

# KEEPING PACE

A Monthly Newsletter Devoted to the Darkroom Arts

Volume 103, May 1996

## The Dye Transfer Process is Reborn

### The day has come.

The most beautiful of all the color print processes has been reborn.

Why is this news so important?

Most of us in the color printing community have been spoiled. We have allowed the manufacturers to produce materials that simply need our exposures to produce a color print. Of course, it is more complicated than that. We must know how to mask the original transparency so that it fits the required density range needed for the completion of the print. But, after all is said and done, the manufacturer has produced a print material that simply requires an exposure and processing. That is it.

The Dye Transfer approach is quite different.

**All you have in your possession is raw material.**

This requires **you** to make the contrast masks, the highlight correction masks, the separation negatives, the matrices and then the running of the print.

The process requires much more knowledge about densitometry and sensitometry.

In fact, you will be in charge of every aspect of the production of a print.

When you receive your Dye Transfer materials you will soon realize that you are on your own.

But if you know how to proceed with the necessary steps and understand the various complicated reasons for these steps, you can produce incredible images.

So, thanks to Dr. Patterson. The time he and others have spent trying to convince Kodak that this incredible process should not be left to die fell on deaf ears. In fact, Kodak has seen fit

to eliminate most of the necessary films and chemicals needed to keep this process alive.

Kodak even saw fit not to release any of the formulas for the production of the matrix film or any of the information about the control chemistry.

Apparently, Kodak has dropped the process and is headed for the future marketplace, the digitized imagery.

The money Dr. Patterson has spent is all his own and it is a substantial amount. He is a perfectionist. This is the reason for the amount of time it took to come up with the correct material. It had to be good.

I personally wrote to Mr. Fisher, the CEO of the Kodak Co. I explained how devastating the elimination of the process would be to the world of fine art photography.

He carefully explained that the life of the Kodak Company was at stake and the changes had to be made or they would keep on losing revenues every year.

I understand the reason, but not the lack of concern from Kodak. All we asked for were the formulas for the process.

I spent much time trying to locate various companies around the world that have coating facilities and tried to convince them to try to produce a run of matrix film. They first demanded the formulas and exclusive rights to the production of the film.

Kodak would not release the formulas.

I found 4 companies that said they could produce the runs of matrix, if they first had the formulas and again, only if it could be exclusive.

In fairness to Kodak, they did produce great materials, including the matrix film, the dyes, and the receiver sheets. However, the information they printed which was supposed to be a users guide, was far off base. It took the hard work of many labs to produce systems of their own that allowed them to become master printers.

The effort it required to match the speed and accuracy of Kodak's matrix film was immense. It required running costly tests of different batches each time.

The search for companies that can produce the dyes in a similar color and still be able to be used with the original controls was world wide. There are many companies that could produce dyes, but finding the company that could match the Kodak formula was a very time consuming effort. After 2 years, Dr. Patterson found three companies that were able to not only match Kodak's dyes but improved the yellow to such a point as to make the prints considered archival.

The receiver sheets that he and the coating company has been able to concoct that are better than anything Kodak has ever produced. The results will produce a sharper image.

The same company that is producing the matrix film is also involved with the production of the receiver sheets.

Dr. Patterson's tenacity and patience were needed in order to make sure that the results of this new Dye Transfer process would be better then ever and would again be considered the most manipulative and correctable process ever invented.

**Who invented the Dye Transfer Process?**

Kodak has the legal trade mark, but Technicolor was making Dye Transfer prints (on film) before 1913.

Kodak was the supplier of the matrix film for Technicolor, as well as the other films used for the separations. Dr. Kalmus invented a one shot camera for the motion picture industry. This allowed three images to be exposed at the same time through the separation filters.

Which filters? Who knows? This is still a patented invention.

The film running through the camera was all that was needed to produce the necessary separations. No masks of any kind were needed, The dyes were a secret formula and were never revealed.

But Kodak had the formula for the production of the matrix films and when they were ready, the Wash Off Relief Color Print System was born.

This process was the forerunner of the Dye Transfer process.

**Why is this process so important to the world of fine art color printing?**

It is the only process that can allow the artistic feelings of the photographer to be **completely controlled.**

Even the pigment processes are at a standstill once the image has been cast. Not so with the Dye Transfer process.

Here is a simple run down on the controllable areas.

**Making the contrast masks.**

At this point in the process, you can increase or decrease the density range of the final print in any direction and with very tight accuracy. The final color of the image is also controlled at this point.

**Making the separations.**

At this point we have complete control of the overall contrast range and the color balance. We can influence the placing of the image on the straight line portion of the separation negative film.

