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# **TRADITIONAL PHOTOGRAPHY; THE DARKROOM**

**FROM THE [jbhphoto.com](http://jbhphoto.com) BLOG**

**Collection #04-A  
10/2013**

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**MUSINGS, OPINIONS, COMMENTARY,  
HOW-TO AND GENERAL DISCUSSION  
ABOUT TRADITIONAL WET DARKROOM  
PHOTOGRAPHY TAKEN FROM THE PAGES  
OF THE [jbhphoto.com](http://jbhphoto.com) BLOG.**

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# WHY THE WET DARKROOM???

This entry was posted on October 1, 2012.

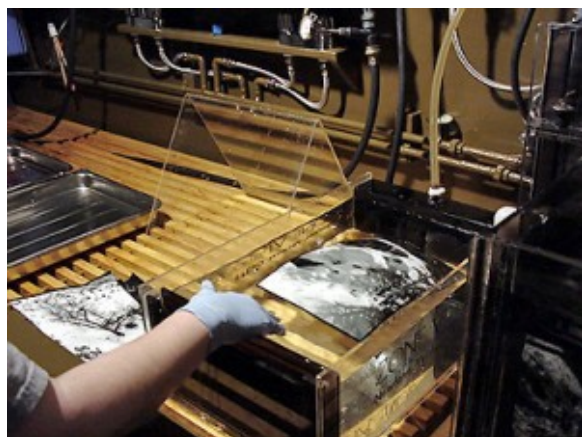
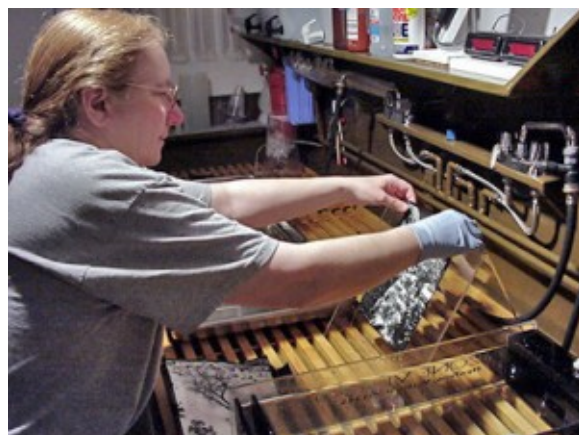


**NOTE: I wrote this little rant over a year ago and never published it. Guess it got lost among all the other posts and I have just resurrected it today. I know I am repeating some things here, but I do so only to make my point. My views have not changed.**

I am forever asked, why the wet darkroom? Why would you want to work with film and photographic paper when you can just click the mouse and let the magic box (computer) create a visual paradise? I am perpetually searching for the answer. . . an answer that makes sense to me, and at the same time explains why to those that ask. I have to begin by saying that nothing is ever as it is advertised. Those that have something to sell always tout how easy it is when you buy their products. If you are looking for quick and easy, then photography may not be for you, matters not what the hype says. In all of those slick

commercials and magazine ads things just fall into place without any effort. Everyone has a big smile on their face and all is well. Can this be reality?

A lot of what we see today is a continuation of the biggest lie ever told about photography back in the early days of the medium. George Eastman, founder of Eastman Kodak Company, came up with a catchy slogan when he introduced the Kodak camera in 1888. His little box camera was the first camera intended for the general public and his slogan was simply, “You Press The Button, We Do The Rest.” This catch line implies that the person making the photograph need do nothing but be there, of course with a Kodak camera, and that person need know nothing, nor do anything, other than press the button and send money to Kodak. This slogan was a work of sheer genius. It made photography easily accessible to the general public and made ‘ol George very wealthy. There is absolutely nothing wrong with any of this, except for that little phrase, which implies that the operator hardly even be present. Anyone that has used a camera knows for themselves that there is more to it than just pressing that little button.



Now I can mention the next biggest lie ever told about photography, this one somewhere in the early 21st century. I am not sure exactly where this came from, but I venture to say it came from large corporate marketing gurus, better known as Harvard MBA's. When you have large companies run by people

Now I can mention the next biggest lie ever told about photography, this one somewhere in the early 21st century. I am not sure exactly where this came from, but I venture to say it came from large corporate marketing gurus, better known as Harvard MBA's. When you have large companies run by people

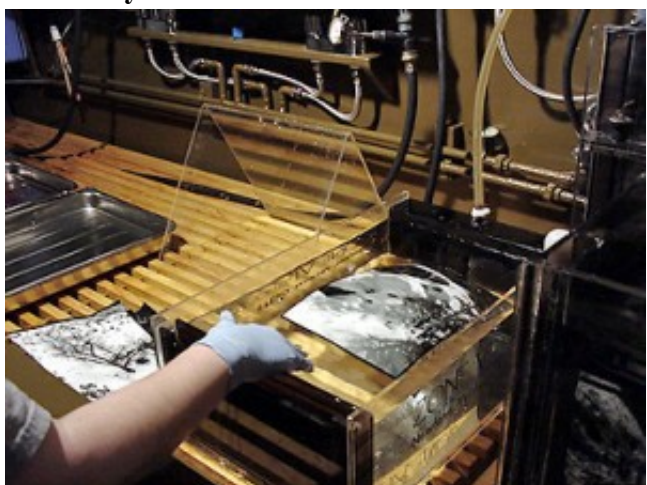
that know nothing about the products they produce, you have idiots at the helm. They worship at the altar of the share holders and the quarterly report. Enough said! The next big lie in photography is,



“Film Is Dead.” I still believe this was nothing but a marketing ploy to guide the easily persuaded customer to purchase more equipment and new technology. This time based on the layman’s misunderstanding that the computer can do anything with only the click of the mouse. You need do nothing, but supply the money. The old slogan could have been upgraded to read, “You Press The Button, The Computer Does The Rest.” I believe that by now, anyone that has tried this

knows, again from hard experience, that it just isn’t that easy. No matter what the hype from any manufacturer, there is no quick and easy way to photographic success.

