



COLOR VISION Spyder Checkr Color Chart and Calibration Tool User Guide

[Home](#) » [COLOR VISION](#) » COLOR VISION Spyder Checkr Color Chart and Calibration Tool User Guide 

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Contents

- 1 Introduction
 - 1.1 Challenges and Solutions
- 2 What's Included and Operating Requirements
- 3 Targets
- 4 Patches
- 5 Getting Started
- 6 Setup Hardware
- 7 Adjust the Target Shot
- 8 Save the Target and Apply
- 9 Creating Multiple Light Source Calibrations
- 10 In-Camera Color Balancing
- 11 Changing between Spyder Checkr Targets
- 12 Documents / Resources
 - 12.1 References
- 13 Related Posts

Introduction

Spyder Checkr provides a fast, reliable method of color calibrating camera, lens and sensor combinations. It also facilitates harmonizing color between different cameras. It allows photographers and videographers to obtain more consistent, accurate color within their normal post-production workflow in common editing software.

Challenges and Solutions

Every combination of lens, camera, and sensor has a unique color signature; this may change in different lighting conditions. And, of course, these devices don't perceive or record color the way the human eye does.

Color control and consistency requires a reference tool to help the user adapt to these variations. Adding color management at the capture stage of the digital workflow assures consistency and accuracy from day to day as well as from camera to camera.

Spyder Checkr enables the user to create custom camera calibrations that compensates for the characteristics of the optics and sensors which produces more accurate color reproduction in edited images. The workflow is simple: photograph the Spyder Checkr, import the image into a supported image editor for basic adjustments, open the image in the Spyder Checkr software, and export the preset. You can apply this preset during image import or editing.

The Spyder Checkr products work with the easy to use calibration software that makes post-production quicker by getting consistent, predictable color right from the start.

What's Included and Operating Requirements

Spyder Checkr

- Spyder Checkr 48 Target Color Cards and Gray Cards
- Spyder Checkr Case
- Download link and Software Serial Number

Spyder Checkr 24

- Spyder Checkr 24 Target Color Card and Gray Card
- Spyder Checkr 24 Sleeve
- Download link and Software Serial Number

Spyder Checkr Photo

- 4 Interchangeable Target Color Cards
- Spyder Checkr Photo Case
- Lanyard
- Download link and Software Serial Number

Supported Languages: English, Spanish, French, German, Italian, Russian, Traditional Chinese, Simplified Chinese, Korean, Japanese

Operating Requirements:

- Windows 7 32/64, Windows 8.0, 8.1 32/64, Windows 10 32/64
- Mac OS X 10.7 or higher
- Monitor Resolution 1280×768 or greater
- 16-bit video card (24 recommended)
- 1 GB of available RAM
- 500 MB of available hard disk space
- Internet access for product activation

Targets

Spyder Checkr

The 48 patch Spyder Checkr target closes for safe storage, opens like a book, and stays securely in its fully open position. Each half of the Spyder Checkr has a frame that holds a color chip chart in place. You can open these frames and invert the color target sheets to display their gray face. This will expose the Spyder Checkr Gray Target for visual comparisons, or tasks like In-Camera Custom White Balance.

The Spyder Checkr can be used for visual color comparisons, as well as with a number of third party software packages for camera profiling and other tasks. But most commonly, it is used with the Spyder Checkr software in creating camera calibrations.



