your report. Be sure to include as much information as possible, including what program you were using at the time, how often the bug occurs, any special steps that are needed to reproduce it, etc.

3) Send your report.

Or, if you cannot access Painter's Picker, you can simply send email to feedback@old-jewel.com. Include the version of Painter's Picker you're using and as much of the above information as you can.

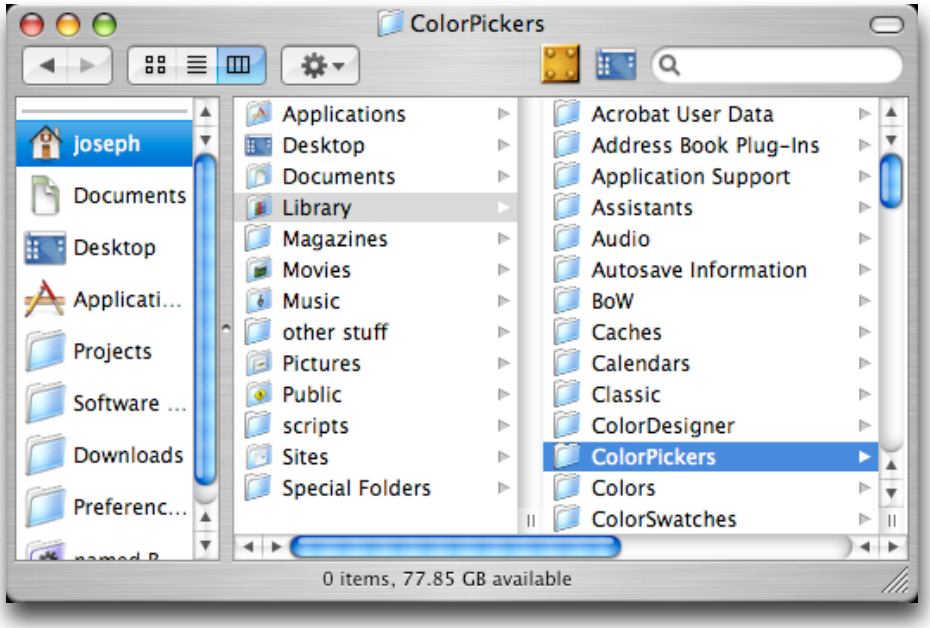
We try to respond to every correspondence, but often fail. Your report will be read shortly after you send it. A response can take several days sometimes, though.

3. Installing Painter's Picker

Painter's Picker is a system component rather than an application. As such, it needs to be installed in a particular place on your hard drive in order to be used. As a color picker, it must be installed in the "ColorPickers" folder in your home folder.

1) Navigate to the "Library" folder inside your home folder using the Finder.

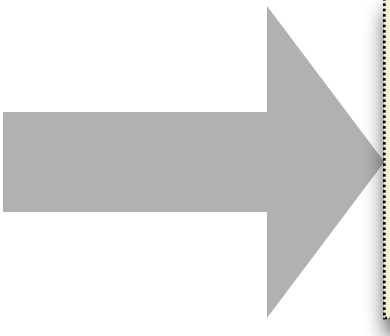
2) Find the folder named "ColorPickers". If it does not exist, create it by using the "New Folder" menu item in the File menu and naming it "ColorPickers".



3) If there is already a file named "paintersPicker.colorPicker" inside the "ColorPickers" folder, then move it to the trash (it is probably a previous version).

4) Drag the file named "paintersPicker.colorPicker" into the "ColorPickers" folder.

5) You may need to quit and restart any applications which have already loaded a color panel in order to see the changes.

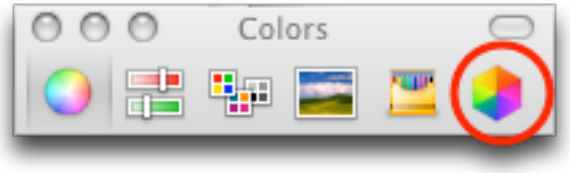


Expert Tip: If you have administrator access to your computer, and you would like other users of your computer to be able to use Painter's Picker, then you can choose to install Painter's Picker into your computer's library folder instead. Simply follow the directions above, but use your computer's Library folder rather than the Library folder in your home folder. (Warning: you should not install Painter's Picker into your computer's /System/Library folder. This folder is reserved by Apple and should not be changed unless you really know what you're doing. There is no reason to install Painter's Picker into this folder anyway).

4. Loading Painter's Picker

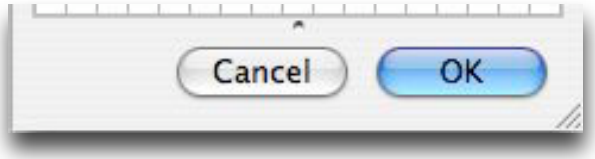
Painter's Picker is designed to work within most applications that run in Mac OS X. For a list of some programs that Painter's Picker will work with, please see compatible programs. To use Painter's Picker within any compatible program:

1) Open Apple's Color Picker. The way to do this will vary depending on which program you're using.



2) At the top of the Color Picker Panel, look for the Painter's Picker icon (it will probably be at the far right, or perhaps even in a "fly-away menu"). Click it.

3) Now choose your color. Some programs may require that you click an OK button before the color you've chosen can be used.



- ★ compatible programs
- ★ incompatible programs
- ★ special programs

4.1. compatible programs

Painter's Picker will work in any program that uses Apple's Color Picker. Some of the applications that use Apple's Color Picker, and thus can use Painter's Picker are:

Adobe After Effects (http://www.adobe.com/products/aftereffects/)

Adobe Photoshop (see note) (http://www.adobe.com/products/photoshop/main.html)

Apple iMovie (http://www.apple.com/ilife/imovie/)

Apple Interface Builder (http://www.apple.com/macosx/features/xcode/)

Apple Keynote (http://www.apple.com/iwork/keynote/)

Apple Mail (http://www.apple.com/macosx/features/mail/)

Apple Pages (http://www.apple.com/iwork/pages/)

Apple Text Edit (http://www.apple.com/)

BBEdit version 7.1.4 and later (see note) (http://www.barebones.com/products/bbedit/index.shtml)

Cheetah3d (http://cheetah3d.com/)

Chocoflop (http://www.chocoflop.com/)

Corel Painter 9 (http://apps.corel.com/painterix_uk/home/index.html)

e frontier Poser 5 (http://www.e-frontier.com/)

Macromedia Dreamweaver (MX and MX 2004) (http://www.macromedia.com/software/dreamweaver/)

Macromedia Fireworks (http://www.macromedia.com/software/fireworks/)

Macromedia Flash (http://www.macromedia.com/software/flash/)

Macromedia Freehand (see note) (http://www.macromedia.com/software/freehand/)

Maxon Cinema 4D XL 8.x (http://www.maxon.net/index_e.html)

Microsoft Word (http://www.microsoft.com/mac/)

Microsoft Entourage (http://www.microsoft.com/mac/)

Microsoft PowerPoint (http://www.microsoft.com/mac/)

Multi Ad Creator 6.x (http://www.creatorsoftware.com/)

NewTek LightWave 7.5 (http://www.newtek.com/buynow/lw_products.html)

Nisus Writer Express (http://www.nisus.com/Express/)

OmniGraffle (http://www.omnigroup.com/applications/omnigraffle/)

OmniOutliner (http://www.omnigroup.com/applications/omnioutliner/)

Plasq Comic Life (http://www.plasq.com)

Purgatory Design Intaglio (http://purgatorydesign.com/Intaglio/index.html)

ShapeOnYou (http://ktd.club.fr/programmation/shapeonyou_en.php)

Tribar Inform (http://tribarsw.net/inform/)

Wildform Flix Pro (http://www.wildform.com/flix/flix_pro.php?sid=FF78-ILA5-40a662eed377d)

Wild FX (http://www.wildform.com/wildfx/index.php?sid=FF78-ILA5-40a662eed377d)

Wouldja Software WouldjaDraw (http://www.wouldja.com/) and many more.

If you know of any other programs that are compatible with Painter's Picker, please let us know by emailing feedback@old-jewel.com.

Painter's Picker also works in many applications' preference panes (such as Apple XCode) and in a multitude of plug-ins for the many content creation programs listed above.

4.2. incompatible programs

Since Painter's Picker only exists within the confines of the Apple Color Picker, if an application does not support the Apple Color Picker, then it cannot use Painter's Picker. Among the applications that don't use Apple's Color Picker, and thus can't use Painter's Picker are:

Adobe Illustrator (http://www.adobe.com/products/illustrator/main.html)

Adobe InDesign (http://www.adobe.com/products/indesign/main.html)

Adobe GoLive (http://www.adobe.com/products/golive/main.html)

Discreet Combustion (http://www4.discreet.com/combustion/)

Synthetik Studio Artist (http://www.synthetik.com/)

Creature House Expression (http://www.creaturehouse.com/)

Microsoft LivingCels (http://www.microsoft.com/products/expression/default.asp?pg=lc)

Mozilla version 5.0 and later (http://www.mozilla.org/products/mozilla1.x/)

There are also some programs that are incompatible with Painter's Picker for some other reason. At this moment, these are the ones we're aware of:

BBEdit before version 7.1.4 (see note) http://www.barebones.com/products/bbedit/index.shtml

If you encounter any problems with Painter's Picker working with any of these programs, please email feedback@old-jewel.com to let us know about them.

4.3. special programs

Some applications will work with Painter's Picker, but only under certain circumstances, or it takes a little more explaining to understand how to use them with Painter's Picker.

