

# KEEPING PACE

A Monthly Newsletter Devoted to the art of Darkroom Photography

Volume 43 January 1991

## Joseph Holmes and Don Mitchell have touched a nerve

I have been getting many calls and letters regarding the work of Joe Holmes. (Nov. Keeping Pace.)

Some of you want to know if this fantastic light source could be used for the Dye Transfer process. Some want to know if they can purchase it. I don't really know all of the answers but I will try to find out.

His work is definitely different. The images are great and his rendition of the scene and his great eye for color make his prints outstanding.

The fact that they are Cibachrome's makes them even more desirable because of the archival quality of the product.

Each print that he produces when he makes a limited edition is exactly like the first one. He uses an automatic Jobo processor and one

shot chemistry.

In the last issue I spoke of a new camera / enlarger designed and built by Don Mitchell of Mitchell/MacMurchy in Kansas City, MO.

The camera was designed in such a way to make it possible for any lab to compete with the new digitizing systems.

Lets face it. The cost for these new systems are quite high. This will only enable a rather large lab the luxury of being able to purchase even the work station alone. The high cost of the scanner makes it impractical for the average lab to purchase one. The individual photographer or printer is out of luck. The cost for a decent scanner is around \$200,000. The least expensive work station (Crosfield) is around \$80,000. The output system (film recorder) is also quite

high, around \$40,000.

We are talking about 1 /3 of a million bucks. And this is a low cost unit. The high end units will climb to over one million dollars and will require much air conditioning and expensive service contracts.

Unless you have a rich uncle, or are a genius in marketing, forget about it.

I enjoy reading about the new and sometimes startling developments in the reproduction field, but my individual love is still the talent that it requires to make a great print by hand and with great care.

Most of my readers are individuals that would simply like to make their own prints from scratch and would like them to look like professional prints and are quite capable of doing so.

Many can find a market for their prints in galleries or

other professional work. The small business lab, however, has an interest in these new systems. The only people who can afford to pay for this kind of work is the media.

Magazines that feature advertisements from large advertising agencies will be using the new electronic systems. The rest of us will marvel at them but will shy away from even considering such equipment.

However, the small lab that is immersed in the field of professional photography must come to grips with this invasion. The best system is to make your own photo-composed negatives or positives. I did this for many years by utilizing many different enlargers. I had nine 4x5 enlargers and eleven 8x10 enlargers in one of my previous labs. Each enlarger was equipped with Condit's registration equipment. Each easel was a registration vacuum easel and each room had it's own matrix punch to match the pins on the easel.

If I had to make a complicated multi-image photo composition job, I would first make a copy of the layout so it would fit the final film size. I would then place an original image in an enlarger, size it to the position and size of the layout on the easel, on registration pins. Then I would lock everything

tightly.

I would then place another original in the second enlarger and repeat the sizing to the same layout, also on registration pins. This enlarger is also locked in position.

This system of sizing the image to the size and position of the layout would continue until I either ran out of images or enlargers.

I remember making an 8 piece strip-in Dye Transfer print for Mattel Toys one weekend, many years ago. I used all 8 enlargers. I made my cut outs and reverses using litho film. I made tests of each image and went from enlarger to enlarger and exposed each image in turn. I made two sets of matrices so I could control the images a little easier.

**However, with this new camera / enlarger designed by Don Mitchell, the field of photo composition is within your reach.**

Don's camera will allow you to place images any where on a sheet of film and by using the correct spacing between masks and images produce a soft edge so that the edge of a birds wing is almost undetectable even when viewing the final result with a 12 power loop.

Think of the camera as if it were an enlarger. There is such accuracy in returning to an original position, (within

1/1000th of an inch) that only one of these systems will do most of the work in an average small lab.

The best part is this. It is optical. There is no loss of detail because of any electronic loss.

This doesn't purport to be a retouching system, but simply, a way to make a photo-comp job look great.

The cost of this system hasn't yet been decided, but it will be well within the reach of any small lab.

