better Photoshop techniques

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How to make
PERFECT PHOTO COPIES

Epson's restoration scanner

Need help with scanning a variety of film and print originals in preparation for restoration? Hot on the heals of Epson's much acclaimed v700 scanner comes its more affordable sibling the Perfection V600 Photo.

Epson claims that like the V700, the V600 produces exceptional image quality scans using an integrated matrix CCD and micro lens technology capable of scanning at up to 6400 x 9600dpi optical resolution at a 48 bit colour depth.

Key to the production of good quality scan from film based originals is the ability to capture detail in the darkest part of the negative of the slide. With the ability to operate at an optical density of 3.4 Dmax the scanner will be able to capture a full range of tones with detail from shadow to highlight areas.

The scanner also has a fully integrated transparency unit and versatile film holder for a wide variety of film formats, including 12 frames of 35mm filmstrip, 4 frames of 35mm mounted slides and medium format up to 6 x 22cms.

Epson Perfection v600 Photo

USES: high quality print, negative and slide scanning.
FEATURES: High scanning resolution, colour depth and Dmax.
PRICE: $549.00
WEBSITE: www.epson.com.au

Your passport to better Raw colour

X-Rite has announced a colour profiling solution that integrates with industry standard raw workflows based on Camera Raw or Lightroom. X-Rite has built upon the good work started by Adobe when they released a beta version of the DNG profile editor earlier this year. The ColorChecker Passport is a sophisticated hardware/software solution that brings ease of use to what was a pretty complex task, namely, that of creating a custom profile for a camera's response to a specific lighting set up.

The system also includes an extended target set which can be used by JPEG and Raw shooters alike to quickly and easily capture accurate colour, instantly enhance portraits and landscapes, and maintain colour control from capture to edit.

ColorChecker Passport includes:

- White Balance Target–a newly formulated neutral reference point to eliminate colour casts, and improve camera display previews for more reliable histograms as well as speed up post-production editing.
- Classic Target–provides the industry standard in colour referencing for specific colour evaluation, plus DNG profile creation for predictable and repeatable results from image to image and camera to camera.
- Creative Enhancement Target–offers fast, one-click creative enhancements and a visual reference for judging, controlling and editing images for shadow details, highlight clipping or colour shifts.
- Camera Calibration Software–offers quick and easy custom DNG profiles for Adobe Imaging solutions.
- Protective Case–is rugged, fits a camera bag or pocket, and self-stands in multiple positions; included lanyard for additional scene placement convenience.
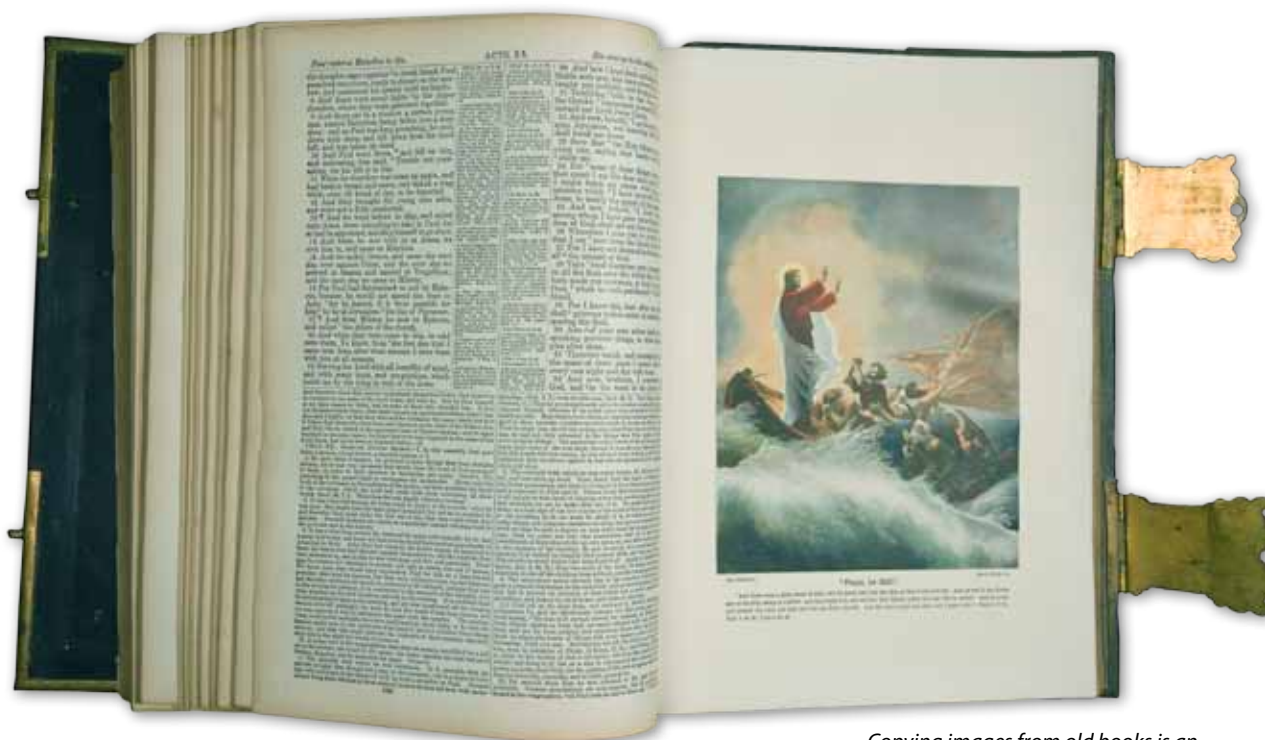
X-Rite ColorChecker Passport

