

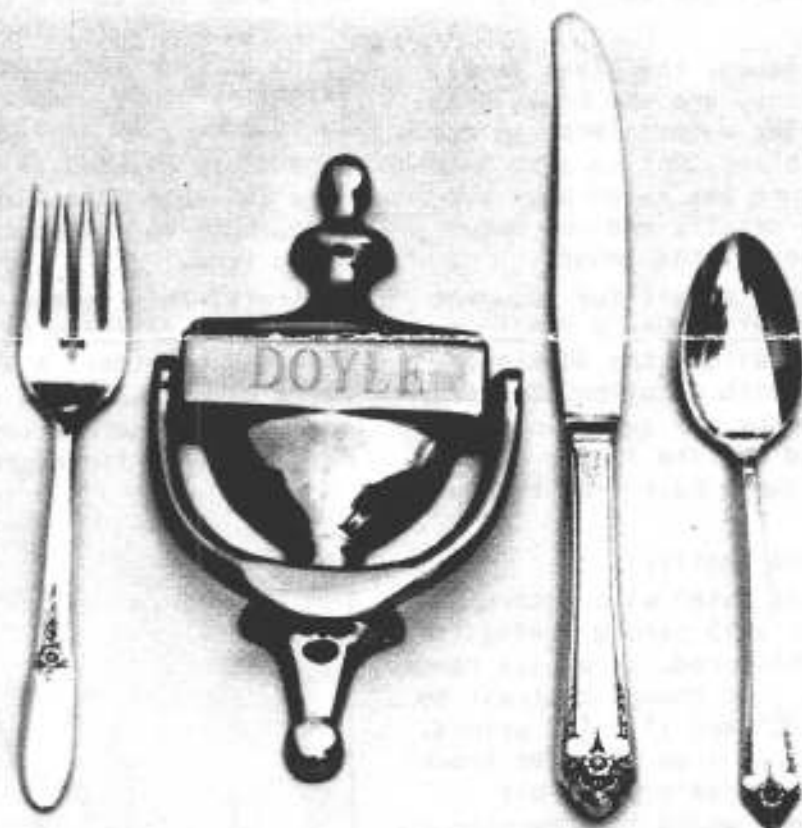
Editor: Al Doyle  
Subscription: \$15 Per Year  
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# 36 December 1991

# THE SUBMINIATURE TIMES

The Subminiature Times is published monthly by Doylejet, P.O. Box 60311, Houston, TX. 77205 (713) 440-4744

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



**NOPE. WE HAVEN'T DEVELOPED A TASTE  
FOR BRASS.**

Every professional who photographs metal has a client who can't make a final decision. They examine hundreds of your prints, weighing every microscopic nuance while film and chemistry churn through your expensive equipment.



If the negative is going to be retouched, you have no choice. Keep shooting. But if you are exploring ideas leading up to the final series, or if you really do need a lot of pictures, try Recordak in your subminiature camera.

All of the photographs in this issue were made with Recordak to demonstrate the wide range of work you can produce using a very humble pocket camera and surplus film.



**It gets no cheaper than this.**

Eastman Recordak 7460 is a blue collar microfilm with knock your socks off contrast when developed normally. It was improved from the Recordak of the mid '60s which would clog plastic reels with bits of anti halation backing, and it will still bite back if you use a rapid developer, or stale fixer.

The 16mm x 200' roll now sells for \$8.00, which produces 3400 negatives with most subminiature cameras; 17,000 from the 1000' roll.

### Black and White Graphics

The photo below was produced with Recordak developed normally in undiluted Microdol-X, 9 mins. @ 75°F. The light reading was taken from the top leaves. The exposure was made at zone V, the approximate value of skin tones.

Notice that the leaves, the glass jars, shadows, reflections, and the brown stem all turned white. The wooden fence in the background turned black. Notice also that the solvent developer has eaten away all traces of the fine detail, and has begun working on the edges of the image.

Controls. To preserve detail for document copying, microdots, etc., use a non fine grain developer, or dilute the developer. Acutance increases with dilution. Conversely, to further enhance the softening effect increase the sodium sulfite in the developer, or move the camera back from the subject.

