

ColorMetrix

A New Trend in Color

ColorMetrix Visual User Guide

	Page
Introduction.....	2
Installation	3
Instrument Connection	4
Print a Sample Target.....	6
Create a Data Set.....	7
Create a Color Bar	8
Read a Color Bar.....	13
Pass/Fail Reports	16
Viewing Sample Data	18
Analyse Graphic Reports	21
Trending	22
Dymo LabelWriter Configuration	25

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Introduction

ColorMetrix® ProofPass® is the integration of; two successful ColorMetrix software products; test targets designed for proofing; specially designed pass/fail labels; an optional label printer; optional professional services in the form of installation and training; and optional instrumentation. The purpose of this document is to provide an overview of how to begin productive use of the system quickly.

This guide has been written with the intent that you will be following along step by step. The example used in this document will require the output of the “standard_gap_colorbar” file located in the Targets folder of the ColorMetrix CD. The “standard gap colorbar” is also available for download from <http://www.colormetrix.com/colorbars/> The example will also assume you are using either the X-Rite® DTP41 or the GretagMacbeth® EyeOne.

Installation

1. Install drivers for your instrument.

Both the X-Rite DTP41 and the GretagMacbeth EyeOne come with a driver installation CD. You might need to install the drivers that came with your instrument. Consult their documentation for driver installation.

Setup for other supported instruments can be found on the ColorMetrix website.

<http://colormetrix.com/support/>

2. Install the ColorMetrix and Trending Application

The ColorMetrix and Trending Installers can be found on the CD that came with your purchase. Simply navigate to the CD and run the setup.exe in the ColorMetrix and Trending Folders. The setup wizard will prompt you through the required steps. The latest versions are available for download from the ColorMetrix website.

<http://www.colormetrix.com/downloads/>

3. Plug in and install drivers for USB hardlock

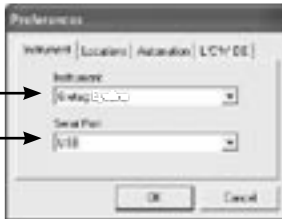
After installation is complete, plug in the blue USB hardlock that came with your purchase a red light should illuminate, and Windows should automatically recognize the device.

If Windows does not appear to recognize the device go into the Hardlock folder on the CD and run the hldr32 application to install the drivers for the hardlock. The hardlock drivers are also available for download from *<http://www.hardlock.com/>*

Configuring ColorMetrix with your instrument.

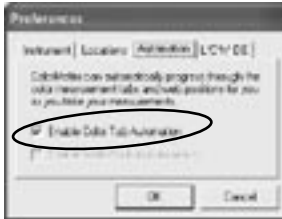
1. Plug your instrument in
2. Launch the ColorMetrix application
3. Click the Preferences button in the top file menu. A new window titled Preferences should appear. You should also be in the Instrument tab. If you are not in the Instrument tab, select it now.

4. From the Instrument drop down menu select the instrument you have connected to your computer.



5. From the Serial Port drop down menu select the serial or USB port which you have your device plugged into.

6. While we are in the Preferences window, we should check that Color Tab Automation is enabled. So select the Automation tab, and make sure the Enable Color Tab Automation. This allows you to take measurements more efficiently in single measurement mode, and allows for the use of scanning instruments.



7. Once you have selected your instrument and made sure automation is on, you can click the OK button.
8. Now you should notice a little handshaking icon while ColorMetrix communicates with your instrument.



9. A dialog box should pop up asking you to calibrate your instrument. ColorMetrix requires you to calibrate each instrument the first time you connect to it. Follow the instructions on the screen to calibrate as each instrument has a slightly different process of calibration.



10. If you have successfully connected to the instrument, a little icon that looks like a connected plug should appear in the lower right hand corner.



The next time you launch ColorMetrix, if your instrument is connected, you will not have to go through this process. It will just prompt you to calibrate the instrument.

If you receive an error message, double check that your instrument is connected. Then check that you have selected the correct instrument and port for the instrument.

If you are still unable to connect to your instrument, consult the support pages on the ColorMetrix web-site for further troubleshooting assistance.