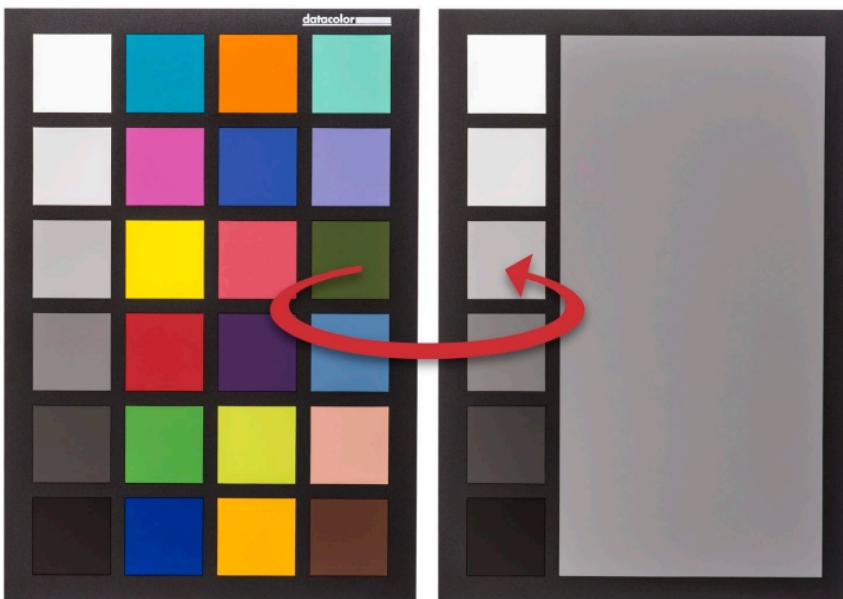
The FadeCheckr patch is provided to assist users in determining how much light exposure their Spyder Checkr target has had. It is designed to fade from red to yellow after the equivalent of 30 days of full sun in the summer. This degree of exposure is sufficient to justify replacing your Spyder Checkr Target Sheets. New sets are available for purchase from spyder.datacolor.com.



Spyder Checkr 24

The Spyder Checkr 24 has 24 patches on one side for color calibration, and a gray face target on the other for visual comparisons or tasks like in-camera custom white balance. The target slips easily into the provided sleeve for protection from the elements when not in use.

The Spyder Checkr 24 can be used for visual color comparisons, as well as with a number of third party software packages for camera profiling and other tasks. But most commonly, it is used with the Spyder Checkr software in creating camera calibrations.



Spyder Checkr Photo

The Spyder Checkr Photo case closes for safe target storage, opens by pressing the button opposite the spine to reveal pages holding 4 targets, and stays securely open in multiple positions. Each page has one large and one small mounting tab to hold the target in place. You can remove the cards and replace or rearrange as needed.

To remove, lift the right corner of the card from the small mounting tab side and twist to the left to safely release from mount.

To insert, tuck the large indent of the card into the raised large mounting tab, then slide the opposite end under the raised small mounting tab.



The Spyder Checkr Photo can be used for visual color comparisons, as well as with a number of third party software packages for camera profiling and other tasks. But most commonly, it is used with the Spyder Checkr software in creating camera calibrations. Additionally, the gray targets can also be used for tasks like In-Camera Custom White Balance.



Patches

A Spyder Checkr with moderate usage and stored correctly will last approximately 2 years. Replacement cards are available for purchase from the Datacolor website for circumstances involving heavy use or in cases where the patches become scratched, worn, or soiled over time. Please avoid touching the patches of your Spyder Checkr as oils from the skin can affect the patch color and texture.

The color patches on the Spyder Checkr 24 and right half of the Spyder Checkr and Spyder Checkr Photo represent the standard 24 colors used in a variety of color products. These patches are near or within the sRGB color gamut to avoid gamut clipping and assure usability with a wide range of capture, display, and output devices.

Note: the order that various software programs read these standard 24 colors varies, but the Spyder Checkr provides them in a serpentine pattern, such that reading down one column and up the next will produce the usual measurement order.

The color patches in the left half of the Spyder Checkr and Spyder Checkr Photo represent additional colors targeting several uses. There are six additional skin tones for a total of eight. There are six medium saturation color patches, in the red, green, blue, cyan, magenta, and yellow zones to improve the coverage of the inside of the color gamut.

There are three near white tints and three near black tones, for checking color tints and tones at both ends of the dynamic range. And, the gray ramp has been increased from the standard 20% steps, to 10% steps, plus extra

samples at 5% and 95% to provide a more detailed gray ramp.

Spyder Checkr



Please note the reference numbers across the left side, and the reference letters across the top of the SpyderCHECKR frame.

