Modern Photography's Annual Guide to 47 Top Cameras

And 47 continues to be the magic number each year. Somehow as new cameras are introduced, some others are deleted or lose their bit of magic. There has been some new essential information on cameras reported last year, while admittedly some cameras haven't changed a jot since our last report—except maybe a change in the importer's address. But the very fact that the top cameras don't revolve too often produces a stability in the high price camera market for which all of us camera owners should be thankful.

Looking over the field briefly, we find virtually no additions in cameras or accessories in the 126 line, somewhat to our surprise. In the completely automatic SLR cameras, we have a new one but we'll bet this area will show increases now every year. We note a new 2¼ SLR and won't be surprised to see perhaps one more next year.

Our system for selection remains as before. In order to qualify for the top 47, each 35mm, roll film or Polaroid camera had to be the top model of the line. Our ratings are condensed versions of tests we've run on the cameras or, in some instances, our conclusions on cameras that we haven't yet run full tests on in our regular monthly testing section. Each had to have a lens which ought to be acceptable or better by professional standards. We have avoided store brand name cameras available from single retail outlets only. All are nationally available brands or, in the case of untested models, our opinions formed after having examined preproduction samples.

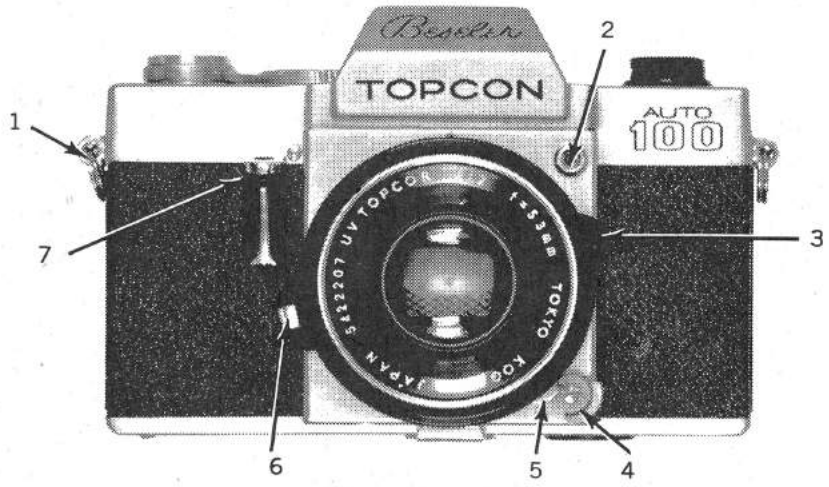
If we've missed your favorite camera, figure we didn't get it for testing or maybe we think it didn't make the grade even if you did. Use this as a guide to cameras we've included, rather than as a list to check the ones we haven't. Obviously the best test of any camera included or excluded is how you the photographer feel about it. A camera loved, used and capable of appreciated results is a top camera, Modern Photography or no.

—The Editors

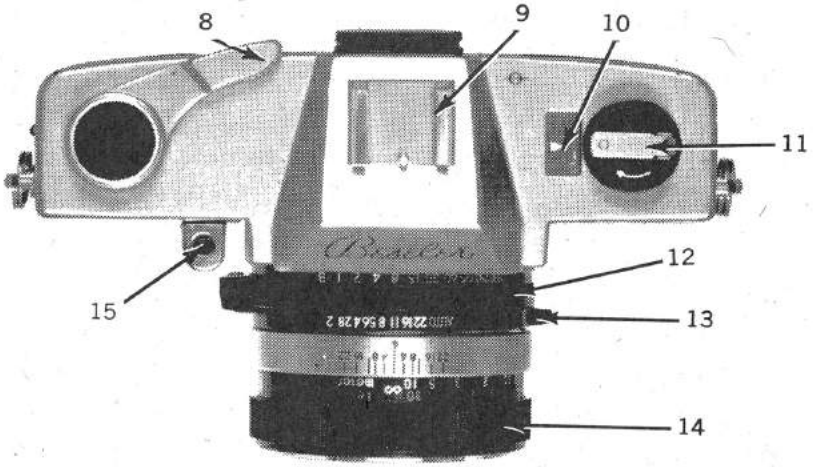
Beseler Topcon Auto 100

TYPE: 35mm eye-level single-lens reflex. LENS: Interchangeable 53mm f/2 UV Topcor with bayonet mount, stops to f/22, and focusing to 27 in. SHUTTER: Seikosha SLV behind-lens leaf with speeds from 1 to 1/500 sec. plus B. MX sync, self-timer. VIEWFINDER: Noninterchangeable eye-level prism with full focusing screen, central microprism, fine ground collar. OTHER FEATURES: CdS meter behind lens underneath mirror measures entire picture area and controls fully automatic exposure system; full manual override; aperture visible in finder; low and excessive light warning control; instant-return mirror; quick-return diaphragm. PRICE: $159. MANUFACTURER: Tokyo Optical Co., Ltd., Tokyo, Japan. IMPORTER: Charles Beseler Co., 219 S. 18 St., East Orange, N.J. PHYSICAL DIMENSIONS: 5½ in. long, 3¾ in. high (maximum) and 3⅜ in. deep (from front of lens to camera back). WEIGHT: 1 lb. 15 oz.

Here's one of the few fully automatic single-lens reflexes having a through-lens metering system and featuring interchangeability of lenses.



1. Shoulder strap lug. **2.** Flash sync terminal. **3.** Aperture ring knob. **4.** MX sync and self-timer setting dial. **5.** Lens mount lock. **6.** ASA film-speed and shutter-speed knob. **7.** Shutter release button. **8.** Film advance lever. **9.** Accessory shoe. **10.** Auto resetting frame counter. **11.** Film rewind crank. **12.** Shutter-speed scale. **13.** Aperture scale. **14.** Footage scale and focusing ring. **15.** Cable release socket.



The camera lens mount has the usual (although more clearly marked than most) concentric shutter speed (12) and aperture rings which can be moved easily into their clickstop positions by two large moon-shaped, ribbed, control levers. Beyond the f/22 end of the aperture ring is an "Auto" marking. When the ring is set to "Auto," the camera automatically chooses the right aperture for any shutter speed set between 1/8 and 1/500 sec. Look through the finder, point the camera at the subject from which you want a reading and press the shutter release (7). Inside the finder is a clearly marked, engraved aperture scale and needle which constantly indicates the aperture set by meter for the shutter speed used. Should you wish to take a close-up reading and hold it, a slight pressure on the front 45° shutter release will freeze the exposure setting until you are ready to use it or change it. By shifting the aperture ring from "Auto" to the regular scale, the camera can be used in full manual control with the built-in meter serving as an indicator, showing the recommended opening for any shutter speed set.

The secret of the Automatic 100's exposure system is, like its big Super D brother, in the mirror meter. Approximately 10 percent of the light transmitted through the camera lens enters tiny .1mm width slits in the mirror surface. Unlike the meter cell of the Super D, which is nearly the size of the entire mirror, the CdS cell printed circuit used in the Automatic 100 is a ¾-in. diameter circle. Consequently, the rays of light coming through the slits situated near the edges of the mirror are not measured.

The camera itself is very well made with a heavy body die-casting, well pressed and thick bottom cover and prism finder protection.

A small protruding lever (5) on the left side of the Automatic 100, when depressed, unlatches the lens which can then be removed with a quarter turn of the three-prong bayonet mount. MODERN found the mount to be rigid.

Controls fell nicely under the proper fingers. Focusing (14) was swift and accurate. We did find the shutter noise level very high. The automatic exposure system requires that each lens' maximum aperture be set to the film's ASA index. This entails an additional operation with each lens change. While the procedure of resetting—pulling out a small catch on the shutter-speed setting lever (6) and turning the ring to the ASA index—is simple, it's an additional step.

The through-the-lens meter system, according to our tests, read quite accurately down to 1/30 sec. at f/2 with a film having an ASA index of 400.

Konica Auto Reflex T

TYPE: 35mm eye-level single-lens reflex.
LENS: 57mm f/1.4 Hexanon with interchangeable bayonet mount, stops to f/16, focusing to 18 in.
SHUTTER: Metal Copal S focal-plane with speeds from 1 to 1/1000 sec. plus B, MX sync, self-timer.
VIEWING: Noninterchangeable eye-level prism with full focusing screen plus central microprism, and fine ground focusing collar.
OTHER FEATURES: Fully automatic exposure system with behind-the-lens CdS circuit plus manual override, aperture scale visible in the finder, depth-of-field preview button, battery check, rapid loading film spool, under and overexposure warning signals, removable accessory shoe.
PRICE: with 57mm f/1.2 Hexanon, $359.95; with 57mm f/1.4 Hexanon, $289.95; with 52mm f/1.8 Hexanon, $249.95.
MANUFACTURER: Konishiroku Photo Ind., Co., Tokyo, Japan. IMPORTER: Konica Camera Corp., P.O. Box 1060, Woodside, N.Y. 11377.
PHYSICAL DIMENSIONS: 5⅝ in. long, 3¼ in. high, 3¾ in. deep. WEIGHT: 2 lb. 4 oz.

Konishiroku Photo Ind. Ltd., having launched its fully automatic exposure system for a focal-plane shutter camera on the Konica Auto-Reflex, now takes the logical step of putting the meter system where all meter systems are going to wind up—behind the lens. But the engineers didn't stop there. They redesigned the body, changed controls and inner working to come up with a far easier to handle camera which is ahead of everyone else's in convenience.

The T's automatic exposure system works in a manner quite similar to that of the regular Auto-Reflex. You set the shutter speed and the exposure system sets the correct aperture, which is visible on a clear aperture scale within the finder.

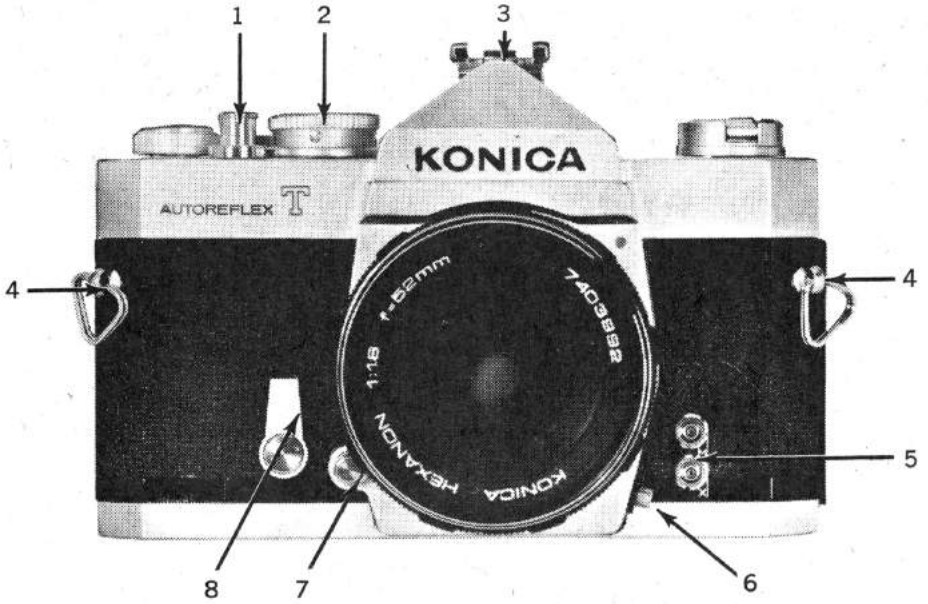
Konica uses two CdS cells within the finder system, one on each side of the eyepiece, angled inward and slightly downward so that they cross paths at the focusing screen. As a result, they not only integrate all the illumination from the entire screen but also give additional weight to the lower center area of the focusing screen.

You can select the shutter speed (20) and see what aperture the camera selects or turn the shutter speed dial until you have the aperture you wish. Should you decide not to use the reading set by the camera you turn off the EE setting (16) to whatever aperture you wish. The meter scale within the finder can be used as a separate meter.

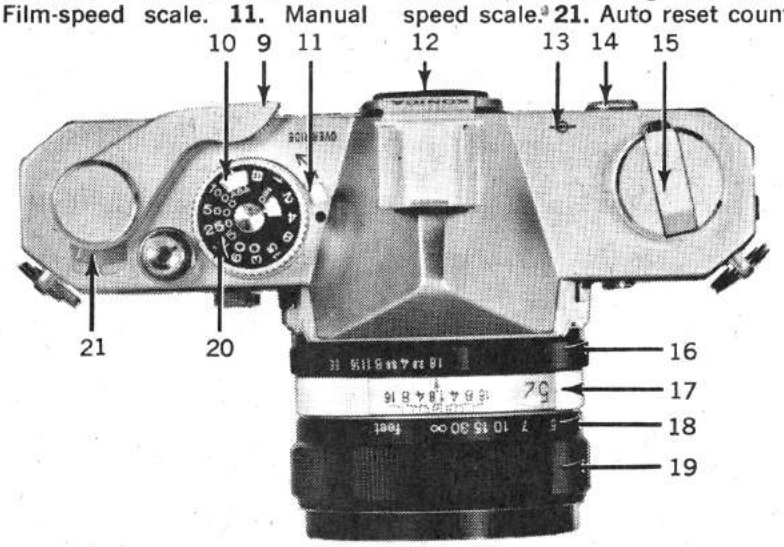
The central 5mm diameter microprism spot has been reduced by about 30 percent in area to prevent inaccuracies with the through-the-lens metering system. The fine focusing collar has been enlarged by about the same amount and the Fresnel grooves covering the rest of the finder area produce a very bright image. Eyeglass wearers will not be able to see all four corners of the frame, but the large aperture scale and oversized needle will be easily visible.

The frame counter (21) is larger and has bigger white numerals on a dark field instead of small black numerals on a chrome field. On the front of the camera the lens mount release button (6) has been improved, as has the depth-of-field preview button (7) the self-timer lever (8) has been straightened and simplified. On the bottom of the camera you'll find another thoughtful touch—a red battery check button with red letters spelling "check."

The shutter release (1) is almost identical in shape and operation but it's 1/16 in. shorter. It requires a long push, but the push is smooth and the actual release occurs without any change in pressure. By turning the lip of the release button, the designers have furnished a very comfortable beard-down surface.



1. Shutter release button. **2.** Shutter-speed dial. **3.** Accessory shoe. **4.** Shoulder strap lug. **5.** Flash sync terminals. **6.** Lens interchange button. **7.** Depth-of-field preview button. **8.** Self-timer. **9.** Film advance lever. **10.** Film-speed scale. **11.** Manual override lever. **12.** Viewfinder eyepiece. **13.** Film plane indicator. **14.** CdS meter switch. **15.** Film rewind crank. **16.** Aperture control ring. **17.** Depth-of-field scale. **18.** Distance scale. **19.** Focus ring. **20.** Shutter-speed scale. **21.** Auto reset counter.



Zeiss Contaflex Super BC

TYPE: 35mm eye-level single-lens reflex. **LENS:** 50mm f/2.8 Tessar with bayonet mount, interchangeable front components, stops to f/22, focusing to 2½ ft. **SHUTTER:** Synchro-Compur-X between-lens with speeds from 1 to 1/500 sec. plus B, X sync, self-timer. **VIEWING:** Noninterchangeable eye-level prism with nonfocusing screen plus central split-image rangefinder, focusing grid collar. **OTHER FEATURES:** Mercury battery-powered CdS exposure meter, behind lens, measures entire picture area at full aperture, controls auto exposure system; meter pointer, shutter speed, f/number visible in viewfinder; automatic flash exposure setting control; backlight exposure correction. **PRICE:** $249.95. **MANUFACTURER:** Zeiss Ikon AG, Stuttgart, West Germany. **IMPORTER:** Zeiss Ikon-Voigtlander of America, Inc., 444 Fifth Ave., New York, N.Y. 10018. **PHYSICAL DIMENSIONS:** 5¼ in. long, 3½ in. high, 1½ in. deep. **WEIGHT:** 1 lb. 14 oz.

Swing open the trap door on the front of the Super BC and you'll find a compartment (3) for a PX-13 mercury battery, the kind that runs CdS cell exposure meters. The compartment is made so that there's only one way to insert the battery, thus eliminating all uncertainty as to which is the plus side, etc.

The meter is behind the lens, with the CdS cell located in the top part of the prism viewfinder. A prism in the finder breaks up the light that has come through the lens and sends some up to the cell, the rest going to the eyepiece.

You pick out your shutter speed and the meter sets the aperture for you for any film from ASA 5-800. Both settings are visible at the right edge of the finder. The f/number scale can also be seen in a window on top (15). For manual operation you just move the f/number setting ring (22) off "A" position (two fingers are needed —one to depress a catch (8), the other to push a lever) to the aperture you want. With manual operation the meter is disengaged, thus saving drain on the battery. The meter is not activated until you advance the film wind-shutter cock lever (12), so if you're in the habit of leaving the camera with shutter cocked for long periods, it's a simple matter to move the ring off "A" to conserve battery power.

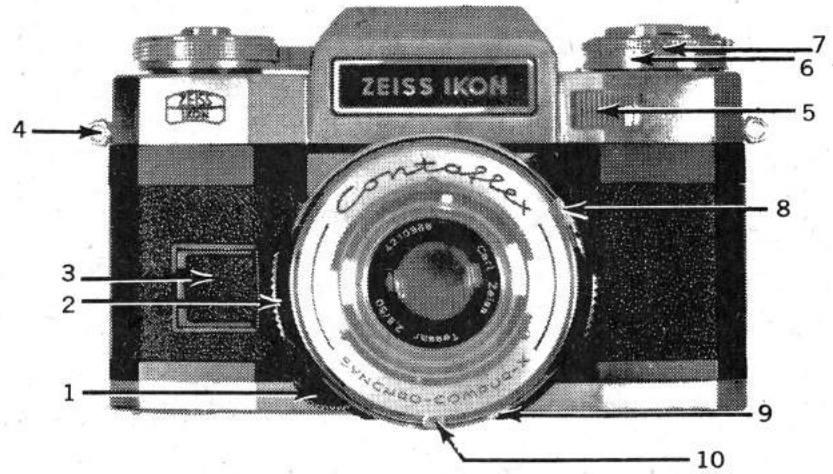
The meter reads the light covering the entire picture area. Since it is a leaf shutter type camera, this must be done at full aperture. Our field tests, made with Kodachrome II, showed the exposure control system to be working extremely well, providing perfectly exposed slides.

An important addition is a slide (26) you pull up to cover the viewfinder eyepiece. With camera on a tripod and no eye or head to block light from entering through the eyepiece, thereby causing the meter to read the scene incorrectly, we took pictures with the slide in and out. In all cases, the transparencies taken with the slide in the covering position were well exposed, while the others were underexposed. The backlight control (you turn the outer ring on the rewind knob (17) to open the diaphragm one stop) also did its job well.

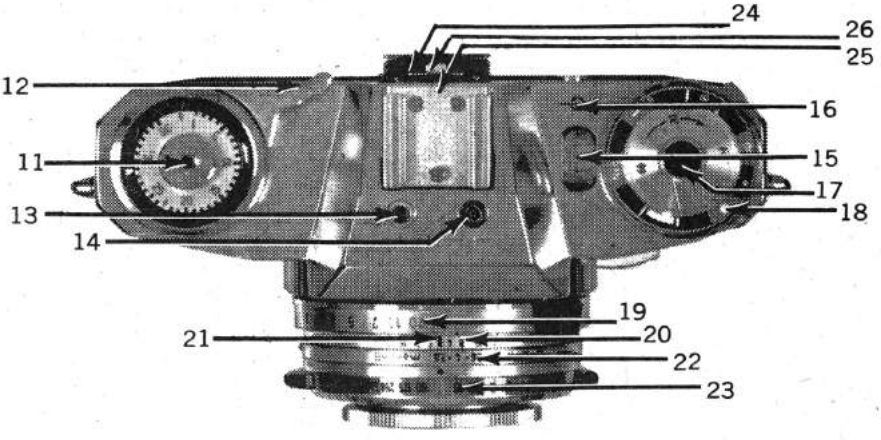
With a film having a speed of ASA 400 the meter was able to handle situations down to f/2.8 at 1/30 sec.

The viewfinder, all of which can be seen by spectacle wearers, was slightly dark with the Fresnel lines visible on the nonfocusing screen.

The built-in aperture indicator within the finder has red warning bars which indicate too little or too much light for shooting. The shutter speed appears in white right below the indicator. Two small holes (13, 14) atop the flattened prism housing hold and connect an Ikoblitz 5 flash unit, designed for use with direct flash with the camera's auto flash setting device.



1. Focusing ring knob. **2.** Shutter-speed ring knob. **3.** Meter battery compartment. **4.** Shoulder strap lug. **5.** Viewfinder scale light window. **6.** ASA film-speed scale. **7.** Film-speed scale index. **8.** Aperture lock button. **9.** Self-timer. **10.** Lens component lock. **11.** Shutter release button. **12.** Film advance lever. **13.** Flash unit socket. **14.** Flash sync terminal. **15.** Aperture indicator. **16.** Film plane mark. **17.** Rewind crank. **18.** Film reminder dial. **19.** Footage scale. **20.** Depth-of-field scale. **21.** Lens/shutter/footage index. **22.** Aperture scale. **23.** Shutter-speed scale. **24.** Viewfinder eyepiece. **25.** Accessory shoe. **26.** Viewfinder eyepiece slide.



Alpa 10d

TYPE: 35mm single-lens reflex camera. LENS: 50mm f/1.8 Macro-Switar, with interchangeable bayonet mount, stops to f/22, focusing to 11 in. SHUTTER: Cloth focal-plane with speeds from 1 to 1/1000 sec. plus B, FP, MX sync. VIEWING: Fixed eye-level prism with full-focusing screen, central split-image rangefinder, clear-glass collar and crosshairs (other screens on request). OTHER FEATURES: Mercury battery-powered CdS exposure meter, behind lens, measures center weighted spot at shooting aperture, quick-return diaphragm, instant-return mirror, depth-of-field preview knob, auto resetting frame counter. PRICE: $569. MANUFACTURER: Pignons S.A. Switzerland. IMPORTER: Karl Heitz, Inc., 979 Third Ave., New York, N. Y. 10022. PHYSICAL DIMENSIONS: 5¾ in. long, 3¾ in. high, 3½ in. deep. WEIGHT: 36 oz.

The Alpa 10d is a somewhat less cumbersome looking version of the Alpa 9d with some major changes—chief among them a cross-coupled behind-the-lens meter system. On the 9d the meter had no mechanical linkage to either shutter speed or aperture.

Two CdS cells on either side of the eyepiece inside the finder read the light. A third cell faces to the rear, measuring extraneous light from the eyepiece. Current from the third cell is designed to compensate electrically for the extraneous light.

The CdS meter on the 10d uses the stop-down reading method with weight given to a 24 x 24mm area in the middle of the viewing screen.

To take a reading you set the ASA (3-3400) of the film in use (18) and the shutter speed (6). Both dials face each other at the top of the rapid film advance (17). Gone are the separate speed dials for the meter and the camera shutter. Next, you depress the front of the camera shutter release about halfway to activate the meter (16). Pressure increases noticeably at the point where the meter circuit is activated. However, Alpa has thoughtfully placed a lock (5) adjacent to the shutter release that provides insurance against going too far. We found that we could do without it most of the time on the early production model inspected at MODERN's offices.

You then rotate the diaphragm (15) until a needle lines up with a cutout in a separate window under the viewing screen inside the finder. Exposure is set. You can let up on the shutter release allowing diaphragm to reopen or continue to press the shutter release home (after opening the lock). You can also select the aperture and set exposure by rotating the shutter speed dial.

Incidentally, there are clickstopped intermediate settings on the 10d shutter-speed dial. There's also a second meter indicator window (10) set inside the accessory shoe at the top of the camera.

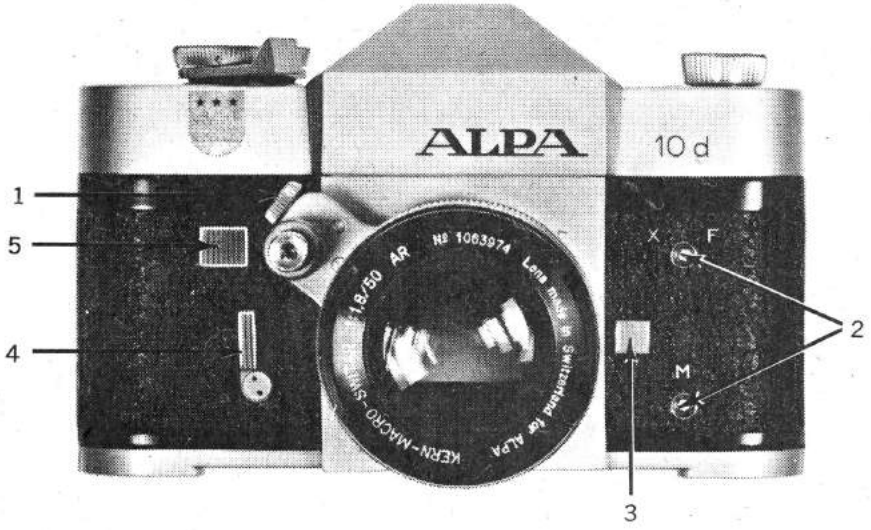
Extraneous light coming through the finder will affect the meter. So you've got to keep your eye up close to the soft rubber eye cup (9). Viewing through the finder suffers somewhat because of the rather coarse ground-glass screen. But at the same time focusing on the screen is extremely quick and precise just because of the coarseness. The split-image rangefinder continues to be diagonal in Alpa tradition.

The standard eyepiece provides almost a 1:1 viewing image. However, eyeglass wearers may have trouble seeing all four corners. But a 7X accessory eyepiece solves the problem neatly.

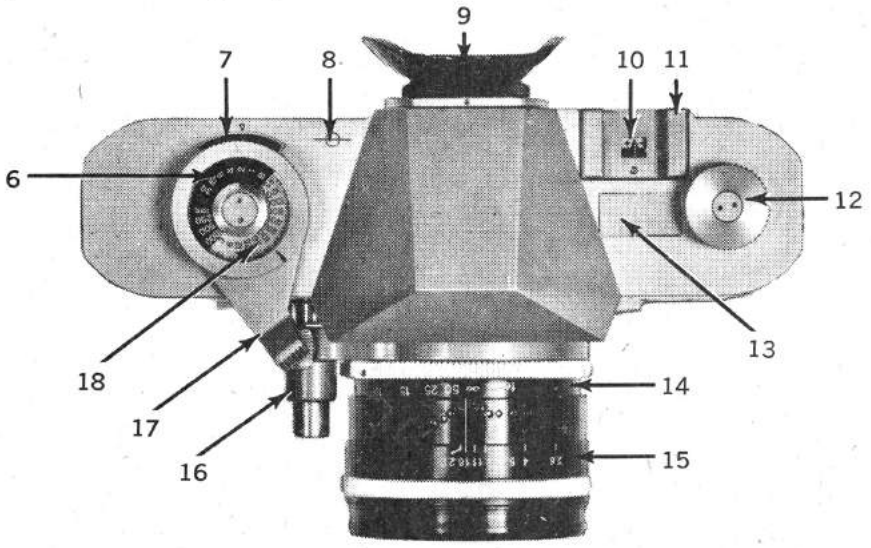
The film advance lever (17) continues to wind from front to back, in the opposite direction from all other 35mm single-lens reflexes.

The rewind knob (12) pulls upward, moves to the side on parallel arms and becomes a rewind crank. Neat, compact and excellent in operation.

Neck strap lugs are made of brass—and they do wear. With the Alpa, lugs can be unthreaded and replaced.



1. Depth-of-field preview button. **2.** Flash sync terminals. **3.** Lens mount lock. **4.** Self-timer. **5.** Shutter lock. **6.** Shutter-speed dial. **7.** Automatic frame counter. **8.** Film plane indicator. **9.** Rubber eye cup. **10.** Meter indicator. **11.** Accessory shoe. **12.** Rewind crank. **13.** Gold name-plate. **14.** Footage scale. **15.** Aperture scale. **16.** Shutter release. **17.** Film advance lever. **18.** Meter ASA scale.



Beseler Topcon D-1

TYPE: 35mm eye-level single-lens reflex camera.
LENS: Interchangeable 58mm f/1.4 or f/1.8 with bayonet mount, half stops to f/22, and focusing to 18 in.
SHUTTER: Copal Square-S metal focal-plane with speeds from 1 to 1/1000 sec. plus B, MX sync. self-timer.
VIEWING: Noninterchangeable eye-level prism with full focusing screen, central microprism and fine ground-glass collar.
OTHER FEATURES: Mercury battery-powered CdS exposure meter, behind-lens, measures entire picture area at full aperture, instant-return mirror, quick-return diaphragm.

PRICE: with 58mm f/1.8, $276.50, with 58mm f/1.4, $336.50.
MANUFACTURER: Tokyo Optical Co., Ltd., Tokyo, Japan. **IMPORTER:** Charles Beseler Co., 219 S. 18 Street, East Orange, N.J.
PHYSICAL DIMENSIONS: 5¾ in. long, 3¾ in. high (maximum), 3½ in. deep (front of lens to camera back).
WEIGHT: 2 lb. 2 oz.

The Topcon behind-the-lens, efficient and proven CdS metering system pioneered so successfully in the Topcon Super D is used also in this more compact, considerably less expensive camera. If you have forgotten the advantages of the Topcon system which employs a printed CdS circuit underneath the instant-return mirror itself, they can be summed up briefly as continuous full picture area integrated meter readings through the lens at full focusing aperture with all Auto-Topcon lenses and at shooting aperture with other lenses or accessories.

The neat Topcon D-1 has a clean, angular outer family resemblance to the larger Super D, but there is a slight softening of the sharp edges and the prism housing is much narrower.

