

# KEEPING PACE

A Monthly Newsletter Devoted to the Art of the Darkroom

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## Where do we go from here?

The choices for the future of photographic color printing are among us.

Consider your options.

You may have been making prints for many years. You are at home with your favorite process. The photographic magazines that used to herald a new method of printing, or a new face in a sea of competent photographers has almost suddenly changed directions and has been printing images of the new computerized methods and has almost completely forgotten the conventional photographic enthusiast. Look at the information and the images they portray. The photographic quality has disappeared in favor of the unique images put together by those interested in the commercial field. The beautiful images created by the worlds best talents have been almost forgotten by the rush to the

video.

However, the invasion of the digitized systems is here and here to stay.

It has already invaded the portrait studios by their placing a digitized image on a screen for the clients approval before making a conventional print.

Even some studios have a built in direct contact with the client, so that he can view the image as seen by the camera and then allow him to make suggestions about the placement of different objects in the viewfinder.

The latest photographic camera equipment craze is soon to be a specific digitized camera.

Kodak and Apple Computers have expected to produce this little gem very soon. With this little gem, an image can be captured and viewed on your own TV set or captured on your own

computer system immediately. Watch for this news to break just in time for the Christmas season.

As I said, the age of computers is here to stay. There is nothing that we can do about that. However, you still have decisions to make about your means of producing beautiful prints.

If your outcome is to produce a color print, and you want the best, then you have a few options open to you. Let us take them one at a time.

What kind of print do you wish to make? We have the new versions of the Carbro process, Dye Transfer, Cibachrome, Type C, Fuji Color, Type R (Ektachrome prints) Fujichrome, Dye sublimation, Ink Jet, Iris prints, and prints derived from dot matrix or laser color printers attached to a computer. The latest of these are machines that can make a

print within minutes of completing the necessary computer functions and by either using a proprietary ink jet system such as Iris, or Laser Master or a system similar to a color copier (such as Zerox) which can produce a print 80 inches wide by as long as your computer will allow.

The question should further distinguish between making great art prints that can display all of the nuances of the original and the ideas of the artist, and the ability to make artistic changes in the image, as compared to the bombardment of advertising aimed at the same commercial world of advertising.

The later is where the majority of the computerized images will find a safe haven. I remember reading, "Gone are the dark days in the dungeons of the Dye Transfer Labs when it is now possible to create an image in a few hours compared to the intense time schedule required for the production of a Dye Transfer print, including the necessary retouching."

The matter of time and money was the main reason for the demise of the Dye Transfer business. The primary commercial reason for making Dye Transfer prints was because of the necessity of the advertising agencies to produce a quality image for reproduc-

tion. If the original transparency was adequate, there would be no reason for making a print. We were considered a necessary evil.

During my time at bat in the days of Dye Transfer glory, I rarely remember making a print for an "artist." Although, we did make prints for photographers who were considered artists by any stretch of the imagination. My work was confined to the art directors whim.

If we were good printers and made the necessary deadlines, we made a living. If not, we could always get into the portrait or wedding business.

Suppose you wanted to make your own prints using the latest techniques of scanned and digitized services. What would be the difference in the cost of producing these important negatives and prints.

If you have your own lab, let us begin with your original outlay.

You would need to have a film punch (about \$350) and a matching pin registered glass set into a contact frame (\$100) and a simple 12 volt light source with variable volt settings. (About \$100) Add to this a few trays and the necessary chemicals and supplies, timers, thermometers, and a simple (perhaps, used) densitometer, which can be found

listed in any graphic arts magazine.

If you have an enlarger, you could even make enlarged separation negatives. This would require a carrier with registration pins matched to the use of the same punch already listed. The enlarger need not be an expensive item. Even a simple used D2 Omega will suffice. The easel could be a simple vacuum easel with a different punch and set of pin bars.

Then you could do a few things with this set up. You could make Dye Transfer prints, or you could purchase the necessary pigments from UltraStable and produce your own Carbro prints.

For less than \$1500 you can have all of the tools required to make a quality set of negatives. For another \$500 you can obtain the exposing system required for producing UltraStable prints.

