

## Troubleshooting Color Matching

### Notes on Color

Color matching is a complex process that involves a number of variables. Consider the following points before you begin the troubleshooting process:

- Computer monitors use an RGB color spectrum. Printers use a CMYK color spectrum. Because of this, images that display on your monitor may not look exactly like the printed image.
- If you are looking for Pantone colors, consider purchasing a Pantone Color Bridge that will show the results when printed on a CMYK printer.

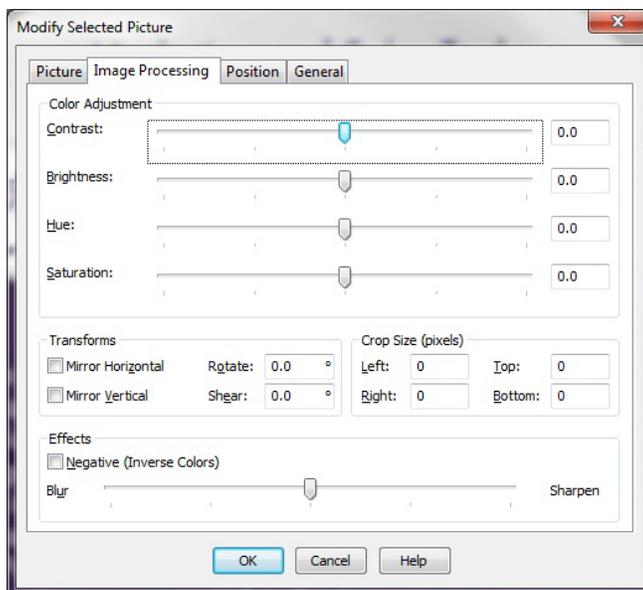
**Note:** Refer to the color matching white paper for more a technical discussion on color and the complexities of color matching.

### Basic Solutions

If most of your discs print the way you like, but you need to modify the color on one label, try the following:

1. Print a test disc. The way the colors appear on your computer monitor and the way those same colors look when printed can vary. We recommend you print a test disc to determine if your printed disc needs color modification.
2. Edit your label in CD Designer.
  - a. Open your disc label in CD Designer.
  - b. Select the image you would like to edit.
  - c. Select: **Modify > Selected Object...**  
The *Modify Selected Picture* window opens.
  - d. Select the *Image Processing* tab.

Use the **Color Adjustment** options to modify your image.



- **Contrast:** Allows you to adjust the difference of tone between light and dark colors. Move the slider to the left to decrease the difference between colors, and to the right to increase the difference.



Original Image



Image after increasing contrast

- **Brightness:** Allows you to adjust the level of colors in the selected picture. Move the slider to the left to darken the picture, and to the right to lighten the picture.
- **Hue:** Allows you to adjust the color of the selected picture. When you adjust an image's hue, the base color of the image rotates around the color wheel, while maintaining its brightness and saturation. Move the slider to the left or right to change the colors in the image on a scale of red, orange, yellow, green, blue, or violet.
- **Saturation:** Allows you to adjust the amount of color in the selected picture. Move the slider to the left to make the image appear more gray, and to the right to make the colors more vivid.



Original Image



Image after increasing saturation

**Note:** Even after making color adjustments in CD Designer, the image displayed on the monitor may look different than the image that prints. The best way to see how the color adjustment changes modified your disc image would be to run a test print.

If you are unsatisfied with the way most of your discs are printing, try the following:

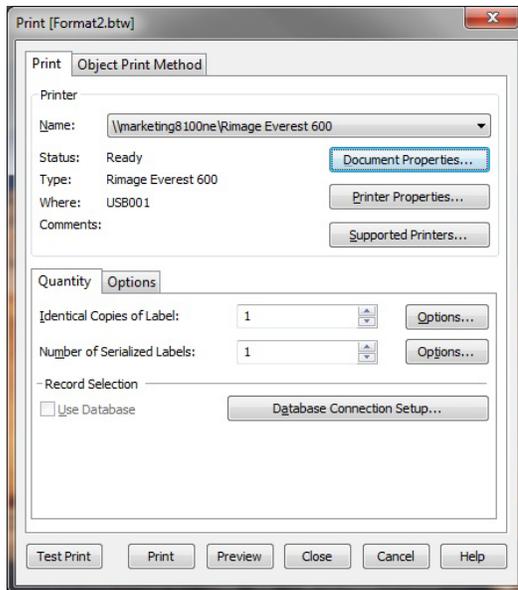
1. Test the different print driver settings.

**Note:** When you change the print driver settings in CD Designer, printing preferences are saved with the label file. When a new label is created, the default print preferences are used.

