KEEPING PACE

A monthly newsletter devoted to the art of darkroom photography

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Are you serious about quality?

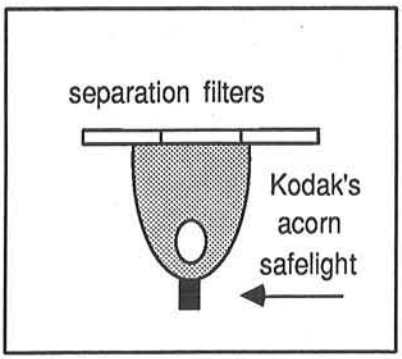
You may ask, "where do you get ideas for the monthly newsletter?" There is no shortage of ideas that are hiding in the dark recesses of my memory. All it takes is a question from one of my readers and my mind goes to work. For instance, a caller asked me about the possibility of using the isolation mask system that I described in an earlier issue about making improvements on a dye transfer print. But he wanted to use the idea on making Cibachrome prints. This is a good Question. Actually, all of the procedures that are used in producing Dye Transfer prints can be used for enhancing any color process. The only problem that you will have to face is that you must think like a piece of film or a sheet of paper.

If you wanted to make the highlights in your picture brighter, then you must first decide, just what kind of print you want to make. If it is any kind of "negative to positive" print, such as Dye Transfer, Type C or Duratrans film, then the highlight improvement must be made with a "negative". This negative can be used in various ways. If you plan to make a contrast mask, then you can make a highlight negative first, then combine it with the original when making the principal (contrast) mask. When that principal mask is made with the highlight mask built into its emulsion, you will get a brighter highlight in your final print. This works with any "negative to positive" procedure. I personally do not like this approach to improving highlights because of the lack of control that occurs whenever a mask is made in this fashion.

How is this mask made? Ordinarily, a litho film such as Kodalith film is used. If you use the ortho film then you will only be able to record whites or any light color as long as it is towards the blue. It will not accurately record any of the red or warm colors. Here is the procedure for making a highlight mask for producing a Type C print or a Duratrans film. They both can be produced from the same color negative. The procedure here is to first, make a positive image and then, from this positive image, make the highlight negative that you will add back to the color negative. This procedure will require a few things.

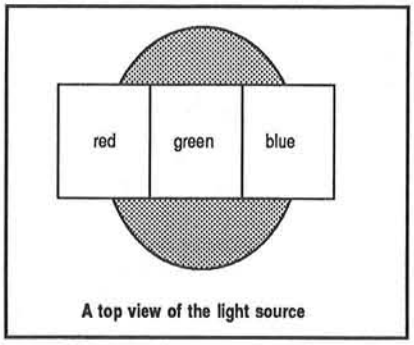
First, you will need some kind of registration punch and pin system. And secondly, you will have to have some sort of system for exposing the color negative, by contact, onto a new sheet of film. Any contact frame should work perfectly. A fixed overhead light source is all you will really need. You can also use your enlarger as the light source. With an easel meter you should be able to repeat any light level, once you have found the

right exposure for that particular color negative. You should use a panchromatic film in order to make the positive. If you use an orthochromatic film the chances are that very little detail would get through. The film is color blind and only sensitive to blue. I have used Kodak's Separation #1 film developed in D11 for two and one half minutes. This produces a very crisp and detailed positive. However, any panchromatic film can be used and exposed through any kind of color filter. The orange mask built into the color negative must be overcome in order to "see" the image properly. If a blue filter (47b) were used to make the positive, the yellow layer would be blocked, and so would any yellow in the color negative. If a green filter (61) were used, some of the yellow layer would get through, but very little of any red or magenta in the color negative. The red filter (29) would allow the yellow and red or warm colors to come through, but not any of the blue, or cyan. So what does one do? My



experience has shown me that if I used the Blue filter for half of the exposure and the green filter for the other half, a detailed image would appear. The positive should look like a correctly exposed and detailed print film. From this positive we would now able to use Kodalith ortho film and make a highlight negative. What should the highlight negative look like? It should look like clear film, except for the finest highlights . All you want to see are the highlights. If you have a densitometer, then make the detail in the highlight mask read around .35 to .40. Add this highlight negative to the original color negative and the improvement will be immediately seen. If you have a registration carrier with register pins built into it, the methods for making all kinds of corrections are available. Your imagination will be the strongest part of your business.

