WhiBal User Guide

WhiBal®
White **Bal**ance Reference
For RAW and JPEG
www.WhiBal.com

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1 Introduction

This user guide is designed to get you up and running with your new WhiBal G6 White Balance Reference Card. WhiBal Tutorial videos are or will be available on the enclosed CD or online at www.WhiBal.com.

This guide shows RAW post production workflow in both RawShooter | premium 2006 (RSP) and Photoshop CS2 (Adobe Camera Raw). The procedures described in these sections can easily be applied to most RAW converters.

We show JPEG post production workflow in Photoshop CS2 using the WhiBal plug-in, which is included on the CD or can be downloaded free from www.WhiBal.com. The procedures described can easily be applied to most image editors that support Photoshop plug-ins.

2 The Purpose of WhiBal

Very simply, the purpose of WhiBal is to provide you with a fast, easy and cost effective way to obtain accurate color when you shoot with digital cameras. It doesn't matter whether you shoot RAW or JPEG, the WhiBal is still your best assurance that you can reproduce accurate color in any shooting situation.

3 WhiBal™ Card Features

This section under construction

3.1 Certified White Balance Reference

3.1.1 RAW White Balance Reference

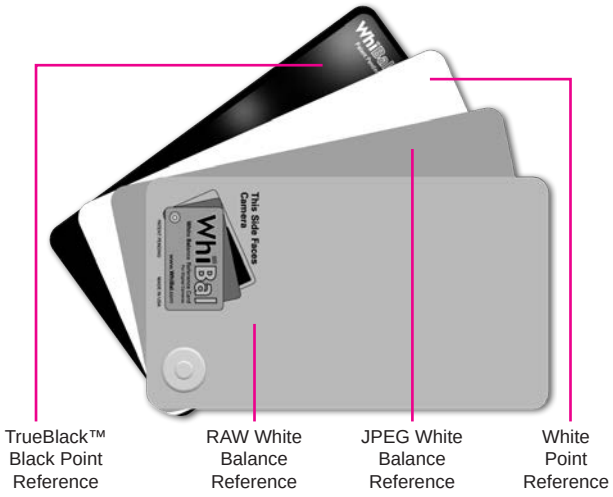
3.1.2 JPEG White Balance Reference

3.2 TrueBlack™ Black Point Reference

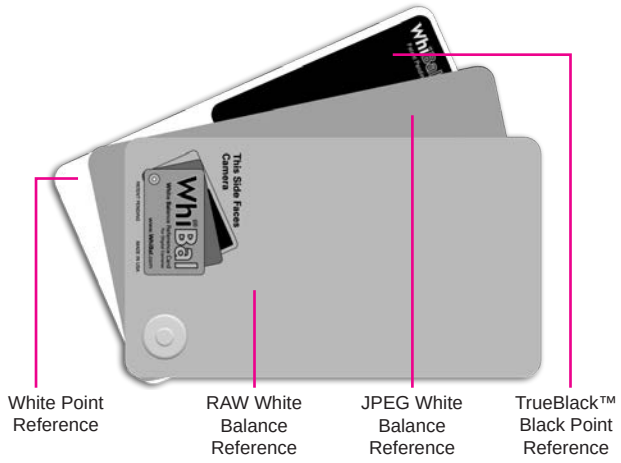
3.3 White Point Reference

3.4 Inch and CM Scales (G6 Only)

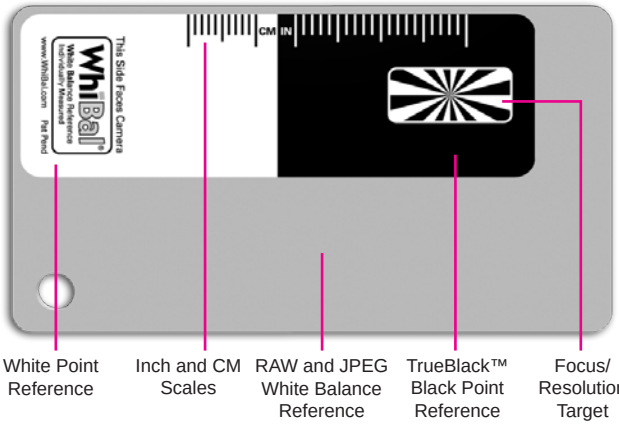
3.5 Focus/Resolution Target (G6 Only)



Four Card Generation 4 WhiBal



Three Card Generation 5 WhiBal



One Card Generation 6 WhiBal

4 Using WhiBal in a Shooting Session

Please Note: The following examples use the one card Generation 6 (G6) WhiBal. The procedures are the same regardless of which generation WhiBal you own. Always use the lighter gray RAW white balance reference when white balancing using the examples shown in this user guide.

Except as noted in the next section, shooting with a WhiBal is the same whether you shoot in RAW or JPEG mode. While shooting, the 3 most important considerations are: a) set your exposure as accurately as possible, b) check that the WhiBal shot is glare free (see Section 4.1), and c) use your WhiBal to take White Balance “reference shots” periodically during your shooting session.

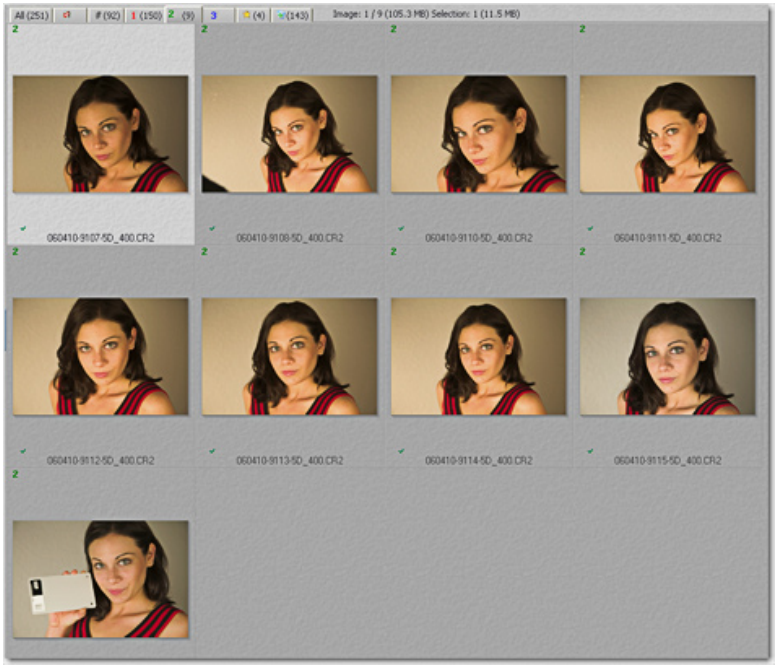
4.1 Special Considerations When Shooting JPEG

When shooting in JPEG mode, it is best to set the camera’s White Balance setting to closely match the scene’s lighting conditions. It will rarely be perfect, but the closer it is, the better that the WhiBal plug-in can adjust for the proper White Balance.

Setting the camera’s White Balance to AUTO is not recommended, as each image captured will have a different Scene White Balance, because each shot is based on the cameras “best guess” and will change based on composition and other factors. (When shooting RAW, the White balance in effect at the time of image capture will have NO effect on the WhiBal referenced final image).

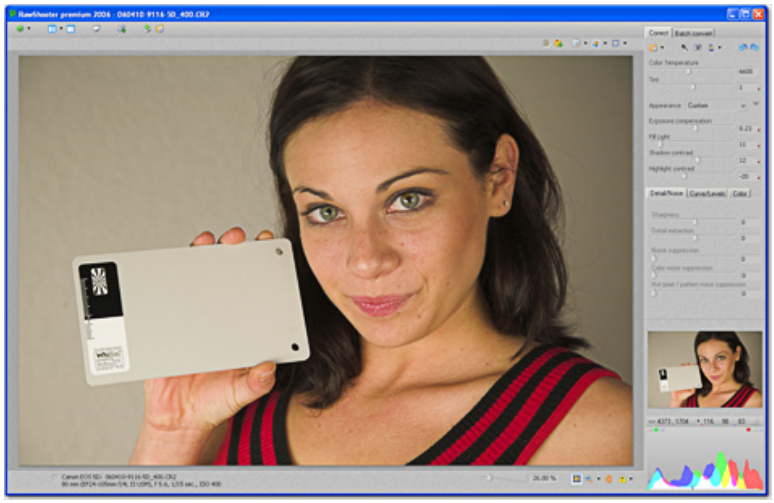
4.2 Shooting In a Controlled Environment

In our example session we photographed our model, Elisa, in a studio environment. These were some experimental shots from our session:



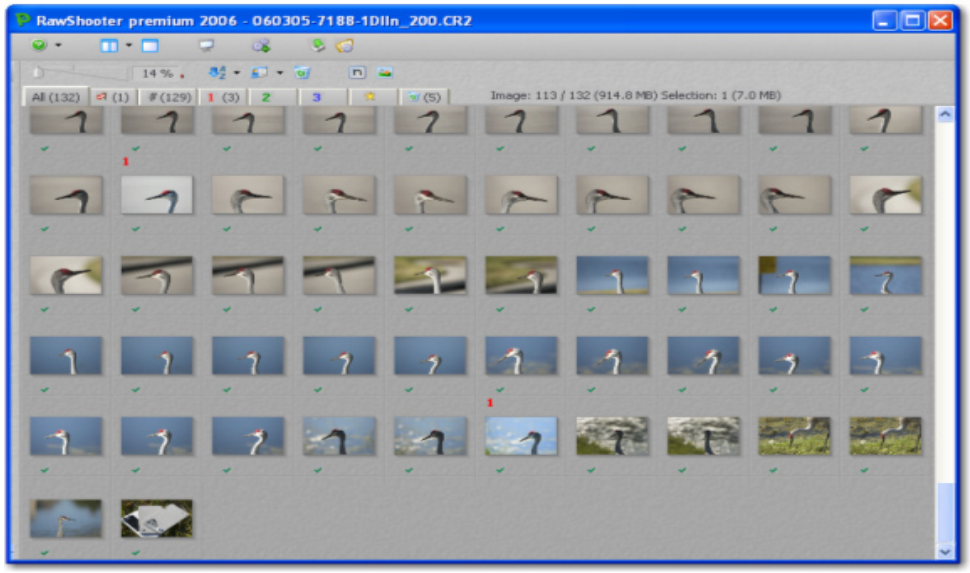
Note that the final shot is the WhiBal Shot (White Balance Reference Shot) to establish the SWB (Scene White Balance) for this session. That is one of the advantages of using the WhiBal. As long as the scene lighting remains the same, the WhiBal shot can be taken before, during or after the session. One does not have to ruin the spontaneity of the session by have the model hold the WhiBal at the beginning of the session. In fact the WhiBal shot can be taken before the model arrives, or after they leave!

This is the WhiBal shot:



4.3 Shooting Outdoors

Our other example sessions are the photographing of Sand Hill Cranes in an outdoor situation. Here are the photos from one of the sessions.



Again, the final shot is a WhiBal Shot to establish the Scene White Balance for this session which was shot in the early morning. While running to keep up with the Cranes, there was no time until after the session to capture the SWB using the WhiBal.

As long as the SWB does not change significantly, the WhiBal shot can be taken before, during or after the session. This session only lasted about 20 minutes and the light would not change significantly over that time to warrant taking intermediate WhiBal shots.

This is the WhiBal shot:

Note that the WhiBal was not photographed along side the Crane, nor did it have to be. Since the light source was a cloudless sky, the lighting was the same regardless of where the pictures were shot, so the placement of the WhiBal was not critical. In this case, just dropping the WhiBal on the grass, checking the sticker for glare and taking a single capture was all that was needed.

If, however, the scene's lighting changed during the session due to clouds or the position of the sun, additional WhiBal shots would be warranted to provide SWB data for photos shot under those conditions.

4.4 Avoiding a False White Balance Reference

Light reflected directly into the camera lens, or "glare", causes an image to appear overexposed or "washed out". If your WhiBal reference shots exhibit glare, they too will appear overexposed and cannot be depended upon to provide an accurate white balance reference during post production.

The highly reflective TrueBlack™ sticker on your WhiBal is an effective indicator of glare in your white balance reference shots, and can easily be seen in the viewfinder before the reference shot is taken.

When capturing a reference shot, tilt the WhiBal or change your shooting position until there is no light reflected in TrueBlack™ sticker. Then take your reference shot.