**Making the matrices.**

Here again, we have very tight control of the color balance and the over all contrast

We can influence the mood of the image and the overall color balance. The contrast again can be modified.

**Processing the matrix film.**

At this point we can adjust the overall contrast of the image. All of the necessary dodging and burning of the image is done at this stage. The results here are amazing.

**Running the print.**

The fine tuning of the image is done here. Little adjustments can make or break the print.

Tiny changes or huge changes can be made here that can make tiny or large differences.

Unfortunately, this is not a simple process. For instance, Cibachrome requires one exposure and a preset processing time and temperature.

Dye Transfer requires a minimum of 12 exposures and somewhere around 20 as a norm. Cibachrome requires one preset processing time and temperature and uses chemicals that have been prepared by the manufacturer.

Dye Transfer requires one developer for the masks, another for the separations, another for the highlight masks and yet another for the matrix films.

And the developers for the matrix films can be altered in mix to produce more or less contrast.

Cibachrome requires a simple squeegeeing and hanging of the final print . The Dye Transfer print requires that a slab of granite with register pin, and a roller be used to roll down each individual matrix film (there will be 3 of them) onto a sheet of prepared paper, one color at a time, in order to complete the print.

**Time consuming?**

A simple Cibachrome print may require 30 seconds exposure, and about 10 minutes for processing.

Let's be conservative and allow 15 minutes for the entire procedure

A Dye Transfer requires about one full 8 hour day to accomplish the same result.

**How does this process compare with any other process.**

Let us begin with Cibachrome. This fascinating process is a great replacement for the Dye Transfer effort. True, most of the work in producing a great print has been done for us by the manufacturer. However, it is a fixed material and as such, it demands a great deal of knowledge about masking for contrast, color correction and highlight restoration. The Cibachrome paper is available in more than one contrast but regardless, it still requires masking in order to produce a superior color print. The print, however, once is finalized is finished. There is nothing else that can be done short of remaking new masks and continuing the effort.

With the Dye Transfer process, as I said earlier, you have a box full of raw materials with which you must produce accurately aligned separations that contain the matching density ranges, and which also must be in color and contrast balance to the original transparency. Then you must include the necessary masking procedures and highlight masking films as well.

Wait a minute, we didn't



even get to the matrix films. The production of a Cibachrome print, as exciting as it is, is a simple task when compared to the production of a Dye transfer print.

The comparison to a Type C print is laughable. The best print ever made with the Type C (Ektacolor) material is a far cry from the rich saturation afforded by a Dye Transfer print. Even a delicate image such as I used to produce for Max Factor is better made with the dye process rather than the hit and miss operation of a color negative.

Let's face it. If you shoot color negative film and want to make a quality C print, how do you control the contrast of the scene? Is it done by lighting, or processing, or have you ever considered it at all?

**The contrast of the final print is the key to all color printing. Without the complete control of this function of the print processes, your work will never compare with a studied and correctly printed Dye Transfer print.**

Type R is not even comparable to Cibachrome printing. If you doubt my statement, just make comparison prints of a scene with Type R paper (Kodak's or Fuji's) against a Ciba print. The differences will alert you to the truth.

Cibachrome is far better

than any of the "C" or "R" print materials. And don't forget, the Dye Transfer print is much more manipulative than the Ciba print. **This is the edge.**

The comparison to UltraStable or EverColor is another matter. In essence, here you are also working with raw material. You must have excellent separation negatives to even begin to compete with the Dye process. However, if your negative are right, and you need to make slight changes in contrast or balance, this is done by exposure and by additional masking. The fact that the pigment processes have a long life make them great candidates for gallery owners. This makes the pigment processes the only competitors to the Dye Transfer process.

Then we have the Fresson process, a color print process owned by the Fresson family in France. The only other licensed Fresson Lab is that of Luis Nadeau of Canada.

I don't believe that a comparison can be made with this process.

It really doesn't matter. After all, if you want a Fresson print, some one else will make it for you. Good-bye control.

At this point I would like to print the full release from Dr. Jay Patterson regarding his

newly formed company.

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DYE TRANSFER CORPORATION  
3935 Westheimer Road - Suite 306  
Houston, Texas 77027  
713/963-0422  
FAX: 713/963-8650

April 3, 1996

Dear Colleagues:

Since the announcement that supplies used in the Dye Transfer process would no longer be available, I have worked toward procurement of alternate sources for dyes, matrix film, receiver paper and other required chemicals. I have been aided by many energetic and talented individuals. The goal of this effort is to assist with the continuation of this exquisite process for use by professional photographers and artists.

I am happy to announce that matrix film and tanning developer are available for sale. For a short time an introductory 10 sheet box of 17" x 22" matrix film is available to help familiarize you with the product.