- ★ Adobe Photoshop
- ★ BBEdit
- ★ Macromedia Freehand
- ★ Konfabulator

4.3.1. Adobe Photoshop

Photoshop offers the option either to use its own color picker panel or to use Apple's.

Painter's Picker will, of course, only appear inside Apple's color picker.

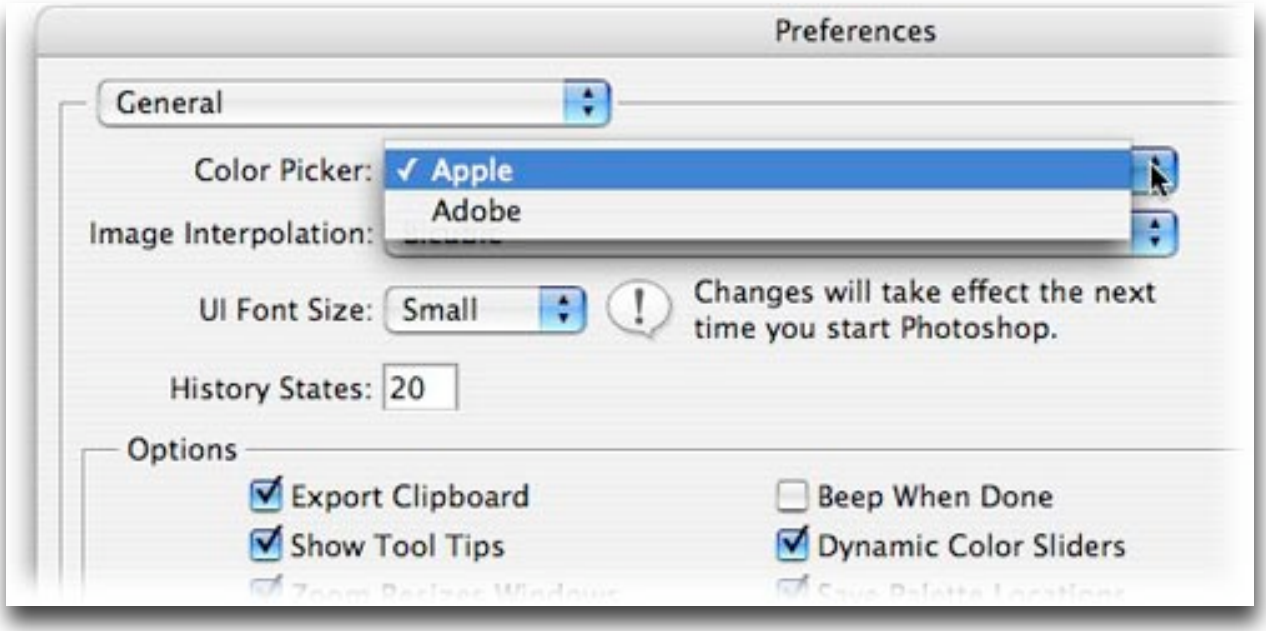
If you do not get the Apple Color Picker when you try to choose a color in Photoshop, then you need to set Photoshop to use Apple's color picker

1) With Photoshop running, open the Photoshop application menu and choose Preferences.

2) Choose General from the submenu.

3) When the preferences dialog appears, look for the popup menu at the very top. It will have a label saying "Color Picker" beside it and will only have 2 options:Apple or Adobe.

4) Change this popup menu to say "Apple", then click OK.



The next time you choose a color in Photoshop, you'll get the Apple color picker and, with it, Painter's Picker.

4.3.2. BBEdit

Versions of BBEdit prior to version 7.1.4 will sometimes, but not always, crash after Painter's Picker is used to choose a color in its tag color dialogs.

According to Barebones Software, this is due to an issue with Mac OS X which they were able to to work around as of BBEdit version 7.1.4.

To avoid crashing, Painter's Picker will not load in BBEdit unless you are using version 7.1.4 or later of BBEdit.

To download the most recent version of BBEdit, you can visit http://www.barebones.com.

BBEdit lets users use the Apple color picker or its own web-safe color palette. If you try to pick a color in BBEdit but cannot load the Apple Color Picker, then you need to do the following:

1) Choose "Preferences" from the "BBEdit" menu.

2) Click the "HTML Colors" list item.

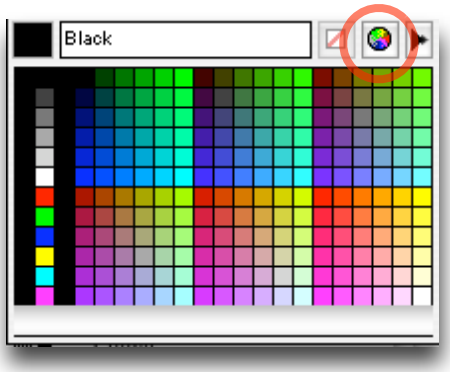
3) In the radio group labeled "Color Picker", choose "Apple Color Picker".

Now whenever there is a color well in any BBEdit dialog (such as the "Body Properties..." menu item), you should be able to use Painter's Picker.

4.3.3. Macromedia Freehand

Macromedia Freehand attempts to give users the best of both worlds: a quick-access color palette with a relatively small number of colors, and access to the Apple Color Picker to choose any other color you may wish. However, some users have had trouble finding out how to access the Apple Color Picker from inside Freehand.

To change the stroke color of an object in Freehand:



1) choose the object and then open the object properties palette.

2) select the row for the stroke value of the object.

3) click the color box below, a popup window with a range of color values will appear.

4) on the top-right of the popup window is a button with an icon that looks like a color wheel, click this button

5) the Apple Color Picker will appear. Choose Painter's Picker as usual and choose your color.

6) click OK. The object's stroke will now have changed.

A similar process can be used to change an object's fill color, or the color of text, or any other color variable that Freehand lets you change.

4.3.4. Konfabulator

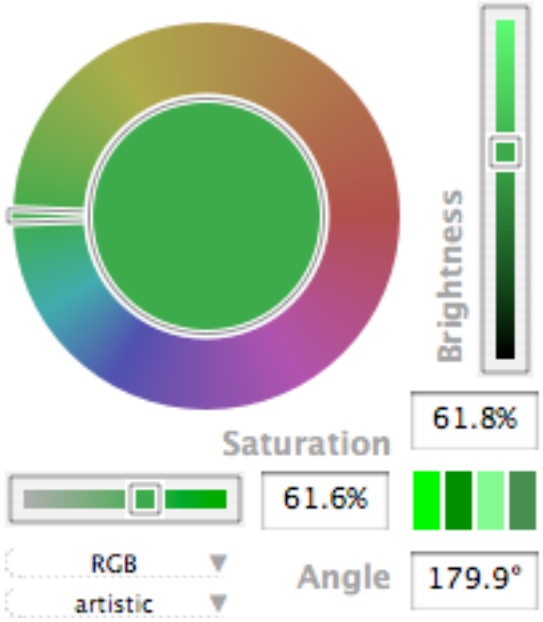
Because of the way Konfabulator displays its color panel, Painter's Picker cannot display either the "About Painter's Picker" or the "Make Color List" sheets.

If you want to use these functions of Painter's Picker, please load it from another program.

5. Picking a Single Color

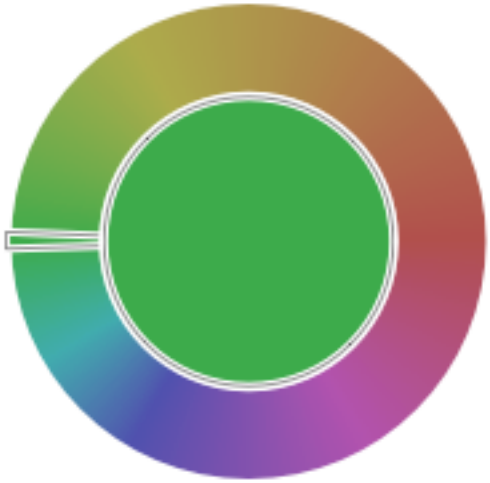
To choose a single color using Painter's Picker, there are 4 controls that you should be aware of: the color wheel, the brightness slider, the saturation slider and the color space popup. By using these four, you can choose any color that you may want with a speed and accuracy that will surprise you.

Painter's Picker distinguishes between the key color and the selected color. For the purposes of this section, though, they can be considered the same thing.



5.1. The Color Wheel

The Color Wheel lets you choose the hue of the color you would like. It is made up of 2 parts: the Hue Angle Slider and the Color Well.



The Color Well sits in the middle of the Color Wheel and displays the key color. (more about the Color Well).

The Hue Angle Slider is the ring of colors surrounding the Color Well. It lets you change the hue of the key color. The Hue Angle Slider works much like any other slider that you've used in the past. To change the hue of the key color, simply click on the color you would like in the Hue Angle Slider. You will notice that the Hue Angle Slider's knob moves to the spot where you clicked and the color in the Color Well changes automatically. You can also drag the Hue Angle Slider's knob to gradually change the color. (more about the Hue Angle Slider).

5.2. The Brightness and Saturation Sliders

There's more to a color than its hue. Colors can be light or dark, intense or dull. The brightness and saturation sliders will let you adjust the brightness and saturation of the selected color.

