

THE SUBMINIATURE TIMES

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Supporting 110, 16mm, 9.5mm, 8mm, 4mm, 1mm, Microdot, & Electronic Still Photography.

8MM



**WHEN YOU ABSOLUTELY POSITIVELY HAVE
TO COME BACK WITH A PICTURE.**

Still photography in the 8mm format is a challenge every step of the way: finding cameras, accessories, film, and processing.

Then why 8mm? First, there is portability. You can fit all three of the most popular cameras in your shirt pocket, together. This translates into somewhat of a technical challenge, and for some a handling problem as well. Longtime 8mm users tend to be inventive people whose dexterity is part of a normal routine: professional magicians, pianists, casino employees, etc.

For some people, small size relates to stealth, and the need to take a picture while preserving one's life..

It has long been possible mechanically to produce still smaller cameras, but it would be useless to introduce these devices to the general market if photographers with normal dexterity can't manipulate the controls.

8mm tends to be a good compromise between the 9.5mm Minox-compatibles and 4mm 'rollover' cameras which are reportedly impossible for the average person to use and maintain.

Another good reason for choosing 8mm would be the incredible saving in film cost. Here are some numbers:

You can get two 8mm x 20 exposure rolls including leader and trailer from an 8" length of 16mm film. You get 266 rolls from a 100' length, or 5,333 exposures for \$5 (b&w, slightly more for color.)

It's best to get a plastic bag for the unused film, and reserve a permanent space in the back of your refrigerator. You'll be looking at the box for a long time. If you shoot 20 exposures a week, every week rain or shine, your first roll of film will last 5 years.

Other good reasons for involvement with 8mm are unrelated to picture taking. As an investment, 8mm still cameras are better than blue chip stock. A Camera Lighter that originally sold for \$9.95 is worth \$1,000. And there's no reason to expect the price to stop climbing, after all, the camera is out of production.

8mm can also be a lot of fun. But you must have the mindset to deal with and solve each problem as it arises until you can produce work at the level of quality you need.

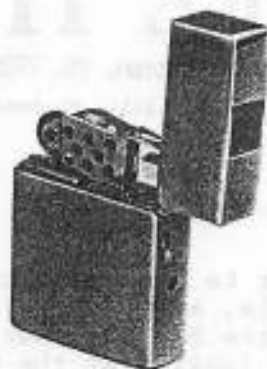
We'll look at the equipment, the joys and woes, and let you judge for yourself.



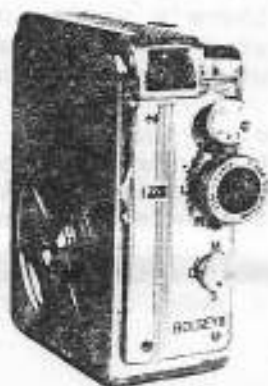
The first 8mm still camera available in quantity was the Camera 'A' produced by the Okada Optical Company, in 1950. It was sold in a presentation case which included glass filters, a close-up lens, two cable releases, and transparency mounting glass.

The Echo-8 was introduced in 1951, by the Suzuki Optical Works. Distribution and U.S. sales were handled by Silver Bells, Ltd., of Carmel, California.

The camera had an all steel body built into a case which resembled the popular Zippo lighter. The 3.5/15mm Echor Anastigmat could be stopped down to f/11. Shutter speeds were 1/50 and B. A filter kit included 2 yellow, 1 red, and 1 prox-ar closeup lens, all in a rotary dispenser. The close up lens was used at a distance of 8".



In 1955, the Suzuki Optical Works introduced the Camera Lighter, another Zippo look alike. At \$9.95 this camera was \$10 cheaper and lower in output quality than the Echo-8. But it worked. It had a single element 8/15mm lens. The shutter speeds were 1/50 and B.



