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THE SUBMINIATURE TIMES

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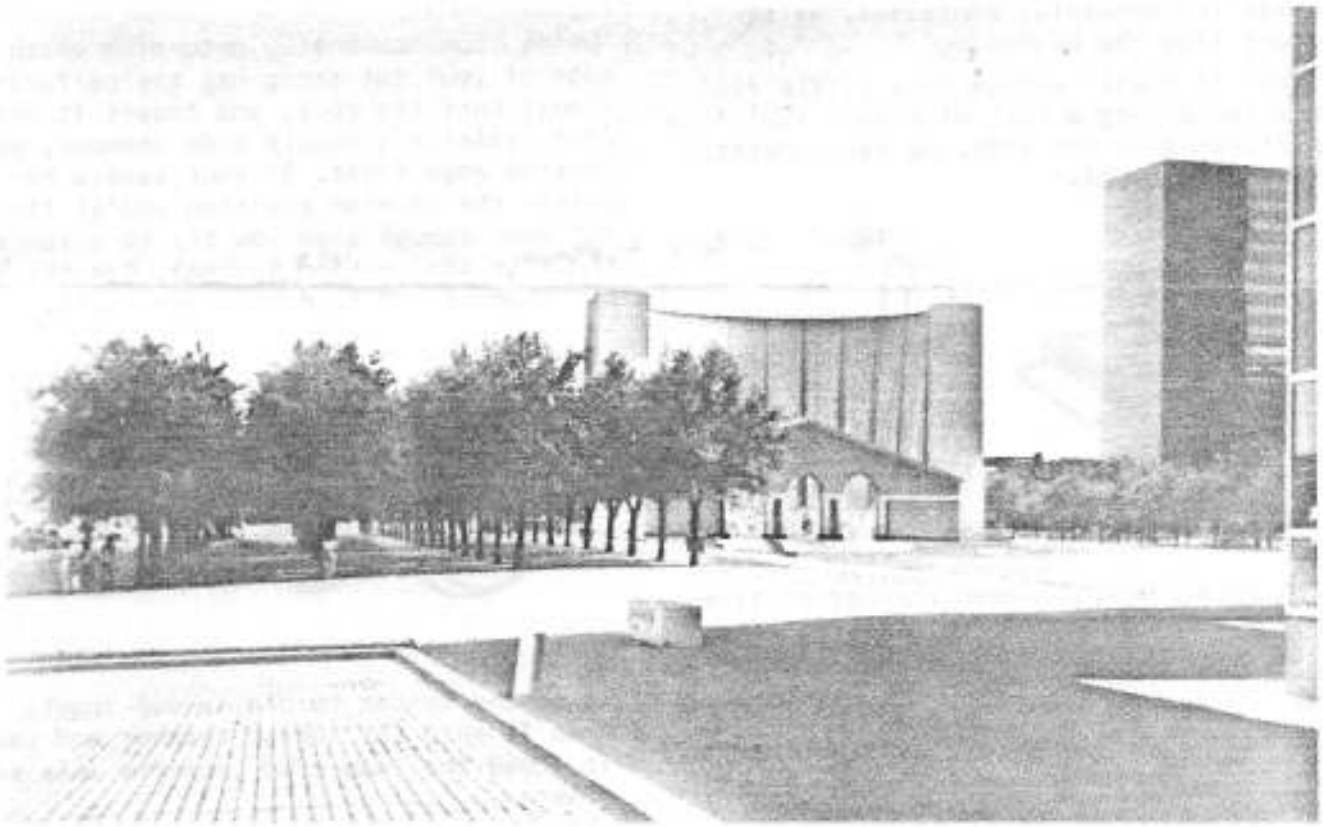
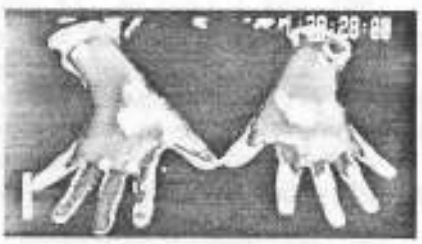
Supporting 110, 17.5mm, 16mm, 9.5mm, 8mm, 4mm, 1mm, Microdot, and Electronic Still Photography.



