

KEEPING PACE

A Monthly Newsletter Devoted to the art of Darkroom Photography

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New Ideas and a New Enlarger

I received a long phone call from Warren Condit of **Condit Mfg.** Sandy Hook, CT.

He informed me about some news of a new enlarger that he has designed and is producing.

It will be an 8x10 diffusion system.

Currently, most 8x10 enlargers are quite expensive and have little competition amongst themselves. The latest Durst costs over \$24,000, and if you want a special light head, will cost even more.

The other enlargers in this size category are also quite high.

Let's face it. A used Elwood is getting harder and harder to find.

There is nothing wrong with the old Elwood. I have used them for over 45 years.

If you should ever have the good fortune to purchase

one of these old enlargers, throw away the light source and replace it with a white light grid lamp from Aristo, then use drop in loose CC filters to make Type C prints.

The next step up from a 4x5 enlarger is a modified 4x5 chassis for a Beseler enlarger. An 8x10 light head is perched on top of this 4x5 chassis. It works, for sure, but will it take the abuse that every large instrument must go through?

Just putting the weight of a Condit registration carrier in it would make it very flimsy. Any good enlarger worth its weight should be very rigid. The least expensive new 8x10 enlarger is the **Fotar**. This piece of hardware is made in England. It is sturdily constructed, but by the time you add the registration carrier and the kind of light source that you probably will

require, the price can start to climb.

One drawback to the Fotar is the focusing column. Whenever you make a change in the size of the image, **the focusing column will remain fixed where it was**, making it more difficult to keep the focus as close as possible when making size changes. This however, is a small sacrifice to make when making Dye Transfer prints or even Cibachrome prints. Once you set the size and focus, the enlarger will remain in this position until the print is finished.

Light sources are critical. The light source can be almost as expensive as the enlarger. If you like the convenience of a dichroic color head, then you will have to spend more money. But if you wish to save a great deal of money and still

get the quality of color with perhaps a little less convenience, then read on.

Since Cibachrome was first introduced I made most of my prints using drop in color correction filters instead of a dichroic light source. The main reason was the speed of the light source. I could make a color head of my own design that was two or three times faster than the dichroic color head. Considering the low sensitivity of the Cibachrome materials, a bright light source is important.

A condenser could also be used with it's great advantage of even more speed.

Condit's enlarger is to be wall mounted. This means that you can conveniently place the enlarger at any height you wish. A drop table under the enlarger can make it easier to make large 30x40 prints.

The construction is built using two columns. One for image size and one for fine tune focussing.

Telescoping focussing attachments are used to focus large blow-ups using Condit's grain magnifier.

The light source is an Aristo white light diffusion system that is perfect for printing color. It is also quite fast, as there are no mixing chambers to contend with.

A filter drawer in which 10x10 CC filters can be inserted is all that is neces-

sary. The enlarger is light tight, and will include a Condit registration carrier. The entire enlarger will be so solid that virtually no other means of keeping the enlarger rigid will be needed. Only two lenses will be required to make the unit whole. A 240 mm, and a 150 mm Rhodenstock lenses are all that will be needed. Condit will supply these if necessary.

At the present time the cost will be somewhere around \$5,000.

If you are in business, this is a paltry sum to spend for an instrument of this type.

If you are an individual artist and wish to save some money, then this is for you.

The system can consist of a vacuum easel, a front surface mirror attachment so that a larger than 30x40 image can be produced by using the wall for the paper focal plane. Condit also can provide a large wall vacuum system to accept these large sheets of paper or film.

For those of you who would like to invade the field of producing Photo Comp posters, this is an easy introduction to this field.

If you want to make your own prints from smaller originals, you should make enlarged separation negatives to 8x10 and then use the larger image in this new enlarger to make your final images.

The main reason for making enlarged separation negatives is to be able to eliminate the grain of the separation negatives from appearing in the final print. The grain of the original transparency is much finer than the grain of the negative material.

The enlarger could eventually be equipped with very sophisticated numbering devices that would allow you to repeat the position of an image, in size as well as focus.

I have been assured that the light coverage is smooth and even all across the entire image area.

For those of you who would like to get into the field of making photo comp prints, here is a list of what you would need.