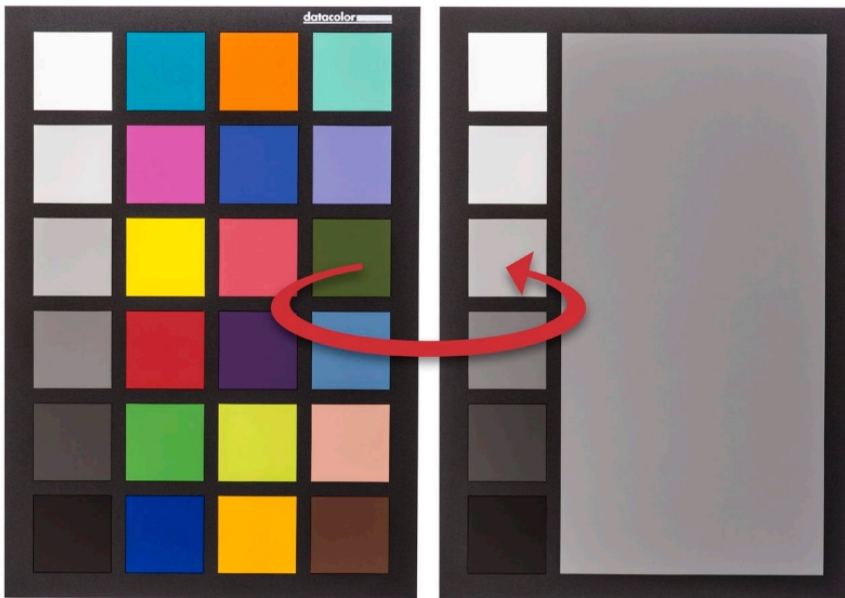
Color Patches

- Med Saturation, RGBCM&Y: A1-A6
- Near White Tints: B1-B3
- Near Black Tones: B4-B6
- Skin Tones: C1-C5
- Full saturation patches: Columns F, G, and H

Gray Patches

- Grays proceed from white (E1) down to black (E6) in 20% steps
- A zigzag path across columns E and D (not including D1) will cover the 10% gray ramp in order
- An additional 95% patch is located at D1
- An additional 5% patch is located at C6
- The same 10% ramp patches are repeated on the back of the chart, with a large 50% gray patch, for uses requiring neutrals-only to be visible.

Spyder Checkr 24



- Grays proceed from white down to black in 20% steps
- Full saturation
- The same 20% ramp patches are repeated on the back of the chart, with a large 50% gray patch, for uses requiring neutrals-only to be visible.

Spyder Checkr Photo



Color Patches

- Med Saturation RGBCM&Y
- 3 Near White Tints
- 3 Near Black Tones
- 5 Skin Tones
- Full saturation

Gray Patches

- Grayscale on full saturation card proceed from white down to black in 20% steps
- Grayscale on additional color card include 95% patch and supplemental patches to create 10% gray ramp in order with other grayscale column
- An additional 5% patch
- Large 50% gray patch with 20% step grayscale for uses requiring neutralonly to be visible
- Large 18% gray patch with 20% step grayscale for uses requiring neutrals only to be visible.

Getting Started

Download and Install Software

Download and install the Spyder Checkr software for your platform from the Datacolor website. Before starting, make sure that you are logged onto your computer as an administrator. Run the installer. Once this is completed, run the Spyder Checkr application.

Serialization and Activation

Your Spyder Checkr comes with a unique serial number in the packaging for software activation. Our software uses a web-based activation process so it's simplest to install and activate our software from an Internet connected computer.

Software Updates

The software update option in the Spyder Checkr application (accessible in "Preferences") is on by default. When Datacolor posts a new build of the software it will tell you on next launch that there is an update available and offer to take you to the Datacolor website to download the latest version.

Setup Hardware

Mounting Options

The Spyder Checkr, Spyder Checkr 24, and Spyder Checkr Photo can be held or placed on a table or shelf.

The Spyder Checkr and Spyder Checkr Photo can stand upright in stable locations.

The Spyder Checkr has a standard tripod mount (1/4 inch 20 UNC thread) on the base for mounting at any height or angle desired. There is also a standard tripod stud at the top of the Spyder Checkr spine to mount other objects like a Spyder Cube.

Lighting

Light the targets from a 45-degree angle. The ideal manner is to use a single light source from an extended distance with no reflector or diffuser. Generally, you would want the sweet spot in the center of the light field to completely overlap the edges of the target. This assures that all portions of the target will have the same amount and color of light. This reduces light fall-off and color variation across the width of a target.

Capturing

Do not fill the viewfinder frame with the target. The sweet spot of the lens is near the center and away from the corners. It's best to shoot the target with a generous amount of border and crop it down later.

Use a tripod to support the camera whenever possible. Make sure the camera is directly in front of the target. The central axis of the lens should be in line with the center of the Spyder Checkr.

The Spyder Checkr and the camera sensor should be parallel.

Focus on the chart. It is important to shoot in the camera's RAW format, if it offers one. Take a few frames at different settings, if you are unsure of any of the variables. These are your target shots.

