# SOGPHOTO



Text and photos by Jerry Work

### A guide to taking quality photos using the Guild photo equipment

#### By Jerry Work

No matter what your art form, quality photos are the key to representing your work to people who cannot see it in person.

Good photos will allow you to create a printed portfolio, or show your work on the Guild web site, or build a CD or DVD portfolio, or introduce yourself to an agent or gallery.

In this short guide we will walk through the steps required to use the Southern Oregon Guild studio strobe lighting, backdrops, camera, computers and software to help you capture good photos, transfer them to computer readable form and produce whatever form of output best fits your needs.

There is no magic bullet here. You will need to learn some things you might not already know and that learning curve can seem quite steep at times. It will take some time and effort on your part so be patient with yourself and practice before you near a deadline when you really need good photos.

This short guide is just that, a guide. There is no way I know of to do a "press this button in this sequence" list that will cover all the many different alternatives available to you. There are five things you need to learn to do:

- 1) properly light your work
- 2) capture a good image
- 3) transfer that image to a computer readable form
- 4) edit the image to get just what you want
- 5) output or store the im age to the desired media

#### **Lighting Your Work**

The photo on the previous page shows a furniture piece sitting on a backdrop with three studio strobes providing balanced light. Note the piece is angled about 15 degrees relative to the intended camera position. In this photo the camera is moved back to show the various lights, but it normally would be placed in front of the back drop paper between the main light

on the right and the fill light on the left.

The paper is mounted on two backdrop stands with a support rod placed on top of each support. The paper roll core is slid over the support rod. Carefully unroll the paper so it forms a smooth curl at the floor line. Continue un-



Here is the completed shot of the gong stand from the set up shown on previous t page.

illuminate the top as well as the front. Place a second light stand even with the left edge of the paper but closer to the piece than the first light stand. Again, use a light box or reflect this strobe off of an umbrella for a soft, not harsh, even light. This

will be your fill light so

aim it at the side of the

piece and elevate it to

rolling more paper until the floor is covered about three times the overall

width (front to back) of your piece. Maintain the nice, even floor line curl with no wrinkles in the paper.

Use a small clamp to keep the rest of the paper from unrolling. You can see the clamp I used at the upper left of the back drop. Use blue masking tape to hold the front edge of the paper to the floor so it does not curl back upon your piece.

Remove your shoes so as not to track up the paper. Carefully carry your piece onto the

just a bit lower than the primary light. It's job is to illuminate the side of the piece that will show in the photograph so set it for one half power output.

Place a third light stand along the left side of the paper but up near the curl. Keep this light lower than the top and aim it behind the piece to illuminate the backdrop and eliminate shadows that the primary and fill lights would otherwise throw onto the vertical surface of the backdrop. You can either use a light box or

back drop paper near but not on the back edgecurl. Place the piece about 15 degrees to thevertical plane of the back drop.Place one light stand at the right side of thepaper and far enough back from the front edge

paper and far enough back from the front edge of the paper to fully light the piece. Either use a soft box on that strobe or reflect the light off of a reflective umbrella. You want a soft, even illumination with this, your primary light. Set this strobe to full output and place it high up to reflector for this light as you want it to make the piece stand out from the back drop. Set it to one quarter power output.

Plug power cords into all three of the strobes and turn them on (left most rocker switch on the back of each unit). After a few seconds the red light will stop blinking and the green "ready" light will come on indicating that the strobes are ready to fire when you are.

Note that the photo of the gong stand required a fourth strobe, in this case a standard flash unit set on a small tripod shown at the front left of the set up photo on the first page. The purpose of this light is to cast reflections onto the gong to make it more alive and to show that it is metallic.

This is your basic set up. The primary light is at full power output, the fill light is at one half power output and the halo light (as it is often called) is at one quarter power output. Now it is time to take a photo and adjust the lights if necessary.

#### Set up the camera and tripod

The camera can be hand held or placed on the ball head of the tripod. You can fire the strobe lights by simply turing on the small flash unit that is built into your camera. When it fires off photo cells built into each strobe will sense that light and will fire off the strobe within a few thousands of a second. So, you don't need any synch cords going from the camera to the strobes unless the camera you are using does not have a built in flash.

