Color Picker Pro – Version 1.1

User's Guide

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Version 1.1

Contents

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The Color Picker Pro VI included along with this document (and featured in Figure 1) is intended to assist in the GUI color selection process by providing a platform for interactive color experimentation.
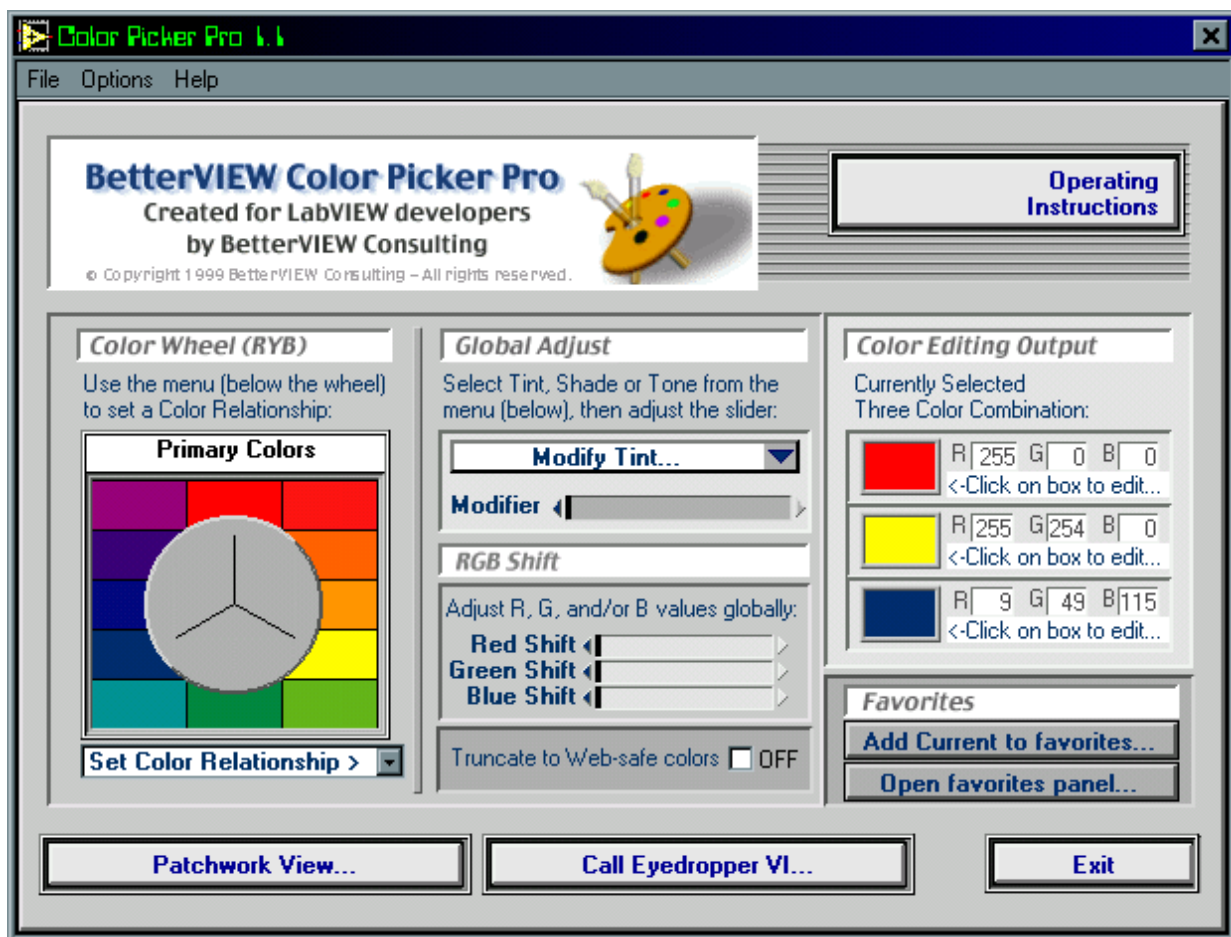
**Figure 1** The "Color Picker Pro" color selection utility - main GUI panel.

