

KEEPING PACE

A Monthly Newsletter devoted to the art of Darkroom Photography

Volume 29 November 1989

How do today's prices compare with the "good old days"?

How do today's prices for professional photographic color printing compare with the "good old days"?

In 1972 I made a Dye Transfer print that consisted of 37 different images in one print. These images were not just placed in limbo or rectangles (known as inserts), but perfectly placed in front of and behind other images (known as strip-in).

The accompanying illustration shows just what was involved.

I made this entire print using only one enlarger. I won't go into the exact details that produced this print, but I will tell you how it was done.

The art director for the ad agency called me for a consultation. Upon arrival. He handed me a stack of 35mm transparencies, 37 high.

Then he showed me the layout.

The layout consisted of all of these little figures placed in some kind of pattern of athletic poses. Don Meridith was the model used in all of the images.

In order to make the separation negatives, I made a copy of the layout so that the images on the layout would match the images in the 35mm transparencies. I first punched and then placed the copied layout (which consisted of a positive image on film) on an 8x10 set of diagonal pins in glass.

Using a clear sheets of punched 8x10 film, I positioned the first transparency and taped it into place on the clear film.



Then I positioned the next image that didn't touch, or even come close to the first image. This allowed me to place alternate images on this one sheet of film, as long as it didn't touch the other transparencies.

Then, using more sheets of clear film, I positioned all of the other transparencies, so that they didn't touch each other. I ended up with four 8x10 sheets of clear film with all 37 transparencies taped into position. Even though they were on different sheets of film, they were still in position to the layout.

Then I proceeded to cut and mount the transparencies into the clear sheets of film and made contact separation negatives.

My biggest problem was to carefully silhouette each image. This I did by using the blue filter negative (yellow printer). This negative had the best skin tone and would easily make a dark image on Kodalith film. I had to opaque much of the image, but it worked well. I made these little black men to the size of the final layout. 20x24 inches.

This meant that I now had 4 large sheets of black men on 20x24 film.

Then I reversed these sheets and ended up with 4

large sheets of black film with little clear men.

The next thing was to place all of the hold out elements that covered the final silhouetted image. And the same with the second image and so on, and so on.

When I was through with this tedious job of locating and marking which frisket (hold out or burn in mask) had to be used, I had 36 sheets of film with all kinds of little clear men and black men, combined.

Needless to say, we made the print and it was successful. The art director liked it and so did the client.

Here is the question. How much was this job worth in 1972? How much would this job cost today? Name your process.

The single print price for a Dye Transfer print in 1972 was about \$250. If I charged the client \$250 for each image I would have been run out of town. The price would have been \$9250.

Then there would have been charges for the silhouetting of each image. This would be another \$3700 (at \$100 per image). The total price would have been \$12950. I could hear the screaming for miles.

I needed the job, and did it for a little less. I saved a little

money by being able to make only 4 sets of separation negatives rather than 37.

But what about today's prices? If you are a Dye Transfer printer with some advertising agency background, you will be charging considerably more than I did in 1972.

Could this job have been done in Ciba? Yes, and probably with a lot more ease.

Could it have been done as a dupe transparency? Yes. But you had better be prepared to use much film to capture all of the different densities and color balances that were presented.

Would today's scanners be able to handle such a job? The answer is yes, but I am afraid the cost would be **astronomical**.

Today's Dye Transfer prices begin at around \$600 per image plus \$100 to \$150 per image to silhouette it and make drop-out or burn-in friskets.

Use your calculator and try to figure the cost for making this print via the Dye Transfer system.

I would like to hear from you, my readers, as to how this job would be handled by you, or any else, with

today's prices and equipment.

Another problem that has been on my mind is this. The high cost of registration equipment, and learning how to use it.

Most people who would like to get involved in making prints for commercial use or for art galleries are afraid that registration equipment is difficult to handle. They would rather try to make a print on a contrasty material like Cibachrome or Kodak Type R by dodging and burning, rather than use registration equipment. Some have purchased the Corning glass system (Minut Mask) to reduce contrast. The glass costs around \$400. The punch and pin system for the enlarger may cost just a bit more.