At the heart of the D-1 is the new Copal Square-S 6-bladed metal blind focal-plane shutter which is far quieter and more compact than the older Copal Square shutter but retains the advantage of electronic flash synchronization at 1/125 sec.

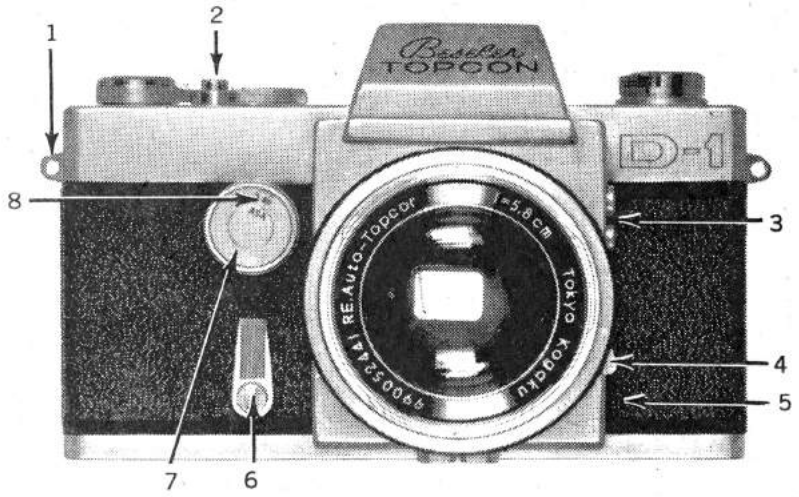
Since the shutter-speed setting control of the new Copal Square-S is located at the front of the shutter rather than at the top as on the former shutter, Topcon has located the large, easy-to-read shutter-speed dial on the front plate of the camera. The front knurled ring (17) is under spring tension. When pulled out and rotated, it sets the ASA index of the film (25 to 1600) for the exposure meter system.

The finder image shows 95 percent of the picture area—a good ratio allowance for the percentage of the picture area hidden under the cardboard mount or glassless negative carrier.

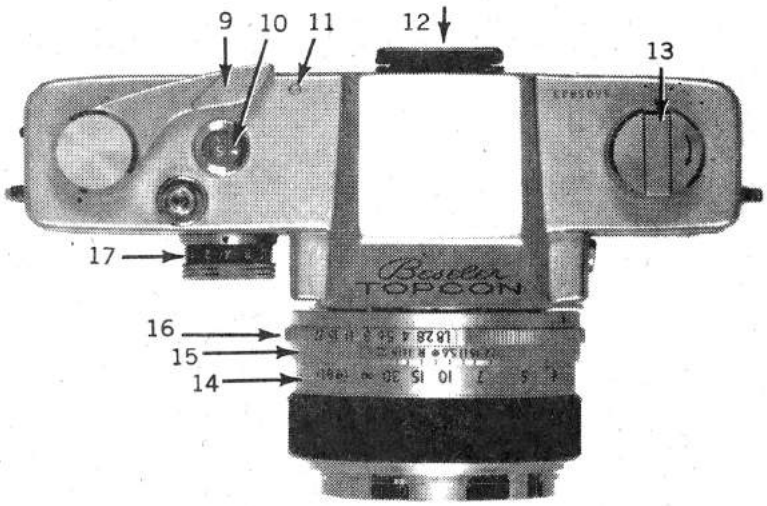
The split-image rangefinder on earlier D-1 models has now been replaced with the more popular microprism which MODERN found to work well even with lenses up to 400mm f/6.3.

Image magnification through the finder is slightly greater than 9/10 actual size so for all intents and purposes it can be rated as life-size. A very visible large meter needle protrudes authoritatively into the picture area from the right side of the screen. When the meter circuit is turned on using the small switch (5) at the side of the camera lens mount, an accompanying black indicator with end ring pops into view as well. By changing shutter speeds and/or aperture settings the needle can be made to coincide with the ring for correct exposure. The entire finder screen can be seen by wearers of eyeglasses. However, 6 eyepiece correction lenses from 3+ to −3 are available and can be inserted into an eyepiece adapter which slips over the viewfinder window.

The MODERN exposure meter system consistency test with the Aerotronic P-803 Meter Tester indicated that the D-1 meter system was performing accurately well within ½ f/stop limits when compared with known light levels.



1. Shoulder strap lug. **2.** Shutter release button. **3.** Flash sync terminals. **4.** Lens mount lock. **5.** Meter switch. **6.** Self-timer. **7.** ASA film-speed control. **8.** ASA film-speed window. **9.** Film advance lever. **10.** Auto reset frame counter. **11.** Film plane indicator. **12.** Viewfinder eyepiece. **13.** Rewind crank. **14.** Focusing ring and footage scale. **15.** Depth-of-field scale. **16.** Aperture control ring. **17.** Shutter-speed dial.



Beseler Topcon Super D

TYPE: 35mm single-lens reflex.
LENS: Interchangeable 58mm f/1.4 or f/1.8 Auto-Topcor with half stops to f/16, focusing to 18 in.
SHUTTER: Focal-plane with speeds from 1 to 1/1000 sec. plus B, FP, X sync, self-timer.
VIEWING: Interchangeable eye-level prism with interchangeable split-image rangefinder plus full focusing screen or central microprism with full focusing screen.
OTHER FEATURES: Mercury battery-powered CdS exposure meter behind lens measures entire picture area at shooting aperture, quick-return diaphragm, instant-return mirror, depth-of-field preview lever, interchangeable eyepiece correction lenses, provision for electric motor drive and bulk film load. Meter needle visible in finder and top of camera plate.
PRICE: $435 with f/1.4 lens, $375 with f/1.8 lens.
MANUFACTURER: Tokyo Optical Co., Ltd., Tokyo, Japan. IMPORTER: Charles Beseler Co., East Orange, N.J.
PHYSICAL DIMENSIONS: 5¾ in. long, 4 in. high (maximum), 4¼ in. deep.
WEIGHT: 42 oz.

Although far from the largest SLR, the Super D is by no means a lightweight. It is handsomely designed, and dressed up with a liberal supply of fine satin chrome. The shutter release (1) and streamlined self-timer lever (5) on the front of the camera are set off by a ribbed chrome plate. The lens barrel is impeccably finished in extremely fine brushed chrome fitted with the traditional Topcon easy-to-grasp ribbed rubber focusing ring (14).

The chromed steel lens mount uses the same Exakta bayonet as do other Topcons and the internal automatic diaphragm coupling is the same as other Topcon focal-plane reflexes.

The light transmitted by the lens through the viewing system is adequately bright, if not brilliant. Contrast and evenness of illumination are good. The viewing image is a full 97 percent of the picture area with a normal lens. Almost the entire finder area can be seen by eyeglass wearers and the exposure meter needle, which has its own optical system, is also easily visible in the finder, just slightly beneath the picture area.

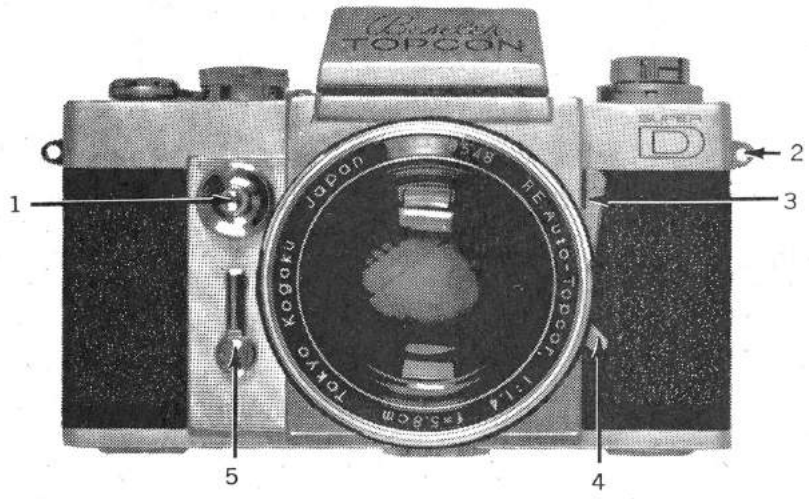
The Super D conserves battery juice by incorporating a CdS circuit on-off switch on the camera bottom. To adjust exposure, set either the shutter speed or the aperture you want, then turn the other control until the double-headed meter needle is centered between the two stationary prongs. Speeds can be set not only on the exact markings but between markings as well. When light is too low for the meter to operate, a black band blocks your view of the needle. Readings were accurate down to the half stop between f/1.4 and f/2 at ⅛ sec. with an ASA 400 film.

Movement of the focusing ring (14) from closest focusing to infinity takes a 300° turn and could scarcely be smoother. The solid rapid-wind lever (6) is geared, allowing you to wind film and shutter in one single 180° throw or in two or more shorter ones. ASA settings (16) range from 10 to 800. The front shutter button, threaded to accept a standard tapered cable, releases the quieter than average SLR shutter smoothly.

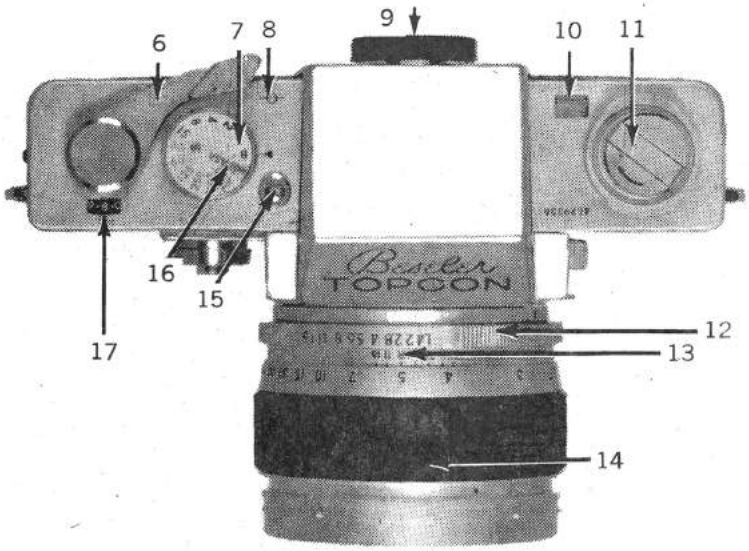
The rewind knob (11) automatically rises during rewinding so that the entire knob and lever easily clear the prism. The rewind button on the bottom remains in during rewinding.

To load the Topcon, you press in and turn a circular thumb latch on the camera bottom. The back swings open when you press on a small catch.

The prism housing slides off easily by pressing a small button on top of the camera. Once it's removed, you can change ground-glass screen in a few seconds, or slide a waist-level finder with a magnifier covering the entire ground-glass area into place.



1. Shutter release. **2.** Shoulder strap lug. **3.** Depth-of-field preview. **4.** Lens lock button. **5.** Self-timer. **6.** Film advance lever. **7.** Shutter-speed dial. **8.** Film plane indicator. **9.** Viewfinder eyepiece. **10.** Meter window. **11.** Rewind lever. **12.** Aperture control ring. **13.** Depth-of-field scale and infrared mark. **14.** Focusing ring and footage scale. **15.** Interchangeable prism lock button. **16.** ASA scale. **17.** Frame counter.



Canon FT QL

TYPE: 35mm eye-level single-lens reflex. LENS: 50mm f/1.8, 50mm f/1.4 or 55mm f/1.2 Canon FL with interchangeable breech lock bayonet mount, stops to f/16, focusing to 2 ft. SHUTTER: Cloth focal-plane with speeds from 1 to 1/1000 sec. plus B, FP and X sync, self-timer. VIEWING: Noninterchangeable eye-level prism with full focusing screen plus central grid, fine focusing rectangle. OTHER FEATURES: Mercury battery-powered CdS exposure meter, behind lens, measures central picture area at shooting aperture, instant-return mirror, quick-return diaphragm, depth-of-field preview, quick-loading film mechanism. PRICE: with 50mm f/1.8 Canon FL, $249.95; with 50mm f/1.4 Canon FL, $299.95; with 55mm f/1.2 Canon FL, $338.95. MANUFACTURER: Canon Camera Co., Japan. IMPORTER: Bell & Howell Co., Chicago, Ill. 60645. PHYSICAL DIMENSIONS: 5⅝ in. long, 3¾ in. high, 3½ in. deep. WEIGHT: 2 lb. 4 oz.

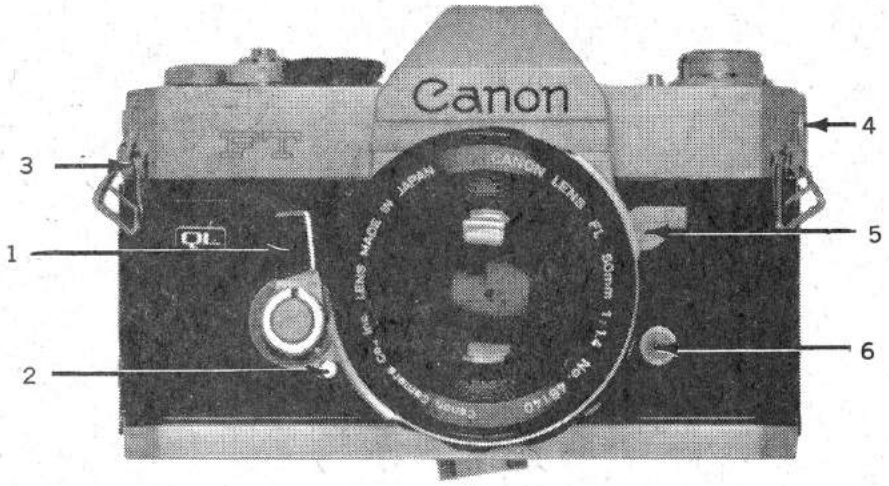
The Canon FT in actual picture-taking operation could be mistaken for the Pellix, of which it is almost the spitting image—but $60 less expensive and with an instant-return mirror instead of a fixed pellicle. It also has a semi-spot meter reading system that measures ⅓ the picture area but uses a different metering device. Then there is the superbly finished, rather compact SLR body originally introduced in the Canon FX (still in the line, by the way); the traditional Canon large diameter (1⅞ in.) breech-lock lens mount (you connect lens and body, then twist an outer knurled ring about 45° to lock them together). In MODERN's opinion, the breech lock is a superior lens mounting mechanism. It can never come loose. If and when there is some slight wear or loosening of the mount lip, the turning outer ring takes up the slack and keeps it tight. The QL loading system makes it unnecessary to thread the film leader into the spool. Just pull the leader across the film plane and close the camera.

The FT allows virtually no extraneous light from the finder to affect the meter, according to our tests, and with the instant-return mirror as protection, no light can possibly strike the film from the eyepiece during exposure. No eyepiece light shield is needed.

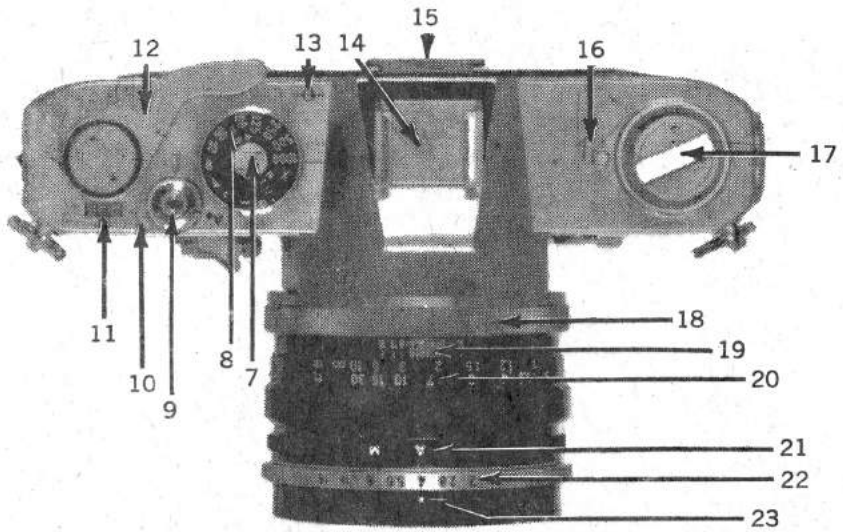
The FT does not measure the light at the film plane. Instead, the condenser above the focusing screen and below the prism which usually aids overall picture brightness has been diagonally split. The center of the split, at which a partially silvered mirror has been placed, allows 60 percent of the viewing light to continue through the prism to the eyepiece. The other 40 percent is reflected backward to a CdS cell at the rear of the condenser. The fine focusing rectangle in the FT, therefore, is actually the partially silvered mirror letting in 60 percent of the light. Because of the 40 percent loss to the CdS cell, the rectangle is darker than the surrounding area, which gets 100 percent of the light. With an ASA 400 film the FT meter system can read 1/15 sec. at f/1.4. However, with the very efficient Canon Booster meter ($60) you can extend the range down to 30 sec.

The central grid is extremely fine and worked well with lenses up to 300mm f/5.6, and can be used as a standard focusing area beyond this point. Naturally the grid does fracture out-of-focus images more acutely in the mid-range of normal focal lengths from 35mm to 135mm. The fine focusing rectangle must be rated excellent for accurate focusing and the outer concentric Fresnel rings are so fine that this area is almost as good for focusing as the rectangle.

In practical field tests the FT behaved very nicely. It became a real favorite around the MODERN office because of its construction, ease of handling and semi-spot meter.



1. Self-timer/meter circuit switch. **2.** Meter circuit switch lock. **3.** Carrying strap lug. **4.** Meter battery compartment. **5.** Mirror lock-up lever. **6.** Flash sync terminal. **7.** Shutter-speed dial. **8.** ASA film-speed scale. **9.** Shutter release button. **10.** Shutter release lock. **11.** Auto resetting frame counter. **12.** Film advance lever. **13.** Film plane indicator. **14.** Accessory shoe. **15.** Viewfinder eyepiece. **16.** Battery check lever. **17.** Rewind crank. **18.** Lens lock control ring. **19.** Depth-of-field scale. **20.** Footage scale/focusing ring. **21.** Depth-of-field preview ring. **22.** Aperture scale. **23.** Aperture index.



Canon Pellix QL

TYPE: 35mm eye-level single-lens reflex. LENS: 50mm f/1.8, 50mm f/1.4 or 55mm f/1.2 Canon FL with interchangeable breech lock bayonet mount, stops to f/16, focusing to 2 ft.
SHUTTER: Metal focal-plane with speeds from 1 to 1/1000 sec. plus B, FP and X sync, self-timer.
VIEWING: Noninterchangeable eye-level prism with full focusing screen plus central grid, fine focusing rectangle.
OTHER FEATURES: Mercury battery-powered CdS exposure meter, behind-lens, measures central picture area at shooting aperture, stationary pellicle mirror, quick-return diaphragm, depth-of-field preview, meter pointer visible in finder, quick-loading film mechanism.
PRICE: with 50mm f/1.8 Canon FL, $299.95; with 50mm f/1.4 Canon FL, $349.95; with 55mm f/1.2 Canon FL, $388.95.
MANUFACTURER: Canon Camera Co., Japan. IMPORTER: Bell & Howell Co., Chicago, Ill. 60645.
PHYSICAL DIMENSIONS: 5¾ in. long, 3¾ in. high, 1¼ in. deep. WEIGHT: 2 lb. 9 oz.

One of the biggest sensations in SLR camera designs within the past 20 years is the stationary mirror Canon Pellix, which also has a radically different flip-up meter in front of the focal plane to measure the central ⅓ picture area (approximately).

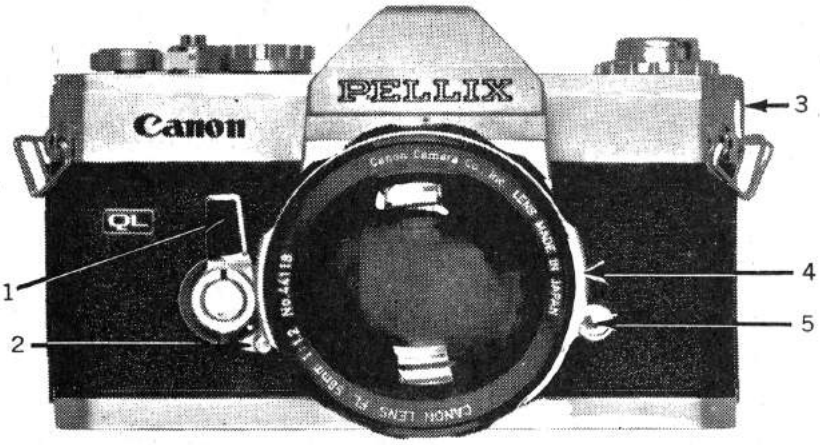
Since the wafer thin stationary pellicle mirror in the Pellix splits the light from the subject between film and viewfinder, there has to be a light loss in both areas. The lens delivers approximately ⅓ of an f/stop less light to the film and the finder is about ⅓ less brilliant than standard mirror SLR finders.

The handy swing back of previous Canon SLR's has been made handier with the inclusion of the QL loading system used on the Canonet rangefinder cameras. Just lay the tip of the film leader across the film plane, bring down the QL mechanism to hold it in place and shut the back.

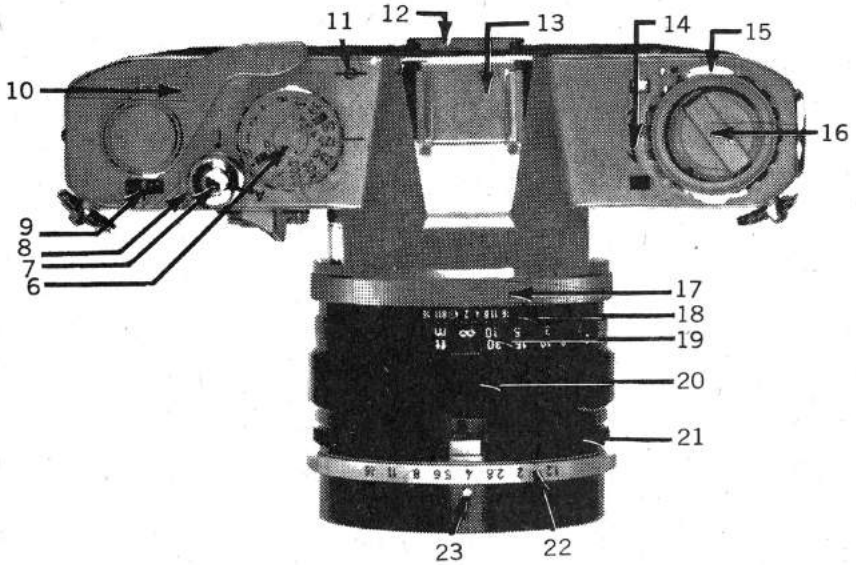
The fine focusing rectangle of the Pellix is virtually the same brightness as the rest of the screen. When you push inward on the large meter actuating lever (1), at the front of the camera, the metering circuit turns on and the ⅜ x ⅞-in. CdS cell ¼ in. in front of the film itself flips upward behind the pellicle mirror to measure the slightly-out-of-focus image. While some technicians have expressed disappointment that the meter wasn't even closer to the film plane, MODERN's technicians feel that the ¼-in. allowance for shutter mechanism, thickness of shutter wall and film plane plate itself is remarkably small as it is.

The Pellix's fine focusing rectangle outlines the area measured by the CdS cell. You align the pointer with a small circle for correct exposure by turning either the shutter speed dial or aperture control on the lens.

The Pellix produces some fascinating problems of its own. Since approximately 30 percent of the light is filtered off to the viewfinder and 70 percent of the light continues to the film plane, the marked apertures (22) on the lenses cannot be used as an actual indication of the amount of illumination hitting the film, although the depth of field of the marked aperture will of course appear in the final picture. How much light do you actually lose in the Pellix? Careful comparison checks indicated that the actual amount of light lost averaged ⅔ of an f/stop (you'd get about f/1.8 at the film plane when the lens was set at f/1.4, for instance). However, an examination of a number of different pellicle mirrors and Pellix cameras indicated that there was a variation in the amount of light passed by various sample pellicles, which could amount to approximately ⅓ f/stop. This differential was not visible through the finder and of course would be automatically compensated for at the film plane by the behind-the-pellicle meter.



1. Self-timer/meter circuit switch. **2.** Meter circuit switch lock. **3.** Meter battery compartment. **4.** Aperture control ring knob. **5.** Flash sync terminal. **6.** Shutter-speed dial/ASA film-speed scale. **7.** Shutter release button. **8.** Shutter release lock. **9.** Auto resetting frame counter. **10.** Film advance lever. **11.** Film plane mark. **12.** Viewfinder eyepiece. **13.** Accessory shoe. **14.** Viewfinder eyepiece shutter index. **15.** Viewfinder eyepiece shutter control ring/battery check control. **16.** Rewind crank. **17.** Lens lock control ring. **18.** Depth-of-field scale. **19.** Footage scale. **20.** Focusing ring. **21.** Depth-of-field preview ring. **22.** Aperture control ring. **23.** Aperture index.



Exakta VX 1000

TYPE: 35mm eye-level single-lens reflex. LENS: 50mm f/2 Carl Zeiss Jena Pancolar with interchangeable bayonet mount, stops to f/22, focusing to 20 in. SHUTTER: Cloth focal-plane with speeds from 12 to 1/1000 sec. plus B & T, FP, X sync. VIEWING: Interchangeable eye-level prism with full focusing screen, central split-image rangefinder with fine focusing collar, instant-return mirror. OTHER FEATURES: Depth-of-field preview collar, depth-of-field indicators, built-in film knife, film wind signal, and shutter lock. PRICE: $179.50.

MANUFACTURER: Ihagee-Exakta Camera Works AG, Dresden, East Germany. IMPORTER: Exakta Camera Co., Inc., 705 Bronx River Rd., Bronxville, N.Y. 10708. PHYSICAL DIMENSIONS: 6 in. long, 3¾ in. high, 3¾ in. deep (front of lens to camera back). WEIGHT: 32 oz.

Exakta maketh haste slowly. The fact that the new 1000 has an instant-return mirror might not seem too startling to enthusiasts for other camera makes but it is an important step for Exakta. There's no automatic quick-return diaphragm, however. This action depends on how fast you get your finger away from the shutter release. The new model also has a red warning flag in the window to indicate that the shutter has yet to be wound, has a shorter 200° rapid-wind lever throw, a redesigned but still manually reset frame counter plus other tasteful alterations in trim. The trapezoidal body ends have now been abbreviated somewhat and the back opening catch improved. Of course the famous knife for cutting off exposed strips of film (it's next to the rewind crank on the bottom of the camera) is still with us.

Other sought-after features (or idiosyncrasies, depending on how you look at them) for which the Exakta line has been known are retained. The fast shutter-speed dial (10) revolves during exposure; slow speeds are set on a separate dial (9) which must be wound separately before each exposure; both the 300° single-stroke, nongeared rapid-wind lever (12) and front shutter release (3) are located on the left side of the camera body.

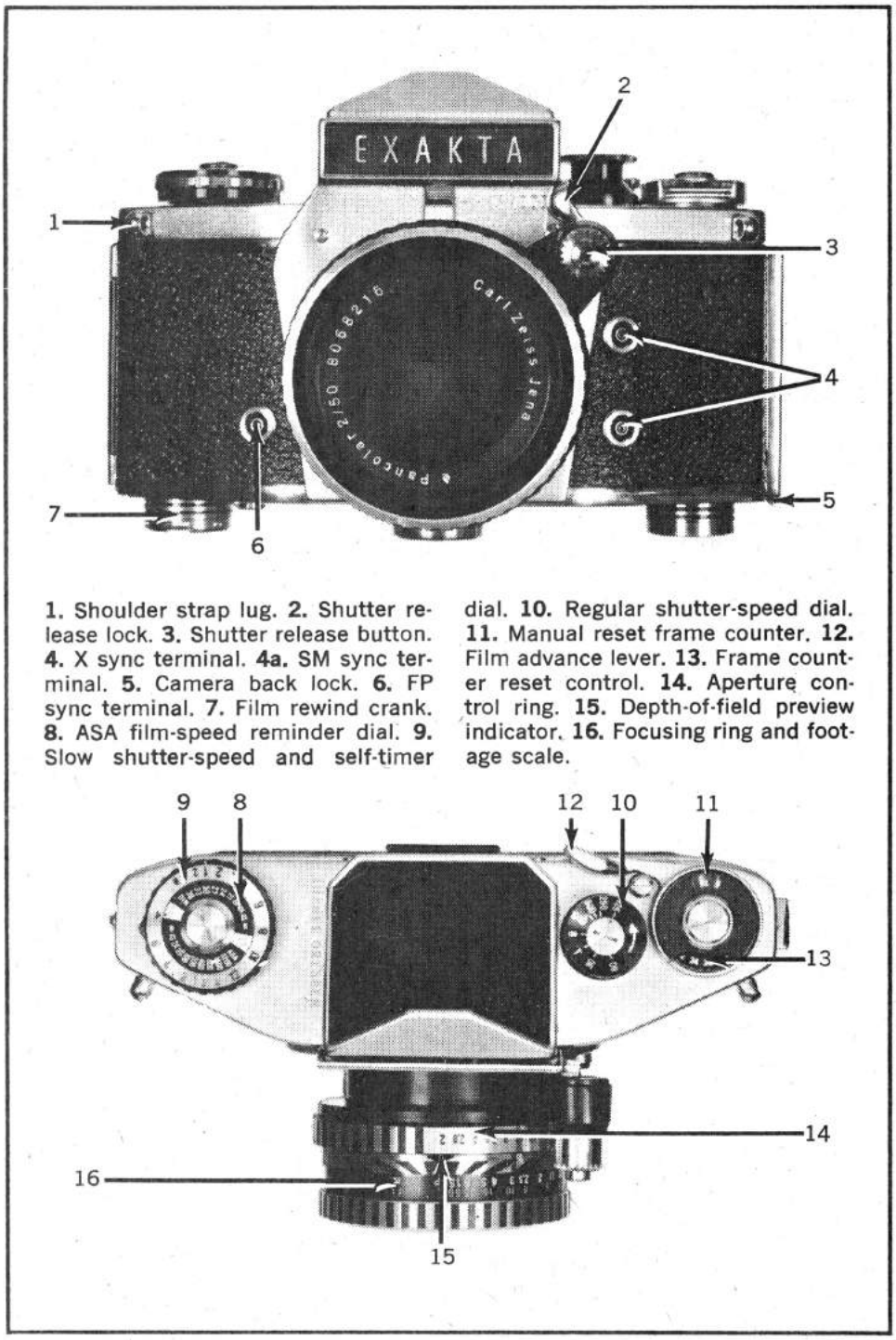
The folding rewind crank (7) is on the bottom of the camera. Like the Exakta IIb, which this camera replaces, shutter speed markings are in modern mathematical sequence (1/8, 1/30, 1/160 instead of 1/25, 1/50, 1/100, etc.) but there's no 1/15 sec. The prism can be lifted off without depressing a catch. The view through the finder is bright with a large positive split-image rangefinder plus a fine ground-glass collar as an additional focusing aid. A microprism central spot screen is also available. Eyeglass wearers can almost see the entire framing area.