False Reference
(Glare)

True Reference
(No Glare)

5 Using WhiBal in a RAW Workflow

These are the basic steps to using WhiBal in a RAW workflow regardless of the camera or RAW converter:

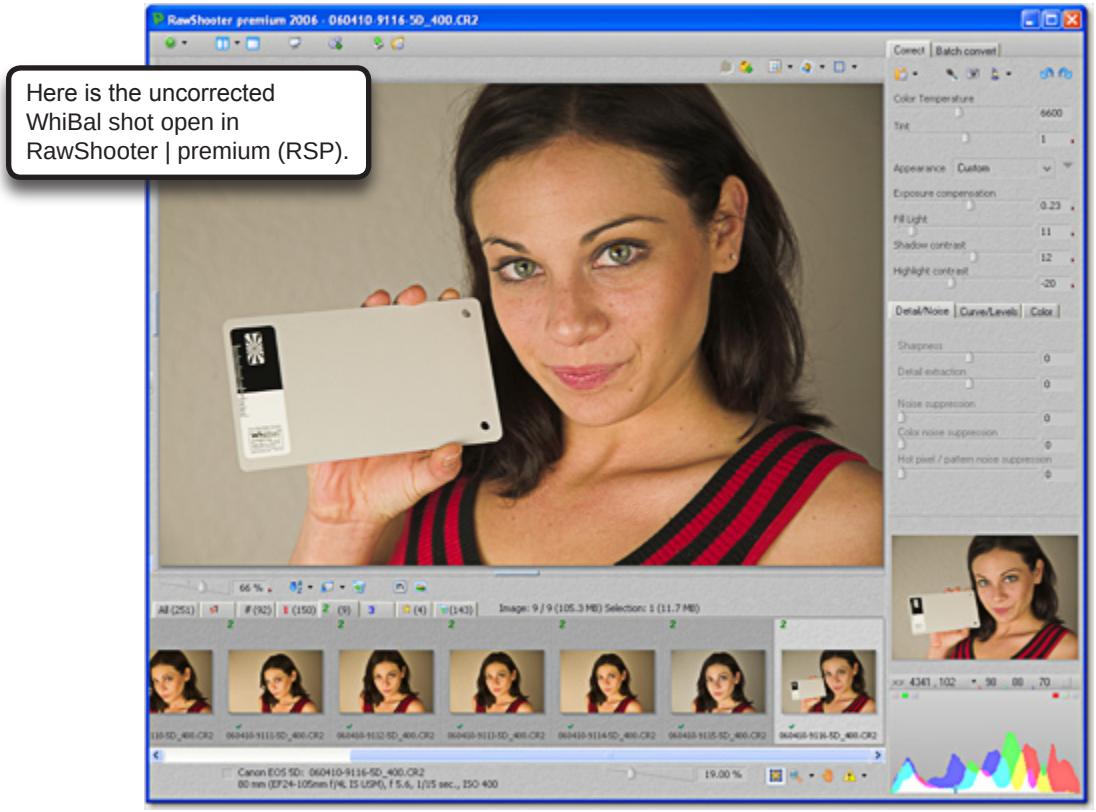
1. Take one or more WhiBal reference shots before, during, and/or after each lighting “setup” or “circumstance”.
2. In your RAW Converter of choice, use the *Click White Balance Tool* to click on the Gray section of the G6 WhiBal or the Light Gray card of previous version WhiBals. This provides the RAW Converter with the data containing the color of the light at the time of your shooting setup. We will call this information the *Scene White Balance* (SWB).
3. Using the appropriate tools in your RAW Converter, apply the SWB to the other pictures taken in that same lighting setup.

It’s important to note that all adjustments made to a RAW image, white balance or otherwise, do not permanently change the original RAW file in any way. Adjustments are stored by the raw converter as an instruction set, that describes how you wish the final RAW conversion to look.

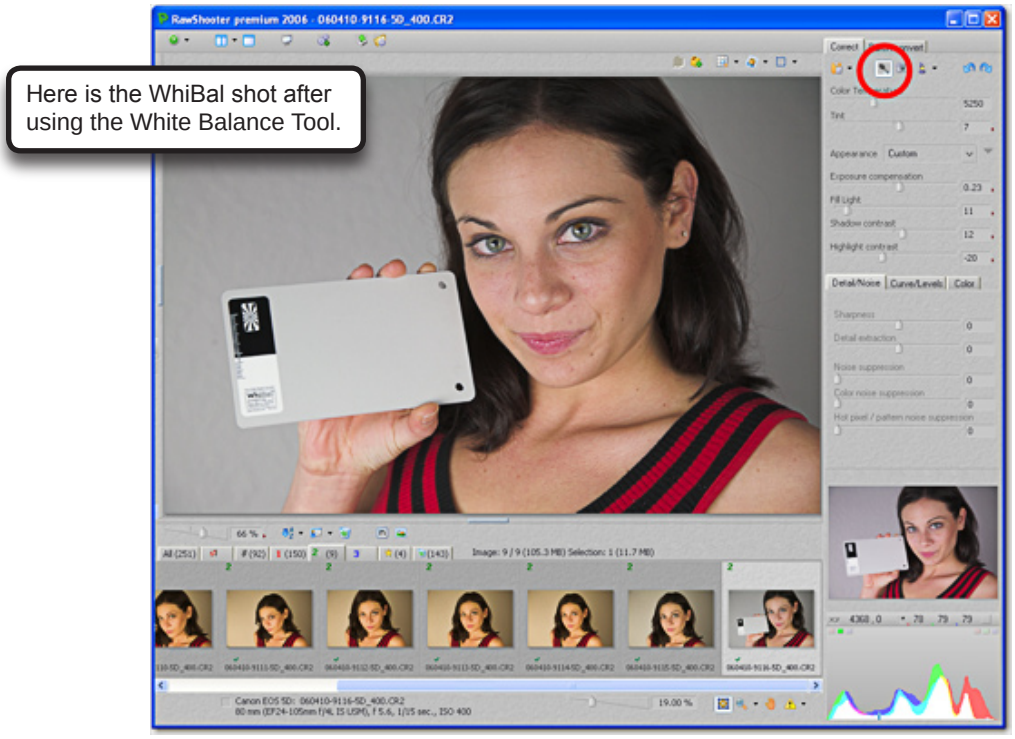
When you tell the RAW converter to save a converted file, by issuing a Save, Open or Batch command, the converter applies the instruction set to the RAW image and saves it as a separate JPEG or TIF file, leaving the RAW image data contained in the RAW file unaltered. In this way you can make further conversions, each with different adjustments or “looks” by simply readjusting the controls provided by the RAW converter.

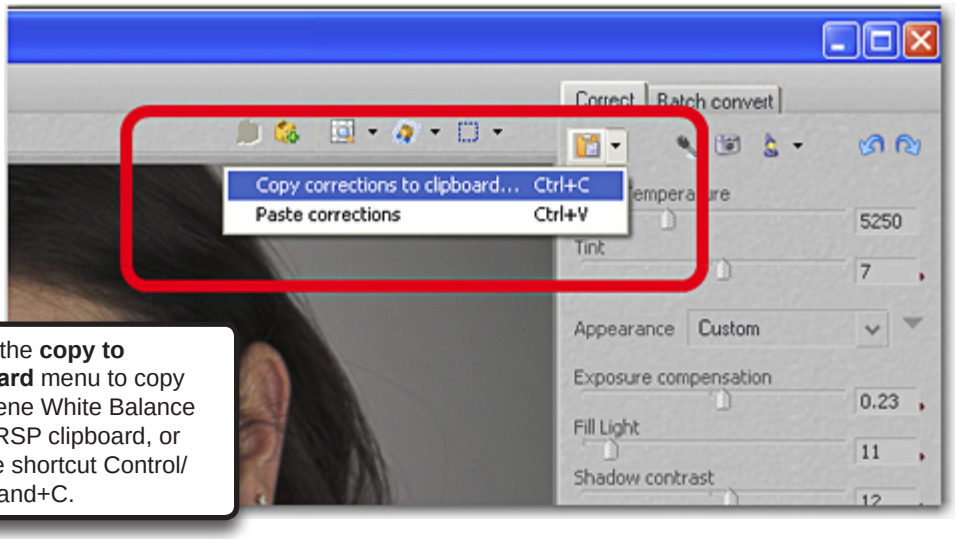
5.1 RAW Post Production Using RawShooter | premium 2006

This method describes how to apply White Balance settings to all images in a session before selecting “keepers”.

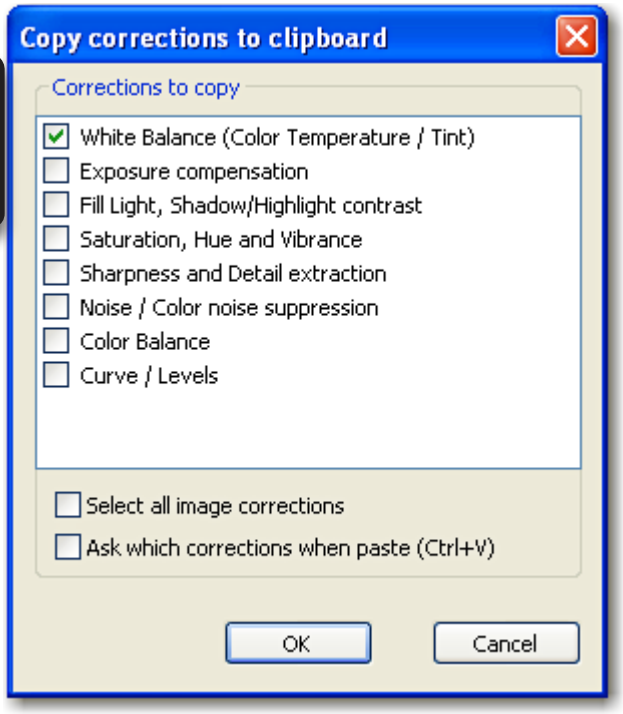


Select the White Balance Tool (the Eyedropper) and click on the light Gray (RAW) WhiBal card to set the SWB for this reference shot.

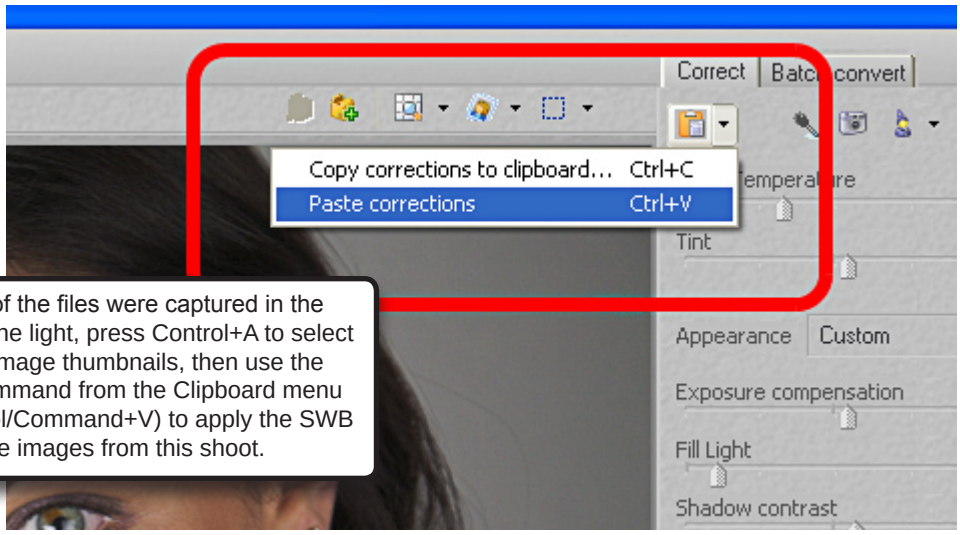

Here is the WhiBal shot after using the White Balance Tool.



Select the **copy to clipboard** menu to copy the Scene White Balance to the RSP clipboard, or use the shortcut Control/ Command+C.



Select only **White Balance** on the selection dialog, so that only the SWB from the WhiBal shot is copied to the RSP clipboard.



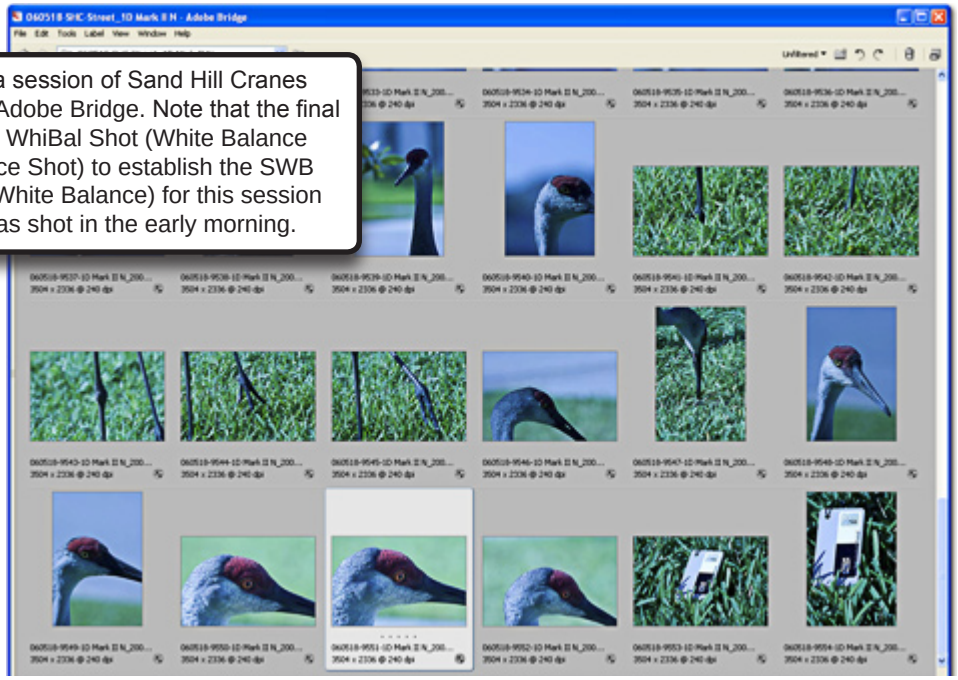
Since all of the files were captured in the same scene light, press Control+A to select all of the image thumbnails, then use the Paste Command from the Clipboard menu (or Control/Command+V) to apply the SWB to all of the images from this shoot.

