

Editor: Al Doyle  
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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.

*This startling photograph of a steam locomotive hanging out of a second-story window of the Montparnasse railroad station, Paris, is one of many stunning images in a Harry N. Abrams book about Burton Holmes.*



## UPDATES

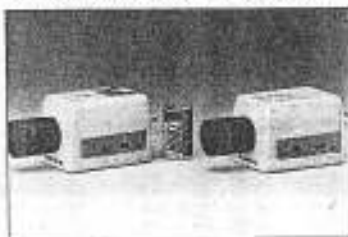
ZENIT MF-1 (ST #68) the \$1,999 wonder, no longer available from Moonlight Products, San Diego, CA. ALSO GONE, Perfection Photo Products (developers), Sun Valley, CA. BLACK AND WHITE 110 color film: more people starting to prefer HC-110 Dilution E + 20%, for the additional contrast. WORTH REPEATING, Small light meter repair, Empire Exposure Meter, 124 Briar Hills Cir., Springfield, NJ 07081 (201) 376-6036 SURPLUS DISC FILM at 'make me an offer' prices. Brent Esse (713) 528-6295.



SIMDA, Paris, France  
A 16mm. Panoroscope camera no. 2165 with grey body covering and chrome fittings, top-plate with combined waistlevel and direct vision finder, M and I setting, exposure counter, film advance, shutter release and accessory shoe, sideplate with synchronisation socket and front plate with shutter speed setting B, 1, 2, 5, 10, 25, 50, 100, 250, aperture scale 11, 8, 5.6, 3.5 and a pair of P. Angenieux, Paris 2.5mm. f/3.5 lenses.

## Compact Color Camera

*All controls outside camera*



The TSN-270S is a compact color camera from Elmo Mfg. Co. featuring all controls on the outside of the camera, including a unique back-focus adjustment wheel, back-light compensation, V-Phase adjustment, sens up, and linear auto electronic shutter to 1/10,000 sec. Auto-white balance, AGC, and line lock are all built in. The TSN-270S can operate with a minimum illumination of 1.1 at F/1.2. It delivers more than 330 TV (H) resolution for crisp, detailed images. It accepts both dc and video-type auto-iris lenses. A built-in low pass filter keeps colors true and sharp. Contact Elmo Mfg. Corp., 70 New Hyde Park Road, New Hyde Park, NY 11040. (516) 775-3200.

## COLLECTOR'S ITEM



NEW GOGGLES! AVAILABLE FOR A LIMITED TIME ONLY

# Night Vision Goggles Are Finally Affordable

People have been clamoring for goggles, but found them too pricey! We've made a special purchase and are now offering these high-performance goggles at a new low price.

The Moonlight MPN 35K goggles feature:

- Precision-etched lens with tremendous light amplification
- Lightweight, comfortable head gear for hands-free operation
- Extremely sensitive optics with close focus functionality



MOONLIGHT

MPN 35K  
Goggles

Night Vision	009253	MPN 30K™ Binoculars	\$599.
	009440	MPN 40K-Special™ 4 x 48 Binoculars	\$699.
	009415	Moonlight NV-100-ITM Scope w/ Illuminator	\$499.
	009414	Moonlight NV-100™ Scope	\$449.
	009470	Moonlight NV-100 Compact™ Scope w/ Illuminator	\$399.
	009469	Moonlight NV-100 Compact™ Scope	\$349.
	009401	MPN 1400™ Scope	\$299.
	009330	MPN 95K™ Weapon Scope	\$1,699.
	009331	MPN 35K™ Goggles	\$899.
	009420	MPN 35K-ITM Goggles w/ illuminator	\$999.
	009426	35mm Camera Adapter for Use with MPN 60K & MPN 1400	\$149.
	009430	ALP-1™ Infrared Illuminator Pistol Grip	\$139.
	009413	Illuminator for Use with Moonlight NV-100	\$79.
	009434	Authentic KGB Officer's Watches (3 pack of Watches)	\$99.
Cameras and Lenses	009443	Moonlight's Zenit 122K 35mm Camera (SLR) includes 58mm lens	\$149.
	009445	Horizon Panoramic Camera	\$799.
	009447	Moonlight's 25-45mm Variozenitar Zoom Lens	\$249.
	009449	Moonlight's 20mm Wide-Angle MIR Lens	\$119.
	009451	Moonlight's 16mm Ultra-Wide Angle Zenitar Lens	\$149.
	009352	Rubinar 500mm Telephoto Lens	\$159.
Specialty Optics	009350	Rubinar 1000mm Telephoto Lens	\$319.
	009464	15 x 110 Russian Border Guard Binoculars	\$3,199