If it doesn't but it does have a built in hot shoe you can use the wireless remote to trigger the strobes. Slide the sending unit onto the hot shoe. Remove the power cord from one of the strobes and insert the receiver into the power input of the strobe and the power cord that was in the strobe into the head of the receiver. Place the synch wire from the receiver into the synch socket of the strobe. That is a 1/4" round plug in about 3 inches long. the synch socket is on the back of the strobe. It is the only 1/4" hole on the back of the strobe unit. You are now ready to fire the strobes off wire-lessly.

If your camera has neither a flash or a hot shoe, then it will need a flash output pc socket in order to fire the strobes. Insert the synch cord into the pc socket of the camera at one end and into the 1/4" synch socket on the strobe at the other end and the strobes will fire whenever you take a picture.

If the camera does not have either a built in flash, or a hot shoe, or a pc synch socket, then you will not be able to use that camera with this three strobe set up.

The Guild cameral has all three, a built in flash, a hot shoe and a pc socket so if you use that camera you can take your pick. Any of the three will work just fine.

Once you have a way for the camera to fire the strobes, then **set the camera to aperture preferred mode**. That means that you will be setting the aperture and the camera will be selecting the shutter speed. Start by setting the aperture to F8. You can also set the camera shutter speed to 1/60th of a second manually if you wish.

Here are a few more camera set up things to check. *Set the ISO to 100.* This is the light sensitivity of the photo receptor inside the camera if you are using a digital camera or the light sensitivity of the film if you are using a film camera.

If you are using a digital camera **set the** white balance to flash or 5500 degrees **Kelvin**. If your camera does not offer either of these options, set the white balance to daylight.

White balance is the color sensitivity of the photo receptor inside the camera so the camera will record the photo with the proper color of light. The color of the light coming from the strobes is also very close to the color of daylight. Standard light bulbs and florescent fixtures emit light at very different colors from the strobes or from daylight. If your white balance is not properly set the resulting picture will have a pronounced green, blue or amber color cast - not pleasant.

## Set the camera to the highest quality setting available and the largest size available.

### Next, set the camera to force fire the flash.

You can either let the camera automatically focus (if it has that feature) or focus yourself manually. Focus on something that is on the front of the piece as the depth of focus will be about one third in front of the focus point and about two thirds behind the focus point. By focusing on something on the front of the piece that should bring the whole piece into focus.

Now, take a picture. All three strobes should fire. Reset the aperture to f11 and take a second picture. Reset the aperture again to 5.6 and take a third picture.

Evaluate these three pictures to see which setting produces the best overall exposure. Here is where the great superiority of the digital camera really shows for this kind of work. Most digital cameras have some kind of play back mode that lets you see the photos right on the camera itself. This view is plenty good enough to judge overall exposure. If you are using a film camera then you will either need an incidence light meter to tell you the correct aperture to use, or you will have to take a bunch of shots at different apertures and develop those to find the correct beginning point.

If all three of your shots are badly under exposed, then reset the ISO rating on your camera to 200 or 400 and repeat the process. If all three are badly over exposed then turn the strobe units all down by the same amount and repeat the process. Once you find the aperture and ISO setting associated with the best overall exposure download that photo to a computer so you can see it in a larger view than is provided by the lcd on your camera.

The fastest way to download the image is to turn off the camera and remove the memory card. Place the memory card into a memory card reader which is attached to a computer and copy the image to the computer. Use whatever software is available to view the image. What you are now looking for is the overall balance of the lighting coming from the three strobe sources.

The piece should be fully lit by the primary and fill lights. The third light should simply wash the back drop with light to remove any shadows created by these two. For creative emphasis, you may wish to leave some shadow, but in most cases you will want it all removed.



If you don't like the balance of the light in your first photo, change the output level of one or more of the lights and shoot again. This is where your practice will pay off. Very quickly you will find combinations of lighting that you like for your work.