Bolsey 8



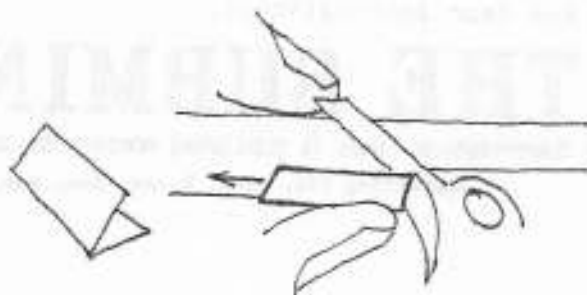
Bolsey Uniset

The Bolsey-8 was introduced in 1956. This was an 8mm movie camera capable of taking still frames. Very thin cassettes held preslit 8mm film. A lower priced, less adaptable model was called the Bolsey Uniset.

2-MINUTE FILM SPLITTER

Minori Pan ASA 100 was available for the Camera 'A' and the two lighter-cameras. Fresh film hasn't been available for these cameras in decades. If you find a loaded cassette consider the film worthless. You'll have to split your own. In the '50s the Baia Film Splitter was available from movie supply houses for \$5.45. It's a collectors item now, but it and the little splitter that was made for the Echo-8 are still available.

You can get started immediately by folding a 3" length of cardboard to form a cutting mask. It takes a bit of practice to use properly, but certainly no more than a minute. And you can begin splitting film down to 8mm in a single evening.



Make the cutting mask from light single weight cardboard. Practice trimming strips of paper until you can cut an 8mm x 12" length with your eyes closed.

The idea is to keep constant pressure with your forefinger and thumb, while you gently slide the mask away from you. Tip: keep pressure on the uncut portion of the film as you slide the mask along. This presents a consistent width to your scissors. When you finish, immediately load the pristine film into the cassette. All this is done in total darkness.

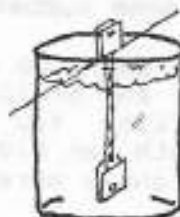
PROCESSING

A good way to start learning 8mm is by processing the film in print developing trays. The low center of gravity will keep the film on its edge. The lengths are so short, they won't curl all the way around to touch the other end, unless the film has been coiled in the cassette for a long time.

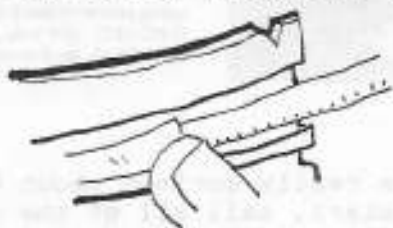


Because of coiling problems, don't leave film in the cassette any longer than necessary. Primary concerns with tray processing are to provide continuous agitation, and consistent timing. Dektol diluted 1:1 for 45 seconds at room temperature doesn't leave much room for processing variations.

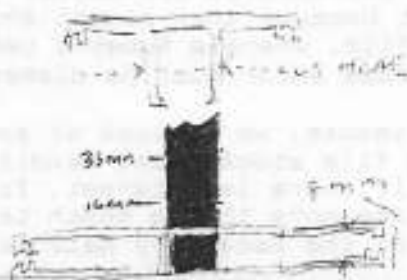
A better method is to use a wide mouth jar as a 'deep tank'. This requires a large volume of developer, but turns out to be very economical because the developer lasts a long long time. This method produces the least handling abrasion.



Another good method is to use a Minox developing tank. Remove the button that is used to hold prepunched film. Put a small piece of adhesive tape on the back of your knuckle. Wind the film onto the reel, emulsion side out, and attach the trailing end to the track with the tape.



To produce high quality work in greater volume than the one-at-a-time Minox tank, obtain a developing tank which has adjustable plastic reels. (See Porter's Catalog 1-800-553-2001)



The bottom part of the reel track is cemented to a black center post which forms part of the light trap. The upper track has flexible flanges which fit into grooves on the center post for your choice of film size. The lowest groove is for 16mm film (110). Cut off the flanges, and just enough of the remaining hub material until the two reels combined will accept 8mm film. Tip: Aim for 8.5mm or 9mm. This will let you load four 20-exposure rolls at a time. An exact fit will cinch when wet or heavily loaded.