Having said all of this, I feel that the art of photography is something that requires dedication and perseverance. You have to choose your tools carefully and make sure you have the correct tools for your creativity. I have my own opinions as to the validity of what I do and why I do it in a way that suits me. For what I am about to say I have been belittled, scorned, laughed at, and cursed. Makes no difference to me. Anyone small-minded enough not to accept and respect my choices make no difference in the grand scheme anyway. My father used to say that people that use curse words have a narrow vocabulary and an even narrower mind. So my favorite description as to the validity, use, and purpose of digital imaging. . . there I said that word, Digital. . . is to simply say, “It Is Only Another Art Form.” Simple as that! Choosing the wrong medium will turn into nothing but a waste of your time.

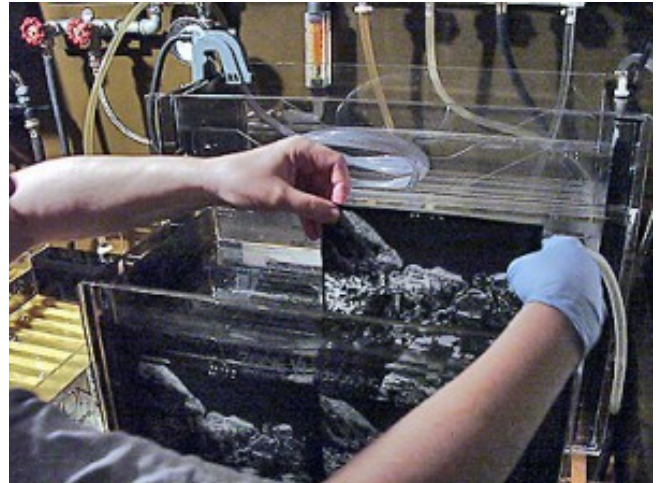


Digital imaging is not a replacement for anything. It is its own entity, has its own strengths and weaknesses. If you choose to work in the Digital arts, good for you! If you are a hybrid photographer, shooting film, scanning and printing digitally, then great for you! If it suits you and you are happy with what you create, then that is just fine with me. If whatever you create suits you, no matter what the medium, then you are on the right path. But, whatever you do, Do Not belittle me for not buying into the farce that Digital is a replacement for Film! And please do not propagate this lie to others that are new to photography. You are doing them a great

disservice by funneling them into believing there is only one path. Nothing is more degrading and discouraging than to find out, much later, that you could have done something else that was much

**more to your liking. People need choices, and need to be able to see all of the different options that are available in the world of photography. One size does not fit all.**

**I realized I still have not answered the question, why the wet darkroom? All I can honestly say is, this is my choice. This is what I choose to do with my life. I can also say without reservation, that for me, a computer screen, keyboard and mouse comprise a place to work. This is where I go to get things done, find information, communicate, write (like this little rant) and to get my day's work accomplished. This is not a place for me to create art. There is nothing artistic for me in front of a digital display. I do not feel anything artistic sitting at my desk, and creating art does not happen if I am not in that mood. I see the computer as a place for 100% left brain activities.**



**When I go into the darkroom and close the door, I am immediately in right brain mode. This is where I create. Same as when I duck under the darkcloth behind that view camera. That little LCD screen on my snapshot camera is just for record keeping. There is nothing artistic there for me either. This is how I think. This is how I work. And this is the best I can do to describe why. If you find digital motivating and productive, then by all means use it to your best advantage. I find nothing about it in any way creatively stimulating for me. That is my choice. Do not belittle me if you do not agree. Creativity is fragile and is only where you find it. Use it wisely!**

**One more thought. I am not on a crusade to convert the world to film. I am only on a quest to try and show everyone that there are choices. . . that the wet darkroom is still alive. If you are interested, you can still choose the medium that best suits you. Matters not whether it is the mouse or the photo tray. What is really important is that everyone knows there is a choice and they should be aware of the strengths and weaknesses of each. To be boxed into that one size fits all world is not good for anyone. Hopefully by now you understand why I choose to work in the wet darkroom.**

**And, one more final thought. Just in case you believe the hype that film is gone forever, take a look at my earlier post titled, "FILM IS NOT DEAD." You can special order both B&W and Color film in any size imaginable! No matter what photographic medium you use, the next time someone asks you about photography, do not propagate the lie that film is dead.**

**JB**

# YOUR DARKROOM

This entry was posted on April 20, 2009.



Everyone that has dabbled with their own film and print processing has been forced to build some sort of minimal darkroom. It is amazing to hear all of the darkroom stories from those that have been there and done that. But the truth is, there are many serious photographers that have created amazing bodies of work with only the most basic darkrooms.

My first darkroom was in a small closet in a small apartment. I bought a garment rack and my clothes hung behind the bedroom door. A working darkroom does not have to look good. . . it just has to work good.

You can load film, expose, and process

paper in most any area that can be made lightproof. Once loaded into the tank, film can be processed on the bathroom vanity or kitchen counter. Paper, once processed, can be washed wherever you can set up a washer.

