

THE SUBMINIATURE TIMES

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



Japanese junk? Alas, 'tis true. Right after World War II, most Americans thought all Japanese cameras were toylike creations like these, many of which could barely take pictures. Leading Japanese camera companies and the Japan Camera Inspection Institute, established in 1954, helped to create present image of high quality.

BARGAIN HUNTERS Periodically check on short dated film specials: disc, 110, 35mm, 120, Polaroid. Mountain Photo (914) 761-0809

NOVELTY CAMERAS: Donald Duck, Flintstone, and many others in stock. Camera One, 1301 Main St., Sarasota, FL 34236 1-800-949-1302

YEAROUND STOCKING STUFFER Pocket Safe-light \$9.99. Delta Pro, 10828 Sanden Dr., Dallas, TX. 75238-1337. Catalog. 1-800-627-0252

MINOLTA-16 Color film short dated, \$2.95 ea. Central Camera Co., 230 S. Wabash Ave., Chicago, IL 60604-2303 (312) 427-5580.

TINY, NAGGING PROBLEMS continue to haunt Rollei-16 owners. Marflex, the Rollei-16 Service Center in Pine Brook, NJ will no longer repair the Rollei-16. (Try Essex Camera Svc., 100 Armor Ave., Carlstadt, NJ 07072 (201) 933-7272.

High-Res Color CCD Camera

Offers more than 470 lines (H) of resolution



The TSN-400 Series is a compact-size, high-resolution color camera from Elmo

Manufacturing Corp. The camera features more than 470 lines (H)

resolution, yet measures only 2.4" x 2.4" x 3.2" and weighs 8 oz. It is available in 24-Vac, 120-Vac, and 12-Vdc models. The 1/3" color

CCD camera has a S/N ratio of more than 48 dB, requires less than 3 lux minimum illumination, features built-in AGC, auto/manual white balance, and an automatic electronic shutter to 1/10,000 second. The camera features line-lock (internal/external plus Y/C terminal on 12-Vdc model), sens-up and back light compensation switches. Contact Vince Giovinco, Elmo Mfg. Corp., 70 New Hyde Park Road, New Hyde Park, NY

11040. (516) 775-3200.

The Romantic Camera

Karen Geller-Shinn

Aw, come on, a pinhole camera—romantic? Yes, indeed, and rich in history as well. The surprising pinhole is more of everything, including fun, than you may have thought. To help you discover the fascinating effects of the pinhole and just how much fun it can be, The Time-Field Company, 87 Dallas Avenue, Newark, DE 19711, offers the PinZip 126. David Pugh of Time-Field shares some interesting facts. Let's begin more or less at the beginning.

Aristotle noted the effect in the fourth century B.C.; but at least one Chinese scientist, Mo Ti, wrote of creating an inverted image with a pinhole at least 100 years earlier. Leonardo da Vinci gets the credit for having described how to make a pinhole camera as we think of one today; he developed and diagrammed the first clear explanation of how light forms an image with a pinhole. For centuries the modest pinhole was the only important optical device for the study of image formation and the nature of light. Although lenses were produced before A.D. 1900, the earliest reference to replacing the pinhole with a lens was not until the 16th century.

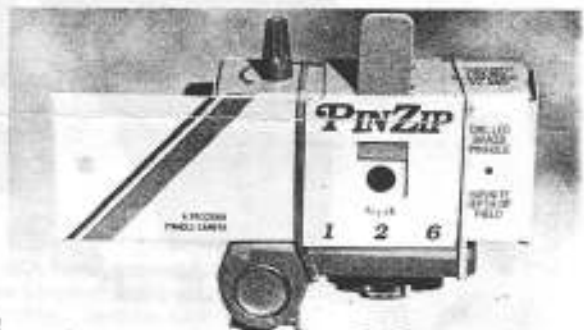
By the time photography was invented in the late 1830's, lenses offered greater brightness and speed than pinholes—but were hardly any sharper. As lenses became sharper, turn-of-the-century photographers found it difficult to make photos that looked painterly, and so turned to the pinhole. Today, we often use soft focus lenses or diffusion filters to achieve the effect made popular by the pinhole.

"But what's in it for me?" you may be asking yourself. There are several benefits to be gained from using a pinhole camera, and now the PinZip 126 makes it easy and inexpensive to do just that. It's a precision camera of cardboard construction that accepts Kodak's Instamatic 126 film cartridges. You have your choice of Kodacolor II color print film, Kodachrome 64 color slide film, or Verichrome Pan black-and-white film. The PinZip has a film advance knob, film advance window and shutter tab. The aperture of the brass pinhole is $f/110$. The camera sells for \$9.95 plus \$1 for postage and handling.

