

Editor: Al Doyle
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THE SUBMINIATURE TIMES

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LETTERS

Dear Al,

Re: Depth of Field, the Minox has so much depth of field even at $f/3.5$ how can you isolate something beyond 30 ft? Keep up the good work, enjoy it a lot.

Reggie Boynton
Charleston, W. VA.

Dear Reggie,

You can reduce the amount of depth of field by increasing the aperture size, or increasing the focal length of the lens.

When you can't find a solution try to change the question. This problem restated becomes How do you isolate an object beyond 30 ft with a wide angle lens?

You get a bit of a break if the subject is in motion, even portraits of walking people improve if you pan with your subject. The induced vibration from your hand that would be detrimental at such slow speeds is transformed into useful energy.

With the camera aimed at the subject while all this is going on it puts the image of the subject on a fixed point in the film, and everything else reflects what the picture would look like if you panned and nothing were there. This was taken at $f3.5 @ 1/30$. The camera was a Minolta MGs.

Another way to isolate your subject is to dodge them out, or darken them in relation to the background in the final print. Your own approach will depend on whether you think thru your camera or your hands.

Dear Al,

I have a chance to buy a Mamiya Super-16, Automatic, or a Minolta-16 MG. Which would you get? Could you be specific?

Tony Harris
Clear Lake, TX

Dear Tony,

That's a tough question. It depends on the type of pictures you intend to take, your film choices, and your working conditions.

The Mamiya-16 Auto is a tool. There aren't too many cameras in the 10mm x 14mm format that have a built in meter and focus down to 12". The lens is super sharp with any film, the interchangeable filter is certainly handy, and the film speed range may be the widest in 16mm (ASA 10 to 1600 indicated, but in the field it works out to ASA 5 to 3200).

Because of the slow shutter speeds down to $\frac{1}{2}$ sec. you can press the camera against a building or a tree stump and take pictures in extremely low light levels. 3-minute moonlit landscapes are no problem with this camera.

But the camera is a bit heavy (10 oz, vs 5.5 oz for the Minolta-16 MG) and a bit clunky to carry around on a 24 hour basis. If I'm wearing a jacket it's no problem. Otherwise I wouldn't carry it as much as I would the Minolta-16 MG. It's smaller, has rounded corners, and slides easily into a trouser pocket.

The Minoltas' match needle system sets both the aperture and shutter with a flip of a thumbwheel, so you tend to catch more pictures on the run, while keeping the other hand on the steering wheel control yoke, or handlebars, or whatever you're riding.

The top speed is marginally faster 1/250 vs 1/200 for the Mamiya. But preprogramming has a downside. You can't shoot at 1/250 without also using f/16. Wide aperture shots at fast shutter speeds are impossible.

If you use films slower than ISO 25 or faster than ISO 400 you'll have to 'guesstimate' the exposure, if it's out of the meter's range.

The MG is one of the Minoltas that were calibrated for thick films, and if you use 'normal film' EG: movie stock or factory loaded color, you'll never have a problem. If you go to 2.5 mil microfilms, objects beyond 50 yards won't be in crystal sharp focus. Horizons will look a bit soft under

high magnification, unless you stopped the aperture pretty far.

I'd try to buy both cameras, carrying the MG on a 24 hour basis, and using the Mamiya for specific projects. One last note, I don't use Mamiyas 'as is'. Get a repair shop to loosen up that pressure plate spring. I hope this helps.

Al D.



ISO 100 TO 3200 ON THE SAME ROLL

You can't 'baby' the film when you absolutely positively have to come back with a picture. For computer images from a TV screen or monitor you'd set your camera at the following settings:

Film speed	Aperture/Shutter speed
ISO 100	f/2.8 @ 1/30
ISO 400	f/4.0 @ 1/30
ISO 800	f/5.6 @ 1/30

Kodak's D-76 is normally too aggressive for high quality subminiature work, but combined with an extremely high speed film the combination will capture almost anything it sees, and produce useable negatives over a very wide range of aperture settings. As long as you're close, you'll catch it.

In the sequence above, the shutter speed remained the same (always use either 1/25 or 1/30 sec. for TV images), while the apertures varied left to right from f/2.8 to f/16.

Film: Kodak RAR 2479
Developer: D-76 undiluted
53 seconds @ 105°F.

TIME EXPOSURE

By Eaton S. Lothrop, Jr.



Readers remember when writers forget;
some further words on color cameras

As I may have said before, I sometimes feel as if I am writing this column in a vacuum. For all of *POPULAR PHOTOGRAPHY*'s circulation, there is often little feedback from readers. So, I'm particularly appreciative when you send in additional information regarding something I have written about.

