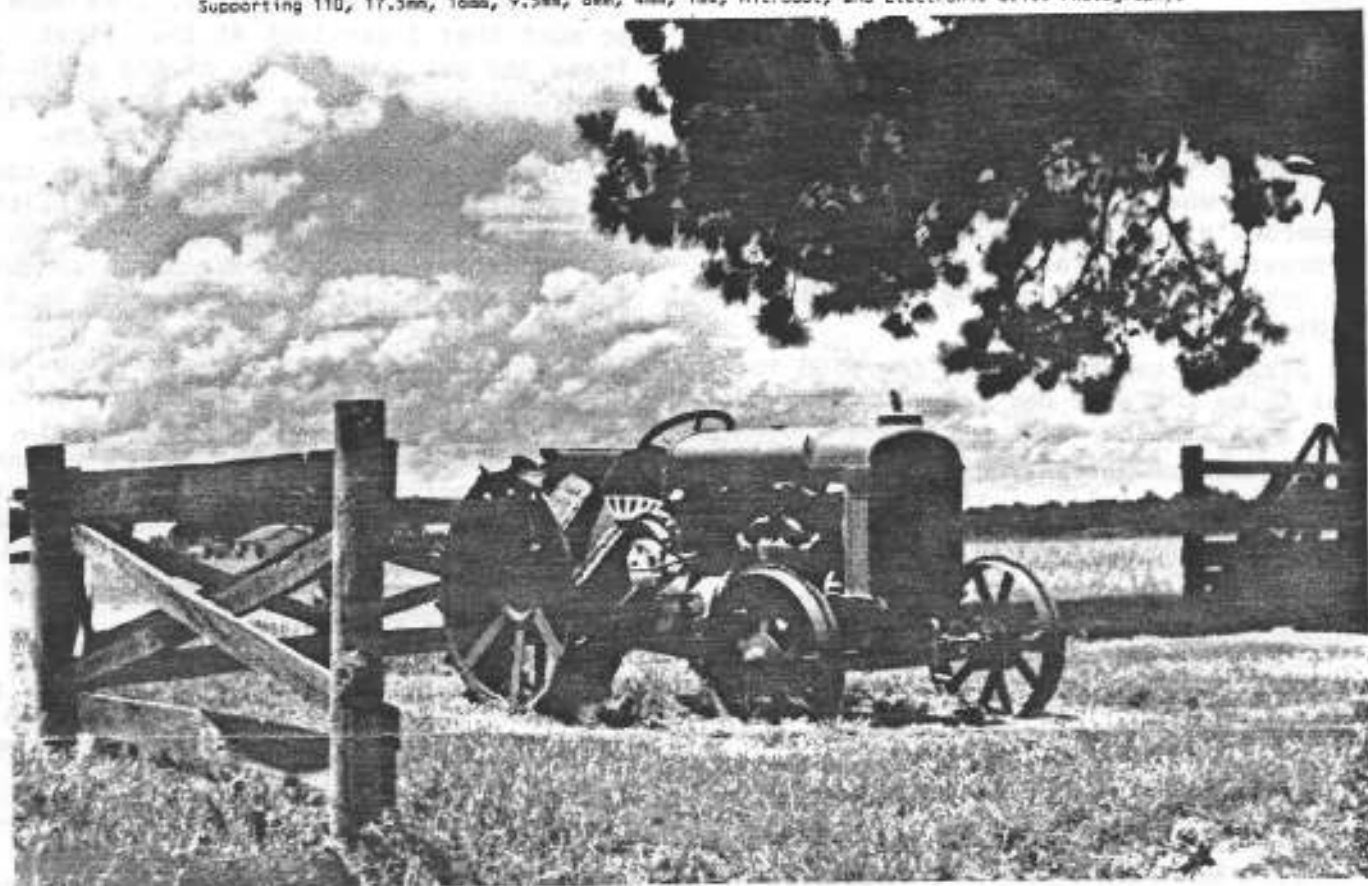


THE SUBMINIATURE TIMES

The Subminiature Times is published monthly by Doylejet, P.O. Box 60311, Houston, TX. 77205 (713) 443-3409

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



THE PHOTO ABOVE taken in a stiff breeze is an example of Filmdex S-L 16mm microfilm split to 9.5mm for the Minox EC (E.I. 32).