The Zeiss Pancolar lens, with its built-into-the-lens-mount automatic diaphragm mechanism, has a large aperture control ring (14) that's easy to set. It also has unmarked half-stop settings. Aperture and distance scales are heavily marked in black on a chrome surface. The lens is finished in the usual Carl Zeiss Jena black with chrome, and focused smoothly during our field tests.

The 1000 is not so much a fast-operating sequence camera as a careful workman's instrument. The rapid-wind lever must be pushed home with authority or it will not return to the rest position.

Those accustomed to right-hand operation will require time to get used to the left-hand shutter release and film advance. Natural left-handers may find the Exakta—seemingly made for them—a joyous revelation.

There will be a new Exakta with built-in behind-the-lens meter, but luckily the Travemat and Exakta prism meters are available for the 1000, although they're somewhat slow in operation. There is no date set yet for introducing the new Exakta.



1. Shoulder strap lug. **2.** Shutter release lock. **3.** Shutter release button. **4.** X sync terminal. **4a.** SM sync terminal. **5.** Camera back lock. **6.** FP sync terminal. **7.** Film rewind crank. **8.** ASA film-speed reminder dial. **9.** Slow shutter-speed and self-timer dial. **10.** Regular shutter-speed dial. **11.** Manual reset frame counter. **12.** Film advance lever. **13.** Frame counter reset control. **14.** Aperture control ring. **15.** Depth-of-field preview indicator. **16.** Focusing ring and footage scale.

Hanimex Praktica TL

TYPE: 35mm eye-level single-lens reflex. LENS: 50mm f/1.8 Meyer Oreston with interchangeable thread mount, half stops to f/22, focus to 13 in. SHUTTER: Cloth focal-plane with speeds from 1 to 1/500 sec. plus B, FP, X sync. VIEWING: Noninterchangeable eye-level prism with full focusing screen plus fine ground-glass collar and central microprism. OTHER FEATURES: Mercury battery-powered CdS exposure meter behind lens measures entire screen area at shooting aperture, instant-return mirror, quick-return diaphragm, depth-of-field preview, wind warning in finder. PRICE: $180. MANUFACTURER: VEB Pentacon, Dresden, East Germany. IMPORTER: Hanimex (U.S.A.) Inc., 3725 West Morris Ave., Chicago, Ill. 60645. PHYSICAL DIMENSIONS: 6 in. long, 3⅝ in. high, 3¾ in. deep. WEIGHT: 1 lb. 15 oz.

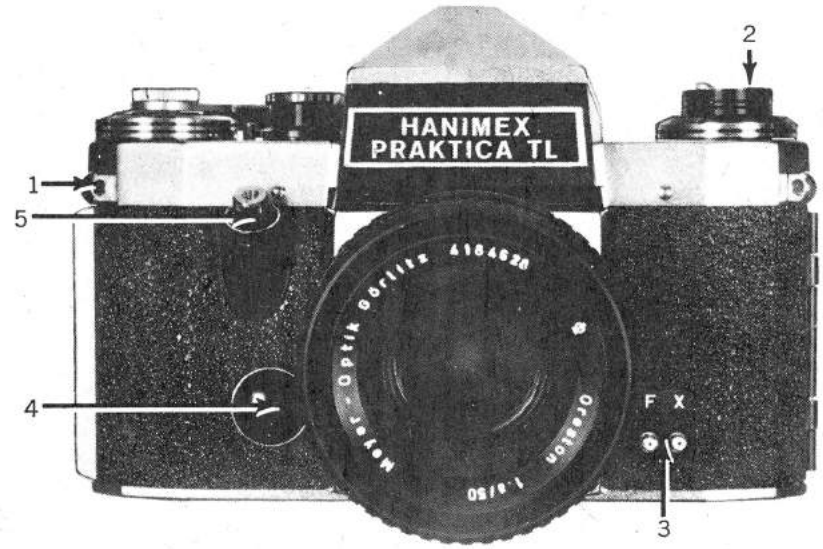
Undoubtedly the Hanimex Praktica TL will give you the feeling that somewhere you've seen this camera before under another name. You have. It was the Prakticamat which, at a $300 price, actually didn't offer as much with as many refinements as the present TL.

To operate the metering system, you press inward on a large front button which also closes the diaphragm down. By shifting aperture or shutter speed you can line up a needle within the viewfinder over a small circle (simpler than and superior to the complicated needle window of the Prakticamat). The view through the finder, slightly smaller than life-size, is adequately bright and neutral in coloration. (The Prakticamat was rather warmish.) The prism itself is lower and wider and the eyepiece comes with a special extraneous-light exclusion cup (which is removable). Unlike most other reflexes, there is virtually no danger of light from the eyepiece affecting the reading. The semisilvered split wedge prisms above the condenser and ground glass siphon off about 12 percent of the light in the finder system and reflect it backward toward a large area CdS resistor cell which isn't affected by any other light. Sensitivity across the entire picture area is remarkably even.

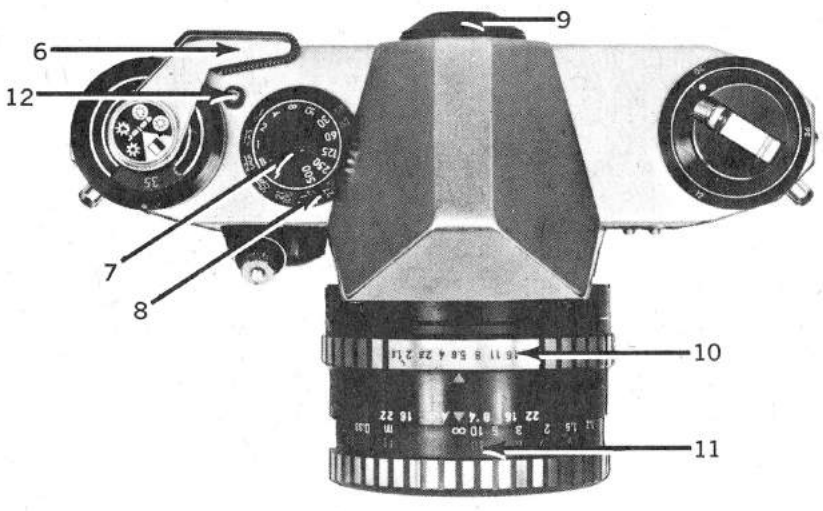
When you press inward on the 45-degree forward angled shutter release (very convenient and comfortably positioned) the lens aperture closes with the pressure, unlike most SLR's that close by spring operation. If you press slowly this gives you another opportunity to check depth of field. On the older Prakticamat, it also actuated the metering system again but gave erroneous readings. On the new camera, the meter remains off.

The Praktica TL is improved over the Prakticamat by having a very good microprism rather than a split-image rangefinder, an easier to turn shutter-speed dial on the wind lever side of the camera concentric with a far simpler to set ASA index dial (ASA 6 to 1600), a handsomer leather finish covering instead of the ribbed finish used before, and a new type of rapid loading system —place the edge of the leader underneath a small ledge, close the camera back and the take-up spool will be threaded automatically. The only sign that this camera may be less expensive than the original is the lack of 1/1000 sec. setting.

The good features of the Prakticamat have been preserved—rugged body rather than excellent finish, well-shaped rapid-wind lever, excellently placed controls, easy to grasp and operate lens in Pentax-type thread (and interchangeable with similar lenses of other makes). Shutter noise, as in all Praktica cameras, is moderate but sounds more like a clank than a click. Aerotronic P-803 exposure meter tests indicated that the metering system was within ½ f/stop of a known lighting source throughout its range. With ASA 400 film, it could read as low as ¼ sec. at f/1.8, 2 stops better than previous model.



1. Neckstrap lug. **2.** Folding rewind crank. **3.** Flash sync terminals. **4.** Meter actuating button. **5.** Shutter lease button. **6.** Rapid-wind lever. **7.** Shutter-speed dial. **8.** ASA index dial. **9.** Eyepiece. **10.** Aperture control ring. **11.** Focusing ring. **12.** Rewind button.



35mm Focal-Plane Shutter Reflex

Honeywell Pentax Spotmatic

TYPE: 35mm eye-level single-lens reflex.
LENS: 50mm f/1.4 Super-Takumar with interchangeable thread mount, stops to f/16, focusing to 18 in.
SHUTTER: Cloth focal-plane with speeds from 1 to 1/1000 sec. plus B, FP, X sync, self-timer.
VIEWING: Noninterchangeable eye-level prism with full focusing screen plus fine ground-glass collar, central microprism.
OTHER FEATURES: Mercury battery-powered CdS exposure meter, behind lens, measures entire picture area at shooting aperture, instant-return mirror, quick-return diaphragm, depth-of-field preview, film wind signal, exposure control signal.
PRICE: with 50mm f/1.4 Super-Takumar, $299.50; with black finish, $309.50; with 55mm f/1.8 Super-Takumar, $259.50.
MANUFACTURER: Asahi Optical Co., Ltd., Tokyo, Japan. **IMPORTER:** Honeywell Photographic Prod., 4800 E. Dry Creek Rd., Denver, Colo.
PHYSICAL DIMENSIONS: 5½ in. long, 3¾ in. high, 3½ in. deep. **WEIGHT:** 1 lb. 14 oz.

The Honeywell Pentax Spotmatic incorporates a fully integrating exposure meter system. Two 3mm diameter CdS cells, one on either side of the finder eyepiece, face forward to measure the light transmitted through the prism from the entire focusing screen. To make a meter reading, you first set the film's ASA index (20 to 1600) by lifting up and turning the outer rim of the shutter speed dial (8). You then press upward on a small electrical circuit switch (12) at the left side of the camera's lens mount. This not only turns on the meter system but also sets the camera's automatic diaphragm control mechanism to manual operation.

Looking through the finder you will see at the right, outside the picture area, a vertical cutout section with a center point. A meter needle rides up and down in the section. You get correct exposure either by changing shutter-speed dial setting or closing down lens aperture until the needle centers.

If you examine the Spotmatic and the SL models side by side you will see a general family resemblance in body contour and type of trim, and the SL, which replaced the H3v, is really a Spotmatic with the metering system and meter on-off switch removed.

The Spotmatic lens mount is a sturdy die-casting instead of pressed metal. While the top and bottom plates remain pressed metal, the thickness has been increased. Mechanical interior parts have been improved.

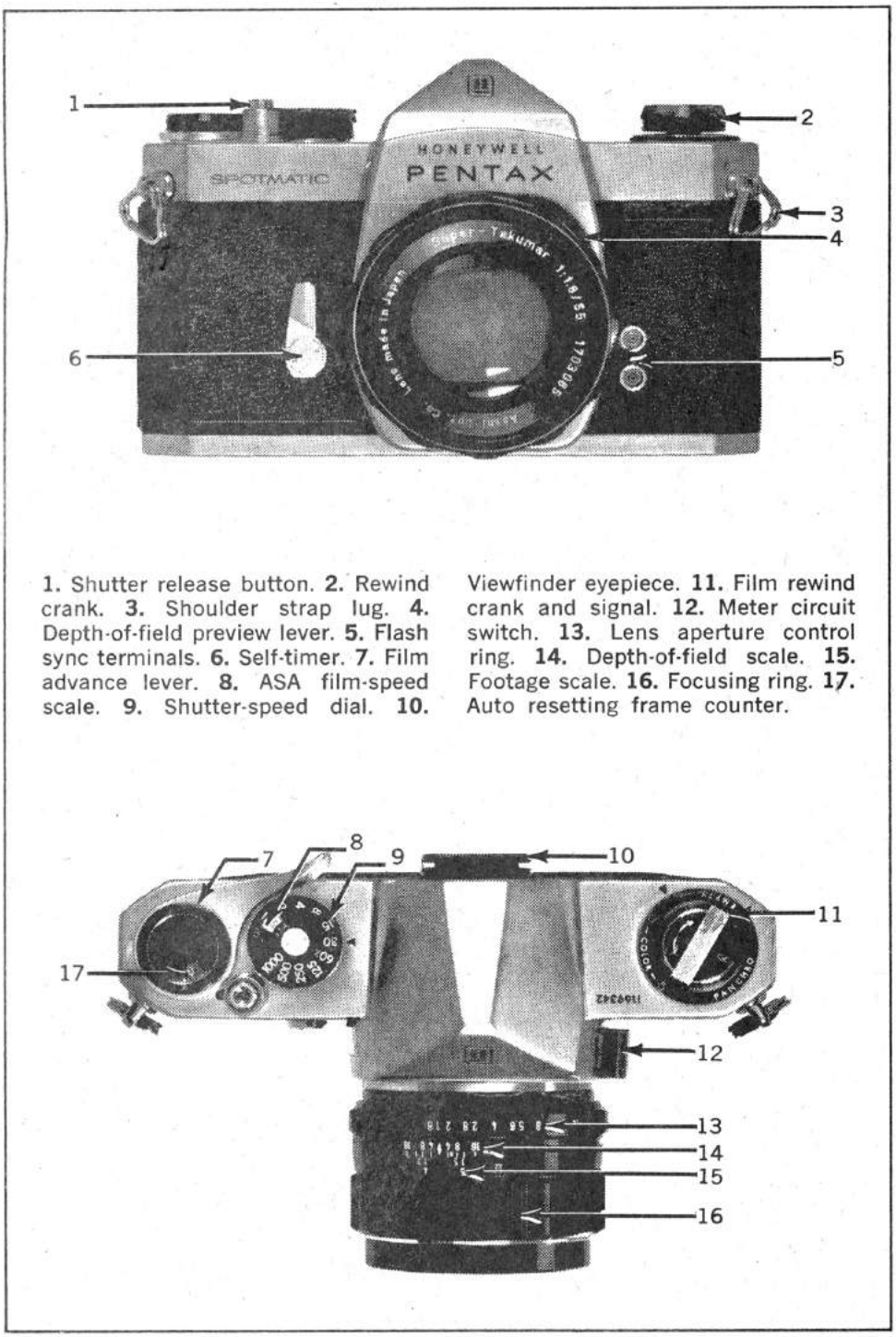
The rubberized-cloth shutter mechanism has also been improved. The curtain movement has been speeded up and now allows a 1/60 sec. electronic flash shutter speed instead of the near 1/50 sec. used on older Pentaxes.

The film advance (7) represents the first geared wind lever used on a Pentax. The lever is slightly sturdier than on other Pentaxes and can advance film and wind the shutter with a single 160° stroke, or a series of strokes.

Film loading is slightly different. You pull upward sharply on the rewind knob (11) of the Spotmatic to open the back, instead of using a side catch.

The behind-the-lens meter was able to read well in low light, down to 1/15 sec. at f/1.4 with a film having an ASA of 400.

To take a reading with the Pentax meter system, the lens must be stopped down to shooting aperture. This of course increases depth of field and darkens the finder. At moderate apertures the camera can still be focused accurately with the meter system operating. However, when a small aperture is used the finder can get too dark and the depth of field too great for good focusing. The meter switch should then be turned off to allow the lens to reopen fully for focusing. Then, after focusing, the switch can again be activated to check exposure just before shooting.



1. Shutter release button. 2. Rewind crank. 3. Shoulder strap lug. 4. Depth-of-field preview lever. 5. Flash sync terminals. 6. Self-timer. 7. Film advance lever. 8. ASA film-speed scale. 9. Shutter-speed dial. 10. Viewfinder eyepiece. 11. Film rewind crank and signal. 12. Meter circuit switch. 13. Lens aperture control ring. 14. Depth-of-field scale. 15. Footage scale. 16. Focusing ring. 17. Auto resetting frame counter.

Icarex 35S

TYPE: 35mm eye-level single-lens reflex. LENS: 50mm f/1.8 Carl Zeiss Ultron with interchangeable breech look mount, stops to f/16, focusing to 18 in. SHUTTER: Cloth focal-plane with speeds from ½ to 1/1000 sec. plus B, F and X sync., self-timer. VIEWING: Fixed eye-level prism with full focusing screen plus central diagonal split-image rangefinder. OTHER FEATURES: Mercury battery powered CdS meter, behind lens, measures entire picture area at shooting aperture, instant-return mirror and quick-return diaphragm. PRICE: With 50mm f/1.8 Carl Zeiss Ultron, $279.95. MANUFACTURER: Zeiss Ikon Voigtlander Sales Co., FmbH, Stuttgart, West Germany. IMPORTER: Zeiss Ikon Voigtlander of America, 444 Fifth Ave., New York, N.Y. 10018. PHYSICAL DIMENSIONS: 5¾ in. long, 4 in. high, 3½ in. deep. WEIGHT: 38 oz.

The Icarex 35S retains the body and controls of the original Icarex 35. But the S has a coupled behind-the-lens meter system, a fixed (1) rather than interchangeable prism and screen.

Exposure readings are made at shooting aperture rather than full aperture. To activate the meter you pull out the film advance lever (9) slightly and press inward on a good-sized horizontal plunger (6) at the left front of the lens mount. This shifts the aperture control to manual so that the lens will close down when you change the aperture scale. Pushing the plunger a second time reopens the lens. Unlike any other camera measuring at shooting aperture, the Icarex 35S has a meter pointer in the finder and a second one (13) on top of the camera body for added convenience. When using the body pointer you can prevent stray light from entering the eyepiece by positioning a lever-controlled baffle (14).

With many cameras you have trouble seeing the meter pointer in low light. Not with the Icarex S. Zeiss-Voigtlander has outlined the needle pointer centering notch with a translucent frame receiving light from a window (3) on the front left of the camera. You can see the pointer in poor light even when the aperture is closed down to f/16.

Another feature is the aperture scale visible in the finder just above the image area. This is actually the black-on-chrome scale of the lens mount reflected into the finder by a port (2) on the prism housing. Again, this is a unique feature with the Icarex 35S.

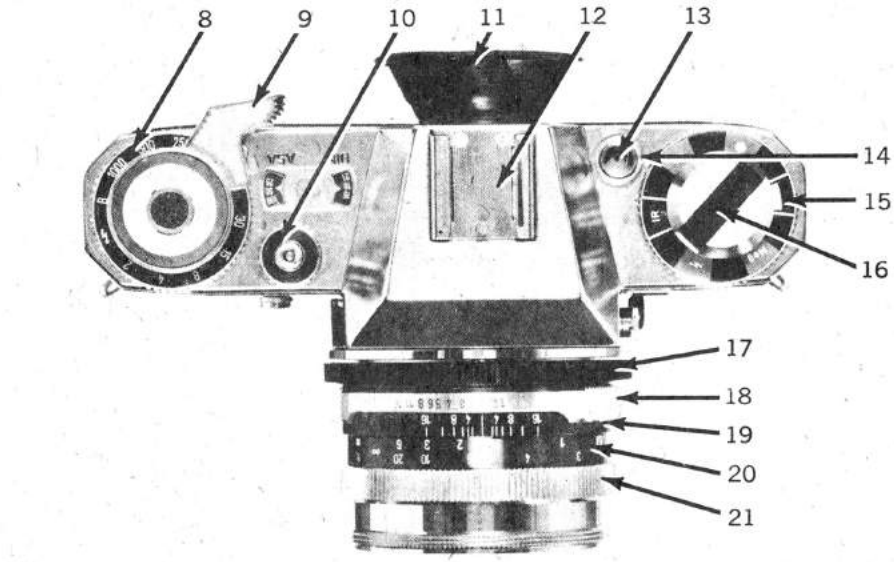
You set the ASA index of the meter by turning a small ring (10) around the top mounted shutter release button, matching the proper ASA, from 25 to 1600, to a red pointer. Settings are heavily clickstopped so there's little danger of dislodging the setting.

Meter pointer response in the finder was good, slowing down and becoming slightly sluggish in low light or at small apertures. But this is characteristic of all CdS meters using this system. With a film having an ASA of 400 we were able to read down to ⅛ sec. at f/1.8, a good performance for poor light levels.

While you can get the 50mm f/2.8 Zeiss Tessar with the Icarex 35S for some $55 less, the Ultron's slightly more than one f/number greater aperture offers a much brighter, easier-to-focus image on the fine focusing screen which completely surrounds the central diagonal split-image rangefinder. Eyeglass wearers will be able to see almost the entire slightly less than life size image. And a rubber eyecup neatly protects glasses from scratching.

In shooting with the Icarex 35S we found the camera fits comfortably in our hands with the forefinger falling naturally on the shutter release. The film advance lever (9) is not ratcheted and turns a full 250°. Shutter noise is about average for an SLR.

1. Pentaprism and exposure meter housing. **2.** Aperture scale port. **3.** Meter scale illumination port. **4.** Shoulder strap lug. **5.** Flash sync terminals. **6.** Meter plunger control. **7.** Self-timer. **8.** Shutter-speed dial. **9.** Film advance lever. **10.** ASA scale control. **11.** Viewfinder eyepiece cup. **12.** Accessory shoe. **13.** Meter pointer. **14.** Eyepiece baffle lever. **15.** Film reminder dial. **16.** Film rewind crank. **17.** Breech lock ring. **18.** Lens aperture scale. **19.** Depth-of-field scale. **20.** Footage scale. **21.** Focusing ring.

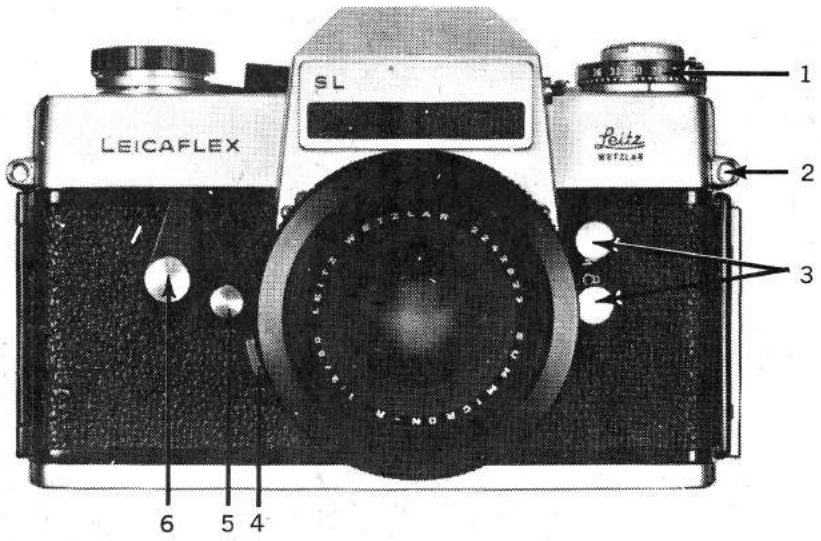


Leicaflex SL

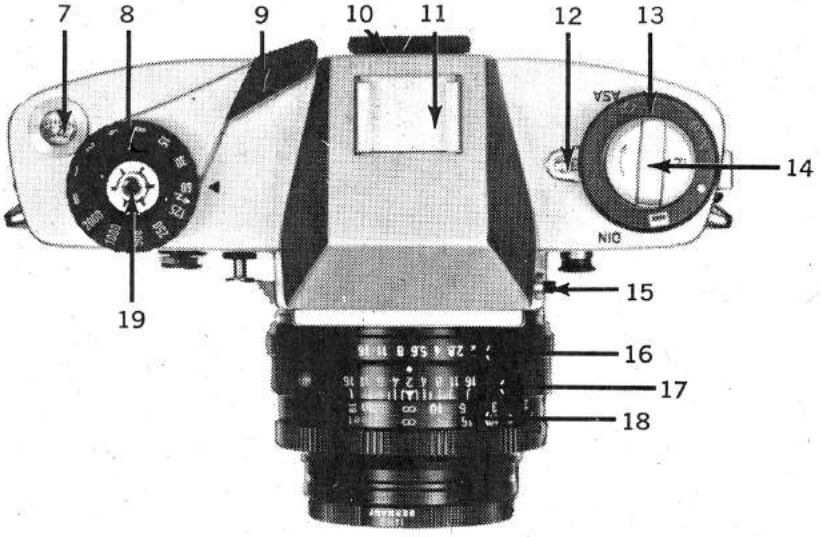
TYPE: 35mm eye-level single-lens reflex. LENS: 50mm f/2 Summicron-R with interchangeable bayonet mount, stops to f/16, focusing to 20 in. SHUTTER: Rubberized cloth focal-plane with speeds from 1 to 1/2000 sec. plus B, MX sync, self-timer. VIEWING: Noninterchangeable eye-level prism with central focusing spot, full focusing bright Fresnel screen. OTHER FEATURES: Rapid-return mirror, quick return diaphragm, CdS through-lens meter measures central picture area at full aperture, depth-of-field preview, shutter speeds visible in viewfinder, auto resetting frame counter.

PRICE: $663. MANUFACTURER: Ernest Leitz GMBH, Wetzlar, Germany. IMPORTER: E. Leitz, New York, N.Y. PHYSICAL DIMENSIONS: 5¾ in. long, 3¾ in. high, 4 in. deep. WEIGHT: 2 lb. 8 oz.

The Leicaflex SL, for selective light measurement, is a great improvement in shooting versatility over the earlier model. This results directly from the precisely marked exposure measuring circle and the full focusing bright finder. An extra plus feature is the quieter operation of both shutter and mirror.



1. Film-speed selector dial. **2.** Shoulder strap lug. **3.** Flash sync terminals. **4.** Interchangeable lens release/lock. **5.** Depth-of-field preview button. **6.** Self-timer. **7.** Frame counter. **8.** Shutter-speed dial. **9.** Film advance lever, exposure meter on-off switch. **10.** Viewfinder eyepiece. **11.** Accessory shoe. **12.** Film-speed dial release button. **13.** Film type indicator. **14.** Rewind crank. **15.** Battery test switch. **16.** Aperture scale. **17.** Depth-of-field scale. **18.** Distance scale. **19.** Shutter release.



Happily, there was little change in the highly desirable inclusion in the finder field of the shutter speed selected. You have it all in one place, focus, field of view, properly selected aperture (indicated by a pointer bisecting a small circle), and shutter speed.

The new through-lens meter is the most interesting improvement. As with the earlier Leicaflex, you set the film speed by depressing a locking button (12) and turning an easily read film speed collar (13) positioned around the rapid rewind shaft on the left top of the camera body. Battery testing is actuated by pressing a small black shaft (15) located on the rewind side of the prism housing. A usable battery is indicated by the meter pointer, inside the viewing screen, deflecting at least as far as the lower point marker on the right side of the screen. The meter is turned on by moving the rapid-action film advance lever (9) out of its position against the camera back.

Our test of the central spot for precise exposure measurement indication showed that the Leicaflex SL's 7mm focusing spot exactly represents the measured area. Since there is no weighting or integrating, you must remember to read a representative tone or the range from highlight to shadow.

When you change lenses on the SL you change the viewing angle of the meter. About one-sixth of the format diagonal is measured and this works out to about 8° with the 50mm lens to approximately 1° with the 400mm.

One interesting bit of information in the instructions is the short table of corrections for reading through dense filters. Most of the filters for color will require no adjustment. You just read exposure through them as if they were not between lens and subject. With the polarizing filter, on the other hand, you will need to add up to one additional f/stop to correct for the limitation of the CdS cell in this situation. And for those who use black-and-white correction or contrast filters, you will need to add an extra half f/stop for light yellow, up to a full stop for yellow-green or orange. Though not given, we expect that this same adjustment would be needed for the light red filter.

Eyeglass wearers will be happy to note that you will normally be able to see the entire finder field.

Lenses for the earlier model may be used on the SL with or without adapter. But without the adapter exposure readings must be made at working aperture by means of the preview (5) button. Other Leitz lenses designed for the Visoflex housing can be adapted to the Leicaflex SL by means of an adapter ring. In this case, also, exposure readings are made at the working aperture. The Leicaflex SL brings new precision to through-lens metering.

Mamiya/Sekor 1000 DTL

TYPE: 35mm eye-level single-lens reflex. LENS: 55mm f/1.8 or f/1.4 Auto Mamiya-Sekor with interchangeable thread mount, stops to f/16, focusing to 20 in.
SHUTTER: Cloth focal-plane with speeds from 1 to 1/1000 sec. plus B, FP, X sync, self-timer.
VIEWING: Noninterchangeable eye-level prism with full focusing screen, plus central grid, fine focusing collar.
OTHER FEATURES: Dual mercury battery-powered CdS exposure meters, behind lens, measure either bottom spot or entire picture area at shooting aperture, instant-return mirror, quick-return diaphragm, depth-of-field preview, meter pointer visible in finder.
PRICE: with 55mm f/1.8 Auto Mamiya-Sekor, $219.50; with 55mm f/1.4 Auto Mamiya-Sekor, $259.50.
MANUFACTURER: Mamiya Camera Co., Ltd., Japan. IMPORTER: Ponder & Best, Inc., Hollywood, Calif. 90038.
PHYSICAL DIMENSIONS: 6 in. long, 3¾ in. high, 2 in. deep. WEIGHT: 2 lb. 5 oz.

