

desktop Q+A⁴⁷

LEAVE NOTHING TO CHANCE!
GUIDE TO DIGITAL PHOTOGRAPHY, PART II



ANTIQUE GOLD CUFFLINKS WITH GLASS-ENCLOSED SHAMROCKS

CAMERA FEATURES TO LOOK FOR

MEGAPIXELS. Bigger CCDs deliver bigger pictures. Divide the horizontal and vertical measure by 300 to get the image size you can capture. Bottom line; get at least five megapixels.

OPTICAL ZOOM. Zoom with optics and get more detail at the point of capture. Digital zoom just scales the data you already have, but no more detail. Optical is far superior.

STANDARDS. Look for Compact Flash or Smart Card and support for Firewire or USB2. Make sure your camera can interface with standard threaded lenses and filters, and has a tripod mounting thread and remote control!



DIGITAL CAMERA \$600

STEP DOWN RING SET \$32



DIGITAL CAMERA LENS CONVERTER \$85

COLOR AND POLARIZING FILTERS \$100

LENS FILTERS

Add-on lenses and attachments are typically threaded. With a few twists, you can attach them to each other and to the camera itself, if your camera supports attachments. There are many types of filters, available for under \$20. Get a polarizing filter and several color filters.

They make a big difference in bright light conditions. There are several standard sizes measured by diameter; Get an inexpensive step-down ring set to connect lenses and accessories with different diameters.

START-UP BUDGET \$1,500

MUST-HAVE ACCESSORIES!

If possible, get a starter light set, a tripod and an upgrade to your built-in flash. Visit www.calumetphoto.com for an incredible on-line selection of products.



TRIPOD \$125



IMPROVED FLASH \$100



LIGHTING STARTER KIT \$350

TOOLS AND BUDGETS

DIGITAL CAMERAS AND ACCESSORIES

CLOSE-UP PHOTOGRAPHY

A macro lens is like a magnifying glass. It attaches to a lens thread and is an essential purchase if you plan to do close-up photography. Consider a halogen light and hood for more even, brighter, softer lighting than that from a flash.

CANON MACRO LENS AND ADAPTER \$140



HOYA MACRO LENS SET \$45



HALOGEN LIGHT AND HOOD \$125



REFLECTOR DISK WITH MOUNT \$100



LIGHT \$500

BARN DOORS FOR LIGHTS \$32

A WIDE RANGE OF LIGHT OPTIONS

From soft boxes to barn doors, there is a light for just about every situation. Lights, along with lenses, are the bulk of your non-computer investment in digital photography. Look for accessories as well, such as reflectors, diffusers, and barn doors. The more you control the light, the better your images will ultimately be.



MEDIUM SOFT BOX \$150



UMBRELLA DEFLECTOR \$75



CLOSE-UP PHOTOGRAPHY

LIKE ANY GADGET, DIGITAL CAMERAS CAN BE INTIMIDATING. BUT FEAR NOT! WITH A FEW SIMPLE GUIDELINES, YOU CAN EASILY MOVE BEYOND POINT-AND-SHOOT. A QUALITY DIGITAL CAMERA HAS THE SAME CONTROLS THAT PROFESSIONAL PHOTOGRAPHERS USE. WITH THE INSTANTANEOUS FEEDBACK OF DIGITAL, IT'S ACTUALLY EASIER AND QUICKER TO LEARN AND IMPROVE. HERE'S AN OVERVIEW OF HOW WE CAPTURED THE IMAGES YOU SEE IN THIS SPECIAL DIGITAL PHOTOGRAPHY NEWSLETTER ISSUE.

TRIPOD. You have to have one. It allows you to significantly slow down the film and shutter speed, without getting an out-of-focus image due to camera-shake during long exposures.



QUALITY. With close-ups, dust and lint are easily seen if captured. We use isopropyl (rubbing) alcohol and/or ammonia to keep both subject and lenses dust free. Long-haired Himalayan cats don't help the QC situation, although they tend to agree with your opinion on image composition and other creative matters.

CAMERA SETTINGS. The G2 has an fstop (depth of field) mode ("AV"), that is part automatic, part manual. You manually control the fstop and the film speed. The camera determines the necessary exposure time (shutter speed). The G2 supports fstop settings of 2.5 to 8.0. At an fstop of 2.5, you get the blurred-background look. At 8.0, much more of the overall image will be in focus relative to the focal point.

ISO/FILM SPEED. For tripod shots, try to keep the film speed as slow as possible to get richness in detail and color. For these images, we set it to the minimum, an ISO of 50. At ISO 400, you can capture slow motion photography.

LIGHT AND LENS. We used the G2's internal macro lens, and added two more: Canon's 250 mm close-up and a 4x Hoya. We captured the watch images with natural light on a sunny day, with no flash or close-up light attachment.

RESOLUTION. We captured images at 2,272 x 1,704 pixels per inch, and saved them to compact flash memory in the RAW format. Newer cameras can generate three times as many pixels.