THE SUBMINIATURE TIMES QUICKFINDER 10/93

Coronet	\$495 H
Kiev Vega	149 B
Kombi	389 B
Minolta-16P	20 G
Minox enlarger excellent condition	495 H
Minox LX black	499 W
Pentax-110 w 2.8/70 telephoto	279 B
Petal Octagonal	695 H
P3 1020 watch/cam	1999 K
T. Anthony watch/cam (Only 3 made)	25,000 J
B Brooklyn Camera Exchange (718)	462-2892
G Guild Camera (602)	264-5808
H Hayden Photographics (416)	862-8585
J Jerry Brod Camera (215)	527-2862
K KEH Camera Brokers (404)	892-5522
W Woodmere Camera (516)	599-6013

NEW LOW-LIGHT-LEVEL CCD CAMERA PCO Computer Optics' new VarioCam is a TE-cooled black-and-white CCD camera with 756 x 581 pixels can accept variable exposure times ranging from 40 ms to 40 s. A digital pixel correction improves picture quality drastically. Contrast enhancement, pseudocolor display, video gain, and frame counter are all selectable via a four-key remote control or alternatively controlled by a personal computer. A built-in frame buffer displays the last acquired full-resolution picture while the camera is integrating a new one. PCO Computer Optics GmbH, Ludwigsplatz 4, D-8420 Kelheim, Germany

EDITOR'S JOURNAL

SUNDAY: BUY MINOX EC
WEDNESDAY: LOCATE VIEWFINDER

As the last of my friends to own a Minox, I was having a bad case of the blues. One by one I was making every mistake in the book.

I'd spent a long time envying Minox cameras, but my introduction to subminiature was 16mm, and it was so difficult to handle sometimes, that voluntarily going to a smaller format seemed like unnecessary torture. When I needed a really small camera I'd used loaners, had the film processed commercially, and tried to save my notes. I kept promising myself I'd own a Minox some day.

A preowned camera show EC for \$100 turned out to be the some day I couldn't refuse. And I joined the ranks of 9.5mm.

The Minox EC was introduced in 1981. It measures $3\frac{1}{2} \times 1\frac{3}{16} \times 1\frac{11}{16}$ " and weighs 2 oz. It has a fixed focus single aperture f/5.6 lens with meter controlled shutter speeds from 8 seconds to 1/500. The film speed settings cover a range from ASA 25 to 400.

My first mistake was to assume that my picture taking ability would be severely hampered. "Chrissakes, one aperture? Well I'll try not to push the camera too hard." I thought.

I took two days reading the instruction manual. I like to have cameras last a lifetime, and I'd heard that an easy way to age a Minox is to ham-handedly force the mechanism. I read the instructions over and over. On Wednesday I loaded a cassette of Agfapan 25 and put the camera on the table near my front door.

With little time on weekends to go specifically looking for pictures, a camera has to fit in with my daily life or I get no pictures at all. At best I stop when I see something interesting.

I'd driven about five miles when I decided to check that the EC was properly set. I felt my pockets and couldn't find the camera. Miffed I got into the U-turn lane to return home. As I made the turn I pushed my hand deep in my pocket and found the Minox under my address book! The first time I'd ever lost a camera in my pocket.

The film speed dial was set at ASA 25 and there was nothing else to do except take pictures.



My first exposure with a new camera is almost always a shot of an automobile about a half block away. License plates are the same size in every state. I've done it so much that I can look at that first frame and get a good idea of the grain and resolving power of the new system. Here's where I encountered the next problem.

Viewed from the rear, most bar type cameras have the viewfinder on the left, the lens in the center, and the shutter button at top right. Which means you can use your camera in your right hand and hold a steering wheel or handlebars with your left. It can't be done with the Minox EC because the viewfinder is on the right, under the shutter button. Actually, it can be done, but your left eye is blanked out. It's not the best way to drive safely. To use the camera with my right hand I turned the Minox upside down and pushed the shutter button up. My license plate frame was sharp and clear.

I went through a half dozen cassettes in the first week, shipping off one a day to the Minox Processing Lab*, and adjusted my shooting as the prints started coming back.

