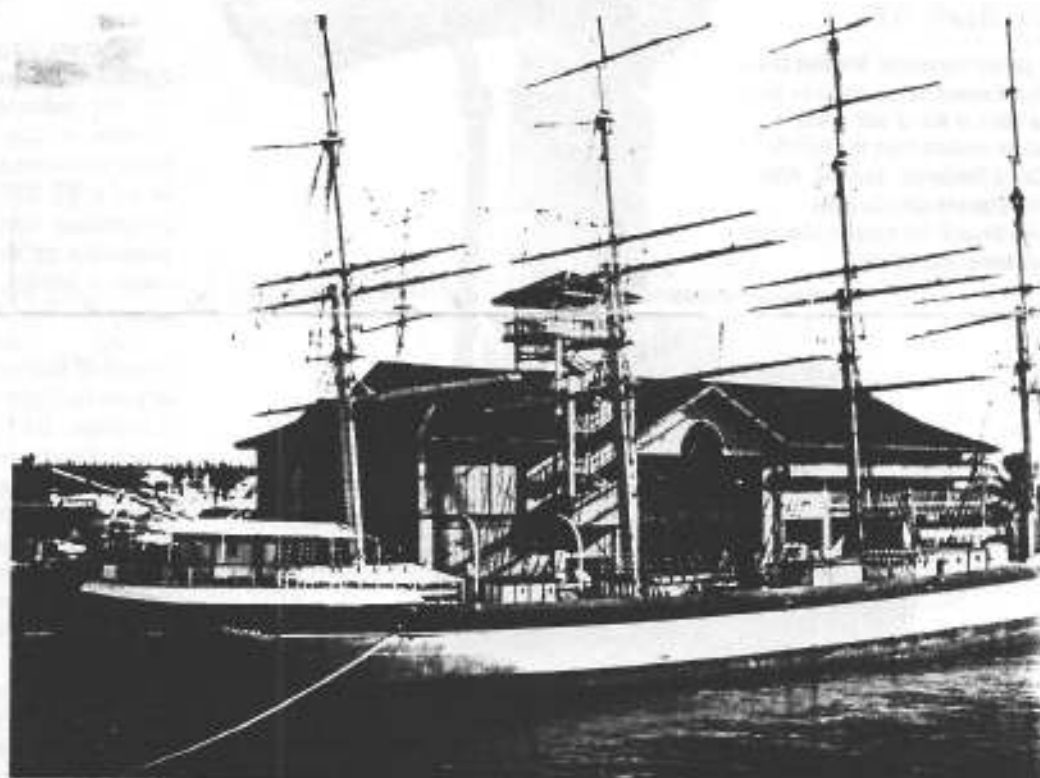


THE SUBMINIATURE TIMES

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

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



Stephan Elliott

"9.5" THE MINOX CLUB

Is the Minox B lens/system sharper than the Model EC? We're conducting an informal poll. Camera owners have long praised the optic system in the Minox B as the best in the series. Objectivity would tell us that Minox goes all out to put the best glass and system together (with the exception of that five-element Pentar which touches the film). This isn't an objective poll. Praise it or pan it. We'll keep a running tally. The photo above is a copy of a print submitted by Stephan Elliott, Honolulu, HI. Camera: Minox EC. Film: Ektar 100. The score is 1-0, favor the EC...

ROOM TEMPERATURE SUBMINIATURE IR

The improved SU128-1.7RT camera from Sensors Unlimited is based on a 128 x 128 InGaAs focal plane array. Using dark current reduction techniques, the camera is capable of high sensitivity room-temperature operation. Applications include night vision, NIR spectroscopy. Sensors Unlimited Inc., 3490 U.S. Route 1, Princeton, NJ 08540

TECHNOLOGY TO WATCH

The Fiery Color Server, a black box from EFI allows common copy machines such as the Canon Laser Copier to create cheap photographic prints from digital files. "It tricks the copier into thinking there's a perfect image on the glass plate" explains CEO Efi Arazi "it's been a runaway success." Electronics for Imaging, San Francisco, CA (415) 221-4900.