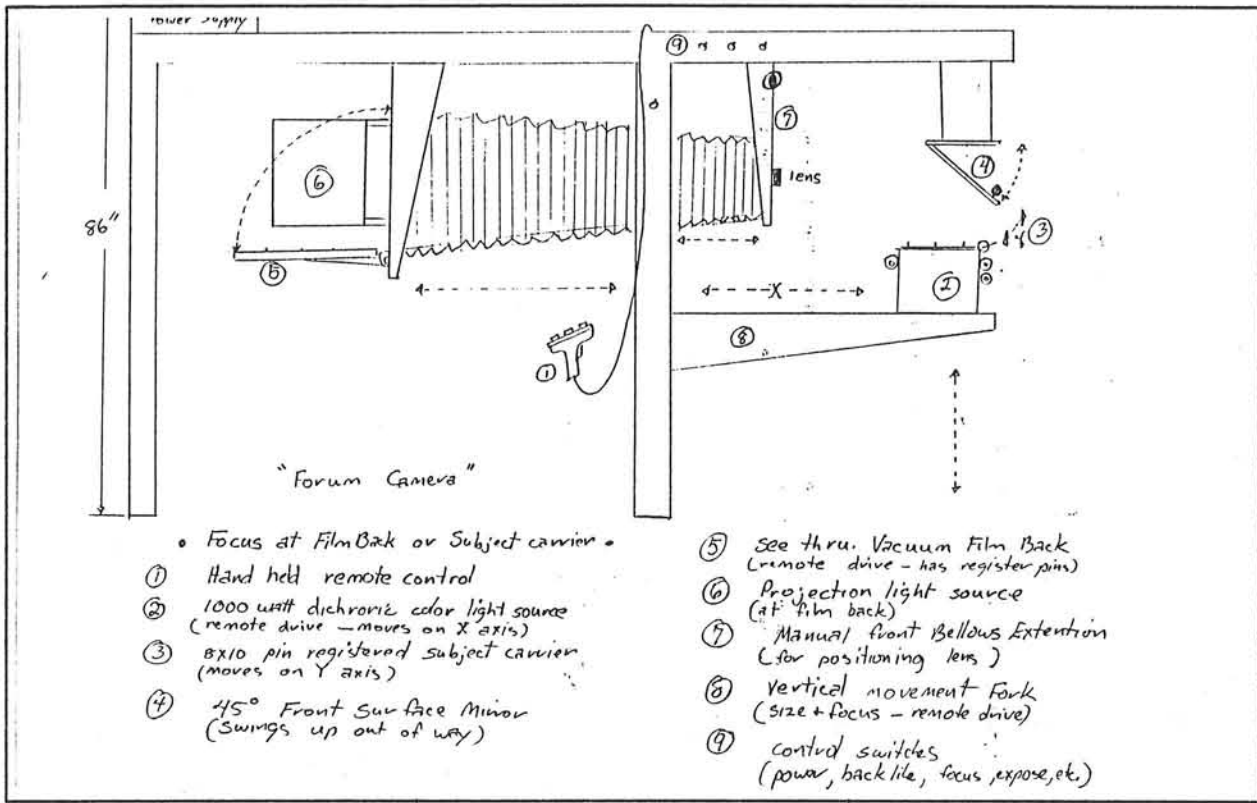
The amount of time spent with Don's camera system will not take much longer than using a digitizing machine. **This makes it cost effective.**

The average charge for using the digitized work station is around \$400 per hour. This doesn't include the cost of scanning or the output to a recorder.

The accompanying illustration and text on the following page has been supplied by Don Mitchell. If any of this information is important to you write to Don at:

**Mitchell / MacMurchy  
617 East 16th St.  
Kansas City MO 64108**

This system is almost ready to be computerized so that sizing and positioning can be repeated easily.



Presently, the camera has rule type indicators for returning all moving parts to their respective locations. They are hoping to replace this system with digital linear (repeatability plus or minus 1000th of an inch) drive indicators. Once this system is acquired, then a computer drive becomes possible.

Final position can be checked by putting the female mask in position on # 5 with subject transparency on # 3 and checking aerial image at film back # 5. If something is not quite right, you can drive it into position. Then place film on pins and expose.

The work is directed through the camera as follows:

Shoot a litho of the layout to the finished size. Register it on film back #5.

Use projection light source to put image on subject carrier # 3. Then size the projected image to fit the subject on the original transparency. After sizing and focusing, position the original according to projected layout and secure on clear base film registered at subject carrier # 3. Now, all masks will be in position at both positions # 5 and # 3.

Make silhouette masks for each position, if necessary.

Then expose film at # 5 using masks at # 5 and / or # 3.

In essence, this is a positioning system that allows you to see exactly where your images are at all times.

The register pins are over 1 inch in length. This allows one to place many diffusion sheets or clear sheets in the path of a mask in order to produce a soft edge.

Making photo comps accurately on 8x10 positive or negative film will allow one to make large 30x40 prints with relative ease.

I recently became involved with a job of photo composition that was tricky. The print was to be a C print.

It involved two images and the use of two enlargers.

The layout image was of a girl reclining on an almost invisible wispy white background. She was supposed to be dreaming.