USES: Custom colour tweaking and white balancing for Raw shooters.
FEATURES: Software/hardware solution that integrates with Lightroom and Adobe Camera Raw .
WEBSITE: www.xritephoto.com, www.des-pl.com.au

Perfect Copies

Copying images from old books is an exercise in colour and tonal control as much as lighting, exposure and focus.

Perfecting the Copy Process

by Philip Andrews

Sometimes it may seem that getting an accurate copy of a print, or illustration, is a little like trying to weather a tempest without a little divine intervention. It can be a turbulent process to say the least.

Lighting Basics

The essential technique is to light the subject as evenly as possible, and have the camera set up so that it is positioned square-on to the subject's surface. Drawings, pictures and clips from papers are best taped against black cardboard, attached to the wall and lit by two light sources positioned about 30° to the surface. Keep each light well back from the original to help ensure even illumination across the whole surface. The closer the light is to the subject the more difference there will be in the level of
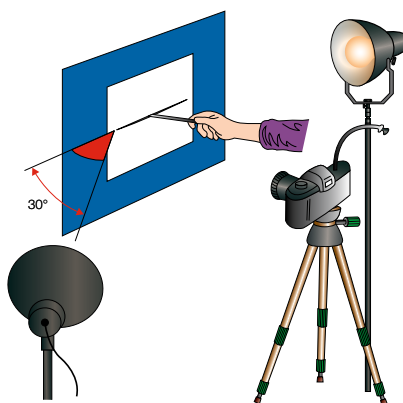
A set-up for copying photo prints, drawings and other flat art work.

illumination from one side to the other.

An alternative to wall mounting is to place the subject flat at the base of a

vertical camera support. My set up works this way. It reuses a column from an old enlarger. I simply removed the enlarger mechanism and replaced it with a three way tripod head. This system provides me with a good range or movement and the ability to adjust the camera position in all directions before locking into place.

Ensuring that the back of the camera is parallel to the surface of the subject is key to being able to keep subject square in the viewfinder. You can use a small level across the back of the camera but be sure to keep the support base level as well. Another way that works well for wall mounted originals as well, is to place a mirror flat on the subject surface and then adjust you camera so that the mirror is in the centre of the frame and you can see your own reflection.

Mixed continuous lighting creates interesting colour casts when photographed using the Auto-White balance option.

Creating a profile for the lighting and camera combination helps neutralize the effects of mixed lighting and produces a more accurate rendition.

Vertical camera setup using a column from an old enlarger..

Strength and direction

The light sources should be positioned so that their strength and direction is balanced and matched. The best setup uses lights of the same power and with the same reflector or light boxes attached. Mismatched sources can be used, but they will require a little more adjustment to get the illumination just right.

You can check the lighting with a pencil held at right angles to the original. The two shadows should be equally dark, the same length and together form one straight line. If you don't have a pencil handy I often use a small card, or, as is the case in this example, the ColorChecker passport rested on its end. Not a use the X-Rite designers intended, I'm sure, but effective none the less.

If one shadow is darker than the other then move the opposite light closer in to increase the amount of light it is throwing on the subject. If a shadow is longer than its counterpart then raise the height of the light source. This increases the angle of the light.