TURBO DARKROOM



Omega's Compact Video Analyzer uses a portable on-baseboard probe that is compatible with any manual or automatic enlarger. The probe may be used under normal room lighting or for electronic focusing.

The analyzer has a high resolution RGB monitor that shows a filtered, positive image, eliminating the need for a test print, automatically recognizing film, regardless of type or age. The built-in timer has magnification compensation. Omega/Arkay 1 800 777-6634.



1914

AUTOMATIC TELESCOPE?

Nope—the unique Automatic Telephot One-Minute Button Camera, which burst on the scene at the start of World War I, was a portable tintype camera from the British Ferrotype Co. of Blackpool, England. After exposure, the exposed circular plate dropped down through the support standard into the developing tank below.

WE GET ONGOING INQUIRIES about the company that makes color photo stamps. Regret to report that Double Image is out of business.



LICK 'EM, STICK 'EM

The fun of playing with stickers isn't limited to little kids anymore. Now grown-ups can have personalized photo stickers as well as their own commemorative stamps, thanks to Double Image. Any photo or Polaroid can be made into a photo stamp. For \$24 (postage included) you'll receive 100 gummed, perforated stamps in four to six weeks. It takes only two weeks and \$12 to transform your photos into 32 peel-and-stick full-color reproductions. For more information, contact Double Image, P.O. Box 3970, Berkeley, CA 94703; (415) 839-4874.



SMART CAMERA

For industrial applications



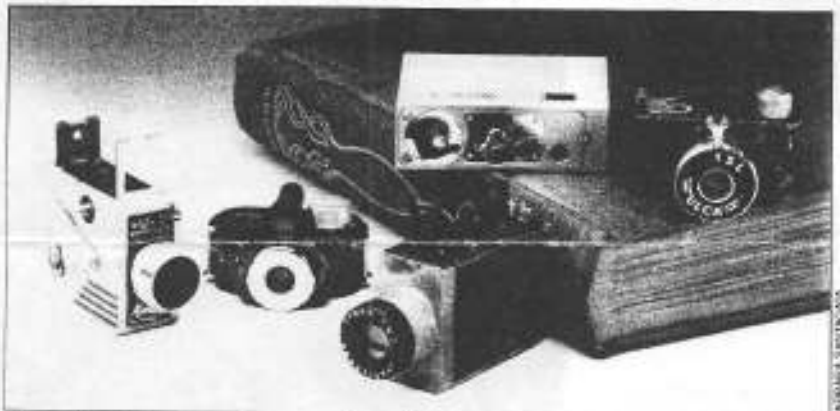
Wintress Engineering's 2048 × 1-pixel, CCD line scan Smart Camera for industrial or other measurement applications incorporates the onboard processing power of a TI TMS320C31 DSP. By generating light curtains with dimensions up to 6m square, Smart Camera arrays are capable of imaging, sensing positions, and determining the velocity (direction and speed) of both low- and high-speed objects in flight or in transit across a surface. Its onboard DSP hardware digitizes video data and stores it in dual-port RAM. The data is ping-pong buffered so that the C32 DSP can process one buffer while another is filling. A third reference buffer can be filled with static data which is then compared with real-time video to generate C31 interrupts. A standard RS-485 serial interface provides 8MB serial data rates for software loading, reset, frame gynch, and data transfer to and from the camera. A pair of 8-conductor telephone cables can be used to link any number of cameras; onboard jumpers provide for an 8-bit camera identification. Software tools are available which allow users to control the cameras from a PC Windows® environment and provide digital oscilloscope type displays. Contact Peter Burggren, Wintriss Engineering, 6342 Ferris Square, San Diego, CA 92121-3244. (800) 733-8089 or (619) 550-7300.

FREE CLASSIFIED
FOR SALE Minolta-16 MGS, -16II, 16P, with cases, flashes, adapters, lenses, filters, cass. \$150. G.F. Duffy, 283 Ridgwood Rd. West Hartford, CT 06107 (203) 561-4615

TIME EXPOSURE

BY EATON S. LOTHROP, JR.