"Time Exposure," June, 1983 (which discussed colored cameras) drew letters from Boyd Reedy of Tokyo, Japan; Don Chatterton of Santa Barbara, Ca.; and Alan Katelle of Hudson, Ma. They gave me more facts about this special breed of cameras.

I had mentioned the different colors in which the subminiature *Minolta 16* was produced and commented about not knowing in what years they appeared. Mr. Reedy reports that the Japanese book, *All About Historical Cameras: 3* (1983), states that colored *Minolta 16*s were produced in 1958. It says also that, besides the colors I mentioned, there was also a brown model.

Mr. Chatterton named several colored cameras I had overlooked. Most prestigious among them is the gold Leica A "Luxus," of the late 1920s. This had a lizard-skin covering in either red, blue, green, or brown.

Walter Kunik-Vertrieb, of Germany, produced the *Petie Vanity Camera* and *Petie Lighter Camera* (ca. 1958) in red, green, and blue enamel finishes.

The small Japanese binocular camera, the *Binoqa* (ca. 1950), appeared in white, red, or blue plastic.

The Austrian subminiature TLR, the Goetz *Minicord* (ca. 1951), was produced in gold, brown, or black.

The Japanese subminiature cam-



Chrome *Minolta 16* shown above in 1958 camera ad also came in colored versions. Chrome version brings \$15-\$25 from collectors, colored models from \$35-\$150.

era concealed in an eight-transistor radio, the *Bell Kamra* (later *Kowa Ramera*), ca. 1960, was offered in a choice of a red, black, blue, or white plastic case.

The *Tessina*, a petite 35-mm twin-lens reflex camera (ca. 1960) came in chrome, red, gold, or black. Another subminiature, the *Yashica Y-16* (ca. 1958), was made in red, yellow, blue, green, or black.

Finally, the *Minimax-Lite* camera lighter, which came out in 1981 and is still available, appeared in silver, black, and a gold-trimmed tortoise-shell pattern of red or brown.

I must shamefacedly confess that, of the cameras pointed out by Mr. Chatterton, I have examples of the *Yashica Y-16*, *Minimax*, and *Kowa Ramera* (in three colors) in my own collection that I had completely overlooked! In addition, I "rediscovered" in my collection a cheap little plastic Hong Kong-made camera, of indeterminate date, called the *Babette*, in green, red, yellow, and blue.

Here's an update on films, and a little project that makes it possible for a little pocket camera flash gun to illuminate an immense area.

The reader who submitted it claimed it was possible to light an entire football field using twenty inexpensive flash guns and a Minox camera!

CHARTING NEW GROUND

Would you like a quick reference guide that characterizes all the new color-print films introduced in our February (Kodak) and May (Agfa and Fuji) issues? Reader Vernon Hoyt of Excelsior Springs, MO has

done it for you. He's included some older print films along with our editorial comments. The list is not meant to be all-inclusive, but focuses primarily on print films introduced in the last six months.

A Slave Tripper To Call Your Own

Multiple electronic flash, that mysterious domain of the professional, is not all that difficult once you have the key item cornered. The key item here is a device that makes all those flash units go off at once. You can use PC extensions with multiple connectors. You can, that is, if you don't mind getting you, your model or subject, the light stands, your tripod and any passing pussycat inextricably tangled in a mess of insulated electrical worms.

A solution to this problem is to use slave units that sense the light of one flash and trigger a remote flash. The slaves are attached to the remote units by hot shoe, PC or AC connections and result in a set up with no dangling or tangling cords. Commercially made devices cost from \$15 to \$30 by mail order. For less than \$8 and one hour of time, you can make your own very serviceable little unit.

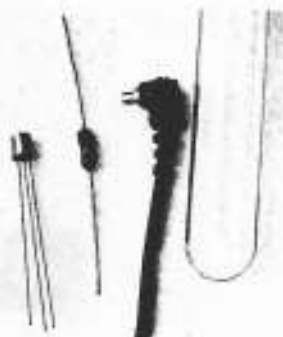
The heart of this low-cost electronic marvel is a Light Activated Silicon Controlled Rectifier (LASCR) that costs from 99 cents to \$1.59 when purchased from Radio Shack. I don't pretend to know how it works, but it does. In addition to the LASCR, you will need a 9-cent, 1/4-watt resistor of about 8.2 K ohms, a PC to PC (or PC to AC) cord, a heat sink kit about \$1.70, a soldering iron, solder, wire cutting pliers, a sharp knife, some clear casting resin and a mold (a 10cc glass test tube works well), a felt marking pen, a towel and a rock.