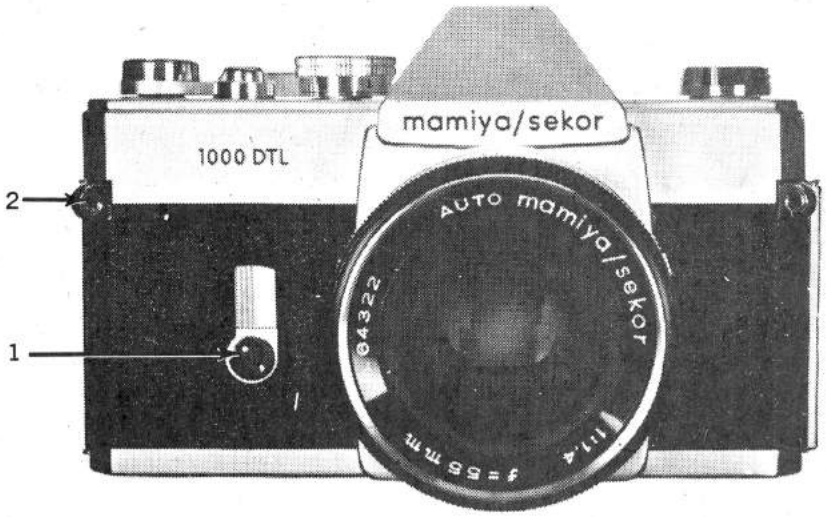
Up to now, when you purchased your camera you had to make your choice—spot or full area meter—and you then stuck with it. However, Mamiya has accomplished the very logical step of incorporating two metering systems in the new 1000DTL. The spot (or more correctly, limited area) cell is located (as in other focal-plane shutter Mamiya SLR's) at the hinge of the instant-return mirror. It's underneath a semisilvered mirror patch and measures about 6½ percent of the frame at the bottom of the picture area. In addition to this flat cell, two other cells, one at either side of the finder eyepiece, measure the total illumination from the focusing screen. To switch from one metering system to the other, you press up or down on a small switch on the left side of the camera (10). Inside the viewfinder a transparent blue arrowhead moves from an outlined "spot" area marked "S" outward to an "A" marking, indicating that you're reading the whole area. To turn on either system, you push inward on the rapid-wind crank (4) which switches on the circuitry and closes down the lens to shooting aperture.

In field tests we could make an overall measurement of any scene, then instantly switch to see whether particular highlights or shadow areas were within the film's latitude. We could get a silhouette reading from the full area screen with a backlit subject, yet flip the switch and measure proper exposure of the subject's front. At times we were surprised to find that subjects which we thought would give very different readings, didn't. At other times when we had assumed that a full area reading and spot would be the same, they weren't. We learned much from the camera.

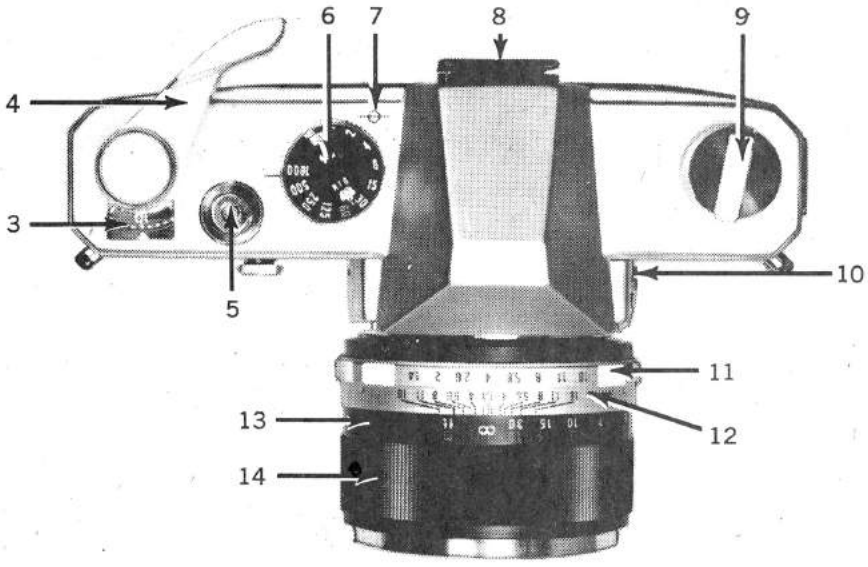
The spot reading system provided excellent exposure aid when using long tele lenses.

We were delighted to find that the full area and spot circuitry matched each other within ¼ f/stop over their entire ranges. This extended down to ⅛ sec. at f/1.4 with a film having an ASA index of 400, according to our Aerotronic P-803 Meter Tester. The readings held to within ½ f/stop of a known light source over this range. The meter handles films up to ASA 3200, the rapid-wind lever (4) is serrated, providing a firmer thumb grip, the take-up spool is multislotted to facilitate loading, the prism brightness has been increased about 2 f/stops, eye relief has been improved so the entire frame is easier for eyeglass wearers to see, the instant-return mirror has been made longer so that long lenses no longer cause viewfinder cutoff, a new instant-return mirror damping device cut down vibration considerably and noise somewhat during exposure.

Shutter speeds were well within acceptable limits over the full range as tested by our National Camera Motion Analyzer.



1. Self-timer. **2.** Shoulder strap lug. **3.** Auto resetting frame counter. **4.** Film advance lever/meter circuit switch. **5.** Shutter release button. **6.** Shutter-speed dial. **7.** Film plane mark. **8.** Viewfinder eyepiece. **9.** Rewind crank. **10.** Dual metering system switch. **11.** Aperture scale. **12.** Depth-of-field scale. **13.** Footage scale. **14.** Focusing ring.



35mm Focal-Plane Shutter Reflex

Minolta SR-T 101

TYPE: 35mm eye-level single-lens reflex.
LENS: 55mm f/1.7, 58mm f/1.4 or 58mm f/1.2 MC Rokkor-PF with interchangeable bayonet mount, stops to f/16, and focusing to 24 in.
SHUTTER: Cloth focal-plane with speeds from 1 to 1/1000 sec. plus B, FPX sync, self-timer.
VIEWING: Noninterchangeable eye-level prism with full focusing screen, central grid and fine focusing collar.
OTHER FEATURES: Mercury battery-powered CdS exposure meter behind lens, shutter speeds visible in finder; instant-return mirror, quick-return diaphragm, depth-of-field preview button.
PRICE: with 55mm f/1.7, $259.50; with 58mm f/1.4, $299.50; with 58mm f/1.2, $349.50.
MANUFACTURER: Minolta Camera Co., Ltd., Osaka, Japan. **IMPORTER:** Minolta Corp., 200 Park Ave. South, New York, N.Y. 10003.
PHYSICAL DIMENSIONS: 5¾ in. long, 3¾ in. high (maximum), 3¾ in. deep.
WEIGHT: 2 lb. 3 oz.

This handsome and well-made 35mm reflex has a different behind-the-lens metering system. The spring-operated lug on the back of each new Auto Rokkor-MC lens allows the camera to make exposure readings at full aperture while the large preview button (3) provides a stop down reading for older non-MC Auto Rokkors or manual lenses. Press the button once, the lens closes; press again, it reopens. It also reopens automatically after exposure.

The full area integrating CLC (for "Contrast Light Compensating") metering system is unique. Two cells above the pentaprism provide a standard average reading under normal lighting conditions. But the electrical circuitry behaves quite differently in contrasty light, in backlit situations or brightly lit landscapes. After considerable research, Minolta technicians found that averaging meters tended to underexpose nonhighlight areas. The CLC system, therefore, allows slightly more exposure in contrasty light to prevent such underexposed areas. In MODERN'S test this system worked nicely, provided the user did not try to compensate himself as he might normally. But exposure should be shortened in contrasty light if the highlight area is actually the most important—as when shooting a spotlighted subject.

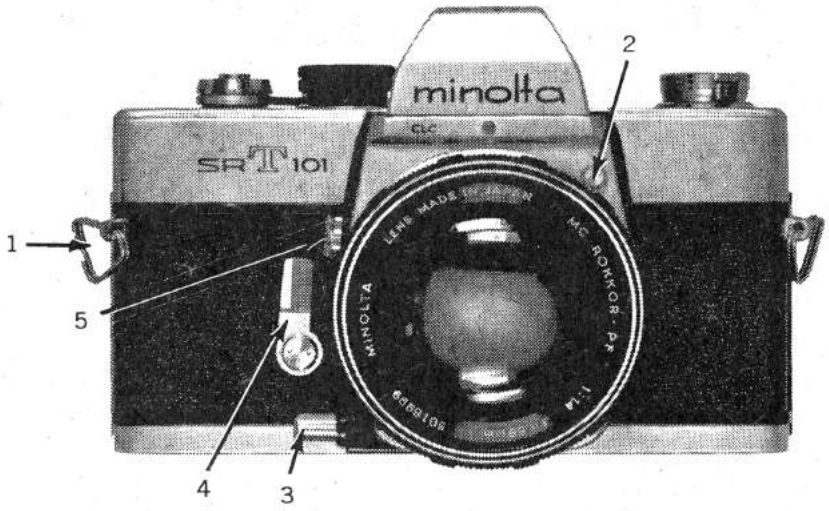
We found that readings to 1/15 sec. at f/1.4 could be made with a film having an ASA index of 400, certainly quite adequate for any hand-held low light level pictures. Accuracy throughout the exposure range remained within ½ f/stop of a known light source.

Camera body, finder system and many major mechanical parts are brand new. The new Minolta SR-T101 has a squared-off body, a different but not larger configuration of prism housing, an accessory shoe (11) atop the prism, a very comfortable plastic-tipped rapid-wind lever (7), redesigned all-plastic take-up spool and sprocket drive, larger and more legible shutter-speed dial (8) and frame counter (6).

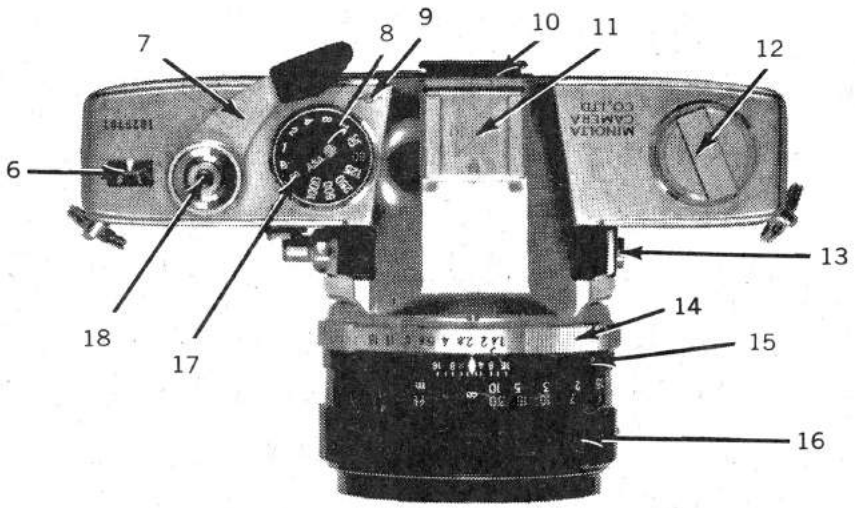
The former less than life size viewing image has been enlarged with greater magnification to full 1:1 life size. The eye relief has been increased so you can see the entire frame easily even when wearing glasses, a central grid, fine focusing collar and very fine Fresnel concentric lines have replaced the plain central area and less fine rings. Brightness of the entire finder area has been increased by a measurable 1¼ f/stops!

Even a 400mm lens of such moderate aperture as f/6.3 provided a bright, easy to see image and usable grid focusing spot with no fall-off to finder illumination. The mirror stop on the new camera is actually a movable spring-loaded rising shutter blind which intercepts the rising mirror 4/5 of the way and moves with it to the "up" position, slowing the mirror gently.

The slow shutter speeds were well within tolerances and the 1/30 to 1/1000 sec. range very accurate.



1. Shoulder strap lug. **2.** Lens mount lock. **3.** Depth-of-field preview button. **4.** Self-timer. **5.** Mirror lock. **6.** Auto resetting frame counter. **7.** Film advance lever. **8.** Shutter-speed dial. **9.** Film plane marker. **10.** Viewfinder eyepiece. **11.** Accessory shoe. **12.** Rewind crank. **13.** Flash sync terminals. **14.** Aperture control ring. **15.** Depth-of-field scale. **16.** Footage scale and focusing ring. **17.** ASA film-speed dial. **18.** Shutter release button.



Miranda Sensomat

TYPE: 35mm eye-level single-lens reflex. LENS: 50mm f/1.4 or f/1.8 Auto Miranda, with interchangeable bayonet mount, stops to f/16, focusing to 17 in. SHUTTER: Cloth focal-plane with speeds from 1 to 1/1000 sec. plus B and FP, X sync. VIEWING: Interchangeable prism with full focusing screen, central microprism and fine focusing collar. OTHER FEATURES: Instant-return mirror, quick-return diaphragm. Depth-of-field preview button. Through-lens meter measures selected area at shooting aperture. PRICE: $239.95 with f/1.4 lens, $189.95 with f/1.8. MANUFACTURER: Miranda Camera Co., Ltd., Tokyo, Japan. IMPORTER: Allied Impex Corp., 168 Glen Cove Rd., Carle Place, N.Y. 11514. PHYSICAL DIMENSIONS: 5¾ in. long, 3¾ in. high (maximum) and 3½ in. deep (from front of lens to camera back). WEIGHT: 1 lb. 14 oz.

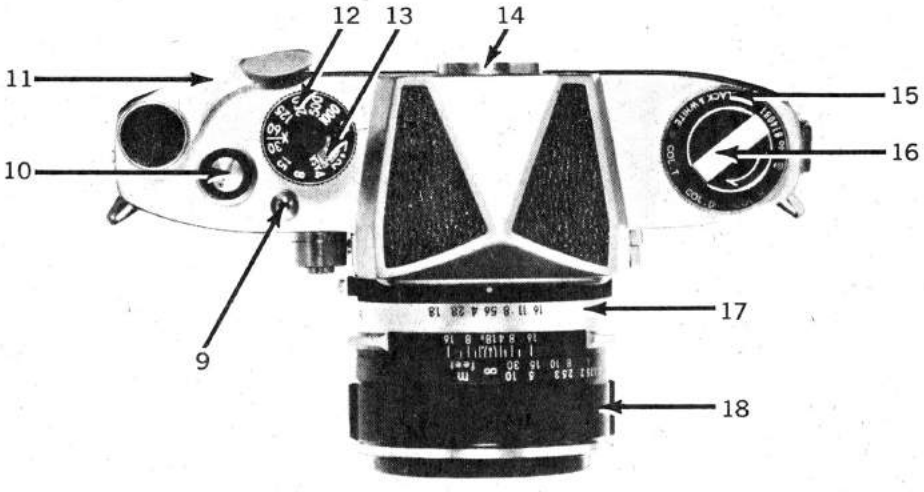
Since 1960 Miranda has offered SLR purchasers two different camera body systems: the Automex-Sensorex cameras with meters fully coupled to both shutter speeds and lens openings working at full focusing aperture for exposure readings and the small, light, no-built-in-meter A, B, C, T, D, DR, F and G series for which the company was originally famous. While various accessory meters that clipped onto shutter-speed dials or formed part of interchangeable prisms were made available for this lower priced series of cameras, a true built-into-the-camera, behind-lens meter system was reserved for the larger, expensive Sensorex.

Now, without adding one iota of additional camera size over the Miranda GT or F body, the designers have created a behind-the-lens metering system identical in placement and circuitry to the Sensorex except that the Sensomat makes readings at shooting aperture rather than full aperture. Since the meter's in the mirror, located exactly as in the Sensorex, to save space here we suggest you read the Sensorex report concerning the meter.

To actuate the Sensomat meter, you press inward on a large button on the front of the camera (4) which turns on the meter circuit and shifts the lens aperture to manual control. Then, by changing shutter speed (12) or aperture (17), you center a meter needle within the finder at the right-hand side. To shut off the meter and reopen the lens, you can press a small button above the preview button (5) or take a picture. The shutter action automatically turns off the meter and returns the diaphragm to automatic control. The meter can read down to ½ sec. at f/1.4 with a film having an ASA index of 400. While the automatic meter turn-off arrangement is a clever one, we would have liked some sort of override so the meter could be left on continuously if desired. A single rather than a dual button switch system would have been more convenient but the designers may have felt the dual switch was more rugged.

The viewing and focusing brightness and convenience are identical with the Sensorex—quite good with an image slightly smaller than life size. Eyeglass wearers can see the entire frame.

While the Sensomat may have lost a self-timer and mirror lock-up button compared to the Miranda GT, it gained a multislotted take-up spool, a better prism locking and unlocking arrangement (15), a dual back lock similar to the Sensorex and a slightly higher and easier to grasp rewind knob (16). Other important features: newly designed f/1.4 and f/1.8 lenses, optically similar to those on the Sensorex but without the aperture coupling arms needed for the Sensorex's meter system. Since all of this was accomplished while actually lowering the price of the camera a full $40, compared to the GT model with noncoupled through-lens meter, the Sensomat certainly represents a feat in today's inflation.



1. Shutter release. **2.** Lens mount locking lever. **3.** Sync terminals. **4.** Preview and meter actuating button. **5.** Preview and meter release button. **6.** Back closing lock. **7.** Neck-strap lug. **8.** Accessory shoe. **9.** Cable release socket. **10.** Frame counter. **11.** Rapid-wind lever. **12.** Shutter-speed dial. **13.** ASA film speed setting window. **14.** Prism eyepiece. **15.** Film reminder and prism unlocking ring. **16.** Folding rewind crank. **17.** Aperture control ring. **18.** Focusing ring.

Miranda Sensorex

TYPE: 35mm eye-level single-lens reflex. LENS: 50mm f/1.8 or f/1.4 Auto Miranda, with interchangeable bayonet mount, stops to f/16, focusing to 17 in. SHUTTER: Cloth focal-plane with speeds from 1 to 1/1000 sec., plus B and FP, X sync. VIEWING: Interchangeable prism and screen, with full focusing screen, central microprism and fine focusing collar. OTHER FEATURES: Mercury battery powered spot reading CdS exposure meter, behind lens, on mirror, measures bottom picture area at full aperture. Instant-return mirror, quick-return diaphragm, depth-of-field preview button, shutter wind indicator. PRICE: $249.95 with f/1.8 lens, $299.95 with f/1.4 lens. MANUFACTURER: Miranda Camera Co., Ltd., Tokyo, Japan. IMPORTER: Allied Impex Corp., 168 Glen Cove Rd., Carle Place, N.Y. 11514. PHYSICAL DIMENSIONS: 5¾ in. long, 3¾ in. high (maximum) and 3½ in. deep (from front of lens to camera back). WEIGHT: 2 lb. 2 oz.

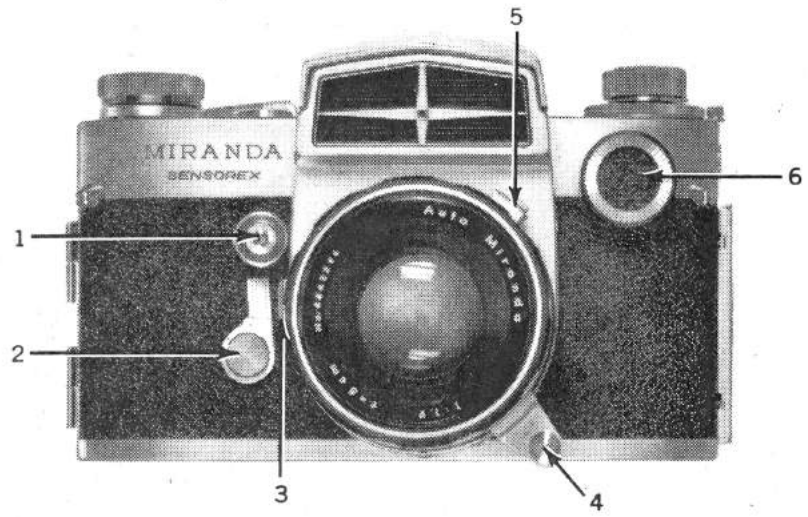
This year's changes in the Miranda Sensorex have been subtle and not easy to see from without, but changes there are. The camera now sports a newly designed f/1.8 Auto Miranda lens rather than the older f/1.9 and, glory be, the often promised but never available f/1.4 lens has finally arrived. Even less visible is the relocation of the behind-the-lens metering elements. Previously a single CdS cell located centrally behind slits in the mirror measured about 12° of the total picture area. The new Sensorex single cell uses three separate elements positioned behind slits, in the upper, left and right portions of the mirror. Instead of measuring the central area, the new system averages a lower centralized area excluding the grid and fine focusing collar within the viewfinder. The meter location change was necessitated by the newly designed f/1.4 lens. The new system does tend to eliminate any overemphasis of bright sky within a horizontal scenic, but the comera must be tilted up or sideways slightly to place centrally located subjects within the new metering area, depending on whether you're shooting horizontal or vertical pictures.

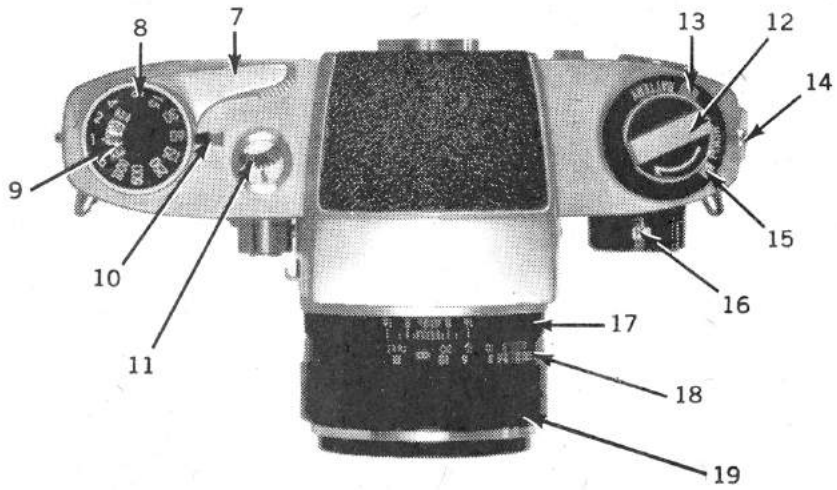
There's one minor improvement which can be seen within the Sensorex's viewfinder. The rather overlarge moving match pointer and meter needle have been made smaller and are no longer obtrusive within the picture area. The Miranda Sensorex remains one of the few through-lens metering SLR's having an indicating point for zero meter position.

The Miranda measures the light through the lens at full focusing aperture. To turn on the meter, you throw a handy two-position click switch lever (14) next to the rewind knob. Set your ASA index (25 to 1600) in the window atop the shutter-speed dial (9). Now for one additional step not previously necessary. You must turn the wheel (6) located in the former CdS housing and set the maximum aperture of the lens in the small window on top of the housing (16). There are markings for f/1.4, f/1.8, 2.8, 3.5, 4, 5.6, and 8, which takes care of all the Miranda-made lenses. For others having slight maximum aperture variations you can set the dial in between even though there are no clickstops or markings. The wheel turns easily.

Accuracy of the Miranda Sensorex meter was good. Readings were well within a full f/stop of a measured light source over the entire range and with very excellent accuracy toward the low light levels down to ⅛ sec. at f/1.4 with a film speed of ASA 400. The possibility of errors caused by light leakage through the eyepiece was judged low.

The camera body itself is a direct descendant of the rugged, easy-to-use Automex III which, like all Mirandas, can be converted to use many non-Miranda lenses with the proper adapter.





1. Cable threaded shutter release. **2.** Self-timer. **3.** Lens mount release lever. **4.** Aperture control coupling lever. **5.** Depth-of-field preview button. **6.** Maximum aperture meter control wheel. **7.** Rapid-wind lever. **8.** Shutter-speed dial. **9.** ASA index setting window. **10.** Shutter wind indicator. **11.** Frame counter. **12.** Rapid-rewind crank. **13.** Battery indicator. **14.** Battery switch. **15.** Flash type indicator. **16.** Maximum aperture window. **17.** Depth-of-field scale. **18.** Footage scale. **19.** Focusing ring.

Nikon Photomic FTN

TYPE: 35mm eye-level single-lens reflex. LENS: 50mm f/2 or f/1.4 Nikkor with interchangeable bayonet mount, stops to f/16, focus to 2 ft. SHUTTER: Cloth covered titanium foil focal-plane with speeds from 1 to 1/1000 sec. plus B, FP, X sync., self-timer. VIEWING: Interchangeable eye-level prism with interchangeable full focusing screen, central split-image rangefinder, fine focusing collar. OTHER FEATURES: Mercury battery-powered CdS exposure meter, behind lens, measures center weighted spot at full aperture, instant-return mirror; lock-up button; quick-return diaphragm, meter visible through finder and top of meter housing, shutter speed visible in finder. PRICE: With 50mm f/2 Nikkor-H, $381; with 50mm f/1.4 Nikkor-S, $443; cameras in black, $19.50 additional; Photomic FTN finder alone (when available), $119.50. MANUFACTURER: Nippon Kogaku, Japan. IMPORTER: Ehrenreich Photo Optical Industries, Garden City, N.Y. PHYSICAL DIMENSIONS: 5¾ in. long, 4 in. high, 3¾ in. deep. WEIGHT: 37 oz.

For a while there, the Nikkormat was one up on the Photomic, offering an automatic indexing ASA index system to set each interchangeable lens plus the shutter speed visible in the finder. But with the Photomic FTN replacing the TN at no increase in price, the Nikon gains these features, and a much superior (over the TN) camera locking device but loses the battery check button of the TN (of questionable value anyhow). The metering system is centrally weighted, concentrating approximately 60 percent of its light gathering on a 12mm central circle and allotting 40 percent of its ability to the outer area. MODERN's check with the Aerotronic P-803 meter tester indicated meter accuracy to be within ½ f/stop over the entire range, which measures down to ⅛ sec. at f/1.4 with an ASA 400 film. It gave accurate readings in backlit situations, contrasty scenics and shooting into dark areas surrounded by brightness. (However, in very difficult lighting situations, close-up readings are still needed.) The centrally weighted meter also tends to minimize erroneous readings caused by lens brightness edge fall-off at large apertures and possible mirror cut-off with long lenses. And gone is the awkward necessity of matching the ASA index of the film with the aperture of each lens used.

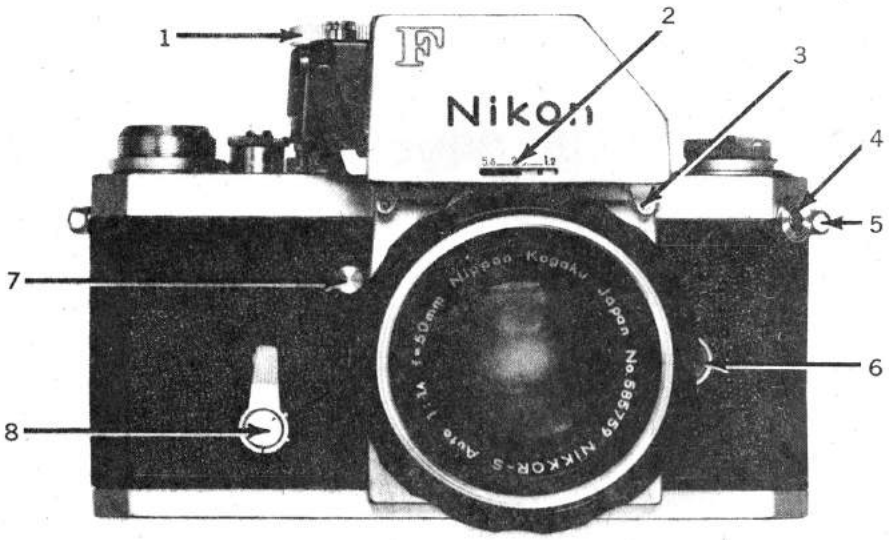
While the new Photomic FTN no longer has an additional feature in the battery check button, the meter is quite sensitive to the actual viewing screen in use. With focusing screens other than the A (split-image rangefinder) and B (fine focusing center with Fresnel lines), additional adjustments must be made. However, the ASA dial atop the camera has correction marks for just this purpose.

As far as the camera itself is concerned there is little that MODERN should analyze. It's the same extremely durable versatile instrument that amateurs and professionals have made the SLR-by-which-all-others-are-measured. While you can do some nit-picking over the removable back, which isn't as handy as a swing away back, and the size of the rapid-rewind lever (17) which could be larger, the Nikon F deserves its sterling reputation fully.

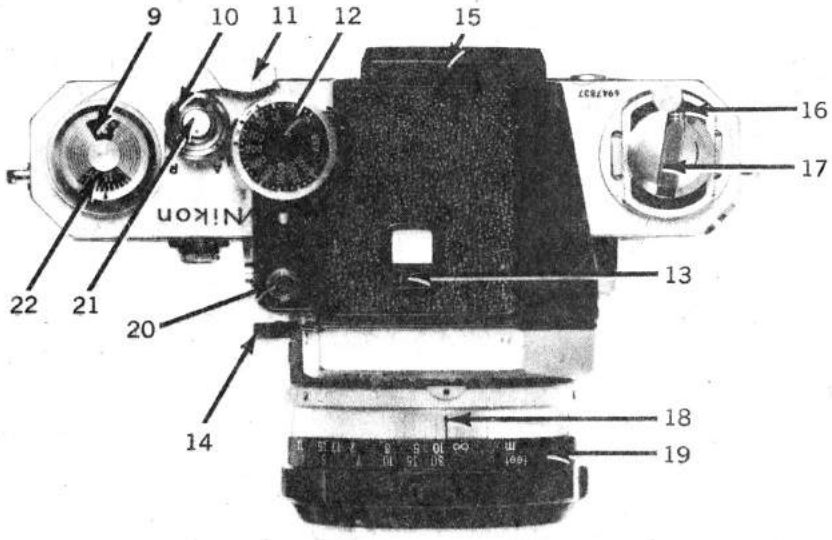
Here's how you set exposure with the Photomic FTN. Viewing through the finder you will see a small top cutout window outside the field of view.