Now, comes the shocker. If you want to get into the computerized systems, the least expensive would not be capable of producing fine work. The best of the low priced systems is the Macintosh Quadra, which when properly equipped will cost about \$12,000. This is just the workstation. The scanner is another story.

The best of the low cost flat bed scanners will cost about \$5000, including a transparency option.

The best of the high end scanners costs well over \$200,000.

A medium "good" scanner is around \$80,000.

Even with this equipment we are still short one more piece.

The output device.

What is your main finished objective? Do you want a print? If so, what kind?

The choices are many.

The Carbro print requires a special device, such as a "linotronic" type of film recorder. This is a special kind of film recorder. This must produce screened separation negatives by utilizing a built in laser system and exposing the image onto four separate pieces of film with pre-angled screens. Many different companies produce these machines. Are they expensive? Somewhere between \$30,000 and \$200,000.

When these screened negatives are produced, they can be used to make "Carbro" prints.

Or you can make an "IRIS" print. These ink jet systems are amazingly accurate printing tools. Nash Editions (Nash, formerly Crosby, Stills and Nash) is such a company operating out of Manhattan Beach California. He has invested heavily in a proprietary large flat bed scanner which can scan paintings or color prints, as well as transparencies.

No darkroom is required or are wet hands ever a part of the process. The prints are remarkable. However, as good as they are, the life of such a print is about two years or less. Not a good candidate for "art" connoisseurs.

However, for making "point of purchase" displays, these prints fit a specific category.

You can also make a dye sublimation print similar to those produced by the Kodak color printers. The best of the Kodak printers costs about \$25,000.

If you want to save all of your images in a computer using the new CD systems, you can place many images on one CD and have it ready to either view on a screen, produce subliminal prints, or even produce screened negatives for lithography or for your own "Carbro" prints. For the latter, you will need a high end computer such as a Quadra 800, and a few more interesting and expensive add-on's.

There are so many companies making boasts about their ability to capture all 16 million colors, it makes one wonder why we should even have a darkroom at all.

A new company called LaserMaster has a machine that requires no darkroom, separation negatives, tests prints or anything else. It will produce a print up to 36

inches wide for less than \$20,000. And I mean fast.

Scitex, Dianippon, Lynotype-Hell, and Kodak have signed an agreement to manufacture a new Photo CD specifically designed for the pre-press market.

Another company called KanImage Digital has a high end digital camera that can expose an image and immediately produce four color separations with amazing clarity.

What a boon for catalog companies. The savings in time and money is in the extreme.

Even the Police Dept. in Newport Beach, CA. is using the new Nikon-Kodak digital 35mm camera to photograph crime scenes and for photo-copying fingerprints for immediate transmission to any headquarters fingerprints files. Before sending the fingerprints images out to any other area, the image can be enhanced to eliminate any distractions caused by dirt or other problems. It is like a high tide. It just keeps on coming.

Getting back to our idea of quality color printing is becoming an experience. Most of the professional labs are interested in making a living. Some labs such as Frog Prince in San Francisco, or CVI in New York City, besides handling commercial work, they also cater

to the art photographer. However, because there is a real shortage of quality printers available, the art photographer is going to have to carry the ball all by himself or herself. I hope I have not driven any of you to despair.

### A Major exception

The company called EverColor is truly an exception. This company has invested heavily in the high end equipment needed to make the finest art prints ever seen. Perhaps this is for you. If the camera is your main field, and the dark-room is not, then the use of a high quality operation is just what you would need. The control available in the EverColor process is almost unending.

The best part of any process is the amount of control you can expect to have in producing any kind of print.

One reason for my allegiance to the Dye Transfer process was exactly just that. **Control.**

With the proper training and experience, even after making the necessary matrix films, one could adjust the overall contrast, color balance, shadow details, highlight structure, and the overall density of the image with complete accuracy.

The beauty of the EverColor system can do all that and more. It can isolate an area

for complete control and can even make a soft focus image appear sharper. It can also correct a damaged transparency and make it look like new.

The best part of this process is that if you have the necessary "work station" you can send your removable disc to EverColor and they will produce screened separation negatives that contain your corrections.