However, with the punch and pin glass system, you will be able to make masks that can be saved and printed at a later date.

You will also have the opportunity to use color filters to enhance the final rendition of the print you are making.

And most important, you can tailor the masks to fit your transparencies, which in turn will match the contrast output of your enlarger. Learning the masking system is not difficult. I have written about it in previous newsletters.

This past week has been an eye opener for me. One of my most recent students, Jim Gansor, of British Columbia, has traveled around the world, with his camera and very accurate eye. I had the privilege of having him as a student. He learned rather quickly and was very eager to learn even more. I only wish I had the ability to run some prints in color so that I could show you his work. His aim is to produce art.

The reason I am telling you about him is this:

When I asked him how he felt about Cibachrome, he really didn't have anything really good to say about it except that it was a very colorful print process. Then I showed him some of my Cibachrome print samples. This warmed him to the process. Then I proceeded to make a 16x20 Cibachrome print from one of his very special 35mm transparencies. I made it on Ilford's professional Cibachrome paper I used the P3 process chemistry.

We made a 20% mask for the original and even a white bump mask. The print was superb, mainly because of the subject matter. A close up of an Indian Army officer's hand holding one of those ancient swords. The composition and color balance of the original was right on. So was the print.

We used the mask to lower the overall contrast, then burned the brilliant white a bit cleaner with a "bump" mask.

However, this meant that we had to be in register all the way. We must be in register in the carrier, because we made a mask on a contact platen by first mounting the 35mm slide into a larger sheet of film of the same thickness. This sheet was then punched and placed on a pin glass on our contact printer.

Using a densitometer to find the density range of the original slide and then using our math skills to decide on a plan of action, we punched the mask material and exposed the mask through a split masking system and processed it.

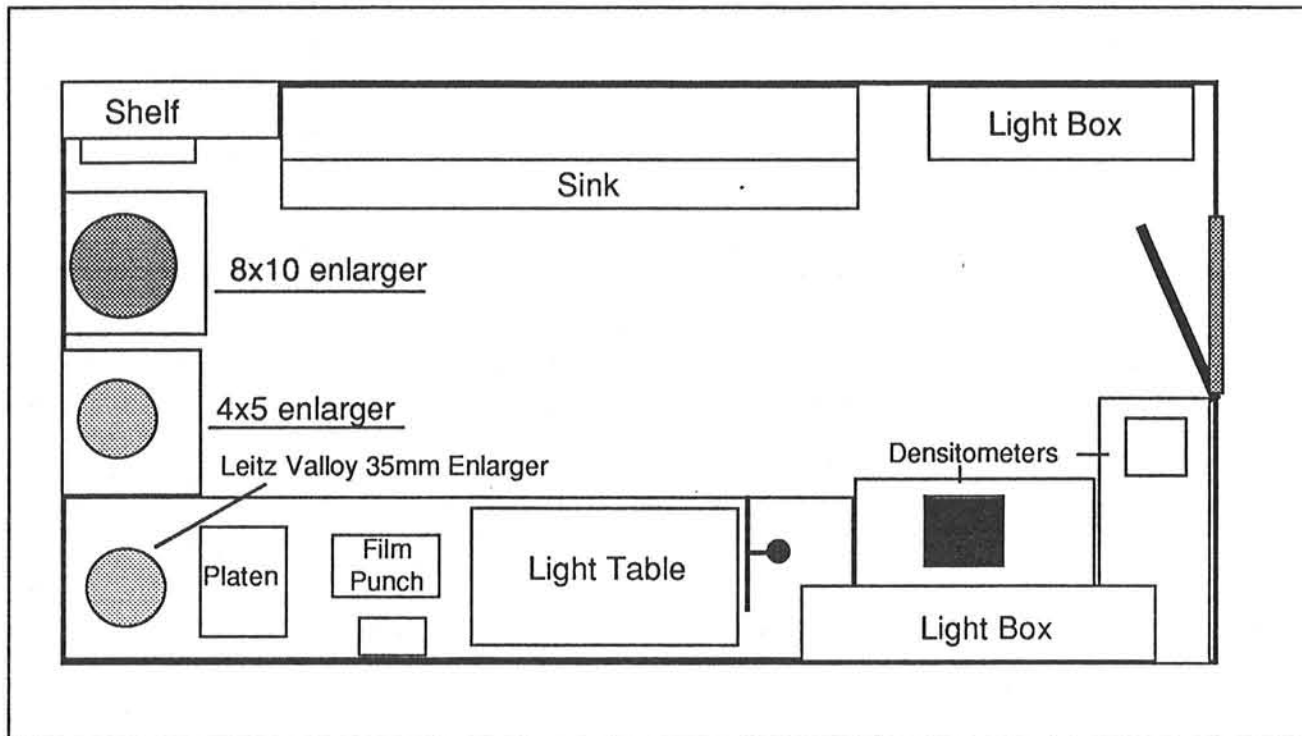
Then, when dry, we placed the original mounted and masked 35mm transparency into our oil carrier on pins. Then we placed the film carrier into our registration housing. We then sized the image and proceeded to make tests.