That's it. Now we can go ahead and make additional adjustments on any of the files from the shoot, knowing that the proper Scene White Balance has been applied to all of the files, and that there starting color rendition is "accurate". Of course creative color adjustments can also be made if a slight deviation from "accurate" better serves the creative intention of the photograph. By using "accurate" as the starting point, it is much easier to bring creative variations into play. Especially using the snapshot feature of RawShooter, one can adjust and compare various color renditions and compare them instantly.

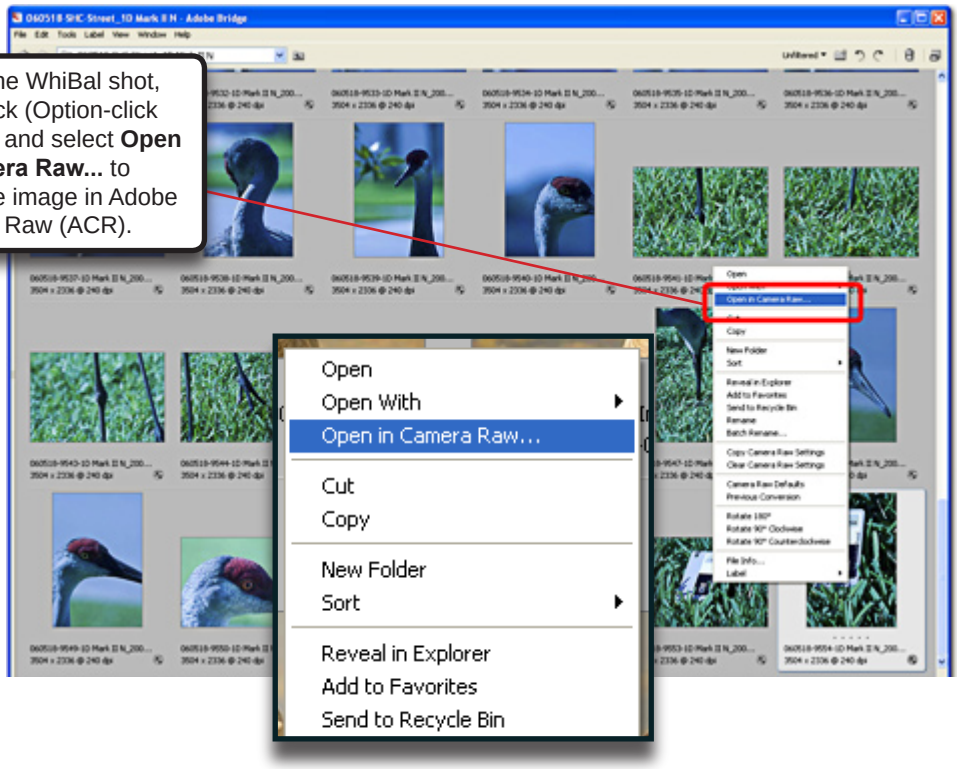
Here is a representative shot before and after white balancing:

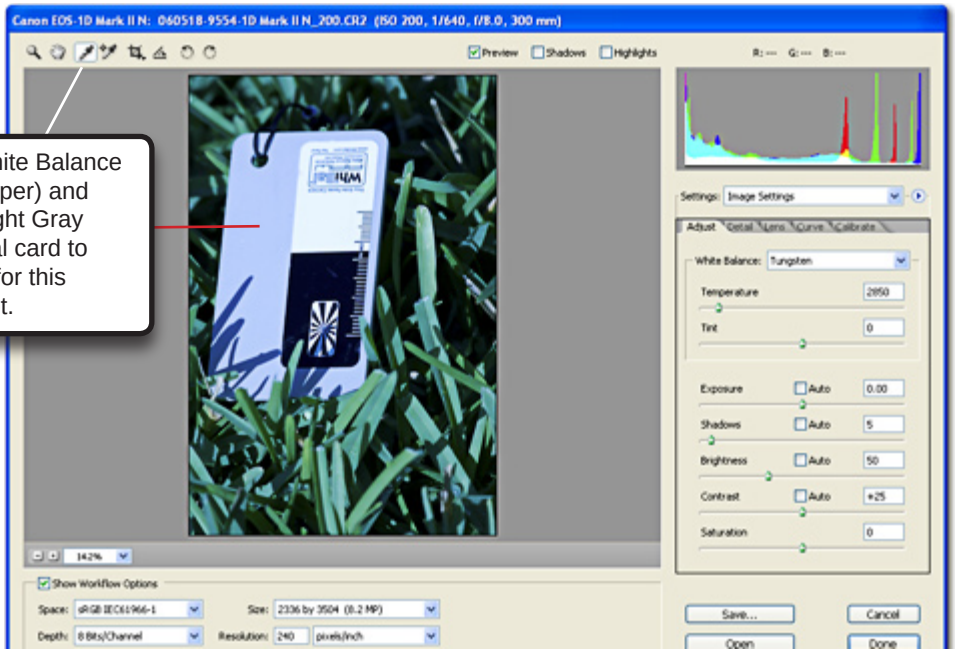
5.2 RAW Post Production Using Adobe Photoshop CS2/Bridge and Adobe Camera Raw (Method 1)

Here is a session of Sand Hill Cranes open in Adobe Bridge. Note that the final shot is a WhiBal Shot (White Balance Reference Shot) to establish the SWB (Scene White Balance) for this session which was shot in the early morning.

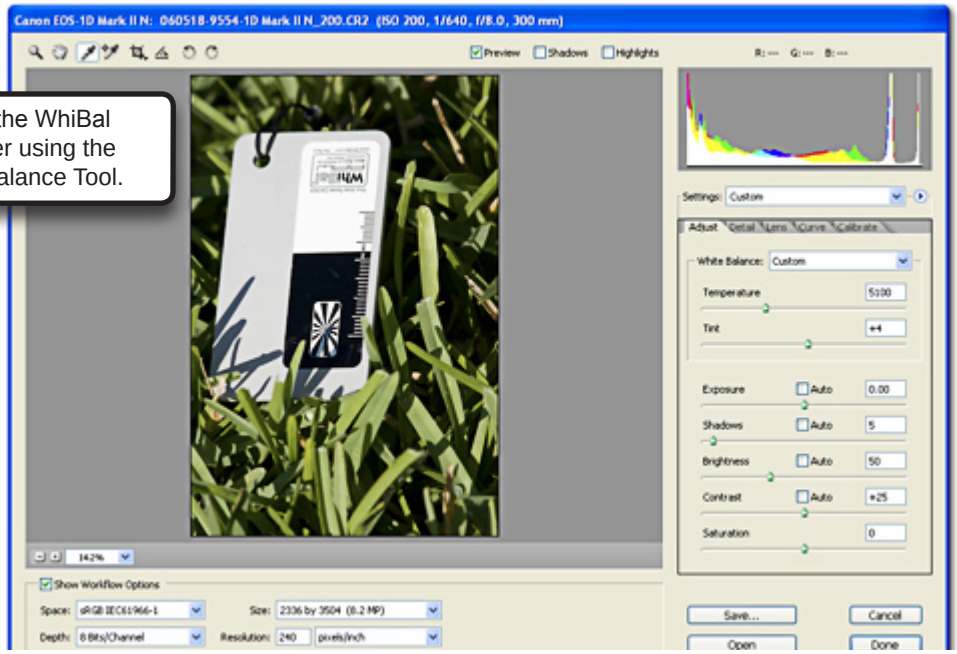


Select the WhiBal shot, Rght-click (Option-click in Mac), and select **Open in Camera Raw...** to open the image in Adobe Camera Raw (ACR).



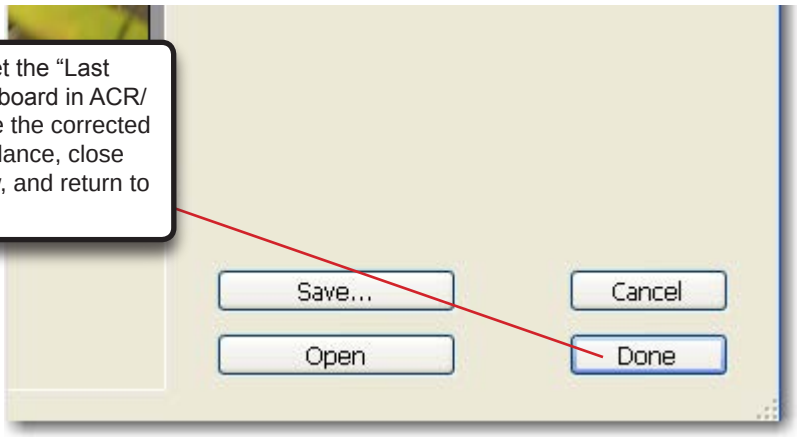


Select the White Balance Tool (eyedropper) and click on the light Gray (RAW) WhiBal card to set the SWB for this reference shot.

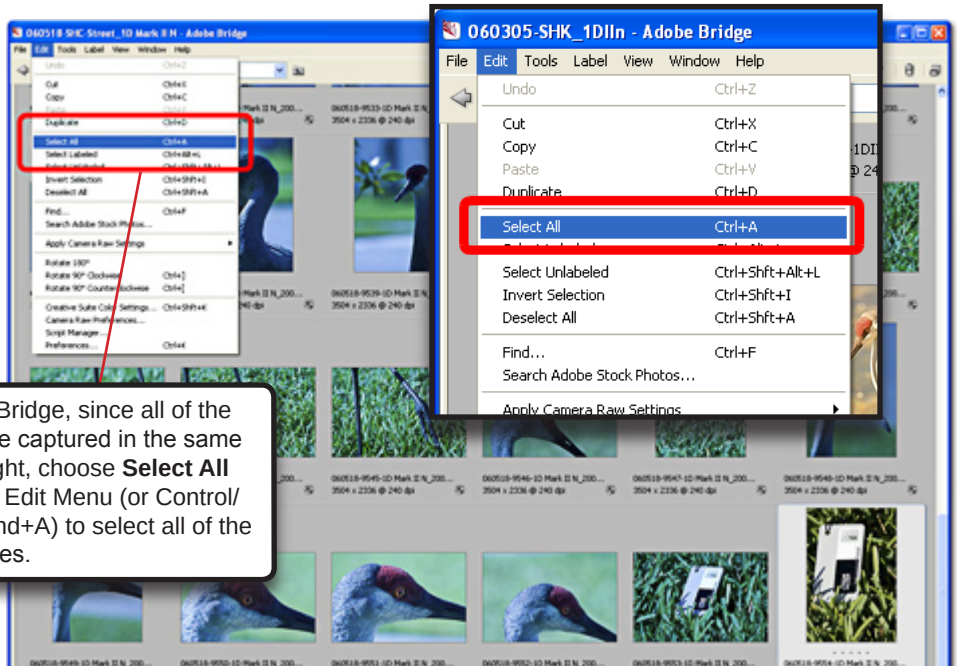


Here is the WhiBal shot after using the White Balance Tool.

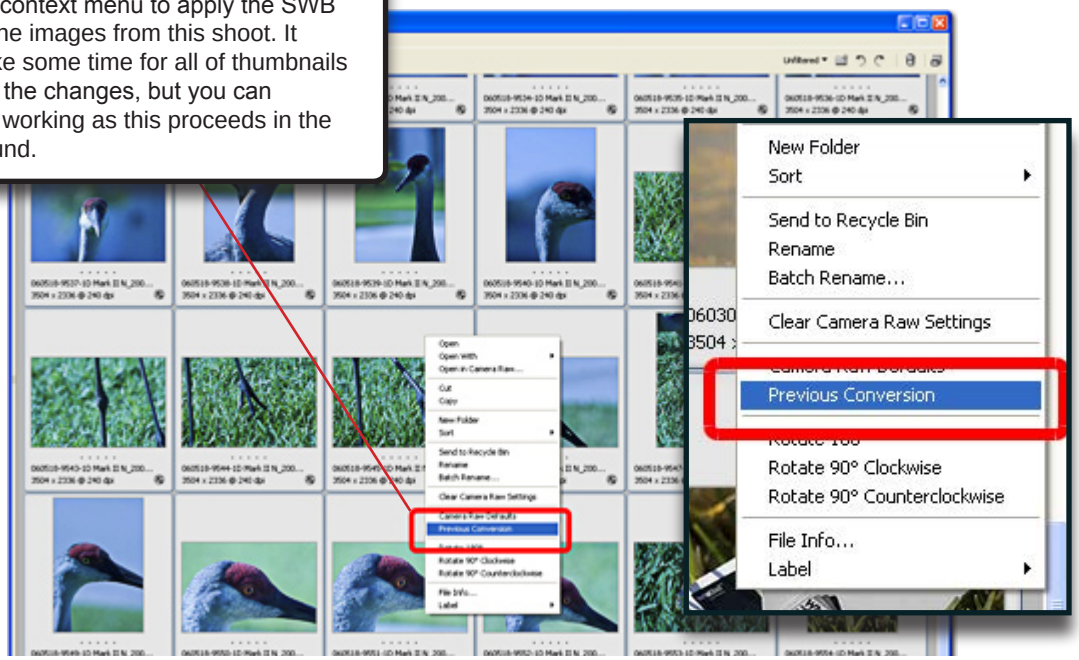
Click **Done** to set the “Last Conversion” clipboard in ACR/ Bridge to include the corrected Scene White Balance, close the ACR window, and return to Adobe Bridge.