Constructing the device is simple. If the flash you want to operate remotely has a PC cord, you must have a connecting PC cord that will join the cord on the flash to fit your camera. For the rest, follow the illustrated instructions, right.

To test it, make sure that none of the wires are shorting out or touching each other. Plug the PC cord of your remote flash to the slave cord. Be certain that the connection is solid. If it comes loose, the remote flash will accidentally go off. Step back 15 ft. or so and trip the flash unit on or near your camera. Keep moving back and flashing until you reach the limit of sensitivity and the remote unit ceases to be functional. The range of sensitivity is a function of the resistance you put between the gate and cathode when wiring up your LASCR. If you increase the resistance, you increase the sensitivity and

RECOMMENDATION	FILM	FILM SPEED (ISO)	SHOOTING RANGE (ft.)	DAY FILM PROCESS (ft.)	ISO (ISO)	Comments
Yes	Kodak Ektar 25	25	12 to 50	NR	25	Its superb sharpness and exceedingly fine grain redefine color negative shooting.
Yes	Kodak Ektapress Pro 100	100	25 to 200	400	100	"Slight" edge in sharpness and better underexposure latitude than Kodacolor Gold 100.
Yes	Fujicolor Super HG 100	100	NA*	NR	100	HG film features shelf life and latent image retention that are improved over Super HG films.
Yes	Agfaolor XRC 100	100	25 to 400	NR	100	Sharp, well saturated, pleasing contrast and an "incredible" exposure latitude.
Yes	Agfaolor XRS 100	100	NA	NR	100	Agfa's XRS film is intended for professional use and features natural, realistic color.
Yes	3M Scotch HR 100	100	25 to 200	NR	100	Stable, resistant to processing variations.
Yes	Polaroid	100	NA	NR	100	"Reproduces colors as seen by the human eye," even under fluorescent lighting.
Yes	Agfaolor XRC 200	200	25 to 800	NR	200	Fine grain, full color palette, and great exposure latitude. For amateur market.
Yes	Agfaolor XRS 200	200	NA	NR	200	See remarks for Agfaolor XRS 100.
Yes	Fujicolor Super HG 200	200	NA	NR	200	Fuji HG film features finer grain and more saturated colors than their previous print film.
Yes	Kodacolor Gold Pro 400	400	100 to 800	1600	250	Less saturated and more contrasty than Gold 400, but somewhat finer grain.
No	Agfaolor XRS 400	400	100 to 800	NR	250	"Sharp, slightly fine grained with subtle, moderately saturated color." See XRS 100.
Yes	Fujicolor Super HG 400	400	NA	NR	400	See remarks for Super HG 200.
No	Konica SRV 400	400	100 to 1600	NR	250	"Noticeably fine grained, impressively sharp, with realistically well-saturated colors."
No	Kodacolor Gold 400	400	100 to 1600	NR	250	"Brilliantly colorful, high-contrast film with added dash of contrast." An old favorite.
No	3M Scotch HR 400	400	100 to 1600	NR	250	"A beautifully soft, but well-saturated film that reveals a lot of color nuance. Good grain."
No	Vericolor Pro	400	100 to 1600	NR	250	"The polar 31-X, an ISO 400 film you can take anywhere to do anything."
Yes	Agfaolor XRS 1000	1000	NA	NR	1000	See remarks for XRS 100.
Yes	Kodak Ektar 1000	1000	250 to 2000	NR	1000	Very impressive grain and color for its speed. Looks more like an ISO 400 than 1000 film.
Yes	Kodak Ektapress Gold 1000	1000	400 to 3200	3200	800	"Presents a slightly harsh view of the world, but color and sharpness are best in its class."
Yes	Fujicolor Super HG 1600	1600	NA	NR	800	See remarks for Super HG 100.
No	Konica SRV 1600	1600	NA	NR	800	NA
Yes	Konica SRV 3200	3200	NA	NR	3200	Colors fairly muted but have more richness than ISO 1600 film pushed to 3200.

* Not available. † Not recommended.



1. Essentials include, left to right: light-activated silicon controlled rectifier; 8.2-K ohm, 1/2-watt resistor, PC cord, tube.