The Brightness Slider is to the right of the Color Wheel. It works just like any other slider you've ever used. Move its knob up to make the selected color brighter, or move it down to make the selected color darker. (more about the brightness slider)

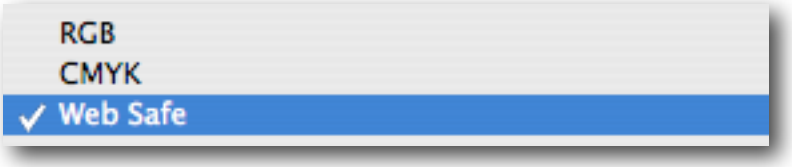
The Saturation Slider is below the Color Wheel and lets you adjust the selected color's saturation. Move its knob to the left to make the selected color duller or more washed out. Move it to the right to make the selected color more intense. (more about the saturation slider)

If you can't see the Brightness Slider and the Saturation Slider, then perhaps your color picker panel is too small.

5.3. The Color Space Popup

Perhaps you're working on a magazine cover that will go to a four-color printer. You will want to choose CMYK colors rather than RGB colors. Or maybe you're working on a website and want to only use Web-Safe colors. Different jobs require different kinds of colors, and Painter's Picker lets you narrow your choices with the Color Space Popup.

The Color Space Popup is right below the saturation slider. Click it to get a choice of color spaces you can use. Select a new color space, and notice that the Color Wheel and other controls automatically adjust as necessary.

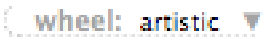


If you can't see the Color Space Popup, then perhaps your color picker panel is too small.

5.4. Other Controls that may be useful

Painter's Picker provides a variety of ways to pick colors with industry-leading precision. There are several other controls that may help you get just the color you're looking for. They will be described more later on in this manual, but they deserve a mention here.

• The Wheel Type Popup will let you switch between artistic and standard wheel types.



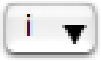
• The Swatches will give you quick access to common value presets.

• The Text Fields let you change color values by typing in numerical values and by even by entering mathematical expressions.

• The Actions Popup Menu gives you access to all kinds of presets and shortcuts.

• There are several presets menus that can be accessed from various places in Painter's Picker.

• The Color Info Popup gives you information about the current color.



If you can't see these other controls, then perhaps your color picker panel is too small.

6. Picking a Color Scheme

As quick and accurate as Painter's Picker is at choosing individual colors, that's not what it's designed for. Painter's Picker shines when it's used to create complete color schemes from a single color.

Painter's Picker uses schemes to calculate color relationships. A scheme is just a set of formulae that the computer can use to determine which colors are related to which other colors in a given way.

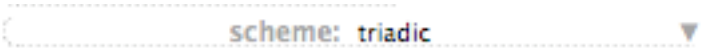
Each scheme is a separate way of calculating color relationships. The most immediately recognized color relationship is , of course, the complementary color. The next most commonly known is probably the analogous color scheme. And of course most people can recognize when several colors clash, but could they guess ahead of time which colors are most likely to clash with a given color? Or could they quickly identify a set of equally analogous colors from any color on the color wheel? Painter's Picker makes these kinds of calculations as easy as moving a slider and choosing from a menu.

The slider is the Hue Angle Slider, which you've already learned about. The menu is the Scheme Popup.

- ★ The Scheme Popup
- ★ The Color Well and Multi-Colored Schemes
- ★ Getting a clearer look

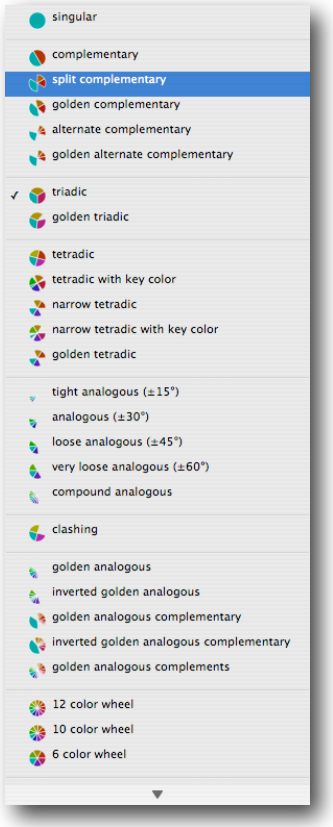
6.1. The Scheme Popup

Below the Wheel Type Popup and above the Actions Popup Button is the Scheme Popup. The Scheme Popup lets you choose which scheme you're using at the moment. If you've been following this manual in order, then you've seen one scheme so far, the singular scheme. Painter's Picker supports 25 schemes in all.



Choosing a new scheme is a simple matter of clicking the Scheme Popup and choosing a scheme from its list. As soon as you choose a new scheme, the Color Well breaks into arcs of color representing that scheme.

To help you choose the scheme you want, the scheme menu will show a little preview of what each scheme will look like using your current key color.



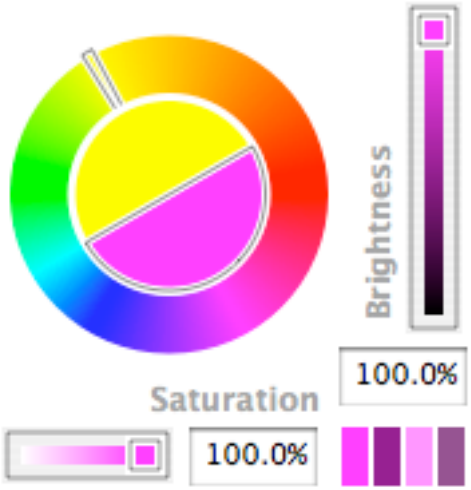
6.2. The Color Well and Multi-Colored Schemes

The job of the Color Well is to show you all the colors in a given scheme and to give you a general idea of their relative weight.

For instance, if you choose the "complementary" scheme, then the color well splits into two equal arcs. The first arc, the one where the Hue Angle Slider's knob points, shows you the key color. The second arc shows the key color's complementary color. The arcs are equal in size to indicate that a composition with this scheme tends to work well when both colors are equally represented (at least that's the simplest way to use the complementary scheme).

When you first choose the complementary scheme, the key color has a black outline around it which the complementary color doesn't have. You can notice that the brightness and saturation sliders and the swatches all display the key color, and the Color picker palette's color field also shows the key color. This means that the key color is also the currently selected color.

However, you can select the complementary color simply by clicking its arc in the Color Well. As soon as you click the complementary color's arc, the black outline surrounds the complementary color, the brightness and saturation sliders change to the complementary color (as well as the swatches), and the color picker palettes color field changes to the complementary color.



At this point, the key color and the selected color are not the same. Notice that the Hue Angle Slider's knob still points to the key color, not the selected color.

You can change the key color by simply dragging around the Hue Angle Slider's knob. However, as soon as the knob gets moved, the key color and selected color become one and the same again.

If you change to another scheme, the key color is again selected.

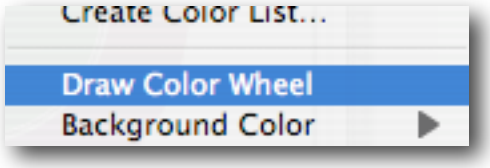
Clicking on a color in the color well will select that color. Double-clicking will make that color the key color.

There are several more tricks to working with schemes in the Color Well, and they are described in the section on the Color Well.

6.3. Getting a clearer look

When you're trying to see if a particular set of colors will give the effect you want for your design, you may want to look at the colors in isolation. All the other colors in the Hue Angle Slider may distract your eye.

Painter's Picker will let you turn off drawing the Hue Angle Slider so that you only have to see the colors in the scheme you're choosing. To do this, simply open the Action Menu and choose "Draw Color Wheel". The "Draw Color Wheel" menu item will be checked if Painter's Picker is set to draw the color wheel in the Hue Angle Slider or unchecked if you've set it to not draw the color wheel.



You'll also notice that, on slower systems, when the brightness or saturation sliders are dragged, the color wheel is temporarily hidden. This is meant to improve Painter's Picker's responsiveness during drags.

7. The Schemes

To describe the function of all the schemes would require a complete book in itself, and many have been written. This is not meant to be such a treatise. Just a simple once-over that describes the kinds of schemes that Painter's Picker offers.

7.1. Singular

The singular scheme simply shows one color at a time Using the singular scheme is described in Picking a Single Color.

7.2. Complementary Schemes

Anyone who has taken seventh grade art knows about the 12 color wheel and at least that red is the complement of green and blue is the complement of orange.

An example of a complementary scheme would be

yellow 120° violet 300°

In addition to the complementary scheme, there's also what's known as the split complementary scheme. The split complementary scheme uses the key color and two colors that are equidistant from the key color and near the opposite side of the color wheel. Painter's Picker makes this kind of relationship very easy to see. It's literally as if the complementary color had been split in half, and each half took on the characteristics of a color nearby the complementary color.

Painter's Picker provides two split complemtary schemes. One is the traditional split complementary scheme where the two complements are each offset 30° from the complementary color. The second is called "golden complementary", because it is based on the angles of a golden triangle.

An example of a split complementary scheme would be

violet 300° yellow-orange 90° yellow-green 150°

and an example of a golden complementary scheme would be

violet 300° orange-ish yellow-orange 84° greenish yellow-green 156°

A more advanced color scheme is what's known as the alternate complementary scheme. You can think of the alternate complementary scheme as a split complementary scheme with the complementary color added back into the mix. The result is a scheme with 4 colors that are balanced very precisely. Alternate Complementary schemes are considered by most people to be much harder to use effectively than most other schemes.

Painter's Picker offers 2 alternate complementary schemes. One is the traditional alternate complementary scheme that is based on the traditional split complementary scheme. The seond is the "golden alternate complementary", based on the "golden complementary" scheme.