This required a paper punch and a registration vacuum easel

Making color prints is rather expensive.

The cost of matrix film has just recently been increased by almost 23%.

We need more competition in the film manufacturing business.



If you are not serious about quality color printing and feel that you do not need the professional registration equipment necessary for producing these fine prints, then disregard what I am about to say.

Quality prints demand professional equipment and knowledge of the process.

The first thing to consider is your darkroom. What size space would you have available in your home or office?

One of my students in New Jersey has a small area that he uses for making contact or enlarged separation negatives. He also uses a very small space for running the Dye Transfer prints. The dye trays are stacked, one over the other, and are rocked with the system sold

by Photex, in Florida. Even the granite transfer board was cut down to fit the 16 x 20 maximum size that he planned to use. Another area was used to expose and process his matrices. A little spread out, but very efficient.

My darkroom is a 12 x 18 ft. room. It was built as a one room teaching lab.

The layout that you see above is a good set up for a one room professional lab.

Let us add up the various elements needed to produce professional quality color prints;

The first necessary piece of equipment is a densitometer. I have 2. One is an old Kodak visual system that works fine for reading light and dark areas. I don't use it

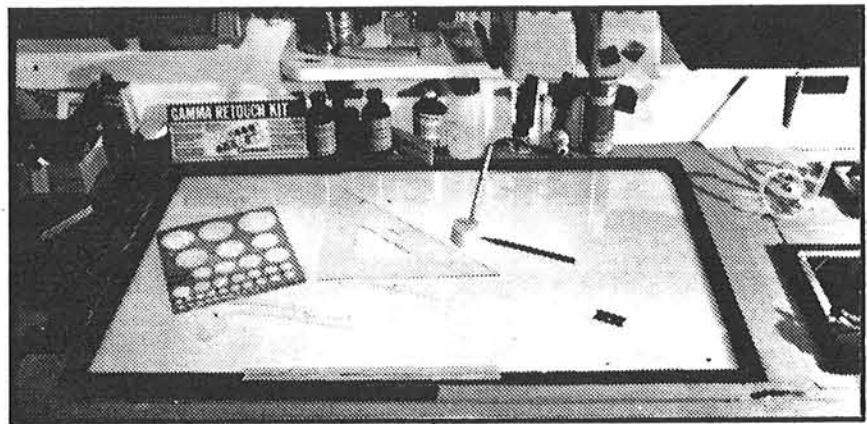
for color. The cost was around \$100.

The other is an old Macbeth, TD 102. I had trouble getting it repaired properly, so I sent it to the manufacturer in Newburgh, NY, and it was fixed just right. This unit cost around \$700. including repairs.

The next item in my lab is a large 20x30 wall mounted light box. This was built by me. It works great, and I am not a good carpenter. This cost around \$40 to build, including the fluorescent fixture. The color corrected tubes were purchased from a graphic arts supplier and cost around \$25 ea..

This is used for viewing more than one 8x10 transparency at a time. (great for checking dupes).

The next area is a light table. Also hand made and



with the same cost for the fluorescent fixtures and tubes.