Have you been adding up all of the figures?

For me it boils down to this. If you have the money, go for it. But you had better be sure that besides money, you have knowledge of how the process works. Don't waste your time trying to be the best printer in the world if you don't understand the graphic arts world.

Being a great printer doesn't happen overnight.

The most promising of all the current processes that the average color print enthusiast can handle at this time is the Ilfochrome (Cibachrome) process.

The reason is quite simple. **Simplicity itself.**

There is no need to learn how to make balanced and accurately contrasted separation negatives, and all of the necessary handling of the matrix and separation films.

This makes the production of a Cibachrome print one of being able to administer the correct masking options

and to recognizing when the image is correctly made.

Sure, there are many things to know about how to make a quality Cibachrome print, but handling the material is not one of them. One must understand the need for masking and how it is accomplished, but the handling and the processing of the Cibachrome material is academic. There are no trays required and little knowledge is required to mix the chemistry.

For most of us that want to make prints up to 16x20, the Ilford processor IP42 or the more expensive Fujimoto table top processor and even the Jobo, are all of the processing equipment that is required for making excellent prints.

The IP 42 requires no replenishment, but only has a certain life for the given chemistry.

The Fuji does have the ability for replenishment and works fine.

The Jobo is a one shot system and is probably as accurate as one can get and still stay in the lower price range.

The right enlarger is also a necessity. Speed of the enlarger is most important. The material is still too slow and does require a more energetic lighting system. However, new and faster light systems for enlargers are becoming available all the time.

One new one is called the **Starlite** light source and is built by **ZBE Inc.** of Santa Barbara Ca.

This new light source will fit the Omega D5 & D5500, the Bessler 45MX, the Bessler 45V-VL the Devere 504, the Devere 507, the Durst L1200 and many more. It is a color head with 1080 watts of light. A most imposing light source and a definite answer to the slow materials like Cibachrome.

I personally prefer the Xenomega Light source that was built in the late 60's and early 70's. It is not being produced any longer. It was used with the condenser systems and offered 650 watts of pure light.

The biggest problem with the Xenomga was that it required much cleaning of the original. Being a condenser system, dirt and specks were always a problem. That's why I used silicon "oil" systems.

Incidentally, if you are concerned about your ability to make masks for Cibachrome a new company called Digital Masking can make a contrast mask for you for \$10. Your image is scanned on a special scanner then shown on the screen. Manipulation then occurs and a mask is automatically exposed and processed and re-registered back to the original. The Number is 603-448-6241.

The gentleman's name is Jim Browning. I expect some literature from him soon and will include it in my next newsletter.

If Cibachrome is your current printing medium, I would suggest that you learn how to make contrast reducing masks in order to make acceptable prints on a steady basis.

The equipment requirements are quite simple. The least of which is a diagonal film punch, a film carrier with the appropriate pins set into it, and a contact frame with the same set of pins imbedded into the glass, so that contact exposures for making masks can be accomplished. With this minimal equipment, you can make contrast masks, color correction masks, highlight masks and any other form of manipulative procedure masks you can dream up.

The great advantage of making Cibachrome prints is the relative ease of dodging and burning. But as we all know this kind of correction is only the tip of the iceberg. Much more than that is possible.

One of the great advantages is that it is a quick process. Once you make a print, it can be remade and remade until you are satisfied with it.

If you want to get even more advanced with techniques, but cannot afford the addi-

tional vacuum easel and the new registration punches and pin systems, then by simply cutting the bottom out of a large sized film box, and taping it securely to the table top under the enlarger, placing the paper easel in the box, and using the box lid to close the box, you can then make an exposure, close the box, make the changes in the carrier (like an additional color correction mask) and then remove the box cover and continue exposing the image.

Does this work? You can bet your life it does. I used it many times when I was in my formative stages of color printing life.

I discovered that making a color print was primarily one of reducing mistakes.

One advantage for the Dye Transfer enthusiast is this. If Kodak does kill the Dye Transfer business by stopping the production of Matrix film, (Which I pray doesn't happen) all is not lost.

Your separation negatives can be used to produce Carbro prints. How?

It is relatively simple.