### Studio Quality

The cover photo was taken with Recordak that had been given a 15 second prefog (see Sub' Times #35). This produces a nice range of grays retaining just enough contrast to make 'snappy' 8 x 10" and 11 x 14" prints. The light was measured from the door knocker which let the silverware get a bit light. The fork tines would need burning in for a presentation print. Developer: Agfa Rodinal diluted 1:200, 18 mins. @ 75°F.

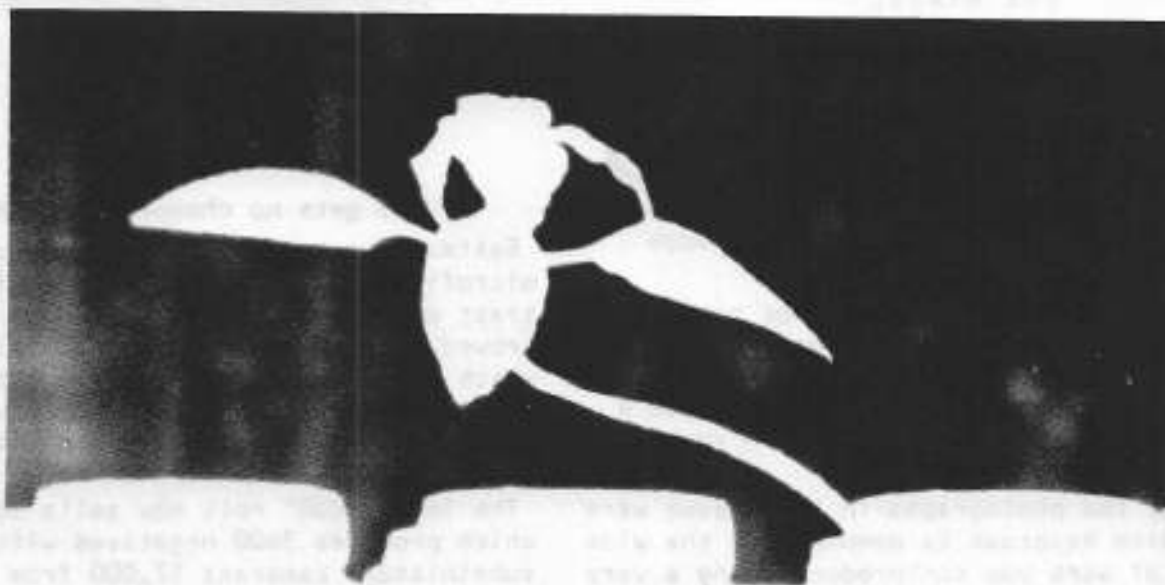
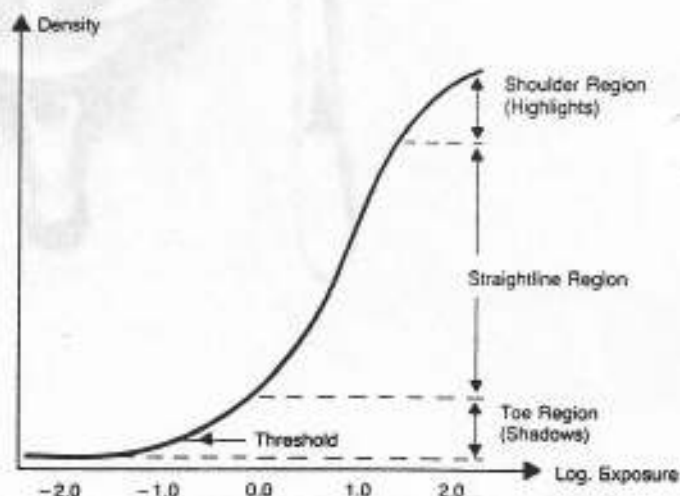
Controls. At this point Recordak is responding like a good general purpose film. It works nicely with your paper filters to produce a wide range of normal tones.

### Murals 101

All of the best possible factors were combined to make the print on page 5. The film was given a 25 sec. prefog. The lens chosen was a coated achromat. The exposure was made when the camera could be set at its sharpest aperture. The reflected light readings were identical in all directions except straight up. Developer: Rodinal diluted 1:400, 30 mins. @ 75°F.

