

# KEEPING PACE

A Monthly Newsletter Devoted to the art of Darkroom Photography

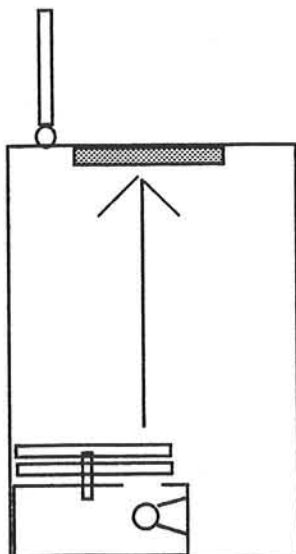
Volume 60 June 1992

## More About Masking For Cibachrome

### Setting up a system for making masks for Ciba.

Making contact masks for the Cibachrome process is not difficult at all. You will need some basic registration equipment and a comfortable place to work.

I suggest that a table be constructed that it's height would be just above your belt level.



Use plywood for the table top. If you can afford it, complete the surface with Formica.

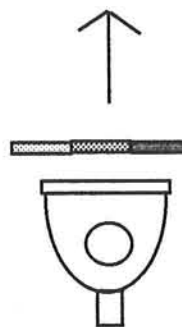
Using a router, cut an opening into the table top to be able to install either a professional vacuum platen (available from Condit Mfg.) or just a simple contact frame in which a set of register pins can be cemented into place.

This can be accomplished by purchasing a registration contact frame from Condit Mfg., or you can purchase any quality frame from companies such as Zone VI or Calumet.

Have Condit or any glass expert drill and cement the Condit pins in the glass so that they will match the spacing of the film punch.

The use of heat glue will do a great job of holding the pins in place.

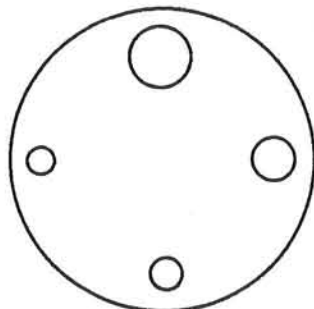
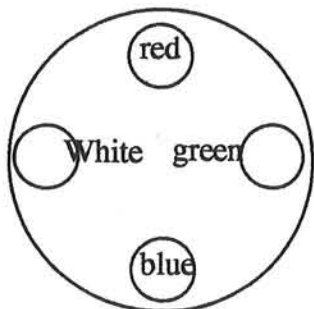
Use a simple light source mounted on the floor level. One method is to use a Kodak acorn safelight, and install a 200 watt enlarging bulb.



Use separation filters mounted in the metal filter frames placed over a hole cut into a sheet just over the bulb area. If you feel ambitious, you can make a filter wheel and place filters in the wheel.

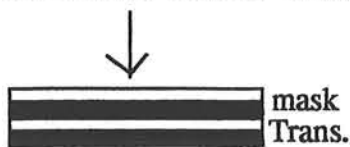
If you want to control the amount of light you receive, make a set of Waterhouse f stops by drilling various sized holes into a sheet of

metal and place the appropriate sized hole over the light source. This will be your own special *f* stop system.



Waterhouse *f* stops

The positioning of the films in the contact area is critical. Remember this adage. The position of the mask in regard to the transparency in the enlarger will be the criteria for placing the various films in the contact area.



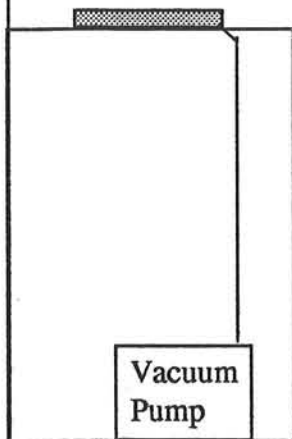
First punch, then place the transparency emulsion down in the contact frame, or vacuum platen, facing the light source. Then punch and place the mask material also face

down over the transparency. Close the contact frame, or the vacuum platen and make the exposure. Remove the mask material without destroying the roundness of the punched hole.

Use a painters thin palette knife to place between the film and the glass to twist and pry the films loose from the tight pins, one at a time.

What if you want to use a light source from above, such as an enlarger or even a hanging light fixture? What must you do in order to make this arrangement work for you.

First of all you must still use a table top similar to the first method.