By the end of the third week I was carrying two accessories: the Minolta Y48 yellow filter, and +2 proxar closeup lens. The filter improved the sharpness of landscapes showing the horizon, and the proxar made it possible to take photographs from a distance of 18". Without the proxar I don't know that it's possible to copy a typewritten page with the EC, or do any serious bug hunting.

My respect for the camera grew each day as my prints came in, particularly shots taken in low light levels.

A friend who has a colorful way of expressing himself once told me that he could send his Minox out for a paper, and it would come back with the right change.

"You'll know you've got it right" he said, "when the camera starts talking to you."

I went through more than a dozen rolls of film, learning something new each time I opened my mail. One morning when I lifted the EC to my eye I heard a voice say "You dummy." and I knew I was on the right track.

After deforming several cassettes, it took a call to Minox maven Rich Romano to elicit an easier way to unload the camera; turn it over and tap the case lightly. Rich donated some of his metal cassettes to the cause.

I noticed that using a yellow filter with Agfapan 25 film gave me slight underexposures on days that were not very bright. I moved up to modestly faster Filmbox S-L which I rate at 32*. For the filtered shots I set the camera back to 25, and things work out right. S-L is single perforated 16mm, so I had to use a homemade film splitter to get unperforated 9.5mm.

As I began respooling my own rolls I discovered a nice aspect of Minox technology. The cassettes close with a sharp click. If you split your own film and the cassette doesn't click shut, don't bother putting it in the camera, it'll jam the mechanism.

COMPARISONS

Grain hasn't been the problem I imagined it would be because all of my needs have been met with very slow films. Pictures taken with Kodak 7276 at E.I. 400 extend right down to the darkest light levels. I haven't even felt tempted to use anything faster. The EC outstrips the low light capability of every automatic subminiature I've ever used except possibly the Pentax 110 and the Minolta 110Z.

The EC is given short shrift by owners of other Minox models who consider the EC a box camera. It has the slowest top shutter speed, no parallax correction, no filters, or tripod bushing. Excuse me, but I like the 8 second slow shutter speed, the polycarbonate case which doesn't pick up scratches like metal subminiatures, and a black case is a whole lot less noticeable than chrome, gold, silver or *platinum*.

My proxars are carried in the flat red box supplied by Minolta. Camera and box take up next to no space at all in my pocket. Certainly less than if I were carrying a Minolta-16 MG, the smallest 16mm I've ever used, and \$400 cheaper than a Minox LX.

Some issues ago I made a comparison between the 17.5mm Sanwa Mycro and a Minox. Yes, the Mycro is smaller, and has a bigger negative (14 x 14mm vs 8 x 11mm) but it can't make 50 exposures on a single roll of film. The EC does it effortlessly, with frame after frame perfectly exposed. I've fallen in love with the camera and I

have yet to use the flash, color film, or the binocular attachment.

My only complaints are actually back-handed compliments. The camera is so small I haven't figured out a way to make time exposures from the top of a car because I can't get my eye close enough on a curved surface.

I've lost the camera repeatedly. Several times I've reached for my 16mm rather than search for the EC, only to find the EC under the other camera.

While taking pictures of my family at picnics or public places I can see certain people spot the Minox, whisper to a friend and then vanish.

Around wildlife I usually know exactly which pocket my camera is in by its heft. A deer won't give you time to frisk yourself and put a viewfinder to your face. You've got to maintain eye contact, and come out of your pocket firing. I haven't been able to do this yet. Both ends of the EC feel the same and I have many pictures of my palm and belt buckle.

For available light shots taken after dark I wish there were a manual override. I'd rather shoot at 1/30 of a second and push-process the film to get the correct exposure than get time exposures which are correctly exposed, but useless for candid portraiture.

Some images are just beyond the resolving power of the little lens, like pine needles (see cover). The solution...I now avoid pictures of pine trees in a breeze.

Shooting 9.5mm is such a completely different experience from 16mm, comparing the grain and image sharpness would be unfair. You'll always get finer grain with a larger negative, but more candid pictures with a smaller camera. One situation balances out the other. If you respool your own, you get 35 frames on an 18" strip versus 25 with most 16mm cameras. You'll also use less processing chemistry per roll, 53ml vs 200ml for 16mm.

To longtime Minox devotees my enthusiasm must seem like preaching to the choir. But I'm glad I spent the years honing my skill before picking up the Minox EC. It's a tiny camera with an impressive picture taking potential.