The field of view in the segment from a 20 x 24" enlargement shown on page 6 is comparable to a 35mm camera fitted with a 400mm lens.

Controls. This is the toe of the curve. As extreme in delicacy as the stark images from the shoulder. A higher shutter speed would have produced a sharper image. Less prefog and a more dilute developer would have produced finer grain.



The Characteristics curve is an illustration of how negative density increases in response to increases in exposure.

The region on the curve called the toe, which corresponds to exposure just above threshold, is associated with subject shadows. The straightline region of the curve is associated with middle values, the shoulder with the highlights.

#### Comparing curves.

Because Technical Pan is a newer product, you'll be seeing lots of information about it in the press, specifically developing recommendations as more photographers try it. Tech Pan isn't available in 16mm, but you can use the information about it as a starting point for your experimentation with Recordak.

While image control on the shoulder and straightline portions are fairly straightforward, Recordak really earns its blue collar reputation in the toe approaching the threshold. It will outlast your lenses, your developers, and your patience; performing reliably right into reversal.

Extremely dilute developers seem to hit a wall of practicality at 1:1000 dilutions, (5½ hours @ 75° with four replenishments). Choose the wrong developer and the dichroic fog buildup makes the image unprintable. You might prefer a staining developer combined with a non hardening fixer for maximum acutance. A POTA formula is given for your experimentation. Contact "Zone V" for the necessary chemicals.

Keep in mind that there are 16mm microfilms that are finer and faster. We're recommending Recordak when you need the high volume and low cost.

Recordak (also 2000' E4 Color and chemicals): Stewart Trail, 618 S. 62nd St., Phila., PA. 19143. (215) 474-7663.

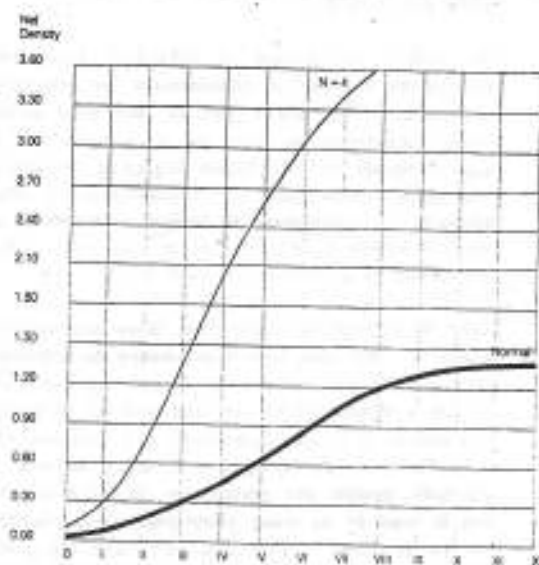
#### POTA DEVELOPER FORMULA

Sodium sulfite	30 grams
1-Phenyl-3-pyrazolidone	1.5 grams
(Kodak BD-84 or	
Ilford Phenidone A)	
Water to make	1 liter

Dissolve the chemicals in water at 100°F. Cool to 68°F. and discard immediately after use. Develop film for 11 minutes. Omit pre-fog.

Development in Small Tank  
Agitation at 30-Second Intervals

Contrast Index	KODAK Developer	Development Time (minutes) at 68°F (20°C)	Exposure Index
2.50	DEKTOL	3	200
2.25-2.50	D-19	2-8	100 200
1.20-2.10	HC-110 (Dil. B)	4-12	100 250
1.00-2.10	D-76	6-12	50 125
0.80-0.95	HC-110 (Dil. F)	6-12	32 64
0.40-0.80	TECHNIDOL LC or POTA	7-18	25 32



The steep curve at left is typical of the Technical Pan response, and would be equivalent to more than N + 4 development with a conventional film. It was produced using HC-110 1:7 from stock, for 10 minutes at 68°F. The lower curve represents an attempt to reach a normal range of values by developing in the POTA developer for 6½ minutes at 68°F.