An example of an alternate complementary scheme would be

blue 240° orange 60° yellow-orange 90° red-orange 30°

and an example of a golden complementary scheme would be

blue 240° orange 60° yellowish yellow-orange 96° reddish red-orange 24°

7.3. Triads

A triadic scheme is one which has three colors that are balanced so that, if they were paints and mixed together, they would produce a neutral gray. In reality, the split complementary schemes are really just a special kind of triad. Still, when people think of triadic schemes, they tend to think of colors that are well separated on the color wheel, such as red-yellow-blue.

Painter's Picker provides two kinds of triadic scheme. The fist is the traditional triadic scheme that is so recognizable to people who have played with a color wheel. It is based on an equilateral triangle:

red, yellow, blue;

green, orange, violet;

yellow-orange, blue-green, red-violet.

The other is called "golden triadic", and is based on the angles of an isosceles triangle with angles of 36°, 36° and 108°, a set of number closely related to the golden section. This scheme provides colors just slightly different from the traditional triadic scheme, lending slightly more weight to the key color. It tends to be very useful in certain situations when dealing with Web-Safe Colors.

A good example of a golden triadic scheme is:

red 0° yellowish 108° bluish 252°

7.4. Tetrads

Where a triadic scheme is based on a triangle, a tetradic scheme is based on a rectangle. Tetradic schemes tend to be rather unwieldy for people trying to design balanced compositions, but many artists do fascinating things with them.

A note about key colors:

Tetradic colors are sometimes calculated as having 5 colors: the key color, and four other colors that are equidistant from the key color in groups of 2. This kind of color scheme can have a very striking effect.

In all, Painter's Picker offers five Tetradic schemes. A "tetradic" and "tetradic with key color" based on a square lead the group. Then there's also a "narrow tetradic" based on a rectangle with 2 sides twice as long as two other sides, and its key color counterpart. Finally, there's a "golden tetradic" based on the angles of the golden rectangle.

A good example of a tetradic scheme is:

red 0° yellow-orange 90° green 180° blue-violet 270°

and its key color equivalent would be:

red-orange 30° red 0° yellow-orange 90° green 180° blue-violet 270°

A narrow tetradic color scheme might look like this:

red-orange 30° yellow-orange 90° blue-green 210° blue-violet 270°

Examples of the other two can be left as an exercise for the reader.

7.5. Analogous Schemes

You can think of an analogous scheme as a scheme that shows colors that look very similar, at least in terms of hue. Analogous schemes tend to be common in nature. Think of the shades of yellow to orange on a peach or the range of yellow-greens to blue-greens in the leaves of the trees at a park. Analogous schemes are all about subtle gradation.

Painter's Picker gives you lots of flexibility in just how flexible that gradation should be. You can choose from four different analogous schemes, ranging from schemes where all three colors are very closs together ("tight analogous") to schemes where the colors are very far apart and just barely related ("very loose analogous").

Painter's Picker also offers a sort of meta-analogous scheme. "Compound Analogous" will give you all the colors from all four analogous schemes in one shot. This results in a color scheme that gives you lots of variation on a single hue, great for subtle shading or fine detail.

An analogous scheme based on green is:

green 180° yellow-green 150° blue-green 210°

A compound analogous scheme also based on green gives you:

yellow 120° yellowish yellow-green 135° yellow-green 150°

greenish yellow-green 165° green 180° greenish blue-green 195°

blue-green 210° bluish blue-green 225° blue 240°

7.6. Spread Schemes

Painter's Picker 2.1 adds the concept of spread schemes, analogous schemes where the distance between adjacent colors varies. There are 2 kinds of spread schemes in Painter's Picker 2.1, golden spread schemes and inverted spread schemes. In the golden spread schemes, 4 pairs of adjacent colors spread out from the key color, but each pair is slightly less far out than the previous pair. Inverted schemes work the exact opposite, with each adjacent pair being slightly farther away from the key color.

Complementary spread schemes work much like the analogous spread schemes, except that the spreads move out from a key color's complement, rather than from the key color itself.

Finally, the golden analogous complements scheme sets up 2 golden spreads 180 degrees from one another, creating 9 different sets of complements that gravitate toward a key color and its complement.

These spread schemes are very dense in the number of colors they use. They may be hard to use effectively at first, but hopefully more advanced artists will find them helpful.

7.7. Clashing

Painter's Picker can find colors that look great with any color, or it can find colors that clash with the key color. There are times when you actually want to use clashing colors, and Painter's Picker is more than happy to comply.

One of many potential clashing color relationships:

red-violet 330° orange 60° blue 240°

7.8. Color Wheels

Sort of omnibus color schemes, color wheels offer up sets of equidistant colors.

The one that should come to mind almost immediately is the 12 color wheel. Painter's Picker allows you to arbitrarily turn the 12 color wheel, though, to see what it looks like when offset by some amount.

A beautiful effect is to offset the twelve color wheel by 15°.

This creates a set of colors that would be almost impossible to achieve by mixing paints, yet is as attractive as any other 12 color chord.

Painter's Picker also offers a ten color wheel and a 6 color wheel.

7.9. Gradations to a Point

All the color schemes discussed so far are calculated based around the key color in one way or another. Yet there are some concepts of color that have to do with extremes, such as hot, cold, light and dark.

Painter's Picker can calculate schemes that determine gradations from one extreme or another. It will find a set of colors equidistant between the key color and the extreme color.

For instance, the "cooler" scheme will calculate a set of gradated hues between the key color and blue-green, which is usually considered the coolest hue in the color wheel.

"Warmer" does the same calculation relative to red-orange.

According to some theories about color, yellow is considered the lightest hue (imagine trying to read a book with yellow type). The "lighter" theme calculates a gradation of colors from the key color to yellow.

If yellow is the lightest color, then violet is considered the darkest. The "darker" scheme calculates a set of gradations from the key color to violet.

8. Understanding Web Safe Colors

Web Safe colors present a unique problem for Painter's Picker. The web safe color space contains only 216 colors, while Painter's Picker is designed to work with literally millions of colors. Also, the Web Safe color space was based on an 8-bit RGB color space, meaning that the colors are aligned along an axis of red, green and blue, rather than red, yellow and blue, as artists would prefer. (see The Wheel Type Popup for an explanation). As a result, many schemes won't give especially accurate results when you're using the Web Safe color space.

Instead of just refusing to show a color unless it's exact, Painter's Picker uses the power of estimation. Whenever it's trying to draw a color, whether in the Color Wheel, the Swatches, the presets menus or the brightness and saturation sliders, Painter's Picker will determine the closest web safe color to the color that it has calculated. It will then draw that color.

But how do you know how far off Painter's Picker's estimate is? The Color Well will tell you. When the Color Well draws a color that's been estimated, it calculates how far off the estimate is from the actual color that was calculated. It then adjusts the size of the arc for that color appropriately.

So , when you look at a small arc in the Color Well, that means that the Web-Safe color is not very close to the RGB color that would be displayed there. If the arc is relatively large, then the color is very close.

If the key color is not exactly dead on, you can double-click it to change it to the exact color that matches. You can also do the same thing by control-clicking in any color in the color well and choosing "web safe". If a color is already dead on, then the menu item "web safe" will be checked already and choosing it will just make that color key.

So that's individual colors, but what about schemes? Painter's Picker will often end up showing schemes where some of the colors are dead on while others are way off. What you may want to know then isn't so much how close one color is, but if the colors of the scheme are all roughly equally close or not.

The Color Well obliges by drawing a circle that is exactly as wide as the key color's arc. With this circle, you can see pretty quickly how Painter's Picker's confidence in the key color compares to its confidence in the other colors. If all the colors are relatively close to the line, then the line will be thinner and lighter. If they vary a lot in their distance from the line then the line will be thicker and darker.

These tricks are meant to offer suggestions to you. If all the color arcs are rather small, yet they all line up more or less on

the line, then perhaps you'll still want to use those colors. Or perhaps you'll choose to try different but related schemes to get closer matches. Or perhaps you'll ignore the line completely if you're not especially concerned with exactness (the masters, though very skilled at mixing colors, certainly never were able to achieve the accuracy of a computer). In the end, only your eye can decide if the colors Painter's Picker is suggesting are appropriate for your work.

9. Working Well with Others

Painter's Picker is meant to be used within many different applications and, for this reason, it is designed to exchange color information with other programs easily.

9.1. Features of Apple's Color Picker

As a color picker extension, Painter's Picker works inside Apple's Color Wheel and can leverage many of its features.

9.1.1. Taking Colors from Other Pickers

Painter's Picker will, of course, accept colors from other color pickers. Choose a color from the Image Palettes picker, and that color will be the key color in Painter's Picker. Choose a CMYK color from the Color Sliders picker and Painter's Picker will set that color and switch to the CMYK color space.

If you select a color that Painter's Picker is already displaying in its current scheme, then it will try to select the color, rather than making it key.

The one exception to this rule is colors that are made up of patterns. In Mac OS X, a pattern can be a color. A good example of this is the "windowBackgroundColor" color from the "Developer" list in the "Color palettes" color picker. Painter's Picker does not understand patterns and

cannot use them. If you try to set Painter's Picker to a pattern color, it will just beep and ignore your change.

9.1.2. The Color Sampler

Perhaps you want to choose a color that's somewhere on the screen, like maybe the background color of a web page. Apple provides a simple way to do this. At the top of the COlor Picker Panel is a magnifying glass icon. If you click this icon, your cursor becomes a magnifying glass that can move all over the screen. Click your mouse button, and wherever that magnifying glass is, the color of that pixel becomes the selected color in Painter's Picker.

This isn't exactly a feature of Painter's Picker, but it is a very useful trick for working with color.

9.1.3. The Auxiliary View

At the bottom of the Apple Color Picker Panel is a field of color swatches. If you don't see them , then you may need to drag the bottom of the window to reveal them.