Dyes and buffers should be available for sale within the next month. We have completed development of a sharp new coating for receiver paper, which should be available for sale on or

about 5-1-96

We have worked toward meeting or exceeding the quality of previously available products. Be advised that most of the products are not exact replacements for previously available materials.

However, our initial tests indicate that all DTC products work very similarly to previously available dye transfer materials, and produce professional results when used properly.

Dye Transfer is the sole focus of this business, and I want this to be a network effort. Your input is vital. I believe that with open communication between experienced dye transfer artists, this valuable process will continue for many years. I will be available and receptive to your input, which will be incorporated into each product we sell.

Sincerely,  
J.L. Paterson, Ph.D.

DYE TRANSFER MATERIALS

DTC Matrix Film  
Orthochromatic film for making matrices from black-and-white separation negatives. Black-and-white film on 7 mil. thick base.  
Recommended Developer:

DTC Tanning Developer A and B

CAT No.	Size in. x in.	Sheets Per Pkg.	Price Per Pkg.
194001	17x22 (16x20 prints)	10	\$194.78
194002	22x26 (20x24 prints)	25	\$744.83

CAT No.	Rolls in. x ft.	Sales Unit	Price Per Roll
194005	44x100	1 roll	\$2,750.03

DTC Tanning Developers  
Mixed to make working solution for developing matrix films.  
Usually mixed two or three parts B to one part A.

DTC Tanning Developer A

CAT No.	Description	Price Per Unit
T 94 500	makes 5 gal	\$69.00

DTC Tanning Developer B

CAT No.	Description	Price Per Unit
194 550	makes 5 gal	\$35.00

Prices and availability subject to change without notice.

DYE TRANSFER CORPORATION  
3935 Westheimer Road - Suite 306  
Houston, Texas 77027  
Phone: 713/963-0422  
FAX: 713/963-8650

PLEASE PRINT OR TYPE  
ALL REQUESTED INFORMATION

Purchaser:

Firm:  
Street Address:  
City:  
State:

9 Digit Zip Code:  
Date:  
Daytime Phone: ( )

All orders must be accompanied by a check or money order for full payment. You will be billed for shipping costs.

CERTIFICATION OF RESPONSIBILITY (Required for all orders):

As purchaser of materials from Dye Transfer Corporation, I hereby assume responsibility for proper storage, use, and disposal of all products in accordance with good technical practice and all applicable city, county, state, and national laws. I am a legal adult in my state.

Signature of Purchaser  
Date

Quantity	Cat. No.
Name of item	Price
Amount	Each

Due to perishability, matrix film will be shipped via Fed Ex.  
TOTAL  
Shipping costs will be invoiced separately.  
DUE

Other products will be shipped via best means.

REGARDING INQUIRIES AND INFORMATION REQUESTS:

Dye Transfer Corporation is a small business with limited marketing funds. Due to the large number of telephone requests and faxes being received, we need to respond to your inquiries by mail, if possible. You may reach us at:

**Dye Transfer Corporation**  
**3935 Westheimer Road - Suite 306**  
**Houston, Texas 77027**

To leave a message or speak with Dr. Patterson, phone: 713-963-0422  
To send us a fax: 713-963-8650

We will attempt to answer your requests by mail within 24 hours of receipt.  
Thank you.

To assure that you remain on our active mailing list, please complete and return the form below:

Yes, please leave my name on the active DTC mailing list.

Name: \_\_\_\_\_  
Company name (if any): \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

As you can see, Much thought was given to this message and purchase order. From my experience with Dr. Patterson I can assure you that this new material is as good or better then it ever was. I am looking forward to the success of the company and the product and I hope to see more prints with this process in the future.

My only concern about the return of the process is that many former Dye Transfer enthusiasts have converted to different processes, namely Cibachrome and Pigments prints. The change has been dramatic. Most of the former professional Dye Transfer labs have gone out of business because of the demands that the computer has created. It will be up to the art photographer to really get this process moving again.

This is where I come in. In my book and video about the Dye Transfer process all is not lost.

Some of the films have gone by the wind and must be replaced by other films.

Ilford films are great and so are others. The techniques that I describe in my book and video are still viable and will, work fine.

However, Kodak seems to be on a downward slope recently and has just discontinued making Pan Masking film. How about that?

Well, I know it is hard to take, but any panchromatic film can be used to establish the correct contrast and density needs with accuracy. It will mean diluting the developer with water. How much? How is this for starters.

I used to mix 1 16 oz. bottle of HC-110 developer to 7 gallons of water to make the developer for the masks. In this case use 8 oz., of HC-110 developer to 7 gallons of water and you will have a starting point. The best example of finding a comfortable developing time range is to mix a small batch of developer with a 8 oz. to 7 gallons of water and make a series of exposures and try to produce a 25% mask within 2 to 4 minutes of developing time.

