

Blending Digital Imaging with Traditional Black & White Photographic Printing. By Merle A. Branner MS, MLIS

Abstract:

This article is a step-by-step description of the process used to create a traditional black and white photographic print from a digital negative, which is projected from an iPhone through a traditional photographic enlarger. This article is written with the assumption that the reader already knows the traditional photographic process of enlarging black and white photographs.

Black & White photography is the true art of photography. In recent years with the advent of the digital image, this art has been lost. It is not that one cannot create a beautiful black & white image on a computer. It is that if that image were sent to a photographic lab, it would be printed in color chemistry. This would leave a color cast to the image and loss of the true black and white image quality that was created on a computer. Digital black and white images are becoming a lost art. I have been exploring different ways to create traditional black and white fiber- based prints from digital negatives using a traditional enlarger. This article lays out this process. I am not the originator of this idea. I have adapted the idea from a blog post from “Life in LOFI iPhoneography,” posted by Marty Yawnick on August 25, 2010.

<http://tinyurl.com/6smp6k5>.

This process starts with creating a digital negative. One can create a digital negative on a computer or by using mobile devices, from any digital image. The process that is being described in this paper was done with an iPad and iPhone. This process should be able to be accomplished with other types of phones and tablets.

First an image needs to be selected to print. I used both of my IOS devices to review images using the Camera App and iPhoto. The images that are chosen will have to be converted from color to black & white. Remember, not all images look good in black & white. Experiment with different types of images.

An app is needed to convert color images to black and white. I used a free app, Perfect Photo by Wen Studio, <http://tinyurl.com/plnc4r8>, to complete all of the procedures required to create a digital negative. I started off using Perfect Photo on my iPad, but I also used it on my iPhone. Launch

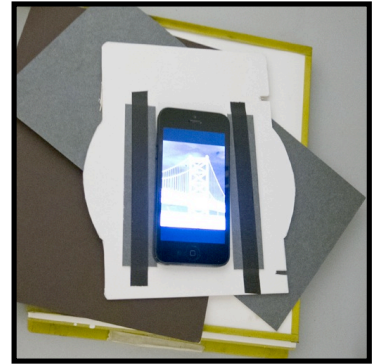


Perfect Photo and choose Camera. Then choose Existing Image. Choose from Camera Roll or My Photo Stream (if this option is turned on). Once an image is chosen, do the following steps: Choose Filters > B&W and then choose Filters > Flip. The final step is to choose Filters > Invert. You now have created a black and white negative that can be printed in an enlarger. If the negatives are created on a computer or iPad, they need to transfer to the iPhone.

Digital Negative

Before printing a digital negative, you need to create an iPhone carrier that fits in the enlarger. The carrier is designed to hold the iPhone in the enlarger. The iPhone carrier can be created out of mount board. Use an existing negative carrier as a

template for creating the outer dimensions and design for the new iPhone carrier. Center the iPhone on the new carrier and draw out a rectangle (window) that will be cut out. I created a $2 \frac{1}{16} \times 4 \frac{1}{16}$ rectangle (window). Use a matte knife and a metal ruler to cut the rectangle window.



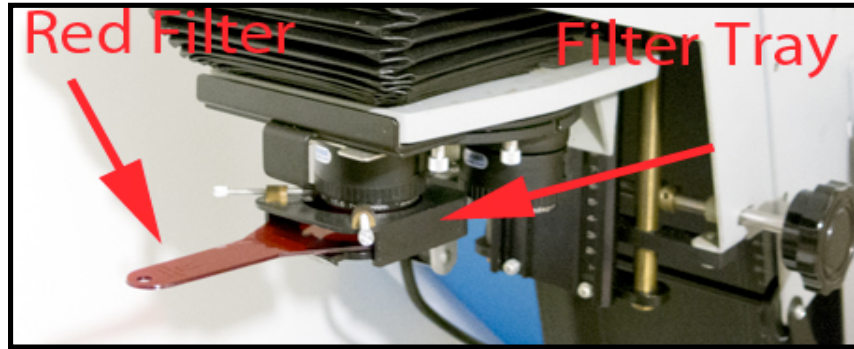
Please be careful and do not cut yourself. Next, cut two long strips of mount board for the side supports for the iPhone. They should be about five inches in length and $\frac{3}{4}$ of an inch wide. These pieces of mount board can be held down with either black tape or glue. Finally, I would advise placing a piece of mount board on top of the iPhone to protect both the phone and the condenser of the enlarger from scratching.

Since the iPhone is the light source that creates the print, the enlarger does not need to be plugged into a darkroom timer. Unplug the enlarger if it is plugged into a timer. The timer will be used for timing the exposures of the print.



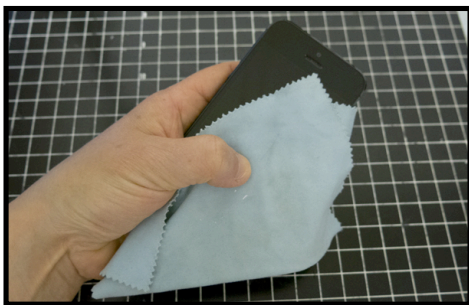
It would be helpful to have a filter tray. Try one that can be mounted under the enlarger lens. Many variable contrast filters sets come with a filter tray as seen here on the left.