By changing either shutter speed (1) or aperture, you can center the needle for the right exposure. There's a duplicate needle and centering circle on top of the prism housing (14). You can thus set the exposure while holding the camera at waist level or even while facing in another direction.

The meter can also be used with non-coupling lenses, with bellows units, extension tubes or other devices.



1. Shutter-speed selector. **2.** Maximum aperture scale. **3.** Meter coupling claw. **4.** Flash sync terminal. **5.** Shoulder strap lug. **6.** Lens lock button. **7.** Depth-of-field preview button. **8.** Self-timer. **9.** Film load reminder. **10.** Film advance/rewind setting ring. **11.** Film advance lever. **12.** ASA dial. **13.** Meter pointer needle. **14.** Prism connecting lever. **15.** Viewfinder eyepiece. **16.** Accessory shoe. **17.** Rewind lever. **18.** Depth-of-field scale. **19.** Focusing ring and footage scale. **20.** Meter on-off button. **21.** Shutter release. **22.** Frame counter.



Nikkormat FTN

TYPE: 35mm eye-level single-lens reflex. LENS: 50mm f/2 or f/1.4 Nikkor-H with interchangeable bayonet mount, stops to f/16, focusing to 2 ft. SHUTTER: Metal Copal Square-S focal-plane with speeds from 1 to 1/1000 sec. plus B, MX sync, self-timer. VIEWING: Noninterchangeable eye-level prism with full focusing screen plus central grid, fine focusing collar. OTHER FEATURES: Mercury battery-powered CdS exposure meter, behind lens, measures light (centrally weighted) at full aperture, instant return mirror, quick-return diaphragm, depth-of-field preview button, mirror lock-up lever, meter needle visible in finder and top of camera plate. PRICE: with 50mm f/2 Nikkor-H, $269.50; with 50mm f/1.4 Nikkor-S, $331.50. MANUFACTURER: Nippon Kogaku, Japan. IMPORTER: Nikon, Inc., Garden City, N.Y. 11533. PHYSICAL DIMENSIONS: 5¾ in. long, 3¾ in. high, 4 in. deep (front of lens to camera back). WEIGHT: 38 oz.

Here's a pleasant case where a good camera was made even better at no increase in price. Basically there are three major changes in the Nikkormat FTN compared with the Nikkormat FT. First, the centrally weighted metering system of the Nikon Photomic FTN has been adapted for the more compact less expensive Nikkormat. Secondly, the old awkward, time-consuming procedure of matching the ASA rating of the film against the maximum aperture of the lens in use has been eliminated. After once setting the ASA index (12-1600) on the bottom of the camera, you just attach the lens, slip the meter coupling pin (17) into the lens aperture slot (18) and twist the lens to maximum aperture. This automatically sets the ASA index to the maximum aperture.

Thirdly, the actual shutter speed in use plus the next lower and next higher can now be seen within the viewfinder. This serves as a constant exposure reminder.

Other improvements of a less important nature: finer Fresnel rings in the viewfinder which are now virtually invisible, thus making focusing easier, and plus and minus symbols in the viewfinder meter centering area to indicate over or underexposure. In meter tests we found that readings as low as 1/8 sec. at f/1.4 could be made with a film having an ASA rating of 400. Meter accuracy proved to be within ½ f/stop of a known light source over its range when tested on the Aerotronic P-803 Meter Tester. The centrally weighted system aided in obtaining more accuracy in backlit situations and with long lenses.

Every control on the Nikkormat falls just where you want it. One short 130° throw of the excellently shaped, solid, film advance lever (8) takes care of film and shutter wind. An unusually gentle shutter release button (2) is close by the wind lever. The Nikkormat FTN is the first SLR to make the preview control a large easy-to-push button right on the top plate of the camera (3) where it's just as handy as the shutter release. A large clearly defined needle within the picture area on the right side of the finder is centered for proper exposure. A secondary needle window is located on the left top of the camera (12).

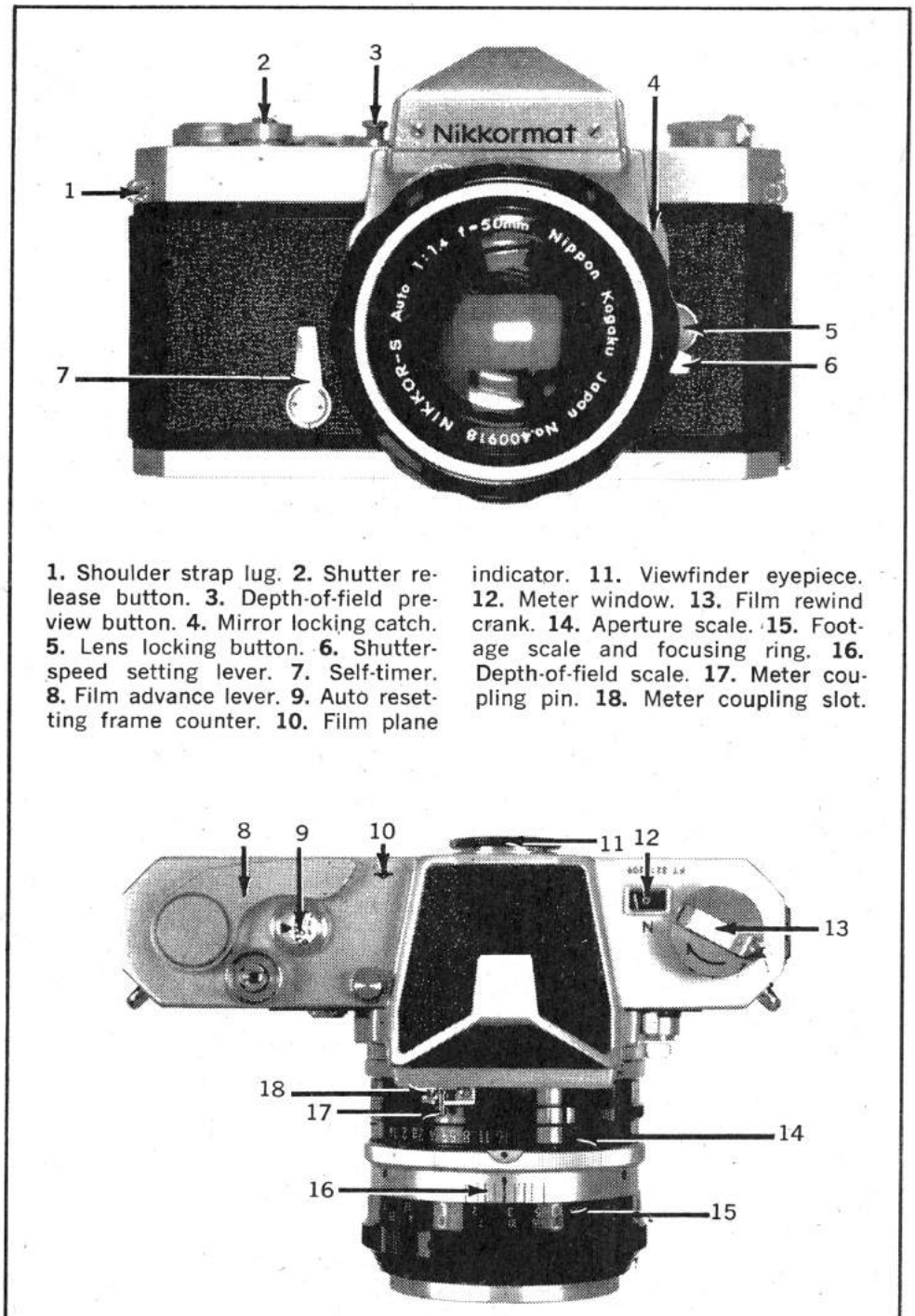
The meter circuit turns on when the rapid-wind lever is moved from inboard carrying position.

You need not stop the automatic Nikkor lenses down to take a reading.

The central grid is good. It worked well on lenses to 400 and splendidly for close-ups with a bellows unit at full 1:1.

Eyeglass wearers can see the entire focusing screen on the Nikkormat FTN.

The Copal Square-S shutter provides accurate shutter speeds, and electronic flash speeds up to 1/125 sec. By lining up the clickstop shutter speeds on the ring opposite a black dot on the front plate of camera, you can set the speeds.



1. Shoulder strap lug. **2.** Shutter release button. **3.** Depth-of-field preview button. **4.** Mirror locking catch. **5.** Lens locking button. **6.** Shutter-speed setting lever. **7.** Self-timer. **8.** Film advance lever. **9.** Auto resetting frame counter. **10.** Film plane indicator. **11.** Viewfinder eyepiece. **12.** Meter window. **13.** Film rewind crank. **14.** Aperture scale. **15.** Footage scale and focusing ring. **16.** Depth-of-field scale. **17.** Meter coupling pin. **18.** Meter coupling slot.

Olympus Pen FT

TYPE: Half-frame 35mm eye-level single-lens reflex.
LENS: 38mm f/1.8 Zuiko Auto S with interchangeable bayonet mount, stops to f/16, focusing to 15 in.
SHUTTER: Metal focal-plane with speeds from 1 to 1/500 sec. plus B, MX sync.
VIEWING: Noninterchangeable eye-level prism with full focusing screen plus central grid, fine focusing collar.
OTHER FEATURES: Mercury battery-powered CdS exposure meter, behind lens, measures entire picture area at full or shooting aperture, instant-return mirror, quick-return diaphragm, depth-of field preview, auto resetting frame counter.
PRICE: with 38mm f/1.8 Zuiko, $159.95; with 40mm f/1.4 Zuiko, $179.95; with 42mm f/1.2 Zuiko, $219.95.
MANUFACTURER: Olympus Optical Co., Ltd., Tokyo, Japan. IMPORTER: Ponder & Best, Inc., 11201 W. Pico Blvd., Los Angeles, Calif. 90064.
PHYSICAL SPECIFICATIONS: 5 in. long, 3¼ in. high, 2½ in deep. WEIGHT: 1 lb. 8 oz.

Again Olympus has done right by half-frame enthusiasts. Now a model of this 5-in.-long 2⅝-in.-high gem has a behind-the-lens meter with no increase in size and virtually no increase in weight. Moreover, you can make your exposure reading at full aperture.

Let's get to that metering system first. The Pen engineers have incorporated a large-area CdS printed circuit meter behind one of the reflecting surfaces in the finder which integrates all the light from the entire finder area. The Olympus meter pointer number scale is visible through the finder at the left of the picture area.

First you set the ASA of the film (25 to 400) in a small window on the side of the shutter speed dial (2). Now set your shutter speed. Look through the finder to make your meter reading. The meter scale reads in Olympus meter numbers from 0 to 7. Note the number on which the pointer rests (or the point between numbers) and set this number on the aperture ring (8).

These numbers on the top of the aperture ring are not f/stops. If you wish to find out what f/stop the number represents you can turn the camera upside down and look at the diaphragm ring markings on the bottom.

If you'd rather make a meter reading at shooting aperture, you can do it. Just press the preview button (9) on the lens mount and turn the diaphragm ring until the pointer inside the finder lines up with the lowest number on the lens you're using. Now you're ready to shoot.

Be not in anguish if you have any older Olympus Pen F lenses without meter numerals. You will be able to purchase adhesive numeral strips to cover your diaphragm ring.

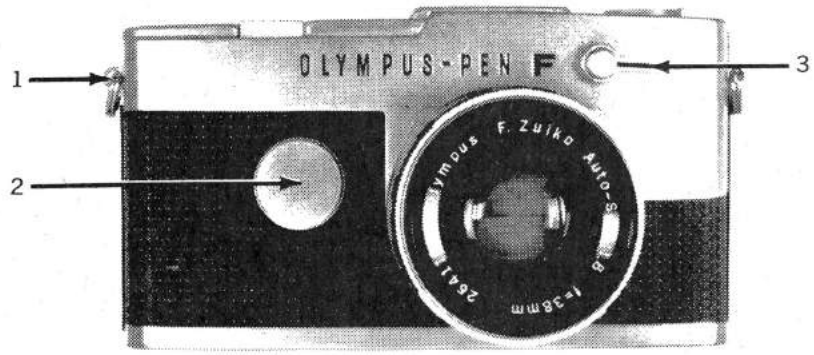
A test with our Aerotronic P-803 meter tester indicated that the FT meter read within ½ f/stop of a known light source over its entire range. The meter can read down to f/2 at 1/15 sec. with an ASA 400 film.

At low light levels the meter needle tends to act rather sluggishly. It is also possible to use the meter with non-Olympus manual or preset lenses.

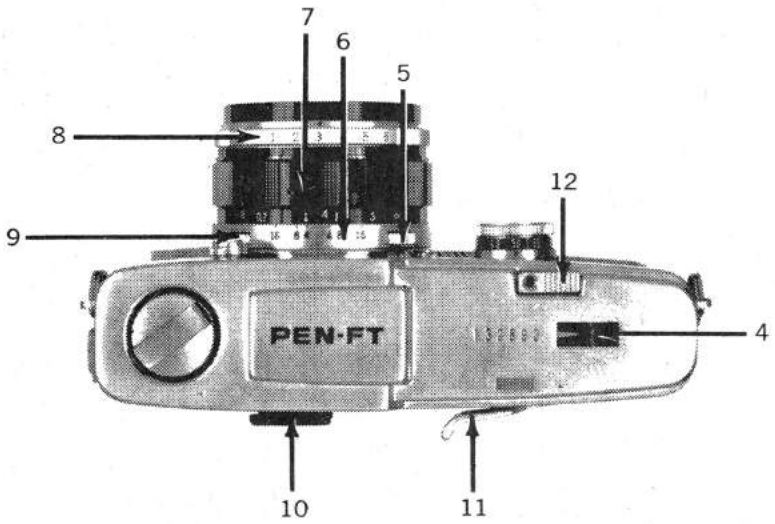
The new microprism snaps the image in and out of focus efficiently, although the meter system has caused an overall viewing light loss of approximately 2 f/stops. However, by eliminating the outer Fresnel rings, the entire screen has been made usable for focusing.

Other changes or improvements: a single-stroke, long-armed wind lever (11) replaces the two-stroke short-armed lever. A self-timer (3) has been added. The take-up spool is now a quick-loading multiple slot and tooth type. The frame counter (4) has slightly larger numbers. X sync only has been replaced with both X and M.

The rest of the Pen FT and FV features are the same as the older Pen F. Expect superb performance, convenient operation, X sync at all speeds.



1. Shoulder strap lug. **2.** Shutter-speed dial. **3.** Self-timer. **4.** Frame counter. **5.** Lens mount lock. **6.** Depth-of-field scale. **7.** Footage scale and focusing ring. **8.** Olympus meter number scale. **9.** Depth-of-field preview button. **10.** Finder eyepiece. **11.** Wind lever. **12.** Shutter release.



Petri FT EE

TYPE: 35mm eye-level single-lens reflex.
LENS: 55mm f/1.8 Petri with interchangeable breech lock mount, stops to f/16, focus to 2 ft.
SHUTTER: Cloth focal-plane with speeds from 1/2 to 1/500 sec. plus B, FP and X flash sync, self-timer.
VIEWING: Noninterchangeable eye-level prism with full focusing screen plus central grid and clear and fine focusing collars.
OTHER FEATURES: Mercury battery-powered automatic behind-the-lens CdS meter reading entire picture area at maximum aperture. Instant-return mirror, quick-return diaphragm. Auto resetting frame counter.
PRICE: $249.50.
MANUFACTURER: Petri Camera Co., Japan. IMPORTER: Petri International Corp., 432 Park Ave. S., New York, N.Y. 10016.

The Petri FTEE has only a vague physical resemblance to its predecessor, the Petri FT, and almost none at all as far as camera operation goes. The FTEE is an automatic machine, while the FT had a stop-down behind-lens metering system. You select the shutter speed and the camera's through-the-lens metering system automatically sets the aperture. Two CdS cells are positioned at the base of the pentaprism to read the average brightness of the scene.

To use the camera you first set the ASA of the film in use in a window (6) on the shutter-speed dial and also select a shutter speed. With the camera set for auto operation you frame at the subject, watch a needle in the finder move to an f/number, and press the shutter release (1). The reading is made with the lens wide open. Once the exposure has been made the electrical circuit switches off automatically. The camera can also be used manually for special exposure situations, such as strong backlight, sidelight or snow and beach scenes.

The FTEE's body has been redesigned, eliminating the square corners of the earlier Petri FT. The corners are chamfered for a more pleasing shape. The mercury battery compartment has been moved to the side, giving the camera a cleaner-looking facade.

The film advance level (4) has been somewhat reshaped, with a slight angle at the end that makes it easier to grasp for rapid shooting.

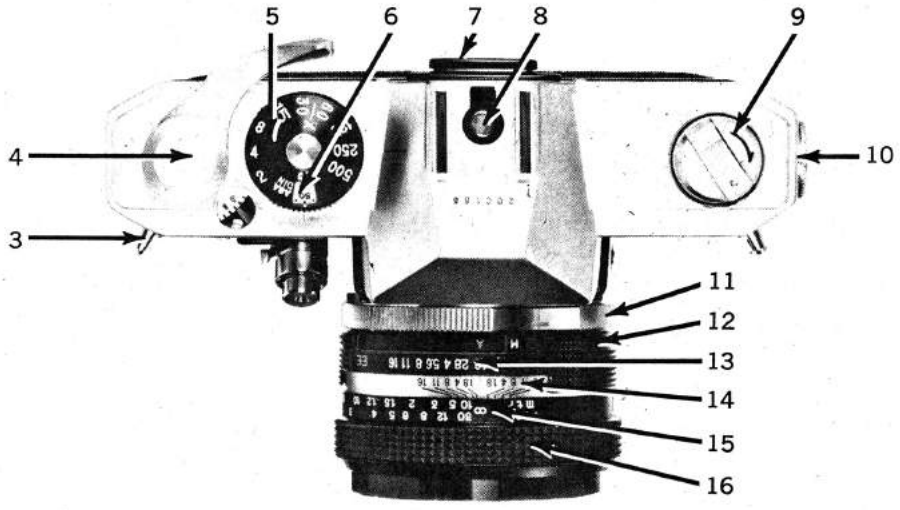
ASA speeds are a bit more difficult to read than on the previous machine, which had them on a completely separate dial. However, the extremely convenient front shutter release has been retained. It falls quite naturally right under the index finger of the right hand. Shutter speeds are in white on black except for the 1/15-sec. speed. That one's in yellow to serve as a reminder that it's time to use a tripod.

The finder (7) produces a slightly less than life size image. You can focus lenses up to 400mm with either the central microgrid or the surrounding full ground-glass screen. Eyeglass wearers should have no trouble seeing almost the complete framing area.

The breech lock mount of the FT has been retained. While the entire line of Petri lenses from 28 to 1000mm can be used with the FTEE with manual through-the-lens exposure, the 35mm f/3.5 and the 135mm f/3.8 lenses are specifically designed for automatic operation with the FTEE camera. In addition, the entire line of Accura lenses can be used with the YS adapter with the camera on manual.

The four slotted take-up spool makes loading quick and easy—virtually fumble-free, as a matter of fact.

In shooting with the Petri we found handling to be quite good. The camera feels quite comfortable even during prolonged shooting sessions. Operation is fast, since auto exposure eliminates major step in the process. We would judge shutter noise to be about average for this type of camera.



1. Shutter release. **2.** Self-timer. **3.** Shoulder strap lug. **4.** Film advance lever. **5.** Shutter-speed dial. **6.** ASA scale. **7.** Viewfinder. **8.** Accessory shoe. **9.** Film rewind crank. **10.** Battery compartment. **11.** Breech lock ring. **12.** Auto/manual operation setting ring. **13.** Lens aperture control. **14.** Depth-of-field scale. **15.** Footage scale. **16.** Focusing ring.

Ricoh Singlex TLS

TYPE: 35mm eye-level single-lens reflex. LENS: Interchangeable 55mm f/1.4 or 50mm f/1.8 Auto Rikenon with thread mount.
SHUTTER: Copal Square S focal-plane with speeds from 1 to 1/1000 sec. plus B, MX sync.
VIEWING: Noninterchangeable eye-level prism, with full focusing screen, plus central grid, fine focusing collar.
OTHER FEATURES: Mercury battery-powered integrated behind-the-lens CdS exposure meter measures entire picture area at shooting aperture, instant return mirror, quick-return diaphragm, depth-of-field preview lever, self-timer and film type reminder.
PRICE: With 55mm f/1.4, $249.95.; with 50mm f/1.8, $199.95.
MANUFACTURER: Ricoh Co., Ltd., Tokyo, Japan. IMPORTER: Lenco, Inc., 2414 West Devon Ave., Chicago, Ill. 60645.
PHYSICAL DIMENSIONS: 5¾ in. long, 3⅝ in. high and 3⅝ deep (from front of lens). WEIGHT: 2 lb. 7 oz.

Does the Ricoh Singlex look very much like a much-publicized top bracket Tower brand single-lens reflex from the Sears, Roebuck catalog? Have you seen what seems to be the same camera in shiny black, heavily advertised and promoted by some of the biggest retail photo stores in the country? Beneath the variations in nameplates and body metal coloration, they are all really Ricoh Singlexes. And what we say here applies to them as well. A Singlex by any other name. . . .

The aim was to produce a camera with the features of other behind-lens meter cameras—and at a lower price. Basically, on the TLS two CdS cells read the ground-glass image and deliver an integrated reading.

To operate the TLS you set the ASA speed of the film in use. Then you activate the meter by pushing up the meter switch (11). The auto diaphragm lens is now on manual operation. Adjusting either shutter speed (6) or aperture controls (14) until a needle in the finder falls within the limits of two markers, located at the right, sets the exposure.

You then turn off the meter, switching the lens back to automatic diaphragm operation. You can leave the switch in the on position and shoot with the diaphragm closed down, if you choose, but it won't open to full aperture after exposure.

The meter is decidedly sensitive. Tests showed that it will read in light low enough to require an exposure of 1 sec. at f/1.4 with an ASA 400 film.

Unlike some behind-lens meter cameras, the Singlex has provision for ASA 64. In addition there are dot indicators for ASA 80 and 160.

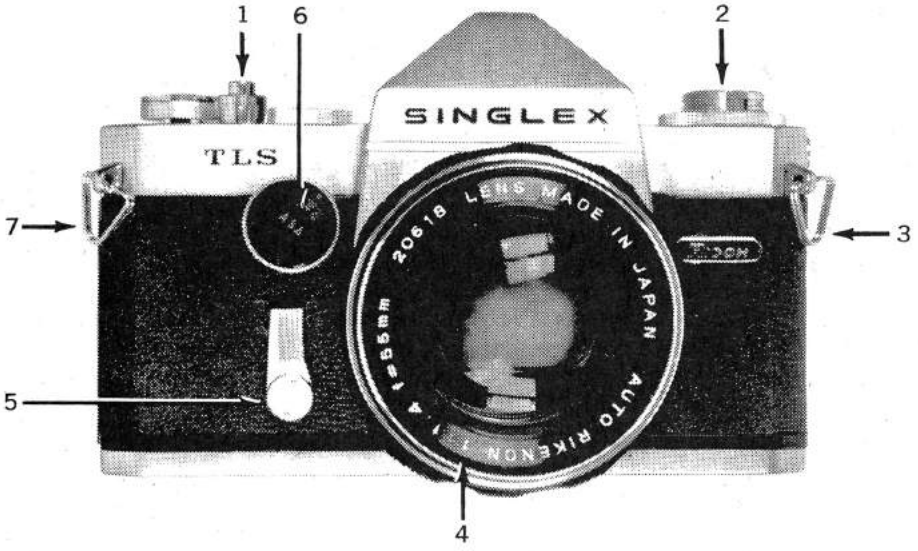
The lens and camera were subjected to a variety of field tests, including a dusty, dirty sports-car hill climb. The camera operated without a hitch all day long. Just as important, we were able to shoot quickly enough to make sequence exposures of a single car careening through a corner. The entire mechanism, including the film advance lever (8) functioned well under heavy shooting pressure throughout.

Eyeglass wearers won't have any trouble seeing all four corners of the viewfinder image. In addition, focusing is quick and accurate with the central microprism. The slightly less than life size finder image proved adequately bright even under low level available light situations.

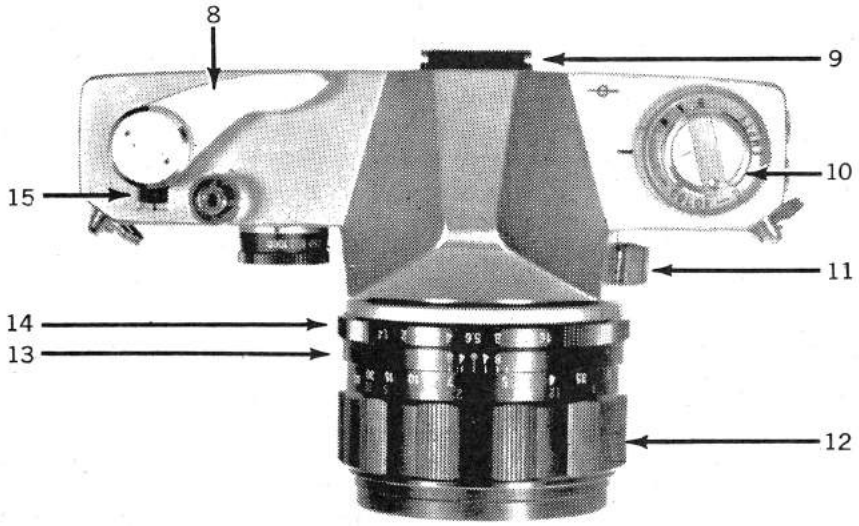
In addition, controls are conveniently placed so that you never have to fish around to find them.

Most modern SLR's have tiny latches on the side of the camera that you pull down to open the camera back. On The Singlex you simply pull up on the rewind knob (2)—convenient and extremely fast working.

By and large the machine satisfies the intention of its designers. It offers behind-lens meter, SLR operation, at a price that won't turn off the cost-minded, but serious photographer.



1. Shutter release **2.** Rewind knob and crank. **3.** Neck strap lug. **4.** 55mm f/1.4 Rikenon lens. **5.** Self-timer. **6.** Shutter-speed and ASA dials. **7.** Neck strap lug. **8.** Film advance and shutter cocking lever. **9.** Viewfinder eyepiece. **10.** Film reminder dial. **11.** Exposure meter switch. **12.** Focusing ring and footage scale. **13.** Depth-of-field scale. **14.** Aperture control. **15.** Exposure counter.



Yashica TL Electro-X

TYPE: 35mm eye-level single-lens reflex. LENS: 50mm f/1.7 or 50mm f/1.4 Auto Yashinon-DX, with interchangeable thread mount, stops to f/16, focusing to 2 ft. SHUTTER: Copal Square SE metal focal-plane with speeds from 2 to 1/1000 sec. plus B, X sync, self-timer. VIEWING: Noninterchangeable eye-level prism with full focusing screen plus central grid, fine focusing collar. OTHER FEATURES: Silver battery-powered CdS exposure meter, behind lens, measures entire picture area at shooting aperture, instant-return mirror, quick-return diaphragm, depth-of-field preview button, mirror lock-up lever. PRICE: With 50mm f/1.7 Auto Yashinon-DX, $244.95; with 50mm f/1.4 Auto Yashinon-DX, $279.95. MANUFACTURER: Yashica Co., Ltd., Japan. IMPORTER: Yashica, Inc., 50-17 Queens Blvd., Woodside, N.Y. 11377. PHYSICAL DIMENSIONS: 5¾ in. long, 3¾ in. high, 3¾ in. deep. WEIGHT: 2 lb. 5 oz.

One glance through the viewfinder gives the big change away. There's no meter pointer to center when using the through-lens meter. Instead, there are two red lights reading "under" and "over." When they're both off, the camera exposure system is set. The presence of those two lights and the absence of any pointer give fair warning of a major advancement in exposure meter-camera shutter engineering—a step to make the mechanism more rugged, more accurate and simpler by the substitution of electronics for mechanical components. You get the proper exposure by setting shutter, then adjusting the lens (or vice versa) until the lights go out.

From the back of the Electro-X the viewfinder eyepiece (10) reveals an extra cutout trapezoidal section on top—the better to see those red lights with. But the location of the flash sync terminal (16) at the top of the left side pinpoints the big change—the shutter. Copal Square all-metal, blade focal-plane shutters dictate the placing of all controls, and the terminal is a key.

So we open the Electro-X by the catch on the bottom of the side—much more reliable than the old Yashica catch on the bottom—to look at this, the first Copal focal-plane shutter in a Yashica camera. What is big news is the fact that this Square SE is the first electronically controlled Copal focal-plane shutter. In comparative tests with a conventional cloth focal-plane shutter the SE proved more accurate and reliable under a variety of conditions. The SE is also just about the quietest SLR shutter we've ever heard.

