

Out of the Dark...Part 3

Text Copyright Tom Webster
All rights reserved.

So far I have discussed the changing nature of the professional photo lab business and have addressed some the actions, by both the professional photo lab and the customer, that cause film damage. I'm going to turn my attention, now, to some of the concerns about photo lab printing services. I will especially concentrate on the production of Type R and Ilfochrome prints. Unless a transparency was made at the same time a color negative was shot, producing prints from color negatives relies on the ability of the printing technician to achieve an overall neutral color balance. Without an image to directly compare to the final print, color balance and print density is pretty much at the discretion of the printing technician.

Producing Type R or Ilfochrome prints from transparencies, however, allows the printing technician to have a positive guide as to color balance and density. One would think that producing "reversal" prints that closely match the original image would be a fairly easy proposition. Nothing could be further from the truth.

First, consider the original transparency. Transparency films have the highest contrast range of all films. The f. stop spread between high values that retain details to shadow values that retain details is a mere 5. f. stops. In darkroom terms, the original transparency is called the "first generation" image. Any other images made from the original transparency are considered successive generations. A Type R or Ilfochrome print would be a "second generation" image, as would be a duplicate transparency. A Type R or Ilfochrome print produced from a duplicate transparency would be a "third generation" image and so on. Each generation from the original transparency yields an increase in contrast in the next generation image. It's just the nature of the materials. To expect consistently high quality generational images, the original transparency must be exposed and processed properly and contain the best combination of color balance and tonal value. Any deficiencies from the best possible transparency are magnified in further generational images. Several deficiencies can become quite apparent. Original transparencies can contain color shifts, known as "crossovers", when comparing the colorcasts of high values to the colorcasts contained in the shadow values. Often these crossovers are created by fairly extreme film pushes. Film pushes resulting in longer processing times often cause the shadows to shift to an overall greenish/cyan tinge while the highlights display a reddish/magenta tinge. Some film emulsions will produce a blue/cyan and yellow/red color crossover with similar processing. Color crossovers may be created by extending the overall exposure of the original transparency well into the exposure times that result in reciprocity failure. Regardless of the source, the color crossovers may be fairly faint in the original transparency, but will be further emphasized in additional generations of images made from the original.

Second, the materials used to produce photographic prints from transparencies are, in themselves, high contrast materials. Any deficiencies in the original transparency will be magnified by the higher contrast of Type R and Ilfochrome materials. If the high value densities are marginal or lacking detail in the original transparency, the second-generation print will have these details entirely lacking. The same holds true of shadow values as well. What is marginal in the original will, most likely, be lacking in the second-generation print. If the original transparency contains color crossovers, then the second-generation print will magnify these crossovers. There are also colors that are known as "transient" colors. No matter the film emulsion used, there are some colors that do not reproduce correctly in hue and saturation. These transient colors are further emphasized in any generational images made from the original.

Third, the quality of the printing service ordered must be considered. Again, it bears repeating that photo labs are in business to make money. Labor costs are "variable costs" that need to be closely monitored. Materials waste is another variable cost and can quickly reduce the profitability of the printing department if not closely monitored. Professional photo labs are careful to "grade" their printing services according to the amount of labor and materials required to produce a particular grade of photographic print. A standard type of lighting, usually daylight color-balanced, is used to view prints as they are produced so that the final print is a close color match to the original transparency on a light table. All precautions are taken to produce a print with no surface damage.

Typically, not always, prints and production quality are graded into 4 grades.

1. "Machine Prints" or "Economy Prints" are produced in standard size crops, have no image manipulations, and are color corrected to within 7 to 10 points of optimal color balance when compared to the original transparency. Obviously, machine

- prints are intended for a mass production of inexpensive prints.
2. "Standard Prints" are produced in standard size crops, have minimal and basic printing manipulations, and are generally color corrected to be within 5 "points" of optimal color balance.
 3. "Custom Prints" or "Semi-Custom Prints" are cropped according to customer specifications, are more manipulated (dodged/burned) according to customer request, and the color balance is held to within 3 "points" of optimal balance. A custom print may also include the ability for the customer to view a "proof" print before approving the final print.
 4. "Reproduction Grade Prints" are produced with varying techniques to assure the closest possible match to the original transparency.