When you find lighting you like then also take photos from different camera angles, some up high, some down

The photo above is an example of a well lit piece with just a little shadow detail left for emphasis and interest. The photo at the right shows the effect of turning down the third "halo" light to force more shadow onto the back drop. I find this greater amount of shadow somewhat distracting in this case, but it can be used effectively in other cases.

Below is an example where the extra shadow may be of benefit as it emphasizes the oriental influence in the styling of the gong stand.





Also, take the time to do close up shots of some of the interesting detail in your piece. These will come in handy later.

On the next page are a few examples. Notice how these detail shots compliment the overall shots of your piece. When it comes time to print a portfolio or send photos to an agent or gallery, the close up shots will add far more spice and emphasis than you might imagine.



### A bit more on transferring the images to your computer.

I know this may sound confusing, but there is not a "standard", "normal" or "right" way to do the transfer. Just keep in mind that you need to learn what works for you with the camera and computer you will be using.

All digital cameras record the image on an internal memory card. There are many different form factors and sizes of memory cards. The most common form factors are *(1) compact flash cards or (2) secure digital cards*.

Secure digital cards are smaller in physical size than compact flash cards. Either is available in storage capacities up to several gigabytes. The camera you use will dictate which card you will use.

Both card types can be read by any modern computer using a cheap card reader. The Guild has several on its computers.

These usually attach to your computer via a USB cable. On a Windows based machine you want to be running at least Windows 2000 or better yet Windows XP. If you are running Windows 95 (heaven forbid!) or 98 things will be much harder and you will need reader specific software drivers to be installed on your machine.

If you are using a Mac, almost any machine running MacOS 9 or (better) Mac OS10

and later will automatically access most any card reader. The Guild iMac runs the very latest version of Mac OS10. The Guild Windows laptop runs Windows XP Pro.

In any event, once your computer "sees" the card reader it will mount it as any other disk drive allowing you to drag and drop files (in this case your image files) from the card inserted into the reader and onto the hard drive on the computer. If you don't know how to do that you will need to bone up on your com-

puter before you can progress any further here.

Most digital cameras also allow you to directly wire the camera to the computer using a supplied USB cable. See your camera user manual for how to do this.

#### Editing the image on the computer.

Here we go again. There are many different image editing programs available. The most common and best to use are (1) Adobe Photoshop or Photoshop Elements or (2) Apple Aperture. Both are superb and will provide far more capability than you are likely to ever use. Also, both come with a variety of help files, manuals and tutorials to help you learn all of the features.

There is no way in a short guide like this one to take you step by step through even the most basic editing tasks, so you will need to learn these skills on your own or via other

by which image data could be transferred from one machine to another. The problem was that TIFF files tend to be very large.

Later a group of image experts got together to try to establish a standard for mathematically compressing these files without loosing too much detail in the process. These file formats are called JPEG (Joint Photographic Experts Group, an industry association established for this purpose). JPEG is the most common file format now used for digital image files.

The latest round of new file formats came when digital camera manufacturers started making available the actual data recorded by the photo sensors inside their cameras. These are called "RAW" formats and are specific to each camera model/manufacturer.

The software company Adobe has attempted to standardize these RAW formats



Guild sponsored classes.

What I can and will do here is help you understand the terminology and vocabulary you will encounter as you learn.

### File format - From

the earliest days of computers different people have developed different ways of storing digital information, called "file formats". The most common for storing digital images are TIFF (Tag Image File Format) an early "standard"

into one, but that effort has yet to receive wide industry acceptance.

### So, what is stored in these formats anyway?

The simple answer is that each photo sensor inside a camera records the intensity of light falling on each picture element (PIXEL) in the sensor in each of three colors, red, green That is the basic information stored in the file format.

If the sensor has 10 million sensor points (pixels) and there can be as many as 24 "bits" at each point then the file could be as large as 240 million bits. Factor in a bit of computer geek and mathematical jiggery and the actual file size becomes something like 10 or so million characters long for TIFF and RAW files down to a few hundred thousand or more



and blue. Most commonly the intensity of light is expressed as a number from zero (no light) to 255 (the brightest light) the sensor can record. Yup, only a computer geek (I used to be one) would use numbers from zero to 255 to describe 256 units of division, but that is the way it is so get used to it.