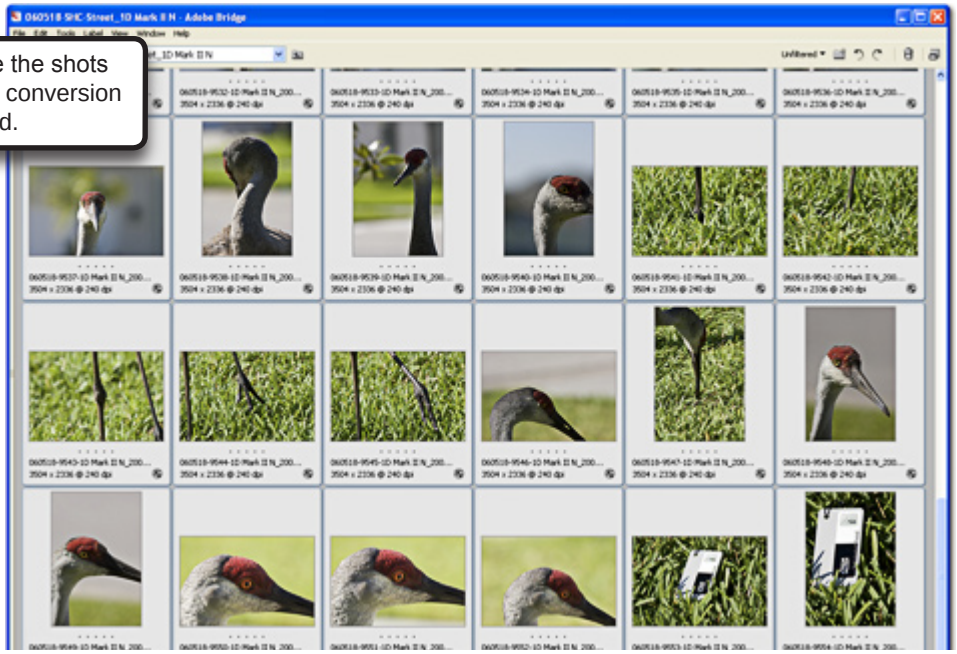
Back in Bridge, since all of the files were captured in the same scene light, choose **Select All** from the Edit Menu (or Control/ Command+A) to select all of the image files.



Right-click (Option-click for Mac) on one of the files and select **Previous Conversion** from the context menu to apply the SWB to all of the images from this shoot. It might take some time for all of thumbnails to reflect the changes, but you can continue working as this proceeds in the background.



Here are the shots after the conversion is applied.



That's it. Now we can go ahead and view, cull and select our keepers, knowing that the Scene White Balance has been applied to all of the files. We can then make further adjustments on any of the files from the shoot

Here is a representative shot before and after white balancing:

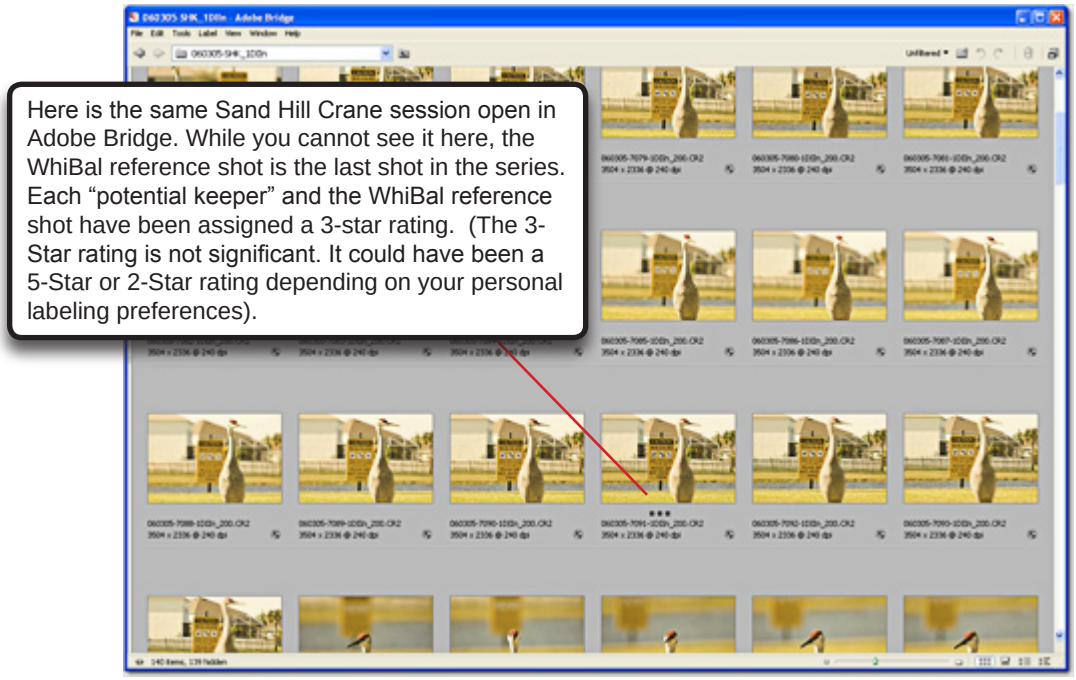
The advantage of this method is that when you now view the images in Bridge, you will be viewing the files with a proper color rendition which will make it easier to edit or cull your keepers and trash. Also whenever you open an image in Camera Raw the color will already be at a perfect starting point (or be the final color) because the proper White Balance has already been applied to ALL of the files in this shoot.

If you would rather apply White Balance settings to selected images only, try Method 2 shown in the next section, which allows you to select the keepers first, then apply the White Balance settings only to the images that you have selected.

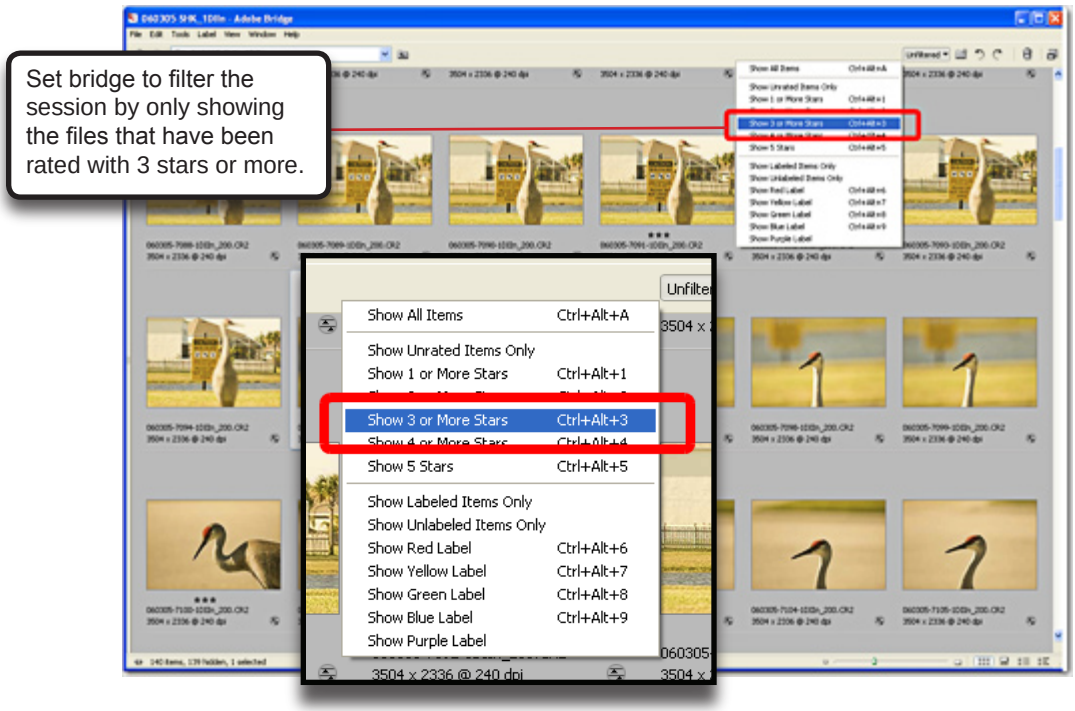
5.3 RAW Post Production Using Adobe Photoshop CS2/Bridge and Adobe Camera Raw (Method 2)

Here is an alternate method of post production workflow using Photoshop CS2 and Adobe Camera Raw. In the previous section, we first applied the Scene White Balance (SWB) to all of the raw captures so that we could browse, cull, select and edit color balanced files in Bridge. By having all of our files color balanced before the selection process, we can make better determinations of the" keepers" vs the "maybes" vs the "bit bucket".

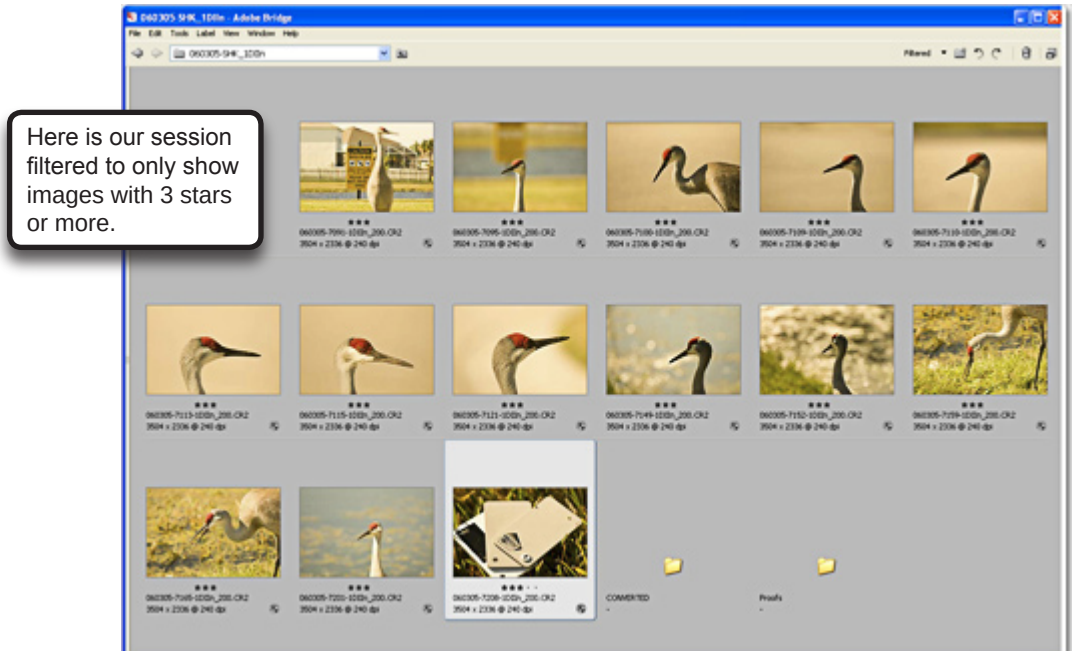
In this "Method 2", we will make our selections first and then focus our attention on the "keepers" by bringing them into Adobe Camera Raw together, before applying the proper SWB.