1. An 8x10 enlarger equipped with a registration carrier. The light source is optional.
2. A work table consisting of a large light table, and registering equipment.
3. A contact exposing system such as Condit's contact vacuum platen and light source.
4. My book on "Photo Composition."
5. A graphic arts camera. (Vertical, if space is a problem.) Also equipped with registering pins.
6. An inexpensive, but accurate processing for the C 41 process.

- 7. A print processor (to the size of the print.)
- 8. A finishing space for mounting and possibly cutting out of images.
- 9. Plenty of tape and sharp knives.
- 10. A front surface mirror that will allow you to make giant prints with spending a fortune on an enlarger.
- 11. A 4x5 enlarger for making enlarged internegatives.

The imagery for a photo comp poster usually consists of an image or two and colored lettering against a colored background. The lettering usually has to match a specific Pantone color.

In this case, the **Peterson Color match system would be invaluable.**

The images are usually from transparencies and must be converted to color negatives.

It is imperative that you understand the need for proper holdbacks and burn in's and the accuracy of the masks and their direction of the emulsions.

The vertical camera can make copy negatives of any flat art to added to any comp print.

The use of a scanned set of images and lettering and the use of a workstation is already a boon for some labs. Elmi Graphics, in Hollywood has been using top grade equipment for

almost a year and is producing all of his photo comps with the the use of his scanner. His final piece of film is a color negative, from which he can now produce large C prints, or a transparency, from which he can give to the client, or make a Dye Transfer prints.

The news from Ilford is that they are changing the name of Cibachrome to Ilfochrome and have introduced a new color sensitive paper process similar to Type C which uses color negatives to make prints. This new paper is called Ilfocolor.

I don't have to wonder why Ilford made this transition to the RA 4 process. It will try to capture some of the very lucrative market that is currently shared by Kodak and Fuji. Good luck.

I think that they would be better off serving the color community with their own high grade color print material, Cibachrome, or whatever they wish to call it. I still prefer the name "Gaspar Color" after the real inventor of the "dye destruction" process.

Mary and I have been invited to give a seminar on the Dye Transfer and the Cibachrome processes, at Randolph Community College, at Asheboro, N.C. during the 1st and 4th of March, 1992. If you are in the vicinity, and wish to

attend, please notify the college and sign up and visit with us.

We will discuss the conventional darkroom techniques that have been used during the past 50 years.

Will we discuss the new scanning operations? Yes we will. They are too important to ignore.

One of my Dye Transfer students, David Levy of Deal NJ. has been an avid collector of the finest Dye Transfer prints of the great photographers such as Elliot Porter, Ernst Hass, and many others. He also makes his own Dye Transfer prints. He has investigated the use of the scanner and the work station, and the new UltraS-table color carbon process, invented by Charles Berger, and is now involved with the new process. In order to make his own images, he has come to this conclusion: Have the transparency, regardless of it's size, scanned to the size of the print by a service company. In this case, to fit on 16x20 material.

The final product produced by the service company is a set of 4 color screened separation negatives, with 400 lines per inch.

Where do you find such a service that will scan your original with such accuracy? They are everywhere. You might have to make phone

calls to different lithographic services throughout the country.

I know of such a place in Las Vegas. David found one in Michigan.

After scanning, the service company can produce an Iris print system, or even better, a match print.

You, the client, can then decide if the image looks correct or not.

Using a work station is the next step.

Earlier, during this revolution, the work station could cost between \$85,000 and \$1 million. These devices could allow one to make major changes in the composition, contrast, color balance, or anything else that would satisfy you. It is almost like magic.

If you, the photographer, have your own work station, the original image could be transformed considerably, with ease.

Retouching the original is also done quickly and accurately.

Lately, the personal computers have been gaining ground on the large systems and an image can be captured and manipulated accurately for much less money, making it available for any serious color printer. David has opted for the new Macintosh Quadra 900, and the Sony removable Optical disc with over 650 megs.

His modus of operation so far has been to send his

original to the service company. They scan the image to fit the size of the print. They save the image on the same optical disc that David uses.

David then works on the image using his own workstation computer. The speed of the system is not that fast. However, there are enough updating card spaces in the computer that increasing its speed will be no problem.

