A Color Management Workflow for the Better Light Digital Scanning Back

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The X-Rite company recently released a program that is able to create a camera profile for The Better Light Digital Scanning Back. The X-Rite ColorChecker Camera Calibration program can build a camera profile using the X-Rite 124 well SG Digital target. The color calibration takes advantage of the Better Light ViewFinder program's ability to save scanned images in the DNG format.

This document will describe a workflow to create Camera Profiles for the Better Light Scanning Back using the SG target and X-Rite software. Adobe Bridge 2020 and Adobe Camera Raw will be used to apply the camera profile to DNG images of Art pieces scanned with the Better Light Digital Back. Adobe Camera Raw will also be used to convert the DNG images of the art into 16-bit Adobe RGB (1998) .tif files for editing and printing from Adobe Photoshop.

I have been using this protocol in my studio for a few months and I want to share it with other Better Light users to invite feedback and suggestions for modifications and improvements.

My studio also created a YouTube video to accompany these instructions. I hope that this text and the video will be a starting point for a discussion of how to create reproductions of 2-D art with good accuracy and with minimum wasted proof prints.

Needed Supplies.

1. X-Rite ColorChecker Digital 124 well SG Target. Available from B&H, Adorama, Amazon. The target will pay for itself in saved time and increased productivity.

2. X-Rite ColorChecker Camera Calibration Software v2.2.0 For Mac or PC – released 9-24-2020.

    https://www.xritephoto.com/ph_product_overview.aspx?ID=2632&Action=Support&SoftwareID=2215

3. Adobe Creative Cloud - Updated versions of

    Adobe Photoshop 2020
    Adobe Bridge 2020
    Adobe Camera Raw

4. Better Light ViewFinder Software

    Download Software for Mac or PC

    http://www.betterlight.com/downloads.html

Overview

The workflow will include these procedures:

1.   Use the X-Rite ColorChecker SG Target to set the Better Light neutral color balance and white light levels.

2.   Save an image of the SG target as a DNG image

3.   Shoot the artist's art with the same light and camera settings. Save the Artist's art image as a DNG image.

4.   Use the ColorChecker Calibration software to build a camera profile from the DNG image of the SG card.

5.   Open the DNG image of the Artist's art in Adobe Camera Raw and apply the camera profile created in step 4 to the image.

6.   Use Adobe Camera Raw to Convert the DNG image of the Artist's art into a 16-bit .tif file and apply Adobe RBG (1998) as the profile.

7.   Open the .tif file in Photoshop 2020 for editing and printing.

Detailed Steps

I.   Using the SG Target

1. Set up the Better Light camera and the lights. Use the Zig-Align mirror system to make certain that the camera and the easel are parallel. Turn on ViewFinder.

2. Select the art to be scanned in this session – start with the largest piece first. Move the camera position or change the lens to image the artist's work in ViewFinder.

3. Replace the art with a white board and use the ToneZone setting in ViewFinder to adjust and center the lights (fast prescan is OK).

4. Under ViewFinder Preferences uncheck the box for Automatically Open retrieved files.

5. Under File at the top of the screen select File Manager. Scroll down to "apply curve" and select DNG.

6. Select No Profile on the ViewFinder screen.

7. Place the X-rite SG Digital target on the easel. Use the focus card to set the camera focus on the Target. Take the focus card off the target when you are finished.

8. Make a prescan of the Target. Use the Zoom-In under Display at screen top to increase the size of the Target on the screen. You can zoom in twice if needed.

9. Select the Spot Meter and place a circle on a gray box at the bottom of the SG Target. Now click on Auto Balance on the ViewFinder screen to set the neutral color balance.

10.   Erase the spot meter circle on the gray box and place a spot meter circle on a white box on the bottom of the SG Target. Read the light intensity under the Green column on the ViewFinder screen.

11.   Use the ISO adjustment control and/or make small changes in the lens aperture opening to bring the light intensity reading to 244 or 245. Make a fresh prescan (high speed off) after each aperture change to see the new intensity reading. This may take several minutes to reach the 244 or 245 reading.