The weight of the top reel will usually keep the film in place during processing, provided you do not agitate too vigorously. It may do well to practice by loading only one roll at a time. Put a few glass marbles on top of the reel before closing the tank if you find that the top doesn't stay down.

DEVELOPERS

At first only highly dilute, high acutance developers should be considered for 8mm photography. Wasn't DEKTOL mentioned a few lines back? Yes, but that's an emergency tactic when you've only got a minute to get the whole job done.

Consider FG-7 for high speed films, Agfa Rodinal for the low speed emulsions. Rodinal has the advantages of being extremely economical, portable, and the resulting images are second in sharpness only to glycin developers.

Develop microfilms under ISO 100 in Rodinal diluted 1:200 for 17 minutes at 75°F. Films rated 100 to 1000 can use Rodinal diluted 1:100 for 30 mins. Beyond ISO 1000, Rodinal is too grainy, and you may prefer Acufine if you really need to reach into the darkness.

Whatever you choose, you can't be serious about 8mm without a handheld 30X microscope for examining your negatives (the Micronta from Radio Shack), and a water filter. We don't care if your tap water is coming from Lourdes Fountain save yourself some headaches, get a filter. Installing one on the tap is overkill. Keep it simple. Little tabletop models cost \$19.95.

ENLARGING

Two important parts of the enlarging process are acquisition/preparation of materials, and understanding the physics of projection.

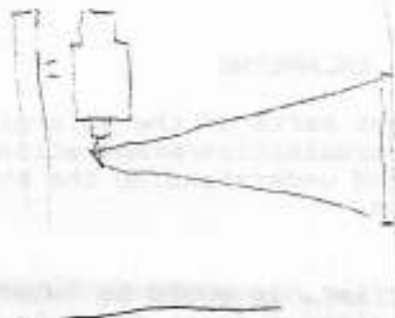
At the very least you will need a new negative carrier. It would be helpful if you also obtained a short focal length lens, and readjusted your enlarger condensers, but there's a way around everything. For example:

1. It takes about fifteen minutes using a steel rule and a razor blade to make a serviceable 8mm negative carrier, no matter what size film your current enlarger uses. Fold an index card to fit your current carrier, then cut out a live area for 8mm negatives. Some people find it easier to use if the live area is wider than the negative. That is, cut a 7 x 7mm hole for 6 x 6mm negatives. The extra space will eliminate the need to position the film in an exact spot to print an entire frame edge to edge. Extra light spilling around the negative will degrade print quality during long exposures, so 'dodging out' unwanted light becomes an important part of the process. It takes experience to know just how much. That's why 8mm isn't a learner's format. Too many variables.

2. It may be impossible to find an enlarging lens shorter than 25mm. C mount movie camera lenses will work, and the 17mm lenses can always be found in camera show 'pickem' bins.

Initially most workers are tempted to simply turn the enlarger around on its baseboard to make a print. This method is fast, and works fine for small prints. But for large prints, with the enlarger head at the top of the post it will prove impossible. You'll need arms like an orangutan to reach the focusing knob and squint through the enlarging magnifier at the same time.

An easier method is to use your current enlarging lens and condensers. Mount a first surface mirror at a 45° angle under the lens, then project your images to a nearby wall. Hold the paper to the wall with double sided tape. It helps if you put your hands on the tape a few times to remove some of the tackiness, or you can tear the paper occasionally.



3. Your darkroom has to be pitch black. And your negatives should be very thin. An 'average' 8 x 10" print requires a four minute printing time with the enlarging lens set at f/5.6. If your negatives are so dense that you can't read a newspaper beneath them, enlarging times will be glacial. Densities that are considered normal for 2-1/4 negatives take about fifteen minutes, during which time the enlarger must be solidly anchored, and you can't walk around the darkroom unless it has a cement floor.