1.1 Using the Color Picker Utility

When you first open the Color Picker Utility, you will be prompted to load a *Favorites file* from disk (see Figure 2). A default Favorites file has been provided inside the Color Picker folder - simply open this default file to begin. (You can add a delete color combinations to customize this default file, or alternatively, create new favorites files of your own. The Favorites functionality will be discussed in more detail later in this document.)
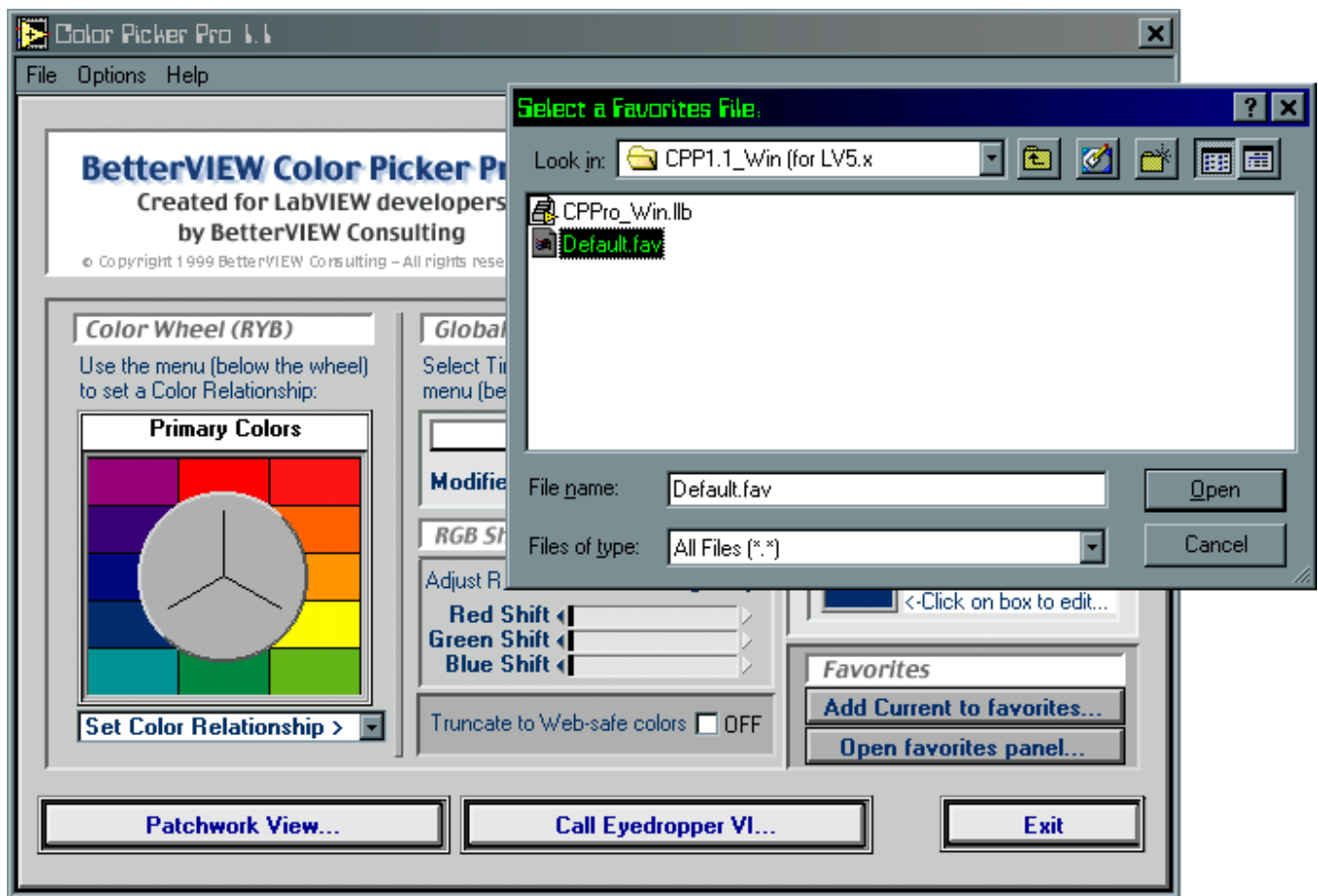
Figure 2   Selecting the Default Favorites file at start-up.