Camera: Minox EC
Film: Filmdex S-L (see text)



NEW INFRARED for special applications including medical diagnosis. Contact Inframetrics Inc. 16 Esquire Rd., North Billerica, MA 01862. Tel: 508/670-5555
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Fax: 358 200 740 760

OLDIES A new subscriber in the Kansas City, MO area owns a Tynar. We're hoping he'll send us a picture of the camera.

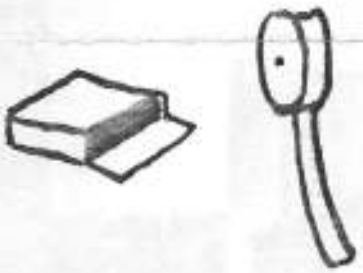
MICROFILM UPDATE: THE SINGLE PERFS

For lack of space in issue #55 we gave only the name and phone number of Bob Slattery, at Filmdex, who has a selection of panchromatic 16mm microfilms. This worked fine for our readers who can tick off their favorite film's specification number faster than their wife's birthdate, but novices want to know about camera compatibility, ISO numbers, grain, etc., which can take up a lot of a suppliers time.(A normal order is a case. A one roll sale is a favor.)

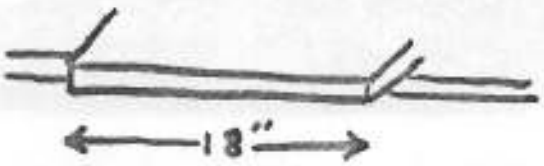
Duplicating microfilms aren't rated the same as general purpose emulsions. for a basic primer on the popular Kodak Emulsion 1461 please see newsletter issue #33.

Mr. Slattery's single perforated 16mm emulsions are called S-L and D-L. If you own a Rollei-16 subminiature, or respool 110 cassettes and you are eager to get started, rate S-L at E.I. 32 in daylight, 25 tungsten. That is, set your camera at f/5.6 @ 1/250 on a normal sunny day. You could rate D-L at 100D, 80T, but this would miss most of the versatility of these two wonderful emulsions. We'll start from the beginning.

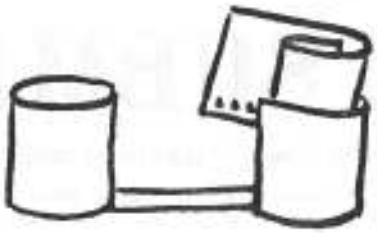
Your film will arrive in a little flat box containing a roll of 16mm x 100' film perforated on one side, no data sheets, no instructions.



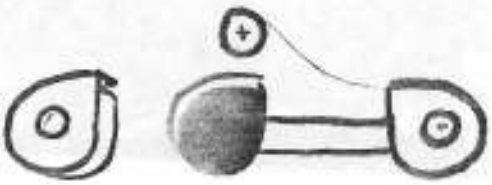
In total darkness open the box of film, cut off six inches or so. This is leader.



Use any handy means to measure off a length. We use an 18" enlarger baseboard which after processing produces at least 20 exposures with a 2½" leader. Cut off this piece, put the bulk roll back in the box and close the box tightly.



Using your thumbnail, determine which edge of your cut strip has the perforations. Curl the roll, and insert it into your cassette's supply side chamber, perforated edge first. If your camera requires the reverse position you'll find out soon enough when you try to advance the film and nothing happens. Cap the supply chamber and turn on a dim light.