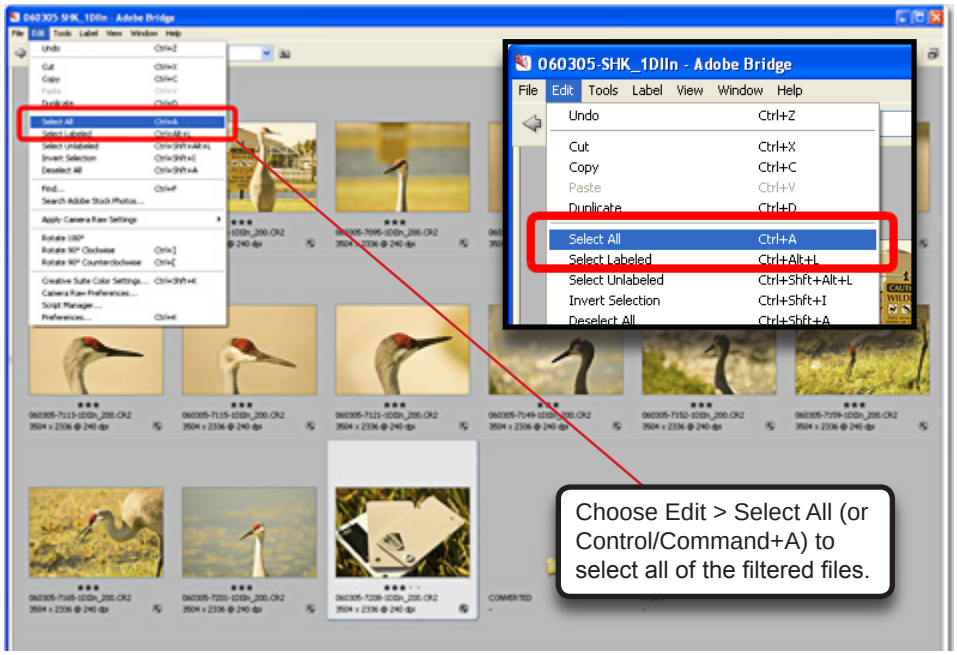


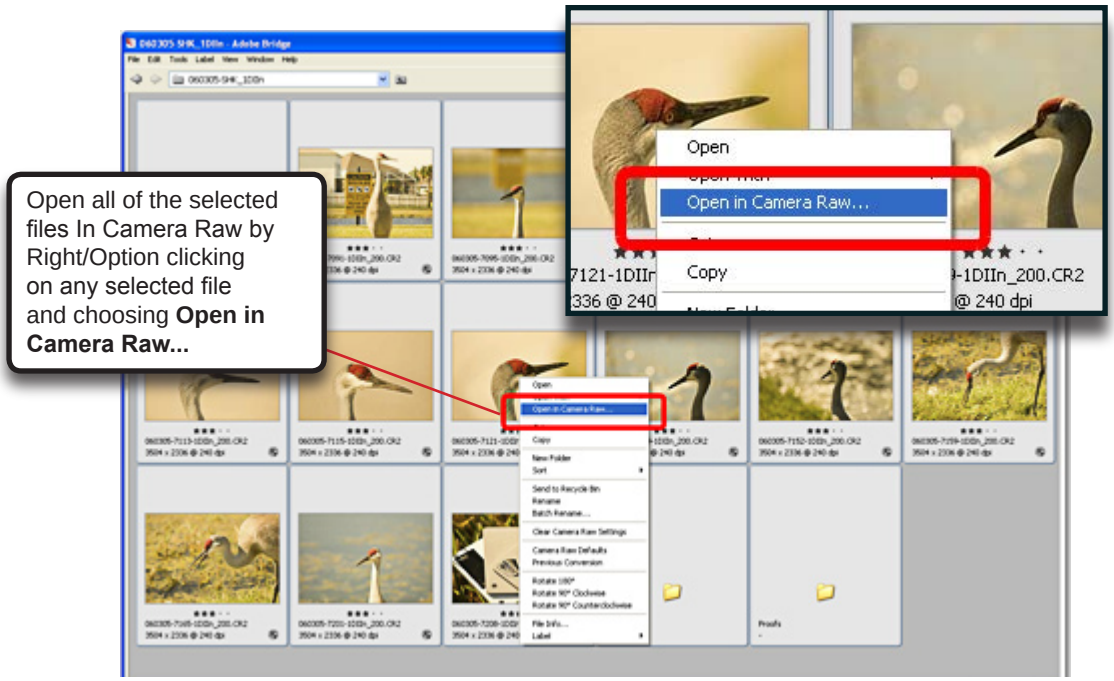
Here is the same Sand Hill Crane session open in Adobe Bridge. While you cannot see it here, the WhiBal reference shot is the last shot in the series. Each "potential keeper" and the WhiBal reference shot have been assigned a 3-star rating. (The 3-Star rating is not significant. It could have been a 5-Star or 2-Star rating depending on your personal labeling preferences).



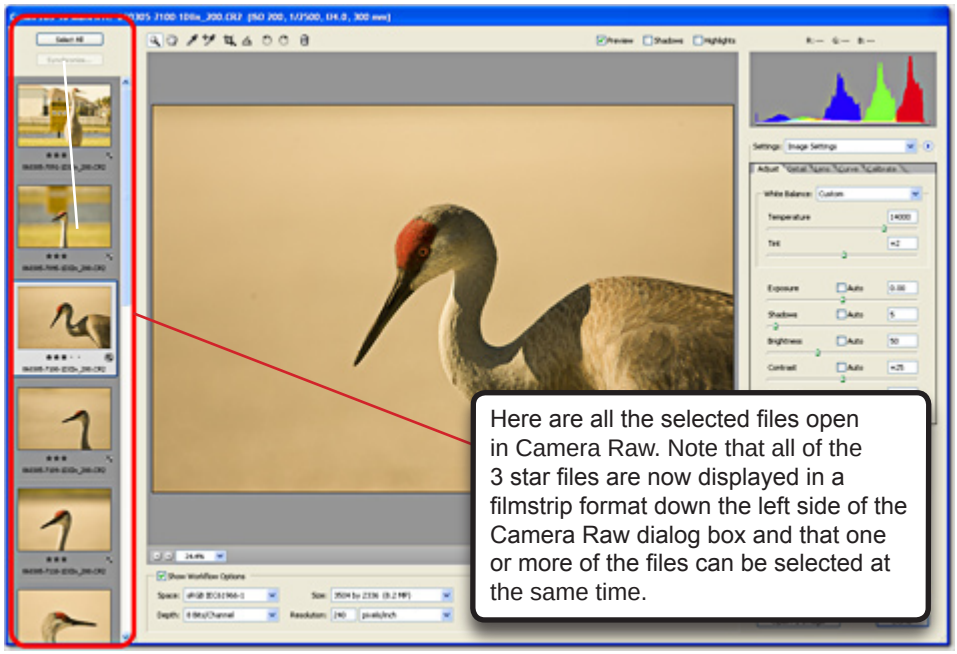
Set bridge to filter the session by only showing the files that have been rated with 3 stars or more.

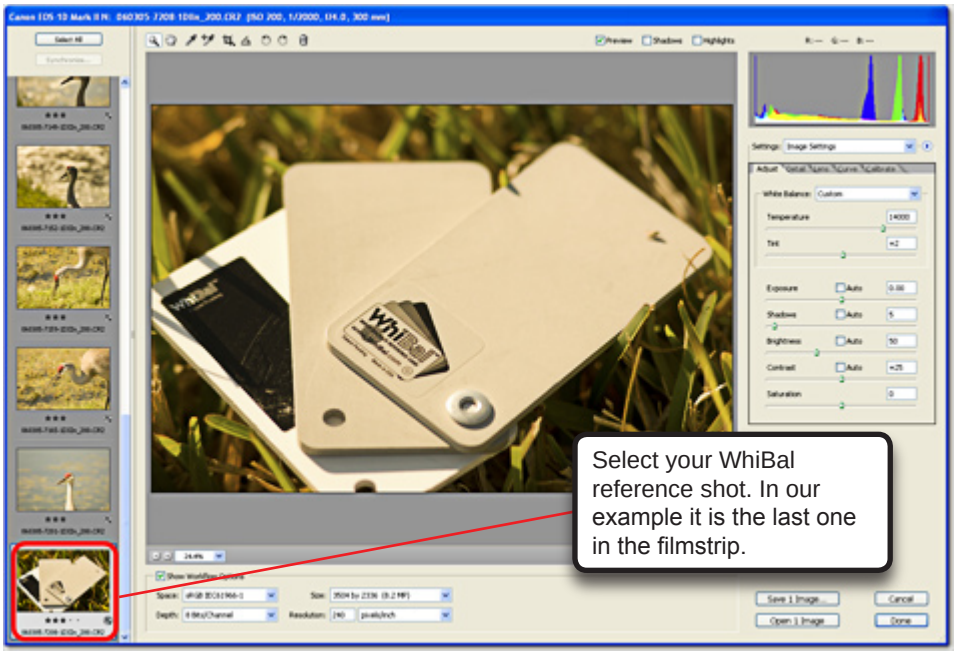

Here is our session filtered to only show images with 3 stars or more.

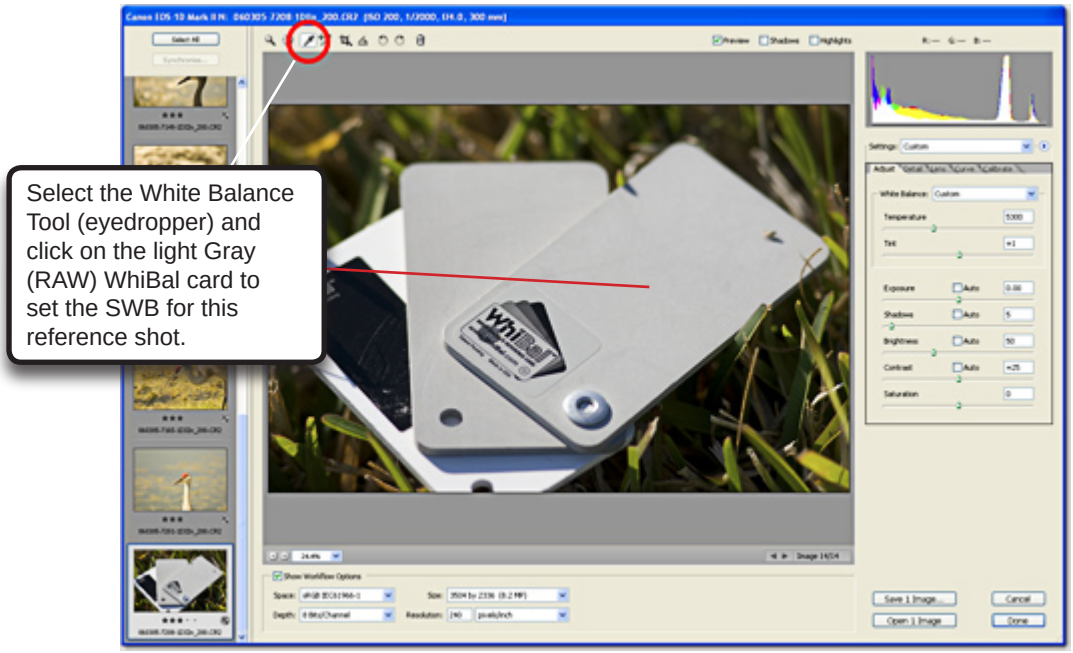

060305-SHK_1DIIn - Adobe Bridge
File
Edit
Tools
Label
View
Window
Help
Undo Ctrl+Z
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Duplicate Ctrl+D
Select All Ctrl+A
Select Labeled Ctrl+Alt+L
Select Unlabeled Ctrl+Shft+Alt+L
Invert Selection Ctrl+Shft+I
Deselect All Ctrl+Shft+A
Choose Edit > Select All (or Control/Command+A) to select all of the filtered files.

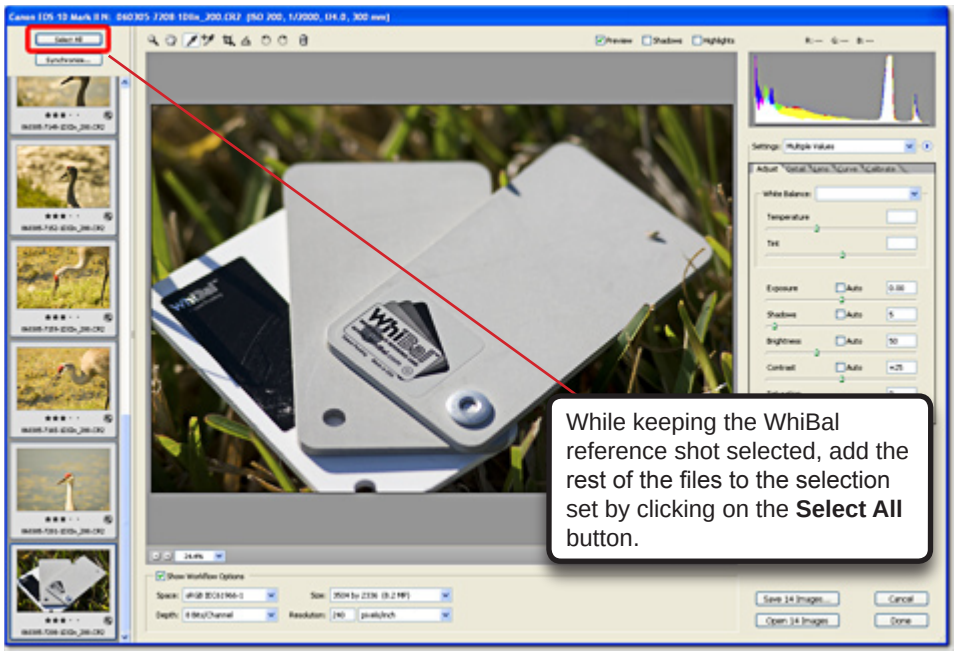


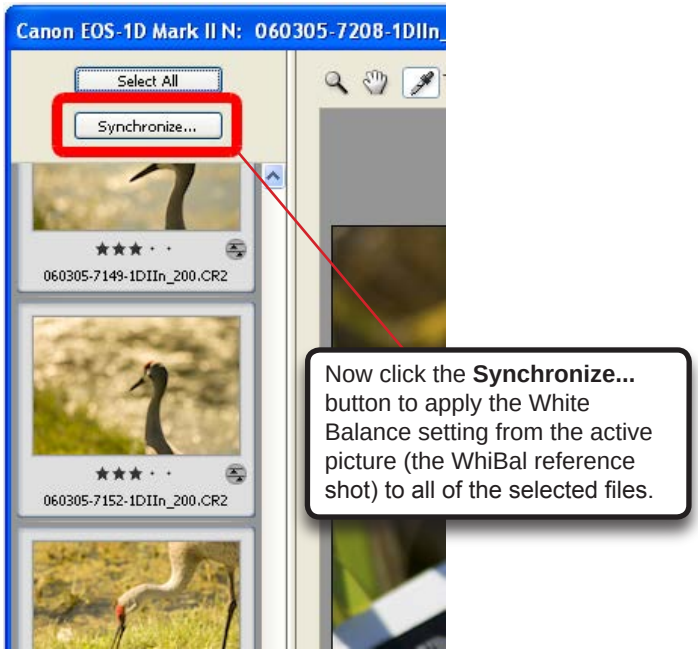
While using the rating system is one way to pick a selection group to bring into Camera Raw, there are many other methods to do so as well. Whatever the "selection" means, this method shows the ability to pre-select a group of files and then open them up simultaneously in Camera Raw, rather than 1 at a time.