After the start-up Favorites file has been selected, you will then be looking at the main VI panel - notice the large button in the upper right-hand corner of the panel labeled *Operating Instructions*. This may be the best place to start the tour. This button provides access to online graphical documentation. When using the Color Picker utility, these interactive graphical help files are always available in the event you get lost or confused.

4

1.1.1 Operational Overview

Using the Color Picker Utility is a 5-step process:

1. Select a color relationship
2. Modify the Global parameters (optional)
3. Modify individual colors (optional)
4. Preview the results in the "Patchwork View"
5. Save the combination in the presets, or copy the selected color combination into your GUI VI using the eyedropper tool.

Next, we will expand on each of these steps.

1.1.1.1 Select a Base Color Relationship

The first step in building a color combination involves selecting a base color relationship. This is accomplished via the pull-down menu on the left of the panel, as demonstrated in Figure 3.
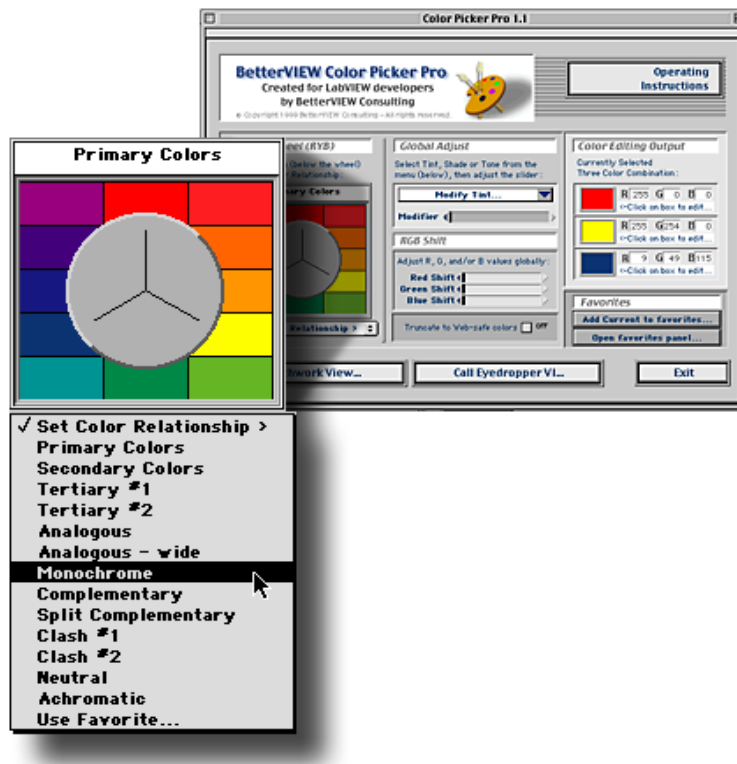
Figure 3   The Color Picker Utility - Selecting a base color relationship.

Each of the base combinations in the list represents an "aesthetically correct" color combination, derived from the color selection rules used by graphic artists. At the bottom of the list, you have the option of choosing a *Favorite*. Favorites are preset combinations saved in a favorites buffer. While the Color Picker Utility allows you to add your own combinations to the favorites, there are several interesting and useful default combinations available even if you don't choose to add your own.

1.1.1.2 Modify the Global Parameters

After you have selected a relationship, you have the option of empirically editing the combination to more closely match your needs. At this point, it should be noted that you are not obligated to edit the combination further, but this is really where the fun begins, and it's also the point where you can bring some of your own preferences to bear.

Global editing takes place in the center of the main panel, and affects all three colors of the combination equally. The top slider gives you the option of modifying the tint (lightness), shade (darkness), or tone (saturation) of all three colors concurrently. Below this slider, you will find the RGB shift section. RBG shift adds a red, green, or blue offset to each color in the combination, thereby shifting the hue of each of the colors equally in RGB space. While the human perception of color maps non-linearly across the RGB color space, interesting and useful results can still be obtained by globally modifying the RGB values of all colors at once.