# NIGHT VISION

Scopes • Binoculars • Goggles



## MPN 30K™

- Binoculars with powerful 30,000X light amplification
- Quality optics with 2.5X image magnification
- Compact and completely self-contained



## Moonlight NV-100™

- Night Vision scope with state-of-the-art styling
- High-performance with 10,000X light amplification
- Powerful 4.3X image magnification for long-range viewing



## MPN 1400™

- Tremendous Night Vision performance for an economical price
- Bright optics with wide field of view
- Amplifies light 1,400X



## Moonwalker™

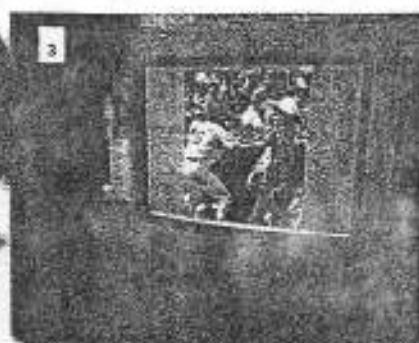
- Palm-sized Night Scope
- Fits easily into pocket, purse or briefcase
- Amplifies light 1,000X
- Perfect for traveling



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## Digital Photography: Expediting the Development Time



1 A photographer uses a digital camera as he would use a regular camera, except that the images are recorded to a disk electronically rather than a negative chemically.

2 For Mark Lennihan, a photographer for the Associated Press, work becomes easier with a digital camera. Instead of delivering the undeveloped film to the New York office, he links the disk to a portable computer. The portable is plugged into a phone line and then connects with the New York office.

3 The New York office receives the image electronically. There is no developing stage for the film; editors can then view the image immediately.

By JOHN HOLUSHA

When the flags in Oklahoma City were raised on July 4 to their full height for the first time since the bombing of the Federal building in April, David Longstreet, a photographer for The Associated Press, was there to record the event. Like the images he took of the building soon after the bombing, these pictures were not captured on film but on a silicon chip and, minutes after they

### Electronic cameras are gaining converts.

were taken, they were sent over telephone lines to AP subscribers around the world.

Filmless electronic cameras offer photographers like Mr. Longstreet unprecedented convenience and speed. Instead of having to leave the scene of action to get their film to a darkroom, they can call up their images on a computer screen and straightaway transmit them for publication. The AP has bought 50 or so of these cameras for its photographers.

A decade after the electronic still camera made its lackluster debut, its leading producer, the Eastman Kodak Company — which has long been associated with traditional, chemical-based film — has found a niche market for its high-end models. So successful is that effort that the company is now developing low-end versions for businesses that

need electronic imaging but not of the high-resolution variety.

So far, Kodak has sidestepped the pitfalls that doomed earlier attempts. Ten years ago, a filmless camera like Sony's Mavica was aimed at the general public. But with poor images and a price tag of about \$1,000, it was no match for a \$12 disposable film camera and its clear prints.

Kodak's electronic cameras designed for professional photographers are pricey. Mr. Longstreet's camera costs about \$15,000, which is not even the high end. The most expensive electronic model made by Kodak, the DCS 460, costs \$28,000. The cheapest model, the DCS 420, costs \$11,000. Kodak officials say they have sold several thousand of their electronic cameras, largely to news organizations, and they say demand is increasing.