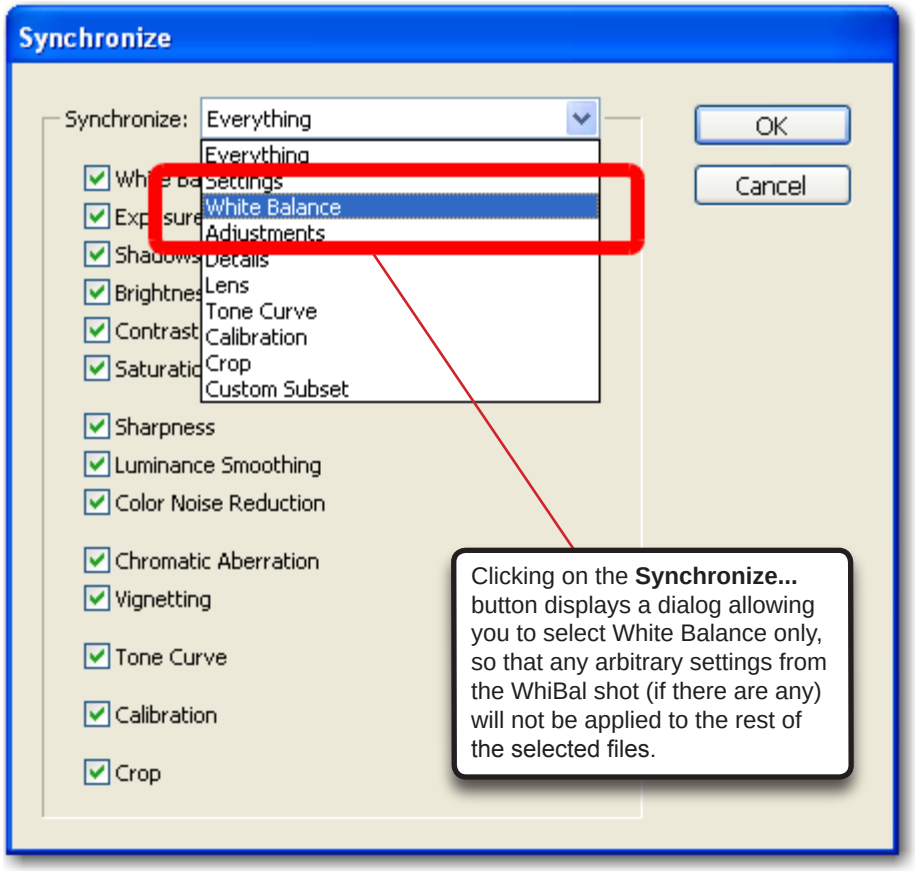


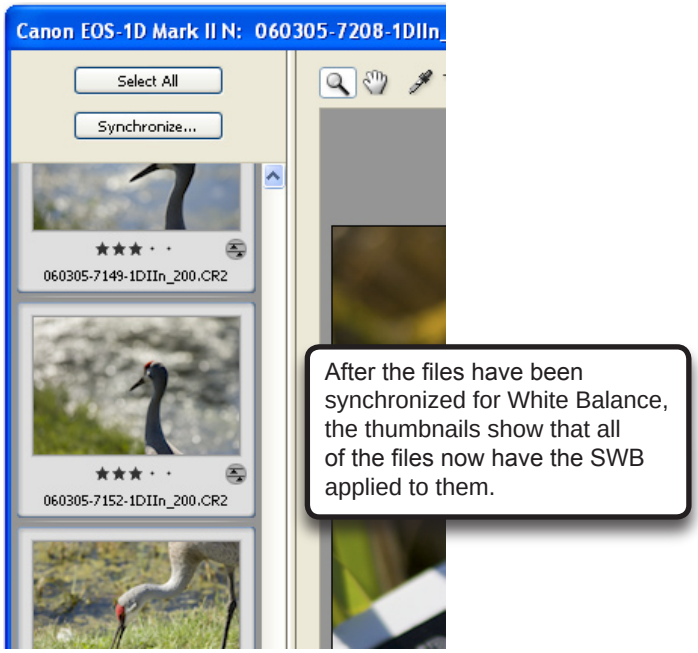

Select your WhiBal reference shot. In our example it is the last one in the filmstrip.


Select the White Balance Tool (eyedropper) and click on the light Gray (RAW) WhiBal card to set the SWB for this reference shot.

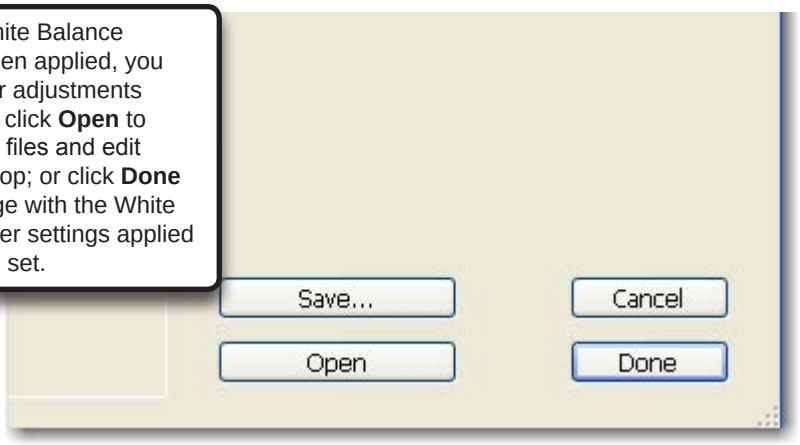

While keeping the WhiBal reference shot selected, add the rest of the files to the selection set by clicking on the **Select All** button.


Canon EOS-1D Mark II N: 060305-7208-1DIIn_
Select All
Synchronize...
060305-7149-1DIIn_200.CR2
060305-7152-1DIIn_200.CR2
Now click the **Synchronize...** button to apply the White Balance setting from the active picture (the WhiBal reference shot) to all of the selected files.


Synchronize
Synchronize:
Everything
OK
Cancel
Everything
Settings
White Balance
Adjustments
Details
Lens
Tone Curve
Calibration
Crop
Custom Subset
Sharpness
Luminance Smoothing
Color Noise Reduction
Chromatic Aberration
Vignetting
Tone Curve
Calibration
Crop
Clicking on the **Synchronize...** button displays a dialog allowing you to select White Balance only, so that any arbitrary settings from the WhiBal shot (if there are any) will not be applied to the rest of the selected files.


Canon EOS-1D Mark II N: 060305-7208-1DIIn_
Select All
Synchronize...
060305-7149-1DIIn_200.CR2
060305-7152-1DIIn_200.CR2
After the files have been synchronized for White Balance, the thumbnails show that all of the files now have the SWB applied to them.

Now that our White Balance settings have been applied, you can make further adjustments in Camera Raw; click **Open** to convert the Raw files and edit them in Photoshop; or click **Done** to return to Bridge with the White Balance and other settings applied as an instruction set.



Here is a representative shot before and after white balancing:

6 Using WhiBal in a JPEG Workflow

These are the basic steps to using WhiBal in a JPEG workflow with any image editing software that supports Photoshop plug-ins:

1. Set your camera's White Balance setting to closely match the scene's lighting conditions.
2. Take one or more WhiBal reference shots before, during, and/or after each lighting "setup" or "circumstance".
3. In your image editing software, use the WhiBal JPEG plug-in eyedropper tools to click on the gray card and the white and black areas of the G6 WhiBal or the light gray card and the white and black cards of previous version WhiBals. This provides the WhiBal plug-in with the data containing the color of the light at the time of your shooting setup. We will call this information the *Scene White Balance* (SWB).
4. Using the appropriate tools in your Image editor, apply the SWB to the other pictures taken in that same lighting setup.

In JPEG post production, unless the original JPEG images are previously archived, an adjusted image must be saved using a different filename so that the original "source" JPEG file is not overwritten. While not the quality of RAW, the original JPEG file is the closest thing you have to "As Shot" image data.

When adjusting JPEG files, always be sure that the original source files are protected by either keeping separate archived copies or by renaming your adjusted files when saving.

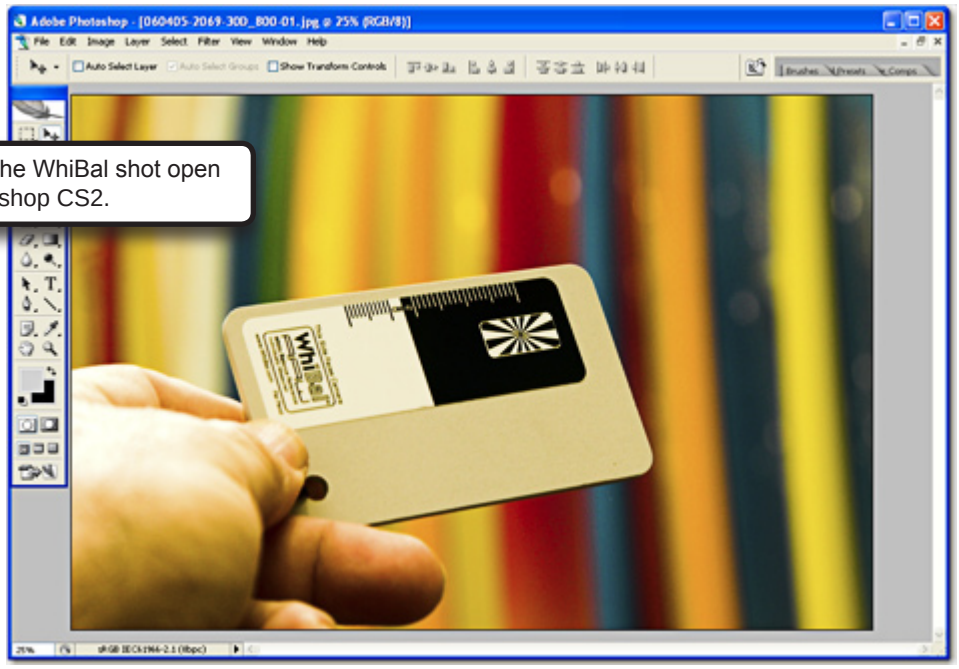
6.1 JPEG Post Production Using Adobe Photoshop CS2 and the WhiBal Plug-in

We will show the post production workflow in Photoshop CS2, but the process is similar in almost any Image Editor that accepts Photoshop compatable Plug-Ins. This example assumes that you have downloaded the WhiBal White Balance JPEG plug-in and have installed it into Photoshop.

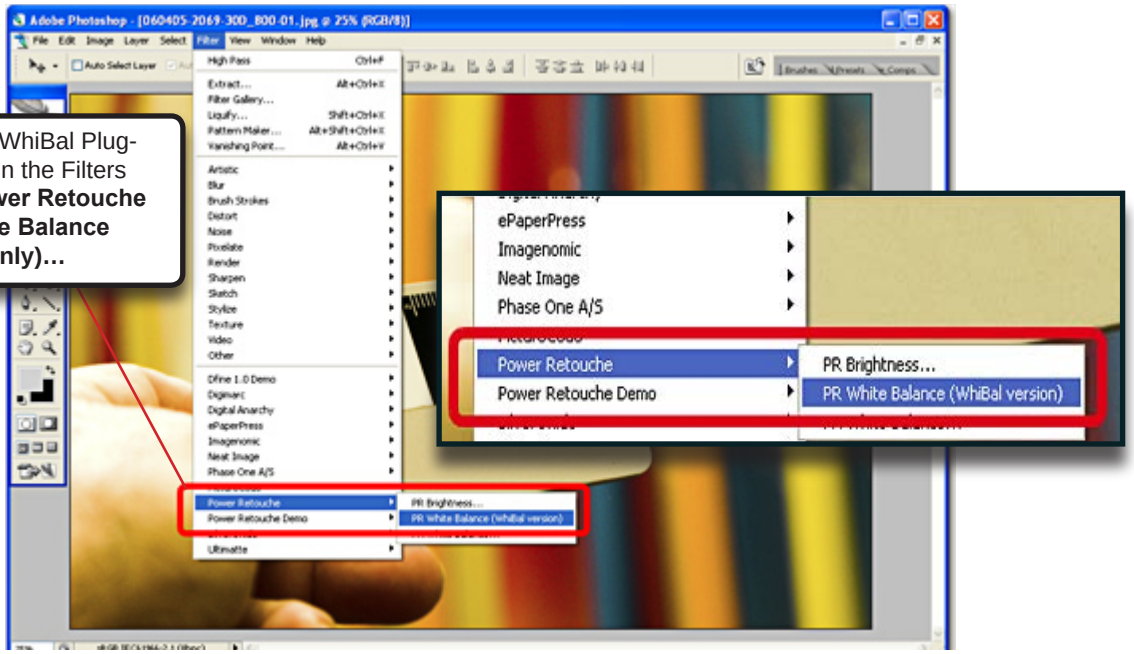
Here is a JPEG capture of some colorful surfboards taken indoors with an incorrect White Balance set.