The processing tank used for 8mm film shouldn't be used for any other format. Rinse, process, and wash out processing materials only with filtered or distilled water. Store everything upside down and covered when not in use.

All this may sound like nit picking, but each step in the process is an opportunity to degrade the final image. We can take corrective steps, or hold problems to a minimum, but we can't add enhancers.



Adjustable Daylight Tank

Adjustable daylight tank develops all roll films from 16mm to 620. Patented Speed-O-Matic reel loads itself in 1/3 the usual time. Capacity: 8 to 16 oz. of solution. Includes agitator with calibrated thermometer.

22-0329 Yankee Adjustable Film Developing tank with reel & thermometer. (RFC-15T). (SW D-8) \$8.95 or \$8.25 ea. for 2 or more.

If you're really curious about 8mm and eager to start, call all of the camera dealers listed in the popular photo magazines. Let them know you're "in the market" for an 8mm still camera. Meantime, get an inexpensive 8mm movie camera and go through the whole process: buy film, split it, process it, make prints. The experience is an education unto itself. TIP Regular 8mm cameras are better for this project because they accept short lengths of film, whereas Super-8 cameras use a cartridge which must be dismantled.

In future issues, we'll look at enlarged prints, 8mm film stock, and handling technique, if there is interest. It shouldn't take more than a month to assemble all of the necessary materials.

One of the best articles on producing prints and slides from 8mm film appeared in "Popular Photography" 11/80. We reproduce it with permission on the following pages.

THE SUBMINIATURE TIMES QUICKFINDER 8/89

Canon 110-ED F2/26.....	\$90	CCG
Echo-8.....	Call	H
GaMi.....	299	T
Hanimex VXL-110.....	15	CCG
ITT binocam.....	149	S
Mec-16 SB w/case.....	80	CCG
Minolta-16.....	39	C
" -16 EE.....	39	T
" -16 P.....	20	CCG
" -16 QT black.....	69	T
" -16 QT w/case.....	59	C
" -110 Mk II.....	159	S
Minox LX Gold.....	1795	S
" 110 S.....	89	C
" 110 S w/case.....	111	CCG
Rollei-A110.....	229	S
Rollei-16 w/flash.....	89	T

C	Cameta's	(516) 691-1190
CCG	Columbus Camera Group	(614) 267-0686
E	Eddie Tillie	(516) 599-6013
H	Hansen	(808) 595-6425
S	Ron Speicher	(516) 868-6411
T	Travis	(914) 478-0931

Movie Methods



By Leendert Drukker

There's a still hidden in many a super 8 frame; here's a variety of ways to print them

In the February '80 issue, this column dealt with various ways of filming off slides. This time around, I'll take up the very reverse: how you can make a still picture from a super 8 frame. Now why would anybody want to do that, you might well ask. Well, plain sentiment is one reason: sometimes it is the only shot around. Another: there can be some very effective uses for still images within a film.

For example, you want to make stills from frames that epitomize your movies, to really underline specific scenes, perhaps as back-grounds for opening titles. In this instance, the process makes a perfect circle: you make a still from a super 8 frame and then film it again.

Obviously, you have to expect a definite change in such characteristics as sharpness, color quality, and contrast—all loss of quality, frankly. However, you can make the best of a bad situation by process printing—for example, by going for high contrast, and just letting all gradation drop out. There are several manuals dealing with such effects: you might start with Kodak's *Creative Darkroom Techniques*, *The Ninth Here's How*, and *The Eleventh Here's How*.

Another—prosaic but utilitarian—reason for making stills is to pull a film together from odds and ends. For /continued on page 88



Two top super 8 frames were copied by projecting film, running at 18 fps, on white cardboard; images were shot at 1/30 sec. Top frame was snapped on Ektachrome 400, daylight-balanced; result is warm. Center copy, on Kodacolor II, turned out somewhat chilly. Frame of Vivienne Mancovic was "enlarged" right on Polacolor 2 4x5 sheet film in holder.