This pencil test is a simple but informative way to help you set your lights up, but, for more precision, those readers who own a hand held light meter can use the device to check the relative strength of each light and the evenness of the illumination across the subject's surface.

Colour, colour, colour

With the lights sorted, we now should turn our attention to colour. In the old days this was a simple matter of matching the light source with the appropriate film stock – tungsten lights with tungsten film, flash with daylight film. When shooting digital we have more choices and more options to account for the colour of our light sources. This is a good thing as many of the more affordable continuous light source options are based on fluorescent

Online resources for this technique: More information about the X-Rite ColorChecker Passport can be found at www.xrite.com

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Perfect Copies

or strip lighting systems which are notorious for adding unusual and unwanted colour casts to photos.

The simplest option is to shoot a grey card under your copy lights and then use this as the basis for making white balance corrections in Adobe Camera Raw or Lightroom. This approach provides a good general adjustment but doesn't fully take into account any wayward colours in other parts of the tonal range or colour gamut.

A more complete system for neutralizing the colour of specific light sources involves checking how the light interacts with a range of tones and hues. This multi-swatch approach is the one we employ when building profiles for our monitors and printers and it is equally applicable to the capture process as well.

Sounds easy, right? Well the hidden gotcha in this exercise is that traditionally capture profiles are applied to images after download, in Photoshop. 'No problem' you say. Well add to this the fact that raw shooters have substantial colour and tonal adjustment controls available in tools such as Adobe Camera Raw and Lightroom which can be used on the image before it ever reaches Photoshop and you will start to see that much of your capture profiles hard work can be undone with a few simple tweaks of a Lightroom slider control. What we need is a colour solution for raw shooters.

Thankfully Adobe provided a solution with its DNG Profile Editor (See BPT17 for a full article). Using the multiple colour and tone swatches found in the X-Rite ColorChecker as a reference, the software built a special camera/lighting profile which could be used in the Camera Calibration pane/tab of Adobe Camera Raw or Lightroom. This in turn provided raw shooters with the ability to firstly, characterize, and then, neutralize the colour idiosyncrasies of all manner of light sources during raw processing. Cool!

Introducing the ColorChecker Passport

The fact that the Adobe system made use of the X-Rite ColorChecker is no surprise as the company has been at the forefront of high quality digital colour management for years. It is also no surprise that not long after the profile editor was published as a Beta, X-Rite released its own hardware software solution – the ColorChecker Passport.

Based on a similar approach, a set of swatches are photographed under the lights to be profiled. The file is then converted to DNG, Adobe's Digital Negative format, before being imported into the ColorChecker Passport software where the swatches are analysed and a custom profile produced. The resulting file is then saved and made available as one of the Profile options in the drop-down menu of the Camera Calibration pane/tab in Adobe Camera Raw and Lightroom.

Lightroom users also have the option of working with a dedicated ColorChecker Passport plug-in available from inside the program. ColorChecker images in the Library are Exported to the X-Rite plug-in using the X-Rite preset in the Export dialogue. Automatically the profile is processed and installed in Lightroom. A simple restart is all that is needed to start using the new profile.

Back to copying...

The X-Rite ColorChecker is the perfect tool to employ in our quest for more neutral colour copying. The ColorChecker target section of the passport is placed in the same place as the subject and then photographed. Careful attention needs to be paid to exposure as ColorChecker images that are too bright or dark will cause problems when processed. In particular, it is important that there is a measurable difference between the 8 patches in the special RAW Enhancement target. These patches are designed to warn photographers of an exposure problem. The patches are separated into two groups: light and dark. The light patches are ordered with 1/3 of an F-stop difference between them. The exposure difference between the darkest and next darkest patch is roughly 1/10th of a stop. The dynamic range of the target is roughly 32:1, or 5 stops.

Once captured the ColorChecker photo is imported into Lightroom, selected and then Exported with the X-Rite preset. The export process builds and installs the new profile which you can then use with all images photographed using the copy setup. Smart Lightroom users will create a new user preset with the Camera Calibration set to the Copy Set Up profile and automatically apply the preset by selecting the entry in the Develop Settings menu of the import dialogue.

Set to go

Camera support, lights and colour organized the last step in the process is to trip the shutter. Even with a firm support, such as a tripod, it is a good idea to use a shutter release for this task and, if possible, as it is with the Sony A900, to lock the mirror up as well. This will help guarantee that there is no camera vibration while the shutter is open. This in turn means sharper pictures.