He then manipulates the image and fine tunes it to his own **creative satisfaction**. When he feels that he has gone far enough, the corrected CD disc is sent back to the litho service company, and a set of perfect screened separation negatives are made and shipped back to David.

The next step is the making of the UltraStable print. When the final set of exposures are determined and a print is produced, any number of duplicate prints could be made with no change in quality.

What a boon for a set of limited editions for an art photographer.

What a boon for anyone interested in producing great prints from his own transparencies, or color negatives.

What is needed to make these new prints.

1. A scanner source.
2. A dark room lit with yellow

bug lamps.

3. An Ultra Violet light source. (A platemaker) NuArc makes very good models for a very reasonable price.
4. A good squeegee system. (Silk screen systems are probably the best)
5. A sink, with hot and cold water
6. Trays
7. A flat surface for squeegeeing. (Art stores sell a system used by the silk screen field.)
8. A reliable and even dryer.
9. A set of pigments and receiver sheets from Charles Berger.
10. Most important, a quality image and careful handling.
11. A good area to examine your results.
12. A finishing area. For mounting and storing prints.

Did you notice that there is no mention of an enlarger or optics of any sort? Things certainly have changed since I was a kid.

You can produce great work from a scanned set of negatives.

However, if you really want to get the best results, a work station is a must.

This will allow you to make the subtle changes required for a fine print.

The cost for the work station alone, including the 650 Meg. Sony Optical disc and

the Macintosh Quadra,900, could run over \$15,000.

However, if you are in a business, this is not an insurmountable cost. If you are an individual, remember, the average art buyer is not interested in the latest technology, but in the beauty and longevity of the image.

Unfortunately, most people that buy fine photographic art are looking for investments. The original works of Adams, Weston, Strand, Sexton, and Steiglitz, will always be in strong demand. Most new work has yet to be seen and appreciated. Give it time.

Some of my students have been getting better known and will join the ranks of the masters soon.

The name of the game is "control."

Using a workstation is comparable to darkroom magic. We used to take pride in the achievements of a darkroom technicians ability to modify the image by dodging and burning, and by the use of chemical tricks, such as bleaching and toning.

The beauty of the works of Ansel Adams and others in the same mold has been the appearance of the print. The blacks were very black and the whites were dazzling. The paper was usually a fine grade of manufacture and was never on an RC

base. The prints were made for gallery use and not necessarily for reproduction. Longevity was one of the factors for collecting the works of the masters.

The beauty of the scanned negatives is that they are black and white films, and properly washed will last for generations. We already know that the prints may last as long as 1000 years.

However, for those of us who have not yet taken the plunge into possible electronic bankruptcy, we must still use our age old methods of producing fine art.

Making the best Cibachrome print is an exercise in accuracy.

The biggest problem with making a Cibachrome print is **reciprocity**.

What does reciprocity do to your print?

It changes the color balance.

For instance, you may make a test print to an 8x10 size. After arriving at the correct balance and exposure time, you decide to make a larger version of the image. Do you change then exposure because of the difference in size, or what?

If you change the exposure you are in trouble. Leave the actual time alone and adjust the *f* stop.

The reciprocity problems associated with Cibachrome are quite strong.

For instance.

If you have made a decent print at 20 seconds exposure time and then change size and want to expose for 60 seconds, you may have to expose for 85 or 90 seconds to get the correct level of density.

The reason for the problems is that the multi-layerd color material is sensitive to the light source in certain degrees. It is sensitive to all the colors, but if exposure time is changed, the fastest layer will accelerate more than others and change the outcome of the print.

Here is the system that I use and recommend:

Size the image on the easel to the small size for the test. Print the entire image so that dodging and burning controls can be worked out, Make sure that you begin with a small *f* stop. After you arrive at the correct level and color balance, use an easel meter to accurately record the light level.

I recommend the kind of meter that is reliable and has great sensitivity. I use the Wallace Fisher meter because it has a 6.0 range and can be depended on to make repeatable readings. It is also color sensitive.

If I am fine tuning a print, I want to make sure that I take a reading before I make any changes in filtration. The trick is to remove the

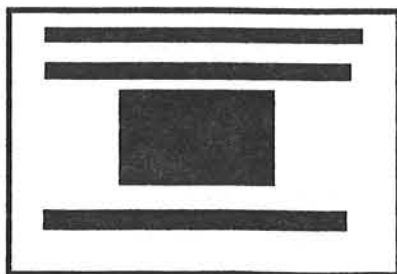
transparency from the enlarger and just read the white light. Make the necessary changes and before inserting the image back into the enlarger, re-read the light source on the easel again, and adjust the lens until it reads the same as before. The exposure time should remain the same.