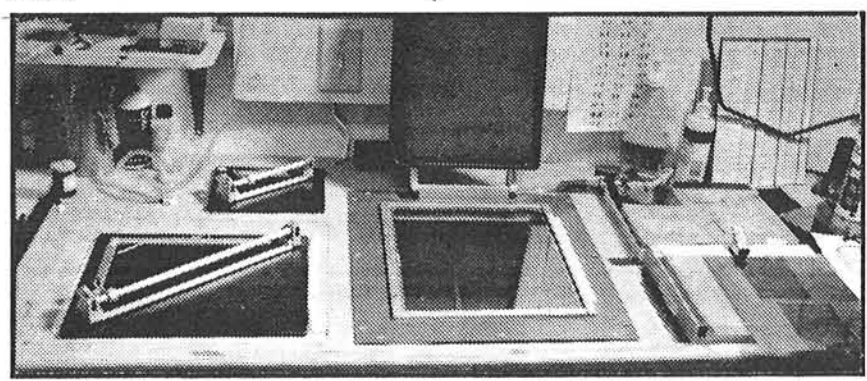
This table is a must. You use it for checking masks, separation negatives, and for mounting small originals into larger sheets of film. Retouching and spotting of films and prints is done at this table.

The next area is my real work area. The register punches and vacuum platen for making anything by contact require that the different parts and pieces of equipment be close by and are able to be found in the dark

around \$350.

My next piece of equipment is my old workhorse enlarger, a Navy surplus Omega condenser D2, to which I added a variable condenser unit. The enlarger and extra condensers costs \$250. This is a hard price to beat. These old enlargers are still around in used equipment stores. "Shutterbug Magazine" also carries ads listing them for sale.

The addition of a registration housing and carrier from Condit Mfg. is a must. This will require a film punch, as



Film punch and pin glasses used in a contact frame or vacuum platen. Price around \$350.

The vacuum platen costs

well. The cost is around \$500.

A Vacuum easel is necessary in order to make enlarged separation negatives.

Cost is around \$200. A vacuum pump is also a necessity. They can be bought for \$300 new, or as little as \$25 used. I purchased mine from a surplus store for \$25.

I placed my control panel above the contact platen area, but it serves both the contact and enlarging systems by flipping a switch. The control panel consists of a timer, voltage stabilizer and a variable voltage control for my 20 volt light source, under the platen table.

At this point, you should know what size enlarger you need to make matrices.

How do you plan to work?

Will you be a small camera enthusiast, or a large format photographer.

If you plan to shoot large format films from 4x5 up to 8x10, then the enlarger you purchase must fit that specific film size requirement.

Does it matter if it is a condenser or a diffusion enlarger? Yes, it does.

If you are planning to make portraits or scenics, I would suggest that you purchase a diffusion enlarger.

There are many kinds of enlargers on the used market.

The best buy is probably the Ellwood. It needs to be modified, but is an easy

enlarger to fix to your needs. I have seen these used enlargers sold for as little as \$250.

If you plan to print hardware or automobiles, or any other kind of "hard" objects, then a condenser system might be the best for you. There are many on the market. The prices vary from \$1500 to a few thousands of dollars.

If you plan to shoot 35mm, or small format films, then plan to get a condenser enlarger to make the separation negatives and a diffusion enlarger to make the matrices.

You could actually get away with using just one enlarger. **For instance**, A 5x7 Durst is ideal. Make your enlarged separation negatives to a size just under 5 x 7, so that your grey scale guides can be included, and then use the 5x7 enlarger to make the matrices.

You will need a matrix film or paper punch price around \$450.

You will need some sort of vacuum easel for the matrix film. Condit Mfg. makes a superb system and so does "By Chrome" of California, the price is around \$300. The "ByChrome" unit comes equipped with a vacuum pump.

The next item for the big enlarger is its registration system. It will require a registration carrier and housing. The punch used to make the enlarged separations can double in use. A quality timer is necessary at this point. Make sure that the timer is capable of handling the enlargers electrical load, otherwise an electrical relay might have to be installed.

The next item in the dark-room is the working sink.

My sink is capable of doing many jobs. I use it to process my masks and separation negatives. Then later, to process the matrix films. And later, again, to run the print.

You must have an adequate supply of 1% acetic acid.