You can now remove the Spyder Checkr and continue to shoot.

Adjust the Target Shot

To make the best color profile for your camera and lens combination, there are several adjustments that need to be made to the image of the Spyder Checkr target image.

Open

Download your target shot and open in your preferred editing software.

Crop and Straighten

Use the crop tool to select the outside black edge of the patch area with no background showing beyond the target. Use the rotate function of the crop tool to straighten the target image. Activating a lens profile will reduce lens distortion in your target shot, but this is rarely necessary.

White Balance

Any of the light or medium gray patches can be used to gray balance/white balance the target image. The 20% gray patch is recommended. Use the white balance eyedropper tool and click on the desired gray patch.

Exposure Adjustment

Look at RGB values or Percentages of the white patch. Adjust the exposure slider until the white patch lists as approximately 90%, or about RGB 230, 230,230.

Next check the black patch. The black/shadow adjustment is used to set the black value to 4%, or about RGB 10, 10, 10. If the value is below this level, it may be best to leave it as shot or reshoot with brighter illumination.

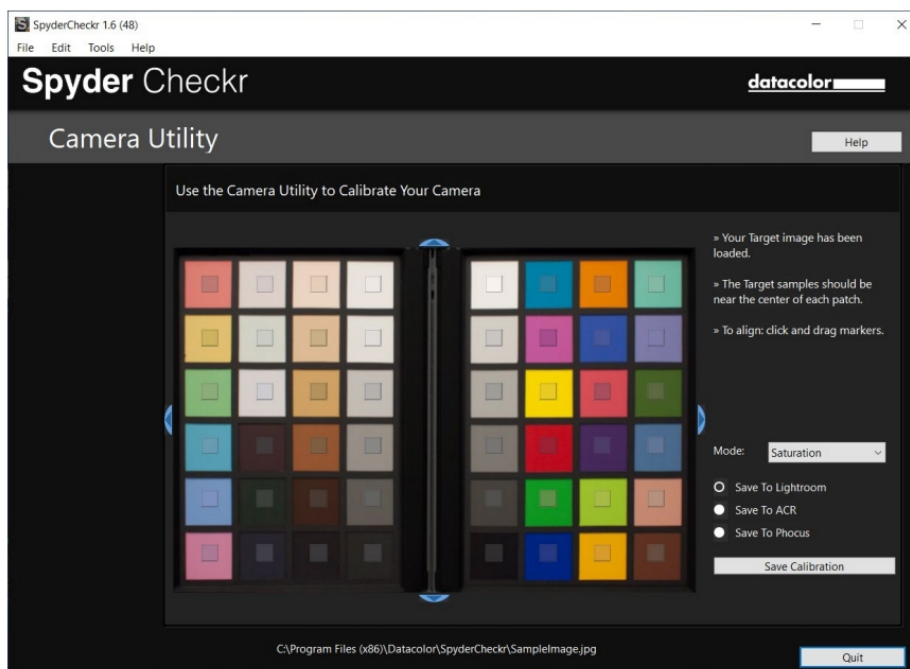
Once these adjustments are made, the target image is ready to be used to create a color profile for your camera and lens combination.

Save the Target and Apply

Save the target image as an uncompressed Tiff.

Launch the Spyder Checkr software and open the target image by dragging and dropping the file, or select "Open" from the Spyder Checkr menu to navigate to and select your file.

Processing your Target Shot



If you captured your image and cropped appropriately the sampling squares should already be placed within the correct patches of your target image. If not, you can drag on any edge or corner of the image area to adjust the fit. You can left click on the grid and move the entire target grid if needed. The colors inside the sampling squares should be a somewhat less saturated version of the patch colors. If the patch and sample colors are of different colors, check that the target image is not upside down, sideways, or inverted.

Once you have reviewed and adjusted the target grid on the target image, choose your Rendering Mode and where you would like to save the calibration.

Rendering Modes

In the right pane of the Spyder Checkr application you will find a drop down list of mode choices. The three modes are described below:

- **Colorimetric Mode** – provides the most literal results. Best when attempting to reproduce artwork and color critical work.
- **Saturation Mode** – provides a boost in Saturation. Offers results that are generally more pleasing for many types of images.
- **Portrait Mode** – selectively reduces the color saturation of skin tone components to make portrait processing easier.