Customers ordering these prints have total flexibility in proofing the final product. Accordingly, the prices for the various print grades increase with the amount of labor required to produce the grade of print requested as well as to cover the additional costs of materials wastage. **The photo lab's sales personnel should explain these differences in grades or, at the very least, have the differences in the grades of prints clearly spelled-out in their price lists.**

I have found that the greatest contributing factor in customer dissatisfaction with a particular lab's printing services is that the customer was not entirely clear as to what to expect in a certain grade of print. In most cases this is as a result of a communication failure between the photo lab's sales staff and the customer. It is up to the customer to communicate **clearly** to the photo lab his/her expectations of the print being ordered. It is up to the photo lab's sales personnel to communicate **clearly** to the customer what grade of print will need to be supplied to match the customer's expectations. All too often a customer orders a print and expects that the print will match the transparency exactly regardless of the grade of print ordered or the conditions under which the print is viewed. (Be sure to view the final print under proper lighting conditions before accepting or rejecting the print.) This just can't be done without paying the higher prices for custom, semi-custom, or reproduction grade prints. From then on, that photo lab is a "bad" photo lab.

It is especially difficult to match a customer's expectations when producing Type R or Ilfochrome prints due to the nature of the materials as I have explained them. Reversal printing is about the toughest type of "traditional" printing that can be done. If the original transparency lacks highlight detail, no amount of dodging of the highlights will produce highlight details. If there isn't detail in the shadows in the original transparency, no amount of burning the shadows will produce shadow details. In both instances, you will produce a featureless gray. Color crossovers will be emphasized. Great originals will produce great Type R or Ilfochrome prints. Original transparencies with deficiencies will produce prints with these deficiencies emphasized. Before you order prints from a local professional photo lab ask to see samples of their print grades first. If you decide this photo lab cannot produce the quality print you desire for the price you expect, then look to other labs. But to be fair to the photo lab, keep in mind, to receive the quality of print that you desire you are going to have to pay the price. You cannot set higher expectations for quality prints than the grade of the print that you ordered.

So what's the good news?

The good news is two-fold. First, the majority of professional photo labs **do** want your continued business. You will find most photo labs willing to work with you, the customer, in a professional manner to produce the type and quality of products and/or services that you desire. The key to obtaining this type of service is to treat the professional photo lab **professionally** yourself. Professional photo labs have the right to expect professional behavior from the customer in return for professional services rendered. Getting upset, antagonistic, and belligerent with the photo lab staff when problems occur will only exacerbate the situation. Many times, your film may have been damaged due to some other customer's negligent handling of his/her film. Let cooler heads prevail and a professional photo lab will bend over backwards to correct a problem situation.

My first step in evaluating any professional photo lab, be it for services or employment, is to arrange to take a tour of the facilities. A first-rate professional photo lab will be neat, clean, and organized. Employees will be concentrating on their work and not engaged in idle chatter or gathered together in social groups "shooting the breeze". Don't be shy, observe some of the employees in their work or directly ask some of the employees questions. The attitude displayed by the employee, whether they be sales personnel or production technicians, will be a great indicator of the type and quality of service and products produced. Cluttered work areas, indifferent employees, and unclean premises are all indicators that, perhaps, you should consider looking elsewhere.

Before giving up "for good" on a professional photo lab's film processing, determine realistically how often your film is damaged. Due to the cyclic nature of employment practices, nearly all photo labs will have some damaged film that occurs in determinable cycles. Avoid that lab when you think that a cycle of employee turnover is coming up. Keep another photo lab as a backup. I am fortunate to have 2 labs in my city that I trust with my film processing. When I suspect an employee turnover cycle coming up, I switch labs. Having at times been responsible for hiring lab personnel, I can tell you from personal experience that I have hired technicians who have, at one time or another, worked for every professional photo lab in town!

As I said, the good news is two-fold. Although the conversion to digital imaging created a financial hardship for some photo labs, new innovations in digital imaging production have allowed the "digitized" photo lab to gain better control over the variable costs of producing print products and print services. Digital "mini-labs" have cut production costs of proof prints. The ability to digitize a transparency or negative and make corrections for density, color balance, color crossovers, and dodging/burning manipulations has cut materials waste dramatically. In fact, the overall materials savings have allowed many professional photo labs to be able to retain the traditional print production methods; products which were rapidly becoming too expensive to produce. Another benefit of the professional photo lab "going digital" has been a gradual increase in the wages paid to digital technicians.

On the whole, once you have an understanding of the processes and steps behind film processing, the film processing industry really does a pretty decent job. Sure, there are always going to be some photo labs that turn out less than sterling results, but these photo labs will either adjust attitudes and practices or face elimination by competition. Never before has the existence of photo labs been so determined by Darwinian laws.

Editor's Note - Visit Tom's online resource of photographic information at www.reasonableexpectations.com.

Tom Webster - NPN 480

Comments on this article? Send them to the [editor](#).