Photo Comp.

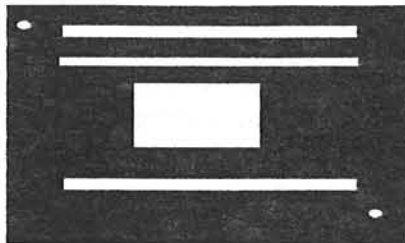
Have you ever wondered what the problems are in producing a colorful poster with lettering and images throughout the entire layout? The main problem is that if the job is not done properly, lines will show around lettering and around inserts. The trick is to make sure that all of the films that either hold back something or burn in something have all of their emulsions facing the same direction

Here is a method for getting all of the needed films for a photo comp job facing the same direction.

The art work consists of colored lettering against a light colored background, and includes a rectangle for a photograph to be inserted.



The negative will be the opposite of the original. The blacks and whites will be reversed.



This represents the copy negative shot using litho film. Notice the pin holes used in registration.

We then place this new negative on a set of reverse pins

At this point we make an exposure by contact to obtain a positive. The image will read right with the pins in their normal upper left and lower right positions.

This is our master.

From this image we make two exposures, one on Kodalith film Type 3 and the other on Kodak's LPD 4. (A reversal film)

We now have two images, a positive and a negative, with the pins in the normal position, and the **emulsion facing down in each sheet.** Use your enlarger as the light source.

The sheet that contains the black lettering and the black rectangle is used to hold back any information on the internegative film.

The background color could be exposed at this time.

To add the rest of the images and lettering to the sheet of internegative film, remove the mask from the easel, and if the three lines of lettering are to be three different colors, then cover the unwanted areas on the sheet with the clear areas with black tape and add a colored gel or filter to the filter drawer and expose that specific color.

Do the same to the other colors. The transparency to be added to the internegative is placed in the enlarger and positioned where it belongs on the easel, and then exposed through the open rectangle in the mask. (Vacuum)

I am assuming that you realize that there must be tests made well in advance of such an undertaking. You must know the correct light levels for each procedure.

All of the emulsions that do their job will be facing down, and if exposed properly, will cause no lines in the final print. Again, if you wish to get soft edges anywhere, place a diffusion sheet between the two sheets of lettering. on the easel.

A little logic will allow you to dream up any kind of complicated imagery.

This knowledge is a must for attempting any kind of Photo Comp work.

To give you an idea of how fast and how far reaching the new scanner revolution has come, our old friend, the magazine called **"Photo Methods"** has changed their name to **"Photo Electronic Imaging."**

I am not surprised by this news. It had to come. Remember, most of these improvements and electronic miracles have been aimed at the reproduction field. However, from my viewpoint. I see it reaching into the new UltraStable process.

The cost is getting lower and lower, so that relatively soon, we will all be able to creatively re-construct our prize images.

Can this new process be built into any kind of formidable business? I am not yet sure.

As you must know by now. There are three stages that an electronic image can go through. The first is the scanner. The second is the workstation, which does all of the corrections and color changes, and the third step is the film recorder which make the screened separations, or a color negative, or a color transparency The last stage equipment is not that hard to swallow, but the beginning part of the process is quite high, and does require more than just money. Learning the scanner operation is akin to learning about the graphic

art field. Then it makes sense to get involved. The current high cost for top notch scanners is a stumbling block for most of us. It would be cheaper for individuals to find the proper scanner operator, and for the present time forget about the workstation.

To get involved then, is quite simple.

Tri Color Cibachrome printing has not been explored by too many darkroom enthusiasts, as yet. The advantages that are gained by such a printing system can be enormous. Most of us are satisfied with white light printing and either using a dichroic light source or simply using a white light source and dropping in CC filters.

However, if you used three separate exposures made through the 3 separation filters you could do the following.

You could make contrast masks through different filters and use them when exposing anyone layer to either increase or decrease the color saturation of any color you choose.