The effects of these modes can be subtle; the amount of change to your image depends on the color accuracy of your camera's sensor and color neutrality of a particular lens.

Saving the Profile

Once you have selected the rendering mode you would like to use, choose where you would like Spyder Checkr to save the calibration.

Click on the "Save Calibration" button. This will launch a window that allows you to name the calibration.

We suggest using a naming system that includes the camera model, lens, calibration Mode, and Spyder Checkr chart (48 for Spyder Checkr, 24 for Spyder Checkr 24, Photo for Spyder Checkr Photo). For example, if you calibrate a Nikon D810 with an 85mm lens in Portrait Mode with the Spyder Checkr 24, a file name such as D810_85_portrait_24 would be optimal. This way you can easily identify the preset for the correct camera and lens combination.

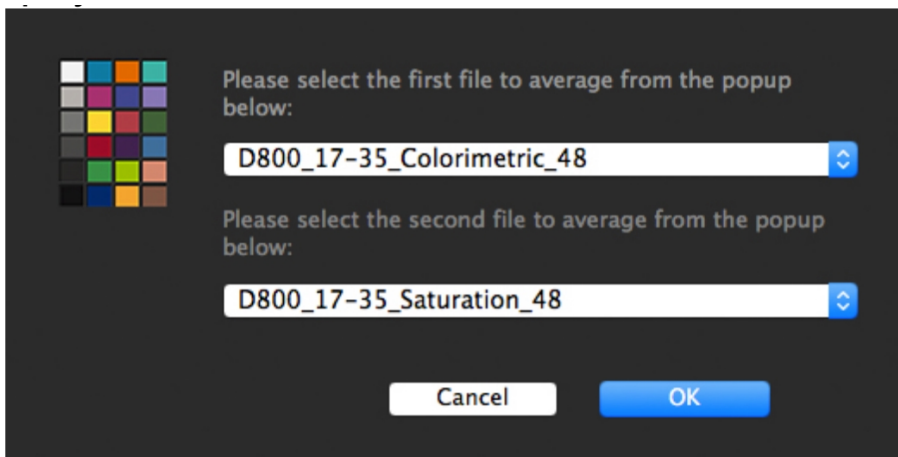
Note: Once you save your calibration, you must restart your editing software for your calibration to appear and use.

Using Your New Calibration

After re-launching your editing software (your calibration data will NOT be available until you quit and restart your editing software), open an individual image or a group of images by camera and lens then find the software's preset menu and apply.

Creating Multiple Light Source Calibrations

Spyder Checkr's Tools menu contains commands for creating multiple calibrations from any two existing calibration presets. Choose any two presets built for the same camera, and a series of three new calibration presets will be created which offer increased precision for light sources between the original sources. This function is of use mainly for advanced processes such as museum photography.



In-Camera Color Balancing

Shoot the Gray Target face of the Spyder Checkr in your camera's White Balance or Gray Balance mode to produce an in-camera color balance for the lighting conditions under which you have shot the Spyder Checkr. This will assure that your initial view of images, quick exports to JPG, or images downloaded directly to a mobile/tablet device will have the intended colorbalance and will assist in assuring that you do not overexpose as you shoot.

The mix of several levels of gray in the Gray Target will provide a more global balance than shooting just one density of gray. Shooting the center section of the Gray Target will further enhance this multi-level function.


Changing between Spyder Checkr Targets

The Spyder Checkr software supports multiple model versions of the Spyder Checkr targets and will automatically launch configured for the target type you have purchased. If you use multiple targets, the appropriate target can be chosen in the Spyder Checkr preferences. Select the target type you want to use and when the dialog box comes up telling you that it is necessary to restart the application to switch, select OK, to auto-quit the application. Re-launch and it will now use the other target size.

For more information on Spyder Checkr or our other Spyder products, visit spyder.datacolor.com Datacolor. © Copyright 2022 Datacolor. All rights reserved.

Spyder Checkr

Documents / Resources

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|  | <p>COLOR VISION Spyder Checkr Color Chart and Calibration Tool [pdf] User Guide Spyder Checkr 24, Spyder Checkr Photo, Spyder Checkr, Color Chart and Calibration Tool, Spyder Checkr Color Chart and Calibration Tool, Calibration Tool</p> |
|---|--|

References

- [d| SpyderX: Our Best Monitor Calibration Tool Ever | Datacolor](#)