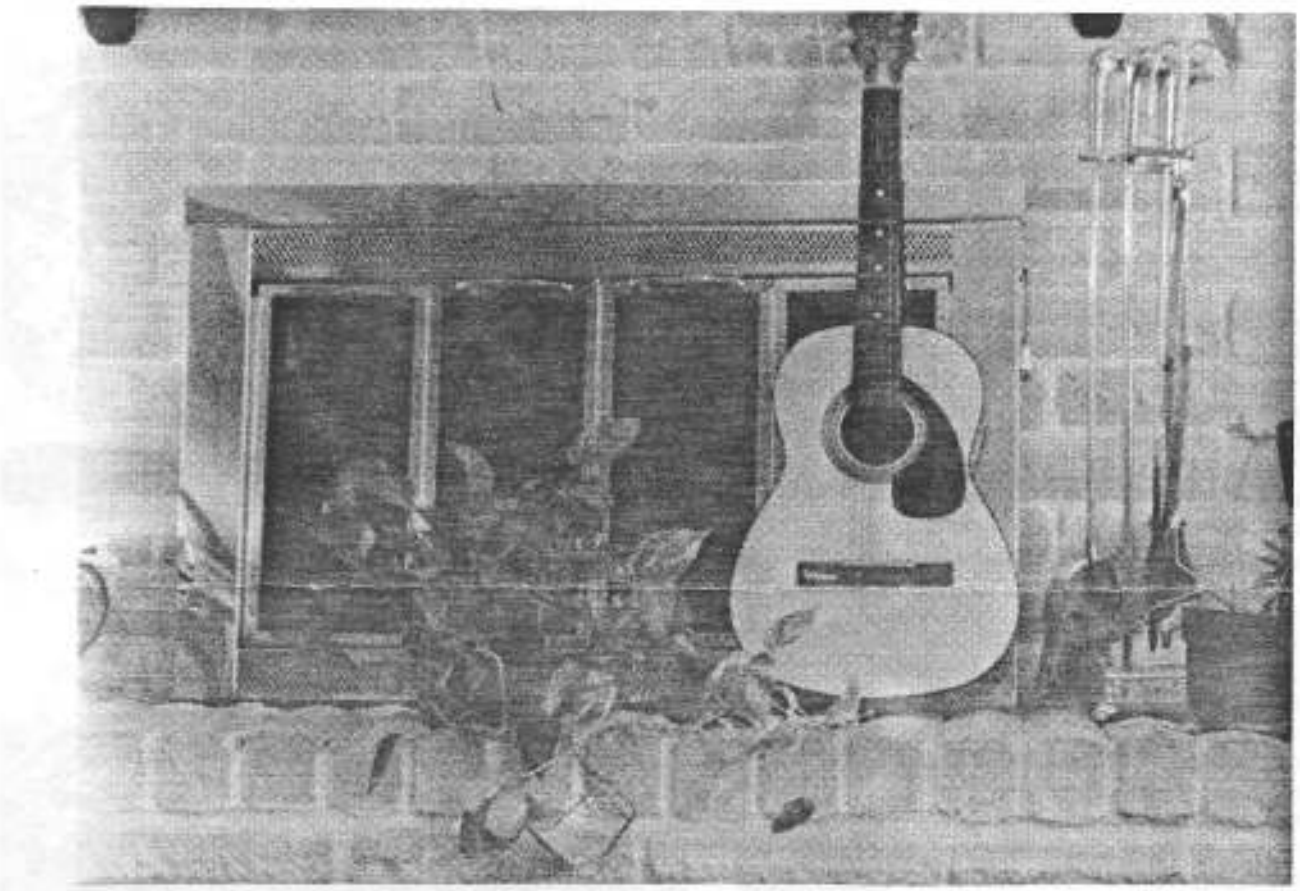
Tape the leader to the takeup spool. drop it into the takeup chamber and cap it. Load the completed cassette into your camera.

If you make a series of bracketed exposures from E.I. 12 to 200 you'll find that S-L film will produce an image at every setting!

For commercial processing stay with E.I. 32 daylight and tungsten. If you process your own film use E.I. 200 for copying and E.I. 32 with 20% reduced processing for images with a "normal" contrast range. The word normal is in quotes here because this is still a copying film. Should you photograph your friends on a very bright sunny day, the tonal range will be short. Wait till a cloud passes overhead, or use 'open shade' and the results will be magnificent.

GRAIN?

S-L is comparable in grain and resolution to Eastman's Tech Pan, or Emulsion 1461. It's the best you can buy in a single perforated emulsion. The spec' number for S-L is 1102-0009. It costs only $5.64 per 100' which works out to 8¢ per 20 exposures each time you load a cassete.