You already have an enlarger.

If you have already made enlarged separation negatives there is no reason why you cannot make larger negatives to the size of the print. If the film you are currently using to make separation negatives does

not come in larger sizes, change films. There are a number of films that do come in larger sizes including Kodak's Separation 1 and 2, T Max and others. If you have already made enlarged separations, you already went through the required steps in order to make the necessary charts for the exposure and development times. You know what it takes to be precise. Do it again. The practice will do no harm. Use the new material and make the necessary charts and you will be more than halfway there.

If you feel that the production of the sheets of pigment material is too difficult to manage, purchase the material from UltraStable. The only other piece of equipment you will need is a plate maker. These used machines can be purchased for less than \$500 from many Graphic Arts suppliers. The steps for the exposure and assembly are very simple.

First, you must determine the correct exposure for each pigment. This is done by trial and error. Later, when the correct proportion has been established it will be easier to find the right exposures for each color. Since this system is not screened, all you need are three colors. The Cyan, Magenta and the Yellow. The steps are as follows.

- 1  
The separation negatives must be made reversed otherwise they will print reversed when completed. (figure it out.) I assume that they will have been punched in register using a large hole punch such as a matrix punch. The receiver sheet and all of the pigments should also be punched using the same punch. Registration will then become a simple matter.
2.  
The room lights should be yellow. The yellow bug bulbs are very adequate. Make sure to cut out a frame around the image using Rubylith material, otherwise you will obtain ragged color edges. Use this sheet on all of the color exposures. Expose the blue negative by placing it emulsion to emulsion with the yellow pigment, place it in the platemaker assembly, on the register pins. Add the Rubylith mask. Close the platen door, and activate the vacuum. When the proper pressure is reached (usually around 25 lbs..) start the exposure. A quality plate maker timer will also have a built in system for measuring and adjusting the light source if it should vary in intensity.
3.  
Once the exposure is complete, place the receiver sheet face up in a tray of

cold water, and place the exposed yellow pigment sheet also face up in a separate tray. Let these sheets soak for 30 seconds. Then remove the receiver sheet and place it face up on the register pins of a transfer board made of glass or granite.

Squeegee off any excess water. Then take the yellow pigment from the tray and face down, place it on the same pins. Hold the sheet up and away from contacting the receiver sheet. Use the same technique you would use in placing a matrix sheet on a set of pins.

Using a Dye Transfer roller, roll the yellow sheet in contact with the receiver sheet. Then squeegee it down tightly. Be careful not to move either of the sheets.

4.  
Then prepare a tray of hot water. 110° F would be fine. After a few minutes with the sandwich being undisturbed, remove the entire sandwich from the transfer board and slip it into the hot water tray. After a short while, you will notice the yellow pigment beginning to dissolve and ooze out from the edges. Slowly rock the tray from side to side and the yellow pigment will ooze even more..Eventually, you can lift one corner of the pigment sheet while you keep rocking the tray. Eventually, you will be able to lift off the

entire yellow sheet. Discard this sheet.

Keep rocking the tray and occasionally dump the tray of hot water and fill it with fresh hot water. Do this until only the yellow image appears and all else has been washed off.

5.

Then dry the image in a dust free atmosphere. It must be completely dry before moving to the next step. While it is drying, place the green negative, emulsion to emulsion with the magenta sheet, and the Rubylith frame, and place them all on the register pins in the plate maker. Vacuum the set and proceed to make the new exposure.

6.

The yellow sheet is now dry. Place the receiver sheet with the transferred yellow image again in a tray of cold water. Likewise with the magenta sheet, in a separate tray, both emulsion up.

After 30 seconds, place the receiver sheet with the yellow image face up on the same transfer board. Do not squeegee it at this time.

Place the magenta pigment sheet on the register pins in the same fashion as the first transfer. Roll it into position and again, squeegee it tightly.

7.

After a minute or so, place

the entire sandwich into a fresh tray of hot water. In time the magenta oozing will begin, and the same steps as used in the yellow sheet is followed.

