

TTL

Through The Lens THE MONTHLY NEWSLETTER of ISLAND PHOTO GROUP

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White Balance and the ExpoDisc

by Jeff Barlowe

There has been a lot of interest recently in measuring white balance using a device called ExpoDisc (<http://www.expodisc.com>). There has also been a lot of discussion as to where to point the ExpoDisc. At the subject? Away from the subject?

Let's look back in the history of photography. From the camera's earliest days, the major problem has been determining correct exposure. With the invention of the light meter, two schools of thought arose concerning it's use. The reflected light method and the incident light method.

The vast majority of light meters built into cameras are reflected light or brightness meters. The reflected light measuring meter is always pointed at the subject from camera position. As long as the scene is of average brightness, an acceptable exposure is the result. When presented with a subject such as the black cat sitting within a coal bin, correct measurement of light starts to become complex. Even though the illumination falling on this scene may be intense, the light reflected back to our meter (and camera) will indicate insufficient exposure! If we increase our exposure to satisfy the meter's "appetite", the result will be an image of AVERAGE BRIGHTNESS! Gone is the black cat and black coal. Now we end up with an image of a gray cat sitting upon gray coal. Because reflected light meters are calibrated for scenes with an average or 18 percent reflectance, photographers have devised other methods to deal with this problem. One is the substitution method whereby the photographer takes a measurement off of a card of known reflectance. Sometimes the effectiveness of the substitution method is questioned, since the distance from the camera, substitute, and subject may not be the same.

Hollywood had also been dealing with these problems from it's onset. The cost of studio time, actors wages, etc., made exposure accuracy a critical issue. Not only did the scene have to be exposed accurately, but every scene had to match! The system used by motion picture cameramen, was devised using a meter designed by Don Norwood, in which the light collector was hemispherical, thus picking up light through a 180-degree angle! In use, this meter was aimed not at the subject but at the camera from the subject position. Through it's design, it was determined that light arriving at the light collector from any angle within that 180-degrees would have an impact upon the illuminance of the subject. The light measuring sensor in this pioneering incident light meter, was calibrated to take into account the amount

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What's New

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Quick Tips for June



There are thousands of amateur and professional websites dedicated to nature photography. Here you can find everything you ever wanted to know on the topic. These three sites are especially useful and good starting points for further exploration.

Outdoor Photographer

(www.outdoorphotographer.com)

Basically an on-line collection of Outdoor Photographer magazine current and past issues. You can spend days exploring the plethora of information provided on this well-made, attractive site.

The Luminous Landscape

(www.luminous-landscape.com)

This small site provides authoritative reviews of equipment and film as well as informed tutorials on advanced techniques and current issues of interest to nature photographers.

Photo.net

(www.photo.net)

This huge, mainly amateur site provides information on all manner of photographic pursuits. Forums on nature photography are helpful in getting your personal questions answered. Information on shooting locations is particularly useful.

Reminder!

Get Your Photographs In
for the

2004 - 2005 IPG DVD Slideshow

Accepting up to 6 of your images
3 Color &/or 3 BW Pictures
Preferrably from one of this year's
Critique Nights (but not necessary)

Images should be either
.bmp, .psd, .tif, or .jpg.
Place on a CD or e-mail images to:
Jeff (jblaye@nassau.cv.net)

Deadline is July 4, 2005



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IPG Meeting Information

IPG meetings will be held from 7:30 - 10:00 PM on the 1st, 2nd, and 3rd Mondays of each month, except for holidays, at our meeting room located at:

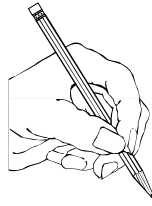
Ellsworth Allen Park
101 Motor Avenue
Farmingdale, NY 11735

Critique Nights will be held the 3rd Monday of every month

All IPG members can submit 2 photos in each of the following categories:

Color Prints, B&W Prints and Slides

President's Message



This is the last issue of the TTL till we resume our regular meetings in September.



Charlie Bowman, IPG President

It is also my last article as President. I want to thank Jeff Blye for his work in publishing this newsletter. Also my thanks to the members who helped out by contributing material for the TTL. I hope that next year, more members will get involved in submitting articles for publication. Speaking about getting involved, I know that our new President, Joe McGahan, is looking for members to fill the different committees which are necessary to make IPG function. I urge all of you to think about volunteering for a job or committee and discussing it with Joe. IPG, like any other organization, is only as good as the people who help guide it.