<http://www.colormetrix.com/support/>

Note: Most instruments are automatically configured by configured by the ColorMetrix Application, however you may wish to check the ColorMetrix support web-pages to see if you have to manually configure settings on your instrument.

<http://www.colormetrix.com/support/instruments/>

Print out a sample target

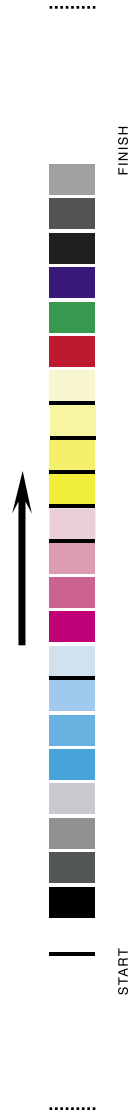
ColorMetrix can be configured to use a wide variety of targets. For the examples used here, we will be using a target we provide.

1. Navigate to the Targets folder on the ColorMetrix CD in the you will find two different colorbars, each in four different formats for your connivence.

The colorbars are also available for download from the ColorMetrix website.

<http://www.colormetrix.com/colorbars/>

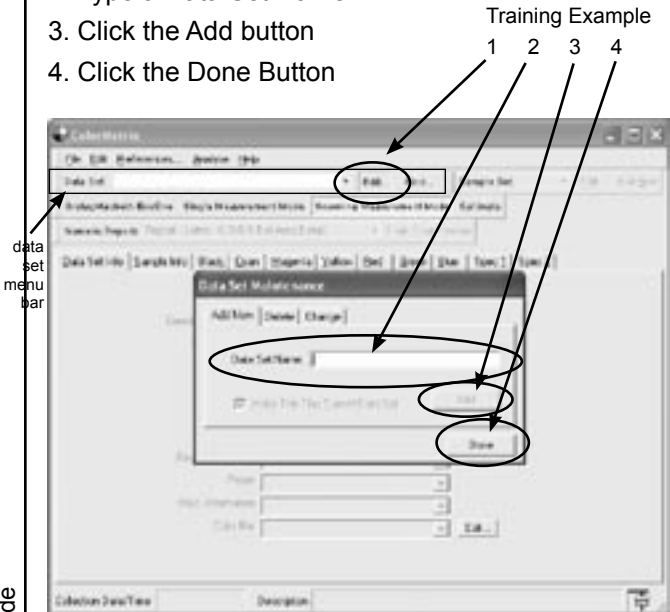
2. Select the format of the “standard_gap_colorbar” that you can output to a printer.
3. Continue onto the next steps while it prints, we won’t need it for a little bit.



Create a new Data Set

A Data Set is the area that sample target readings are made into. So each time you read a target, they will be added to the data set, and can later be tracked for process control. A Data Set uses only one Color Bar which we will create later on in the instructions.

1. Click the Edit button in the Data Set menu bar.
2. Type a Data Set Name
3. Click the Add button
4. Click the Done Button



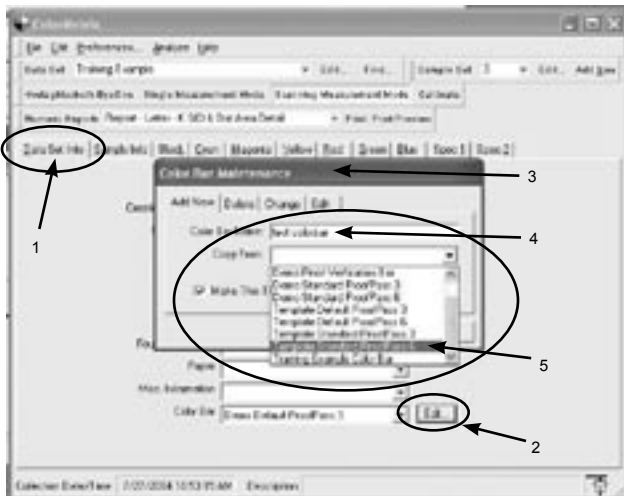
5. In the Data Set menu bar, the Name of the Data Set should be displayed.