This field serves as a universal place to store colors within any application, even across restarts. You can drag a color into any space in the field and it will stay there as long as you want. Click any color in the field and Painter's Picker automatically selects it.

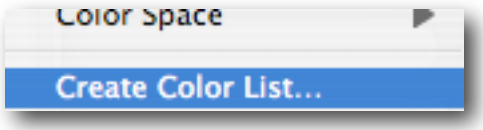
9.2. Dragging

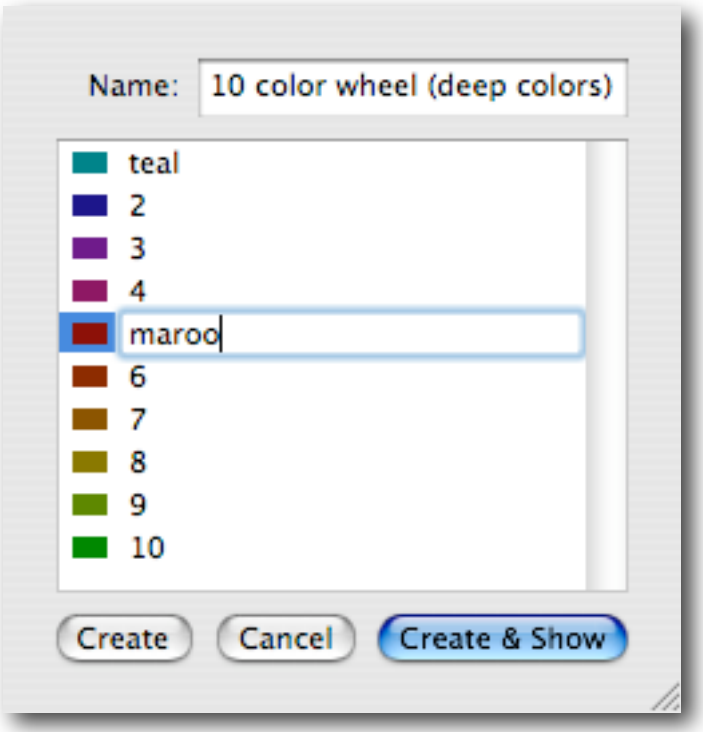
A surprising amount of Mac OS X can receive a dragged color. You can drag colors onto selected text, onto color wells, even directly onto shapes in some applications (like OmniGraffle). It's always been possible to drag a color from the color frame at the top of the Apple Color picker Panel. Painter's Picker goes one further, though.

You can drag colors directly from the color well or from the Swatches onto anything in Mac OS X that will accept a drag. Simply click and drag from a color's arc in the color well, or from one of the swatches and the color will appear as a square under your mouse. Then drop the color square over some selected text, or a color well, or the Auxiliary View's color field, or anything else that will accept a drag.

9.3. Creating Color Lists

When you've hit upon a scheme that you really like, and you plan to use it over and over, you may not want to have to use Painter's Picker every time to get the same scheme, as easy as that may be. Instead, you may choose to save the scheme as a color list. Color Lists are global lists of colors that can be accessed from the Color Palettes color picker.





To save the current scheme as a color list:

1) Click the Actions Popup Menu and choose "Create Color List…". A sheet will appear

2) The color list's name appears at the top of the sheet. Enter a new name if you'd like.

3) By default, the colors are named simply with numbers. You can rename them if you would like by double-clicking each name and typing a new one.

4) Click "Create" to create the color list and return to Painter's Picker OR click "Create and Show" to create the list and switch to

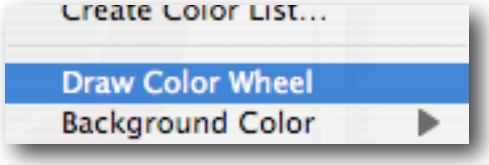
the Color Palettes color picker and see the new list.

The next time you need the colors from that list, simply open the Color palettes color picker and choose the name of the list from the popup menu labeled "List".

10. When you don't want to see all those colors

If you are really intent upon finding exactly the right colors for your design, then you may find that the colors in the Hue Angle Slider are distracting you from your real work, or even distorting the colors you're looking for. It is possible to tell the Hue Angle Slider to not show the color wheel and instead to just draw a neutral gray background.

To tell the Hue Angle Slider to not draw the color wheel, click the Actions Popup Menu and choose "Draw Color Wheel". The Hue Angle Slider should immediately update to draw a just a gray ring, and the next time you look in the Actions Popup Menu, the option to "Draw Color Wheel" should not be checked.



The Hue Angle Slider will behave just as before, simply not drawing the color wheel.

To turn color wheel drawing back on, simply repeat the steps.

You will notice that, on slower computers, Painter's Picker automatically turns color wheel drawing off when you drag the brightness or saturation sliders, whether you've turned it off in the Actions Popup Menu or not.

11. When the Color Picker Panel is too small

Painter's Picker contains a fairly large and complex set of controls. So many, in fact, that a small Color Picker Panel can't fit all of them.

If you resize the Apple Color Picker Panel to make it too small for all of Painter's Picker's controls, then it will simplify matters by just showing the Color Wheel and the Actions Popup Menu. Beleive it or not, because of the very complete nature of the Actions Popup Menu, many people find this arrangement satisfactory for most of their work.

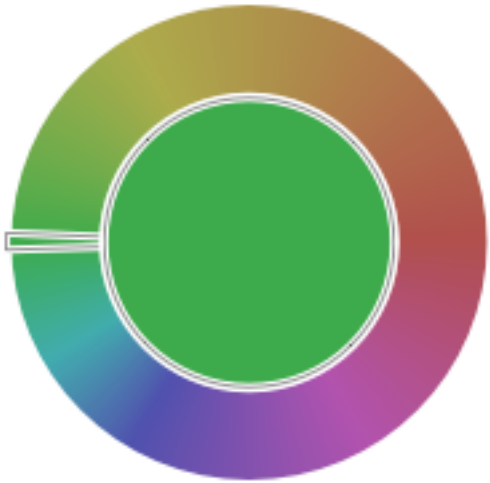
When Painter's Picker is in this state, an extra button with an arrow for a title appears in the bottom-right of the Color picker Panel. If you click this button, it will resize the Color Picker Panel to be just large enough to to show all of the controls again.

Of course, you can also simply resize the color picker panel to make it larger again.

12. Using the Controls

Painter's Picker uses a range of controls to find just the right color. If you've been reading this manual linearly, then you've discovered almost all of them by now. Consider this a quick reference.

12.1. Color Wheel



The Color Wheel is the center of Painter's Picker. It is where you see the key color and selected color. It's also where you select hues.

The Color Wheel is separated into two parts: the Hue Angle Slider and the Color Well.

- ★ Color Well
- ★ Hue Angle Slider

12.1.1. Color Well

The Color Well is the central section of the Color Wheel that shows all the colors in the current scheme. If the current scheme is "singular", then the entire color well is filled with a circle of a single color. If, however, the current scheme has more than one color, then the color well is split into several arcs of varying sizes.

Each arc represents a color relative to the key color. The key color is whatever color is pointed to by the Hue Angle Slider's knob. The arcs vary in size to give an idea of the relative weight of each color within the scheme. For instance, in the split complementary scheme, the key color tends to be used roughly twice as often as the other two colors, so it is twice as big.

The Color Well also displays the selected color. The Color Well distinguishes the selected color by drawing a black outline around it. To change the selected color, click the arc of the color you would like to select.

To make a color the key color, double-click its arc. If you double-click the key color, you will switch to the next scheme. If you hold down the option key while double-clicking the key color, you'll switch to the previous scheme.

You can control-click on any color's arc to see the Color Info Menu, which gives vital information about that color.

You can control-click on any white-space to see the schemes preset menu and change the current scheme.

You can also drag a color from the color well as described in this manual's section on dragging.

The Color Well has special behavior to help you understand the accuracy of color calculations in the Web Safe color space. You can read more about these special features in the section on understanding Web Safe Colors.

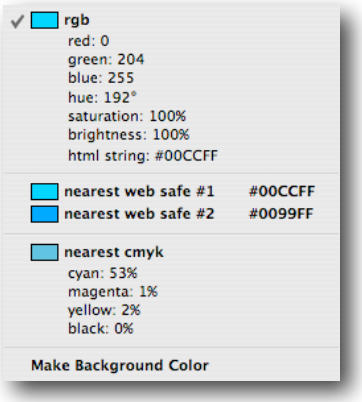
The Color Well will also respond to the scroll wheel. If the cursor is over the Color Well, you can scroll up and down to change the brightness of the scheme. You can hold down the shift key and scroll to change the saturation, or you can hold down the option key while scrolling to move through the different schemes. This can be a very handy trick when your color panel is very small.

The color well's background color can be changed, either by selecting a new value in the background color menu or by using a color's info menu.

12.1.1.1. Color Info Menu

The Color Info Menu gives you vital statistics about a given color and lets you choose similar colors.

To view the color info menu for a certain color, control-click its arc in the Color Well.



There are three kinds of menu items in the Color Info Menu. Informational menu items give you some statistic about a color, related color menu items let you switch to a related color in a different color space and you can also change the color well's background color by choosing "Make Background Color" in a color's info menu.

The exact makeup of the Color Info Menu depends on the current color space.

12.1.1.1.1. Informational Menu Items

For any color, the Color info Menu will provide several menu items that tell vital statistics about that color. For instance, an RGB color will tell you the rgb values of the color, the hsb values, and the html hex string for the color. This gives you quick, one-click access to important information about any color in the scheme.