12. Create a Title for the target image - using the date and the artist's name. Scan the Target and save the image as a DNG in the folder where you save your images.

II.   Shoot and save the Artist's Image(s) as DNG files

1.   Place an artist's Art on the easel. Use the focus card to set the camera focus on the Art.

2.   Put the Artist's name, the name of the piece, and the date in the Title box.

3.   Using the same camera and lighting settings you used to shoot the SG Target, make a scan of the Art. Save the scan of the art as a DNG file. Put the X-Rite Target DNG file and the DNG file of the Artists' Art into a folder on the desktop.

4.   If you are scanning more art for this artist, place each piece on the easel, check the focus for each piece, and give each piece a new name in the title box. Do NOT change the lighting or the camera settings. Scan each piece and save each image as a DNG file in the desktop folder for this session – along with the DNG image of the Target.

YOU ARE NOW FINISHED WITH THE SHOOTING SESSION.

What you will take to the editing computer is the folder with the X-Rite SG Target DNG image and the DNG file(s) of the Artist's work.

Creating a Camera Profile for this Shooting Session

1.   Upload the folder with the art and the SG Target DNG images onto your editing computer.

2.   Open the X-Rite ColorChecker Calibration Program. When a box appears on the screen, drag and drop the X-Rite SG Target DNG image onto the box. "Loading Image will appear."

3.   This may take a few minutes ---- Get a cup of coffee.

4.   The Calibration program will open the image of the SG Target and it will place small boxes on each of the 124 Target wells. If the proper image does not appear make certain that you have selected the SG target – a box with small square at the right of the screen. If the Boxes are not on the Target image you can place markers into the 4

corners of the Target - using the arrow and + in the box at the right to place a dot at the corner X symbols.

5.   Click on CreateProfile. A title box will appear. Add the artist's name and the date – Better light should already be part of the title.

6.   Click on SAVE and get more coffee. The profile will be saved to your computer.

V. Applying the camera profile to the artist's DNG image in Adobe Camera Raw

1.   Using the same computer that created the X-rite camera profile (and stored it), open the folder with the DNG images of the SG Target and the DNG of the art pieces in Adobe Bridge 2020.

2.   Click on the DNG image of the art and right click or control click and choose "Open in Camera Raw."

3.   Go to "Profile" at the top right of the screen. Click on "Browse." Choose the profile you created from this shooting session. The name of the profile will be displayed   - Don't click on anything else ….

4.   Go to the top of the screen and click on the "Save Options" icon (box with a down arrow).

5.   A window will open to choose how you want to save this image – with the camera profile applied. Select the folder with the images from the shooting studio.

6.   A page will give your options for how to save the images from this session:

7. My choices are:

a. File Extension – TIFF
b. Space – Adobe RGB (1998)
c. Depth 16 Bits/Channel
d. Image Sizing – Resolution I use 360 ppi for Epson printing. 300 ppi is standard for many publishers.

8. Click on Save at the screen top

9. Click on Done at the bottom right of the screen. You will now find a .tif version of the art image in the folder from the shooting session as shown in Adobe Bridge.

V. Editing and printing from Photoshop 2020

1. Open the .tif image in Photoshop.

2. Crop the image to the size of the original art.

3. Rotate the art to match the orientation for display (signature at bottom?).

4. Make a 1st "Proof" image on the desired paper using a printer profile that matches your printer, the paper name, and the chosen ink (Pk/MK).

5. Examine the original art and the 1st proof under proper viewing light conditions and make notes for any needed adjustments in black and white levels, contrast, and color modifications.

VI. Final Notes

A point to consider:

It is important to recognize that a "Giclée" reproduction creates a new piece of art - in a different medium from the original art. Our digitizing process captures colors in a manner that differs from the human eye, and our printers create prints with inks and pigments that differ from those little tubes of paint that were used to create the original art. The paper or canvas that we use for printing will be different than that used for the original art. Our goal is to come as close as possible to reproducing the original - but it will always be a derivative image - one based on the original art but always a new and different work of art.   I share this information with all my artists.