Camera: Mamiya-16 Auto
Film: Filmdex D-L (see text)

Exposures: E.I. 100, 200, 400, 800, 1600, 3200, 6400

Advanced darkroom workers who like to make huge enlargements or need to pack a lot of data into each frame should use a thin ultra high resolution developer. Rodinal diluted 1:200 for 12 mins. @ 80°F. produces a gamma .7. For copying go the reverse route and use E.I.200 and Rodinal 1:200 15 mins. @ 80°F. If you use time-temp processing charts, the bottom of our low contrast line is 18 mins @ 68°F. The bottom of our high contrast line is 21 mins. @ 68°F.

D-L is a whole lot faster but grainier. Choose a developer with some sodium sulfite. Processed normally it produces lower contrast at E.I. 100 than S-L. For best results extend the developing time of your test roll. Edwal FG-7 diluted 1:15 for 10 minutes @ 80°F works well. This produces a printable strip of negatives from E.I. 100 to 1000 with enough of an image peeking through at E.I. 6400 to tell you that if you want to try a little warm HC-110 Dil. B, you could go for some really elevated film speeds.

Normally when you have to get up that high you'd reach for T-Max or Agfa Pan 250. But T-Max is expensive, because it has to be split from 35mm cassettes, and you can't accidentally cinch Pan 250. Movie films will scratch like crazy if you mistreat them. Whereas S-L and D-L are tough as nylon.

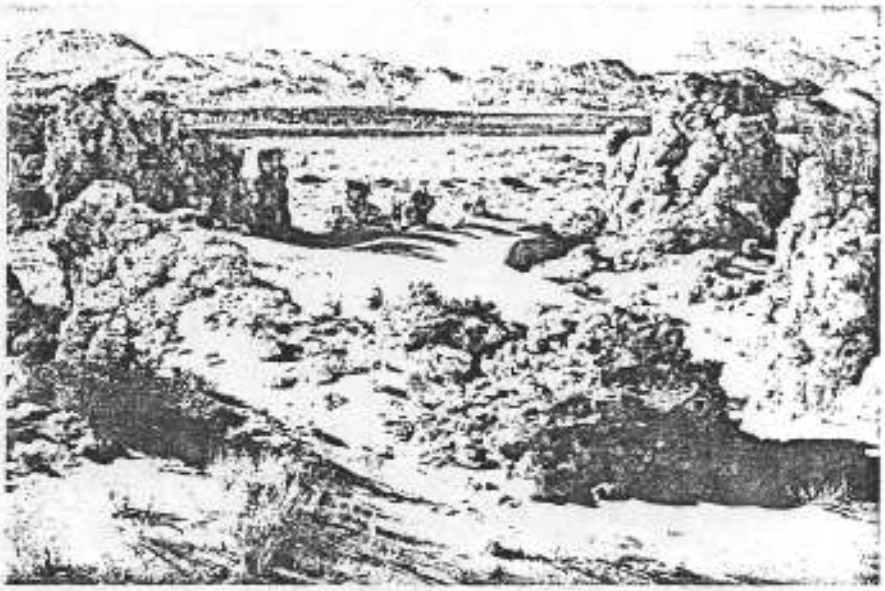
The spec' number for D-L is 1101-0010. A 16mm x 100' roll costs $13.25, or 20¢ apiece for each of the 66 cassettes you'll be able to load.