If not, you might need to select it from the drop down menu. If it does not appear in the list at all, you may have forgot to click the Add button. In this case start this section over.

Create a ColorBar

In this section we will be using the colorbar you output in Section 4 as the “Gold Standard”. We will be measuring that colorbar and using those measured values to compare all other prints of that colorbar to. It is possible to manually input known values, and compare to them also. Both methods will be discussed here.

1. Click the Data Set Info tab if you are not already in that tab.
2. Toward the middle and bottom of the page next to the Color Bar drop down menu there is an Edit button. Click that Edit button.
3. A window titled Color Bar Maintenance should appear. You should be in the Add New tab, if not select it now.
4. Type a name for your Color Bar in the Color Bar name field.
5. From the drop down menu, select the Template Standard ProofPass 6.



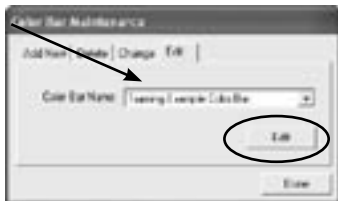
This template contains all the swatches for the colorbar we had you print earlier. It also contains tolerance values for that colorbar that uses a ± 6 for Dot Gain, and Dot Area, a $\pm .06$ for density, and a Delta E of 6 for $L^*a^*b^*$ and $L^*C^*h^*$.



6. Click the Add button

7. Click the Edit tab

8. From the Color Bar Name drop down menu select the name of the color bar you just created.



9. Click the Edit button.

This should pop up a new window titled Color Bar Edit.

10. If everything is correct up to this point, you should see the Paper tab. This is the area that your paper measurement will be recorded into.



Note: At this point you have two options

If you want to measure the colorbar you printed as your “Gold Standard” for this example, follow steps 11 to 15.

If you want to manually enter known values, skip to step 17. Use this method if you want to match to Standards given to you by a customer or a standards committee (SWOP, GRACoL etc...)

Measuring method of value input

11. If you are using the EyeOne, you will need to make sure Scanning Measurement Mode is selected

If you are using the DTP41, you will need to click the Set Dimensions button. A new window will appear you will need to type in the Swatch Width, Gap Size, and Number of swatches. Then click OK.

12. You should now proceed to measure your colorbar. Starting with paper. As you make the measurements, you will notice that the tabs jump around. If you have your audio on, you should hear a series of beeps as each value is entered.

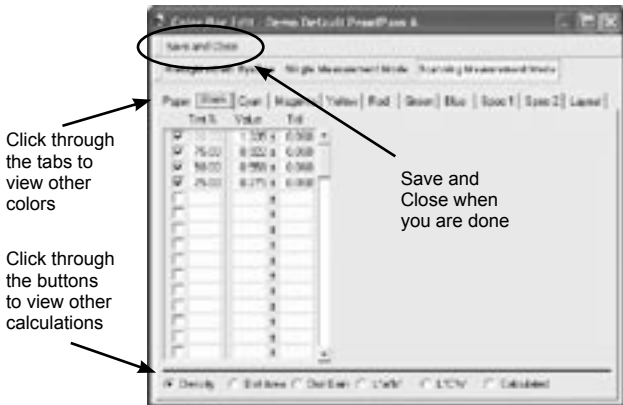
13. If you made a successful scan of the colorbar you should end up with the paper tab displayed.

If you did not end on the paper tab, you will need to click the paper tab, and measure the colorbar again.

14. On the Paper tab, you can enter a description for your color bar if you desire

On the next page we will look at some of values you just measured.

15. Click the Black tab. You should see the measured density values for the color bar you just read. If you click through the radio buttons at the bottom of the window you will see other measured values for Dot Area, Dot Gain, $L^*a^*b^*$, $L^*C^*h^*$, and Calculated values also. Click thru the other colors to see what values you just measured



Click through the tabs to view other colors

Click through the buttons to view other calculations

Save and Close when you are done

16. When you are done looking at the values you should click save and close. You should be back in the Color Bar Maintenance window, where you can click the Done button.