This same procedure is used in making highlight negatives for the Dye Transfer process. Some publications will instruct you to make one highlight mask on Ortho Kodalith film, add it back to the transparency when making the principal masks, then removing it and using the principal masks only, make the separation negatives. This is one way, but not the best way ,to improve highlights in making a Dye



A top view of the light source

Transfer print.

The principal mask will be made to a low gamma. 25% seems to be the universal number found in most "how to" publications. If you make a highlight mask first, then add it to the transparency when making the principal masks and then develop the masks to a gamma of 25 %, you will lose most of the strength of the highlight mask and not adequately correct the very area that you are trying to improve. And the very fact that you are using only one highlight mask made with an Ortho Kodalith film, means that you will not get color correction at the top of the scale. The film is sensitive to blue, and light warm colors will not appear on the mask. Actually, the worst place to use this kind of highlight mask is to include it in the principal mask. I will tell you a better way to make the highlight masks.

First of all, why do we need to make a highlight mask? There is more than one answer to this question.

1. When making a principal mask, in order to reduce the overall contrast of the

transparency, the strongest part of the mask will be in the highlight area. If you happen to have a picture of a person wearing a white parka snow suit and had photographed this person against a snow background, the first thing that the principal mask will record is the highlight areas. They will be flatten out the detail of the snow and most of the parka. A highlight mask is an absolute necessity in order to restore the detail in these light, almost white, areas. Another example is, if you went to the trouble of shooting a white napkin against a white tablecloth and had your lighting so perfect so that all of the texture and detail was evident, and then had it lost because the principal mask eradicated most of the detail and form, you would be very disappointed.

2. Another reason for making any highlight masks is the materials that you will be using to make your print. If you plotted a curve of Type C paper, you would find that the top of the curve will flatten somewhat. This is a phenomenon that occurs with most photographic materials. Every paper or film can be plotted using a densitometer. These numbers will produce curve shapes that can tell you exactly what is good or bad about the material you plan to use. In the case of separation negative films, such as Super XX or T Max or any other panchromatic film, the top end of the material will flatten out. **We will actually have three areas that will cause the highlights to flatten out.**

First is the transparency that has a principal mask combined with it. This mask will reduce the detail and contrast overall, but primarily in the highlight area.

Second, the curve of the separation film itself will add to the loss of detail in the highlight area.

Third, the biggest culprit of all is the Matrix film. The toe (which becomes the highlight area) is extremely flat. This will even further kill the detail in the highlights.

These are main the reasons why the use of highlight masks are an absolute necessity.

In order to make the highlight masks effective, they should be used as **post masks.** In other words, make the highlight masks but don't build them into the system, instead, add them to the separation negatives when making the matrices, or Type C, or Duratrans This will give you much better detail. And you will have control of the quality of the print. If the mask is too strong, you can make it over. If it is too weak you can make it over. You can even use it part of the time, if you are equipped with a proper registration system.

While you are at it, if you are producing Dye Transfer prints, make **three highlight masks.** One though each separation filter. After all, you are making separation negatives. The highlights are also part of the separation system. This will allow you to separate the pastel colors in a light area and not only produce detailed highlights, but colorful highlights as well. Make sure that they are in **balance.** Use a 3 step grey scale along side the transparency when making the highlights. One of the steps should be visible in all three masks. Regardless of the density of the mask, make them all read alike. Remember, the highlight reading should be around .35 to .40, not necessarily the grey scale.

When making a highlight mask for use with a color negative, keep the mask at or below .35. Too strong a mask will burn out the details in the highlight areas.

Imagine making a large Duratrans of a photograph of ice cream. The detail in the highlight areas will make or break the job. And if you are compounding the problem by using a soft diffusion system, the details in the highlight areas will be diminished even further. Try making a highlight

mask and watch with great pleasure what happens to the highlights in the shot. The modeling will improve and give the shapes an almost third dimensional appearance.

How do you establish the exposures for making highlight masks through three color filters? What kind of set up is necessary for exposing these highlights?

The first thing to consider is the exposing system. You should have some sort of registration punch and pin system and a contact frame or a contact platen. The light source can be the enlarger or a separate fixed light bulb and some method of placing filters in the light path. I personally like the contact vacuum platen produced by Condit Mfg. in Sandy Hook, Conn. My light source consists of a 100 watt, 20 volt bulb. Simple device should suffice.