I would place the hanging light source about 2 1/2 feet above the table top, otherwise you would not be able to reach the filters to affect any changes. I would use the same similar system, or even a shelf stretched across the exposing area,

cut a hole in the shelf, and place the light source on it. Use the same ingredients for changing filters or changing the amount of light reaching the film level; by using the same Waterhouse *F* stops. You could also purchase a blank diaphragm from Edmund Scientific Magazine, and use it as a controlling light source device.

Avoid using a point light source, because the only way to cut the light strength is to adjust the voltage in the line. However, changing the light level will also change the color balance of the bulb, destroying all the work you did to establish a set of exposure times for the masks as well as any other use you may possibly want to explore

Using an enlarger is fine if you have the necessary amount of light to make relatively short exposures. The use of the enlargers lens to establish the correct times is fine, especially if the light source is adequate for speed.

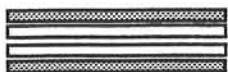
The normal use of the enlarger as a light source for making masks is not the recommended method as it is very slow. However, if this is your choice, then use a large opening lens such as an *F* 2.8.

**Remember the final position of the mask pertaining to the transparency when in the enlarger.**

In this case, I would punch and place the masking film onto the pins in the frame or platen, emulsion up. Then punch and place the transparency onto the same registration pins, also emulsion up. With a contact frame you will have to turn over the frame so that exposure will be made through the glass.

If you have a gasket vacuum platen, then punch and place the masking film emulsion down onto the pins, and the same for the transparency. This will keep the system in the correct orientation.

If for some reason, you place the two films in the wrong direction, and then place them back in the correct enlarger position, the resultant lines around the image would render the image useless.



The space between the two emulsions is too great and flare would occur. This would produce lines around objects in the final print.

**Making highlight masks for Cibachrome** is also not complicated. There are two methods that can be used to make whites and jewelry sparkle.

The first method is not as accurate but will work, enabling one to make an

interesting print with no further expense of purchasing registration equipment.

Using Kodalith film, or a reasonable substitute, a short exposure by contact to the transparency, and processed in Kodak's D11 or any other strong continuous tone developer will produce a negative of just the highlight areas. It must not exceed .40 in density.

Just the lightest areas will be visible. However, if a white area contains any important color, then a Pan litho film must be used.

The following is a method that will help you determine the correct exposure regardless of the density of the original transparency. Place a 21 step grey scale in the exposing contact frame in contact with the film of your choice.

Make a short exposure, and process the film normally. (In D11, about 2 1/4 minutes at 70° or 2/12 minutes in HC 110 diluted 30cc of concentrate per liter of water, also at 70°.

Examine the results. Using a densitometer, find the portion of the newly processed grey scale that reads around .40. Find the exact step in the original grey scale. Read this step. The rest is math. For instance:

If you made a ten second exposure and found the step that read .40 and in the original grey scale reading

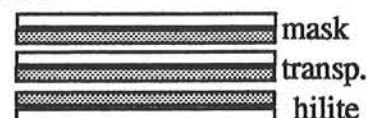
was .65. then a simple chart can be produced that states any transparency density of .65 requires a 10 second exposure to achieve a .40 density.

.35.		
.40		
.45		
.50		
.55		
.60		
.65	10 sec.	
.70		

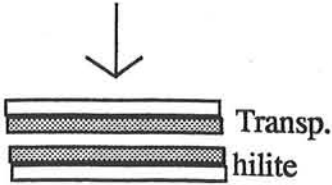
Using the log portion of the TI 30 calculator all the exposure times can be calculated for any density from .05 to .50. This is a repeatable method that will save you many hours of experimenting.

If you must use color sensitive Pan Litho film, use the separation filters such as Red 29, Green 61 and Blue 47b. Make a similar chart for each color and you will be able to find the exposure for any color you wish.

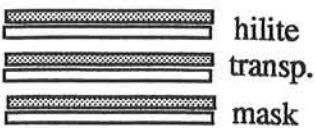
**When using the under the table light source**, after making the contact highlight mask, place the highlight mask emulsion up, the transparency emulsion down, and the mask material emulsion down, and make the exposure.



If all is well, remove the highlight mask and save it for any future possibilities. When working from above, place the unexposed highlight mask film emulsion up, then the transparency emulsion down to make the contact.



Then when processing is finished, place the contrast mask material on the contact frame or platen, emulsion up, followed by the transparency, also emulsion up, then by the highlight mask.



Expose the contrast mask material, then remove and save the highlight mask.

The second and more accurate and controllable highlight restoration method is to make a short exposure by contact, onto a sheet of Kodak's LPD 4 or 7. Similar films such as Dupont's CRR4 or 7 work the same way.