*MINOX PROCESSING LABS, P.O. Box 1041, New Hyde Park, NY 11040 (516) 437-5750.
FILMDEX INC., P.O. Box 490, Centreville, VA 22020 (703) 631-0600.

MINOX SPECIFICATIONS

MODEL	RIGA	USSR	A	II	III	III _s	B	BL	C	LX	EC	AX
Length mm/in closed	81/3.19	81/3.19	81/3.19	81/3.19	81/3.19	83/3.26	97/3.8125	97/3.8125	120.65/4.75	108/4.25	80/3.15	83/3.26
Width mm/in	28/1.125	28/1.125	28/1.125	28/1.125	28/1.125	28/1.125	28/1.125	28/1.125	28/1.125	28/1.125	30/1.2	28/1.125
Thickness mm/in	16/0.625	16/0.625	16/0.625	16/0.625	16/0.625	16/0.625	16/0.625	16/0.625	16/0.625	16/0.625	18/0.7	18/0.625
Weight, gms/ozs bare	80/2.82(est)	80/2.82(est)	70/2.46	70/2.46	70/2.46	70/2.46	92/3.25	92/3.25	101/3.56	88/3.1	46/1.6	71/2.50
Wt with film & battery	82/2.89 (est)	82/2.89 (est)	72/2.54	72/2.54	72/2.54	72/2.54	94/3.32	94/3.32	113/4	100/3.52	58/2.05	73/2.57
Exposure	Manual	Manual	Manual	Manual	Manual	Manual	Match fire	Match Needle	Automatic	Automatic	Automatic	Manual
Protocol	None	None	None	None	None	None	X	Cds	Cds	Silicon	Cds	None
Sync	None	None	None	None	None	X	X	X	X	X	X	X
Sync speed	None	None	None	None	None	1/30	1/30	1/30	1/30	to 1/2000	to 1/500	None
Shutter type	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Electrical	Electrical	Electrical	Mechanical
Time, Bulb?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Bulb
Slowest speed	1/2 sec	1/2 sec	1/2 sec	1/2 sec	1/2 sec	1/2 sec	1/2 sec	1 sec	1/15	1/30	n.a.	1/2 sec
Longest auto speed	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	10 sec	15 sec	8 sec	n.a.
Fastest speed	1/1000	1/1000	1/1000	1/1000	1/1000	1/1000	1/1000	1/1000	1/1000	1/2000	1/500	1/1000
Film speeds	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	25-400	25-400	6-400	12-400	25-400	n.a.
Lens	Minostigmat	Minostigmat	Complan	Complan	Complan	Complan	Complan	Complan	Complan	Complan	Complan	Complan
Focal length/Aperture	15mm f 3.5	15mm f 3.5	15mm f 3.5	15mm f 3.5	15mm f 3.5	15mm f 3.5	15mm f 3.5	15mm f 3.5	15mm f 3.5	15mm f 3.5	15mm f 5.6	15mm f 3.5
Focus scale	8" to inf	8" to inf	8" to inf	8" to inf	8" to inf	8" to inf	8" to inf	8" to inf	8" to inf	8" to inf	fixed	8" to inf
Parallax correction	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Filters	G, Y	G, Y	G, Y	G, Y	G, Y	G, Y	G, ND 10x	G, ND 10x	ND 10x	ND 4x	None	ND 4x
Frame counter	0-50	0-50	0-50	0-50	0-50	0-50	36-0	36-0	36-0	36-0	36-0	36-0
Tipod bush	Special	Special	Special	Special	Special	Special	Special	Special	Special	1/4-20	None	1/4-20
Body material	Stainless	Stainless	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum*	Aluminum*	Aluminum*	Aluminum**	Makrodon	Aluminum
Film transport	every push	every push	every push	every push	every push	every push	every push	every push	After exp.	After exp.	After exp.	After exp.
Exposure signals	none	none	none	none	none	none	none	none	slow speed	slow, over	slow speed	none
Battery check	none	none	none	none	none	none	none	none	yes	yes	yes	none
Flash connection	none	none	none	none	none	DIN	DIN	DIN	DIN	DIN	Special	DIN
Battery	none	none	none	none	none	none	none	PX 875 1.35V	PX 827 5.6V	PX 827 5.6V	PX 827 5.6V	none
Cube flash battery	none	none	none	none	none	PX 825 (2)	PX 825 (2)	PX 825 (2)	PX 825 (2)	PX 825 (2)	Camera	PX 825 (2)
BC flash battery	none	none	none	none	none	#504 15V	#504 15V	#504 15V	#504 15V	#504 15V	none	#504 15V
Years produced	1934-1940	1940	1948	1948-1951	1951-1956	1954-1963	1958-1971	1971-1976	1969-1979	1978-	1981-	1992-
Manufacturer	Valsts Elektro-Techniska Fabrik	MINOX	MINOX GmbH	MINOX	MINOX	MINOX	MINOX	MINOX	MINOX	MINOX	MINOX	MINOX
Factory Location	Riga	Riga	Wetzlar	Wetzlar	Wetzlar	Gieszen	Gieszen	Gieszen	Gieszen	Gieszen	Gieszen	Gieszen
	Latvia	Latvia	Germany	Germany	Germany	Germany	Germany	Germany	Germany	Germany	Germany	Germany
Original Mfg. List Price												
Current New Price (Ave)												
Current Used Price (Ave)	\$1,500.00	\$2,000.00				\$150.00	\$150.00	\$179.00	\$269.00	\$499.95	\$229.95	\$1,395.00