Above her head was the second image. Also from a color negative. This consisted of a dancing girl whirling about.

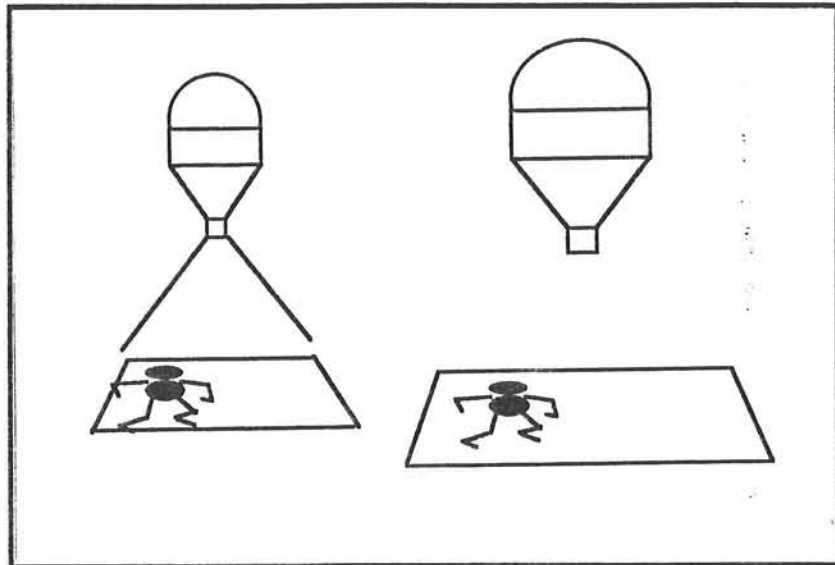
The object here was to make the second girl look like a dream, or figment of the imagination.

Here is how it had to be done:

The layout was copied and then enlarged to the size of the final print. This newly copied layout was punched with a matrix punch and placed on the pins of the vacuum easel.

The negative of the dancing girl was placed in the enlarger using a registration carrier, sized up and positioned to the image on the layout.

The layout was removed and replaced with a sheet of punched unexposed litho film also placed on the same register pins, and an exposure was made. The film was then soft processed so that the entire image was visible on the film. The litho film was washed and dried and then placed on a light



table, also equipped with the same kind of registration pins.

At this point, a sheet of Rubylith film was punched and placed on the same pins over the litho film and a cutout was made using Rubylith material. The image on the Rubylith film was peeled away and now was clear.

This sheet of Rubylith film was replaced on the easel with a sheet of thin white paper under it. All that could now be seen by the enlarger was the white image of the cutout against the red of the Rubylith film.

The original image is now removed from the enlarger and in the dark, using safelights, replaced with a sheet of unexposed film (litho.) Copy lights were placed on both sides of the easel. The vacuum system was engaged. An exposure was made. Remember, every

thing must be in register.

This sheet of film is now processed in litho developer. It should produce a totally black dancing girl.

This black mask is now reversed by contact, also on registration pins. It should contain a clear dancing girl on a field of black.

**This last mask** is used when printing the dancing girl.

The same layout is now placed under the second enlarger. The second image of the reclining girl is enlarged to size and position. Remove this negative.

Then, the **original cut out Rubylith image of the dancing girl** is also copied up to the enlarger, using litho film. This sheet is processed in a litho developer. It too, will be a black dancing girl. **This mask is not reversed and will be used when printing the reclining girl.**

looked at as if it were a secret photograph of a missile site.

Look at it carefully. Does it need a brighter white, or does it need more detail in the whites?

These are two different problems.

If all you need is a brighter white, then a simple highlight mask will suffice.

However, if you want more detail in the whites, then a specular mask may be needed.

In the Dye Transfer process, a special mask is made to add to the normal highlight masks when the matrices are being exposed.

I make my specular highlight masks by contact printing from one of the most detailed highlight masks of the set, using either Duponts CRR4 or Kodak's LPD4. (Both of these films are reversal films.) The final result should be a duplicate of the original highlight mask, but with much less coverage and much more density.

If the process is in Cibachrome, and a highlight mask was made by including it in the contrast reducing mask, then a special specular mask may be made and used as an after-exposure. **This is called a "bump" mask.**

This mask is usually all black except where highlight must occur. This mask is made by exposing the transpar-

ency to either of the two forementioned reversal films

Does using these procedures improve the overall quality of the print? I think so, otherwise I wouldn't advise using it. However, don't abuse the print by making it too bright or too colorful.

This is strictly a personal choice.

One of my friends and subscribers asked me about the effect of color correction when making principal masks for the Dye Transfer process.

