Portrait Reference Photograph

Duane Viano

Director of Product Marketing, Portrait Displays

The Portrait Reference Photograph is an ideal image to be added to the calibration process. Proper use of the photograph can help uncover areas that may need revised adjustment. The photograph also functions as a great before/after image since the "familiar" nature of the photograph is easily understood by professional and novice users.

About The Photograph

The Portrait Reference Photograph was created as a tool to help determine if on-screen colors are being rendered correctly. Color bars and grayscale charts are the ideal images to use when calibrating a display, but it is difficult to look at those charts and determine if they "look" right. While objects, either natural or man-made, can have infinite variations in color (what is the correct red for an apple?), human vision, it turns out, has a memory for certain colors, and is very good at discerning correct skin tones. Therefore a photograph that focuses on skin tones can show the quality of a calibrated display and is easily understood by both the professional and novice user.

How to Work With the Photograph

This seemingly simple photograph actually has a significant amount of detail that is useful in determining the performance of a display. It is a collection of skin tones, hair colors, and clothing colors displayed on a gray background to assist with the calibration analysis.

© 2013 Portrait Displays, Inc.

Below is a description of the important areas of the photograph with suggestions on how display settings can affect those areas. It is important to remember however, that these are just suggestions and that a combination of adjustments will most likely be required.

Skin Tones

The models chosen for the Portrait Reference Photograph show a diversity of skin tones. While there can be no "perfect" skin tone, if any of these people look sunburned, like they've seen a ghost, or under the weather, then you know that your color settings are not ideal. Incorrect skin tones can be result of one or a combination of the adjustments below:

- Red-Green-Blue (RGB) Color Balance – Too much of one color (R, G, or B) can be noticeable in the skin tones.

- Gamma Curve – An incorrect gamma curve can cause colors to be too dark or too light, especially in the mid-tones.

- Color Temperature or White Point – Incorrect color temperature can cause the overall image, including the faces, to appear too warm or too cool.

Primary and Secondary Colors

The clothing was purposely chosen to represent: the primary colors of red, green, and blue; the secondary colors of cyan, magenta, and yellow; and the absolutes of black and white. While these are not the pure hues of the color wheel, they have been adjusted (by a color expert) so color adjustments will show variations in these colors. These variations sometimes show up best in the large flat areas of the fabric and other times in the folds or texture of the fabric.

- Gamut – If the display provides gamut control, adjusting the gamut and saturation levels will typically change the vibrancy of these colors.

Highlights and Shadows

There are subtle texture variations in the collars of the white (under) shirts that can reveal problems with highlight adjustments. The black pants on the left of the photograph also have subtle texture variations to show where shadow adjustments have problems.

- Brightness and Contrast – Adjustment of brightness and contrast can help to bring more detail into the dark and light areas.

Gray Background

The background of the Portrait Reference Photograph has been computer generated to be free of any color beyond shades of true gray. There is also a subtle gradation of gray tone, lighter at the center to darker at the left and right edges.

- Color Temperature or White Point – Inaccuracies in color temperature will be most noticeable in the gray background of the photograph, especially the lighter portions of the photograph.

- RGB Balance – Adjusting the RGB balance will correct color casts in the gray background of the photograph.

© 2013 Portrait Displays, Inc.

Recommended Use of the Photo

You will notice that there are no grayscale ramps or color bars included in this photograph. We are leaving those types of charts to the professionals who use them for very specific calibration adjustments. The Portrait Reference Photograph can be used as a technical reference tool, a before/after image, or as simply a "real-life" example of what a familiar image should look like on the display. At the end of the day, images should just look right on the screen, regardless of experience level.

About Portrait Displays, Inc.

Since 1986, Portrait Displays has been a leading software developer for PC, smart phone, and tablet displays. Portrait Displays leverages its expertise in color science and display management to develop software that is bundled with display systems from leading manufacturers throughout the world. Portrait Displays, Inc., is a private corporation with headquarters in Pleasanton, California, USA, and representatives in Europe, Taiwan, China, Japan, and Korea. For more information about Portrait Displays and its products or services, visit www.portrait.com.

PORTRAIT DISPLAYS®

Portrait Displays, Inc.
6663 Owens Drive
Pleasanton, CA 94588 USA
Phone: 1-925-227-2700
Web: www.portrait.com
Email: sales@portrait.com

© 2013 Portrait Displays, Inc.