Fog a sheet of film and process it until you get a slight appearance of density. Try to aim for about .50.

Using an exposure system as illustrated, on page 2 , make a series of exposures through the red (29) filter by moving an opaque sheet of paper between the fogged sheet of film and your new sheet of unexposed Kodalith Pan film. Keep the exposures relatively short. The film is extremely fast, especially through the red filter. Do the same for the green filter and the blue filter.

You should have no trouble finding the red filter strip that reads close to .40. When you do, mark the exposure time that produced it. Do the same with the green and blue filters. Let us assume that the exposures that produced .40 for the respective filters were red, 10 seconds; green 15 seconds; and the blue 20 seconds. These would be the exposures for any transparency that had a highlight area that read .50. (like the original fogged sheet of film). If the highlight area of the original transparency is other than .50, then use logarithm to establish the new exposures. The ratio between the three exposures would remain the same.

If you only need one highlight mask to improve a Type C print, then use any one of the colors to produce it on Pan Kodalith. The procedure would be to first read the highlight area on the positive that was made from the original color negative, then find the appropriate exposure for any color filter. Make the exposure, develop the mask, and when dried, place it back over the color negative and make the print.

If you ever had to make a Type C print from an original color negative of a bottle and glass of milk that was photographed against a colorful and detailed background and made a beautiful detailed print, but then the client decided that he wanted the bottle and glass silhouetted against a white background, you would be forced to make a highlight mask in order to keep the bottle and glass from becoming too flat and grey. If you want to see a similar problem, take a transparency of a white subject, such as a white shirt or jacket. Cut the image out of the rest of the transparency and place it against a light box. The result will be that the whites will suddenly look grey. Try it.

What do you do if you are making a positive paper print or dupe transparency from an original transparency and you would like to incorporate some of the masking tricks or highlight masking methods that you can use with a "negative to positive" approach? The ideas are the same, except that you must think like a piece of positive paper or film. If you are going to make a contrast mask as we did earlier in the article, then the appropriate time to build the highlight mask into the principal mask is now. **This next step is very important.** You could, instead, make a strong reverse of this

highlight mask using Kodalith ortho film and Kodalith A & B developer. You would end up with a positive that looks like a piece of black film with light details of highlights showing through. After making your normal exposure on to your paper or dupe film, remove the carrier from the enlarger, remove any mask that may be combined with the transparency, and add this new positive highlight mask to the transparency and replace the carrier. Give the sheet of paper (or film) an additional exposure (bump). This will produce detailed highlights.

Or you could eliminate the previous procedure and instead, make an exposure from your transparency, by contact on a sheet of Kodak's LPD4 or Dupont's CRR4 (reversal materials). This would also produce a positive image directly from the transparency. Again, it would look like black film with little open areas of highlights showing through. Use this sheet of film to accent the highlights. I have already explained some of these procedures before, but they do need explanations. The important thing to remember is that the same techniques apply, no matter what process you are working with. Just think like the sheet of paper or the film you plan to use.

The next item that I want to discuss is the **isolation system** that I described in one of my newsletters. If you remember, I combined positives with the separation negatives in order to isolate an area so that I could make a mask that I could eventually use to lighten any area that I wanted to. Suppose that you wanted to enhance the colors when making a Cibachrome print, or any kind of "positive to positive" process. If you could only see the red portion of the transparency and were able to isolate it, then just by exposing that area through a filter you can affect the quality of that area. You have a choice of either enhancing the color by using a red or warm colored filter or lightening and degrading the area, by using a cool filter, if you wish. The control here is amazing. If you wanted to make a red pair of lips be outstanding in color, just isolate the red area and re-expose through a red filter to increase the brilliance if the lips. Just the lips. Imagine what could be done with a multi colored flag or garment. This isn't magic. Just logic.

In order to produce such color enhancements you must make a set of Kodalith Pan separation negatives. The procedure to make a set of kodalith negatives is as follows. You must use the separation filters in order to isolate each color layer. Make them using the Red (29), Green (61) and Blue (47b) filters. **The negatives should balance.** Just what do I mean by balance? **They should all have equal densities in the neutral areas.** How do you establish a system that will allow you to determine the exact exposures?