As a result there are 256 times 256 times 256 (a bit over 16 million) different possible colors recorded. At each point (pixel) the amount of red light and the amount of blue light and the amount of green light is recorded from zero to 255. Since computers use a binary (zeros and ones) number system it takes eight of those binary numbers to record any decimal number from zero to 256. So, for each pixel there would be eight red "bits", eight blue "bits" and eight green "bits" for a total of 24 "bits" of information for each pixel.

characters for JPEG files. Add in a dash of marketing

hype and you get the "megapixel" war that seems to pervade digital cameras these days.

Forget all that stuff and keep in mind that what is really stored in the file format is enough information about the image to recreate it on the computer screen or in the printer. The number of pixel points is but one "interesting" part of the picture equation. Of far more importance is how strong



the signal (the actual points of light) is to the noise (all the other artifacts of recording the actual points of light). In radio a low signal to noise ratio leads to lots of static. A high signal to noise ration sounds really good.

Same is true with digital representations of photographs. High signal to noise ratio re-

quires lots of computer processing to present a reasonable image. A low signal to noise ratio doesn't require much, if any, computer processing to deliver a good result.

Bottom line - quality of lens (the ability to focus image light onto the sensor itself) is the most important element in photo quality. The signal to noise ratio of the sensor is next most important followed by the sophistication of the post capture image processing which is all done in computer software.

Confused yet? Well, don't

be. For our purposes (photographing our work for the sake of increasing markets for our work) only takes a reasonable quality camera with reasonable quality computer post processing.

The Guild camera is a mid line camera made by olympus with a reasonable lens made by Olympus and a five megapixel sensor made by Panasonic. Nikon, Olympus, Canon and Leica all design and make superb optics (the lens). When you look at the market offerings Nikon, Olympus and Canon all sell their even most expensive cameras with inexpensive rather poor quality "kit" lenses in order to keep the apparent prices down. Panasonic (and the Leica branded similar units made by Panasonic for Leica) uses only Leica designed lenses (arguably the best available) which drives the offering price way up. Add a similar quality lens to the other three offerings and the prices for prosumer grade digital cameras are all about the same these days.

Back to the point of producing reasonable quality photographic representations of your work I can offer the advice that the camera itself is the least important part of the equation until you get quite skilled with lighting and computer manipulation so use any camera you are familiar with, the Guild's or you own.



Remember, we started with what is stored in the various file formats and wound up talking about camera brands.....ending up with the fact that the camera brand doesn't matter much early on so concentrate on learning the lighting techniques and the computer editing of the captured image.

Work with JPEG files until you know why you would want to work with one of the other formats. Ok, here comes the most confusing part of all, outputting your work to a printer or CD or web site.

Once the image is stored on a computer and edited to your liking you have several things you can do with it/them. The first is to print the image. Sounds simple, like you should be able to

hit "print" and out will flow a perfect image looking exactly like it does on the computer monitor or on the lcd on your camera.

Well, to make that happen takes the cooperation of the camera maker, the computer maker, the moni-

tor maker, the software provider and the printer maker.....all of whom likely succumbed to the siren call of "if we invent our own standard then everyone will have to buy our unit to get the desired outcome". Wrong. Not all these proprietary "standards" talk to any of the other proprietary "standards" often producing less than desirable results.

Lets start with the computer maker, more importantly the operating system software maker. For a lot of good and not so good reasons most Windows based machines calibrate their monitors to a brightness level (luminance) of 2.2. Most Macs calibrate their monitors to a luminance of 1.8. Each looks good on those respective machines, but what looks good on one will look overly dark or overly light on the other. Great! The software company Adobe tried in 1998 to convince everyone to use an overall color balance (called the "color space") that would make them all look the same. Did anyone listen? Not many. Anyway, when you have a chance set the color space to Adobe RGB 1998 and many of the rest of these verisimilitudes will go away.

To coral the many different non-standard "standards" another industry group formed to



create what are called "ICC profiles" which are supposed to read the different proprietary color profiles and transmit to the next device a color definition which it can use (along with it's own ICC

profile) to output what you see on the screen.