Though pinhole images are not terribly sharp, they exhibit infinite depth of field. This can make a sense of distance and scale difficult to judge, so careful composition in using a pinhole camera is called for. Distracting elements cannot be softened by shallow depth of field. There is one quality of the pinhole which duplicates the human eye better than lenses. A pinhole is free of linear distortion. That

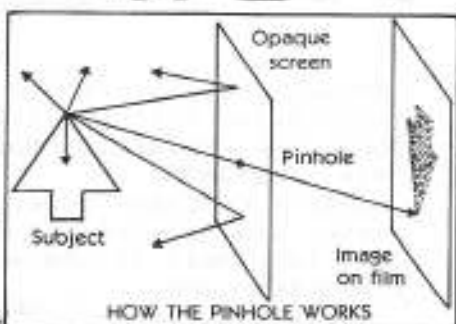


1. The focus of the PinZip 126 is soft and the depth of field is extreme. The camera was placed on the manhole cover for the two second exposure on Kodak Verichrome Pan film. The raised lettering within inches of the camera is about 1/4-inch high; the snow and row of trees in the background are over 100 yards away. Photo by David Pugh, courtesy of The Time-Field Company.



2. Here's the PinZip 126 with the shutter tab open. I used two rubberbands to secure it to the tripod.

3. Light beams reflecting from one point illustrate what happens to light from all points of the subject.



means vertical lines are always vertical.

Using a pinhole camera, like using a view camera, forces one to take more time to consider the subject carefully; it's a slow but elegant alternative to the auto-everything cameras. We can learn a lot about producing really good quality images—mainly that artistic pictures result from a pleasing arrangement of light and shade and not a sophisticated camera. Using a pinhole teaches one elementary image formation—and it's just plain fun.

"Today, industry does not consider the pinhole camera a toy," asserts Pugh. "Since X-rays and gamma rays can not be

focused with lenses as light rays can, pinhole cameras are useful in these applications. Specialized pinhole cameras are used by the aerospace and automotive industries to get accurate views of the inside of engines. And, they're used in the production of solid state micro-electronic circuitry." You'll find even more tidbits of information in the instruction manual for the PinZip 126, which by the way, is very well done and easy to follow. ■

■ No matter how fascinating your subject, superb the composition, exact the focus, perfect the exposure, if you can't hold your camera steady, you may get blurred results.

How steady are you? How fast a shutter speed must you use to make certain your pictures will be acceptably crisp? Frankly, some photographers are steadier than others, and most people have less ability to hold a camera still as they age. Also, you may be steadier on some days than others. Much depends on how calm and relaxed you are when you take the picture, how level the terrain is on which you are standing (or sitting or lying), how well you hold the camera, how smoothly you release the shutter, and how long a focal length lens you are using. The longer the lens, the more chance of camera unsteadiness.

The basic rule used by many pros is that you should not shoot at any speed slower than the reciprocal of the lens' focal length. For example, if you are using a 300mm lens or a zoom at 300mm, you should shoot at a speed of 1/300 sec or faster. But many photographers think they can shoot at even slower speeds.

You can easily test your steadiness with your own camera and any lens by shooting a target at all usable shutter speeds. Enlarge the shots or look at the negatives or slides through a 10X or stronger magnifier; then compare results with pictures made with the camera on a tripod. A newspaper page taped to a house or apart-



How to hold a camera steady: Rest camera body (if using a short lens) or lens itself (if shooting with a tele) in palm of your left hand. Close fingers around body or lens. Grasp right side of camera with right hand. Bring elbows in close to body. Squeeze release with finger.

HOW TO CHECK YOUR STEADINESS

Steadiness test with zoom lens at 210mm



1/4 sec: very blurry



1/8 sec: very blurry



1/15 sec: very blurry



1/30 sec: blurry



1/60 sec: slightly blurry



1/125 sec: slightly blurry



1/250 sec: almost acceptable



1/500 sec: acceptable



Tripod

Steadiness test with 50mm lens



1/4 sec: blurry



1/8 sec: slightly blurry



1/15 sec: almost acceptable



1/30 sec: acceptable



1/60 sec: acceptable



1/125 sec: adequately sharp



1/250 sec: sharp



1/500 sec: sharp



Tripod

ment wall makes a fine target. Focus carefully and shoot at moderate apertures.

An ISO 400 black-and-white film is a good choice. It will give you a large possible range of shutter speeds. If you pride yourself on being able to handhold very slow speeds, start with the slowest speed you might want to handhold and move upward.

The results of one photographer's test with a 50mm lens and with a zoom lens at 210mm are shown below, compared to results from a tripod-mounted camera. Each image is only a section of the whole negative and represents a blowup of about 4X. At what shutter speed is this photographer reasonably steady with a 50mm lens? With a 210mm? How about you?