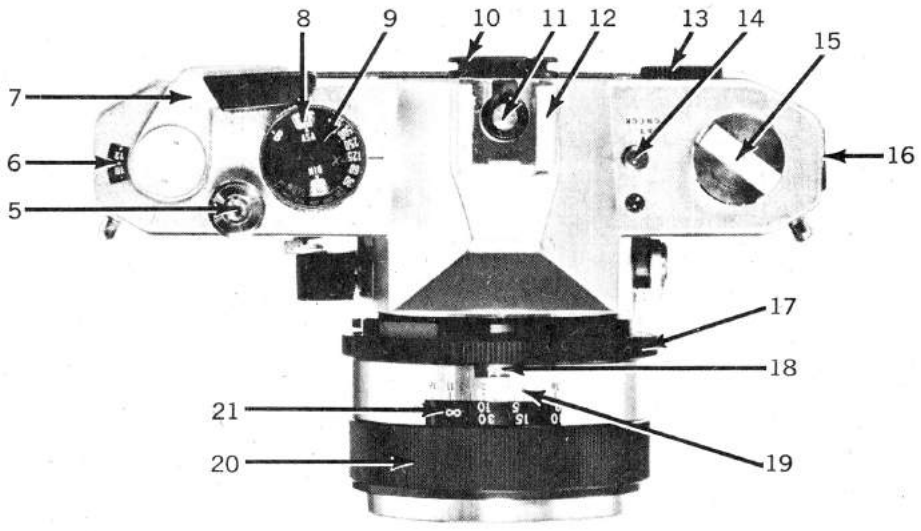
Instead of the usual coils, springs, galvanometers and doodads found in conventional mechanical exposure meter systems, this camera has a printed circuit board and a number of solid-state devices, including a four-transistor budget circuit for the readout and a four-transistor tank (timing) circuit to set the shutter timing and energize the electromagnetic delay.

Most behind-lens meter SLR's have two distinct mechanisms—a shutter and a meter. The Electro-X has one—meter and shutter are connected. The meter is like a miniature computer and one of the items being fed into it is the shutter speed (or f/number). Its accuracy can be judged by its performance up against our Aerotronic P-803 meter tester. It came through with flying colors.

Picture-taking tests showed the metering system to be working well. With a slow speed, narrow latitude color film, resulting transparencies were well exposed overall.

When you consider that this revolutionary camera can be bought for just a few extra dollars ($20 more for the f/1.4 version) you figure photographers will break the dealers' doors down to get in line. But will they? Old habits die hard. Will they take to a meter system without a pointer to match against something?

1. Self-timer. **2.** Meter circuit switch. **3.** Shoulder strap lug. **4.** Mirror lock-up lever. **5.** Shutter release button. **6.** Auto resetting frame counter. **7.** Film advance lever. **8.** ASA film-speed scale. **9.** Shutter-speed dial. **10.** Viewfinder eyepiece. **11.** Direct flash contact. **12.** Accessory shoe. **13.** Battery compartment. **14.** Battery check. **15.** Rewind crank. **16.** Flash sync terminal. **17.** Aperture control ring. **18.** Aperture scale. **19.** Depth-of-field scale. **20.** Focusing ring. **21.** Footage scale.



Zeiss Contarex Super

TYPE: 35mm eye-level single-lens reflex. LENS: 50mm f/2 or 55mm f/1.4 Planar with interchangeable bayonet mount, stops to f/16, focusing to 18 in. SHUTTER: Cloth focal-plane with speeds from 1 to 1/1000 sec. plus B, FP and MX sync, self-timer. VIEWING: Noninterchangeable eye-level prism with nonfocusing screen plus central split-image rangefinder, fine focusing collar; interch. viewing screens. OTHER FEATURES: Behind-lens exposure meter measures central spot at full aperture, pointer visible in finder and top of camera plate, auto aperture compensation at close focusing distance, instant-return mirror, auto diaphragm. PRICE: with 50mm f/2 Planar, $634; with 55mm, f/1.4 Planar, $684. MANUFACTURER: Zeiss Ikon A.G., Stuttgart, West Germany. IMPORTER: Zeiss Ikon-Voightlander of America, 444 Fifth Ave., New York, N.Y. 10018. PHYSICAL DIMENSIONS: 6 in. long, 3¾ in. high, 1¾ in. deep. WEIGHT: 2 lb. 8 oz.

The designers of this Rolls-Royce of cameras (beautiful construction but conservative in modern features) have carefully weighed the pros and cons of all SLR meter systems and have come up with something quite unique and outstanding. Using the solidly built Contarex body and its superprecision lens line, Zeiss technicians installed a tiny CdS cell at the bottom of the camera's mirror chamber. A small parabolic mirror on the rear of the main mirror deflects light from a partially silvered main mirror spot down to the CdS cell. The cell centrally measures 7 percent of the total picture area. Tests of a sample indicated that the meter was remarkably free from extraneous light around the subject and that excellent accuracy could be attained. However, the cell is affected by light entering the eyepiece, so your eye should be kept close to the finder. Shutter speeds and apertures are visible in the finder. Readings down to 1/15 sec. at f/1.4 can be made with an ASA 400 film.

To obtain proper exposure you just line up a transparent green pointer and the meter needle within the finder (or in the window atop the camera body) using either the precision aperture control wheel (2) or shutter-speed dial (9).

The Contarex Super has a lock-up mirror (12), hot shoe for flash atop the prism housing (14), and locking PC sync outlet. Conservative features still to be found are: manually set frame counter (10), aperture reopens fully when film is wound, shutter-speed dial (9) is set by pulling upward on ring and turning it. However, all accessories previously available for the Contarex (except the 21mm f/4 Biogon lens, which has been replaced by an 18mm f/4 Distagon optic which maintains through-lens viewing) can be used with the Super.

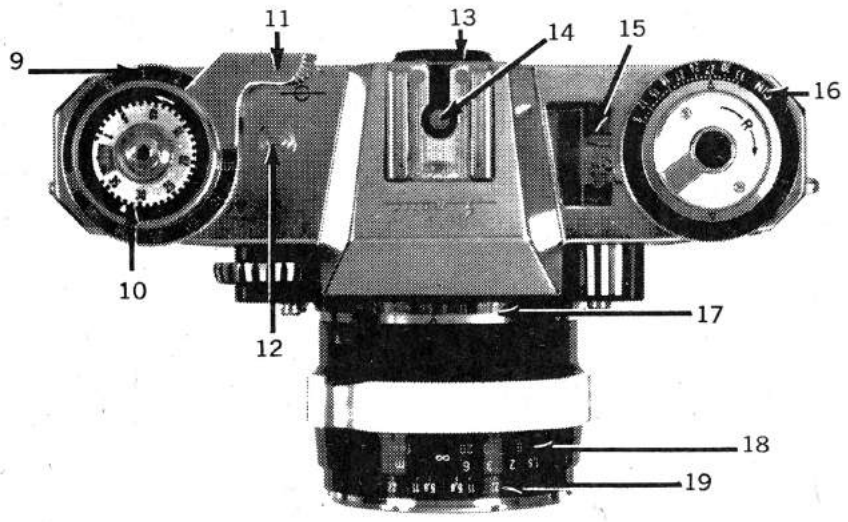
In actual shooting operation we found the Contarex Super to behave splendidly. Photographers who prefer a plain focusing screen to the central split image and focusing collar only can interchange screens easily. However, the plain screen does deliver a darker image and does not indicate the area covered by the meter. A microprism screen would certainly be a fine addition to the list of accessories.

The focusing ring (7) works with extreme smoothness. The rapid-wind lever is massive (11) but must be operated in one complete stroke. The shutter mechanism has a soft whirring action rather than a pronounced click. The handle of the folding rewind lever (4) is smallish and nonrotating.

The Contarex Super remains a unique combination of superb workmanship, massive construction and a curious absence of some taken-for-granted modern features (such as an auto resetting frame counter).

The future of the more expensive Zeiss Contarex Electronic (with an electronically controlled shutter) is still hazy, but the Super should satisfy anything SLR men could want.

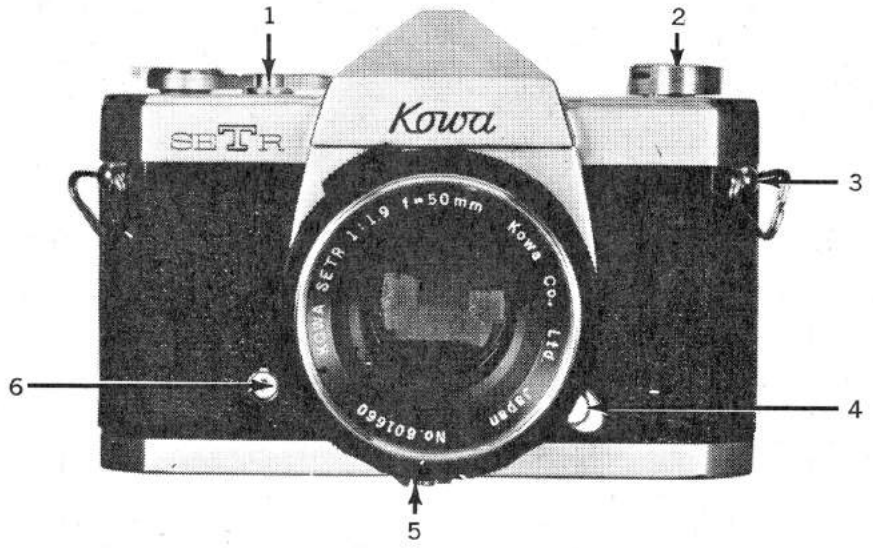
1. Shutter release. **2.** Aperture control wheel. **3.** Meter switch. **4.** Rewind crank. **5.** Shoulder strap lug. **6.** Lens lock. **7.** Focusing ring lug. **8.** Self-timer. **9.** Shutter-speed dial. **10.** Frame counter. **11.** Film advance lever. **12.** Mirror lock-up button. **13.** Viewfinder eyepiece. **14.** Hot sync accessory shoe. **15.** Meter pointer index. **16.** Film-speed index. **17.** Aperture scale. **18.** Footage scale. **19.** Depth-of-field scale.



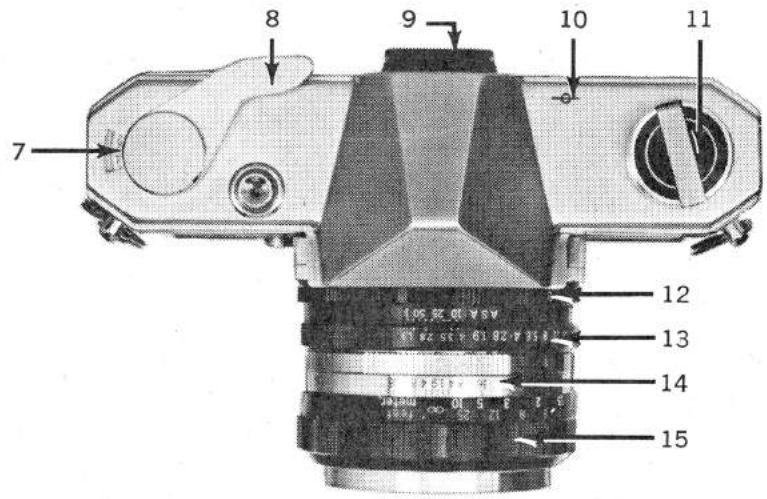
Kowa seTr

TYPE: 35mm eye-level single-lens reflex. LENS: 50mm f/1.9 Kowa in interchangeable bayonet mount, with stops to f/16, focusing to 28 in. SHUTTER: Seiko behind-the-lens leaf with speeds from 1 to 1/500 sec., plus B, MX sync, self-timer. VIEWING: Noninterchangeable eye-level prism with full focusing screen, central microprism with full focusing collar. OTHER FEATURES: Quick-return diaphragm, instant-return mirror, through-lens CdS meter measures entire area at full aperture. PRICE: $155. MANUFACTURER: Kowa Co., Ltd., Nagoya, Japan. IMPORTER: Prominar International Corp., 1150 Broadway, New York, N.Y. 10001. PHYSICAL DIMENSIONS: 5¼ in. long, 3¾ in. high, 3¼ in. deep. WEIGHT: 1 lb., 14 oz.

If one company can be said to have in the past specialized in a single type of 35mm camera almost to the exclusion of others it's Kowa. The seTr is the logical extension of Kowa thinking. First you build an SLR with coupled but not behind-the-lens meter (SE). Then you make interchangeable lenses for it (SER). Then you move the meter behind the lens (SET) and finally you give this new concept fully interchangeable lenses (seTr). Since the basic camera body and shutter mechanism have remained the same throughout you can be sure that Kowa has just about brought the leaf shutter SLR concept as close to perfection as they can. Advantages of the leaf shutter SLR: relatively small camera size, electronic flash and flash sync at all speeds, comparatively low price (when compared to focal-plane shutter SLR's with same lens equipment and metering systems). There are some disadvantages too: bellows and extension tubes can't be used (but close-up lenses can) and you are limited to the lenses manufactured specifically for that camera. Again Kowa-ites are lucky, since the long history of production offers a lens line from 28mm to 200mm, sufficient for most needs.



1. Shutter release. **2.** Rewind knob. **3.** Shoulder strap lug. **4.** MX flash sync., self-timer. **5.** Lens release latch. **6.** Flash sync terminal. **7.** Frame counter. **8.** Film advance lever. **9.** Viewfinder eyepiece. **10.** Film plane indicator. **11.** Film rewind crank. **12.** Shutter-speed control ring. **13.** Aperture selector ring. **14.** Depth-of-field scale. **15.** Lens focusing ring.



Let's look at the behind-the-lens metering system. To set the ASA index (10 to 800) you pull out the ASA selector knob beneath lens mount and set the ASA index atop the lens barrel to the maximum aperture of the lens you're using. There are only four maximum aperture settings—f/1.9, 2.8, 3.5 and 4—and these are in bright yellow as are the ASA indexes. It's an extra step but this is how you key into the camera what the maximum aperture is—an essential bit of information for the metering system to know. Readings can be made as low as ¼ sec. at f/1.9 with a film having an ASA speed of 400. Tests with our Aerotronic P-803 meter tester indicated that the circuit stayed within ½ f/stop of a known light source over its entire range. The circuit turns on when the camera is wound and shuts off automatically after the shutter release is pressed. To set the meter properly you turn the shutter speed or aperture rings on the lens until the meter needle within the finder centers in a notch.

The microprism fractures the image sharply when it's out of focus and the fine focusing collar plus surrounding focusing Fresnel area remains clear and bright to the edges. Eyeglass wearers should be able to see almost all the picture area.

The convenience of operating controls and handleability of the Kowa seTr are very good—almost identical with the earlier models. It's advisable to keep your eye as close as possible to the finder eyepiece, however, since extraneous illumination could enter the eyepiece and give erroneous readings.

Lenses can be changed speedily. Press the change lever and twist the lens 45 degrees counterclockwise.

Our National Camera Motion Analyzer showed the accuracy of the shutter to be well within accepted limits over the entire range.

Kodak Instamatic Reflex

TYPE: 126 cartridge eye-level single-lens reflex.
LENS: 45mm f/2.8 Xenar with stops to f/22 and focus to 3.3 ft.; 50mm f/1.9 Xenon with stops to f/22 and focus to 2.2 ft. with interchangeable bayonet mount.
SHUTTER: Compur mechanical mirror shutter with electronic assist and speeds from 20 to 1/500 sec. and X sync.
VIEWING: Noninterchangeable eye-level prism with central split-image rangefinder, full focusing screen.
OTHER FEATURES: Mercury battery-powered CdS exposure meter coupled to shutter speed; automatic exposure control for E.I. 64 to 160; interlock for coupling diaphragm and footage scale for auto flash exposure (on f/2.8 lens only).
PRICE: With 45mm f/2.8, less than $200; with 50mm f/1.9, less than $250. Black body, $5 extra.
MANUFACTURER: Eastman Kodak Co., Stuttgart, Germany.
IMPORTER: Eastman Kodak Co., Rochester, N.Y.
PHYSICAL DIMENSIONS: With 45mm lens, 5¼ in. long, 3¾ in. high and 3 in. deep; 3½ in. with 50mm lens (from back of camera to lens front).
WEIGHT: 1 lb. 10 oz. with 45mm lens. 1 lb. 14 oz. with 50mm lens.

Eastman Kodak, who started the whole 126 cartridge idea in the first place, joins the trend to eye-level single-lens reflex cameras with the Kodak Instamatic Reflex. If it has a strong resemblance to the Kodak Retina Reflex IV—it's not precisely an accident. The Instamatic Reflex is made in Kodak's Stuttgart, Germany, factory by the same people who make the Retina. Not only that, the Instamatic Reflex uses the same fully interchangeable lenses as the Retina—all the way from 28 to 200mm—giving it the widest lens choice range by far of any 126 reflex.

Inserting the cartridge into the camera sets the ASA speed of the automatic exposure system. At that point all you do is select the aperture you want (6) and the auto system provides the correct shutter speed—from 20 to 1/500 sec.

The heart of the exposure system is the mechanical leaf shutter with electronic assist. Press the shutter release (1) and the mirror pops up out of the way and the Compur leaf shutter opens. The CdS exposure system actually measures the light during exposure. When a capacitor, hooked up to an electromagnet that holds the shutter open, is filled it cuts off the current and the shutter closes. Recock the shutter and the lens reopens to full aperture. The Kodak is also the only camera of its type to list accessory extension tubes.

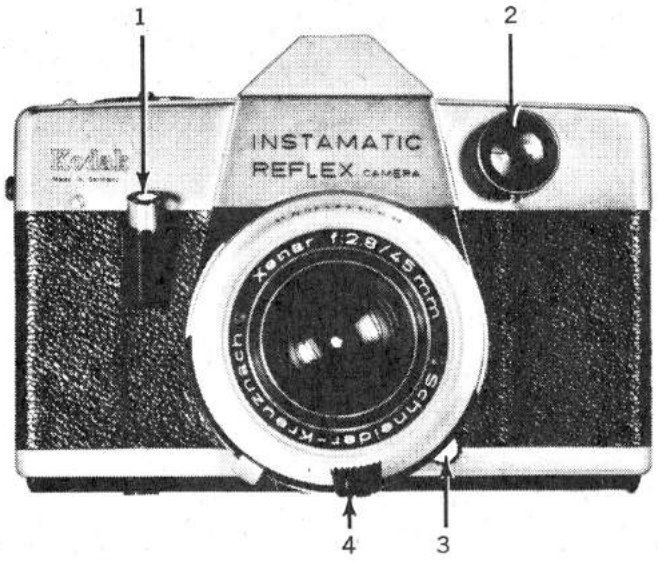
There's no backlight compensation with the camera. However, we found that exposure could be modified by covering part of the meter port (2)—enough to, let's say, double the shutter speed exposure for better foreground detail.

The Kodak is a quick working camera. You can change lenses with it comparatively fast. Hold the camera in one hand, press the lens lock (4) under the mount and twist about ¼ turn with the other hand to release the lens.

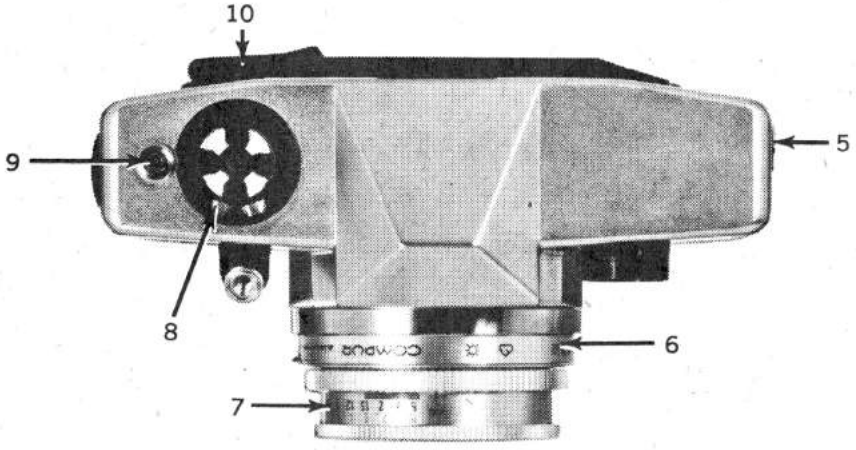
In addition to the by now conventional rotating flashcube (8) at the top of the camera, the Kodak has provision for electronic flash (9). With a cube inserted shutter speed is 1/30 sec.; with electronic flash, speed is 1/300 sec.

Two tiny PX-825 mercury batteries provide power for flashcube and exposure system. The batteries fit into a slide and can't be inserted improperly.

In handling the Instamatic during a quick picture taking session we found it worked quite smoothly with the 45° angle shutter release at the front of camera falling right under our index finger. However, we prefer focusing on the full screen rather than with the smallish split-image rangefinder.



1. Shutter release. **2.** CdS meter port. **3.** Lens focusing knob. **4.** Footage f/stop lock for auto flash exposure. **5.** Meter/flash battery tester. **6.** Lens aperture scale. **7.** Focusing ring and footage scale. **8.** Rotating flashcube receptacle. **9.** Electronic flash sync terminal. **10.** Film advance lever.



Rolleiflex SL26

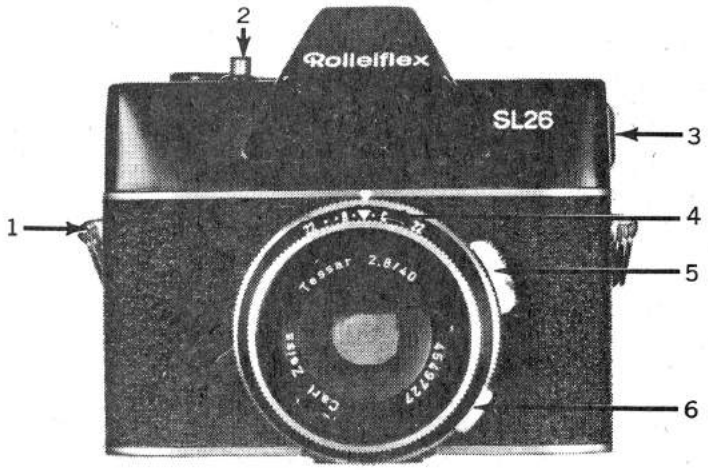
TYPE: 126 cartridge-loading eye-level single-lens reflex.
LENS: 40mm f/2.8 Zeiss Tessar with interchangeable front element components in bayonet mount, half stops to f/22, focusing to 3 ft.
SHUTTER: Between-the-lens leaf Compur shutter with speeds from ½ to 1/500 sec., X sync.
VIEWING. Noninterchangeable eye-level prism with split-image rangefinder, microprism collar and bright, nonfocusing outer area.
OTHER FEATURES: Through-lens CdS meter measures entire area at full aperture, instant-return mirror, quick-return diaphragm, matched needle exposure control with needle visible in the finder.
PRICE: $299.50.
MANUFACTURER: Rollei-Werke, Franke and Heidecke, Braunschweig, West Germany. IMPORTER: Honeywell Photographic Products, 5501 So. Broadway, Littleton, Colo. 80120.
PHYSICAL DIMENSIONS: 4 in. long, 2⅞ in. high, 3½ in. deep. WEIGHT: 1 lb. 4 oz.

As the single-lens reflex 126 cartridge camera sweepstakes continues, obviously every camera maker will attempt to carve out his own particular niche. With an eye on the reason for Kodak's Instamatic Camera success, Rollei's quite unique SL26 niche is spelled out: advanced versatility, precision and compactness. At a mere 4 in. long by 2⅞ in. high and 3½ in. deep, it's hard to imagine a smaller 126 SLR. The size is further visually minimized by the black metal and leather finish.

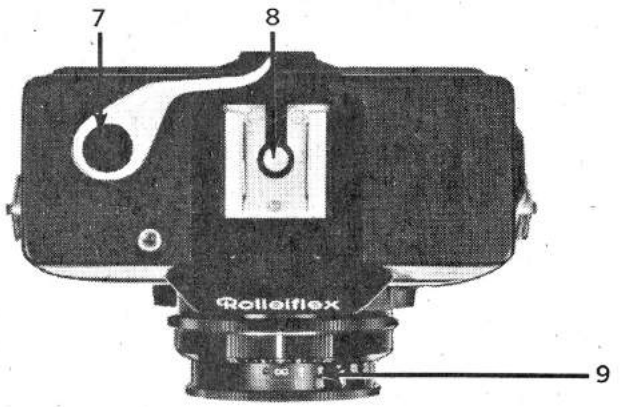
In the precision department, the Rollei has a full line of manual setting apertures from f/2.8 to f/22 in half stops plus shutter speeds starting at ½ sec. and reaching 1/500 sec. The setting rings, clearly engraved on the lens mount, are both coupled to a through-the-lens metering system with centering needle visible in the finder. The meter is accurate to within ½ f/stop over its entire range. For correct exposure according to the meter, center the needle. But you can make whatever creative alterations you want if you're not satisfied with the meter reading, certainly an essential point with serious photographers.

The chunky camera is obviously made with precision and proves easy to grasp. A view through the finder reveals a good sized but slightly smaller than life-size viewing and focusing image. The split-image rangefinder is small but divides quickly when the image is not in focus. It's surrounded with what must be the largest microprism focusing collar of any SLR which shatters the out-of-focus image but snaps it into focus at correct focusing range. The performance is particularly amazing when you remember that the lens is a slightly wide-anglish 40mm with an aperture of only f/2.8. The front ring of the lens focuses the camera by moving the front components. It takes but 90° to shift from close focusing point to infinity in a very smooth single-finger controlled motion. The eye relief of the finder is so great that eyeglass wearers should easily be able to see the entire viewing area and the centering exposure meter needle at the right as well. Because of optical limitations the outer area beyond the focusing area is clear but brightness is maintained to the corners if your eye is kept located centrally behind the eyepiece. However, care should be exercised to prevent extraneous light from entering the eyepiece and causing an exposure reading error.

Unlike many other 126 SLR's, the cartridge need not be placed upside down when loading. The 180-degree throw rapid-wind lever (7) is comfortably shaped, although the camera must be taken away from your eye to advance film. The shutter release is smooth. It's threaded for a cable release. Shutter noise is rather on the audible side. The only sync contact is atop the camera in the hot shoe (8). For off-camera you need an adapter.



1. Neckstrap lug. **2.** Shutter release button. **3.** CdS battery compartment cover. **4.** Depth-of-field scale. **5.** Aperture scale control lug. **6.** Lens release latch. **7.** Rapid-wind lever. **8.** Accessory shoe with hot sync terminal. **9.** Footage scale.



Zeiss Contaflex 126

TYPE: 126 cartridge-loading eye-level single-lens reflex.
LENS: 45mm f/2.8 Zeiss Tessar with interchangeable bayonet mount, stops to f/22, focusing to 20 in.
SHUTTER: Cloth focal-plane with speeds from 1/30 to 1/500 sec., MX sync.
VIEWING: Noninterchangeable eye-level prism with split-image rangefinder, microprism collar and bright, nonfocusing outer area.
OTHER FEATURES: Through-lens CdS meter measures entire area at full aperture, automatic exposure control, automatic flash exposure, eyepiece shutter, apertures visible in finder.
PRICE: $194.95.
MANUFACTURER: Zeiss Ikon A.G., Stuttgart, West Germany. IMPORTER: Zeiss-Ikon—Voigtlander of America, 444 Fifth Ave., New York, N.Y. 10018.
PHYSICAL DIMENSIONS: 5⅛ in. long, 3¾ in. high, 3 in deep. WEIGHT: 1 lb. 10 oz.

Designers were skeptical that the cartridge format could provide a convenient-to-hold SLR body shape.

Score another round for Zeiss. But more importantly within the innards where there wasn't supposed to be room for a shutter or space for a suitably large mirror to provide a good-sized and bright viewing image Zeiss produced a vertically operating cloth focal-plane shutter and furnished a Contaflex style viewfinder with central split-image rangefinder, grid focusing collar and bright to the corners nonfocusing viewing screen. An aperture scale at the left in the finder shows what openings are being set as you turn the large shutter-speed dial on the top right of the camera. A through-lens meter siphoning off a small amount of finder light to a CdS cell behind the prism integrates light from entire finder screen. Normal lenses available on camera are 45mm f/2.8 Color-Pantar (three-element O.K. for amateur snapshots, $179.95) or 45mm f/2.8 Tessar (this is the baby to buy, $194.95). Accessory lenses include 32mm f/2.8 Zeiss Distagon ($129.95), 85mm f/2.8 Sonnar ($108), 135mm f/4 Tele-Tessar ($105).

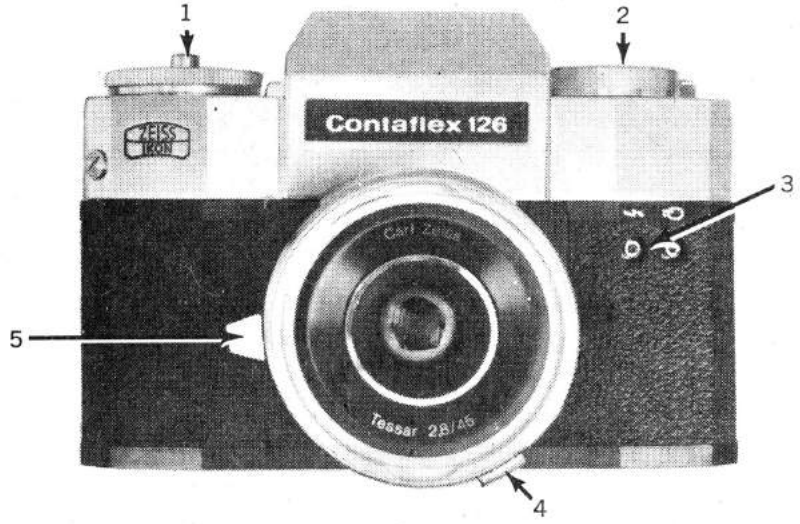
So what sacrifices were made? First this plastic-bodied camera has no instant-return mirror, then shutter speeds are limited. This is a camera made for hand holding and 1/30 sec. is the slowest speed. Secondly while you have the power to select shutter speed and the camera then selects the aperture, you can't shift into manual operation for special exposure purposes or take a close-up reading and hold the exposure. Thirdly flash is automatic only. You set the flash guide number, from 45 to 180 on the top left-hand knob opposite either the 45 or 32 marking, depending on whether you're using the 45 or 32mm lens. When taking flash you push the lever forward for automatic exposure at any given shooting distance.