Electronic cameras operate in a manner analogous to film. With film, light chemically alters molecules of silver halide in the film emulsion, and the molecules are converted to flecks of silver when developed, forming an image. In an electronic camera, an imaging chip is cross-hatched with tens of thousands of individual pixels, or picture elements. Each pixel measures the amount of light falling on it and a computer can assemble the elements into an image.

The more pixels there are, the sharper the image. And the greater the number of pixels packed into an imaging chip, the more complex — and expensive — the components are. On the \$28,000 model, the chip has about 6 million pixels. The \$11,000 and the AP versions have about 1.3 million. By contrast, the

Sony Mavica had only 280,000 pixels.

Electronic imaging is not new to Kodak. During the cold war, the Rochester-based company designed and manufactured electronic imaging chips for use in spy satellites. In 1990, Kodak decided to produce a commercial electronic camera using a standard camera body.

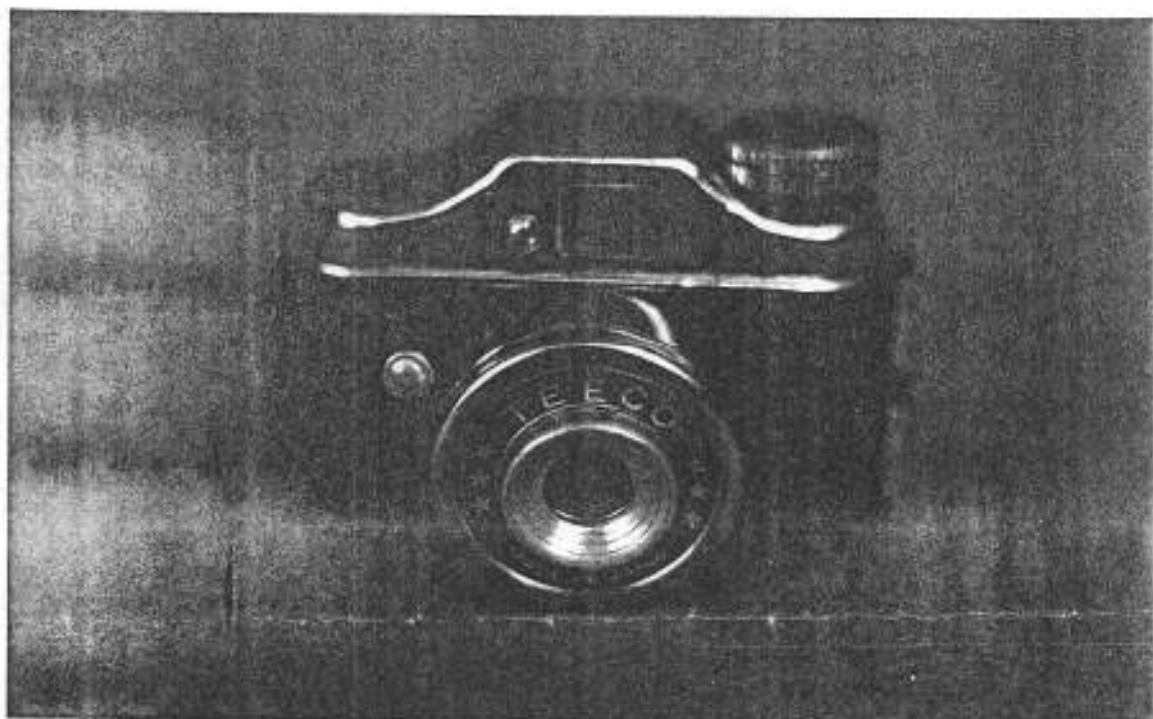
Fitted into the space normally taken up by a roll of film is the imaging chip. Below the camera body, in an attachment not unlike the motor drive of a standard camera, are the accompanying electronics, memory chips and a removable personal computer card, which is the size of a thick credit card and is the storage device and modem. The PC card can hold up to 100 images.

Kodak also makes a model that is sold by Canon. The AP model has larger pixels than the other electronic cameras Kodak makes. This enables the camera to let in more light, giving it the equivalent of faster film speed. Nikon, Fuji and Minolta have developed electronic cameras of their own design.