At the bottom of the global editing section is the *web truncate* selector. If you are building panels for Web-based applications, or simply want to find a useful color combination for your web site, activate this switch to display only browser-safe color combinations.

1.1.1.3 Modifying Individual Colors

Global editing can only take you so far. For absolute control of the color combination, individual color editing is required. The right-hand section of the main panel offers access to the single color editing features. Simply click on the corresponding color square to open a single-color editing-panel, as depicted in Figure 4. The controls here are identical to the global controls, except in this instance, they operate only on the selected color. Each color can be tweaked and fine-tuned in the corresponding single color editor until you achieve the results you are looking for. To circumvent any possible difficulties for users with color deficiencies, effective GUI combinations should have wide variations in brightness or *value*. To achieve a wide degree of contrast between colors in a combination, you can lighten one of the colors by increasing the tint using the upper slider control in the single color editor dialog. To darken a color, try adjusting the shade – accomplished by selecting "Shade" in the pull-down menu, then using this same slider control.
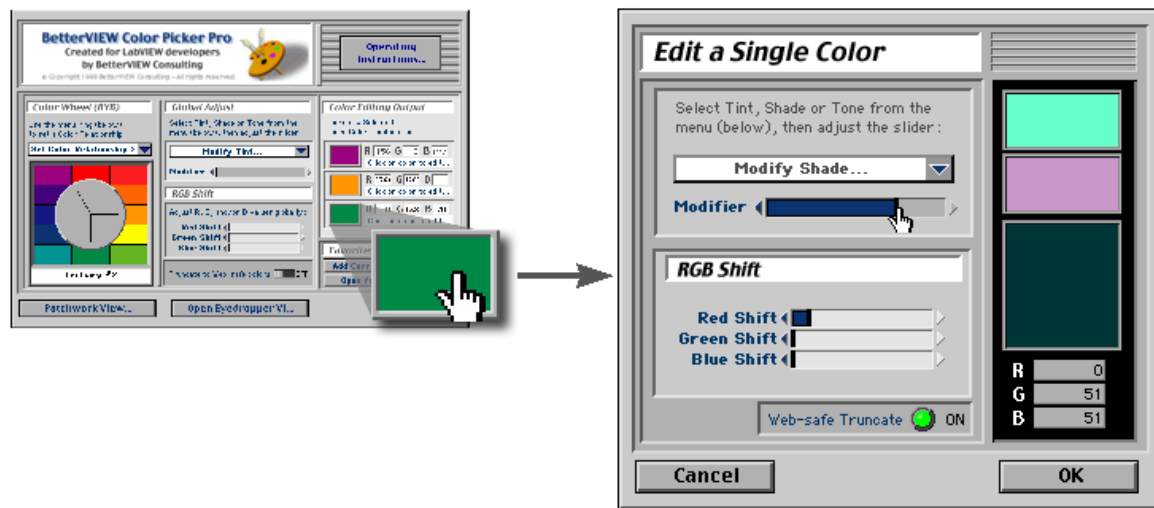
Figure 4   Accessing the Single-Color Editor panel.