This is the WhiBal WB reference shot taken just after the capture.

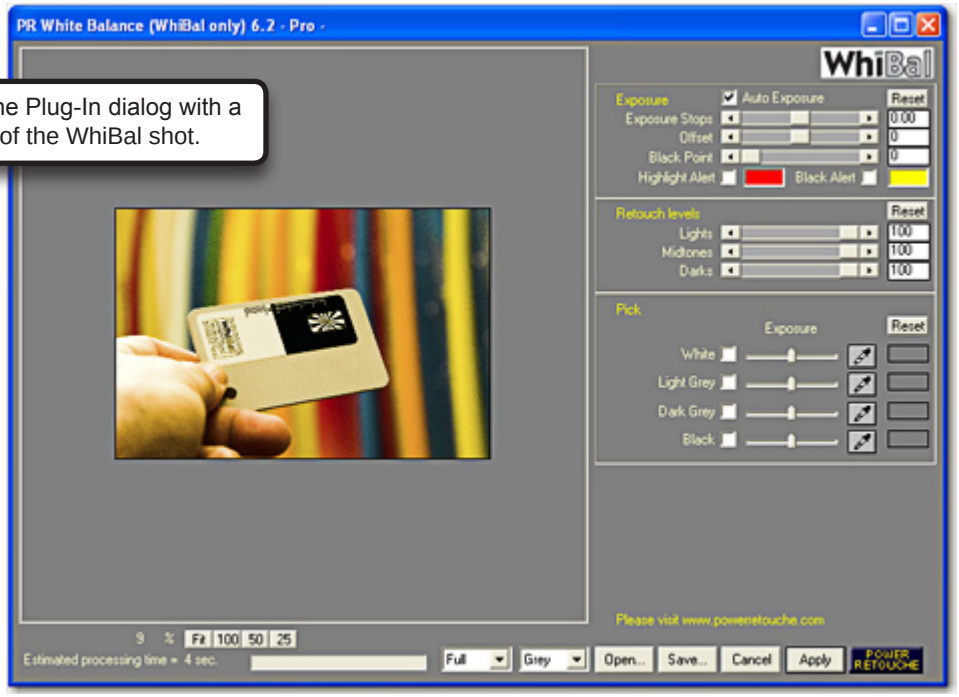
Here is the WhiBal shot open in Photoshop CS2.



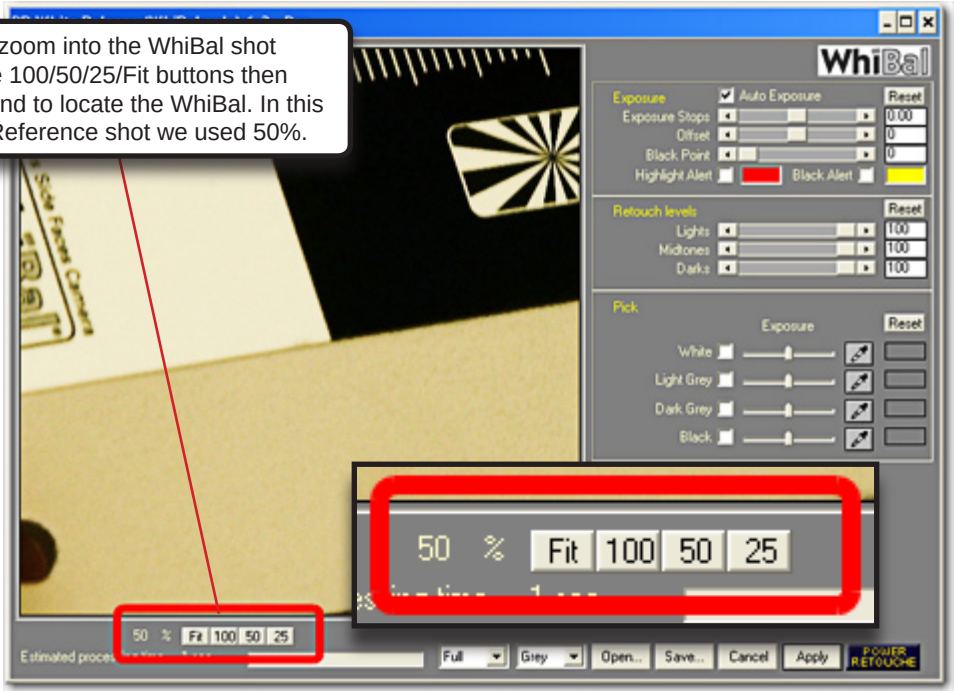
Select the WhiBal Plug-In located in the Filters menu: **Power Retouche > PR White Balance (WhiBal Only)…**



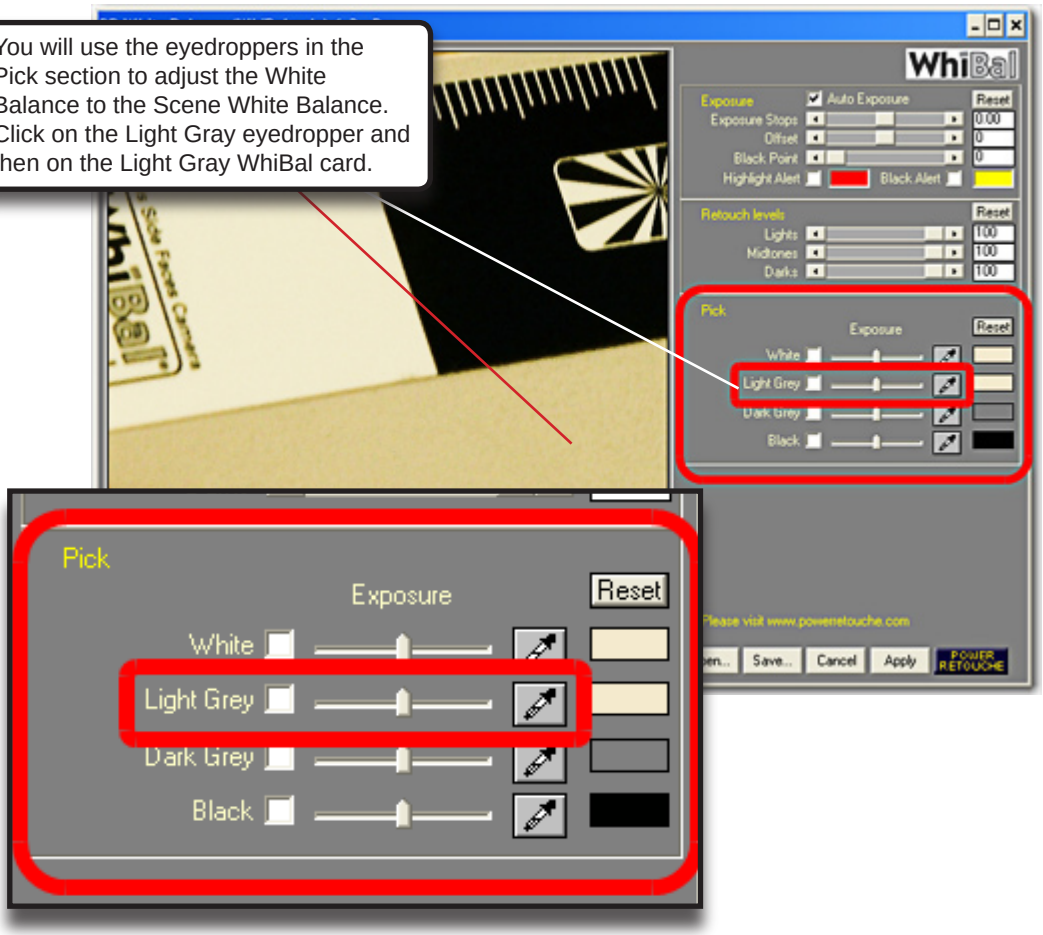
Here's the Plug-In dialog with a preview of the WhiBal shot.



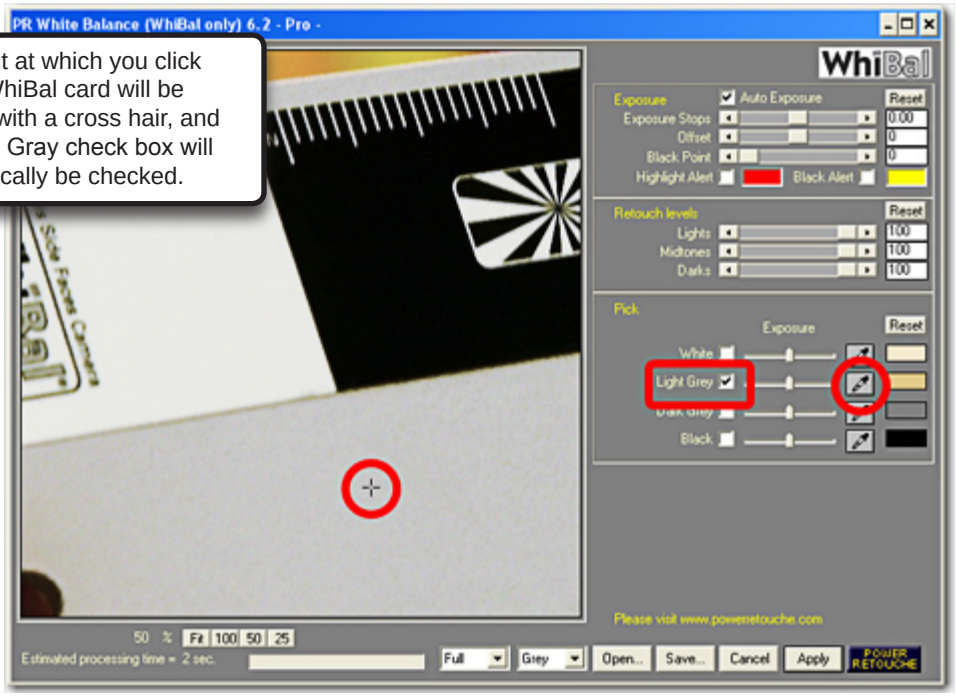
You can zoom into the WhiBal shot using the 100/50/25/Fit buttons then pan around to locate the WhiBal. In this WhiBal Reference shot we used 50%.



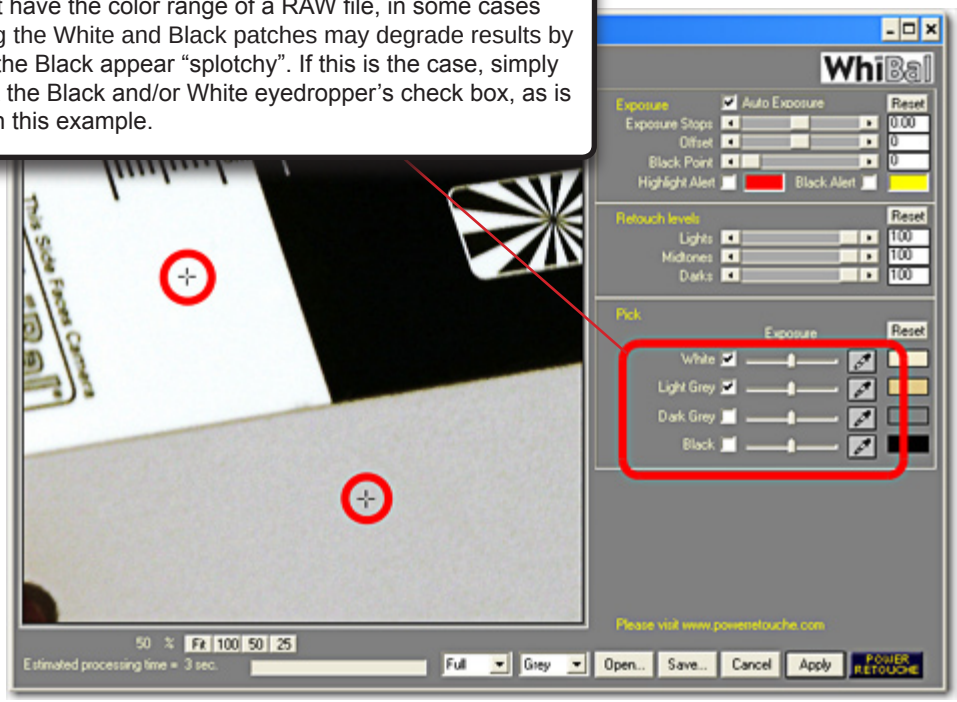
You will use the eyedroppers in the Pick section to adjust the White Balance to the Scene White Balance. Click on the Light Gray eyedropper and then on the Light Gray WhiBal card.