These are reversal films and were invented to help make identical duplicate sets of screened negatives so that they could be shipped to printers all over the country.

If a short exposure is made, by contact (emulsion to emulsion) onto Kodak's LPD4 and the film is processed in a strong developer such as D 11 or any litho developer, the film will remain relatively black except where there are thin areas of a highlights. They would remain clear.

Perhaps, just a thin veil, but the highlight mask can now be used to perfect the process. This mask is called a **highlight "bump" mask.**

For this procedure, you will need additional registration equipment for punching paper and for placing the paper on pins on a vacuum easel.

There are a number of firms making such easel registration equipment, such as Kodak, Condit, Carlson and others.

After making the highlight bump mask, put it aside while making the contrast reducing mask, then if necessary, use it in the following fashion.

This mask is only used when you have determined that an additional exposure to the highlight areas are necessary.

After making an initial exposure, remove the paper from the easel and place it in a safe box.

Then, in room light, remove the contrast mask from the

pins in the carrier, and replace the mask with the highlight bump mask. Place the carrier back into the enlarger, then in the dark, replace the paper on the same register pins as before, and re-expose for as much as 200% more exposure time. Then process the sheet. Compare this print to a print that had no highlight re-construction and look at the difference.

You will have to use your own judgement to determine the amount of "bump" that is necessary.

The difference will astound you. It will allow you to be much more creative in the darkroom than you had believed possible.

**Exposure repeatability and accuracy.**

Some darkroom enthusiasts rely on specific easel meters to establish the exposure time and filtration. These meters can cost thousands of dollars. Here is a simple solution that will save you much time and money.

The changes in filtration for making Cibachrome prints is not usually dictated by the transparency, but rather by the color balance of the paper.

So if your last print had a filter pack of 30m and 60y then it would make sense that any new transparency would have a similar color pack unless you wanted to

deliberately change the outcome of the print.

The only real reason for a meter is to establish the correct exposure time.

I again, recommend the Wallace Fisher easel meter. It has a very wide range, is color sensitive and is absolutely repeatable.

If you make a great print at 30 seconds with a specific colorpack at an 8x10 size, you will be able to make a perfect match print at 16x20 or even 20x24 (if the paper balance is the same) by using the meter to establish a light level.

In order to make match prints, purchase large sheet sizes and cut the paper to make smaller prints from the same emulsion batch.

After print # 1 is made to 8x10, remove the carrier from the enlarger and record the light level. Then re-size to 16x20, (or larger) focus, remove the carrier, match the same probe # by adjusting the *f* stop and when that number is matched, replace the carrier and make an identical exposure. It will match.

I don't normally make recommendations for specific equipment, however, when I find a product that has been as satisfying to use as this meter, then and only then will I mention it's virtues. Incidentally, The Wallace Fisher company has a new address and phone number.

If you are interested, here it is:

**Wallace Fisher Instrument Co. Inc.**  
**334 Pleasant St.**  
**Pawtucket, RI -02860**  
**401-727-4906— (Fax 401-727-4901)**

One of my friends and contributing authors, **Morry Bard** has decided to slow down.

Morry has been in the forefront of dye research for the past 60 years. His contribution to the dye industry has been enormous. He has decided to sell his lab, either in whole or in pieces.

Here is what he has to offer: The lab is equipped for Cibachrome printing, Dye Transfer, Pointillism printing, Canvas transferring of color prints to resemble paintings, and much more.

Speedmaster densitometer TRC-60, Chromega D 5500 Dichroic, Kostiner Vacuum press, Seal 210 mount press, Nikon copying system, trays, tables refrig, hot water heater. In otherwords, a working lab.

If you are interested:

**Morry Bard**  
**5500 N.W. 69th Ave**  
**Lauderhill, FL 33319**

I haven't been writing about the **UltraStable process** for a few issues.

A group of interested photographic enthusiasts were trying to convince Charles Berger to join them in mak-

ing his company into a rather large lab with control of the scanning, manipulation and to the production of high quality screened separation negatives. I was also involved with this well meaning group.

However, Charles Berger and his partner decided not to relinquish any part of their invention to any one, and the idea for forming a nationwide organization fell through. The amount of money needed to start such a project would have been enormous.

However, Charles is still making and selling his fine products and will assist anyone who wants to get involved with this marvelous process, as to which separation company to choose for making the negatives, working on a work station and so on.