The following instructions are for using variable contrast filters with a filter tray under the lens. If you do not have a filter tray, you will



have to figure a different system to create consistent exposures. As seen on the left, use a red filter. The red filter blocks out the iPhone light when placing photographic paper in the printer easel. You can easily create a cardboard tool to do the same thing as a red filter. Additionally, you can place a variable contrast filter below the red filter. All images that I printed were with a number three filter on variable contrast paper.

Before you place the iPhone in the carrier, you need to go to your Settings and turn on the Airplane Mode. Next go to Wallpapers & Brightness and turn the screen to the brightest setting and turn off the Auto-Brightness feature if it is on. Finally, the last thing you need to do is go to General and then Auto-Lock and check off Never. This way your iPhone will stay on and there will be no disruptions from calls or other notifications.



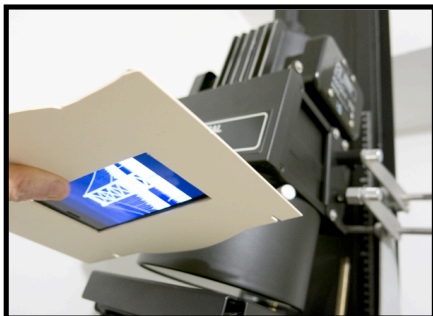
It is important to clean the face of the phone with a soft cloth. Place the iPhone in the iPhone Carrier and then into the enlarger. The enlarger that I use is a Berkley Omega Universal Pro-Lab 4x5 Enlarger. When placing the iPhone and carrier into the enlarger, make sure the image does not rotate. The iPhone negative should be as large as you can

make it. Remember the old saying “the larger the negative the better quality print.” I have been trying to enlarge my iPad by creating a 4 x 5 to 4 x 6 negative and I had to made modifications to my enlarger, which has proven this point. The larger the IOS device (digital negative) the better quality print you will get. It was very hard to tell that a film-based negative did not create the print when using the iPad. See image on the right for enlarger modification when using an iPad.



Before closing the condenser, place a piece of mount board on top of your

iPhone. This will protect both the iPhone and the condenser from scratching. Additionally, I suggest plugging in the iPhone to A/C to eliminate the battery from draining.



Now it is time to enlarge a digital negative. Open the lens to the widest opening. My lens was set at F 5.6.

This is the widest opening on the 105mm Rodenstock Rodagon 1:5.6 lens.

Turn off the white light in the darkroom. Do not forget to turn on the darkroom lights. Remove the red filter and adjust the enlarger to the size of print that will be enlarged. Place a piece of enlarging paper on the enlarging easel. This sheet of paper is your



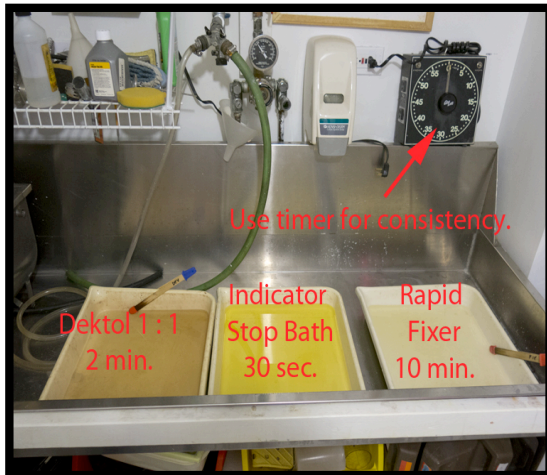
focusing sheet. Use a grain focuser to focus the image. Through the grain focuser, you will see bars of red, green and blue, along with black lines. Make sure that the color bars are in focus.

Once the image is in focus, place the red filter back in the filter tray or the tool

that was created to block out the light. Remove the focusing paper.

It's time to create a test strip. Take out a sheet of photographic paper that is cut into a strip. Set the darkroom timer at 10 seconds.

Create a test strip in 10 second increments with the assistance of a piece of mount board.



Process the test strip. I used Kodak chemistry Dektol for two minutes with continuous agitation. Then I stopped the development process in Indicator Stop Bath for 30 seconds. I fixed the test strip in Rapid Fixer for one minute before I looked at it in white light. Prints were fixed for 10 minutes total. Most of the prints I made had an exposure anywhere from 30 seconds to 1 minute and 15 seconds in length. The prints were washed for one hour, squeegeed and then dried in a print dryer face down.



Overall, I was pleased with this process. I was able to enlarge the iPhone digital negative to 11x14, which seemed to produce consistent exposures and high quality prints on both Agfa and Ilford multi grade fiber base papers. Looking at these prints up close, you would see that small squares make up the image. When looking at the images at an arms length, they look like they were enlarged from a film negative. The digital negatives I printed off the iPad with modifications to my enlarger looked like they were printed from a negative. These prints viewed up close or at an arms distance looked as good as any image printed with a 4x5 negative. Digital negatives can produce



continuous tone black and white prints that have the look of traditional images printed from film at normal viewing length.