Use a 21 step Kodak grey scale . If you are using a contact system then make a series of exposures as follows:

On one sheet of the Kodalith Pan film, expose a series of scales through the red filter. Give them different exposures. Do the same with the green filter on another sheet of film, and do the same with the blue filter. By simply picking out what looks like a good exposure on the red scales, try to find a matching grey scale on the other two rows. You can use your eyes for this project. Place the different grey scales against each other and find where they match. When you do, you will have the **ratio of exposures** needed to make the full set of Kodalith negatives. (see Diagram)

In order to make your first exposure from a transparency ,using the red filter, you may have to make a test sheet. Simply strip expose a sheet of Kodalith ortho film using a sheet of opaque paper

between the transparency and the unexposed film. Pick out which ever looks right to the eye. **The ratio of exposures** will now be used for the other two colors.

If you have done this stage properly, you will be able to take the negative made through the red filter and combine it with the positive transparency. Put this on a light box or a printing platen, if you have one. Look at it. You should see blue and some green areas. Shut off all the lights in the room and place a green or blue filter over the light source that illuminates the transparency. You will notice areas that look green or blue. If you have already exposed your print material (or transparency material) shut off all the lights in the room, including the contact printer. Then, in the dark, place the already exposed material back on the register pins and re-expose the material through one of the filters. Any time an additional exposure is given a sheet of film or paper, it is called a **"bump"** exposure. Do this as an experiment and watch what happens to the colors on your print. They will be brighter and cleaner than before. Do this with the following combination. Red negative, Cyan filter; Green negative, Magenta filter; Blue negative, Yellow Filter. This system of enhancement will improve the brilliance of any print or transparency. But beware. This can easily be overdone. The Cyan and magenta and yellow filters can be used in any strength. I personally prefer about 140 CC of each color. You can also mix the filters if you wish. If you wanted a brighter red, use both the magenta and yellow filters. And so on. I'm sure you gotten the point by now.

For the Dye Transfer enthusiast. Have you ever tried to use black and white prints as a method for determining the actual balance of a set of matrices? This is a method that was used by every Dye Transfer technician that began making Dye prints when the Carbro process was still in existence. In the early days we simply made a black and white print, from the red filter negative (the cyan printer) using # 2 paper and Dektol developer. We would examine the black and white print by looking at both the transparency and the print through a red (29) filter. When they looked reasonably close, as far a density was concerned, we then made the other two prints, representing the magenta and yellow printers. This method was the only available way to determine balances, because there were no accurate easel meters. The technique was to make these three "bromides" and examine an area that was supposed to be neutral. We would actually fold the paper prints over an area that was either white or grey and lay the folded prints against the cyan printer and, if necessary, make new bromides by adjusting the exposures until they matched. After a while, we got so precise in using this system that we could begin to make warm greys and cold greys, and all kinds of simple corrections. The next step was to know the difference in speed between the paper and the matrix film. This meant that temperatures had to be accurate. This was not an easy chore, but we managed.

Then along came the Ektamatic stabilization print system. This was a boon for us. We could almost forget about temperature controls. What we had to do was to first match the contrast of the paper to the contrast of the matrix. This was easy. We simply made a few exposures of a twenty one step grey scale on matrix film, processed it and then dyed it cyan and transferred it. The next step was to make a series of black and white stabilized prints with variations in contrast. by changing the contrast filters. We still had to compare the results through a red (29) filter.

But, once we established the difference between the speed of the paper and the speed of the matrix film, the rest was simply a matter of using your skills and eyes. If you ever made Carbro prints, then you will know what I mean. This was the only way to make a Carbro print. The making of the bromides was the essential key to the entire process. The interesting thing about making bromides, is that they will teach one more about the lithographic process than any other approach.

Some helpful information when making Cibachrome prints.

If you are not a large lab, and have been making Cibachrome prints in either a Jobo processor or one of the new table top marvels that have recently been introduced, here are a few tips regarding chemistry. The first developer in the Cibachrome prints process is a simple black and white developer. It's true that Ilford has some ingredient in the first developer that seems to keep the highlight end of the print clean and almost in a straight line. However, years ago I experimented using different black and white developers and found that almost everything that I used worked.