When you start out you may move. No telling how many times you may move before you finally settle in one place. An elaborate and expensive darkroom is nice, but if you relocate, you leave most of it behind. If you rent you have to be creative. I have moved numerous times and the more you move, the better you get at setting up some area as a darkroom.



You don't need running water, it is nice, but not necessary. You can wash prints in the spare bathroom shower, or tub. One time I had a dry sink made from an old door, with sides screwed to it and painted with enamel paint. I later modified this with a drain, but it ran into a five gallon bucket. This was set up in a spare bedroom, with black plastic over the window. I washed prints in a print washer on the floor of the shower.

You can improvise as required when it comes to the setup. Buy a really good enlarger, with a good lens. The rest is up to you and your budget. A few trays, storage bottles, daylight film tank and chemicals and you are ready to get started. The fact is, you do not need an expensive, nor elaborate, darkroom to make seriously significant prints. Learn to make the most of what is available and put your money and effort into making fine prints. Don't let the lack of a fully equipped darkroom come between you and your creativity. You can build that dream darkroom later.

JB

## EDGE B&D CARD

This entry was posted on January 27, 2013.



Edge B&D Card

I keep harping on the same old line, but it is true that everyone has their own way of doing things and I am no different. But it seems that I continue to get questions about how we work. There seems to be a misconception that when you contact print that Burning and Dodging (B&D) are not possible. That is 100% malarkey! Whether you use a spring back or vacuum frame, the image on the negative is visible against the white printing paper. Burning and dodging is exactly the same as enlarging.

Now having dispelled the myth about contact printing, and understanding things work the same, I find there are two B&D tools I use all the time. Yes,

there are times you will have to cut strange shapes to make a particular B&D tool for a certain image. No matter what special shapes I may need, I find two shapes that are universally used most of the time.

By far my most used B&D shape is a rectangular piece of mat board. I use this for edges, sides and most any other large areas. The second most used B&D shape is a specially modified rectangle for edge burning. I seem to forever need to burn all four edges of most prints and why burn each edge one at a time? I cut a piece of mat board smaller in both dimensions than the print I am making. Then I cut off all four corners at a 45 degree angle. This is my Edge B&D tool and it sees a lot of use. I can burn all four sides of a print in one exposure. The farther you hold the tool from the print, the larger the area that is held back. Moving the Edge B&D card either in a slow circular motion, or moving slowly up and down, yields a nice even edge burning all the way around the print.

I mostly print 8×10 and 11×14 negatives, and I mostly contact print, so I have two Edge B&D cards for those size prints. I use a custom handle to hold dodging shapes fashioned after Fred Picker's Lawton Dodger. Most of the time, I have my Edge B&D card taped to my dodger.

This is something to think about and may work as well for you as it has for me. And, this is not just for contact printing. It works equally well for enlarging. Try making your own Edge B&D card, you may like using it!

JB

# HOT WATER

This entry was posted on July 30, 2013.



Yes, hot water is nice, but not when it comes out of the cold tap in the darkroom. Guess since the beginning of photography all wet processes are assumed to be run at 68F. Personally I have nearly always ran everything at 70F. This seems to be a good compromise since we live in Texas, where in a 12 month year, summer is 18 months long. Personally, I don't care for temperatures to be much above 70F outside, but what can you do?

The cold tap here runs up near 88F by August, and for many years I dealt with that by freezing plastic bottles filled with water. Works well enough, but is still a hassle. Finally about 18 years ago I decided to look into a

water chiller for the darkroom. I have to admit that I did try the coil of copper tubing in a washtub of ice water. Works to some degree, but is a mess to deal with. What I wanted was a no-muss, no-fuss way to chill the water to a manageable temperature.

So, you say you want a water chiller? That really is not a problem. There are commercial units that will provide very high volumes of chilled water. Problem is, they are large and expensive. So, like most things I had to find a balance between useable and practical. Everything is a tradeoff of some sort. I did a lot of research and eventually decided, based upon the limiting factors I had to face, that a small ElKay remote water chiller would be satisfactory. The unit I settled on was their Model ER101Y, which is rated as a 9.6 GPH (Gallon Per Hour) remote chiller. The unit was small enough to fit under the darkroom sink and ran off a 115 volt circuit.



Now, the bottom line is, how well does this work? I have to admit it is not perfect, but it is certainly better than nothing and much better than anything else I had tried. The setup is very simple. I have a Calumet/Lawler mixing valve that in winter, when the cold tap is in the 50-60F range works very well. By adding the chiller in the summer I can keep a steady 70-72F wash water with cold tap up toward 85F, with a flow rate of about 0.75 GPM for as long as I need. This is plenty good enough for washing film or paper. We mostly process paper in the summer anyway, and when the tap gets to 88F the wash water goes to about 75F.

Not everything is perfect though. I would really like to run any flow rate for any length of time, at any reasonable cold tap temperature, but it will not happen with this small of a chiller. That would require more horsepower. Another thing to think about is the heat generated by the chiller. I had to add a



powered wall vent next to the chiller to keep the room from heating up. The ultimate would be to vent the unit outside, but that isn't practical for my location. . . so I just have to deal with it as best I can.



**Cold Tap Input**



**Mixing Valve Output**

At least I do have a chiller and it does work. When I get ready to process film or print, I will fire up the chiller and allow it to cycle. This normally takes about fifteen minutes. I can then fill my washers, but I have to watch the temperature closely, because at full flow the chiller will run out of cold water pretty fast. When I see the mixing valve temperature start to rise, I will shut off the water and wait for the unit to cycle again.