Once you find the correct mix, try it with larger quantities. If you can do this, you can make a great chart

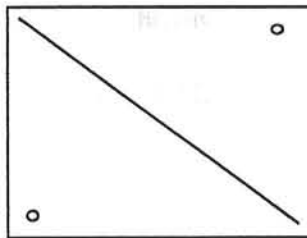
That will work without any problem. Remember, any other film you use will have an anti-halation backing and will appear sharp. Absolute accuracy in registration is a must.

**How does one produce accurate registration?**

Don't rely on your provider of registration equipment to make sure of the fit. Do it yourself.

**Here is how.**

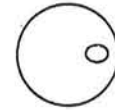
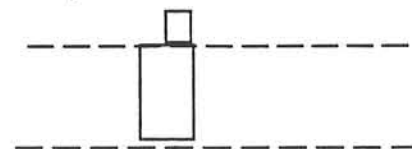
Punch a sheet of film using your diagonal film punch.



Cut the film in two and place both pieces on the register pins of your pin glass or carrier glass.

Using a powerful magnifier or even an inexpensive 50 power microscope from Edmund Scientific Co. in New Jersey look at the separation of the two sheets of film. If the two edges meet accurately they can be considered in register. If they don't then they will produce masks and prints that are out of register.

The Condit register pin is unique. It looks like this



Overhead view.

The larger part of the pin is set into the glass and cemented in place using a heat sensitive adhesive. If your films do not fit, place a tacking iron or a soldering iron against the glass, under the pin. The heat will soften the glue, thereby allowing the pin to be rotated (using a needle nosed plier) and you can actually see the two edges move towards or away from each other. With the 50 power microscope you can see the degree of accuracy within one thousandth of an inch. Do this procedure with all of the carriers and pin classes and all of the punches.

You will be able to make little tiny masks by contact from 35mm originals and they can be placed back in position with complete accuracy. I have made many prints from 35mm originals to 20x24 that were used to make billboards for many advertising agencies. This is a standard operation. Today, most agencies use state of the art computers and digitizing equipment to perfect their wares, but the art photographer can use the skills of yesteryear to produce his own blowups.



**A possible Dye Transfer association?**

This is being considered and if it becomes a reality, then members with problems may get the chance to write or speak to different members that may have the answers to their questions. I for one, would be very accessible to any member or enthusiast. I always have been available. My main concern is the future life of this great process.

The novice who has never seen a Dye Transfer print made by a master printer is in for a great shock. The realism and detail will awake in the viewer the reasons why he or she has been ordained to become a printer.

Does the word "quality" bother you? It does me, especially when it is used by someone who has never looked at a quality print. My lab has turned out many thousands of Dye Transfer prints during my 50 years as a color printer. In order to be accepted by the advertising agencies, our work had to be of the highest quality possible.

Flesh tones had to look real, as did food, scenics and other pliable items that were being offered for acceptance.

A portrait by Josef Karsh or Irving Penn had to be exquisite. Details and coverage had to be there.

The Dye Transfer labs in New York City during the late 1940's and early 1950's were in very stiff competition with each other. We were aware of the clients that were there and we all kept up with who just won or lost an account and where it was going .

Sometimes I would visit an agency to see an art director and find 6 or 7 of my competitors there also. At one time, Kodak decided to hold a show for the various color labs in the country that produced Dye Transfer prints. The show was held at a large show room and all of the agency art directors and their account executives were invited. This was a very competitive show. Where your work was placed was tantamount to your place in the order of things.

It was here that you could see the difference in quality. Sometimes the flesh tones on a print were so exaggerated that the differences were clearly visible. As a printer, we had to be aware of the clients needs as well as being truthful to the original. It was like being a tight rope walker.

I wish there could be a show of some sort just for the Dye Transfer people. I still have a few hundred prints in my keeping.

**Lectures by accomplished practitioners?**

This is a good way to meet the various printers and get a feeling for their methodology. Even though we may make prints that look similar, the road we take to get to the final print may be quite different.

**Getting on the internet in order to gather information.**

This is something I am preparing to get into. I already have an e-mail address. It is: BPace10552@aol.com

If you are already connected, give me a jingle.

If you are playing with digitized systems, it may be very possible to adjust your originals before embarking on the separation negative journey.

I have moved from Nevada back to California. My new address is"

**Bob Pace  
11534 Francisco Pl..  
Apple Valley CA 92308  
Phone # 619-247-0795**

I am planning to get connected with my Fax Modem. Give me a few more days

And thanks for allowing me to postpone this issue for one month.