I use 3 trays for the dyes, and 1 for the paper conditioner, on a sliding shelf above the sink. Mine rocks, but this isn't really necessary. But if you plan to spend lots of time at this part of the process, then have your table motorized.

I placed my dye filtering system under this work table, as well as the 35 gallon container for the acid rinse.

My transfer table is a large piece of flat granite. Placing the register pins in the granite is a simple chore.

Use a drill

bit made for drilling stone. Place a sheet of punched matrix film in your desired position. Drill a hole in the center of each punched hole of the matrix film. Use a **two part epoxy cement** and cement the pin stems into the holes. Then place the sheet of punched matrix film over the pins and in position. The pins will automatically position themselves. Let the cement dry, and then cut the film away from the granite. Scrape off any surplus cement that may be near the pins.

A quality roller is a must.

Kodak sells a 17 inch roller. Condit Mfg. sells rollers in any size.

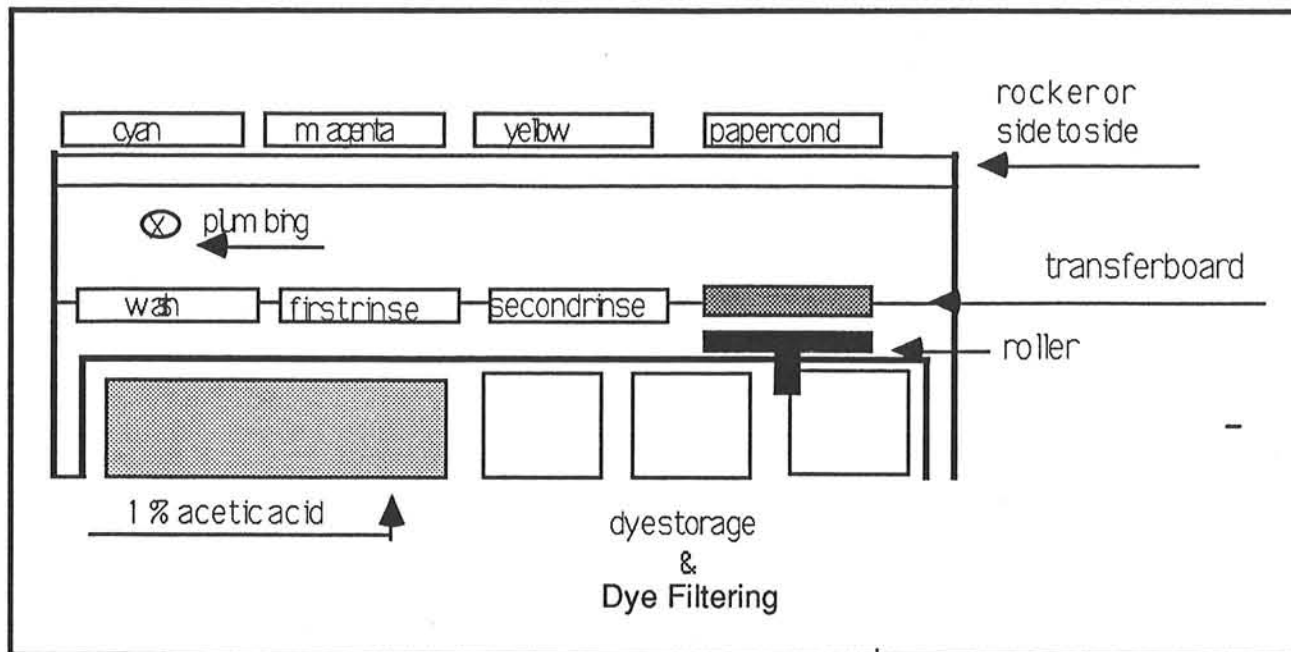
The rest of the lab consists of little things, such as a timer for running the print, a quality thermometer, plenty of hot water. and many other small details that you will discover most labs need.

The Safelight for Dye Transfer should be Red 1A, or the equivalent.

For Cibachrome, nothing.

If you add up the items that I have mentioned you will have some idea of the cost involved in building your own quality lab.