Manual method of value input

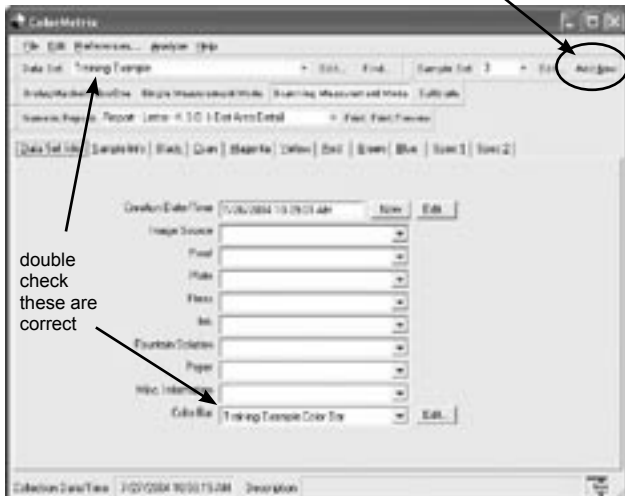
17. You should now be in the paper tab, if you have been given $L^*a^*b^*$ values for your paper you can manually type them here, if not leave it blank
18. Click the Black tab.
19. Click the Density radio button at the bottom of the window.
20. Manually type the density you desire to hit.
21. Then click the next radio button for Dot Area, and

Make a sample reading.

We have now got most of the setup work out of the way, and we are ready to measure a sample into the data set.

This section describes the most basic process of making a reading. This is the process that will be repeated over and over by the users every day. The only time you will need to repeat the previous steps, is if you are creating a new Data Set, or a new Color Bar.

1. Double check that the Data Set you created in section 5 is selected.
2. Under the Data Set Info tab, double check that the color bar you created in Section 6 is selected.
3. In the Sample Set menu bar, click the Add New button. The sample set number should become one(1). Your screen should have moved to the Sample Info tab if you were not there already.



If after clicking the Add New button your screen did not move, you might have selected the incorrect color bar to copy from in Step 5 of Section 6. You might need to go back and recreate the color bar.

4. You should now be able to measure your color bar starting with paper. As you measure the color bar, your screen will jump from one tab to the next as it fills in the measured values.

If you made a successful reading, you should end up back on the Sample Info tab because this is the very first color you read. If you do not end up on that tab, you may have missed a color or two. You should click back on the Sample Info tab and try reading your color bar again.

If you are unsuccessful after a few tries, you should double check you created the color bar properly in Section 6.

5. If you desire to enter a sample description, go to the Sample info tab and enter a description into the Description field. Common descriptions range from job numbers to operator names to customer names.

Notes about specific instruments

ProofPass is very effective when a DTP41 or EyeOne is utilized to make the measurements.

If this is the case, when you click the Add New button to add a new sample set, the tab should switch to whichever color you are reading first.

For the Standard ProofPass Color bar it start on the Sample Info tab, because that is where paper is measured. For the Default ProofPass Color Bar, it will start with the cursor blinking in the Black 100% value field because that is the very first color measured.

ColorMetrix will switch between tabs and fill in the appropriate data fields. When using a DTP41 if you get a good scan (steady green light on the instrument) all the values should transfer to ColorMetrix without any further issues to consider.

When using an EyeOne, it is important to ensure that a good complete scan has been made. As a general rule it is much easier to scan too fast with the EyeOne than too slow. It is suggested that the instrument be moved at a slow and steady pace that takes about 3-4 seconds to measure the Standard or Default ProofPass Color Bars.

If the Standard or Default ProofPass Color Bars have been measured completely ColorMetrix will rest on the very first color measured. For the Standard ProofPass Color bar it will stop on the Sample Info tab, because that is where paper is measured. For the Default ProofPass Color Bar, it will end with the cursor blinking in the Black 100% value field because that is the very first color measured.