* Also available in black finish

** Also made in black finish and in limited editions in Platinum and Sterling Silver and Gold plate

Right: Main Drag, Bodie, California; Minox LX, Tech Pan, Neovin Doku.

Use the smallest light chamber available for diffusion enlargers. Also, some enlargers may need a recessed lensboard or tube to accommodate the short focal length lens.

While on the subject of lenses, get a good one. A three-element S25 fuzz-ball is not the answer for precision submini work. Keep in mind that while an 8x10 from a 35mm neg represents an 8X enlargement, an 8x10 from a Minox neg involves a 25X blowup! Schneider, Rodenstock, Minolta and Computar all offer suitable lenses. The 30mm Computar is unique in that it will also cover full-frame 35mm.

This brings us to what is probably the single most critical item of successful submini technique; dust control. At 25X or more, that insignificant wisp of lint or mote of dust embedded in your neg's emulsion becomes a writhing rope or hurtling meteor on your print. So, unless you're into marathon spotting sessions, you must be conscious of the dust threat at every stage of the operation.

If you reload your own film cassettes, your loading area must be spotless. Blow out the cassettes and your camera's innards with compressed air. Ground your enlarger. Use anti-static devices and monitor the humidity in your darkroom. Make sure all heater, air conditioning and ventilation ducts are adequately filtered. Last, but by no means least, filter your wash water. If you're not doing this already, an 8x10 from a scratched, silt-covered submini neg will dramatically illustrate why you should be!

To process your own film, you will need standard reels and tanks for Tessina 35mm film, 16mm stainless reels for most other formats (check camera store bargain tables, or Shutterbug). Be sure to use empty reels to occupy excess volume in your developing tank. If you don't, the lone 16mm reel will thrash around, screwing up your agitation pattern. Minox makes a cute little total-daylight (including loading) tank for their film. Just don't try inversion agitation with it—you'll get wet!

There are two schools of thought regarding submini film-development technique. A "fine grain" formula will provide smooth grain, at the expense of edge sharpness. I prefer to use a super fine-grained film teamed with a high-contrast compensating recipe. I value sharpness more highly than creamed grain. Whichever method you settle on, be sure to use distilled water for your brew.

A highly diluted Photo-Flo treatment (no more than 25% of Kodak's recommendation), followed by a careful wipedown with a properly cared-for film chamomise and air-drying in a dust-free enclosure will have you well on your way to quality results.

A few final tips on technique are in order before I get to my closing thoughts. Avoid camera movement. Use the highest shutter speed possible for the situation at hand, and gently squeeze the shutter release. Brace yourself against something solid when you have the opportunity. The Minox tripod, with legs pushed against a wall or tree, provides a rock-solid shooting platform.



For the most part, avoid sweeping scenes. Each individual element of such a negative occupies only an infinitesimal bit of emulsion, and heat waves and haze combine to destroy any resemblance of resolution. Subminis do much better with medium and close-up shots.

When making prints, if you constantly find your enlarger head perched precariously atop the column, bracing the top of the column to the wall may improve

your odds of getting a sharp print. Note that you will not have this problem if you're using the Minox or GafMi enlargers.