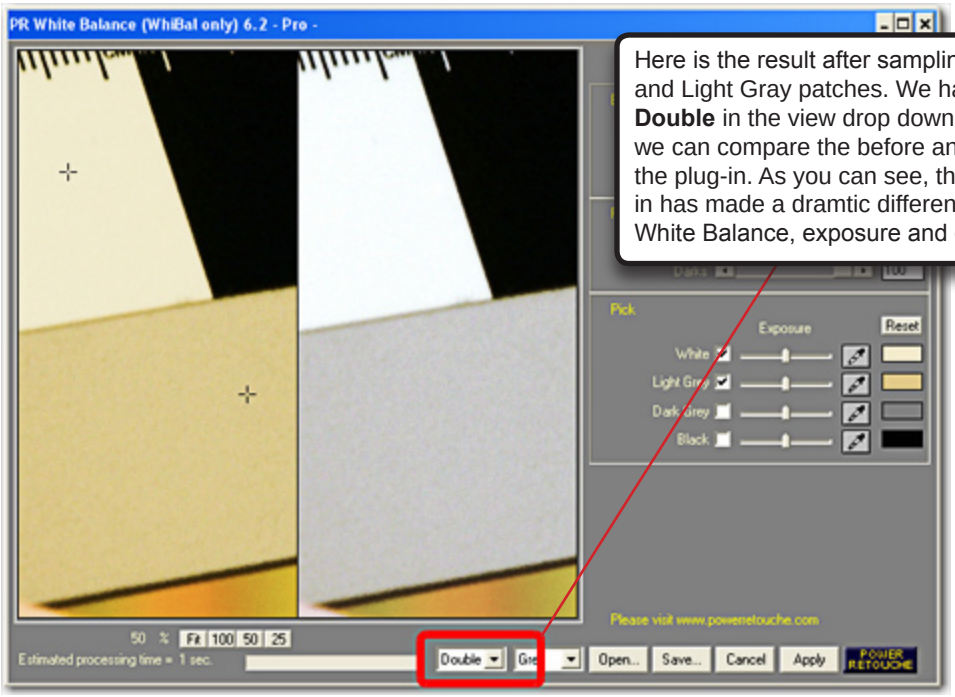


The point at which you click on the WhiBal card will be marked with a cross hair, and the Light Gray check box will automatically be checked.



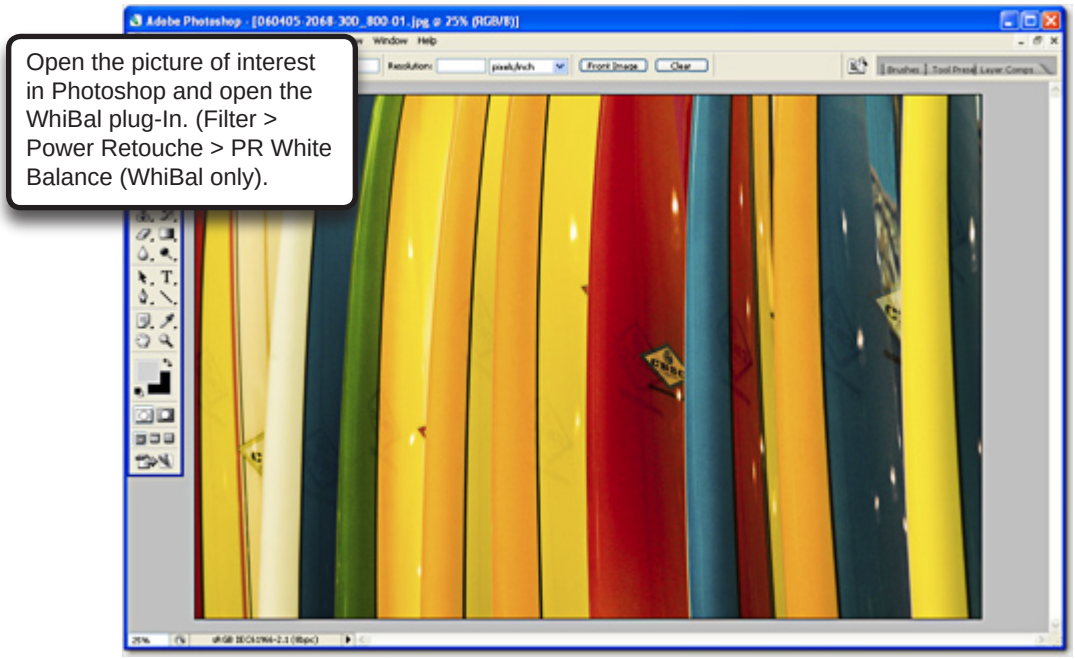
The White and Black patches should also be set by individually selecting the White and Black eyedroppers then clicking on the applicable WhiBal patch. Because a JPEG file does not have the color range of a RAW file, in some cases sampling the White and Black patches may degrade results by making the Black appear “splotchy”. If this is the case, simply uncheck the Black and/or White eyedropper’s check box, as is shown in this example.

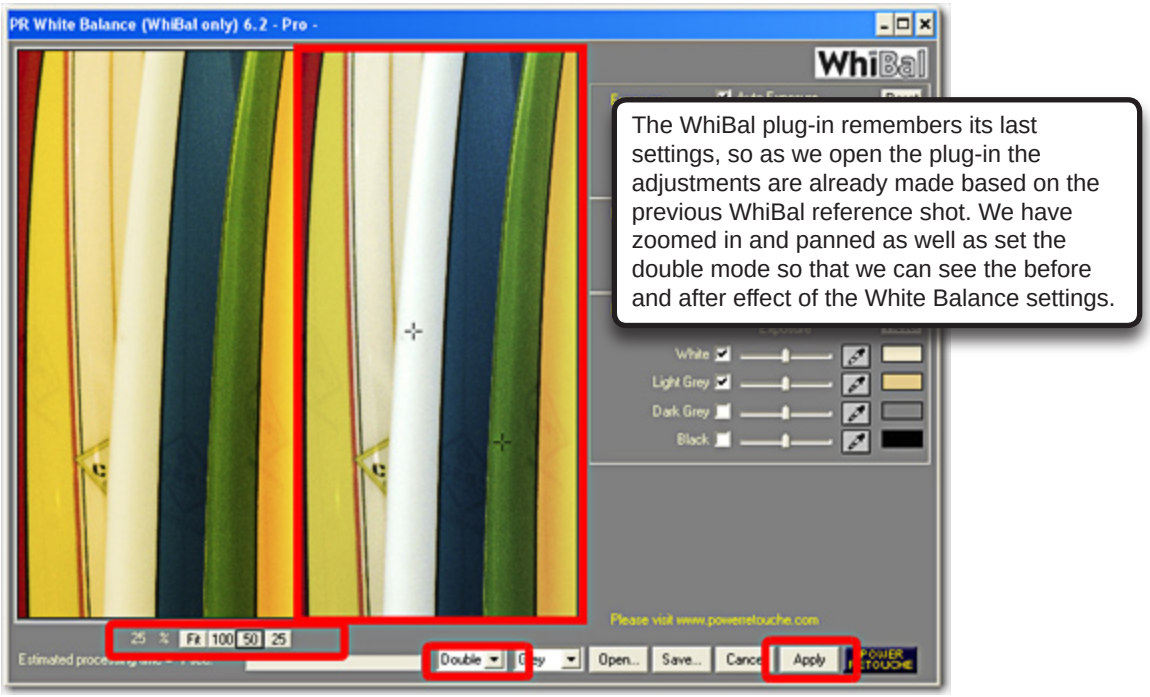




Because we are going to process one file that will use this Scene White Balance, there is no need to save a Preset file. But if you wish to save the White Balance settings for this lighting scene, just click the **Save...** button and save an appropriately named WhiBal WB preset that can be “loaded” into the plug-in for any additional files that were shot in this light.

The plug-in remembers the last settings used, which is how the current SWB will be applied to our surf board shot. Before exiting the plug-in, click **Apply** tp ensure that the correct settings are remembered by the plug-in. Click **Done** to exit the WhiBal plug-in.





Click Apply to apply the corrections to our image.

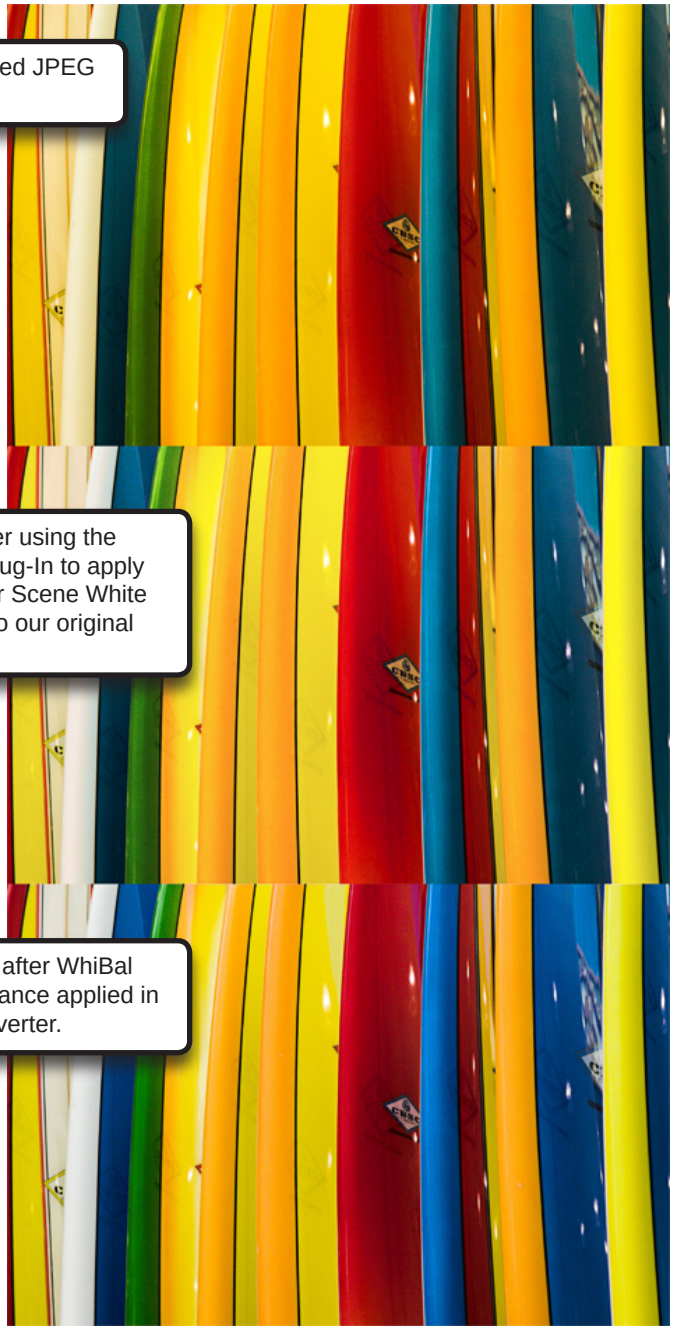
We can now proceed to make any other creative adjustments we would like to this scene white balanced image in Photoshop (or whatever image editor is being used). Remember to save the file with a new filename so that you do not overwrite the original JPEG negative, if you have not already archived the file.

Above we see before (top) and after (bottom) applying the Scene WB from the WhiBal Reference shot. The “after” JPEG is devoid of the color cast that plagued it, but being a JPEG, the correction cannot be perfect if because of the quality of the original. That’s why it is best to set the camera to the best possible WB setting that matches the lighting in effect at the time. It will rarely be perfect, but the closer it is, the better that the WhiBal plug-in can adjust for the proper White Balance with the least destructive effect.

In this case the color swing was quite large, so +20 of Saturation (Photoshop Hue/ Saturation) was added to bring the life back into the corrected colors. You can see that the color Hue is much better than the original JPEG and that the White has been brought back into line.

7 RAW and JPEG Quality Compared

Below we see before and after applying the Scene White Balance from the WhiBal Reference shot in our JPEG workflow using the WhiBal Plug-In. It is quite good, but in the third shot below we make the same adjustment to a RAW version of this file, and you can see that the RAW file provides far more latitude in which to adjust the White Balance perfectly, without any degradation to the image. That is why RAW is the preferred shooting method for achieving truly accurate color.



Uncorrected JPEG original.

JPEG after using the WhiBal Plug-In to apply the proper Scene White Balance to our original JPEG file.

RAW File after WhiBal White Balance applied in RAW converter.