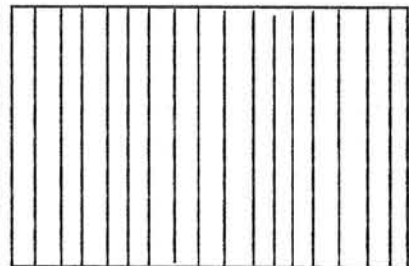
For instance, if you are printing a colorful Grand Canyon image, with colorful rocks and green bushes, make a mask through the red filter and use it when making an exposure through the red filter.

The reds in the image would be increased in density while the green would be lightened.

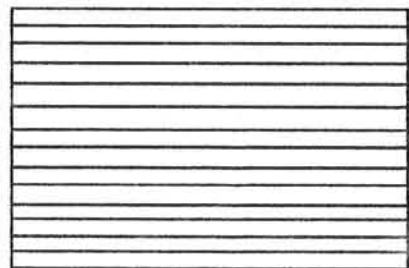
In fact, if you examined the transparency and decided that you would like to exaggerate the color a bit, a simple isolation system would enable you to change the colors in the print drastically.

Here is a simple formula for finding the exact balance for a tri color method.

On one sheet of Cibachrome paper, and with nothing in the carrier, make a series of different exposures across the paper through the red dffiltertarting with 3 seconds and increasing the exposures as you move the cardboard opaque frisket

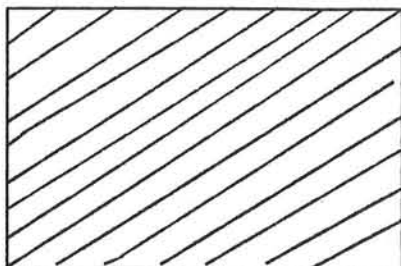


Then, using the green filter, do the same thing on the same sheet of paper



Then, do the same with the blue filter, except that you move diagonally across the

same sheet of paper.



When you are through with the exposures, you will end up with a grid of colors.

Find the most neutral color and determine the exposure that each filter requires to make that color.

This will be your beginning balance.

The next step is to make a series of step and repeat exposures through the red filter.

Process the paper normally and examine the density results through an opposite filter.

When you determine the exposure for that particular filter, simply apply your mathematical skills to determine the rest of the exposures.

For instance:

if your grid balance was 10 red, 15 green and 5 blue, and you determined that your density test was 15 seconds, then use a calculator or slide rule and find the rest of the exposures.

10-----	15
15-----	22.5
5-----	7.5

The enlargers that use 3 pulsed zenon light sources are fine except that they are

much too slow and the filters used are not as sharp cutting as needed. The enlargers will work fine for Type C prints, but I personally do not think that they are accurate enough for Dye Transfer or Cibachrome.

The light source that Joe Holmes has built for his own work is excellent.

If color saturation is your aim then I recommend that you try a tri-color system, or at least, make isolation masks and bump the colors to your hearts content.

The advantage that Dye Transfer has had all these years is **control**.

The fine tuning ability of the process is unique.

Imagine changing the contrast of each layer in different directions.

The same thing can be accomplished with Cibachrome, but with a bit more thinking.

In the Dye Transfer process, changes were made with different chemical additions to the dyes or the first rinse tray. With Cibachrome, it is all done with masks and filter bump exposures.

In my book and video on Dye Transfer, I mention all of the different approaches to color correction and methods to increase density in any color after the matrices have been made.

What other color process has the ability to make the changes after the exposures have been made?

Photographically, we are living in a rapidly changing world. Even more so than the rest of the world's events. The revolution in photographic reproduction will keep on changing the ways labs work.

But the individual, that doesn't want to get involved with electronics, the world of fine art is still there.

All the skills that are needed to make an image that captures the attention of an audience is still in your hands.

Eventually, anyone with the money will be able to purchase a magic system and produce color prints that are perfect in every detail, including longevity. It is just a matter of time. The winners in this game of print making will be the ones that possess the eyes and hearts of the poets. **(Taste.)**

I do plan to get involved with the UltraStable process. I will keep you informed as to my activities.

In the meantime, I still have a few items for sale. My home study course is available. If you are interested, write to me for details. My books and videos on Dye Transfer and Cibachrome are still available, as is my book on Photo Composition.

Thanks,
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