Flashback: five American-made subminiature cameras



Before the 1950s, when Japanese subminiature cameras were in their heyday, American subminis were prominent on the market. Between 1935 and 1950, five such American cameras appeared for relatively short periods of time.

The earliest of these cameras was the Ulca, made by the Ulca Camera Corporation in Pittsburgh and first advertised in *American Photography* in May 1935. The $1\frac{1}{2} \times 2\frac{1}{4} \times \frac{3}{4}$ -inch camera had a black-finish, cast-metal body topped with a nonoptical viewfinder. It produced eight $\frac{1}{8} \times \frac{1}{8}$ -inch exposures on 20mm-wide rollfilm.

The Ulca's fixed-focus meniscus lens operated at approximately f/8. The shutter had two settings, one for snapshots, the other for time exposures. The camera sold for \$1 and film was 10 cents a roll.

By mid-1938, *Practical Photographer* magazine called the Ulca the "Watch Charm Camera" and was giving it away with every \$1.50 one-year subscription. Central Camera in Chicago advertised the Ulca as the "world's smallest camera," and sold it at the store's October 1938 annual autumn sale for \$1. After those three and a half years of popularity, nothing was heard of the camera.

Advertisements for the Micro 16 first appeared in the October 1946 issue of *Pop Photo*. Made by Wm. R. Whittaker Co., Ltd. of Hollywood, the camera had a rectangular body measuring $2 \times 2\frac{1}{4} \times 1$ inches—"no bigger than a pack of cigarettes," the ads said. There is no evidence that it was designed to be concealed in a cigarette pack, as some claimed.

Five pre-1950s American subminiatures were (left to right) the Micro 16 (1946), the Tynar (1949), the Micro 16 Pixie (1949), the Minute 16 (1950), and the Ulca (1935).

The Micro 16 had an all-metal, die-cast case finished, as the advertisements stated, in "lustrous satin chrome plate." It weighed just under nine ounces. Cassette-loaded 16mm film—either black and white or color—provided 24 exposures, and the film was advanced when the user pushed a plunger rod. Its fixed-focus achromatic lens had changeable stops, and a waist-level viewfinder was built into the body.

When the Micro 16 was introduced, it sold for \$24.50. The film for this camera was \$1, including developing and printing. By 1948 the camera's price had dropped to \$19.95. Available accessories included an eye-level viewfinder (\$1) and a synchronized flash (\$29.90 for flash and camera). The last listing of the camera was in the May 1950 directory issue of *Pop Photo*.

The Tynar camera, made by the Tynar Corporation, was first mentioned in the July 1949 issue of *Pop Photo*. It too had an all-metal, die-cast body— $3 \times 1\frac{1}{2} \times 1\frac{1}{2}$ inches—but it had an eye-level, collapsible, frame-type viewfinder mounted on top. It accepted 16mm film, black and white or color, loaded in a 14-exposure, drop-in cassette.

The f/6.3, fixed-focus Tynar Anastigmat lens provided two other aperture options mounted in a rotating disc. The sin-

gle-speed shutter was cocked by turning a knob, which also advanced the film. The shutter-release button was located on the end of this knob.

When introduced, the Tynar cost \$7.95, and a black-and-white film cartridge cost 50 cents. By November 1951, the date of the last ad I can find for it in *Pop Photo*, the camera was being sold for \$4.95 with a "lifetime supply of film—you pay only the low processing charge."

The one plastic camera in our quintet of minis was the Micro 16 Pixie. This was advertised in the July 1949 issue of *Pop Photo*. Manufactured by Wm. R. Whittaker Company of Hollywood, it measured $1\frac{1}{2} \times 2\frac{1}{4} \times 1\frac{1}{2}$ inches. This little camera used either color or black-and-white magazine-loaded 16mm film. Its f/6.3 doublet lens had two additional stops mounted in front of the single-speed shutter. An eye-level, optical viewfinder was mounted on top of the body.