I don't suggest that you work with a portable system that you can place in a bathroom or kitchen sink.



The above drawing will give you an idea of how my working sink is laid out. Most of my chemicals are placed close to the ceiling, away from any contamination. They are filled up by pumping them up from the sink position, through their own faucets into the overhead tanks.

The faucets that are positioned in the backsplash wall of my sink, carry all of the chemicals that I need for my various processes.

Over my sink, is a vent. The kind that you will find in most household kitchens. This will eliminate any moisture from the room after you have used hot water to wash off the matrices.

I also use a good toggle switch in the ceiling, and with a system of hook eyes and venitian blind cord, I

can shut off or put on the overhead lights in the room from any position. This makes it easy to light the room without touching a wall switch with wet hands.

If you contemplate using much material, I suggest that you purchase a used freezer and keep your materials frozen until needed. In this way they will last many years past the expiration date.

The color of your lab is important. Some of us have painted the darkrooms black, with the idea that flare wouldn't occur. This is actually not a bad idea. However, it makes for a gloomy existence when you are in the darkroom for any length of time.

I decided to paint my lab white. I wanted it to look like a hospital.

The light working area will brighten your day. You won't feel "closed in". Just make sure that your enlarger doesn't leak light when using it for printing.

All of my woodwork is painted with a grey deck enamel. This is easy to keep clean.

The woodwork around the wet area is painted with the same shade of grey but instead, with **fiberglass resin**. 2 or 3 coats will keep these areas waterproof.

A rubber mat on the floor will help in keeping back pains away. This I know from personal experience.

The most important thing in any lab, other than the equipment, is **ventilation**. If your lab is too air tight, you will smell like an over ripe pickle when you get home.

The video and book are about to be mailed out this week.

I want to thank those of you who have been so patient with me. I know I have been promising this book and video delivery for some months. I personally went to the printers to make sure that the book looked right and felt right. In my opinion, it does.

The slight delay was caused by the video duplicators.

In my last newsletter I made reference to a possible book about the Cibachrome process.

I do plan to make this my next effort. I have found little printed material that is founded on a profesional's experience.

I will probably start this next venture in less than one month.

How long will it take to complete? I don't really know, but when it is finished, I can assure you that if you purchase the book, any Ciba print you make from that point on will have been made with much more thought about quality, contrast, color balance and definition than ever before.

I cringe whenever I see a Ciba print hanging in a gallery, and I recognize the fact that it had not been masked for contrast or color balance.

One of my students has asked me about the possible use of the new Minolta color head in producing Cibachrome prints.

I really don't know how much faster the new head is than the first version.

Long exposures are needed for the slow speed Cibachrome paper and would sometimes blow out one of these expensive pulsed light sources.

The light source that I personally recommend is a pulsed zenon light source. At one time I purchased mine from Berkey Marketing, in New York City.

It cost about \$1200 and delivered 1600 watts of light. Using a condenser with an oil bath carrier made it possible for me to make exposures as large as 30x40 with very short exposures. Since my work was masked about 99% of the time, a strong light soource was a necessity.

I no longer have this unit. Instead, I use a 250 watt enlarging bulb in a 4x5 Omega D2 enlarger. My exposures can get very long, on occasion, but generally, are short enough to cause me little concern.

The main thing I try to emphasize is that the brilliance of a print can be controlled very accurately, and the colors can be made more

brilliant, with a few simple masking tricks.

I said this before, but it is worth repeating.

Galleries love to show a Dye Transfer print, or a Ciba print rather than a C print.

The reason is that the dye fastness of theDye Transfer print and the Ciba print is legend.

When some one buys a quality print made with either Cibachome paper or the Dye Transfer process, they recognize that the artisit wanted his work to last for many years.

I have seen beautiful C prints. Unfortunately, the lasting power of a C print doesn't even begin to approach the life of a Dye Transfer or Ciba print.

The best thing about the Dye Transfer is that the matrices and separation negatives will last as long as any black and white photographic material. This is longevity.

My video and book are now being sold for \$200 plus \$12 for shipping. My book "The Art of Photo Composition" is still \$50. And the newsletter is still \$60 per year.

Thanks,

**Bob Pace
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