Even the fixer is a simple "rapid fixer" that is almost universal in availability. I never gave it much thought and went about using the chemistry that Ilford recommended. But, recently, I was making a series of prints for a client and ran out of developer. This was a weekend, and no supply store was open. Where I live, however, it made little difference. No suppliers in the high desert carry the professional chemistry (P3) that I use. In desperation, I used straight Dektol developer. The results were great. I compared the contrast and color balance to the previous tests and found them pretty close. The only difference was the speed. The Dektol developer was faster.

During this same weekend, I also ran out of the P3 fixer, so I substituted Kodak's Rapid Fixer. It also worked great. I have come to the conclusion that the only chemistry you really must have is the bleach. This is really the secret ingredient that the original inventor, Dr. Bella Gaspar, had originally worked on. He never had it perfected to the point that Ilford has. I probably will continue to use Ilford's chemistry, because I realize that they spent a lot of time testing the various results with different developers. But, I will keep in mind the fact that I can make the system work using foreign chemistry.

I use this procedure when making Cibachromes in my Jobo.

I used to pre-soak, but not any longer. I find that the saturation of color is crisp and clean by going directly into the developer. My temperature is set for 30 degrees Celsius. (86 degrees F). I run my prints at 3 min. for each main chemical run and 1 min. wash in between. I make three changes per wash. The final wash is converted to a tray where I can wash the print for ten minutes.

Make sure that you squeegee the print before hanging it up to dry. If water spots are left on the print, you will get a run of color.

In one of my earlier issues I discussed the fact that Lyle Camera Corp. in Fountain Valley, CA. has a cumputerized camera that can handle up to 24 transparencies at a time is working with Don Mitchell of Image Concepts, in Kansas City MO.

Don is developing a new and smaller camera with the incredible ability to make strip-ins and multiple exposures on one sheet of film up to 16x20. This is one answer to the recent invasion by the scanners. The cost effectiveness that this camera will afford should make this camera an important machine for the future. Plus the fact that your client will be able to hold a piece of hard copy

In his hand.
I have nothing against progress, and welcome the new machines with amazement . However, I feel that the smaller lab is being squeezed out of existence unless they can compete profitably with the larger labs.
If you have the space and the money to invest, a simple solution would be to have 10 or 20 enlargers, with registration equipment and vacuum easels and all of the things that are required for repeating exposures and light levels. The square footage would be interesting to figure out. So would the placement of all this equipment.
And you had better hire a person who work like a robot.
Condit Mfg. in Sandy Hook, Conn. has a system for combating this "invasion". He is currently producing a series of enlargers, all equiped with the correct registration systems and easels and should be contacted if you are serious about staying in the Dupe Transparency business.
His number is:
203-426-4119

Some news about my making a video on the Dye Transfer process.

I have finally received the equipment necessary for the production of this new endeavor. I am working on story boards and the script. I will make this a very accurate demonstration. At first I will present an overview, so that you will understand my philosophy about the way I percieve print making. Then I will go through every phase of the process, espescially the **"Why"** and then the **"how"**

This May not win an award for cinematography but I can assure you that it will be full if the correct information. I will detail my system and will make a list of the equipment that you will need and where to get it.
I expect the video to run close to two hours and I will include a book with the tape. This book will re-enforce the tape.
I recently sent out some small cards asking for those who are interested to let me know. If anyone reading this newsletter is interested in obtaining this video, please let me know. The cost will be $200.

July Deadline for renewing this Newsletter

For those of you who first ordered this Newsletter the month of July is the beginning of the new year. **The cost per year is still only $60.**
I can assure you that I haven't begun to run out of ideas about the photographic field that we are in.

The one thing that I really appreciate are the complimentary letters and calls that I receive from readers of the newsletter or those of you who have purchased my book, "The Art of Photo Composition"

It is still for sale for $50.

The Answer Man

If any of you has a problem that has been bugging you and you can't seem to solve it, either call me or write to me and let me try to help you. I have been receiving calls from all over the country and even two from Europe.

I can't guarantee that I will know all of the answers, but I didn;t spend 45 years in this crazy business and get this get this grey hair for nothing.

If I don't know, then I will get the answers

I have available, back issues of this Newsletter, for those of you may be interested. The cost is $5 per copy.
However, if you would like a full past years subscription in a binder, the cost for all twelve of the issues will be $50

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