If you can match all the ICC profiles you can usually get the output you want.

For printed output you simply need to try many different combinations of settings until you get a print which looks like what is on your screen and which looks the same on different brands of computers once sent across the internet. Look for settings like "color synch profile", "paper type/quality" and "color".

The Guild has recently purchased a monitor color synch system which will help you will all this, but it does take your time and attention to learn to use properly. You can check it out from the Guild service center to use on your home computer monitor and printer.

The Guild printers will soon all be color synch matched to the Guild owned computers,

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monitors and printers so, hopefully, most of this work will be done for you if you use the Guild equipment.

### Why so many different kinds of printers?

There are basically three kinds of printers available for your use. A *laser printer* uses a communication language called "Postscript" to send the image information to a printer which employs static electricity attracting heat sensitive powder dyes onto a metal plate to be offset

printed onto a piece of paper. Once heated the powder melts into the paper producing a good, but often not great, image very quickly. These are good for flyers, news letters, proposals and the like.

An *ink jet printer* uses liquid inks that are sprayed onto a piece of paper in a series of very small squirts to produce the image. The more

squirts per lineal inch and per vertical inch and the more colors of liquid ink used and the quality of the coating on the paper the higher the quality of the resulting image. Even modest cost ink jet printers can now produce very high quality printed images and are the best bet for most photo printing work.

A *dye sublimation printer* uses small points of heat to melt dyes off of a plastic layer and into the paper to produce printed images

that rival the very best wet chemistry photographic processes. Use this for the best quality output. The Guild offers all three types of printing for your use. All are modest in cost and far less

expensive than any commercial alternatives we know of. Each printer type requires you to exert some initiative to learn to use them properly. Walk into the Guild service center unprepared and with no prior experience and expect to get mediocre results at best. Spend some quality time learning to use the available options and you can get results that will rival any commercial offering even those that would involve much greater costs to

you. The choice is yours.

### Other forms of output

Creating a CD full of photos of your work is really easy, especially using the Guild's iMac. Simply insert a blank CD and go to the "finder" application. Down at the bottom left side of the listing will be the name "untitled CD" along with an icon of a CD and a yellow





and black and yellow radiation warning looking icon just to the right. Drag and drop individual photos onto this CD and/or drag and drop whole folders full of photos. When you have all the photos on there you want (a CD holds about 640 million characters worth of photos), then just press the black and yellow radiation warning looking icon.

A dialog box will appear asking you to name the CD. Enter a properly descriptive name and press "burn".

When all of the images have been recorded onto the CD you will see the name you gave it appear in the upper left portion of the Finder window along with an up diamond with a line under it icon to the right. Click the eject icon (the up triangle with the line under it and the CD will be ejected. That CD can be read on nearly any computer ever made so your

customers, prospects, print services or others can see quality images of your work.

It is that simple.

On Windows machines the process is a bit more complicated depending on which version of the Windows operating system is in use. Follow the help files available for that OS to find out how to burn a CD on a Windows machine.

#### How about publishing photos to a web site?

Well, again it is easy on a Mac using the Guild owned iWeb program if you have a .mac account, and anything from easy to hair pulling on a Windows machine depending on the software you elect to use.

Go to my personal web site, <u>www.jerrywork.com</u> to see an example

of a web site built with iWeb and hosted on a .mac account. In this case I use dotster.com for the name server (the same name server used for the Guild web site) and pay them an extra \$5 per year to mask the fact that they are just sending the URL request from their server to the .Mac servers. I cer-



tainly don't hold my web site out as a paragon of design or execution virtue, but it took me less than an afternoon to learn, build and publish. Seems like a good return on time investment to me! You can do the same if you take the initiative to do so. If you want someone else to do it for you, the easiest thing to do is just send the CD full of photos you created along with your personal narrative and contact info to Penny Niemi and she will put your photos up on the Guild web site <u>www.southernoregonguild.org.</u>

In the next editions of SOGPhoto I will try to detail the various aspects of these five processes. In the mean time, go to the Guild service center and practice on your own. Soon you will be able to do things you probably don't even think would be possible now.

Enjoy!



Jerry