**Important!** Any changes you make to the printer driver will not display in CD Designer. You must print a test disc to see how the color modifications look on a printed disc.

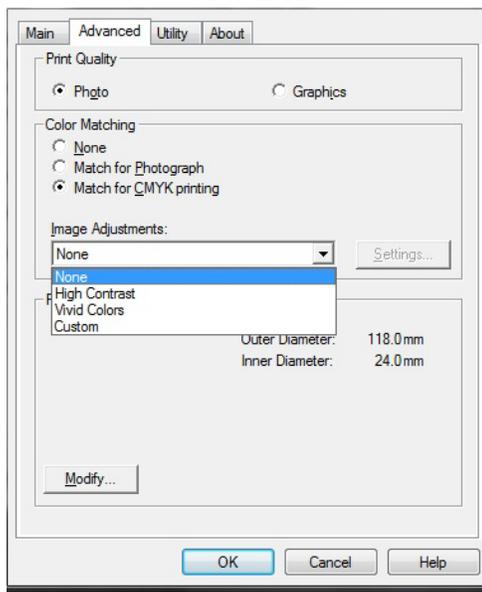
- a. Select **File > Print**.

The *Print* window opens.



- b. Select **Document Properties**.

The *Properties* window opens.



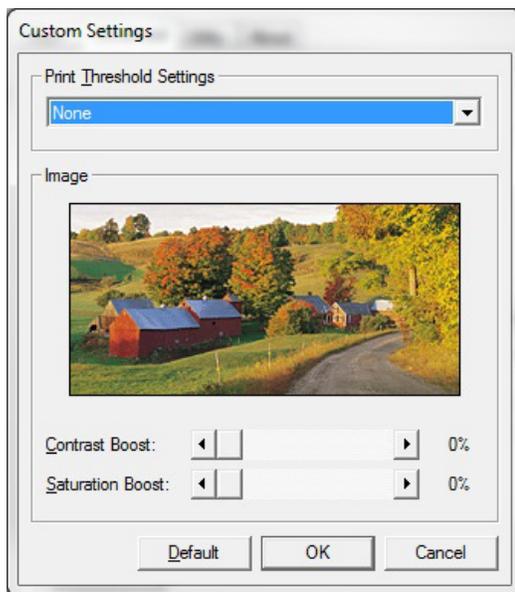
- c. Select the **Advanced** tab.

From the **Advanced** tab you have a number of options to modify color:

**Print Quality:** The default setting is **Photo**. If you have a label with large areas of color, select **Graphics**. The Graphics setting will improve uniform printing.

**Color Matching:** The default setting is **Match for CMYK printing**. This setting will match the label to a CMYK printed blue. Select **Match for Photograph** if you would like your label to match a monitor blue color.

**Image Adjustments:** The default setting is **None**. From the dropdown, select **High Contrast** if you would like to add contrast to your label. Select **Vivid Colors** if you would like to add some contrast and some saturation to your label. Select **Custom** to define your own image adjustments. If you select **Custom**, you must select the **Settings...** button which will launch a *Custom Settings* window. You can make your custom adjustments in this window.



### Advanced Solutions

1. Calibrate your monitor.
  - Computer monitors have an RGB display while printers use a CMYK color spectrum. If an image was designed using a CMYK spectrum and is then previewed on a computer monitor with a RGB display, some colors will not display exactly as they will print. Calibrating your monitor will help the display colors more closely match the printed colors.

**Note:** For more information on RGB and CMYK color spectrums, refer to the color matching white paper.

**Important!** In order to calibrate your monitor, you must download 3<sup>rd</sup> party monitor calibration software and/or buy a colorimeter.
2. Color balance your printer.
  - a. Access **Printing Preferences**.
    - i. Select **Start > Devices and Printers**.
    - ii. Right-click on your printer.
    - iii. Select **Printing Preferences**. The *Printing Preferences* dialog box opens.

- b. Select the **Utility** tab.
- c. Select the **Status Monitor...** button. The *Status Monitor* window opens with the **Status** tab active.
- d. Select the **Printer Information** tab.
- e. Select the **Modify** button from the *Color Density Settings* pane.  
The *Color Density Settings* window opens.
- d. Select the desired **Cyan, Magenta, and Yellow** settings to modify the color density.
- e. Select the desired **Black** setting to modify the density for monochrome images.
- f. Select **OK** to save your changes.
- g. Print a test disc to see your changes.

**Note:** To undo the changes you made to your printer's color density, reset the calibration back to zero.

**Important!** Any changes you make to your printer's color density will affect the way all labels and PDFs will print.