If you would like to copy the data in any of these informational menu items, simply choose them from the Color info Menu and then paste into whatever text area you would like in any application.

For example, here is the the rgb value of this red-violet color:

red: 255

green: 0

blue: 89

and here is its hex string:#FF0059

Both of these were accessed just now by your friendly author simply by right-clicking on the color and choosing the appropriate data from the menu, then pasting into this file.

It should be noted that the "h" value in the hsb menu item will often be different from the value in the Angle Text Field. For one thing, the Angle text field always shows the angle of the key color, while you can bring up a Color Info Menu for any color in the current scheme. Also, the angle as described by the Angle text field is the angle of the key color within the RYB or artistic

color wheel. Your macintosh uses an RGB or standard color wheel to calculate HSB values, and the Color Info Menu is meant to give you the information you need to replicate the color in other Macintosh applications, so it presents the h value as if it were in a RGB color wheel. Of course, if you've set the wheel type to standard, then this is moot.

12.1.2. Hue Angle Slider

The Hue Angle slider gives you a quick way to select the hue of your key color.

The Hue Angle Slider shows every color that has the current brightness and saturation in a wheel shape around the color well. Its knob is a thin sliver that acts like a magnifying glass over the position of the key color.

To change the key color, you can click anywhere in the Hue Angle Slider. The knob will move to that position as the key color automatically changes and the Color Well redraws the current scheme based on the new key color.

You can also drag the Hue Angle Slider's knob around to gradually change the key color and watch the other colors get redrawn automatically.

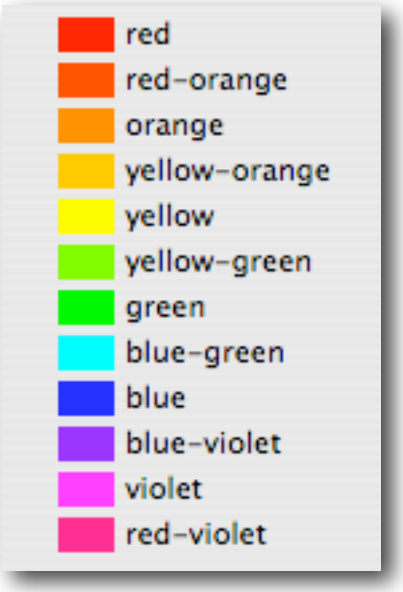
Control-clicking on the Hue Angle Slider brings up the Hue Angle Presets Menu.

The Hue Angle Slider will also respond to the scroll wheel. Hover the mouse over the Hue Angle Slider and turn your scroll wheel down to move the knob clockwise. Turn your scroll wheel up to move counter-clockwise.

12.1.2.1. Hue Angle Presets Menu

The Hue Angle Presets Menu lets you quickly set the key color to any of the 12 colors on the traditional 12 color wheel. Just select one to set the key color to that color. The Hue Angle Presets Menu will only change the hue of the key color. The brightness and saturation will stay the same as before.

To access the The Hue Angle Presets Menu, you can control-click on the Hue Angle Slider. It's also available from the Actions Popup Menu.



12.2. Brightness Slider

The Brightness Slider sits to the right of the Color Wheel and lets you change the brightness of the selected color, and thus of the entire scheme.

The Brightness Slider shows the actual color that will be selected inside its bar. The color is based on the current hue angle and saturation. Its knob shows the selected color.

The Brightness Slider works much like any other slider you've ever seen. To change the brightness of the scheme, you simply click anywhere on the slider or drag its knob up or down.

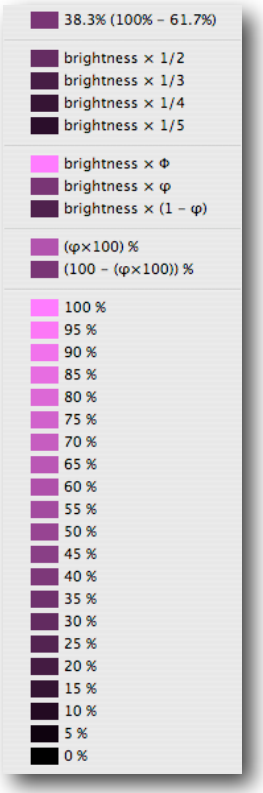
Brighter colors are at the top while darker colors are at the bottom.

Control-clicking the Brightness Slider will bring up the Brightness Presets Menu.

The Brightness Slider is also scroll-wheel enabled. Hover the cursor over the Brightness Slider and scroll up to make the selected color brighter or down to make it darker.

If you can't see the Brightness Slider, then perhaps your color picker panel is too small.

12.2.1. Brightness Presets Menu



Just like the Hue Angle Presets Menu will offer up a set of common hues that you can snap to quickly, the Brightness Presets Menu offers brightnesses that you may want to access quickly.

The Brightness Presets Menu can be opened in a couple ways. You can control-click on the Brightness Slider. You can also get to it from the Actions Popup Menu.

The Brightness Presets Menu will let you multiply the current brightness by a certain constant or choose a simple multiple of 5 or a few other popular constant values. It will not offer options that are impossible (e.g. if your brightness is at 100% already, you cannot multiply it by 2).

12.3. Saturation Slider

The Saturation Slider sits below the Color Wheel and lets you change the saturation of the selected color, and thus of the entire scheme.

The Saturation Slider shows the actual color that will be selected inside its bar. The color is based on the current hue angle and brightness. Its knob shows the selected color.

The Saturation Slider works much like any other slider you've ever seen. To change the saturation of the scheme, you simply click anywhere on the slider or drag its knob left or right.

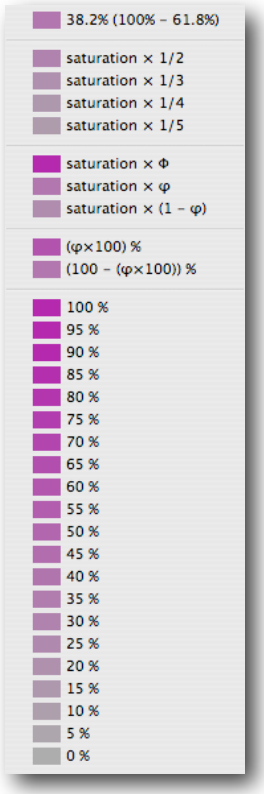
Duller (less saturated) colors are on the left while richer (more saturated) colors are on the right.

Control-clicking the Saturation Slider will bring up the Saturation Presets Menu.

The Saturation Slider is also scroll-wheel enabled. Hover the cursor over the Saturation Slider and scroll up to make the selected color more saturated or down to make it less saturated.

If you can't see the Saturation Slider, then perhaps your color picker panel is too small.

12.3.1. Saturation Presets Menu



Just like the Hue Angle Presets Menu will offer up a set of common hues that you can snap to quickly, the Saturation Presets Menu offers saturations that you may want to access quickly.

The Saturation Presets Menu can be opened in a couple ways. You can control-click on the Saturation Slider. You can also get to it from the Actions Popup Menu.

The Saturation Presets Menu will let you multiply the current saturation by a certain constant or choose a simple multiple of 5 or a few other popular constant values. It will not offer options that are impossible (e.g. if your saturation is at 0% already, you cannot multiply it by 1/2).

12.4. Swatches

There are some values of brightness and saturation that are very commonly used. Of course, a pure color where both brightness and saturation are both 100% is very much more common than a color whose saturation is 36% and brightness is 79%. The Swatches control gives you quick, one click access to these common colors.

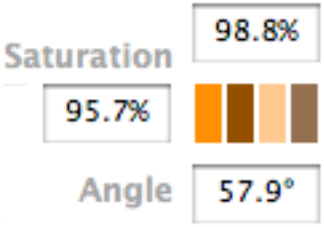
The Swatches are located right in the middle of the Text Fields, below the brightness text field and beside the saturation text field. There are four swatches, and they have names.

The first represents the selected color at 100% brightness and saturation. It's called "pure".

The second represents a color that is 100% saturated but only 50% bright. It's called "half-bright".

The third color has a saturation of 50% and a brightness of 100% and is called "half-saturated".

The final is called "muddy" and represents the selected color with a brightness and saturation of 50%.



Here is a table of the colors the swatches show for a greenish-blue color with a hue of 225°:

pure 100% 100%

half-bright 100% 50%

half-saturated 50% 100%

muddy 50% 50%

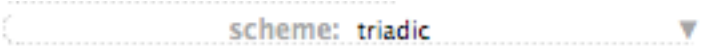
To make one of the colors in the swatches the selected color, just click on it. The result will be that all the colors in the scheme will change to the saturation and brightness of the swatch you chose.

The swatches can also be dragged, as described in this manual's section on dragging.

Control-clicking on a swatch will bring up a color info menu for that color.

If you can't see the Swatches, then perhaps your color picker panel is too small.

12.5. Scheme Popup



The Scheme Popup is the simplest way to change the current scheme.

It is right near the bottom of the Painter's Picker window, below the Wheel Type Popup and above the Actions Popup Menu.

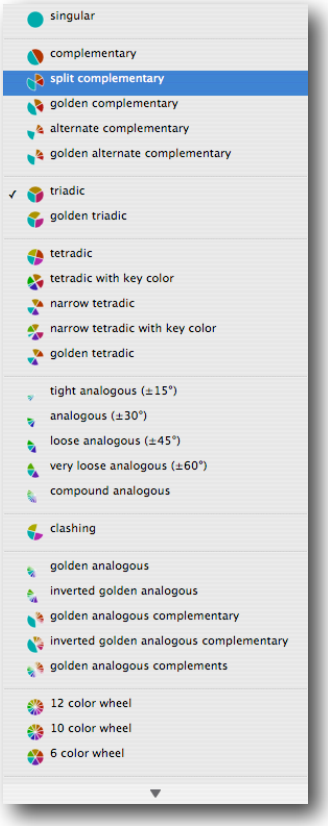
It will usually appear as the word "scheme" in gray letters followed by the name of the current scheme in black letters. If, however, there is not enough room, then the label "scheme:" will be discarded, and only the name of the current scheme will be visible.