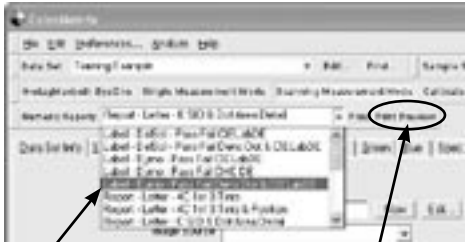
View & Print your Pass/Fail reports

Now that we have made a successful scan you may want to output a report or label to document this sample. We will not cover printer set up in this section, that is covered in the Appendix. Any printer can be used, but we only support and offer free premade labels layouts for the Dymo Label Writer 330 and the Cognitive Del Sol label printer. We no longer sell the Cognitive Del Sol, but the Dymo Label Writer is available for purchase off of colormetrix.com.

The next section will cover a more detailed look at your sample set readings.

This section will assume you have set up and are using the Dymo Label Writer.

1. When you are done making a sample set reading, you can print a report or label. If you want to print a report for a sample reading made earlier, simply select it from the Sample Set drop down menu
2. In the Numeric Reports menu bar in it's drop down menu, select any report named "Label - Dymo - Pass Fail"
3. Then click the Print Preview button in the Numeric Reports menu bar.



choose a label or report

to view the report without printing click print preview

Viewing Detailed Sample Data in the ColorMetrix Application

After making a Sample Set reading, you can print a report as covered in the previous section, but not everything appears on those reports. ColorMetrix gives you the ability to look at lots of other details inside the application. This section covers how to view sample specific data.

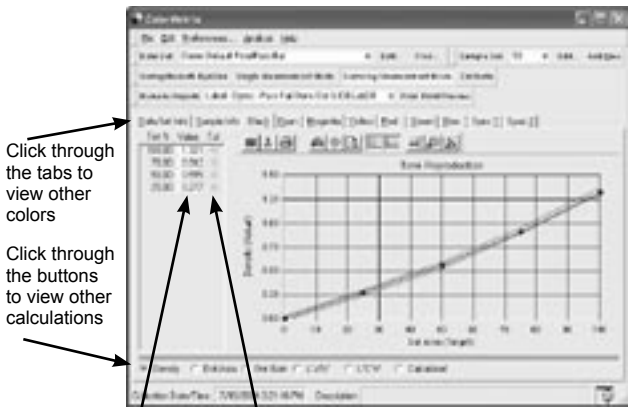
1. Select the Sample Set number you wish to view data about.
2. Click the tab for the color you wish to view details about.
3. On the left you will see the Tint Percentages, and the measured values. If a tolerance was entered in for the Tint Percentage in the Color Bar (Section 6), a green dot or a red arrow will appear.

Green dots represent a value that fell within the specifications you defined for the color bar. A red arrow indicates that the value falls above (arrow up) or below (arrow down) the specified values.

On the right there should be a graph that takes up most of the screen. This is a plot of all the tint percentages for the selected color. The red lines indicate the upper and lower limits specified by the color bar.

Across the bottom of the screen are a bunch of radio buttons. Clicking these allows you to view other data that you measured for the tint percentages.

Simply click through the tabs as well as the buttons at the bottom to view all the details about your measurements.



Click through the tabs to view other colors

Click through the buttons to view other calculations

These are the number you measured

Green dots represent a value that fell within the specifications you defined for the color bar. A red arrow indicates that the value falls above (arrow up) or below (arrow down) the specified values.

A Note about all graphs in the ColorMetrix and Trending Applications

Every graph in ColorMetrix is accompanied by a tool-bar. This tool bar allows you to modify the graph format, and transfer the graph data into another application. Hovering over any of the icons will display a description of what it does. I will only cover the first three.



The first icon is a camera. Clicking this icon will copy the graph image as a bitmap to your clipboard allowing you to paste the image into another application.

The second icon is a scissors. This will copy all the necessary data about the graph as text to your clipboard.

The third icon is a printer. Clicking this will print the graph.

Perhaps you want to send the image to a supervisor to ask them why something is out of spec. You could open up an email to them, go to ColorMetrix, copy an image of the graph, and paste that into your email. Then you could go to ColorMetrix, and copy and paste the actual values

The rest of the icons allow for formatting of the graphs. You can change colors, change the scale, and type of the graph.

Also there is a magnifying glass icon. Clicking this will change your cursor to a magnifying glass, you can then click and drag over the area you would like to zoom in on.