The Pixie sold for \$4.95, or \$7.95 with flash. Film was \$1.29, including processing. Accessories included a leather wrist strap (69 cents), a viewer for transparencies (98 cents), and a carrying case (98 cents). The last listing for it, in *Pop Photo*'s 1951 directory issue, also mentioned a "gold-plated deluxe model" for \$7.95.

The Minute 16, made by the Universal Camera Corporation of New York, made its debut in an ad in the January 1950 *Pop Photo*. Its $1\frac{1}{2} \times 2\frac{1}{4} \times 1\frac{1}{2}$ -inch body was made of die-cast metal topped with a collapsible, eye-level, frame-type viewfinder. In some ways the camera looked like a better-finished version of the Tynar.

The Minute 16 used 16mm, magazine-loaded film. A variable diaphragm offered exposure control for the fixed-focus, coated, f/6.3 anastigmat lens. A lever on the camera's side operated the film advance and cocked the single-speed shutter. The shutter-release button was located just above the lever.

The camera cost \$7.95. An accessory synchronized flash unit available for \$3.95 more. A 14-exposure roll of film was 35 cents. The last listing for the Minute 16 appeared in *Pop Photo*'s 1952 directory issue.



INTERNATIONAL

Insiders are talking about the new film format being prepared by a consortium of Kodak, Fuji, and Olympus; requiring a new camera size. You heard it here first.

RESPooling

Kodak AHU 3460 is on the surplus market. This super thin microfilm can be loaded into any camera that will accept unperforated 16mm stock.

Vacationers and students love these featherweight emulsions that let you shoot triple length cassettes, and will split down to 9.5mm without chewing up the blades of your Minox splitter.

A 36" length of 3460 will produce 50 frames with a reasonable amount of leader, using any of the popular 20-exposure 16mm cassettes.

It also loads easily onto paper-backed spools for Mycro and Vestkam-size 17.5mm roll film cameras. (Use 110 paper if you don't have any 17.5mm handy.)

There's no rem-jet backing to slough away in your tank, and the negatives show no noticeable base fog: an indication of good storage for this '91 dated stock.

AHU responds without pre-fog to all the low contrast developers: POTA, Technidol, etc. Our test negatives were processed in Rodinal 1:133 (30 drops in 200 ml. 15 mins @ 75°F.) and T-Max 1:4 (35ml + water to 175ml. 5-1/4 mins @ 72°F.)

Someone had helpfully written "2 to 4 ISO" on our sample box. The good news is that our best negatives using Rodinal are at E.I. 10 in normal daylight, 20 for copying. T-Max produced a slight chemical fog, boosting the speed to 250; 50 for copying. Which brings us full circle if you still haven't forgiven Kodak for discontinuing Panatomic-X.

The \$6 price tag for a 16mm x 125' roll includes shipping. Several hundred rolls of AHU 3460 are currently available. But if you sit on your hands too long...

AHU 3460 Eastman #161-5590. The Camera Exchange, 630 Corbett Av #982, Swansboro, NC 28584. (910) 326-1563.



Can you see the co-pilot (second window)?
Exposure: F/4 @ 1/50
Camera: Minolta-16
Film: AHU 3460

FREE CLASSIFIED

FOR SALE Pentax-110 Super body \$200, Winder II for Super \$75. Pan Focus 18 #80 all mint. 110 collection, send for list. Stephen Gandy, 1336 Moorpark Rd., Box 184, Thousand Oaks, CA 91360. (818) 879-1968.

OPEN FORUM

A reader who is experimenting with rapid film processing and assessment, offers a method for making presentations of sub-miniature photography as frequently as 4 times an hour. Kodak RAR 2479 is processed in D-76 for 1 minute @ 105°F., followed by a rapid fixer. The semi-dry strip is inserted in a 35mm cardboard mask taped over for Minox format.

Polaroid B&W negative film is used in a Vivitar Instant Slide Printer. The resulting index card size positive is put in an overhead projector.

Total time from Minox to viewer: 9 minutes.