Remember, the filters we use for making separation negatives are not as sharp cutting as they could be. If they were perfect, then the only reason for masking would be contrast control. This accounts for the interest in Joe Holmes method of light source.

The masks that are made with the conventional two mask system will not adequately correct for anything except that they will produce a pleasing print.

However, if you carefully examine any print made with only two masks, especially if it contains very accurate whites or greys in the print, the blue skies will have too much yellow printing along with the rest of the density the green will have too much magenta printing along with the rest of the density and the reds will have too much

cyan printing along with the rest of the density.

The fact that a third color is part of the overall color will muddy up the print and prevent it from becoming a clean color.

Clean colors consist only of two of the additive primaries or one of the subtractive colors.

Split masks will do a bit more for color correction, but are still far from being accurate or perfect.

If the first mask is split, the warm colors will look better but at the expense of the cool colors.

If the second mask is split, the greens will look better, but at the expense of the reds and blues. And so on. There is no accurate method of reproducing the colors from a transparency when making a print. We can get very close, but never perfect.

This is the reason why I "invented" the isolation masking system. It also isn't perfect, but at least this system will allow one to correct for all of the colors in the print.

All I can do is to help eliminate some of the unwanted third color from a clean pure color.

Beware of producing too strong a set of masks with this system unless you like circus colors and brilliance.

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If you use the system that I recommend, which is to make a set of black and white positives from the set of separation negatives, when you go through the steps of combining the opposites, look at the sandwich. If you don't see any appreciable light open spaces, don't make a mask for that color. This means that there is no need for masking this layer. The amount of color infringement, is not enough to

warrant making a mask. If you do make a mask that looks as though it might work well but also involves itself in other areas, use some magic like Pottasium Ferrycyanide and hypo (Farmers reducer) to eliminate the areas you wish to leave untouched.

This is done in a sink area with a brush or cotton wad and running water.

Use a light box on the wall above the sink so that you can witness the correction.

After any application of Farmers reducer, place the film in a tray of hypo to stop any action, then wash the film and dry it normally. Add this mask to the appropriate separation negative when making the matrices. The difference in color cleanliness will be evident.

For those of you who may own a "one shot" camera and have had trouble finding where to get replacement pellicles call or write to:

The National Co.  
New York, NY

They will forward the name and address of the organization that has the ability to make new pellicles for you. The filters used in a one shot camera were made by Kodak. Specific filters were used that not only separated the image but kept the exposure for each sheet of glass plate (you would

probably have to use film instead. I haven't seen Pan-chro Press Plates for many years.

The filters used in the old days were called A, B, C5. These filters were not as sharp cutting as the 29, 61, and 47b filters used in producing prints from transparencies, but they were adequate.

The original filters were mounted in optical glass. With today's new glasses, especially the anti-glare glass produced and sold by Condit Mfg. the problem of glass interference would probably be eliminated.

### Zig Align

Here is a relatively new product that I recently became aware of. One of my friends and subscribers from England, Gerard Aniere, told me of this product that is used to align cameras, enlargers, and copy systems.

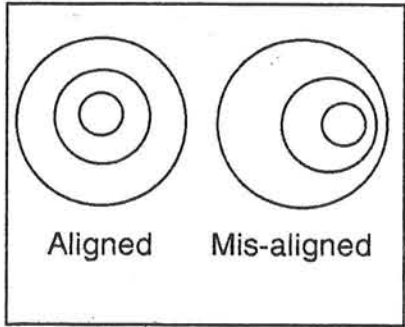
The system works like the mirrors did in the old days, whenever you went to the barbers for a haircut.

Do you remember sitting in the chair and looking in the mirror and seeing multiple views of yourself disappearing into infinity? Well, this system is based on the same idea.

A small mirror is placed on a flat plane, such as the lens plane or film plane and is seen again in a mirror that

is placed on the easel. By lining up all of the three elements and looking through a small hole in the top mirror, through a prism, you can see multiple images of the small mirror reflected against the larger mirror. When the elements are lined up properly, the small original hole is dead center. If you are out of level, a "tunnel effect" is visible.

I worked on three enlargers in my new lab situation and found them all to out by quite a bit. After they were Zig-Aligned, they were great. Now the images are sharp from corner to corner.



As most of you should know by now, Mary and I have moved to the Las Vegas area.

Our move was made for a couple of reasons. We wanted to cut our expenses, and we wanted to do something with our knowledge.

We are still involved with teaching, writing, giving seminars and now I am working part time as a consultant and teacher to a lab in Las Vegas.