1.1.1.4 Previewing the Results in the *Patchwork View* Display

All of this interactive control is nice, but it can be difficult to evaluate a combination of colors using the small color squares on the main panel. For this reason the Patchwork View has been added to the VI (see Figure 5). The patchwork view panel, accessed from the *Patchwork View...* button on the main panel allows you to get an idea of how the colors will look in context. You can change the background colors to black, white, or any shade of gray (as controlled by a small tone slider when the gray background option is selected), and you can cycle the colors to change the relative orientations. For instance, you can first view the lighter colors superimposed over a dark background, and then cycle the colors so the dark colors are superimposed over a light background. Another useful feature is the text display mode that allows you to check the legibility of text within the context of each color combination. Remember here, older users and people with visual deficiencies may have difficulty reading on-screen text, so look for a high degree of contrast and legibility if you are planning to use color combinations for text elements.
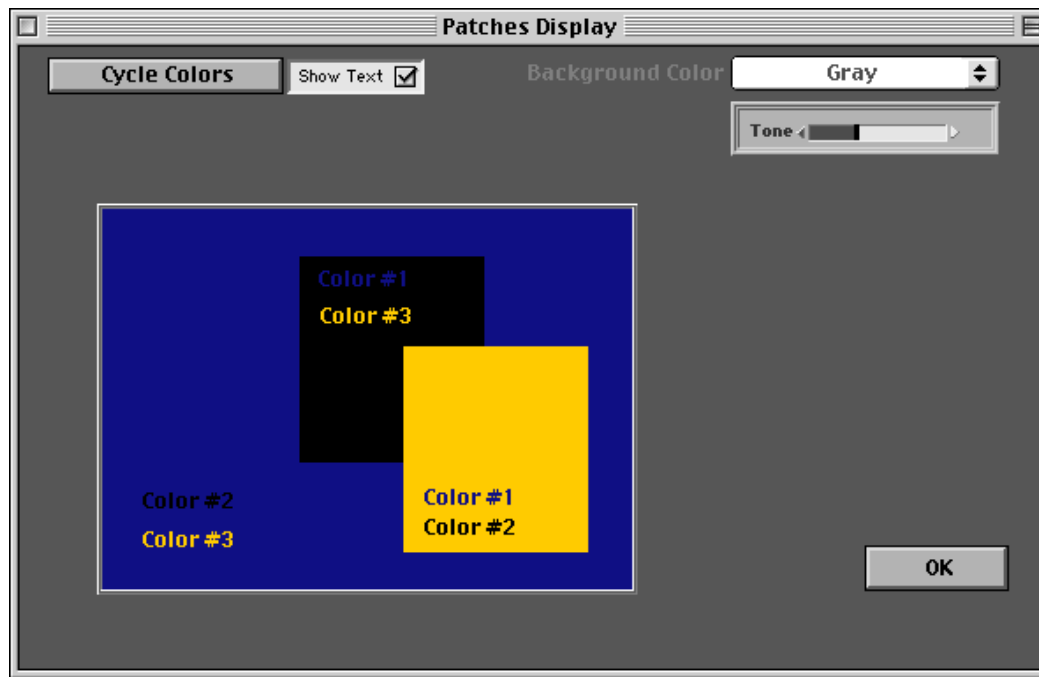
Figure 5 The Patchwork View permits you to interactively view combinations in context.

1.1.1.5 Copying Color Combination with the Eyedropper Tool.

As much fun as it is to tweak and tweeze the color combinations, this utility would be of little use unless you could transfer the combinations to your own projects. The button on the panel labeled *Open Eyedropper VI...* opens a VI panel that can be used to copy the color combination to a LabVIEW panel. Simply select the eyedropper tool from the LabVIEW tools palette, click in the corresponding color boxes on the Eyedropper.vi panel depicted in Figure 6, and transfer each of the colors to items on your own GUI panel using the paintbrush tool. If you are looking for programmatic color control, use the numeric RGB values located on the right-hand side of the panel for numeric controls or VI diagram constants. Alternatively, you could copy the colors directly to color box controls or diagram constants. Once you have copied the color combination across to your VI panel, it may be convenient to save a template or .vit file to ensure consistent color use across your application. (This process is outlined in detail in Chapter 6 of "LabVIEW GUI – Essential Techniques", by David Ritter, published by McGraw-Hill. For more information, visit www.bettervi.com.)

Figure 6 The Patchwork View permits you to interactively view combinations in context.

1.1.1.6 Saving Combinations as "Favorites"

The next step, if you are so inclined, is to store your combinations into the RAM-based "favorites" buffer, and if you like, to save a custom favorites files to disk. Saving favorites to disk permits you to reuse your color combinations during subsequent editing sessions. You can create multiple favorite files for different projects or styles, or save all favorites into the default favorites file provided. Favorite files can be saved and loaded directly from the Favorites panel, or through the File menu.