Samy's Camera, 263 S. La Brea, Los Angeles, CA 90036.



\$89.95

USED CAMERAS, WITH A SPIN

Your letters have indicated that this is a common practice: You buy a used camera with a cassette still in the chamber. Rather than pull out the film and spool up fresh stock, you process the film.

Usually it's the remains of a color film, heavily fogged, and too suspiciously mottled to touch with a pristine drying sponge.

We've started selling our camera collection to raise money for a high quality newsletter printer. Each camera comes with a roll of high resolution microfilm in the chamber, and something interesting on the first frame. It might be an eye chart, or something to give you a laugh.

Primarily it will give you a good sharp image from which to judge the quality of future prints.

Our little Minolta-16 with a good lens, dependable shutter, and a surprise first frame, is being offered for \$50. Al D.

LETTERS

Greetings from the Grove--

I was quite surprised to read your notice stating that Walgreens would process 16mm Eastman 7245 color negative film for it is one of those films which I use in my Rollei-16 camera and I develop it in the ECN formula. Since that type of film has a rem-jet backing it should not be processed with C-41 type films because the backing material will get into the developer and cause problems. In Unicolor processing instructions they state that films with rem-jet backing should not be processed along with C-41 films.

Paul Price
Downers Grove, IL

Good catch Paul!

In my haste to remind everyone that May was Photo Month, and bargains were to be found everywhere especially in 110 processing, that piece of information was attached to the "flag" on the May and some June issues. I hope it hasn't caused any problems. It was deleted from later notices. Al D.

Mr. Al Doyle,

I recently acquired a Canon-110 ED 20 camera but no operation manual on it. However, this camera has some impressive features.

The date can be imprinted on the film by internal projection.

The viewfinder has bright frame lines for parallax correction and shows the date being imprinted, battery check, and slow shutter speed warning. There is a bright yellow spot in the center of the viewfinder. (I have not figured this yet.)

The Canon-110 ED 20 uses a 6 volt battery but can operate with no battery at one shutter speed only.

Ro Bhola
Hollywood, FL

Anyone got a manual for Ro?

"4.5" THE MINOX CLUB

Dear Al:

I am one of those camera nuts that is not particularly meticulous. I usually have film in six or seven cameras. My problem is with my Minoxes. I generally have film in the BL, EC, and XL models. I have a habit of just firing away, taking as many shots as I feel appropriate and I will often go beyond 'zero' when I am shooting. By the time I remember to check to see how much film I have I will be down around 32 exposures. I am in a position of not recalling whether I am just starting out a roll or have gone beyond the available film. All other cameras that I fool around with stop when all the available film has been used.

Aside from telling me to be more careful in calculating the amount of film in my Minox cameras, do you have any suggestions as to how this problem could be solved?

R.D. MacDonald,
Flint, MI.

Dear Mr. MacDonald:

It took a long time to respond to your letter because I tried hard to find a solution within your parameters, and couldn't.

Everybody runs a Minox past the limit. Here are two options offered by local Minoxers: If you shoot a lot, and it's important, process every roll nightly. If you shoot sporadically, use only two cameras at a time, and only two films. Eg. A chrome camera with color film, a black camera with black and white film.

My solution is to shoot only 25 frames on any 36 exposure roll in the field, then the camera is 'grounded' for work around the house, family pix, pet tricks, etc. And I count off, "34-35-36-stop."

It's one of those Keep It Simple solutions that reduce my anxiety level. Hope it helps you. We should get a lot of mail on this one.

Al D.



12.99 Star 110 Camera
Drop-in film loading;
film and batteries.
Reg. \$15.99

Currently at Walgreen's

Absolutely crazy (and brilliant) 3D disposables!



How to see 3D. To see stereo effect in this pair, take a piece of thin cardboard about 8-10 inches on a side and place it perpendicular to the print, right between the image pairs, as shown. Concentrate on fusing the foreground into one image. Don't worry if you can't get it—some can't!



In our ongoing jokes about the motor-driven, multimode autofocus single-use cameras of the future, we forgot to mention the single-use stereo-pair camera.