As expensive as they are, the second-generation electronic cameras have some flaws. The imaging chips are smaller than the 35-millimeter negatives for which the camera optics were designed. (Larger chips would be prohibitively expensive.) This means lenses are magnified, making, for instance, a 20-millimeter close-up lens act like a 35-millimeter standard lens.

And unlike a motor drive, the memory chip of an electronic camera can process the complex data of only a handful of pictures at a time.

Nonetheless, for some professional photographers the advantages of



Howdy,

Have included a photo of my "TEECO"  
Hit-type: not listed in either Mc-  
Keown's or Kirgin's (Seattle) list.

Bernard L. Bachstein  
Decatur, IL

*Continued from page 4*

the electronic camera far outweigh its shortcomings. And as the use of the higher-priced products increases, another category of electronic camera is being developed: lower-resolution devices selling for less than \$1,000 that are intended to capture images for computer files.

Kodak manufactures the Quick-take, which is sold by Apple Computer for \$749. It has also introduced its own version, the DC-40, for slightly under \$1,000. The Casio Computer Company has an entry, the QV 10, priced at \$850. The imaging chip of the DC-40 has 380,000 pixels — much less information than the professional cameras but enough for display on a computer monitor.

The manufacturers say they are marketing the lower-priced electronic cameras to businesses that need to include pictures, not necessarily sharp ones, in documents generated on computers. They include insurance companies, real estate agents and security services.



HAWAIIAN VISTA Submitted by Steve Elliott. Minolta-16 MG, ISO 100 color.



**Publishing Opportunities**

Five Corners Publications needs photographers to travel to Botswana, Morocco, Congo, Yemen, & other destinations for photograph photo guidebook series. Other cooperative projects available. Call or write for free newsletter: Five Corners Pub., HCR 70 Box 2, Plymouth, VT 05056, 800-973-3868.



Pentax UC-1

Submitted By R. Ghawi.

**PENTAX UC-1 (\$272)**

The spy camera lives. On pure '60s-era Bondian coolness, nothing beats this startlingly small (5.4 ounces without battery; 4.2 inches wide and 1.4 inches deep) performance subcompact, so tiny it fits just about anywhere. The UC-1's shimmering silvery exterior has a sliding lens cover:

Push it open and the camera is ready for action. Gimmick appeal aside, this is an extremely usable, high-quality camera. The fine 32mm, 1/3.5 lens has a five-point auto-focus system that reads and balances the lighting conditions, discharging the flash if necessary. There are five different flash functions — one to reduce red-eye and others that adjust to various lighting conditions (such as a dimly lit subject against a dark background). And its small size doesn't hinder the UC-1 from capturing big landscapes; the camera can be switched to wide-and-narrow panorama mode at any time (even in the midst of shooting a roll of non-panorama shots). That, along with its extreme portability, makes the UC-1 a great choice for travelers. (800-877-0155)

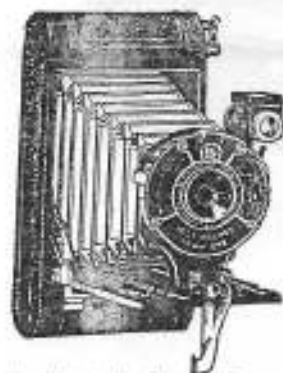
Dear Al,

Your "Subminiature Times" is a great help to me, but at the moment I am having a big problem. My Minox LX and B need to be repaired but I need a shop manual or something similar so I could do my own repair. Help me locate one of those books.

Maurice Corner, P.O. Box 202, Ste. Agathe des Monts, P. QUE J8C 3A3, CANADA

Hello Maurice,

Didn't our "how to" series on Minox repair (ST 63-66) help at all? If not, What are the problems with each camera? Al D.