The necessary final equipment for producing these great prints can be purchased for about \$1500. This would include a graphic arts platemaker, register punches, a transfer area, a sink, and a dryer.

As you may know, I have been involved with teaching lab individuals and have helped in producing some of the large posters seen in airports and large hotels and casinos, especially in Las Vegas.

I have also been getting an education as well.

I thought I knew all about "photo comp" work. I was wrong.

I can explain the handling and separation of the elements in order to produce a great 8x10 internegative with all of the information necessary to make a brilliant final image on Duratrans material.

The biggest problem is being able to find little glitches in the background or in the lettering. Some of the disturbances are so small, that even with a good magnifying system it is hard to find them. However, when the image is printed to a 40x60 size, there they are.

Sometimes the little specks can discourage the final acceptance of the job. The lesson that I have learned here is to still be innovative and creative, but be on the alert for any little squiggly lines or spots of dust.

One thing that we produced was completed by the blend of digitizing and conventional optical systems. We had to reproduce a car for one of the posters. The only available art work was a screened reproduction of the car with unwanted lettering across part of the photo. We were instructed to remove the lettering and to replace it with a different slogan. We used the Sharp scanner, and placed it into the photoshop version using a Mac-

2 CI. Then we removed the old lettering with the Photoshop tools, replaced the background with the adjacent colors and density, eliminated the screen and finally produced an 8 1/2 x 11 image using Kodak's dye thermal printer, the 7700. This image was then copied with a conventional 4x5 camera. Then this new 4x5 image was placed into the omega enlarger, sized and positioned to fit the image on the new 8x10 internegative, and a duplicate transparency was exposed. The exposure was correct, the image fit properly on the layout, and after producing a 28 x 36 Duratrans poster, the entire poster looked great.

There was no evidence of a screen and the retouching was totally invisible. The production of the image in the scanner took about 45 minutes. The print from Kodak's 7700 took about 8 minutes.

My new dupe took one hour to process.

If we tried to make a print from the original art work by first copying it, than having it retouched, and re-copied, we would have compiled a generation loss.

The amount of time required for a retoucher to properly finish the job of removing the lettering would have taken many hours. So, for a blend of computer and optics, the job worked well.

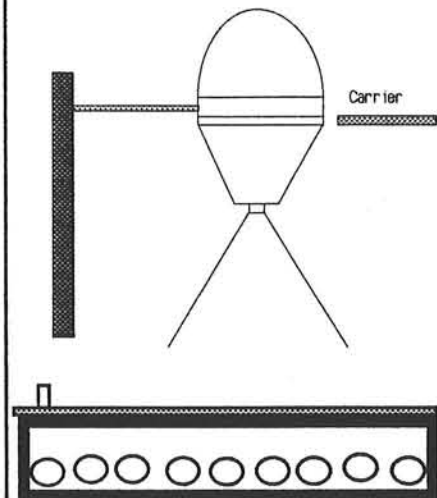
One tool that is desperately needed by the photo comp world is a back-lit easel. Why?

If you have ever had to place a small image into a background and produce a perfectly accurate silhouette you will understand the need for such a tool.

My method for years has been to choose the transparency that needs to be silhouetted, punch the film so that it will fit the pin system of my enlarger carrier.

I then will blow this image up to as large a size as possible.

This is where the back-lit easel comes in.



The easel consists of a box with fluorescent tubes lined up. A diffused sheet of Plexiglass, scored and drilled to make it a vacuum easel and a set of register pins and a matching paper punch, such as Condit's, or Kodak's matrix punch. This is all you need, so far.

The object here is to make as large an image on the easel as possible. I wouldn't hesitate to make it 20x24. Make an exposure on a large sheet of litho film. Process it in a very weak diluted developer so that instead of getting a contrasty black and white image, you will get a soft detailed image. Why use litho film?

Because it is coated on a polyester base and will not shrink, unless you dry the film in a baking oven. The next piece of equipment that you should already own is a large worktable consisting of a large light box. Set into this table is a set of register pins like the ones located on the back-lit vacuum easel.

Place the newly produced image on Kodalith film (or whatever) on the same pins. Also tape it to keep it from moving.

Then use a large sheet of Rubylith material. Punch it and lay it on the pins. Tape it so that it will not move.

Then carefully score all around the image, inside and out, with much care. You should be able to cut around little fingers and tiny bumps and lumps. When the entire image has been scored gently peel away the Rubylith "skin" from it's support base and reveal the silhouetted image. Now, place this new sheet of scored and peeled Rubylith

back on the back-lit easel, on the same registration pins that the Kodalith film had been exposed on.