Give it plenty of time for the gelatin to melt. Do not rush this step. Keep rinsing the receiver sheet until all extraneous gelatin is removed. All that should remain is the yellow and magenta combined in the image. Now you have both the yellow and the magenta, in register, and ready for drying.

8.

Repeat the same steps for the Cyan pigment, using the red filter negative. Make sure to use the Rubylith sheet on all of the exposures. The color pigments may produce a color but in, and of themselves, they are color blind. (Orthochromatic.)

9.

After all of the same steps have been finished, the complete color print should be quite evident. Dry it in a warm flow of dust free air.

**That is it.**

Charles Berger can assist you in determining the correct exposure for each of the colors. He will also suggest a cleaning bath made from Potassium Permanganate to remove any possible stains caused by the floating pigments. The

exposure time for the colors may not match the density readings you have established. The speeds for each color may be different. If this is so, try using my system of exposing an opposing 2- 21 step grey scales by contact to the actual pigments to determine the differences in speed and thereby determine an exposure factor. I would also suggest making a small test print to establish the proper color balance. Unfortunately, the contrast of the image or any further correction is not possible at this time. Therefore it is important to make several color tests before committing your image to a full size print.

Is all of this work worth it? What work? This is a simple assembly system. The real work is in your ability to make accurate separations, and to establish clean work habits that will show in your work. If the print is made correctly, the blacks and dark colors will have a thick and slightly glossy appearance and the light areas will have a thin and flat look. The resulting image is almost third dimensional. Rene' Pauli, who I have mentioned quite often, makes his own pigment sheets using formulas derived from a book called "**Modern Carbon Printing**" written by Luis Nadeau. It is available through

**Light Impressions** magazine in Rochester N.Y. Rene made some changes in the formula, but the ones found in the book are quite accurate and do work well. If your work is such, that you feel it should be produced with archival permanence in mind, then this is the process for you.

To my associates in the Dye Transfer field, this may be one way of getting your work produced. Making repeat prints should be of little concern, providing you write down all of the exposures and do not deviate from them at all. Purchase enough pigment to make a run of prints.

The latest news from Kodak is still the same. The Vice President of the company stated that the main reason for getting rid of the process was that the dyes were detrimental to the environment. What a crock. The bad news on my TV set this very morning was concerned with Kodak having another bad quarter and losing even more money.

**Dennis Brokaw, a fine Dye Transfer and black and white printer** called me to let me know of the latest events. He feels that the company wants to get out of the film business and concentrate on the electronic field. I hope not. Their claim to fame has been in film, not electronics.

In reading the latest photography magazines the ads for the newest equipment in the electronic field is growing leaps and bounds. Some of the systems are hybrids, in which a company assembles different pieces of equipment and markets them as if they were the invention of their company.

Kreonite has a system that is quite good. The turnkey price is over \$200,000. I have seen the results produced by the film recorder and it was impossible to discern the difference between the original transparency and the new and corrected transparency.

The grain image when examined using a 20 power loupe, was a perfect match. I was quite impressed with the complete system. The young man who had less than a few months experience with any kind of computer, was sent to Wichita Kansas to spend two weeks in an indoctrinating course with Kreonite. He is now turning out superior work for the local casinos in Las Vegas.

The important question is this.

Is it possible for one to be in the commercial field and still be considered an artist.

The answer for the photographer is quite simple. **Yes.** I have known many of the great commercial photographers who's work can easily

be considered art.

George DeGennaro, Tom Kelley, Art Kane, Reid Miles and many more who's work for advertising clients was overshadowed by the brilliance of thought and execution of the image, were artists at their trade and who's work could easily hang in any quality photographic gallery.

But, what about the printer? I have made prints for the some of largest advertising agencies in the world. Some of the prints I made were made from very exciting originals. When I was through with the print, if there was any artistic credit, it would always go to the photographer, yet I knew in my heart, that but for the print, the image would not have been considered "Art." To me, the art of the dark-room is as valid as the art of the camera. Of course, they go together, but the fascination of being able to manipulate the image in order to make it viable and valuable was, and still is, the reason for my writing books and newsletters.

I plan to get very specific in my next batch of newsletters. I will take some processes apart and explain just how they work, and what we can do to improve upon them.

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