Herbert Keppler

Directions for threading up type MINOX-Films

To acquire the necessary skill for all involved manipulations it is best to practice under normal light conditions with a used film.

Damaging the film will be prevented by extracting it from its box prior to the threading it up. Open the box and never risk pulling the film obliquely through the slot.

Extracting the film from its box and loading it onto the reel can be performed in complete darkness.

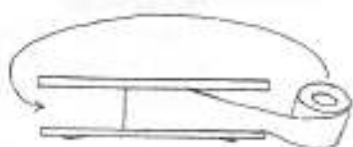
Performance: using MINOX Film with hook-up hole

1. Use left hand to hold the reel with plastic part on top so as to face its film retainer stud.
2. Use right hand to hold the film roll, obliquely insert its threading piece hook-up hole in-between plastic part and spiral plate.
3. A slight down pressure of left hand index-finger clips the hook-up hole onto the retainer stud.



4. Rotating the reel slowly towards the left the film is obliquely fed onto the selfloading spirals.

insure that the film-end rests on the spirals.



Modus operandi using film 9.4 mm without hook-up hole

1. Use left hand to hold the reel with plastic part on top. Prod with fingernail for the threading slot beneath retainer stud.
2. Use right hand to hold the film roll and obliquely slip the threading piece through the slot in-between plastic part and spiral plate.



3. Rotating the reel slowly towards the left, the film is obliquely fed onto the selfloading spirals.



At all times touch the film edges only, to eliminate fingerprints on the film.

Submitted by Daniel P. O'Connor
Glenside, PA.

LETTERS

Dear Al,

I have a question. I refer to the following three lenses that are attached to my Keystone 16mm movie camera:

ELGEET 1" f/1.9

ELGEET Navitar 12mm f/1.2

WOLLENSAK Raptor 3" f/4

These are, of course, C-mount lenses measuring 1" diameter across the back. Further, the movie camera is obviously obsolete and of no use, but must I kiss these fine lenses goodbye? The question, is, then: is there a camera body that accepts these lenses? If so, I can use them as lenses for subminiature photography.

Thanks,

John Lippert
Green Valley, AZ

Dear John,

Two cameras come to mind: The Goldeck-16 and Steky-16.

Goldecks are rare. Plenty of Stekys under \$100. Model I has no flash attachment. Model IIIB has flash and accessory shoe, but can't be stripped down to make a smaller camera like the Model I. See issue #55 for sample photos, and #70 for stripdown 'how-to'.

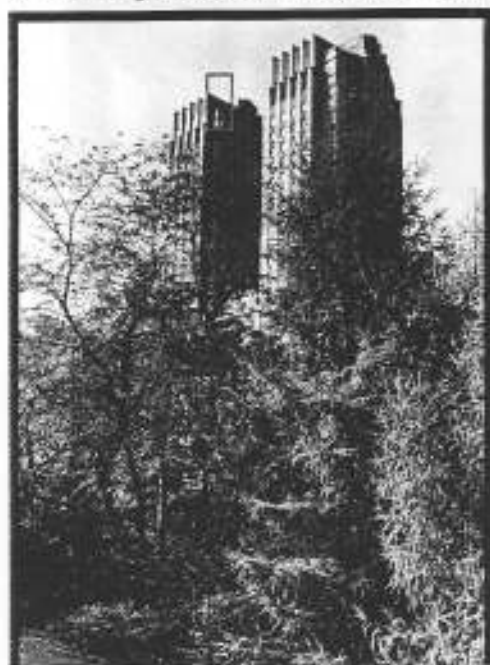
Al D.

Hi Fellas and Gals-

For work the Minox was originally intended, Minox B before C or anything else that takes a battery. A typical scenario backing such choice is a photographer's C, after months of planning a shot at some important work, suddenly losing its battery power. New battery or not, there's always that chance.

Thomas J. Mahon
Brooklyn, NY

Grain for grain, how today's top 400-speed black-and-white films compare



Ilford 400 Delta: Very fine grain, smooth distribution, above-average resolution.



Ilford HP5 Plus: Fine grain, even distribution, below-average resolution.



Fuji Neopan: Fine grain with slightly uneven distribution and average resolving power.



Kodak T-Max 400: Finest grain of films tested, excellent distribution, above-average contrast.



Kodak Tri-X: Very fine grain, somewhat uneven distribution, excellent resolution.

Grain gain: The 20X blowups from this scene (left) show relative grain, contrast, and resolution characteristics of five current 400-speed black-and-white films.

POPULAR PHOTOGRAPHY/MAY '82



20033 KINDERMANN

Film developing tank, made of stainless steel for 2 film reels 23168, plastic lid, light-tight pour-in and protection cap.