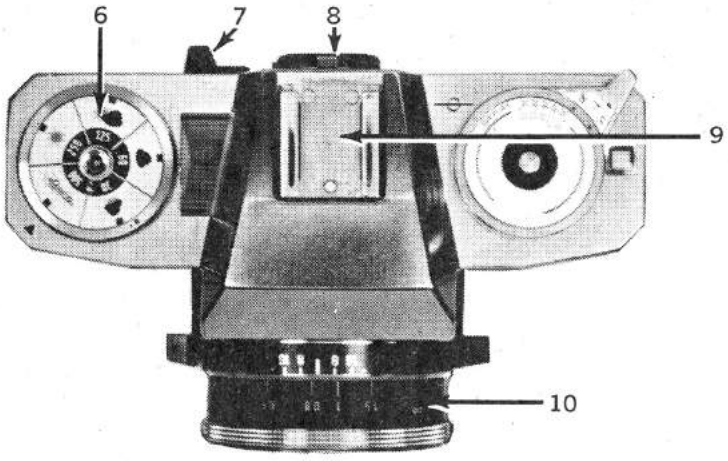
The smooth focusing mount moving through a 90-degree turn when two opposing lugs are pressed is on the camera body itself. The forward thrust of the camera helical mount governs the total possible focusing range of each camera. Understandably with wide-angle and normal lenses close focusing is extremely versatile, getting you to 12 in. and 20 in., respectively. With the 85mm f/2.8 Sonnar, the minimum becomes 5.5 ft. With the 135mm f/4 Tele-Tessar close focusing extends only to 13 ft.

In actual shooting tests, the Contaflex 126 was a delight. It focused precisely, the 1½ stroke thumb wind latch didn't stick into anyone's eye or nose. Raised dots on the lens mounts aided rapid interchange.

The exposure meter system, even minus any manual override, seemed to guess exposure better than we did, although the meter needle in fairly low light seemed rather slow.

But no mistake, for the serious photographer who wants a 126 SLR to rival the flexibility of his 35 or a snapshooter who desires the features of the SLR, this is it.





1. Shutter release button. **2.** Auto flash exposure lever. **3.** Flash sync terminals. **4.** Lens release lever. **5.** Focusing ring control lug. **6.** Shutter-speed dial. **7.** Rapid-wind lever. **8.** Eyepeice and shutter. **9.** Accessory shoe. **10.** Focusing ring.

Canon 7S

TYPE: 35mm rangefinder camera.
LENS: 50mm f/1.4 Canon, with interchangeable thread mount, stops to f/16, focusing to 3 ft.
SHUTTER: Metal focal-plane with speeds from 1 to 1/1000 sec. plus B, FP and MX sync.
VIEWFINDER: Bright frame finder with coupled rangefinder.
OTHER FEATURES: Built-in dual range CdS exposure meter coupled to shutter control for E.I. 6 to 400; meter on-off and battery test switch; bright frame fields for 35, 50, 85, 100 and 135mm lenses; auto resetting frame counter; shutter release safety lock.

PRICE: $323.95.
MANUFACTURER: Canon Camera Co., Inc., Tokyo, Japan. IMPORTER: Bell & Howell Co., 7100 McCormick Rd., Chicago, Ill. 60645.
PHYSICAL DIMENSIONS: 5¾ in. long, 3¼ in. high (maximum), 3 in. deep (front of lens to camera back).
WEIGHT: 32 oz.

The Canon 7S is basically the Canon 7 with a CdS meter. It looks almost precisely like the Canon 7. As we reported originally: "It is . . . a marvel of compressed machinery. Going along it from left to right, there's the flash socket on the end, the retracting rewind crank (10), the variable finder frame setting dial (9), the meter needle window (7), the combined nonrotating shutter-speed and film-speed setting dial (14-15), the shutter release (16)—surrounded by the combined safety lock and rewind set dial—with the film transport indicator behind it, then the frame counter window (17), and finally the film advance lever (5).

All this may sound complicated, but the camera is very easy to handle. . . . After loading, you press the film-speed button and turn the shutter-speed dial until the appropriate film speed appears in a small window on top of the dial. You then set the meter range selector to either the black (for low sensitivity) or the orange (for high sensitivity) marking. When you set the shutter speed, the aperture calibrations in the meter window shift bodily along, so that you can read off the correct aperture for whatever speed you're using. There are two sets of calibrations, white (for low sensitivity) and orange (for high sensitivity).

Two major differences between the cameras are in the lens and the meter equipment. The Canon 7 we tested in July 1962 was fitted with the 50mm f/0.95 lens—a rather impressively large optic. The 50mm f/1.4 we tried this time on the Canon 7S is almost diminutive by comparison. As we said in 1962, "Looking through the viewfinder, you can't escape the presence of the f/0.95 lens barrel, which cuts into the bottom right-hand corner."

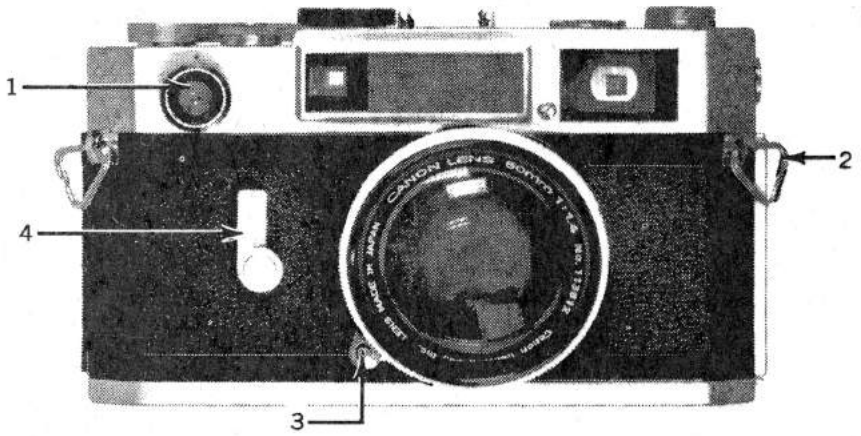
The smaller diameter f/1.4 presents much less of a problem. The barrel still protrudes slightly into the finder area—but not enough to be annoying.

The sensitivity of the new meter is superior. The original Canon 7 had a selenium cell which in our tests read only as low as 1/30 sec. at f/2 with ASA 400 film. The CdS meter, on the Canon 7S MODERN tested, read down to 1/8 sec. at f/1.4.

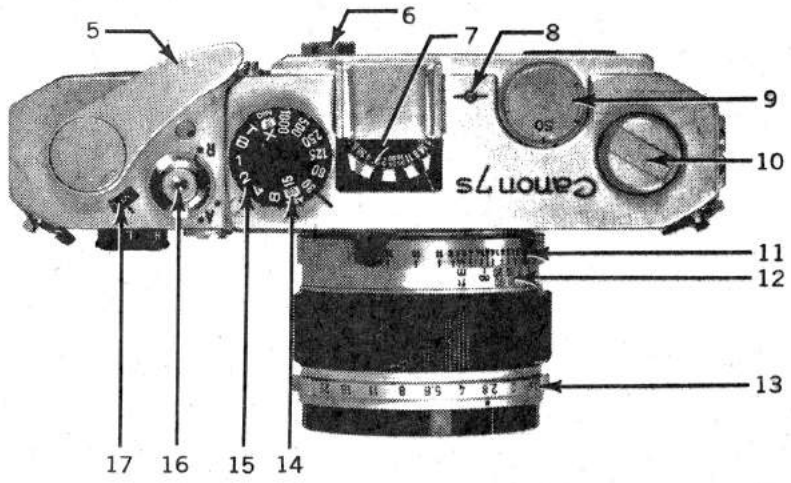
Three design changes on the camera body make it easier to use. The exposure meter dial window on top of the camera (7) is now rectangular rather than half-moon shaped. But the numbers are bigger and, therefore, easier to read. The easier-to-operate high-low switch is now in the back of the camera.

The accessory holder at the left side of the camera, around the flash contact, has been dropped in favor of an accessory shoe located on top of the camera.

To quote what we said in 1962, "Both inside and out, the camera shows the traditional Canon workmanship. . . . And thanks largely to the smoothness of the shutter release we were able to hand-hold shots, both comfortably and successfully down to ⅛ sec."



1. Meter window. **2.** Shoulder strap lug. **3.** Focusing knob and infinity lock. **4.** Self-timer. **5.** Film advance lever. **6.** Meter switch. **7.** Exposure meter indicator. **8.** Film plane marker. **9.** Viewfinder selector. **10.** Film rewind crank. **11.** Depth-of-field scale. **12.** Footage scale and focusing ring. **13.** Aperture ring. **14.** ASA film-speed dial. **15.** Shutter-speed dial. **16.** Shutter release button. **17.** Auto resetting frame counter.



Leica M4

TYPE: 35mm rangefinder camera. LENS: 50mm, f/1.4 Summilux or f/2 Summicron with interchangeable bayonet mounts; stops to f/16, focusing to 3 ft. 4 in.
VIEWING: Combined range/viewfinder, parallax correcting projected frames for 35, 50, 90 and 135mm lenses.
SHUTTER: Focal-plane with speeds from 1 to 1/1000 sec., plus B, MX sync, self-timer.
OTHER FEATURES: Single-stroke rapid-wind lever, rapid-rewind crank, auto resetting frame counter.
PRICE: with 50mm f/1.4 Summilux, $543; with 50mm f/2 Summicron, $480.
MANUFACTURER: Ernst Leitz, GmbH, Wetzlar, Germany. IMPORTER: E. Leitz, 468 Park Ave. S., New York, N.Y.
PHYSICAL DIMENSIONS: 5½ in. long, 3 in. wide 1¼ in. deep. WEIGHT: 2 lb. 1 oz.

The new M4, which superseded both M2 and M3, combines the basic features of both cameras—it has all four focal-length frames, an automatic frame counter (8), rapid-rewind crank (13), quick-loading system, improved wind lever (9), redesigned sync contacts (12), and slightly altered trim on both the frame preview (6) and self-timer levers (1).

Basically the M4 is the M2 body, shutter mechanism and range-viewfinder system. The view shows the greater angle, less magnified (and thus smaller) image of the M2. The 35mm framelines are outermost and they are keyed together with the 135mm frame so that both appear at the same time. Since the 135mm frame consists only of tiny bright corner markings, it in no way interferes with the full-area 35mm frame. The 50mm frame is located well within the seeing area, allowing the user to check action outside the field as well as inside. If you're an eyeglass wearer, the M4 is certainly easier to use, since you can see all frames with no trouble. If a 135mm user wants a larger viewing and focusing image he can always shift to the 135mm f/2.8 Elmarit with attachable optical bright line finder.

By combining the M2 and M3 models into the M4, Leitz also solves the wide-angle problem. Different models will no longer be needed when using an M2 or M3. The M3 wide-angle with attached finder can be used on the M4 with no modification.

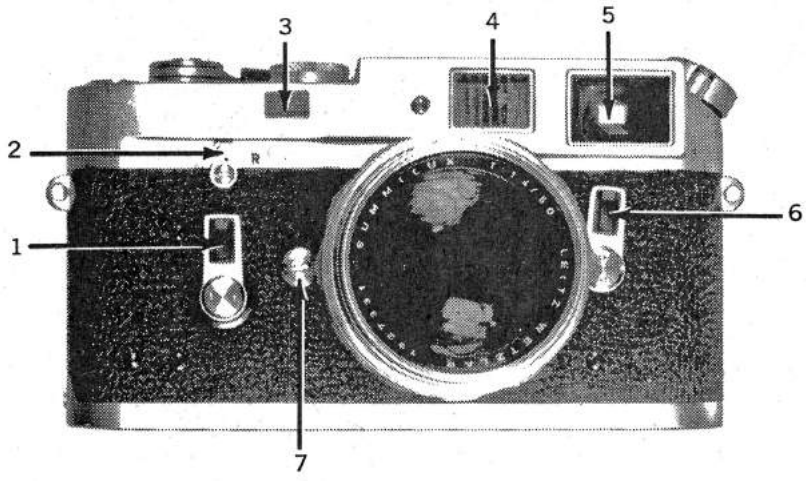
The speed loading system is an open three-pronged take-up cage with inside spring. Just slip the narrow film leader across a notch, put the bottom plate back in the camera and the film will be caught by the take-up device.

The rewind crank (13) is canted at a 45° angle. During rewinding, the take-up spool releases the film easily.

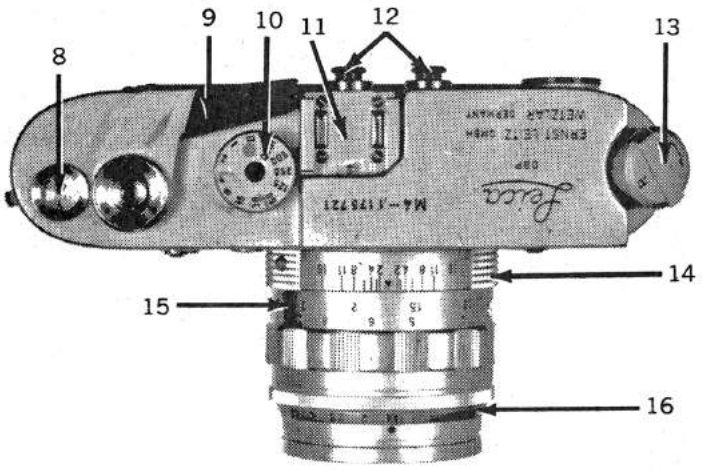
The Leica M series rapid-wind lever (9) has always been considered somewhat of an ideal shape. It is now more angular and has taken a leaf from the Leicaflex design book by incorporating a comfortable plastic tip.

The one possible disconcerting redesign involves the sync contacts. Leitz engineers used special deep-set contacts on the M2 and M3. These locked the cords into place so they couldn't pull out accidentally. PC adapters could be slipped into the contacts. The M4 has bowed to standardization and has permanent PC contacts instead.

Everything new about the M4 has been redesigned for improved speed of operation. From the rapid load to the redesigned film take-up and the canted high-speed rewind, the M4 retains all the advantages of the earlier M-series, combines those that can be combined efficiently, keeps the long-favorite features of brilliant focusing image for low light shooting and the availability of the dependable reflex housing Visoflex with its many accessories. Best of all, the short mount lens and other Visoflex accessories can be used on the Leicaflex by means of a simple adapter fitting.



1. Self-timer lever. **2.** Film rewind advance selector. **3.** Rangefinder window. **4.** Illuminating window for viewfinder frames. **5.** Viewfinder window. **6.** Frameline selector lever. **7.** Interchangeable lens lock/release. **8.** Frame counter. **9.** Film advance lever. **10.** Shutter-speed selector dial. **11.** Accessory shoe. **12.** Flash sync sockets. **13.** Rewind crank canted 45°. **14.** Depth-of-field scale. **15.** Distance scale. **16.** f/stop selector dial.



Bronica S2

TYPE: 2¼ x 2¼ single-lens reflex. **LENS:** 75mm f/2.8 Nikkor-P with interchangeable bayonet mount, stops to f/22, focus to 18 in. **SHUTTER:** Cloth focal-plane with speeds from 1 to 1/1000 sec. plus B, X sync. **VIEWING:** Interchangeable waist-level finder with full focusing screen, central fine focusing spot. **OTHER FEATURES:** Quick-return diaphragm, instant-return mirror, depth-of-field preview button, interchangeable film back, provision for 12 or 24 exposure rolls. **PRICE:** $499.50. **MANUFACTURER:** Zenza Bronica Industries, Inc., Tokyo, Japan. **IMPORTER:** Ehrenreich Photo-Optical Industries, Inc., Garden City, N.Y. 11533. **PHYSICAL DIMENSIONS:** 5¼ in. long, 4¼ in. high (maximum), 6¾ in. deep (from front of lens to camera back). **WEIGHT:** 4 lb. 3 oz.

The Bronica S2 resembles the present noninterchangeable-back Bronica C closely in shape, size and operation. The interior mechanical features are the same. Like its less complicated sister, the Bronica C, the S2 has the slide-down interior mirror which permits lenses with less back focus such as the 50mm f/3.5 to be used, a lever and knob advance and shutter wind on the right side and shutter speed on the left side. Like the Bronica C, it has a different focusing mechanism. Instead of incorporating the focus in the wind knob as on all previous Bronicas, the S2 uses a more conventional (for single-lens reflexes) helical focusing ring around the lens.

The interchangeable backs of the Bronica S2 are easily attached or removed but cannot accidentally fog the film in the magazine aperture. In order to take the back off, you must push in the dark slide. This action insures that you not only have the dark slide in the magazine but that it is slipped fully into the light trap.

You can change film inserts as on the Bronica C. This lets you preload extra film and quickly reload the camera with some saving in cost. On the other hand, you sacrifice much of the advantage of the interchangeable back which lets you change films in the middle of a roll, an obvious benefit if you shoot both b&w and color.

The Bronica S2 has provision for 24-exposure 220 roll film. On the right side of the camera, near the exposure counter, there's a small lever (10) which you flip from its usual 12 indication to the 24 marking.

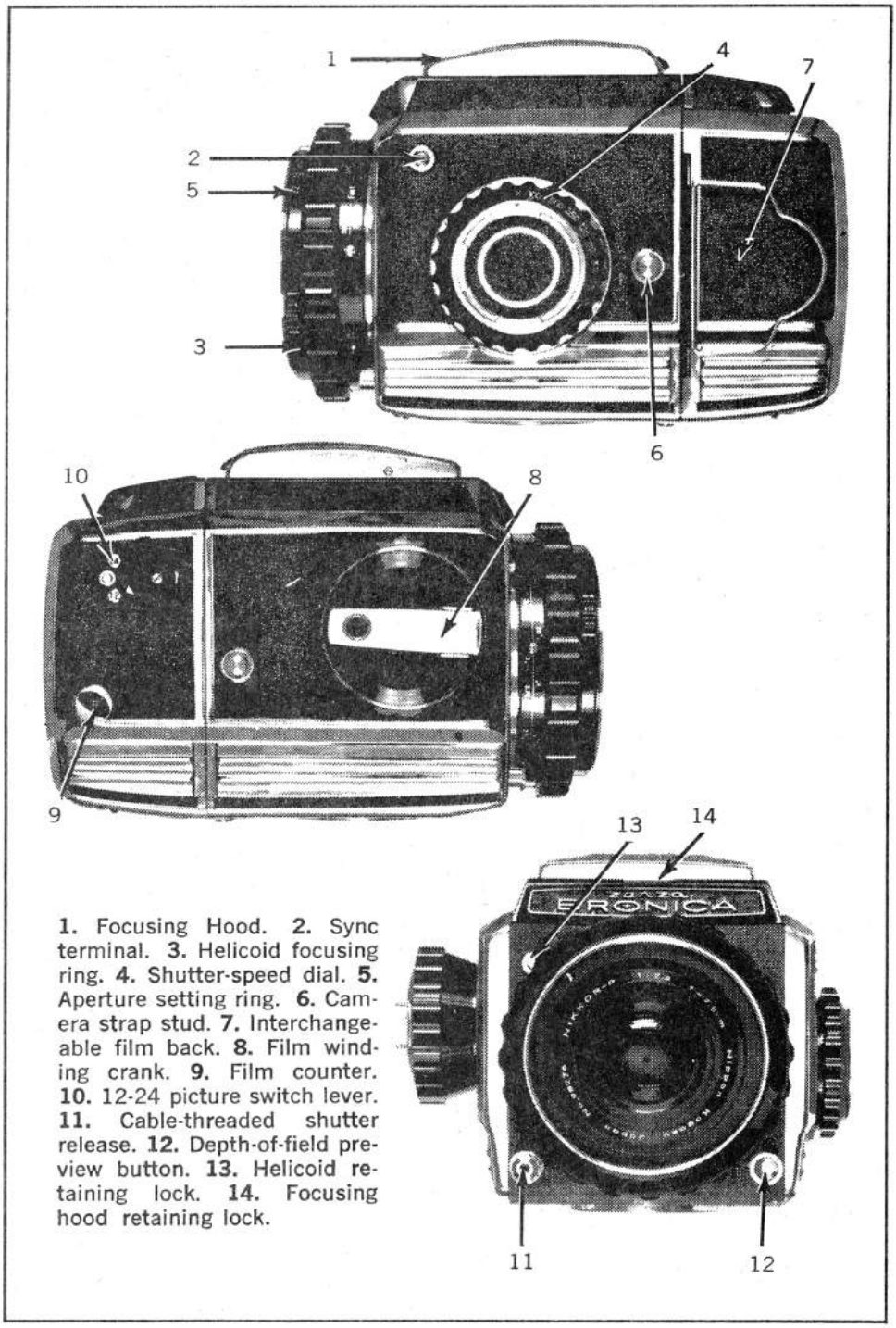
The focusing ring (3) has been repositioned on the S2 as on the C as a more usual rim ring around the lens itself. However, the Bronica's unique ability to focus to 18 in. with the normal lens has been retained. The closest focusing distance of longer than normal lenses is more limited: slightly less than 6 ft. with a 135mm lens; 12 ft. with the 200mm lens. However, the 50mm wide-angle gets down to 12 in.

By pressing on a small button near the lens mount on the camera body (13) and twisting the helical focusing ring (3) 45° counterclockwise you can remove the entire helical mount, revealing a really cavernous bayonet mount on the camera. This should prove quite useful for mounting large diameter lenses in focusing barrels.

The helical mount itself is adequately smooth, excellently knurled with a focusing arc of 270°. The Bronica Nikkors bayonet off the helical mount when you press a large lever on each lens and twist 45° counterclockwise. The inside of the helical focusing mount tube is threaded for non-Nikkor lenses.

The focusing screens, magnifiers and optical systems of both C and S2 are identical. Winding from one frame to the next still takes up to 4¼ turns which means quite a bit of exercise should you wish to crank a large number of rolls.

In our field tests, the Bronica S2 performed well with one minor limitation—the slow 1/30-sec. flash sync speed.



1. Focusing Hood. **2.** Sync terminal. **3.** Helicoid focusing ring. **4.** Shutter-speed dial. **5.** Aperture setting ring. **6.** Camera strap stud. **7.** Interchangeable film back. **8.** Film winding crank. **9.** Film counter. **10.** 12-24 picture switch lever. **11.** Cable-threaded shutter release. **12.** Depth-of-field preview button. **13.** Helicoid retaining lock. **14.** Focusing hood retaining lock.

Hasselblad 500 C

TYPE: 2¼ x 2¼ single-lens reflex. LENS: Interchangeable bayonet 80mm f/2.8 Zeiss Planar with stops to f/22, focusing to 3 ft.
SHUTTER: Compur between-lens with speeds from 1 to 1/500 sec., plus B, MX sync, self-timer, separate shutters built into each lens.
VIEWING: Interchangeable waist-level finder with full focusing screen.
OTHER FEATURES: Automatic diaphragm, 2¼ x 2¼, 2¼ x 1⅝, 1⅝ x 1⅝ in. format interchangeable roll film backs; depth-of-field preview; accessory rapid-wind lever.
PRICE: $685.
MANUFACTURER: Victor Hasselblad, ag, Goteborg, Sweden. IMPORTER: Paillard, Inc., 1900 Lower Rd., Linden, N.J.
PHYSICAL DIMENSIONS: 6½ in. long, 3¾ in. high, 4¼ in. wide. WEIGHT: 3 lb. 3 oz.

The Hasselblad 500C, for all intents and purposes, is a custom-made precision camera. It is built in a small factory, virtually by hand. It does not have an instant-return mirror. It accepts both interchangeable film magazines (6) for 120 (and 220) roll films and interchangeable lenses (each with its own between-lens leaf shutter) from 40 to 500mm.

Briefly, here's how the camera operates. You focus with the lens at full aperture. When you press the shutter release (9) the lens closes down to the predetermined opening; the shutter, which has been open, closes; the baffle protecting the film swings out of the way; the shutter opens and closes; and the baffle closes. When you wind the film to the next exposure, the shutter is recocked and, along with the diaphragm, opens for focusing.

The 500C is designed to be a waist-level camera despite the gadgets available for it, such as eye-level prisms, external handle grips, and so-called quick-focusing handles. For careful composing and shooting at waist level, controls are easy to see and use. Shutter speeds (1) and apertures (2) are situated on top of each lens and easy to see. The cross coupling of shutters and apertures cannot be uncoupled.

If you cannot focus on a ground-glass screen (many eyeglass users cannot) the 500C will be just impossible. For those of you who can, its fine Fresnel focusing screen is a dream, especially with the longer than the normal 80mm lens. To help you focus, they have placed a 5X flip-down magnifier inside the excellent form-fitting focusing hood (5) (which does a good job of keeping out extraneous light). Incidentally, there's an accessory 4X magnifier hood available.

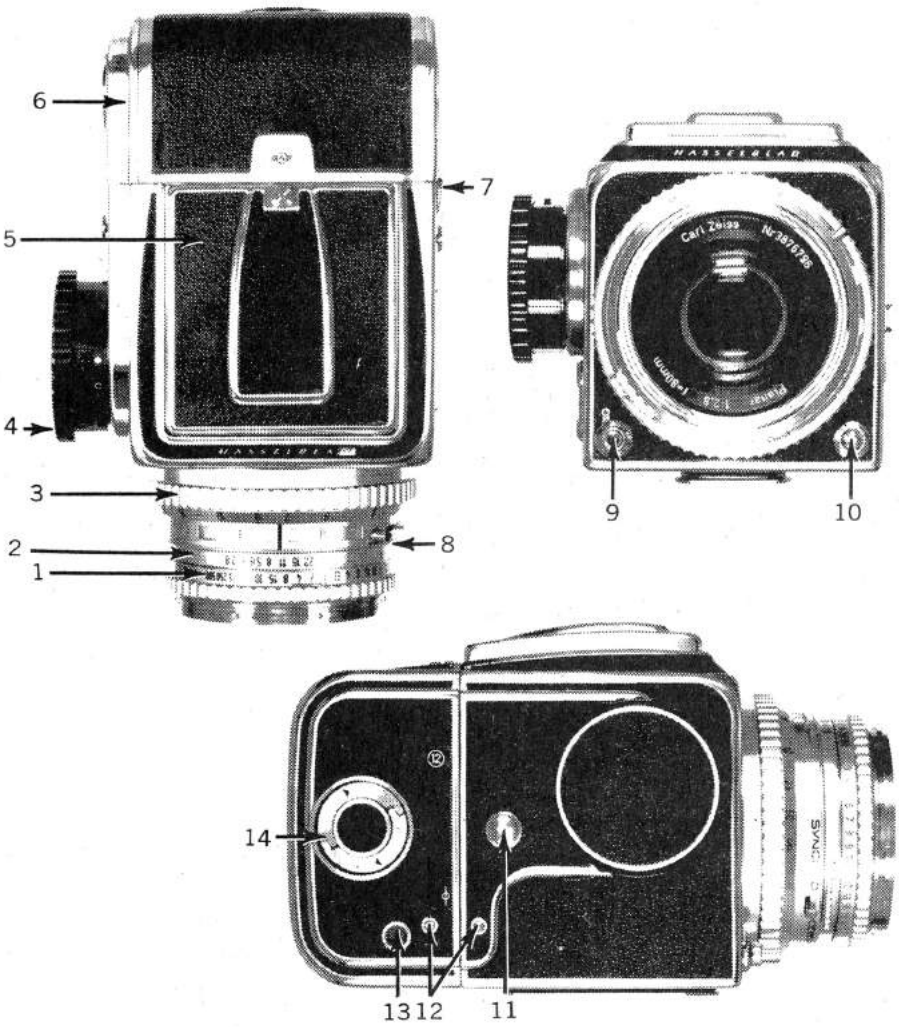
The Hasselblad can be used at eye level with its various eye-level prisms, sportsfinders and pistol grips.

While we're on focusing, we should mention that the focusing rings (3) on the Zeiss lenses leave much to be desired in the way of gripable surface. An accessory extension arm makes up for it, however.

The film advance and shutter cock knob (4) is removable. An accessory quick-wind crank makes it easy to complete the single turn it takes to transport the film and set the shutter.

Magazines (6) are simple to use. Loading film into one of them is just as simple as the venerable old box camera. An important feature insures that with the slide (7) inserted in the magazine you cannot make an unintentional exposure, nor can you remove the magazine entirely from the camera if the slide is out. Because extra magazines cost $130-$150 each, you may prefer to remove only the film chamber for loading.

In addition to the 500C, there is the Superwide C ($835), the motorized 500EL ($910) and the newest Hasselblad 500EL-70 which is the 500EL with a 70mm back, and a complement of lenses ranging in focal length from 40mm to 500mm and in price from $490 to $880, depending upon which lens is selected.