**VEST POCKET HAWK-EYE FOLDING CAMERA****Takes Pictures 1 1/4 x 2 1/4 Inches****Made by the Eastman Kodak Company****Hardly a Handful, yet Takes Excellent Pictures**

This camera is "hardly a handful"—yet it makes sparkling, clear-cut pictures, in the ever popular "vest pocket" size—1 1/4 x 2 1/4 inches. It actually fits into any pocket, into the vacation grip or the hand-bag, yet it is as dependable a picture-maker as you could want—always ready in a wink for the chance snapshot—always sure to get a good one if you will give it half a chance. The pictures are good, so good in fact, that you can have them enlarged.

All this means, of course, that the Vest Pocket Hawk-Eye is both simply and scientifically constructed. The focus is "fixed"—draw out the bellows and you are ready to make the picture. The shutter gives a choice of either instantaneous or time exposures. The brilliant finder, reversible for horizontal or vertical views, makes it easy to sight the subject. A tripod socket and easy daylight loading are other conveniences. Uses Ansco, Eastman or other standard roll film, 8 exposures. Every purchaser of a Hawk-Eye Camera is entitled to a twelve months' subscription to "Kodakery." Simply fill out the subscription blank you will receive with the Camera, mail

it in direct to the Eastman Company, and you will receive the magazine free for one year. It is interesting and instructive to young and old alike. It will double the fun you'll have with your Camera.

No. 4174. Vest Pocket Hawk-Eye Folding Camera, Picture Size 1 1/4 x 2 1/4 in. Price.....\$5.00

No. 4175. Films for No. 4174 Camera (8 Exposures), Price Postpaid......25

**My Favorite Brunette** (47) Comedy. A baby photographer (Bob Hope) plays private eye to help a woman (Dorothy Lamour) find her uncle, kidnapped by a master criminal (Peter Lorre). (B/W) \*\*\* (1:45) Mon, 1:45 a.m.

**"MY FAVORITE BRUNETTE"** Wild eyed Bob with a Pocket Hawk-Eye rips non stop photographic jokes. (Hawk-Eye with DAYLIGHT settings takes best pictures thru keyholes!) 'Frisco residents still pass this building for one more laugh \*\*\*

**QUICKFINDER 10/95**

Cyclops bino/cam.....	799	W
Minicord black.....	399	W
Minolta-16 w/case.....	59	W
Rollei-16 w/case.....	135	W
Steky w/case.....	299	W
Tessina chrome.....	599	W
Robot Star II.....	429	B
Kodak 16mm enlarger.....	39	B
Underwater housing Insta-20.....	49	B
B Brooklyn Camera (718) 462-2892		
W Woodmere (516) 599-6013		

**SHOWS / KAMERABORSEN**

28. Oct. Osnabruck / Hotel Hohen-sollern Am Hauptbahnhof.  
29. Oct. Bremen / Konsul-Hackfeld-Haus Birkenstr. 34

**HELPLINE**

Dear Al: In your August '95 publication you ask for comments on the Rollei 35 and the Minox 35.

I am a Minox Subminiature nut, but I didn't care for my Minox 35 at all.

With respect to the Rollei 35, I have one of the original ones with the Zeiss lens. Although I don't use it much these days, it takes the best pictures of any camera I have ever owned.

R. Duncan MacDonald, Flint, MI.

Helpline:

Anybody else having problems with Acme MD? -Painted distance scale on mine is flaking off. -Flash cycles continuously unless I pull the battery. Bernard Delgado, NYC, NY

**THE GREAT SPY MOVIE FAN CLUB**

Take two of these,  
call me in the morning.

**20 Movie "Spy Smasher Returns"** (42) Costumed superhero Spy Smasher (Kane Richmond) fights for the Allies in France. With Marguerite Chapman, Sam Flint. (B/W) \*\* (2:00) 605519

101	102
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**"SPY SMASHER RETURNS"** The popcorn thriller series respiced becomes a two hour thigh slapper. If Bunky's cape and tights don't make you roar, wait till you see bad guy hide 4 x 5 Speed Graphic in his shirt. Funnier: He gets his picture and nobody spots him. Subminiature lives! \* \* \*

Hawk-Eye ad from 1929 Johnson Smith catalog submitted by Steve Kessler.