Place the loaded reel(s) into the tank and put the lid on while its protection cap is lifted off.

Filling and draining the tank takes only a few seconds. Best suited for the developing process is the tilting method. The filled tank will be turned upside down 5 times within the first minute. Back in normal position give it several times a vertical shake. During the 2nd and 3rd minute tilting and shaking at intervals of 30 seconds only. From thereon, tilting and shaking once a minute suffices.

For all subsequent baths tilting and shaking — twice a minute — will be adequate.

Agitation is equally well performed by giving the tank an instantaneous turn to the right, immediately followed by a vertical shake, with timing and sequence same as for tilting method.



Developing	5 minutes
Intermediate Washing	1 minute
Fixing	10 minutes
Washing	15 minutes
The film remains loaded on reel throughout the drying period.	

THE PKS ORIGINALS FILM CUTTER (Part 5)

18. After the film post (part 7) is attached to the platform and the glue has dried, insert the 3" x 1/4" bolt. Glue the bolt in place on part 7. Take a piece of felt material (1" x 1-1/2") and wrap it around the bolt and glue in place. Be sure to keep the outside exposed surface of the felt material free from glue and clean. Set aside to dry.

19. Take the 1" x 1/4" stove bolt and the 5" x 1-1/8" piece of felt and place in position. (G) Note how the felt fits over the razor blades. This felt should be kept clean. Lay the felt loosely over the blades and center properly. Now take part 4 (after it has been allowed to dry thoroughly) and place it over bolts A & B. Put on the 3/16" wing nuts (on A & B) and tighten part 4 in place. Use hand pressure only. The felt material resting on the blades should extend slightly over the blocks. Tighten part 4 all the way down. Then loosen the wing nuts on part 4 and raise part 4 about 1/2". You will note that the felt material is now seated around the blades.

20. Take part 2 and insert it in the winding arms (part 3) following the drawings. your PKS ORIGINALS FILM CUTTER is now ready for use.

Note: Before using your cutter to load film, you should run through the procedure outlined for using the cutter in a lighted room to insure complete familiarization with your equipment.



Glass cases displayed items that belonged to Aldrich Ames and his wife, Rosario. The possessions of the former spies were sold at an auction yesterday at a shopping mall in Marietta, Ga.

Alan S. Weiner for The New York Times

COLLECTORS ARE TALKING about the "hand-full" of Minox cameras being offered for sale in the Atlanta, GA. area as part of the Aldrich Ames estate.

S'funny, folks who attended the auction saw no trade stuff. Caveat emptor, Bunky.

NEW READER POLL: C/S 100

A "wall" occurs in long range candid portraiture as the camera to subject distance approaches 100 yards. Photographers in other formats can buy longer lenses, you can't.

Problem: Which pocketable camera, lens, film/developer combo would you use to take a portrait of a six foot subject wearing a hat, 100 yards away?

There are no right or wrong answers. We'll publish response beginning next issue.

ONGOING POLL: Minox Sharpest? B-4 EC-7.

HELPLINE I process Kodak 7245 in Formulary chemistry but want more contrast. Suggestions? H. Howell, College Stn. TX.

Anyone found a good substitute for rubber cement thinner? Its banned locally. Can't work without it. C.W. Houston, TX.

We're searching for the phone number of camera repair shop "Photography on Bald Mountain" Al D.

THE SUBMINIATURE TIMES QUICKFINDER 1/95		
Bolsey-8 w/2 cassettes.....	\$199	B
Crystar HIT.....	39	B
Expo Watch.....	389	B
Falcon Midget-16.....	49	B
GaMi w/case.....	1150	B
Hansa 25/3.5 enlarging lens.....	40	CC
Kiev Vega.....	149	B
KGB Players.....	1350	B
Mamiya-16 Automatic.....	40	C
Micro-M.....	175	B
Minicord black trim.....	399	B
Minolta-16 P.....	44	B
Minolta-16 QT w/flash.....	89	B
Minox B chrome.....	140	BC
" B w/flash adapter.....	140	BC
" C kit.....	225	CC
" EC mint.....	250	BC
" Riga Latvia.....	1250	W
Pentax-110 w/24mm.....	115	CC
" winder.....	49	CT
PK 420 Electronic Watch.....	1595	B
Speccam-16 in lipstick case.....	2495	B
Stereo Mikroma kit.....	1250	B
Yashica Atonon w/flash.....	49	B

B	Brooklyn Camera	(718) 462-28
BC	Bergen County Camera	1-800 262-542
C	Camera One	1-800 949-1302
CC	Columbus Camera	1-800 325-7664
CT	Cliff Travis	(914) 478-0931
W	Woodmere	(516) 599-6013