A reminder that since we have the use of our meeting room all year long, we will be holding meetings in July and August. Notification about the content of these meetings will be sent out via email.

I hope that all of you enjoy the summer months, and that you will have the opportunity to take your photographic gear to some exotic location and come back with some outstanding photos. Keep in mind that an "exotic location" could be your very own backyard.

Stay well,
Charlie

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of light that was lost going through the hemispherical diffuser which resembled a halved ping pong ball.

Enter the modern era, and the invention of the ExpoDisc. Placed in front of the camera lens it scrambles the light, entering the camera. The white ping pong ball, although a better light collector from the standpoint of a perfect 180-degree acceptance angle, would require complete camera recalibration due to the light loss through the diffuser. Also, a white plastic diffuser could change the color temperature of the light, making white balance more difficult. So instead a prismatic diffuser was chosen.

What method would give us the most accurate white balance? Since the ExpoDisc completely diffuses any scene in front of the camera, we may feel justified in pointing the camera with ExpoDisc at our subject to average the colors. Would that work?

Fifty years ago, film manufacturers and color processing laboratories tried to deal with a method to analyze the color balance of color negatives being printed for snapshooters. They surmised that images made with clear flashbulbs (the only type then available) would be (on average) redder than those made outdoors in daylight. A device in the printers would measure the color balance of the color negative being printed, and adjust the color based on the average color tones in the negative. Well, we've all seen the results. Cyan babies stretched out on red blankets. Or purple faced families sitting on the grass in front of their homes. For more than a decade, photofinishers struggled

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with the task of separating images made under various colored light sources with scenes containing a predominance of any one color. In the end manufacturers and laboratory engineers got together, and it was decreed throughout the land, that a new blue colored flashbulb would be sold to the public for use with color print film. This was an admission by the experts that scene averaging does not work. The term adopted for the problem; subject failure!

Clearly, "subject failure" in determining color balance is not much different from our black cat in the coal bin analogy. When analyzing scene brightness or color balance, subject variability plays a major role.

In the end, it would appear that if we set our white balance by aiming the ExpoDisc clad lens from the position of our subject, toward our camera position, we eliminate subject failure completely. But does it?

Where would we point our ExpoDisc, when photographing images off a television screen? Or making a photograph of a crackling flame in a fireplace? Both of these examples represent subjects which produce their own light. As such, there is no light falling on the subject and therefore an incident light measuring

device cannot be used. In these cases, photographers have to fall back on experience. The phosphors in TV picture tubes are similar to the powdered phosphors that coat the interior of fluorescent lights. A white balance similar to fluorescent lighting will come close to that of CRT images. In the case of fire and flames, a daylight color balance would pleasantly accentuate those warm tones. Using the ExpoDisc white balance for the flames would yield a very colorless white flame.

There may be other times that the ExpoDisc might be bettered by our experience and judgement. Dark overcast scenes in winter photographed very late in the day, would benefit from using an incandescent preset white balance. By doing this, we produce a beautiful cold image with all of the blues and cyans that the mind's eye would expect to see under these frigid conditions. Conversely, a room interior designed to convey warmth, might benefit from a color balance warmer than the ExpoDisc recommendation!

So, in the final analysis, it is the intelligent use of tools, and our experience and judgement that shapes our ability to produce the images that our minds see.

Attention All Photographers and Photoshop Users

Save The Date !!!

**Wednesday
September 14, 2005**

**• Island Photo Group •
&
• Long Island Photoshop •**

Proudly Present

"An Evening With Katrin Eismann"

**Renowned Photoshop Expert,
Author & Lecturer**

**In a Rare Long Island Appearance
Giving a Live Photoshop Demonstration & Seminar**

Place: Bethpage Public Library Auditorium
47 Powell Avenue
Bethpage, NY

Time: 7:00 - 10:00 PM

**\$15.00 Contribution
Tickets Must Be Purchased In Advance
To Purchase Tickets and For More Information
Please Call: (516) 249-3513**



Photoshop Restoration
& Retouching

Katrin Eismann is an internationally recognized artist, author, and educator who has been working with digital imaging tools since 1989. Katrin's extensive teaching and speaking engagements address the latest tools and techniques of digital imaging and the impact they are



Katrin Eismann

having upon photographers, artists, and educators. She has taught and presented in Europe, Asia, South America, and throughout North America.



Photoshop Masking
& Compositing