Bottom line is, I would not want to be without my chiller. If I had the choice, I would upgrade to the larger ElKay ER191, which is a 19GPH unit. It would fit in the space now available. The original sink I installed the unit we have on did not have room. If I were going to suggest a chiller, I would say get the 19GPH unit. But do keep in mind that any chiller is better than none!

JB

## A LITTLE SELECTIVE BLEACHING

This entry was posted on September 2, 2012.



Selective bleaching is a technique that uses a very dilute solution of Potassium Ferricyanide, which is brushed on specific areas of a print to lighten the tone and increase contrast. It must be done very judiciously and anyone practicing this technique must be prepared to ruin a few prints. But, with a little patience and practice, bleaching is a powerful tool in the darkroom. Selective bleaching can

open up an entirely new avenue of expression. Here is an example from a recent printing session.

First, here is the subject; a blind cave between two large sandstone fins in Arches National Park.



Next, the printing session; the negative printed quite easily, without any manipulation. It is quite interesting, but lacked depth and was somewhat depressed, especially at the bottom. Also the wood and cracked mud needed to be lighter to draw the eye and enhance the feeling of depth. Here is a side by side comparison of two prints, one before, the other after selective bleaching. . . (this is a quick snapshot of the wet prints on the viewing stand before toning).

I



Finally, the finished print; we selenium tone every print we make, not only for permanence, but for the slight tonal shift and deepening of the contrast of the image. Here is the finished dry print. Note the change in color and contrast after selenium toning.

will not get into the technique employed at this time, but you can find more information by doing a search on the Internet. Selective bleaching is deceptively simple, and as I said before, be prepared to ruin a few prints. This is another tool you can add to your arsenal of darkroom techniques. . . remember, it is always about the finished print.

JB

# CONTACT PRINTING & AZO

This entry was posted on May 15, 2012.



I have to admit that I am a contact printer. Susan and I both contact print. There seems to be some confusion about contact printing and all I can say is, it is the easiest way you can make a print. Contact printing is nothing more than laying the negative directly on a sheet of printing paper, covering it with a piece of glass, and adding some light for the exposure. Nothing could be more simple. You do not need any special equipment to print on graded paper. A negative, some graded paper, a sheet of glass, and a lamp.

As a side note at this point, note I use the term LAMP. I have been corrected for years by an old friend that worked in the lighting industry at one time. In the industry, there is no such thing as a Light Bulb. . . it is a LAMP. So when I say LAMP, you can be assured that to the laymen I am talking about a Light Bulb. Now



back to contact printing.

You can contact print on any paper, but one of the more interesting papers that is highly sought after is the old Kodak Azo. Azo is a silver chloride printing paper that was manufactured primarily for making proofs. It is extremely slow and requires such a large amount of light to yield an image it is mostly used as a contact printing paper. There seems to be some confusion about printing on Azo, and believe me, it is not that complicated. You just have to use a light source that is bright enough to yield reasonable printing times. This is where the lamp comes in.



All you need for printing on Azo is a simple, frosted lamp. For small negatives, 4×5 or smaller you can use a sheet of thick glass for printing. Larger negatives require a printing frame that holds the paper and negative under pressure. Edward Weston printed most of his most famous work using an 8×10 negative in a simple spring back printing frame, exposed under a lamp hanging by its cord from the ceiling. He adjusted the lamp intensity by changing the lamp size, or moving the lamp up and down by coiling the cord and using a clothespin.

changing the lamp size, or moving the lamp up and down by coiling the cord and using a clothespin.

So, now we get down to designing a printing rig for Azo. This can be as simple or complicated as you wish. I am going to describe how we print Azo and other papers. This is the setup we use, and how it is designed. I will say this again, you can use this same setup for contact printing regular enlarging paper also.



Let's begin with the printing frame. We print large negatives, and we use a vacuum frame. The advantage of a vacuum frame is that you get absolute even pressure between the film and paper, no matter what the size of the film. We shoot 8×10, 11×14, 8×20 and 16×20 film, and have a vacuum frame large enough to accommodate the largest film. The vacuum frame is positioned under the drop table below the 8×10 enlarger.

The vacuum pump is located just below the frame and includes a vacuum gauge which is handy to confirm the frame is



properly closed and the vacuum is drawn down. By having the vacuum frame located below the enlarger we can also use the enlarger for printing on other papers, including VC papers that require control of blue and green light. The top

of the counter is removable, as is the drop shelf which is used for enlarging. By removing the counter top and drop shelf, the vacuum frame is exposed and can be used for printing.

Printing on Azo only requires a lamp placed at some distance from the film and paper. Different negatives require different amounts of light. We set the vacuum frame to lamp reflector to a fixed distance and change the lamp wattage as required. The higher the wattage, the brighter the lamp. We keep a supply of lamps, ranging from 7 ½ watt to 200watt depending on the amount of light required.



For most of our negatives we use the 45watt, 65watt, and sometimes a 100watt lamp. I like having a reflector around the lamp to help keep the light out of my eyes while printing. It also focuses the light downward onto the printing frame.