2. Assembly equipment includes, clockwise from top: casting resin, knife, heat sinks, solder, soldering iron, and rock.



3. Cut off female end of PC-to-PC cord about 4 in. from plug end and use this part (arrow) for slave unit connection.



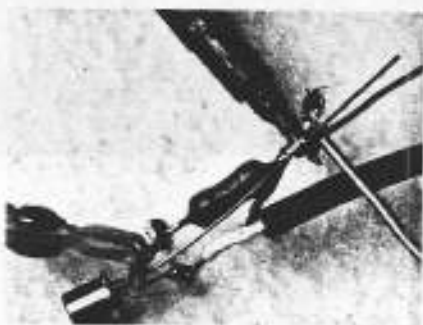
4. Trim insulation an inch from splice point, twist sheath (O) and remove 1/4 in. of insulation from end of inner wire (I).



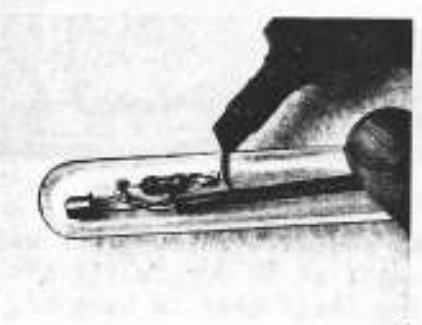
5. Connect heat sink to anode of LASCR (arrow) and solder inner wire of PC cord to anode lead.



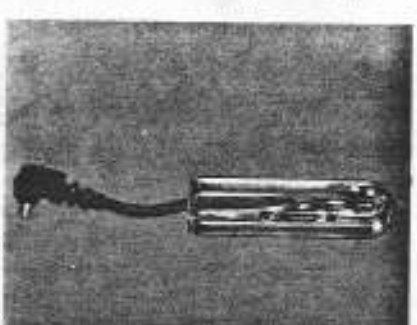
6. Solder resistor to Gate lead while holding leads with heat sink clamps. Be careful to keep other wires away from heat.



7. With a heat sink clamped to Cathode, solder the other end of the resistor, the Cathode lead and outer wire of PC cord.



8. Insert the bare unit into the test tube and mark the position as shown slightly below the point where all the electronics sit.



9. After mold has set overnight, wrap unit in towel and crack excess glass from top. Be firm but cautious.

range—but you also become more vulnerable to ambient light levels. If the sensitivity is too high and the ambient light is also high, the flash will go off all by itself.

All that remains to be done is to encapsulate the unit in clear casting resin. This isn't absolutely necessary, but it helps to protect the unit. I use a 10cc glass test tube for the mold. Before placing the unit in the mold, verify that no wires are shorting out. Then slip the unit with the LASCR down into the test tube. Fill the test tube with casting resin up to the mark you placed on it, and set the tube propped up vertically.

After allowing it to set overnight, wrap the towel around the unit and gently but firmly apply the rock. (Actually a small hammer will work just as well, but the rock appeals to my primitive nature.) After cracking the glass, *very carefully* unwrap the unit, remove the broken glass and you have your completed slave unit. —NORM SMITH (Tucson, Az.)

Here's What You Need

Light Activated Silicon Control Rectifier: 1.6-amp, 200-volt (Archer #276-1095) \$0.99-\$1.59

Resistor: 1/2-watt, 8.2-K ohms (Archer #271-034) .09

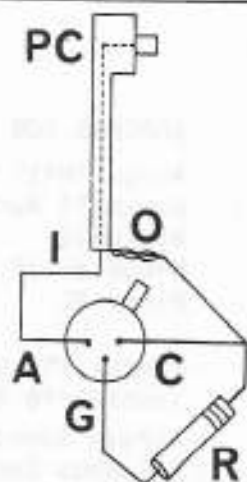
PC/PC cord or PC/AC cord 1.95

Heat sink kit #276-001) 1.69

Clear casting resin 2.65 qt.

Casting mold from 10cc test tube .10

Other items you should have: small soldering iron, resin core solder, felt marking pen, cloth towel, small rock or hammer, sharp knife, wire cutting pliers.



Electrical diagram shows the layout—the O and I wires from your PC cord connect to cathode (C) and anode (A) of LASCR. Resistor goes between cathode and gate (G).



Grab shot. This youngster was lost in thought at 60 mph, while his buddies were doing their best to hang on.

Camera: Mamiya-46

Film: Kodak 7276

Developer: Rodinal 1:100

CAMERAS FOR SALE

Arrow "Hit" w/film	\$7.50 CCG
Konan-16 Automat	114.50 CCG
Micro-16	29.50 CCG
Minolta-16P	16.50 CCG
Minox EC	119.00 B
LX	579.00 B
Pentax 110 Super	134.50 CCG
Yashica-16 EE II	79.50 CCG

Bergen County Camera, 270 Westwood Ave., Westwood, NJ 07675

Columbus Camera Group, 55 E Blake, Columbus, OH. 43202 (614) 267-0686