FOCUS. The camera's auto-focus is quite good, as long as there is a hard-edged element in the focus hot spot. There is also a manual focus mode, which is harder to get right. When you need it though, it enables you to capture the shot you want. You can also move the point-of-focus to the left or right, which comes in quite handy for perspective shots. It takes a lot of diligence and patience to ensure that the right components of the shot are in focus. Just remember as you shoot: You won't use blurry shots, no matter how great the concept or lighting or moment-in-time.





Before setting up your lights or taking your picture, first think through your goals. Considerations such as editorial emphasis and the subject's visual qualities should drive the overall composition and lighting required to achieve it.

NATURAL LIGHT. Natural light is a raw material with diversity; soft or harsh, abundant or slight. Light sets the mood for the photograph. Unlike a flash, natural light is the original WYSIWYG. It delivers exactly what you see. In general, taking pictures is easier with more light. However, intense light is not right for many types of photography. You may find that more dramatic effects occur if you modify the light in some way. There are numerous accessories you can use to determine the effect you'll get. Highly contrasting light will produce distinct shadows and highlights. Particularly with color images, you'll find this to yield rich, saturated tones. The soft lighting of an overcast day will allow you to show the maximum amount of detail with a minimum of shadows, while creating a light, airy mood.

OUTDOOR LIGHTING. When working outdoors, you can control the natural light around your subject by using large white and black boards. If you work with natural light indoors, having a room with at least one big window, will give you a soft and even light. Curtains or sheets of cardboard work well to reduce or focus the light.

STUDIO LIGHTING. Start simple; a couple of lights and a few modifying accessories may be all you need. For instance, if you want to soften a light source while giving the effect of having a second light of lesser power, a simple white reflector will do the trick. Reflectors come in all shapes and sizes. Typically, the reflector needs to be as close as possible to the subject without appearing in the picture.

ACCESSORIES. To make light more directional, you can fit a dish reflector, which narrows the beam and allows you to restrict it to certain parts of your subject. A more versatile option is an attachment called, "barn doors," which has adjustable black flaps that can be opened outward to accurately control the spill of the light. If you want just a narrow beam of light, try fitting a snoot – a conical black accessory which tapers to a small circular opening. Spots and fresnels, which you can use to focus the light, and diffusers will reduce the harshness. For softer illumination, the light from a dish reflector can be bounced off a large white board, or fired into an umbrella. If you want an even softer effect, invest in a soft box, which mimics window light.

MEASURING LIGHT. In-camera light meters have advanced such that they can deliver a higher percentage of successful pictures than what was previously possible. However, these models are usually best in simpler lighting situations. And frankly, a built-in meter can produce bland results. If you want to take your photography to the next level, you should consider investing in a hand-held light meter, which will give you full control over the exposure process, with complete accuracy. The two popular types of hand-held light meters are incident and spot meters. Using either type has become quite simple. For most models, you simply point it towards the camera and push a button to take a reading. It literally takes seconds, and the results are well worth it.

THE KELVIN SCALE. The color of light is measured in degrees Kelvin (°K), and the range of possible light colors is referred to as the Kelvin scale. Daylight film is balanced for use at 5500°K. On an overcast day, the color temperature can be higher, up to 7,000°K. Late afternoon readings are typically around 4000°K.



LIGHT OPTIONS IN PHOTOSHOP



1
CAMERA AUTO. Captured with a Canon G2 in 16-bit RAW format and converted using Photoshop CS's default camera settings with Auto White Balance.



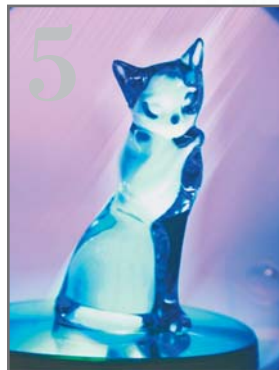
2
RAW IMPORT TWEAKS. White Balance: AUTO
Shadows, Brightness, Contrast, Sharpness: +25%
Color Noise Reduction: 60%
Luminance Smoothing: 60%



3
AUTO TO TUNGSTEN. White Balance: Tungsten
Shadows, Brightness, Contrast, Sharpness: +25%
Color Noise Reduction: 60%
Luminance Smoothing: 60%



4
DARKEN. #1 layered on #3
Blending: Darken
Layer Opacity: 75%
Fill: 100%.



5
STYLIZING THE SHOT. Motion Blur: 250 pixels.
Contrast: Original layer duplicated twice, top set to Vivid 25% Opacity and middle to Difference at 15%



6
SHARPENING THE BLUR. Auto Levels to sharpen the lines from the motion blur.

No matter how well you think through your shot, you may end up with an image that fails to achieve the look you intended. Fortunately, you don't need to leave it at that. There are many ways to change the perceived lighting conditions in Photoshop. Here are just a few. Each of these images was derived from the same digital camera original of a glass cat (image number 1), captured with the Canon G2 and a close-up lens. The variety of colors and lighting effects come from duplicating the original file in Photoshop (often multiple times), and varying both the opacity and blending mode for the duplicated layer(s). In some instances we also applied filters to complement the blending techniques.