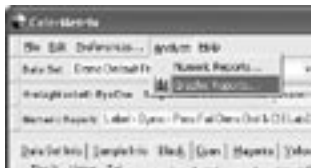
Analyze Graphic Reports

ColorMetrix has a Graphic Report wizard that allows you to look at data collected in a few different ways.

This section covers some parts of the wizard. However, if you follow the directions that the wizard provides you can walk yourself through the wizard and produce some valuable graphs.

The Graph Wizard can be launched by selecting Graphic Reports... from the Analyze menu in the File Bar menu bar.

Like the first screen says, you can compare two different data sets to each other, or view data about one data set.



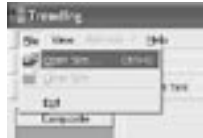
After the first screen you will be asked to choose a data set. Then a sample range. Being able to choose a sample range allows you to look at the whole data set, just one sample, or a range of samples anywhere in that data set.

Trending Setup

Trending is a stand alone module that provides statistical process control charting capabilities. Designed as an enterprise product, a single copy of Trending can monitor a single copy of ProofPass running on the same computer, or many copies of ProofPass running on different computers on a network.

The first time you launch the Trending application you will need to tell it what database you want to look at.

1. Under the File menu, select Open Site...



2. Navigate to the location of your ColorMetrix.mdb file. In most cases this is in C:\Program Files\ColorMetrix or where ever you decided to install the ColorMetrix application.



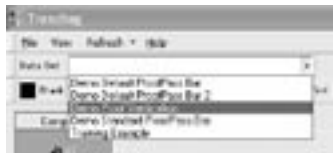
3. Once you find your ColorMetrix database, click Open.

4. Trending will ask you to name this database. Give it a logical name that represent that installation.



5. You will now have to pick a data set to view. If you choose the ColorMetrix.mdb file we have been working with your databases should appear in the drop down menu.

For this example I will ask you to choose a demo data set because they are already



populated with a lot of data, and will better portray the true effectiveness of Trending.

6. Along the left side is an area that allows your to select the graph type you wish to view. For now choose the KCMY Dens, by clicking the icon.
7. The first bar represents the First Tint % displayed in the Tint Percentage menu bar. The second bar represents the second tint and so on.
8. Double click on a graph.
9. You should now see a scroll bar, that will allow you to view scroll through all the measurements for that data set.

You should also see the familiar tool bar that allows you to copy and paste, print, and modify the graph.

10. Clicking other icons in the bar on the left will give you other graphs.
11. Clicking title boxes on the left will give you different graph types, allowing you to view your data in different ways.



Click these buttons for other graph types

Click these icons for other graphs

Installing and configuring the DYMO LabelWriter 330

Configuring the DYMO LabelWriter 330

1. Connect the DYMO to your computer and add the labels, following the directions found with your printer.
2. Insert the DYMO CD which should be included with your package.
3. Run the Install.exe program found on the CD. A wizard will assist you is setting it up.
4. Go to the Printer and Faxes Setting and right-click on the DYMO printer and select properties.
5. Go to the Advanced Tab shown below
6. Click the Printing Preferences button. Configure your setting to Landscape
7. Click the Printing Defaults button.
8. Set your orientation to Landscape
9. Click the advanced button. The window shown below will appear.
10. Select the Paper Size of 30256 Shipping.
11. The rest of the setting should look like the Advanced Options window above.
12. Click OK.



13. You should be pack in the Printer Properties window

14. Click Apply then click OK

You have finished configuring the DYMO LabelWriter 330

Configuring ColorMetrix to print to the DYMO

LabelWriter 330

1. Choose Print Setup under the file menu

2. Choose your DYMO LabelWriter under the printer drop down menu

3. If your printing defaults we set correctly, the Paper size should switch to 30256 Shipping, and the orientation will switch to Landscape

4. The print setup window should look like this:



Now print a test from ColorMetrix

1. In ColorMetrix, under Numeric Reports, choose the proper label for the DYMO

2. Choose any available Data Set

3. Click the Print button next to your chosen Numeric Report.



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