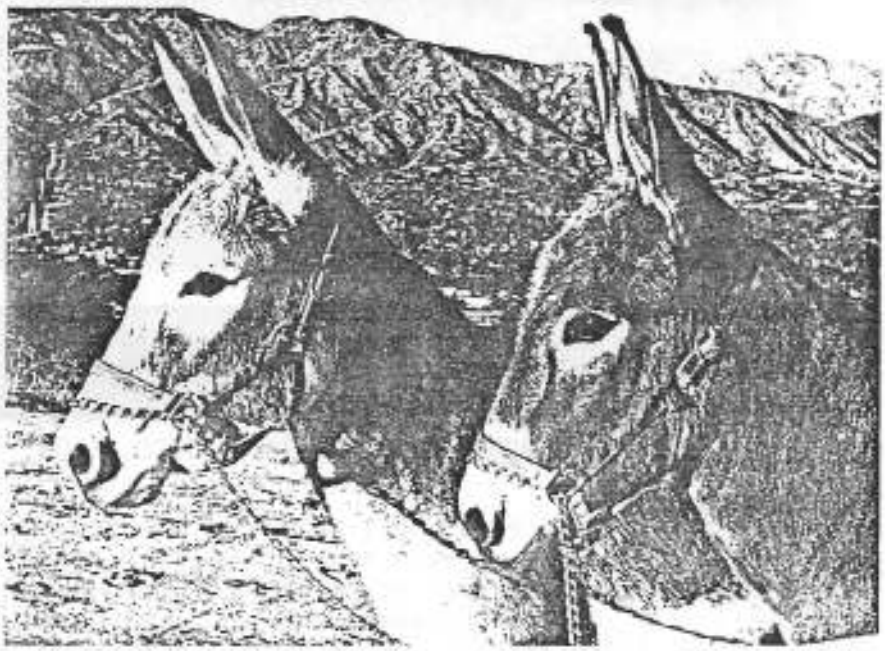
S-L SOLVES A MINOX PROBLEM

We'd been searching for an ultra fine grain Minox film to use at E.I. 32 Our little homemade film splitter (newsletter #8) doesn't handle the thin emulsions like Fuji HS-U very well, and Plus-X seems to pick up very fine scratches in our Minox EC. Filmdex S-L works like a charm. Contact: Bob Slattery, Filmdex Inc., Centreville, VA (703) 631-0600.

"Sub-Mini The Forgotten Format" (Part two) Submitted by Paul Price, Downers Grove, IL.

Top right: High 'n' Dry Tufa, Mono Lake, California; Tech Pan, Technidol LC (Tessina).
Center: Alfie & Taffei; Tessina, Panatomic-X, Ethol TEC.
Bottom: Rollei 16s, open configuration, on Minox tripod, with measuring neck chain, bayonet filters, flash unit, film cassette, and wide-angle and telephoto Mutar lenses.





Film loading could hardly be simpler. Just drop in the little double-sided cassette and close the camera, no threading involved. Film advance and shutter cocking are via a push-pull closing and opening of the camera.

Although the current accessory list has dwindled to little more than the bare essentials, earlier Minox fans had an impressive array of adult toys to choose from: camera filters for color or B&W film, electronic flash unit, copy stand, auto focus slide projector, an enlarger, a clever tripod, even a microfilm reader. The only major piece of exotica still currently available is a binocular clamp, enabling you to shoot through one half of a pair of binoculars, the quality of the results depending upon the ovality of the binoculars and the user's degree of success in steadying the highly magnified image.

Most Minoxes guess-focus down to 8 inches. Many feature a parallax-compensating viewfinder and beads on the camera safety chain corresponding to the camera's marked distances aid in close focusing.

Over the years, there have been a multitude of marvelous minis. The Minox, though, has maintained its solid position of preeminence in the field in the hearts of most aficionados. In terms of size, weight, precision, finish, accessories, simplicity of use and factory support, it has had precious little competition. It is sad to see this classic instrument brought down by the realities of East-West economics.

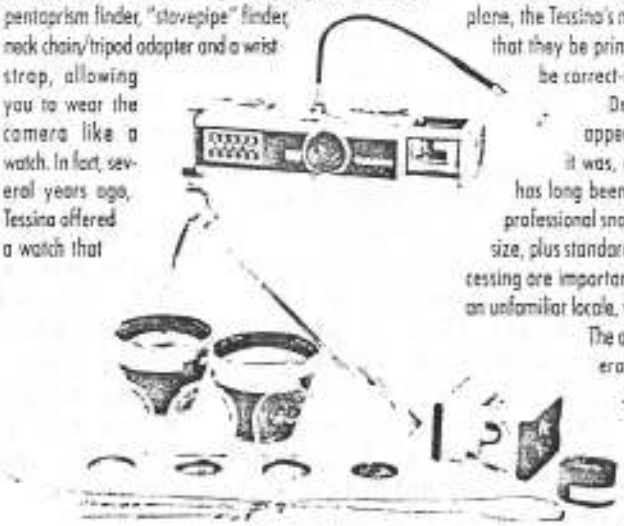
A close second in my submini affections is the Tessina. A product of Concava S.A., of Lugano, Switzerland, the Tessina has been around for 30 years. The workmanship is what one would expect from a maker of watch parts.