A hilarious prognostication? No, Fuji is making a single-use variation of the old stereopticon camera, right now!

This latest gizmo (currently in Japan only) consists of a folding dual-mirror image splitter that attaches to the front of a Fujicolor 800 QuickSnap (also in Japan only). The clever splitter creates

a stereo image pair that prints without a hitch on a standard 3 1/2 x 5 or 4 x 6. (The gadget also masks the finder to the format.)

When you get your prints back, you view them with a little folding cardboard viewer equipped with two low-power magnifying ocular lenses—a low-tech update of the stereo viewers of a century ago.

The stereo separation is very good—think of a print version of the ViewMaster—although the cardboard viewer cuts off rather a lot of the frame edges. We've



Mirror splitter attachment fits by plastic straps onto Fuji QuickSnap 800 to create stereo-pair camera.



Clever folding viewer lets you see sometimes startling 3D effects in resulting prints.

printed an image pair that you can try viewing by following the technique shown in the diagram.

The system has many advantages: You can mix stereo pairs and normal images at will on the same roll. The prints can be processed anywhere regular prints are processed. You get the same number of prints per roll—you can shoot 27 stereo pictures on a box of 27. And you don't even have to take the prints out of an album to view them.

Now, if only we could get them here. C'mon, Fuji, let's give our home market a crack at some of these neat toys for a change.



EDITOR'S JOURNAL

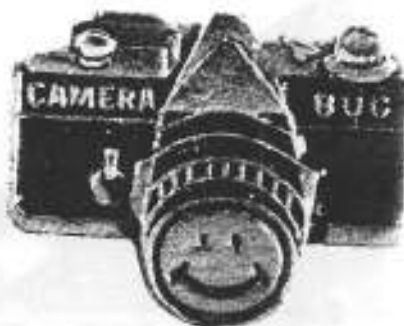
Knock, knock. That's not the start of a joke. It's the early line on Apple's \$799 Quicktake. Good price, good company, but on a tangent to mainstream technology. Other cameras download to transmitters or removable disks. Quicktake must download after 32 Standard Resolution, 8 High Resolution pictures, or a combination of either. A two-second delay after the shutter button is pressed is a puzzling quirk. Incompatibility with Apple's NEW Power PC Macintosh is another. The shutter speed range is 1/30 to 1/175 sec. The flash options are: always on, always off, and auto. Focus is fixed at 4' to infinity. Since it still requires a five figure printer to do justice to the Quicktake's 320 x 240 pixel Standard Res, or 640 x 480 High Res capability, is the QT 100 a trial balloon? A mistake? Or will Apple surprise us (just before Christmas) with what we really need, a 1200 x 1200 dpi printer for under \$1000?

QUICKFINDER 7/94

Acme MX	\$126 K
Falcon Midget-16	49 B
Gami w/case	1150 B
Gami	849 W
KGB F-21	850 A
Kombi	219 B
Mec-16 SB	149 B
Micro-M	175 B
Mikroma II w/cassettes	149 P
Minolta-16 w/flash	59 K
" 16 MG	49 B
Minox B w/case	175 B
" Binocular clamp	59 W
" C	259 B
" Cube flash (A)	19 B
" EC w/flash	184 B
" EC	145 B
" III-5 w/cs-chain	149 S

A Active	(718) 645-3147
B Brooklyn	(718) 462-2892
C Columbus	(614) 267-0686
K KEH	(404) 892-5522
S Speicher	(516) 546-3513
W Woodmere	(516) 599-6013

POPULAR PHOTOGRAPHY/MAY '94



"Camera Bug" jewelry is a tipoff to others that you are interested in photography. They are available as a stick pin, tie bar, or tie tack (\$18 each) or as a pair of cuff links (\$34), in gold- or silver-tone fin-

ish. Also offered is Photo Data Record, a 50-sheet pad for record-keeping and pre-planning shots (\$2). *DIST.*: Freelance Visual Productions, P.O. Box 843, Philadelphia, Pa. 19105.