The lamp fixture is fitted with a custom machined clamping mechanism that attaches to the focusing rail of the Beseler 8×10 enlarger just below the lens, and is held in place with a thumbscrew. The enlarger head is raised or lowered to set the distance from the lamp reflector to the vacuum frame. We always adjust the lip of the reflector to vacuum glass to 30 inches. For our setup, this allows for even illumination of the vacuum frame and keeps the reflector between your eyes and the lamp. The lamp assembly is easily removed by loosening the thumb screw in case you want to change to enlarging paper and

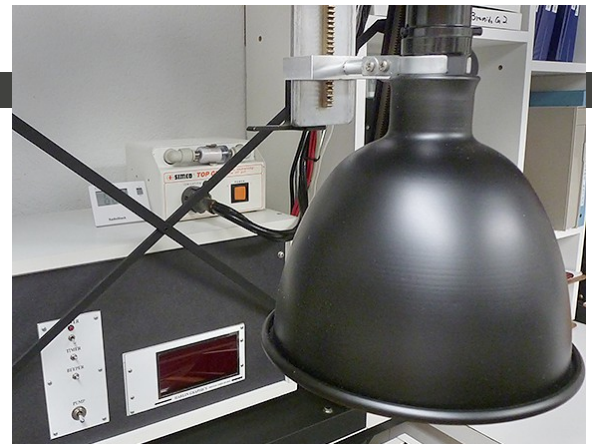
use the enlarger as a light source. This all sounds complicated, but in reality it is very simple. Refer to the photos for more detail.



The only thing that might affect your printing repeatability would be any variation of the line voltage to the lamp, which will affect the lamp output. The voltage is easily stabilized using a constant voltage transformer. You can find constant voltage units used, take a look on eBay. The one we use is a 350watt unit made by Sola-HD and will easily handle our largest lamp which is 200watts.

The constant voltage transformer is mounted in a large box that is located behind the 8×10 enlarger. I have also added a timer and a one second metronome, both made from an old digital alarm clock. Some cheap digital clocks can be modified to function as a resettable timer. I was able to rig the alarm beeper so that it chirps every second. I like to use a metronome when contact printing, and there is also a large digital readout timer that I can use as a check, just in case I lose count. The printing lamp and timer are wired to a foot switch. When you step on the switch the lamp comes on and the timer begins to count upward. The metronome runs continuously and has a switch to disable it. My wife does not like it, she only uses the timer. There is also a switch on the main box that controls the vacuum pump. As a safety precaution, the lamp will not activate until the vacuum pump is running. This way if you accidentally step on the footswitch with your box of paper open, the lamp will not light.

Printing is extremely simple. Switch off the room lights, place a sheet of printing paper, sandwiched with your negative, in the center of the vacuum frame. Close the glass top. Hit the pump switch and check to see that the frame has drawn down. When you are ready to start, step on the footswitch. The printing lamp comes on and the timer starts counting. I always step on the switch in time with the metronome. Count off the desired exposure. When complete, release the footswitch. Turn off the vacuum pump. Remove the paper and process.



Need to burn and dodge? Keep track of your exposure and use a card or cutout shape for the appropriate time. You can easily see the image since the paper is white and the negative is easily seen through the glass of the printing frame or vacuum frame.

Contact printing on Azo, or any other printing paper, is extremely easy, and is not rocket science. By adding the ability to print Azo using the 8×10 enlarger, we save space, which is always a premium in the darkroom. You can make your printing setup as simple, or complex as you desire. The main thing is to make prints. Make lots of prints. Those prints are what is important.

JB

# THOMAS DUPLEX SUPER SAFELIGHT FILTERS

This entry was posted on August 20, 2012.



Seems the last couple of times I have tested the darkroom safelight I have had to cut down the illumination. That should be a clue that the filters are fading and it is time to replace them. We use a Thomas Duplex Super Safelight that I rebuilt many years ago. Since we have a small darkroom I knew I needed to attenuate the light. My original safelight was modified when I rebuilt it and the 35 watt lamp was replaced with a 18 watt lamp. Note: You have to replace the ballast and start capacitor if you change the lamp wattage. Wasn't that big a problem seeing how the original ballast was no good. I purchased the

safelight many years ago not working for little to nothing.

So, now I needed to replace the filters. Since I am only interested in B&W work, that simplifies things for sure. All I need to find is the correct filter and then I can assemble my own replacement. I have plenty of scrap glass, and tape.

With a little research on the Internet I discovered that the hard part had already been done. Seems a [Rosco #19 "Fire"](#) filter has the necessary bandwidth to filter out the



annoying green and blue spikes in the low pressure sodium lamp spectrum. And, seems that others had proven this the best way possible. . . they tested it in their own darkroom.



All I needed was to order some filter material. Rosco filters are the industry standard for stage and film production and readily available. That was way too easy. The thing that I was still toying with was how to adjust the light output. It finally came to me. Why not put the #19 filter in the body position and then add a Neutral Density filter to the vane? Yep, that would do it. So I ordered a sheet of Rosco #19 filter and a sheet of 0.30 ND.

We have a lot of scrap glass around. I cut new glass to fit the body and vanes using [TruVue Conservation Grade UV](#) glass. Thought it wouldn't hurt to add even more filtration. I also found out why the factory uses tissue paper. Without it, the filter material does not look that great against the glass and I could see that if any moisture were to condense in there, it could be bad for the filter. I really didn't want to use tissue paper and I had a roll of [Gila](#) frosted window film from another project. This stuff is a self-adhesive plastic material used to frost windows. It was exactly what I

needed to put a smooth textured surface on the inside of the glass to keep the filter from sticking. It also works well to diffuse the light.

One of my favorite tapes is the aluminum HVAC ducting tape. It is lightproof, sticks and stays in place. Slit a few pieces of tape, peel the backing and it will hold the filter sandwich in place with ease.