Indeed, you wind the Tessina like a watch, due to the fact that film advance is via a built-in spring motor. During film advance the camera emits a high-pitched squeak akin to a goosed field mouse. For situations where this might prove disadvantageous, the Tessina is available with nylon gears, or no motor at all.

Unusual in design, to say the least, it takes some doing to convince yourself that the Tessina is really a twin-lens reflex. Looking at the camera from the front, the left lens is the viewing lens. A mirror reflects the image up to a ground glass screen in normal TLR fashion. Another mirror behind the taking lens, on the right, reflects the image downward onto the film, which lies on the bottom of the camera body, facing up.

This unique configuration allows the Tessina to use 35mm film! Although the image size is actually 14x21mm, easily the largest of the submini formats. The film must also be loaded into Tessina cassettes, which are miniature versions of standard 35mm cassettes. This is a simple, total-daylight operation using Tessina's little daylight loader. It's a real plus to be able to use any available 35mm film!

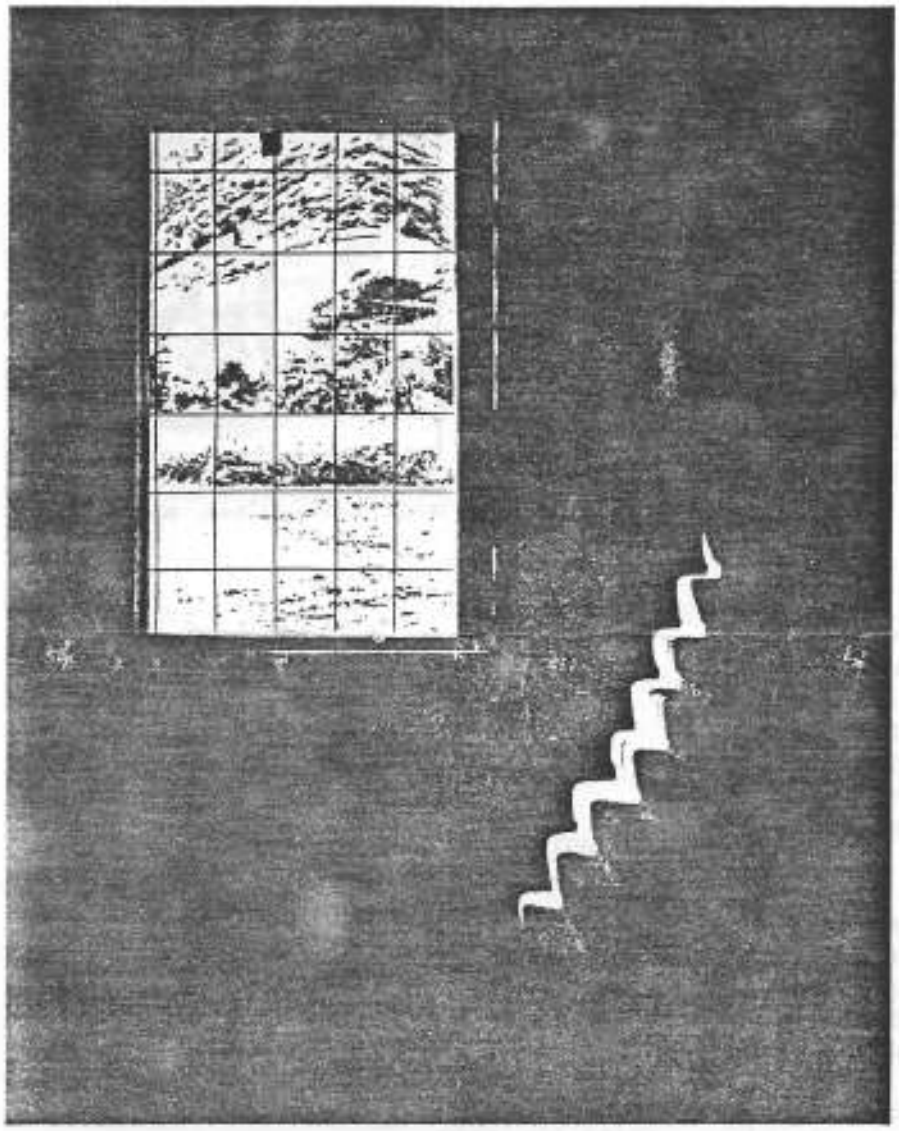
The Tessina boasts quite a respectable array of accessories. These include filters, flash, exposure meter, pentaprism finder, "stovepipe" finder, neck chain/tripod adapter and a wrist strap, allowing you to wear the camera like a watch. In fact, several years ago, Tessina offered a watch that slid into the accessory shoe!