01 Start by ensuring that the subject surface is parallel to the camera back. In this example I placed a a small mirror on the base of the camera support directly under the camera. I then adjusted the tripod which supports the camera until the lens could be seen clearly in the mirror. Alternatively if the support based is level, then you can use a small spirit level on the back of the camera or tripod head to level the camera to match.

02 Now to position and match the lights. Place the lights at roughly 30% from the horizontal pointing towards the far side of the subject. Test the strength, angle and position of the light by placing an object perpendicular to the subject surface. Here I used the ColorChecker Passport resting on its edge. Look at the shadows on both sides of the object. Check to see that they are the same density and length. Here the shadow on the right is darker so the light on the left is stronger. Move this light further away and/or bring the other light closer in to even the lighting.


03 Next place the X-Rite ColorChecker Passport on the surface of the subject and carefully expose the two targets. To guarantee good exposure select exposure settings that will record all eight highlight/shadow patches in the Raw Enhancement target with detail. Install the ColorChecker Passport plug-in for Lightroom. Connect the camera or a memory card reader to the computer and import the captured file into Lightroom.
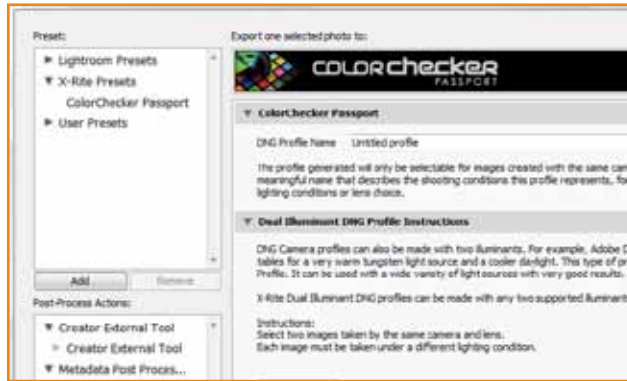
04 Select the ColorChecker Passport image in the Lightroom Library and then choose Export from the File menu. Choose the ColorChecker Passport preset from the list on the left of the dialogue. Add a file title in the DNG Profile Name area and then Click the Export button.
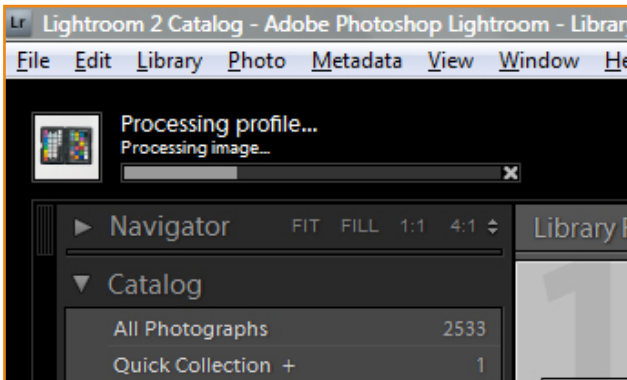
05 The X-Rite plug-in will process the file in the background. You will be able to track the progress of this activity via the progress bar in the top left of Lightroom. Once completed, you will need to restart Lightroom to register the profile. Now you can import files captured with your copy setup and neutralize the colours by selecting the new profile from the Profile menu of the Camera Calibration pane in the Develop module.
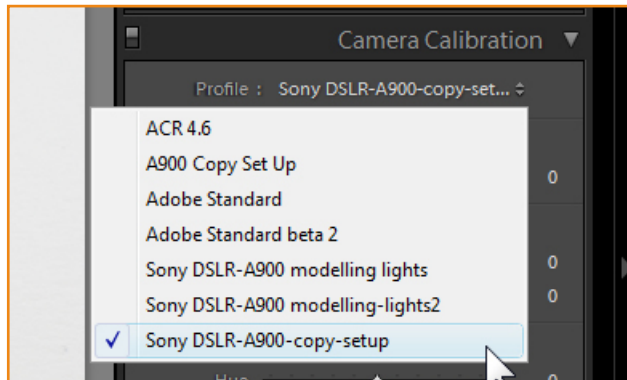
06 To automate the process of applying the profile simply change profiles for an example image and then Create New Presets button (+) at the top right of the Presets pane. Deselect all Settings except Calibration and save the preset. Next time you import copy images into Lightroom select the new preset in the Develop Settings section of the Import dialogue.

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www.better**photoshop**techniques.com