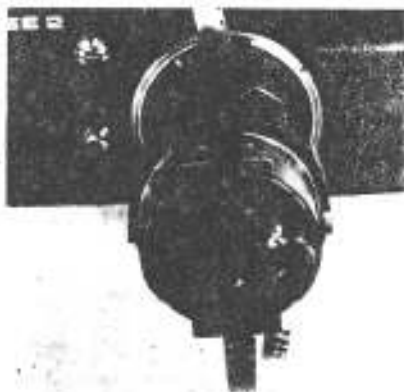
example, you have shot a couple of dozen feet of various events: a birthday party, a vacation trip, a friend's wedding—you name it. Print the first frame of each, mount it in a photo album, and use it as a "memory lane": as your subject peruses the album, each photo kicks off the footage. In other words, it's an editing ploy. No doubt once you have the copying technique down, you'll find more imaginative uses for it.

My own has been primarily practical: to copy frames to illustrate articles. For example, I printed frames from Dwight Little's "Americano" to give the gist of his film ("Movie Methods," November, 1979). Actually, that was easy because his film was shot in 16-mm and I copied the frames in black-and-white. Shooting off super 8 will give you a lot more grain and a lot less definition; and when copying in color, you'd better not be a purist.

When I first started copying film frames I used the Testrite Cinfalarger. This device looks like a plastic, rather snout-like box camera, and loads with 120 roll film. It comes in four different models: for copying 35-mm slides, regular 8, 16-mm and, what's more to the point, super 8 (\$41.95).

You place your movie film in front of its lens, atop its template, and clamp a hinged pressure plate over it. Using a No. 2 floodlamp overhead, you make a time exposure; sliding a lever opens the simple guillotine-like shutter blade; a slight pressure releases a spring to snap it shut. While the instructions give time-exposure data for a No. 2 photo-flood and various color and black-and-white film speeds, you could use daylight or even electronic flash as light sources. Trouble is, with these you

Fujica Macrocinemacopy comes in two models, to fit either its screw-mount or X-bayonet SLRs, instead of lens. Templates accommodate both super 8 and 16-mm film.





The Deluxe Darkroom Slide Copier works with super 8 too. The frame in the enlarger is aimed by a 45-degree mirror straight into your SLR, without its lens.

would have to experiment, as this simple device has no through-the-lens metering. You get eight 72x56-mm shots from super 8 per roll.

Another frame-copying device made by Fuji specifically for use with its 35-mm SLRs is the Fujica Macrocincope. It comes in two different versions: model X (\$65) to fit on its Fujica X bayonet-mount cameras, and a screw-mount (\$55) for its ST and AZ reflex cameras. Both fit directly onto the camera body, replacing the lens. They adapt and have templates for copying both super 8 and 16-mm frames. The big advantage of this system is that you can use the camera's built-in meter. The screw-mount version need not be restricted to Fujica models: it can be used with any of the Pentax/Praktica M-42 threaded bodies around.

Just out is a Deluxe Darkroom Slide Copier Kit (\$39.95) that takes any SLR body that has its tripod socket in line with its lens. Supplied by New Ideas, Inc., it consists of a base for your camera, with a front-surfaced mirror in front, held upward at a 45-degree angle.

With an enlarger you can project your super 8 frame down and into the camera body, without lens. Crop however you like, and use the camera's through-the-lens meter to measure the required exposure.

Since the enlarger I was using had the common No. 211 lamp with a color temperature of approximately 2,950 K, I tried Ektachrome 160, balanced for 3,200 tungsten. Colors turned out okay, but it was all too easy to go blue with the slightest underexposure. On the other hand, Kodachrome II gave me the most delightful results.

Surprisingly, I haven't found that a perfect match in color temperature and light source gives the best copies. It's all too easy to go blue, and it's really safer to go in the other direction and use a somewhat warm light for the type of film. Of course, once you have developed the finesse with your equipment setup, you can fine-tune with filters.