Due to the mirror between the lens and the film plane, the Tessina's negatives are "flipped," requiring that they be printed emulsion side up in order to be correct-reading.

Despite the frequency of the Minox appearing in countless spy movies, it was, and is, actually the Tessina that has long been held in the greatest favor with professional snoops. Its attributes of larger image size, plus standard film availability and easier processing are important considerations when you're in an unfamiliar locale, whether you are a spy or a tourist.

The other current choice in submini cameras are the various models of the Japanese Acmel. Rather Minoxish in configuration, but without the push-pull film advance, there are three models to choose from. The tiny "M" is only 65mm long, weighing a mere



Left : Patterns; Tessina, Tech Pan, Technidol LC.
Below: Minox LX, closed, with film cassette and Minox daylight developing tank.

36 grams! The "MX," at 126mm long and 65 grams, adds a built-in electronic flash. The latest model, the "IR," is an MX with a flash that emits only infrared light. This, in conjunction with infrared film (available from MicroTec Industries; more on them later), allows for photography in total darkness without flash. How you frame the picture in total darkness is your problem!

These three products from Asanuma & Co., Ltd., of Tokyo, all use Minox film, have fixed-focus lenses with an aperture range of f/3.8 to f/11 and a single shutter speed of 1/200 sec.

Okay. Now that you've told your kid that he'll have to defer college until next year because you just blew two grand on a gold-plated Minox LX and you're standing there beaming away, holding your first itty-bitty cassette of exposed Minox film in your upturned sweaty palm, what next?

Well, you basically have two choices: Develop and print the film yourself, or send it out for commercial processing. If you choose to send it out, then it's imperative that you use a finisher capable of providing the careful handling necessary to produce quality results from jelly bean negatives.

Minox users have two major choices: Minox Labs in New Hyde Park, New York, and MicroTec Industries in San Diego, California.

All other manner of submini devotees will find a home with the aforementioned MicroTec Industries. Anyone who owns a fine but long discontinued submini camera owes Seth Moore a debt of gratitude. Such orphans as GoMi 16, Minicord, MEC, Rollei 16, etc., now have a source of film and quality, reasonably priced processing.

You must, however, with the exceptions of Minox and Minolta, provide your own cassettes for MicroTec to reload. They can supply 36 (!) different emulsions for your Minox, including Tech Pan, T-Max, XP-1 and Ektar 25 and are the only source for the infrared film used with the previously mentioned Acmel IR camera (which they also distribute).

The only popular film not on their extensive menu is Kodachrome, due to the complexities of the process. Normal sources for Kodachrome processing won't accept the short lengths of film used in submini cameras. In theory at least, users of 16mm format subminis could get short lengths of 16mm Kodachrome processed at a professional motion picture lab, but the cost would be prohibitive for most people.

Those of us who derive as much pleasure from processing and printing our own negs as we do from shooting them will want to explore other avenues.

The two choices involved are fairly straightforward: obtain specialized equipment, or adapt what you already have. Using an enlarger designed specifically for submini negs is the preferred route to take if you have the budget and the room for a second enlarger.

Let's take the Minox model II enlarger, for example. Its four condensers are perfectly matched to the 15mm enlarging lens. This means no wasted light. The negative carrier holds the film in a slightly curved position, also perfectly matching the lens. Details such as these, in a combination with a super-rigid head and column, add up to maximum format effectiveness.

Another first-class submini enlarger of the highest precision was the GoMi 16. It will accommodate any 16mm format, plus the smaller Minox negs.