I placed the #19 filter in the body and 0.30 ND in the vanes. My first test showed there was still too much light. I was testing at my closest point to the safelight for the worst case situation. I ended up adding a second layer of 0.30 which made for 0.60 ND, which is two full stops attenuation. But remember, I was testing with the most sensitive VC paper we use at a very close proximity to the safelight. Always test for the very worst case scenario.

Once finished, I found that the darkroom is much brighter than before. This proves that the filters do fade. Now we are back in business. With the vanes fully closed all VC and standard papers are safe. I like to print on Azo, which allows me to open the vanes for even more light.

I will test again in a year or so and if I need new filters they are easily replaced. I have plenty of material, the Rosco filter comes in a 24 x 24 inch square. Enough for several more safelight filters, if and when they are needed.

**JB**



## COLD LIGHT?

This entry was posted on April 3, 2009.



Ever wonder exactly how a Cold Light enlarger head works? How can light be Cold? The grid lamp-type enlarger light source definitely generates much less heat when compared to an incandescent light source. The heat of an incandescent lamp is generated by the infrared radiation produced by the heated filament in the lamp. A typical incandescent lamp produces more IR than visible light. In the simplest terms, the Cold Light does not generate that much IR, hence less heat. But what exactly is a Cold Light?

Most Cold Light enlarging heads contain what is known as cold cathode lighting. And, yes there is also what is known as hot cathode lighting. You say you have never heard of such things? Maybe not, but you see them both most every day. Cold cathode lighting is simply neon. That neon OPEN sign at the convenience store is a cold cathode light. The fluorescent light in your hallway is hot cathode lighting. In simplest of forms, they are both gas discharge lamps.

There are a few of the larger Cold Light enlarger heads that use fluorescent lamps, but most Cold Light heads contain cold cathode grid lamps. Without getting into a technical discussion, the usual Cold Light head is nothing but a neon sign. The glass lamp is bent into a grid instead of spelling out some advertising slogan or the word OPEN.



A cold cathode lamp depends on high voltage to operate. Your small Cold Light head will use a voltage around 6KV (6,000) volts. A larger head can use up to 12KV to operate. The high voltage source is current limited in order to keep the lamp from overheating. By adding different rare gasses and phosphor coatings inside the lamp it is possible to create different colors of light.

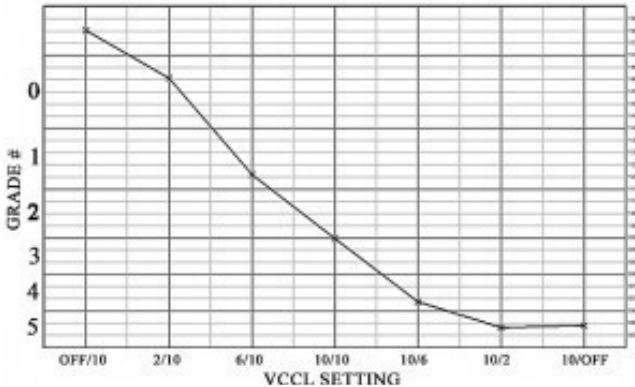
The dual grid Variable Contrast Cold Light (VCCL) heads, used with variable contrast papers, have two grids. One green grid for printing soft contrast and a blue grid for printing hard contrast. Adjusting the intensity of each lamp, by varying the voltage, allows you to mix different amounts of each light to achieved a continuously variable contrast grade on VC paper.

So, now you know! That Cold Light enlarger head is nothing more than a specially designed neon sign. And, one important thing to remember and this is important! There is very high voltage inside that Cold Light, so unless you know what you are doing, Keep Out!!!

JB

# THE VARIABLE CONTRAST COLD LIGHT

This entry was posted on May 3, 2010.



The dual grid, Variable Contrast Cold Light head (VCCL), is a great device for your enlarger if you print on black & white VC papers. These heads allow you to dial in any contrast grade your VC paper is capable of producing. You have continuously variable contrast at your fingertips. And, yes they do work. The trouble is, every paper is different. Setting the dial on the head to any random equal setting may or may not produce a grade #2 contrast. Worse yet, what two settings should you choose?

When you start using a new VCCL head you are now faced with a quandary. How do you calibrate this thing so you have some idea what paper grade you are actually getting? Did you know you can calibrate a VCCL head to a known standard? You can know what settings of the blue and green grid will give you an equivalent grade #2, or #3, or anything within the range of the paper!

Yes you can calibrate a VCCL head, and here is how it can be done. Look at the article “USING BTZS TO CALIBRATE YOUR VARIABLE CONTRAST COLD LIGHT HEAD” originally published in the Sep/Oct 2007 issue of View Camera Magazine in the [ARTICLES](#) area of our web site.

# EASILY FIND GRADE #2 AND GET YOUR FILM TEST CORRECT

This entry was posted on July 17, 2011.

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## FINDING VC PAPER GRADE #2; EYEBALL CALIBRATION

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So, here is the predicament; you are getting ready to do your film testing; you have decided to use the simple visual film testing technique. Visual film testing is a really simple way to determine your correct film EI and developing time. All you need to do is perform these tests on a grade #2 paper and you will know you are making the best possible negatives.

But, there is one nagging little problem. If you are using VC paper, how do you know what filter, or light source setting, that will produce a grade #2 contrast? Even if you are using filters, each filter set has different filters that will give different paper grades on different papers. Even the developer you choose can affect paper contrast. You really need to KNOW how to achieve a true grade #2, using your equipment and darkroom, in order to do a valid film test.