To change the current scheme, simply click the Scheme Popup to bring up the Schemes Preset Menu and then choose the scheme you would like.

Like the Color Space Popup and the Wheel Type Popup, the Scheme Popup will draw an outline around itself when your mouse floats over it. It will also allow you to change its value simply by hovering your mouse over it and rolling the scroll wheel up and down.

If you can't see the Scheme Popup, then perhaps your color picker panel is too small.

12.5.1. Schemes Preset Menu



The Schemes Preset Menu appears in the Scheme Popup, in the Actions Popup Menu, and also in the Color Well in any space where there's not a color arc.

To change the current scheme, just open the Schemes Preset Menu from any of these locations and then choose the name of the scheme you'd like to use.

12.6. Color Space Popup

At different times, you may want to choose colors from different color spaces. For instance, when working on a web page, you may find it helpful to restrict yourself to the We-Safe Color Space, while designing a page layout for a magazine may require you to work exclusively in the CMYK space.

The Color Space Popup will let you choose different color spaces based on the task at hand.

The Color Space Popup is directly under the Saturation Slider.

It will usually appear as the words "color space" in gray letters followed by either the name of the current color space in black letters. If, however, there is not enough room, then the label "color space:" will be discarded, and only the name of the current color space will be visible.

If you want to change the color space, click the Color Space Popup and choose the color space you want.

Like the Wheel Type Popup and the Scheme Popup, the Color Space Popup will draw an outline around itself when your mouse floats over it. It will also allow you to change its value simply by hovering your mouse over it and rolling the scroll wheel up and down.

If you can't see the Color Space Popup, then perhaps your color picker panel is too small.

12.7. Wheel Type Popup

Painter's Picker is designed mainly to be used as a "RYB" or "artistic" color wheel. However, the rest of Apple's color pickers use a "RGB" or standard model. While 90% of the time you will want to use the artistic color wheel, Painter's Picker offers both.

The Wheel Type Popup is directly under the Color Space Popup.

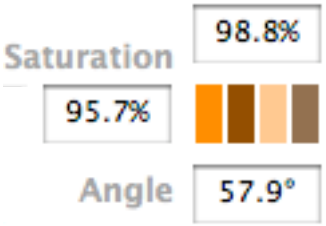
It will usually appear as the word "wheel" in gray letters followed by either the word "artistic" or "standard" in black letters. If, however, there is not enough room, then the label "wheel:" will be discarded, and only the name of the current wheel type will be visible.

If you want to change the wheel type, click the Wheel Type Popup and choose the type you want.

Like the Color Space Popup and the Scheme Popup, the Wheel Type popup will draw an outline around itself when your mouse floats over it. It will also allow you to change its value simply by hovering your mouse over it and rolling the scroll wheel up and down.

If you can't see the Wheel Type Popup, then perhaps your color picker panel is too small.

12.8. Text Fields



Some people like to use the mouse to do things, and other's prefer the keyboard. While not everything can be done in Painter's Picker using the keyboard, some things can.

To the right and below the Color Wheel, just below the brightness slider are a cluster of three text fields. The three text fields let you enter numerical values for the hue, brightness and saturation of the key color.

The text fields will accept numerical values of any precision, though most people can't see the difference between a hue angle of 60.1° and a hue angle of 60.11°, so they only display color information to the tenths place.

The text fields will also accept mathematical expressions.

The text field at the top represents the brightness of the key color while the text field at the bottom shows the key color's hue angle. The text field to the right of the Saturation Slider shows the saturation of the key color.

If you can't see the Text Fields, then perhaps your color picker panel is too small.

12.8.1. mathematical expressions

The text fields will accept regular numbers for input, but they will also accept simple mathematical expressions.

For example, you could type "50+17" into the brightness field to get a brightness of 67.

The most common reason to do this would be to quickly halve or double a certain value.

For example, say that your saturation was currently 100%, but you wanted a saturation of 66.7%. You could simply click beside the 100 in the saturation field, and then type " * 2/3".

The text fields accept the following mathematical operators:

+ add
- subtract
* multiply
/ divide
() evaluate the expression inside the parentheses first

They'll also accept a few constants:

π 3.14.....
pi same as π

Φ (PHI) 1.618033988749894 (see A note about Phi and the Golden Section)
φ (phi) 0.618033988749894 (see A note about Phi and the Golden Section)
e 2.718281828459045 (see Wolfram Research's page on e)

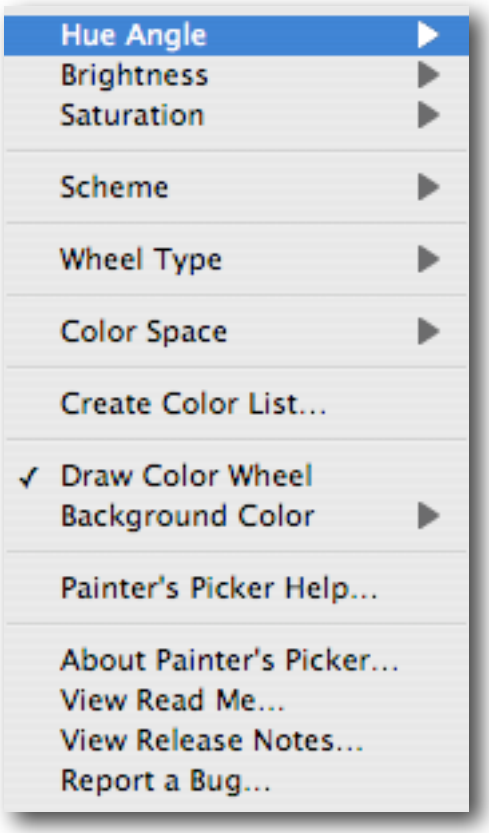
Finally, they will do simple conversions from radians to degrees:

1/2*πR = 90°
πR = 180°

$2R = 114.6°$

12.9. Actions Popup Menu

For convenience's sake, Painter's Picker puts all the Presets Menus, as well as several other menus, into one place for people that like to have quick access. This one omnibus menu is called the Actions menu, and it can most easily be accessed from the Actions Popup Menu.



The Actions Popup Menu can be found at the bottom-left of the Painter's Picker color Picker. It is a simple button labeled "Actions".

Clicking this button gives you access to many menus that are also available from other places, as well as a few commands that are only offered here.

The contents of the Actions Menu are as follows:

Hue Angle Presets Menu

•Brightness Presets Menu

•Saturation Presets Menu

•Schemes Preset Menu

• the menu from the Wheel Type Popup

• the menu from the Color Space Popup

• the Create Color List... menu item

• the menu item to turn off drawing of the color wheel

• a presets menu to change the color well's background color to many neutral colors.

• About Painter's Picker - brings up an about box telling about Painter's Picker

• View Read Me… - opens the read me first document that came with Painter's Picker

• Help… - opens this help document

• the "Report a Bug" menu item

• a "Register" menu item, if you've not already registered Painter's Picker.

In many parts of Painter's Picker, the Actions Popup Menu can be opened simply by control-clicking. You can access it anywhere there's empty space in the entire color picker.

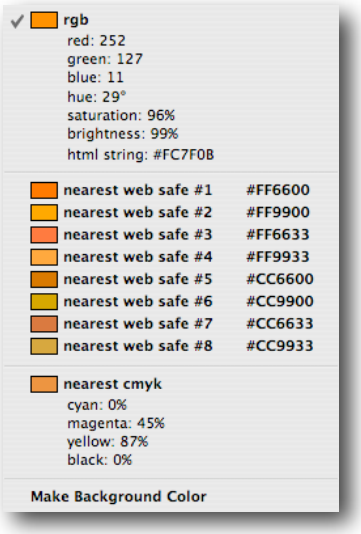
12.10. Presets Menus

Painter's Picker provides menus that give you access to commonly used brightness, saturation or hue values. These menus pop up all over the place in Painter's Picker, wherever you may want to access some quick value.

There are three of these menus: the Brightness Presets Menu, the Hue Angle Presets Menu, and the Saturation Presets Menu.

12.11. Color Info Popup Menu

New in version 2.1, Painter's Picker now has a color info popup menu. At the bottom-right of the picker is a popup button with a small "i". Click this icon to get a color info menu for each color in the current color scheme.



13. Registering Painter's Picker

Painter's Picker is shareware. If you find it useful, we ask that you please register it. Registration gives you a lifetime license to use Painter's Picker on one computer at a time and to upgrade to any new version ever released. Site licenses are also available to businesses and educational institutions upon request.

If you're not sure if you want to register, then please read the section "What does registration get me?".

To find out how much registration costs, read the section on price.

Registering Painter's Picker is a 2-step process. First you must purchase a registration code, then you must enter the registration code. Both of these functions can be accessed from the registration dialog.

To open the registration dialog:

Open the Actions Popup Menu and choose "Register Painter's Picker". The registration dialog will appear.

To purchase a registration key:

Old Jewel Software uses Kagi.com to handle our registration system. This way we can concentrate on writing software and let them handle the details of assuring secure and prompt response

to payment. You will give your registration information to Kagi.com using a secure web form in order to purchase Painter's Picker.