Minicord made the Minilux, a cute little enlarger that stored away in the same wooden box used for its baseboard. It was, however, only designed to produce 3-1/8x3-1/8-inch prints, although it could be turned sideways for floor or table projection.

Unfortunately, all of the above enlargers are long discontinued. They occasionally turn up in the pages of *Shutterbug*, but they sell quickly when they do.

You can adapt larger-format enlargers for submini work. Good 35mm format units do quite well in this regard with the addition of the appropriate negative carrier and short focal length lens (approximately 25mm). And 4x5 enlargers can be pressed into service too, but it's rather a case of feeding gum drops to an alligator, not to mention the waste light and attendant long exposure times.

If your enlarger is a condenser model, use the appropriate condenser set, or setting if yours has "zoom" condensers.

(Continued next month)

PHOTOGRAPHY © DAVE HOWARD

MIKROMA, a Czechoslovakian import, was introduced at Czechoslovak Industries Fair.

VESTCAM miniature is sold nationally by Wilson Department Store, Brooklyn, N. Y.

GOLDEN OLDIES submitted by S. Kessler, Burbank, CA.

ON THE GRAPEVINE That pen camera seen peeking from the shirt pocket of a noted collector of subminiature photographic exotica at Photorama, Washington, D.C., August 14th, owes it's genesis to the set of plans published in "Fine Woodworking" magazine March/April '88.

FOR SALE Minox slide projector, gray cloth-covered case w/blue leather handle, exclnt cond. $80 + s&h. Howard Wick, W 2322 Hwy 108, Shelton, WA 98584. (206) 426-4892, FAX 206-426-3491

ALCHEMY The time honored way to process a roll of subminiature film quickly is with room temperature Dektol diluted 1:1 for 45 seconds. This is useful for copying written material, but otherwise not for the faint of heart because a one second difference in timing, or overly vigorous agitation will produce a dense negative with no gray tones.

Reader H.E. Payne, of Arlington, VA., likes the 1:10 Dektol dilution for more tonal control, while retaining the speed in the darkroom of other film developers like HC-110, and Edwal FG-7 which may not be available on a moment's notice. Here are his developing times for several popular films using the 1:10 Dektol dilution at 68°F. Agitate once every thirty secs.

Adox KB-21	3½ mins.
Ilford 400 Delta	4 mins.
Kodak TMax 100	4½ mins.
Kodak TMax 400	4½ mins.
Orwo NP-22	4½ mins.
Ilford FP 4	4½ mins.
Kodak Tri-X	5 mins.
Agfa APX 25	6 mins.
Orwo NP-27	6½ mins.

V-NIK-CMT

C-MOUNT FEVER This new C-mount adaptor provides a convenient means for attaching Nikon and other popular lenses to a standard video C-mount or your Steky subminiature. Newport Precision Lab Products, 1791 Deere Ave., Irvine, CA. 92714. 1-800-222-6440.

Nikon Fisheye 16mm/2.8 $719. Camera One, 1918 Robinhood, Sarasota, FL 34231. (813) 924-1302

Leica Fisheye Elmarit 16mm/2.8 $995. Hasselblad Fisheye Distagon 30mm/3.5 $4468. Tamarkin & Co., 198 Amity Rd., Woodbridge, CT. 06525 1-800-289-5342.

Submitted by G. Willow, San Diego, CA.

THE SUBMINIATURE TIMES QUICKFINDER 9/93

Falcon Midget-16	$49	B
Kombi Subminiature	389	B
Minolta-16 MG kit	85	CC
Minox viewers, projectors, etc.	Call	B
P3 Electronic watch/cam kit	1999	K
Robot II	144	B
Rollei-16 mutars and acces.	Call	W
Steky III	69	C
Tasco Binocam	144	K
Tessina chrome	546	K
Tessina w/o meter	504	K
Yashica Atoron	45	C

B	Brooklyn Camera Exch.	(718) 462-2892
C	Cameta's	(516) 691-1190
CC	Columbus Camera	(614) 267-0686
K	KEH Camera Brokers	(404) 892-5522
W	Woodmere Camera	(516) 599-6013