What if I could show you an easy, inexpensive, and quick method that will get you plenty close enough? Well, here you go. . . “[FINDING VC PAPER GRADE #2; EYEBALL CALIBRATION](#).” This method should get you well within range to get you started on the right track.

Remember, that making a good negative is the first step in making a great print. Hope this helps you on your quest for photographic excellence! Download the PDF version from the [Articles](#) area of our web site.

“Simplicity is the ultimate sophistication.” -Leonardo da Vinci-

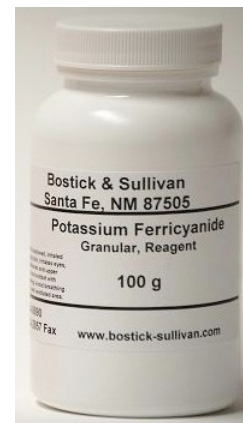
JB

# SELECTIVE BLEACHING

This entry was posted on September 16, 2012.



I have shown an example of selective bleaching here previously in a post titled "[A LITTLE SELECTIVE BLEACHING.](#)" Now I am getting questions for more information on the technique we use. This is a relatively new procedure to me that we have been experimenting with for some time now. I feel it is finally mature enough to talk about in more detail. First I must say that this is not something I came up with. When you say selective bleaching, two names immediately come to mind, Jay Dusard and Bruce Barnbaum. They both use the technique and are masters at its use. I believe that Jay Dusard is one of the original founders since he holds the title of Captain Ferricyanide. There are many others that practice selective bleaching, so this is not something that is new nor exclusive to these people.



Selective bleaching is deceptively simple. It is easy, quick, and can produce stunning results. Just as quickly it can ruin a print when over done. Patience and practice are the key to success. A note of warning; **YOU WILL RUIN A FEW PRINTS!** This is just the nature of the process. If you get a little overzealous, you can go too far bleaching. Keep in mind that disaster is always right there in your hand waiting to jump up and bite you. The question is; is it worth the trouble? The answer is; yes! It is very much worth the effort. When it works, and most of the time it does, the results are amazing.



So, having gotten all of the warnings out of the way, I will attempt to explain how we use selective bleaching. Keep in mind that this is how we work. What we do was learned from various sources and there are always variations.

Potassium Ferricyanide is the use for bleaching silver prints. This is agent that will revert metallic silver salts. The second chemical you will fixer. Once the metallic silver in a back to silver salts, these salts are fixer. This makes the print stable removed, the silver salts will revert silver and stain the print. You can say that fixer is the catalyst in the bleaching process.



chemical you will a silver reducing back to silver use is standard print is rendered removed using again. If not back to metallic

When selective bleaching, you use a dilute solution of Potassium Ferricyanide, which is applied with a brush, then immediately rinsed away with running water. You work very slowly, removing silver

density in stages until the desired densities are achieved. Keep in mind that the thinner, white or near white, areas of the print react very quickly, since they contain very little metallic silver and bleach away rapidly. Denser, darker areas, bleach more slowly. So not only do you lighten highlights, you increase contrast in the areas you bleach.

You will need to gather a few things that are specific for the process, others are standards in the darkroom. Here is what you will need.

- Potassium Ferricyanide
- Fixer for paper
- Japanese calligraphy brushes, in several sizes (Bamboo Brush)
- Small, flexible hose connected to running water
- Large sheet of white acrylic
- Heavy parfait dish (not necessary, but handy to have)
- Pack some patience

There is no real formula for mixing the bleaching solution. It is simply water and Potassium Ferricyanide. You will have to experiment. Keep in mind that the stronger you mix the solution, the faster it will work. When mixed, the solution will be yellow. I have read that the color of urine is about right. . . that could leave a lot of room for interpretation. If the bleach reacts too rapidly, add more water. If too slow, add more Potassium Ferricyanide. Here is where we start, and this dilution has proven to work most of the time.

- 1/8 tsp Potassium Ferricyanide
- 50ml distilled water 68-75F



Be sure to mix thoroughly. Any clumps of un-dissolved chemical will eat a hole right to the paper base of your print. All you have to do is stir well and check carefully to make sure every last bit is dissolved before use. We like to use an old fashion parfait dish to hold the bleaching solution. You know those old, heavy glass dishes they use at the drug store soda fountain. We found them at Wal-Mart. They are heavy, hold your brush, and will not easily tip over.



You need a well lit area in your darkroom sink in which to work. We use a sheet of white acrylic as a viewing stand when printing. It is propped up against the back of the sink at an angle and is under

our viewing light. This is perfect for bleaching also. We have a length of 1/4 inch rubber tubing that is attached to running water to wash down the print. The technique requires you paint the bleach onto the area you wish to lighten, then immediately rinse with running water. You also need to keep a steady stream of water just below the area you are bleaching. This keeps the bleaching solution that runs down the print from leaving streaks across your print.

We use Japanese Calligraphy brushes to paint the bleaching solution onto the print. These are also known as Bamboo Brushes and are available in various sizes from most any art store. You do not want to use brushes with a metal ferrel. The metal will react with the bleach and cause stains. We use the cheap brushes since they get a lot of heavy use and usually fall apart after about a year of use.