Even if you decide not to take advantage of the file save capabilities right away, saving edits into the RAM-based favorites buffer during a single session can be handy for comparing different combinations. To add the current combination to the favorites, simply click on the *Add Current to Favorites...* button on the front panel, or click the corresponding item in the Options menu. You have the option of adding a name and brief notation. Since names are used to access the favorites from the color wheel (more on this in a moment), it is always a good idea to use a unique name for each combination. Combination names and notations can be edited at any time via the "Color Combination Details" panel – simply click on the corresponding color combination in the Favorites panel to open the "Color Combinations Details" panel.

To recall a favorite for further editing, select *Use Favorite...* in the *Set Color Relationship* pull-down menu. (This menu is located below the color wheel on the left-hand side of the main panel).

1.2 Final Words about the Color Picker Utility

The more time you spend experimenting with Color Picker Utility, the better you will get at fine-tuning the combinations to closely meet your requirements. This fun and easy-to-use VI can be a useful tool for helping to understand the subjective relationships between colors. If you don't have much experience with color, it can also provide an interactive introduction into choosing effective color combinations. Be warned however, output from this program is not guaranteed to make your GUIs look better. In fact, unless a measure of taste and good judgement is exercised, you may very well do more harm than good. The effectiveness of any color combination depends very much on context, and the effect you are trying to achieve. For best results, start by using the Color Picker combinations as the highlight colors in your GUI, and stick with light gray, white, black, or unsaturated pastel hues for backgrounds, and large GUI objects. One particular color relationship setting that almost always creates an understated, professional color relationship is the "monochrome" setting (see Figure 7). Because the monchrome setting uses a single hue, altering only the brightness level to create differentiation between the color swatches, it is both pleasing to the eye, and accommodating for people with color confusion or other visual deficiencies. If you are looking for a professional, subdued, yet effective color combination, try the monochrome setting on the Color Relationship pull-down menu.
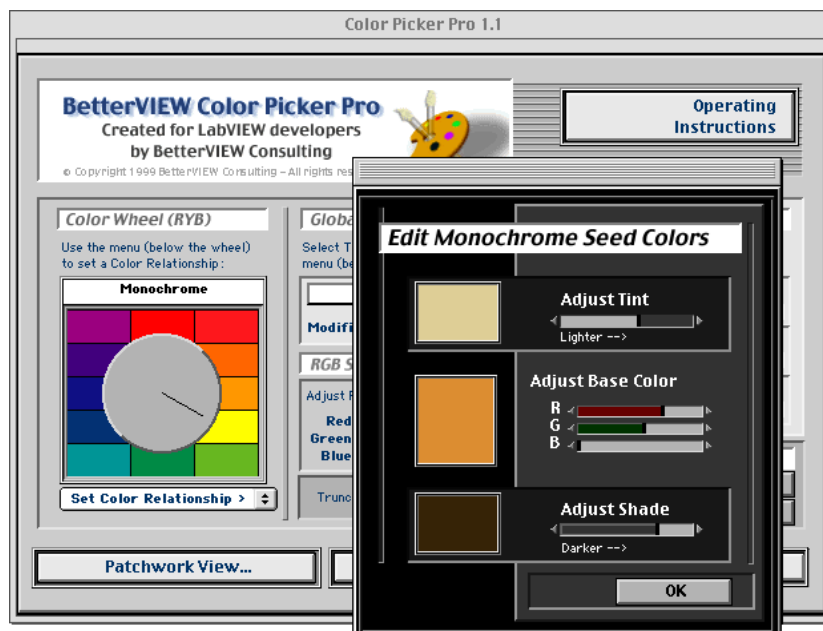
Figure 7 The Monochrome color relationship produces sophisticated and professional-looking color combinations.

The people at BetterVIEW hope you enjoy using the Color Picker Pro. If you have any questions, comments, or suggestions, feel free to contact us:

email: solutions @bettervi.com

on the web: www.bettervi.com

Thank you from BetterVIEWConsulting.
Cheers!