Remove the image in the carrier and in the dark room environment replace it with a sheet of unexposed litho film, punched to fit the pins in the carrier.

Again, while in the darkroom environment, activate the vacuum easel, make sure that the carriers is placed back into the enlarger and locked, and then switch on the back-lit easel for the necessary exposure time.

What exposure time? Make a test and find out. When the correct time is given, process the sheet in contrasty developer such as Kodak's RT litho developer.

You will now be the proud owner of a very sharp and accurate silhouette mask for the image that had previously been in the carrier. This image can now be reversed so that it will surround the image accurately.

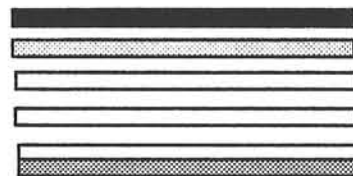
The main trick here is to make sure that all of the emulsions used to either hold back or burn in an image, be facing down against the films emulsion on the final easel or contact printer.

The tight fit will be as accurate as you can get.

In order to make a image reproduce with a softer edge, place a few sheets of clear film, and then a diffusion sheet of film between the final receiver sheet and the silhouette masks. This works whether you are using an enlarger or just working with a contact system.

The trick here is to not make a soft mask, which is impossible to reverse, but rather to use a sharp mask and diffuse it's use.

Here is an example of different sheets used in an enlarger.



The top sheet is the silhouette mask, then the diffusion sheet. The middle 3 sheets are clear, and the bottom sheet is the objective.

Make sure that the top silhouette mask is out of focus at the easels focus plane. This will, produce a soft edge without side effects.

The company I am currently working at as a trainer has a 4x5 enlarger with an 8x10 back-lit easel. It works fine. I still like the larger easel as it will eliminate many errors in finding the accurate edge.

When you go through this kind of work, shooting weddings and portraits seem

simple by comparison. That is, until you run into some of the problems associated with the wedding and portrait fields.

Most of my students and subscribers are interested in scenic photography. This seemingly simple kind of activity is fraught with all kinds of problems. If you shoot scenics you will understand how I feel.

One of my dear friends, Carl Junghans, a fantastic photographer, used to divulge his shooting secrets to me. For instance, he would scout an area for days until he knew the exact time of day, and month of the year, that the sun would be in the best position for him to capture the texture of a stone, or the back lighting of an Aspen tree.

The secret was patience. He used to visit the ocean area around La Jolla, California, and discovered by reading the weather charts from the Coast Guard that spring storms usually hit the area in a two week span and the winds would be blowing off shore.

He also knew that every 11th or 17th wave would be a big one, and would patiently wait for a big one to hit a rock formation that produced a grand splash. His timing was exact.

Making the print is quite important, of course, but

without the great image, we would only have an exercised futility.

The difference in working for yourself as a photographer that wants to exhibit his or her own work as opposed to a lab technician that must make prints to satisfy a stranger, is quite important.

I always had problems with seeing the transparency or print the same way as the client. Even in the same room with the same viewing systems, there would be a disagreement in the way it should be perceived.

It was for this reason that I built my own light source to carry with me whenever I went to a client. I wanted to make sure that we both saw the image the same way, even if we disagreed with the interpretation.

A few issues before this one, I wrote about the relatively new system used by the Litho separators for producing a proof. It is called an Iris print. The company called Nash Editions, in Los Angeles, has purchased a rather large Iris proof system and is making prints for individuals for display in galleries. I have not seen their work as yet, but I have seen the Iris print. It is great. It may not look as keen as a Cibachrome print, but it does have a certain amount of quality.

The Nash group can make a very large print on any kind of paper available, including watercolor paper.

Graham Nash of the musical group, Crosby, Stills, and Nash, is the owner and operator of this new company.

Most competent Cibachrome printers have recognized the importance of masking to make sure that the image they are trying to print will fit the contrast range of the paper.

Some of them have resorted to just making a mask, with resort to making it to the proper gamma, but rather just to a specific density. This may help, but is not the correct way to make a print. However, some of the printers on the west coast are great. They have good eyes and much taste.

In the meantime, I still have a few copies of my books on Photo Composition (which I plan to upgrade soon). and my video and book packages on Dye Transfer and Cibachrome. If you are interested and want a brochure on my services and activities contact me;

**Bob Pace**  
**2823 Amaryllis Court**  
**Green Valley, NV 89014**

**702- 896-2515**