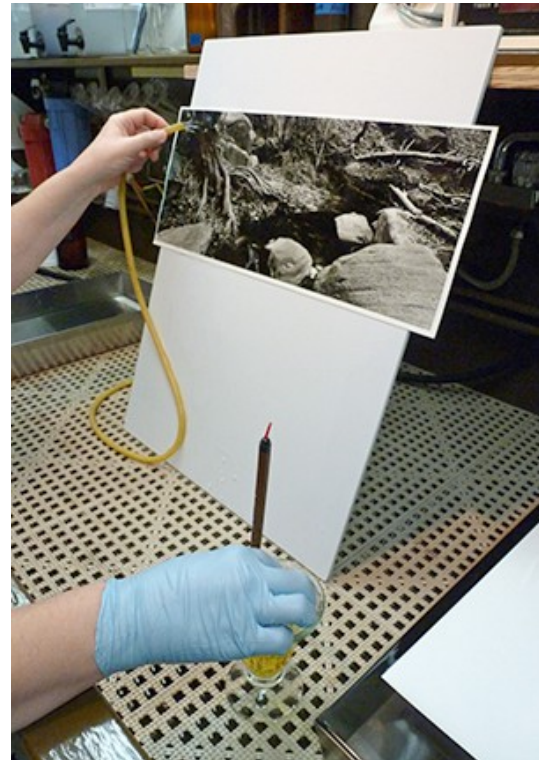
That is all you need to get started, except for a few prints to bleach and a tray of print fixer. You can bleach your prints during a printing session, or you can wash your finished prints and bleach them later if you like. Just remember that you should not tone them until you have completed all bleaching.

So, here is how we selective bleach prints. Keep in mind that this is much harder to describe than to do, as I said, it is deceptively simple.

To begin you need wet prints. If the prints were processed and dried, we put them into the print washer for about five minutes. Once ready to start, a print is placed in the fixer tray for 10-15 seconds or so. Then placed on the viewing stand. First thing is to rinse the entire print surface with running water. Remember that fixer is a catalyst and if too much fixer is on the print surface you may loose control of the bleaching process. Dip the appropriate size brush into the bleaching solution and paint onto the area that requires density reduction. Keep the stream of running water just under the area being worked. This dilutes the bleach that runs down the print and stops it from leaving streaks. Next quickly rinse the area thoroughly with running water and examine the bleaching process. Repeat as necessary. Be sure to STOP before you reach your desired density. Once things begin to look the way you want, place the print back in the fixer for another 10-15 seconds. Now position the print back on the viewing stand, rinse thoroughly, and examine your progress. Continue bleaching the areas as required, placing the print back in the fixer occasionally to check your progress.

Depending on what part of the image you are working on, you may want to turn the print to different angles on the viewing stand as you work. I like to keep as little of the bleach as I can from running across the print. So, if I am working along the top edge of the print, I turn the print upside down. It is best to bleach by following the natural curves of the image. It is like being a painter, think of the flow of the image. I turn the print so that these natural curves face downward as I beach, starting from the top and quickly working toward the bottom, then quickly rinsing with water.

Once satisfied with the look of the print, it is placed back into the fixer for about 30 seconds, then returned to the washer. It is important that all of the bleach and silver salts are removed from the finished print. We selenium tone everything. You can find our toning technique [HERE](#). Toning is the



last step for us, and when we tone, the first tray contains pure hypo. This is our second fix. If you do not tone, you must fix the print after bleaching for about 4 minutes, then wash as usual. There you have it in a nutshell. As I said, it is deceptively simple. We have also created a very short video of Susan bleaching one of her prints. Hope this has been instructive and helps you better understand selective bleaching. It can save a bland print or it can make a great print extraordinary.

**JB**

If you look on YouTube, you will find videos of Susan and I bleaching a print. Take a look at these videos:

<https://www.youtube.com/watch?v=b3HuOspVwnU>

<https://www.youtube.com/watch?v=b2xXQb8opx4>

# MEASURING PAPER FOG

This entry was posted on June 7, 2011.

I was recently asked to test some Kentmere paper for fogging. A friend had shut down his wet darkroom and had several packages of paper he wanted to sell, but wanted to know if it was still useable. I agreed to test for him and if you wonder how to check for paper fog, here is the process I use.



Begin by cutting off a strip of the paper to be tested in very subdued safelight to total darkness. Since the paper I was testing was 16×20, I cut off a strip across the short side about two inches wide. I then cut the strip in half. This gave me two pieces of paper 2×8 inches. On the back of the paper I mark one with the letter 'F' and the other with the letter 'D' and place the latter into a light-tight box.

The strip marked 'F' is placed into a tray of fresh fixer and agitated for five minutes. Then it is placed in a tray of running water. Next the strip marked 'D' is placed into a tray of developer, agitated for two minutes. . . stop for thirty seconds. . . and fixed for five minutes. I use my standard print developing chemicals and the normal times. If you use different materials, use your normal times. Once both strips are in the wash tray, turn on the lights and wash for thirty minutes. Remove the test strips and dry as usual.

What has happened here is I have cleared the test strip marked with the 'F' which stands for fixed only and I have developed the strip marked 'D' for developer as usual. All that is needed now is to measure the reflected difference. I used an X-Rite 810 densitometer to measure the difference and found it to only be about 0.003, which is nothing to worry about. Keep in mind that all light sensitive materials, film or paper, will have some amount of base fog when developed.

Fortunately I was able to report to my friend that his paper was in excellent condition and he was happy to be able to sell it to another photographer. Hopefully this batch of paper will live on to produce some beautiful prints.

Also keep in mind that you do not need a densitometer to run this test. If you cannot see any appreciable difference in the two test strips, you can assume the paper is in good condition. If you have some old paper that shows signs of fogging, you can experiment with adding a restrainer, like Benzotriazol, to your developer to see if it will help. Never throw out printing paper just because you have had it on the shelf for some time. Test it first. . . you may be surprised to find that it is in good condition and useable.

JB



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