#### LETTERS

Dear Al,

Just wanted to keep you up-to-date on something. If you haven't got one, ordered one, or seen one, you have got to get the CHRISTIE'S AUCTION CATALOG for the Dec. 9, 1991 sale of spy, detective, and subminiature cameras. Beautiful. They will bill you.

Sincerely,

David W. Vandiver

CHRISTIE, MANSON & WOODS, LTD.  
Catalogues & Subscriptions Dept.  
Unit 1, Stockholm Rd.  
London, SE16 3LP  
Great Britain.

Thanks David. I also have a phone number: 07-321-3152.

## ZONE V

Years of experience have proven that the measurement and mixing of photographic chemistry can be simple, easy, and inexpensive. We offer the chemicals in quantities from small to large, to meet your processing needs.

Our unique system of measurement by teaspoons and tablespoons (tap & TBL) is fast and it works. You can have the chemistry you need ABSOLUTELY FRESH when you need it.

To make your mixing of chemistry even faster, we recommend the use of concentrates for commonly used chemicals. This allows you to mix your solutions at room temperature, so that you do not need to wait for any chemicals to cool before beginning processing. All kits give instructions for concentrates of the same strength. A concentrate of Sodium sulfite made up from the instructions in one kit can be used with confidence in the mixing of a solution for another kit.

Zone V believes in trying new ideas and telling people about it. We also believe in passing on information we receive from our customers. If you try something new, or just a wrinkle on an old idea, and tell us about it, we will include it in our Newsletters and give you credit for it. When we are trying out formulas for new kits, we generally publish the preliminary formulas so that they can be used by as many photographers as possible before we go to press. This lets you have the information earlier (and free) while giving us confirmation that what works with New England water will also work in Utah.

## 24 hour TELEPHONE ORDERS 802-765-4508

If a machine answers, give the following information:

1. Name and customer number, OR name and address if you are a new customer.
2. Catalog #'s for each item.
3. Method of payment:
  - A. C.O.D. (\$2.00 extra charge)
  - B. ZONE V charge if your label has a CR#.
  - C. MasterCard or VISA. Give # and exp. date.
4. Ship address if different.

Cat.#	Chemical	Size	Wgt.	Price
574	Amidol	60 g	0.4	15.00
620	Ammonium thiosulfate	32 oz	2.8	4.00
621	Ammonium thiosulfate	1 gal	10.0	12.00
593	Anti-fog #8	5 g	0.4	4.50
622	Anti-fog #9	20 g	0.4	4.25
572	Benzotriazole	20 g	0.4	4.00
551	Benzyl alcohol	4 oz	0.4	3.50
550	Benzyl alcohol	16 oz	1.6	11.00
580	Bleach/fix conc. small	32 oz	3.0	8.00
582	Bleach/fix conc. medium	64 oz	5.6	16.50
583	Bleach/fix conc. large	2 gal	22.0	48.00
579	Bleach concentrate	1 gal	11.0	27.00
534	Borax	1 lb	1.3	2.75
535	Borax	5 lb	5.9	7.50
532	Copper sulfate	1 lb	1.3	4.00
586	CD-3	100 g	0.5	12.00
558	CD-4	50 g	0.4	9.00
559	CD-4	100 g	0.5	17.00
560	CD-4	250 g	0.7	40.00
566	Citrazalic acid	35 g	0.4	10.00
624	Ethylenediamine sulfate	100 g	0.5	12.00
584	Fast Fixer	32 oz	2.8	6.00
585	Fast Fixer	1 gal	10.0	18.00
570	Formaldehyde 0.99%	16 oz	1.6	3.00
571	Formaldehyde 0.99%	32 oz	2.8	5.00
512	Glycin	60 g	0.4	16.00
521	Hydroquinone	150 g	0.5	5.00
520	Hydroquinone	250 g	0.7	8.00
562	Hydroxylamine sulfate	50 g	0.4	2.50
564	Hydroxylamine sulfate	250 g	0.7	7.00
517	Metol	50 g	0.4	4.50
515	Metol	100 g	0.5	7.00
516	Metol	250 g	0.7	16.00
524	Phenidone	80 g	0.4	4.50
525	Phenidone	100 g	0.5	11.50
594	Potassium alum	1 lb	1.3	6.00
636	Pot. borohydride	1 g	0.4	3.50
638	Pot. borohydride (0.1%)	16 oz	0.4	3.00
	with Sod hydroxide (10%)	16 oz	0.4	3.00
532	Potassium bromide	250 g	0.7	7.50
533	Potassium bromide	500 g	1.3	13.50
591	Potassium carbonate	1 lb	1.8	3.50
590	Potassium carbonate	5 lb	5.9	12.00
576	Potassium dichromate	200 g	0.6	5.00
568	Potassium ferricyanide	1 lb	1.3	15.00
569	Potassium ferricyanide	5 lb	6.9	60.00
548	Potassium iodide 0.2%	16 oz	1.6	2.00
602	Potassium iodide	75 g	0.4	20.00
578	Sodium bisulfate	400 g	1.1	3.00
542	Sodium bisulfite	1 lb	1.3	3.25
544	Sodium bisulfite	5 lb	5.9	11.00
528	Sodium carbonate (mono)	600 g	1.5	3.75
530	Sodium carbonate (mono)	5 lb	5.9	10.00
626	Sodium hydroxide 10%	16 oz	0.4	2.25
538	Sodium sulfite (anhy)	1 lb	1.3	4.00
540	Sodium sulfite (anhy)	5 lb	5.9	15.00
545	Sodium thiocyanate 51%	4 oz	0.4	5.00
546	Sodium thiocyanate 51%	16 oz	1.6	15.00
630	Sodium thiosulfate	1 lb	1.3	3.50
631	Sodium thiosulfate	5 lb	5.9	15.00
552	Tri sodium phosphate	1 lb	1.3	3.00