The lab I am associated with is called Photo Finish. They specialize in producing point of purchase posters and fine photographs. The digitizing monster will never bother them. They do fine photo composition work. This is the area that I will be involved in.

My new room will be completely equipped with all of the normal things that I previously had, plus a large 30x40 camera, a large **Log E Processor** for producing screened negatives and Line negatives, a platemaker so that we can get involved with the new Carbon print process, and of course, Cibachrome.

I will also be able to make Dye Transfer prints, if they are needed.

**Some of the advantages and disadvantages of making your own enlarged separation negatives for the newly revived Carbro (Carbon) process.**

In the early days, the making of quality black and white prints (bromides) was essential in the production of a carbro print. The name Carbro is taken from the two separate materials needed to accomplish the making of a print. **Carbon** and **Bromide**.

The black and white bromide print was essential because of the method used. The bromides were combined with the pre-sensitized

colored pigments in order for the process to work.

Today we have two new methods of the old process. They are essentially the same except for the combining of the bromides and pigments. Continuous tone negatives are made to size and then exposed by contact to a dry, but pre-sensitized colored pigment. This is the system that Reece Vogel, of Los Angeles, is using. He coats his own pigment materials. He purchased the old coating systems that were once the backbone of the McGraw Colorgraphic Company. He makes his own enlarged negatives and then using a fast ultra violet light source such as those used by the lithographic companies, exposes the carbon tissue in contact with the separation negative. The pigments are coated on a stable surface such as polyester material. This material can be punched with a common matrix punch and registered on a set of pins when the combining occurs.

The newer system invented by Charles Berger of Northern California, is different. He uses screened separation negatives. The system requires 4 colors. The customary Cyan, Magenta, Yellow, and Black. This is the same negative system that a lithographer would use for making his 4 color set of negatives.

In fact, this is one way to make af proofs for a litho job. The client would be able to see his results on a matter of minutes after the negatives were finished.

3M has a system that uses the 4 screened color separation negatives to produce a quick proof. Unfortunately, this system shows the support material as well. This produces a tone over the proof and is distracting. A better 3M system eliminates the use of the film layer and produces a proof print that is comparable to the new carbon system. Perhaps not as rich, but pleasing, nevertheless. Kodak has a wonderful system and can produce a proof in a matter of minutes.

Reece Vogel makes his own enlarged separation negatives. Charles Berger uses a company that owns a top of the line scanner. (Wy,East, in Portland Or,)

Their scanner will produce a very accurate set of screened color separation negatives in a very short time. Charles uses a very fine screen. Over 400 lines to the inch. Reece produces continuous tone negatives. There is no screen.

Charles separation negatives exhibit no flare at all, as they are scanned and no optics are involved. The cost for a set of 16x20 400 line screened separation negatives is quite high. I have heard figures such as \$600

bandied about. I checked the prices of a local litho house and was presented with a price of \$200 for a set of 16x20 screened separation negatives. The screen size was not as tight as the set made by Wy, East.

Reece Vogel makes his own separation negatives. His cost is much lower. A set of negatives can be produced in about 1 1/2 hours and eliminates the shipping time problem.

However, with this system you can experience some flare. Any time you make an exposure using lenses, flare will occur. The best lenses in the world may reduce the amount of flare, but can never totally be rid of it. The choice is really one of convenience.

If you are completely lacking knowledge about the field of separation negatives, then I would suggest that you purchase the best negatives from a reputable company. If you have the ability to make your own negatives, then do so. You can use split masks, highlight masks, specular highlight masks, and so on. You can be very creative.

Making an accurate exposure on the colored pigment is essential. A platemaker is used.

This chore can be made simpler by using the old trick of reversed grey scales and making sure that the proper steps meet in the center.

Do this for every color.

This will establish a straight set of exposures. If you wish to expand your horizons and do some "inventive" printing, you will at least know what the correct exposure is for the normal print.

If you are using the continuous tone method of making the print, you must first establish the correct exposure for a each color pigment.

I would then suggest that you make a set of bromides and determine the correct exposure for the color balance of the print.

Once you have established these two points, then with a little bit of luck and some of math, the correct exposure can be determined.

If you are using the screened set of negatives, then simply finding the correct exposure for each color should suffice. Of course, you can alter the exposures to some extent, but not as much as the contiinous tone method.

This new Carbon process is gaining steam. I will soon be making some prints in my new location. I will keep you informed.

I want to thank you all for "Keeping Pace." I wish you all a great New Year.

**Bob Pace**  
**2823 Amaryllis Court**  
**Green Valley, NV 89014**  
**702 896 2515**