• Open the registration dialog by following the steps listed above.

• Click the button marked "Get Registration Key"

• Your favorite browser will launch and you will be taken to the Old Jewel Software registration page.

• Enter the number of licenses you would like to purchase in the page that appears. (An explanation of the pricing structure can be found here). Most people will choose to purchase 1 single license.

• If you would like to send a message to us, then type it into the field labeled "Enter any additional comments for the supplier here: "

• Click the button marked "Continue"

• On the next page, enter your credit card information and your email address. A valid email address is very important, since your registration code will be sent to you via email.

• Follow the directions on Kagi's site until your order has been placed.

• After your order has been processed, you will receive an email from Kagi. This process should not take longer than 5 business days. The email will include your user name and registration code.

To enter your registration key:

After you've purchased your registration code through Kagi by following the steps listed above, you will receive an email providing your registration code and your user name. The email describes in great detail how to finish the registration process, but the steps are repeated here for your convenience.

• Open the registration dialog by following the steps listed above in "To open the registration dialog".

• Type your user name, as it appears in the email, into the field labeled "User Name"

• Type your registration code (copy and paste or drag and drop may be easier) into the field labeled "Registration Key"

• Once both of these have been entered, the "Register" button will become enabled. Click it to finish registering Painter's Picker.

To check to see if Painter's Picker has been registered:

If you're not sure if you've registered Painter's Picker, there's an easy way to find out. Unregistered copies of Painter's Picker show a watermark behind the Color Wheel that says "Unregistered" It's pretty hard to miss.

★ Price
★ What does registration get me?

13.1. Price

A single user license, with a lifetime of free upgrades, costs $19.95 US.

13.2. What does registration get me?

The most important thing that registration provides is the knowledge that you're supporting innovative software on the Mac OS X platform. Without license sales, we would be unable to provide quality software like Painter's Picker. If you have an idea for a feature to add to Painter's Picker, or if you have a bug you wish to have fixed, then paying the registration fee is the best way to help your desires turn into reality. We always answer email from registered users first, and our future design goals are always weighed in favor of those who have registered.

That said, there are a few things that differ between the registered and unregistered versions of Painter's Picker. Until it's been registered, Painter's Picker will:

• show a watermark behind the Color Wheel that says "Unregistered".

• show the registration sheet automatically when you switch to Painter's Picker in some programs..

• show a button at the bottom of the picker that says “Register…"

• include a menu item in the Actions popup Menu that says "Register Painter's Picker...".

Once you have registered and entered your registration key, these restrictions will disappear.

14. Glossary

- ★ artistic
- ★ brightness
- ★ CMYK
- ★ color space
- ★ hue
- ★ key color
- ★ RGB
- ★ RYB
- ★ saturation
- ★ selected color
- ★ standard
- ★ scheme
- ★ Web Safe

14.1. artistic

adj. the kind of people that Painter's Picker wants to serve. (e.g. "Using Painter's Picker made choosing colors so much easier that I could focus more energy on being artistic.").

In Painter's Picker, "artistic" is also one of the two color wheel types you can choose from.

The artistic color wheel uses red, yellow, and blue, the traditional primary colors, as its three extremes for the purposes of calculating hue. Pure red is at 0° and 360°, pure yellow at 120° and pure blue at 240°.

Color theorists may want to call the artistic color wheel "RYB". This system emulates the way we're taught to mix colors in elementary school. It also does an excellent job of approximating how our eyes see color. Most theories of the aesthetics of color use this kind of color wheel. This is the color wheel type you'll want to use 90% of the time.

Here is a table of example color values using the artistic color wheel:

red 0°	red-orange 30°	orange 60°	yellow-orange 90°
yellow 120°	yellow-green 150°	green 180°	blue-green 210°
blue 240°	blue-violet 270°	violet 300°	red-violet 330°

And here is the same table with a brightness of 50 and a saturation of 70:

red 0°	red-orange 30°	orange 60°	yellow-orange 90°
yellow 120°	yellow-green 150°	green 180°	blue-green 210°
blue 240°	blue-violet 270°	violet 300°	red-violet 330°

To switch between an artistic and standard color wheel type, you can use the Wheel Type Popup.

14.2. brightness

the lightness or darkness of a color.

In Painter's Picker, the brightness of a color is expressed as a number between 0%, for black, and 100%.

100% can be thought of as the absolute strongest shade of the color at the given hue and saturation. For example, a color with a hue of 0°, a saturation of 100% and a brightness of 100% would be pure red.

14.3. CMYK

a color space that is used for choosing colors that will be displayed in a four-color-printing environment.

If you are working on a project intended for four-color printing (rather than ink-jet or laser printing), then you will want to use this color space.

14.4. color space

a range of colors that can be used for a specific task.

For instance, the CMYK color space is used to choose colors that can be used in four-color printing environments. The Web-Safe color space is a set of colors that all web browsers are expected to display the same way. The color space used by your computer monitor is called "RGB".

14.5. hue

the shade of a color.

For example: red, green, blue, violet, etc. In Painter's Picker, hue is represented as a value between 0° and 360°. 0° and 360° are both considered to be pure red. The exact color represented by the values in between is determined by whether the color wheel is currently set to use artistic or standard values.

14.6. key color

The central color of the given scheme. This is the color that is changed when the Hue Angle Slider is adjusted. It's also the color from which the other colors in the color scheme are calculated.

14.7. RGB

the color space that is used natively by your computer's monitor.

By using the RGB color space with Painter's Picker, you can choose literally any color that your monitor can display.

note: "RGB" can also refer to a model for color wheel geometry. Painter's Picker uses the term "standard" to describe this type of color wheel. (See the definition for the standard wheel type.)

14.8. RYB

a technical name for the artistic wheel type.

14.9. saturation

the distance of a color from neutral. Also sometimes referred to as a color's "intensity".

In Painter's Picker, saturation is expressed as a value from 0% to 100%.

0% is the neutral color at a given brightness, so a color with a brightness of 100% and a saturation of 0% would be white, while a color with a brightness of 50% and a saturation of 0% would be neutral gray.

100% represents the most intense color that can be drawn given the current hue and brightness.

Colors that have a value between 0% and 100% will tend to look "lighter" or "washed out" when compared to their fully saturated counterparts.

14.10. selected color

the color that is currently selected. This is the color that is outlined in the Color Well and that appears in the field at the top of the color picker window. It is also the color around which the brightness and saturation sliders and the swatches draw themselves. This color coincides with the current color that the color picker window is set to.

14.11. standard

the other color wheel type, aside from artistic.

The standard color wheel uses red, green, and blue as its three extreme hues. Pure red is at 0° and 360°, pure green at 120° and pure blue at 240°.

Color theorists may want to call the standard color wheel "RGB", though that term is used in Painter's Picker to refer to a color space as well. This type of color wheel best represents the way that a computer monitor produces color. Each pixel in your monitor has three values: red, green and blue. By varying the intensity of the red, green and blue of each pixel, your monitor produces all the colors that are seen on your screen.

Here is a table of example color values using the standard color wheel. Note that the commonly named colors do not occur at regular intervals from one another, as they do with the artistic color wheel:

red 0°	red-orange 15°	orange 30°	yellow-orange 45°
yellow 60°	yellow-green 90°	green 120°	blue-green 180°
blue 240°	blue-violet 270°	violet 300°	red-violet 330°

And here is the same table with a brightness of 50 and a saturation of 70:

red 0°	red-orange 15°	orange 30°	yellow-orange 45°
yellow 60°	yellow-green 90°	green 120°	blue-green 180°
blue 240°	blue-violet 270°	violet 300°	red-violet 330°

To switch between an artistic and standard color wheel type, you can use the Wheel Type Popup.

14.12. scheme

a set of colors that are meant to be displayed together.

also, a means of choosing a set of colors that will look good together, or that will produce a certain effect.

Painter's Picker's main reason for being is to calculate color schemes.

14.13. Web Safe

a color space that restricts your choices to the set of 216 colors that are more or less guaranteed to show up the same on any computer.

The Web-Safe color palette was first developed by Lynda Weinman in her book Designing Web Graphics in 1996. You can learn more about the web-safe palette by visiting her page "Non-Dithering Colors in Browsers".

Many people claim that there is no longer a need to use the Web-Safe color palette. Nevertheless, it is a part of the computer graphics culture, and is something that many people like to use in their design workflow.

15. A note about Phi and the Golden Section

Throughout Painter's Picker, there are references to the numbers Φ (Phi) and ϕ (phi) and also to the "golden section" and "golden triangle" and "golden rectangle". Some people may not be aware what these are.

Phi is a mathematical constant for the number 1.618033988749894... It is most often used in geometry, but also appears very often in biology and aesthetics.

A number that is often found with it is ϕ (phi), which is simply 1 - Φ, or 0.618033988749894.

Painter's Picker uses Phi in various ways to help you calculate harmonious color relationships. Whether people will actually find these color relationships more attractive than the traditional color relationships is still uncertain.

Painter's Picker uses Φ or ϕ in the following places:

- In the golden complementary and golden alternate complementary color schemes
- In the golden triadic color scheme
- In the golden tetradic color scheme
- Indirectly in the 10 color wheel scheme (and ϕ is used indirectly in many other schemes)
- In the Brightness Presets Menu
- In the Saturation Presets Menu

For more information on Phi, see:

- Golden Ratio Wolfram Research MathWorld
- Phi: That Golden Number Mark Freitag
- The Golden Section in Art and Architecture Jill Britton
- Fascinating Flat Facts about Phi Dr. Ron Knott