## SHIPPING CHART

Zip code	010-	140-	242-	316-	575-	785-	Other	Canada	Foreign
	139	241	315	574	784	994	zips	Mexico	
Charge	.25	.80	.35	.42	.50	.60	.70	1.80	1.70

ZONE V  
Stage Rd  
S Strafford VT 05070

- A) Find zone charge using your first 3 zipcode numbers.
- B) Multiply zone charge by total weight of order to find shipping charge.
- C) If all items have \* weight, there is no shipping charge.
- D) All orders have a \$1.60 handling charge.

## LESS CRUMBS, MORE PICTURES

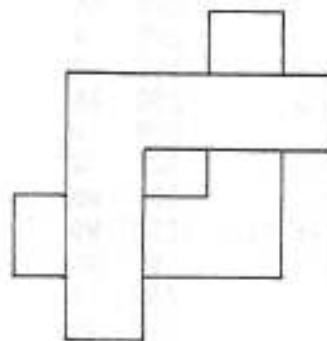


110-5

Subminiature negatives always get filed in the wrong places. The Christmas rum cake tin is a favorite, until we try to make salon quality prints from the negatives.

This year when the tin arrives, keep the cake in it. Contact **PRINT FILE**, P.O. Box 607638, Orlando FLA. 32860-7638. Their file #110-5 shown above is shipped 100 pages per package. They also have files and binders for larger negatives up to 8 x 10" if you occasionally slip and use another format.

U - CAN - DO



It's never easy to crop small negatives for the best composition. A good subminiature cropping frame is shown above full scale.

Make it from two pieces of cardboard. Hold the frame on the lower left side and adjust it with your thumb, while holding the negative file to the light with the other hand. Don't touch the negative until you are ready to put it into the enlarger.



Inverness Forest is flooded by the San Jacinto River after every major rain. It happens so often non-residents call the area Sunken Meadow.

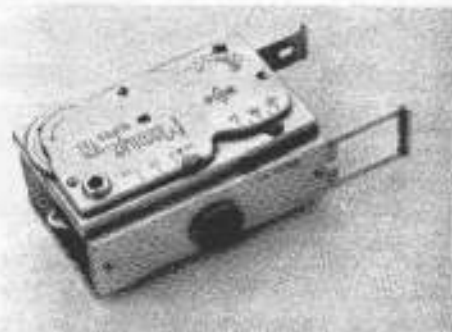
The evenly spaced pines produce a soft shadowless light that is nicely matched to steeply curved 16mm microfilms.