Movie Methods

continued from page 88

But the eye seems to be quite tolerant to an excess of warmth.

For the benefit of the impatient, I've tried printing super 8 frames by projecting them straight onto 4x5 sheet films of Polaroid 2. You need the Polaroid 4x5 Land Film Holder (\$122) and—to be practical about it—an enlarger with a short focal-length lens. I used a 30-mm, but I'm sure you could manage with a 35-mm one.

For focusing and framing, I slip a sheet of white paper—more like thin cardboard—into the holder and place it under the enlarger. To keep the holder level, I cut the shape of its bottom protrusion into the sheet film's box, using a single-edged blade. This takes about a minute.

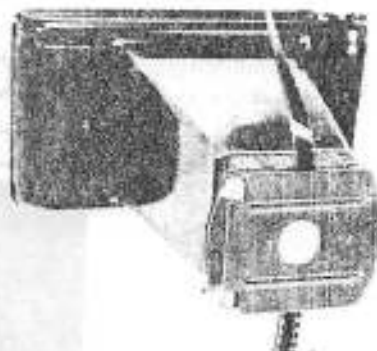
Double-sided tape on its bottom keeps the box securely in place under the enlarger. It is now easy to focus on the white sheet in the holder, then replace it with the sheet film. In the dark, pull back the sheet's envelope, return the holder to the jig, expose the sheet, and process it as usual. My results were a trifle on the chilly side, but not bad and certainly sharp.

By the way, your enlarger probably doesn't have a negative holder for super 8, but the 110 size did very nicely for me. It also allowed me to position the frame, rather than shift the jig around. My exposures ran consistently at one second f/4.

If you have a Kodak Colorburst 100 or Handle, Polaroid OneStep or any other SX-70 model, you can also project directly onto the film and after exposure process it in the camera. The technique for this was described by Steve Kamiensky in the February '80 issue of POP PHOTO ("Instant-Color Dreams," page 101).

One reminder: You can't expect your copy to be sharper than the original, and a frame magnifier won't tell you which frame will serve best. Look for edge definition. Also, when printing super 8 in any of these ways, guard against scratching your film or trailing it all over the place, gathering up dust. It is easy to do so. Keep the film on reels, feed, and take-up, preferably locked on an editor.

As said before, I very often have to copy frames from contributors' films to illustrate their articles. To avoid any risk of damage, one of my favorite ways is to project them on a sheet of white cardboard, taped to the wall, and shot with a 35-mm SLR as the film runs



Testrite's Cinélarger uses 120 roll film, holds super 8 clamped down on template, has simple shutter for time exposure. Floodlamp overhead provides the light.

through. I'll grant you that the results are not as sharp as the frame-by-frame ways described earlier, but when you are dealing with someone's original, safety counts uppermost.

You're probably wondering why I don't use the projector's "still" position to copy frames. The reason is that most models will drop down a heat filter or disk that not only discolors the image but also vignettes. If that's the case, project as close to 15 fps as possible—probably 18 fps—and shoot at 1/30 sec: at 1/15 sec you are apt to get a double image. In any case, forget about action: fast motion is actually a blur on consecutive frames. It may not look like that when you run the film normally, but you'll find it out when you copy individual frames.

For exposure, turn the roomlight off and take a light reading of the projected film, close enough to exclude the edges. Tripod-mount the camera as close to the projector's lens axis as possible to minimize keystone. Crop into the image if you don't want to get a wedged frame format.

Most of today's super 8 projectors use a lamp with a color temperature of about 3,400 K—close to Type A. Kodachrome 64 might seem a logical choice, but its speed may be a problem, although you can always increase image brilliance by projecting a smaller image. Kodachrome II has given me rather cold results; Ektachrome 400, as you would expect from its daylight-color balance, turns out pronouncedly warm, but you may well like it. You can see a sample on the opening page of this column.

I hope that by touching on these various approaches I haven't made copying seem more complex than it is. All you need to do is pick one of them, and you'll find that there's really nothing to it at all.