Now, if you've paid attention to the preceding prose, then you should have in front of you a selection of crisp sparkling prints that will amaze your friends and have you beaming with deserved pride.

If you haven't paid attention, then probably what continued

LIST OF SUPPLIERS:

Minox USA
1315 Jericho Turnpike
New Hyde Park, NY 11040
(Minox cameras, film
and processing)

Karl Heitz, Inc.
POB 427
Woodside, NY 11377
(Tessina)

MicroTec Industries
P.O. Box 9424
San Diego, CA 92109
(619)272-8820
(Minox and Minolta 16 film, reloading service for
all submini formats, processing and printing for
all formats, Acme cameras)

Phillips Publications
P.O. Box 168
Williamstown, NJ 08094
(Subminiature Photography by Dr. William White)

continued

you have before you is a heap of dog-eared, curly, fuzzy, scratched, speckled, stained and totally gray 8X10s that has you wondering how the hell you ever let me talk you into this mess in the first place. Can there really be any rational justification for all this nonsense?

The answer is a substantial "yes," for a number of reasons.

On a purely mundane level, these micro-marvels of cameradom have quite a high conversational value.

They can serve as excellent ice-breakers at parties and get-togethers of all sorts, especially when followed-up with quality prints of the attendees; a spectacular accident, a poignant "slice-of-life" candid, or perhaps just a graphic pattern shot created by the chance fortuitous interplay of light and shadow. It is a serious tool, when used knowledgeably and carefully.

One of the greatest benefits derived from submini involvement is the discipline of technique that it instills. There is precious little margin for error, either in shooting or processing. Sloppy craftsmanship is immediately and glaringly apparent. Patience, practice and attention to details will eventually yield their ultimate reward.

At that point, think of what you will then be able to do with a 35mm, 2 1/4 or 4x5 negative. You'll be capable of extracting the maximum potential from the larger neg. rather than wasting all that expanse of emulsion just as a crutch for shoddy technique.

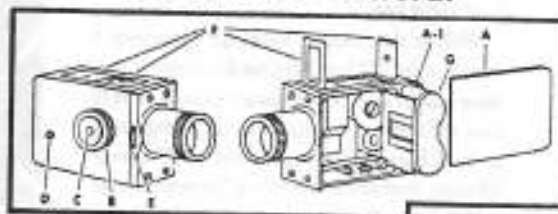
In the final analysis, perhaps there is no greater reason to own a fine subminiature camera other than the act of possession itself. By way of illustration, some folks might wonder why someone would choose the superb little 3.5-inch Questar telescope instead of a larger, more powerful but less elegantly fashioned instrument. However, those who have experienced a Questar firsthand know the elation of holding in your hands an example of the very finest work of master machinists and opticians. So it is with a Minox or Tessina, GaMi 16 or Minicord III. They are, quite simply, a joy to own.

Open letter:

Has anyone tried the Cameo-110?

Submitted by S. Kessler

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TO SELL AT \$7.95
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First roll of free lifetime supply enclosed with camera.

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LETTERS

CAN'T PLEASE 'EM ALL DEPT. One of our readers writes regularly that we devote too much space to "high tech items that nobody can afford." Last month we requested a photo of a Tynar. Sure enough we got another letter. This time asking why anyone would "waste time with that junk." We located a Tynar owner here in Houston, and worked out a swap to get a cassette for him. As soon as possible we're going to take some pictures with the Tynar (or try to). Reason? For the fun of it.

AL D.

FREE CLASSIFIED

FOR SALE Subminiature darkroom equipment: 110 (16mm) film processing reels #1502 \$12.50 ea. Disc tank #1517 \$98.00 ea. Unitol b/w developer 250 ml. #306103 \$4.95, and more. Free list. JOB0, Box 3721, Ann Arbor, MI 48106. (313) 995-4192. FAX (313) 995-8886.

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"Walk East on Beacon" Seldom aired. Features a Mikroma mounted in an auto headlight. Call us if you tape this.

"They Made Her a Spy" '51. They set her up in the darkroom of a professional photographer. Bunky has no film, just paper. Every chemical bottle is coated with Hollywood cobwebs. You'll spill your popcorn laughing. They should have left her alone.