I like to get there before noon to set my my camera at f5.6 @ 1/200. Back in the darkroom I put a 25mm lens on my ancient Omega B5, crank it all the way up to the ceiling and enjoy the countless shades of gray.

Happy Holidays Everyone,  
The Doyle Family

Binocular Cam 1B	149	S	Minox 1st B	169	WD	Pentax 110 Kit	299	WD
Edixa 16	229	BK	1st B	159	WD	110 Kit	279	B
Epochs	225	W	2nd B	199	WD	110 Kit	269	
Expo Watch Camera	389	F	2nd B	179	WD	110/Zoom	250	
Expo Watch Camera	250	DC	2nd B	169	WD	110 kit	249	WD
Gemflex w/case	599	W	Black Chrome	350	DC	110 Kit	239	WD
Goldeck 16 kit	325	W	C	249	WD	110 Kit	229	WD
Gun Camera (4mm)	699	WD	C	239	WD	110 70/28	250	L
J. Player KGB Cig Pack	1250	WD	C	229	WD	110	249	BK
Mamiya Super 16	89	WD	C	209	F	110	229	BK
Mec 16 SB	239	F	C	189	WD	110	189	BK
Micro 16	40	DC	EC	225	WD	110 Body	120	L
Micro 16	39	WD	EC	219	W	110 70/28	249	BK
Mini-Cam (HIT type)	12	II	EC Kit	199	A	Petie Submin.		H
Minolta 16	19	DC	EC	199	WD	Ricoh Golden 16	99	BK
16 EE II	79	WD	EL	129	W	Rollei 16	249	F
16 P	59	F	EL	69	WD	Satellite	13	WD
16 P	59	WD	EL	49	WD	Steky III	199	A
16 P	25	CG	GL	119	WD	Steky III	100	WD
16 MG	69	F	LX	690	K	Tessina	899	D
16 QT	59	BK	LX Black	649	W	Tessina Chr.	539	BC
100 Z	89	WD	LX	529	WD	Ticka Watch Cam.		H
100 Z MK II	269	WD	LX	479	BC	Toyoca 16	295	W
Minox B	249	CE	III	159	WD	Yashica Atoron BL	179	W
B	169	F	III	159	F	Cr	125	CE
B	495	D	III	150	DC	CR	79	F
B	195	BC	III	139	WD	Cr	69	BK
B	175	BC	IIIS	179	WD			
B	160	DC	IIIS	159	UD			

- A Adorama, 42 W. 18th St. NYC, NY. 10011. (212) 741-0466  
 B Bergen County Camera, 270 Westwood Ave., Westwood, NJ. 07675 (201) 644-4113  
 BC Bill Cameta's, 253 Broadway, Amityville, NY. 11701 (516) 691-1190  
 BK Brooklyn Camera, 549 E. 26th St., Bklyn, NY. 11210 (718) 462-2892  
 CE Cambridge Camera Exchange, 7th Ave & 13th St., NYC, NY. 10011 (212) 675-8600  
 D Discount Camera, 33 Kearny St., S. FRAN., CA. 94108 (415) 392-1100  
 DC Don Chatterton, P.O. Box 51174, Seattle, WA. 98115 (206) 525-1100  
 F Foto Cell, 49 W. 23rd St., NYC, NY. 10010 1-800-368-6235  
 H J. Hagerty, 137 Eastbank St., Southport, U.K. PR8 1DQ Tel or Fax: 0704 538738  
 K Koh's, 2 Heitz Place, Hicksville, NY. 11801 (516) 933-9790  
 L Le Camera, 4040 Quaker Bridge Rd., Mercerville, NJ 08619 1-800 786-3686  
 S Speichers (516) 868-6411  
 W Wall Street Camera, 82 Wall St., NYC, NY. 10003 (212) 344-0011  
 WD Woodmere Camera, 337 Merrick Rd., Lynbrook, NY. 11563 (516) 599-6013



Mamiya Super 16  
 (Photos 1 & 2)  
 Lens: 3.5/25mm  
 Shutter:  $\frac{1}{2}$  to 1/200

Minolta 16 EE II  
 (Photo 3)  
 Lens 2.8/25mm  
 Shutter: 1/50 or 1/200