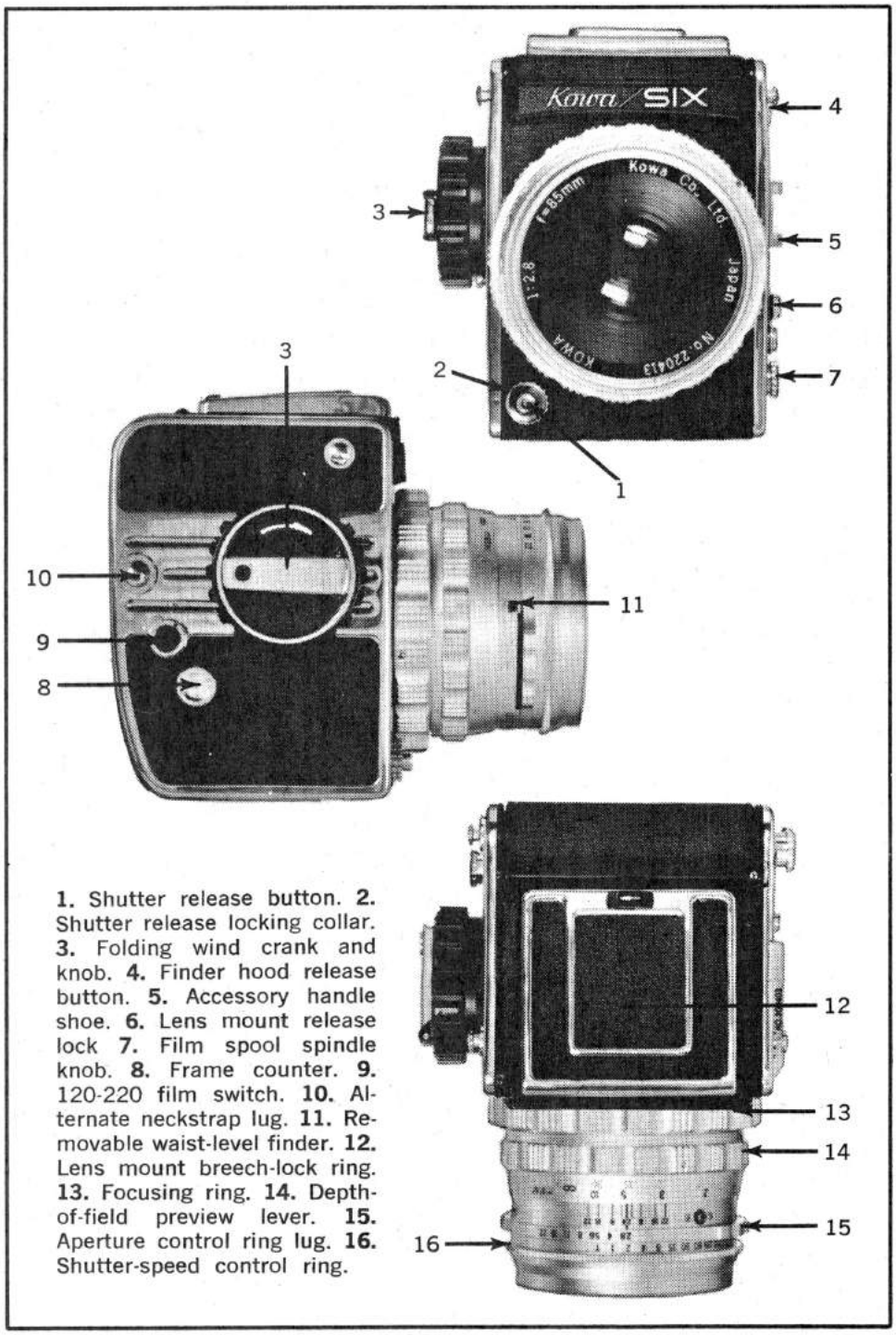
1. Shutter-speed ring. **2.** Aperture ring. **3.** Focusing ring. **4.** Film advance knob. **5.** Removable focusing hood. **6.** Interchangeable film magazine. **7.** Dark slide. **8.** Sync/self-timer selector and sync terminal. **9.** Shutter release button. **10.** Lens lock release. **11.** Strap lug. **12.** Shutter/film wind reminder windows. **13.** Frame counter. **14.** Magazine film advance key.

Kowa Six

TYPE: 2¼ x 2¼ single-lens reflex.
LENS: 85mm f/2.8 Kowa in interchangeable breech-lock mount, stops to f/22, focus to 2½ ft.
SHUTTER: Seiko TL between-lens with speeds from 1 to 1/500 sec. plus T, MX sync, self-timer, separate shutters built into each lens.
VIEWING: Interchangeable waist-level finder with fine focusing center, full focusing Fresnel screen.
OTHER FEATURES: Automatic diaphragm, preview lever, 120-220 roll film interchangeability, interchangeable focusing screens.
PRICE: $349.50.

MANUFACTURER: Kowa Co. Ltd., Nagoya, Japan. IMPORTER: Prominar International Corp., 1150 Broadway, New York, N.Y. 10001.
PHYSICAL DIMENSIONS: 4¾ in. high, 4½ in. wide, 6 in. deep. WEIGHT: 3 lb. 9 oz.

The introduction of a completely new 2¼ SLR system with interchangeable lenses and all other needed accessories is a major event. And at last the Kowa Six, after preproduction models were shown and tested and early production checked on the home Japanese market, is a reality in the U.S.



1. Shutter release button. **2.** Shutter release locking collar. **3.** Folding wind crank and knob. **4.** Finder hood release button. **5.** Accessory handle shoe. **6.** Lens mount release lock **7.** Film spool spindle knob. **8.** Frame counter. **9.** 120-220 film switch. **10.** Alternate neckstrap lug. **11.** Removable waist-level finder. **12.** Lens mount breech-lock ring. **13.** Focusing ring. **14.** Depth-of-field preview lever. **15.** Aperture control ring lug. **16.** Shutter-speed control ring.

Unlike most 2¼ SLR's which use focal-plane shutters, the Kowa is closely related in design to the Hasselblad. A separate, fully-coupled-to-the-body-controls leaf shutter is built into each interchangeable lens, giving the Kowa the same sync advantage enjoyed by the Hasselblad—full flash and electronic flash at all shutter speeds. This is a very important advantage with electronic flash which can be used only at slow speeds with most focal-plane shutter cameras.

To load the Kowa you twist open a bottom latch and swing out the back. Film is loaded in much the same manner as in a regular twin-lens reflex. You advance film until the indicator on the film backing matches two dots on the camera film plane, then close the back and wind with the crank until the film automatically stops at the first exposure. You're then ready to press the smooth-operating front shutter release. Shutter noise is considerable—which means it's average for an automatic 2¼ SLR but the absence of appreciable vibration makes it possible to hand-hold exposures at 1/30 sec. or even slower if your own body rigidity is up to it. Advancing film after exposure takes but a fast 1¼ turns of the wind lever knob (3) and succeeding film advances take an even shorter throw. In other words, this is a fast-operating camera.

The four-piece waist-level folding hood (11) flies up into position easily and the spring-operated built-in magnifier gives a good-sized, quite distortion-free magnification of the entire focusing screen. Little extraneous light hits the screen. The screen itself has a very good fine central focusing spot and impressive brightness right to the corners. There is no instant-return mirror—but then the Hasselblad doesn't have one either.

Aperture ring, shutter-speed controls have been well thought out and work with precision. The focusing ring (13) could be more heavily knurled but special accessory focusing levers are available. To unlock a lens, you press downward on a small safety lever (6) which then allows you to turn the breech-lock ring (12). A 45-degree ring twist and you can remove the lens. To mount other lenses, either the 55mm f/3.5 (focusing to 18 in.) or 150mm f/3.5 (focusing to 5 ft. and good for portraits), you must twist two rear lens pins until they line up with two red dots. Once done, you insert lens and twist breech-lock ring again. The system works well provided you remember to twist the pins completely.

The camera is ruggedly built with good leather-type finish and bright chrome trim. The chrome lens barrels are slightly less well finished but are just as ruggedly and rigidly made.

Warner 6x6

TYPE: 2¼ x 2¼ single-lens reflex. LENS: 80mm f/2 Noritar or Rittron with interchangeable breech-lock mount, stops to f/22, focus to 30 in. SHUTTER: Cloth focal-plane with speeds from 1 to 1/500 sec., plus B, FP, X sync. VIEWING: Interchangeable eye-level prism with full focusing screen, central microprism, fine focusing collar. OTHER FEATURES: Instant-return mirror, lockup button, quick-return diaphragm, provision for 120, 220 film, double exposure provision, film slack take-up knob, depth-of-field preview. PRICE: $495. MANUFACTURER: Musashino Koki Co., Ltd., Japan. IMPORTER: Warner Products, Inc., Beverly Hills, Calif. PHYSICAL DIMENSIONS:. 6⅞ in. long, 4⅞ in. high, 5 in. deep. WEIGHT: 3 lb. 16 oz.

At last, a really different concept in a 2¼ SLR. Although the Warner (known as the Rittreck in Japan) is more than slightly similar in shape to the East German Pentacon 2¼ SLR, the new camera is of far sturdier, heavier and more precise construction. Basically it is a camera designed to work, feel like and give the same flexibility as a 35mm single-lens reflex. It even has an amazingly compact 80mm f/2 lens, the fastest ever fitted as a normal lens to any 2¼ SLR.

The Warner is full of all sorts of surprises. Of course it does take both 120 and 220 roll film, but what other modern camera has provision for making double exposures without skipping a frame number? What 2¼ roll film manufacturer provides a film slack take-up knob which revolves like the regular 35mm rewind knob?

The instant-return mirror of the Warner is oversized to prevent mirror cutoff with long lenses or extensions used in close-up work. To get this long mirror out of the way and to minimize camera vibration during exposure (effectively we found) the mirror not only swings upward but moves backward as well, a flexible cloth strip being used to cushion the mirror at the rear.

You hold and operate the Warner as you would a big 35mm camera. The view through the finder, showing a square focusing image, is quite bright with a very good central microprism. The well-shaped rapid-wind lever requires a full throw plus a short throw to advance film and wind the shutter. You can also take the wind in a larger series of shorter throws, however. The shutter release button atop the camera is a bit cramped if you have large fingers but some practice will overcome this. Almost the entire picture area can be seen by eyeglass wearers. The camera does have provision for corrective eyepiece lenses.

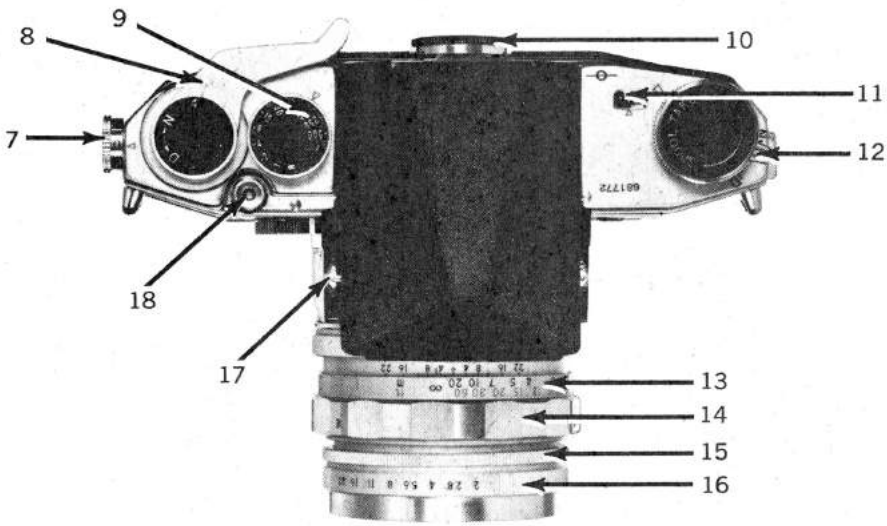
The Warner lens breech-lock mechanism is positive and efficient. Lenses from 55 to 135mm will be available with fully automatic diaphragms plus 200 and 300mm preset lenses. Macro focusing lenses are also planned and both Zeiss and Schneider optics are promised for the future.

The camera certainly fulfills every requirement for a no-nonsense, no frills working professional instrument. It doesn't have a 1/1000-sec. speed self-timer or (at least for the present) provision for a behind-the-lens metering system.

In actual field tests we found the camera performed well indeed, with all controls falling nicely under the proper fingers. Quite often, in the heat of shooting, we forgot it was a 2¼ instead of a 35mm, and at the end of a roll expected the film to tighten before we rewound it.

Instead it wound itself nicely onto the empty 120 spool as a good roll film should. Incidentally, there are few 2¼ cameras of any type that are quicker or more convenient to load than the Warner. This is certainly a 2¼ SLR any devotee of 35mm SLR's should investigate if he intends to step up to one of the big ones.

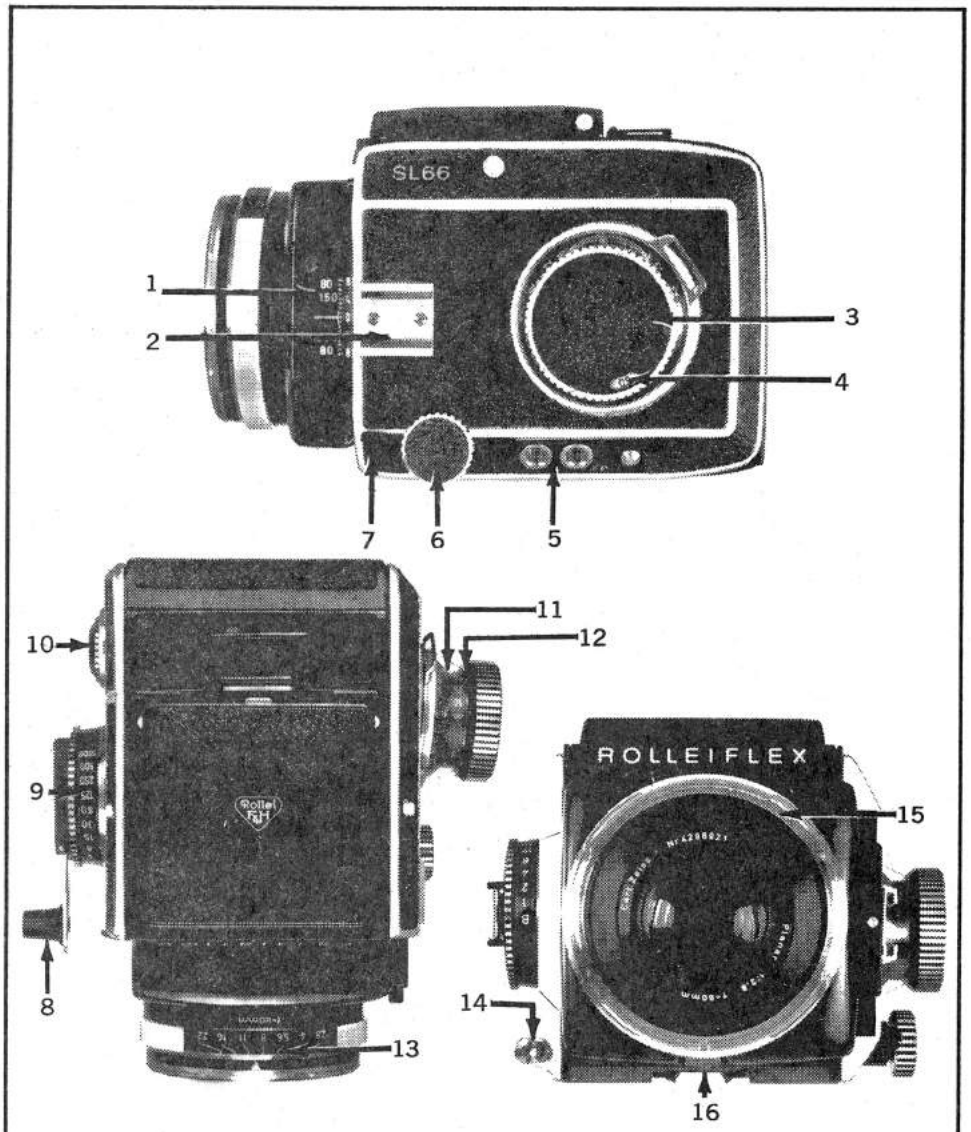
1. Mirror lockup knob. **2.** Interchangeable prism. **3.** Film slack take-up knob. **4.** Neckstrap lug. **5.** Flash sync socket. **6.** Back opening latch. **7.** Double exposure control knob. **8.** Rapid-wind lever. **9.** Shutter-speed dial. **10.** Finder eyepiece. **11.** Frame counter. **12.** Double exposure frame counter control lever. **13.** Footage and depth-of-field scales. **14.** Focusing ring. **15.** Depth-of-field preview ring. **16.** Aperture setting ring. **17.** Prism removal button. **18.** Shutter release.



Rolleiflex SL66

TYPE: 2¼ x 2¼ single-lens reflex. **LENS:** 80mm f/2.8 Zeiss Planar with interchangeable lens mount, stops to f/22, focus to 6½ in. **SHUTTER:** Cloth focal-plane with speeds from 1 to 1/1000 sec. plus B, X, FP sync. **VIEWING:** Interchangeable waist-level finder with full focusing screen, central microprism grid. **OTHER FEATURES:** Quick-return diaphragm, instant-return mirror, depth-of-field preview button, interchangeable film back, provision for 12 or 24-exposure rolls, tilting movement for depth-of-field control, double bayonet. **PRICE:** $995. **MANUFACTURER:** Rollei-Werke Franke & Heidecke, Braunschweig, West Germany. **IMPORTER:** Honeywell Photographic, Denver, Colo. **PHYSICAL DIMENSIONS:** 6¾ in. long, 4½ in. high, 5¾ in. wide. **WEIGHT:** 4 lb. 4 oz.

Rollei took direct aim at the prestige market with the SL66. It is large, bulky, heavy and expensive. And it is a remarkably easy handling camera with a brilliant viewing and focusing system that is sure to delight the professional with $1000 to lay out for it.



1. Tilt control panel. **2.** Accessory shoe. **3.** Focusing knob. **4.** Film-speed reminder dial. **5.** Sync contacts. **6.** Tilt control locking knob. **7.** Tilt control lever. **8.** Film advance shutter cocking lever. **9.** Shutter-speed selector dial. **10.** Film winding knob, end of film reminder. **11.** Depth-of-field scale. **12.** Distance scale. **13.** Aperture selector rim. **14.** Shutter release and lock. **15.** Double bayonet mounting rim. **16.** Lens release and lock.

The system—all 2¼ SLR's are, or soon become, systems—consists of a boxy body with interchangeable lenses, interchangeable finders, interchangeable magazines and a unique tilting arrangement which permits some control of depth of field. The shutter is a fabric focal plane which the manufacturer feels is justified on the basis of greater versatility, lower prices for lenses and simplicity of construction. For this you must accept the limitation of electronic flash synchronization at speeds of 1/30 and slower. Of course, FP flash bulb sync is available.

Internally, the mirror design differs from conventional SLR's. It is a swinging mirror with a movable axis, which in effect is a retractable mirror of an instant-return characteristic. You can release the mirror separately by means of a catch on the side of the camera, but it returns to the viewing position only after shutter release.

Focusing is extremely accurate and uses a brilliant micro-Fresnel with a 16mm diameter central microprism and a built-in flip-down 3½X magnifier. The screen frame lifts out to change to alternative design focusing screens, and the molded plastic screen itself can be replaced in its frame in the event of damage. The focusing hood is, as expected, interchangeable.

There is a complete range of lenses from the 50mm f/4 Distagon to the 1000mm f/5.6 Mirotar to supplement the standard 80mm f/2.8 Planar. All lenses from 50mm to 250mm have automatic aperture coupling by an internal linkage that engages a member on the lens mount. The lens is full open to focus, stops to your preselected aperture, opens again when the mirror returns to the viewing position. The 500mm has a manually operated diaphragm, while the 1000mm is adjusted by the use of neutral density filters because it has no diaphragm control.

The bellows extension affords a remarkable degree of lens extension and this can be increased further by reverse mounting of the lenses from 50mm to 120mm—longer focal lengths can be reverse mounted but there is no practical advantage for focal lengths longer than the 120mm S-Planar, which is particularly recommended for close-up work. Luminar lenses from 16 to 63mm extend the close-up capability to a magnification of 11X. Extension tubes let you go even larger.

One of the most unusual features of the SL66 is sure to be one of the liveliest sources of argument. You can tilt the lens axis up or down through 8° and set this on a scale at the side of the bellows by means of a plastic template. This degree of control is of little use for perspective control but can, under certain circumstances, offer depth-of-field adjustment.

Mamiya C33

TYPE: 2¼ x 2¼ interch. twin-lens reflex.
LENSES: 55mm f/4.5 Mamiya-Sekor, stops to f/32, focusing to 3 in.; 65mm f/3.5, stops to f/32, focusing to 4 in.; 80mm f/2.8, stops to f/32, focusing to 7 in.; 105mm f/3.5, stops to f/45, focusing to 16 in.; 135mm f/4.5, stops to f/45, focusing to 24 in.; 108mm f/4.5, stops to f/45, focusing to 36 in.; 250mm f/6.3 stops to f/64, focus to 75 in.
SHUTTER: Seikosha-S between-lens, with speeds from 1 to 1/500 sec. plus B, MX sync.
VIEWING: Waist-level with full focusing screen, eye-level sports-type viewing.
OTHER FEATURES: Combined film advance and shutter cocking crank, intentional double exposures, automatic resetting frame counter, interchangeable finders, semiautomatic film loading, knurled focusing knob.
PRICE: with 80mm f/2.8 lens, $285. Body only, $195.50.
MANUFACTURER: Mamiya Camera Co., Tokyo, Japan. IMPORTER: Ehrenreich Photo-Optical Industries, Inc., 623 Stewart Ave., Garden City, N.Y. 11533.
PHYSICAL DIMENSIONS: 3¾ in. long, 6¾ in. high, 5 in. deep. WEIGHT: 4 lb. 11 oz.

When the first Mamiya C 2¼ x 2¼ twin-lens reflex appeared in 1957, it obviously lacked many of the refinements photographers were used to in quality twin-lens reflexes—automatic parallax correction, automatic shutter cocking, automatic loading, etc. But it did have two features which were, and still are, unique—its long bellows permitted extremely close focusing, and perhaps more important, it was the first twin-lens reflex with a simple, yet completely successful, system of interchangeable lenses. The latest model, Mamiya C33, has about every automatic feature you could possibly wish. Two of the major improvements are automatic shutter cocking and film advance and a combination of automatic parallax compensation and exposure factor compensation.

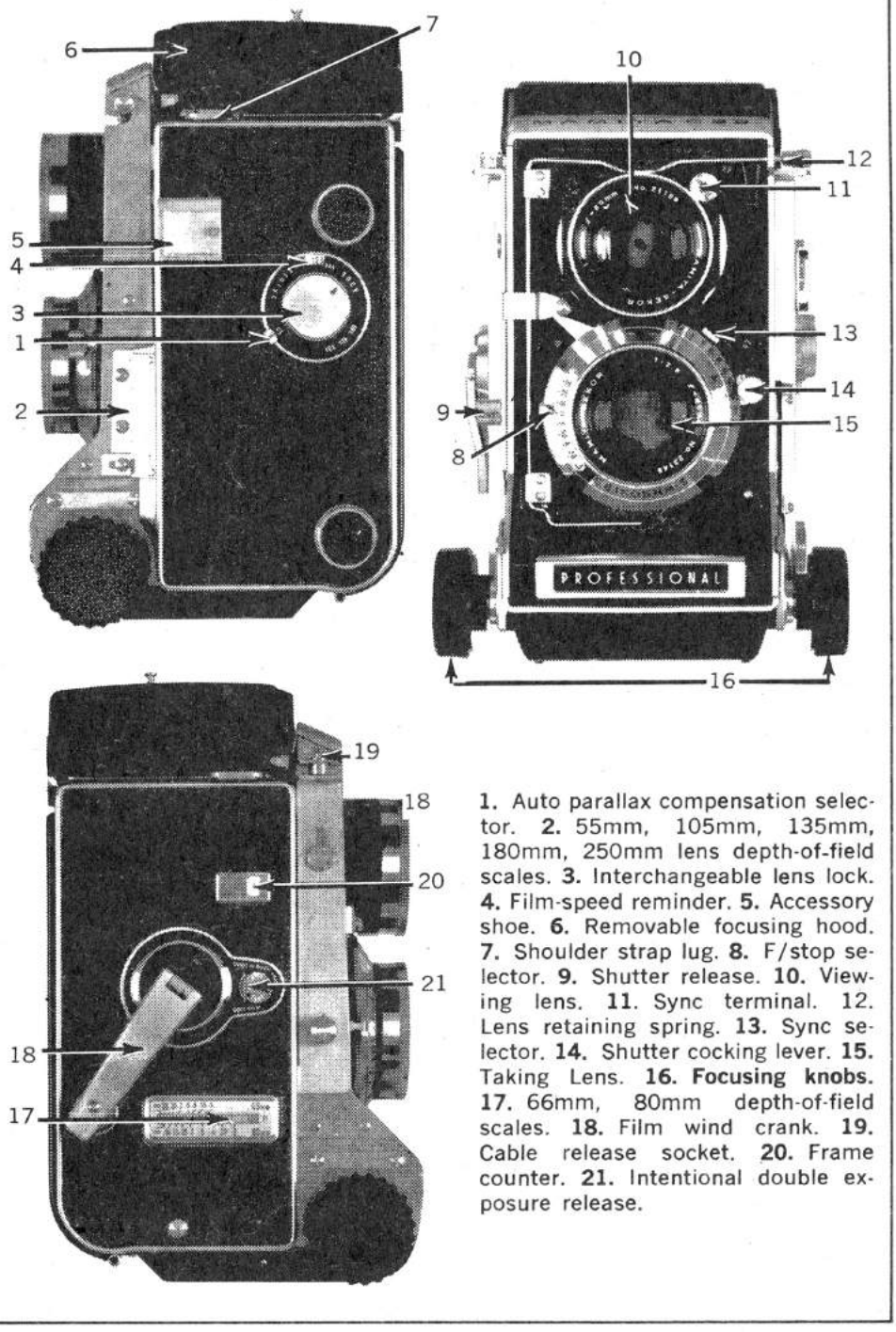
The film advance crank (18) is now geared into the lens-shutter cocking mechanism (14). When you turn the crank you activate a coupling that depresses the shutter cocking lever. While double exposure prevention is thus built into the camera, you can bypass it if you choose. You turn a tiny dial (21) on the right side of the camera from roll film setting to the sheet or multi-exposure setting. You can then operate the shutter manually without advancing the film.

The automatic parallax compensation and effective aperture indicator works for all lenses except the 65mm wide-angle. To set the camera for automatic parallax indication you set a small dial (1) on the left side of the camera to the focal length you wish to use. As you rack out the bellows, an inch-long horizontal indicator needle appears at the top of the viewing screen. Anything above the needle is out of the picture area. All you need do to prevent chopping off a head, or omitting an important area, is to raise the camera until the top of the subject you wish to include is under the indicator after focusing. The indicator also points to a scale of exposure increase factors on the left side of the ground glass. While the C33 compensates for parallax the finder does not show you the complete viewing image at close focusing distances, just the top half.

Both of these improvements contribute significantly to the speed with which you can use the Mamiya. In hand-held shooting there's no fumbling around for the shutter cocking lever. And, naturally, in shooting extreme close-ups we dispensed with tables and time-consuming calculations.

The C33's finder can be replaced by the new CdS Porrofinder. This mirror system allows unreversed eye-level viewing and through-the-lens metering.

The C33 can be converted for 220 roll film or sheet film.



1. Auto parallax compensation selector. **2.** 55mm, 105mm, 135mm, 180mm, 250mm lens depth-of-field scales. **3.** Interchangeable lens lock. **4.** Film-speed reminder. **5.** Accessory shoe. **6.** Removable focusing hood. **7.** Shoulder strap lug. **8.** F/stop selector. **9.** Shutter release. **10.** Viewing lens. **11.** Sync terminal. 12. Lens retaining spring. **13.** Sync selector. **14.** Shutter cocking lever. **15.** Taking Lens. **16. Focusing knobs.** **17.** 66mm, 80mm depth-of-field scales. **18.** Film wind crank. **19.** Cable release socket. **20.** Frame counter. **21.** Intentional double exposure release.

Minolta Autocord CdS III

TYPE 2¼ x 2¼ twin-lens reflex.
LENSES: 75mm f/3.5 Rokkor taking; 75mm f/3.2 View Rokkor viewing, stops to f/22, focusing to 3½ ft.
SHUTTER: Citizen MVL between-lens with speeds from 1 to 1/500 sec. plus B, MX sync, self-timer.
VIEWING: Waist-level with full focusing screen, eye-level sports-type viewing.
OTHER FEATURES: Combined film advance and shutter cocking crank, semi-automatic loading, double exposure prevention, intentional double exposure provision, built-in CdS meter for E.I. 6-25,000, provision for 220 roll film.
PRICE: $168.90.

MANUFACTURER: Minolta Camera Co., Ltd., Osaka, Japan. **IMPORTER:** Minolta Corp., 200 Park Ave. S., New York, N.Y. 10003.
PHYSICAL DIMENSIONS: 3 in. long, 5½ in. high, 4¼ in. deep. **WEIGHT:** 2 lb. 8 oz.

The Minolta Autocord CdS III is the latest in the Minolta twin-lens tradition. The major difference between the current model and the previous Minolta Autocord CdS is the simplification of the exposure counter mechanism for 220 film. More about that later.

The Autocord, like almost every other twin-lens reflex, uses the basic pre-World War II Rolleiflex exterior design with matched viewing and taking lenses mounted on a movable focusing panel. Unlike the other twin-lens reflexes, however, the Autocord does not use a left or right-hand-only focusing wheel. Instead, a movable lever (12) underneath the panel can be operated with a single finger of either hand. Two levers (16, 29) on either side of the 4-element Rokkor taking lens (18) operate aperture and shutter-speed controls with the exposure set appearing in small windows (9, 10) atop the viewing lens. This can be seen when you're in picture taking position. The pop-up finder shows a nonparallax-corrected reversed reflex image with large, fine focusing central area plus concentric Fresnel lenses aiding viewing brightness to the corners.

After film is loaded into the Autocord and the roll paper backing advanced until the arrows match the red dots on the film plane, you can close the camera back. Now wind with the film crank (28) until it stops. The Autocord's ready for the first exposure.

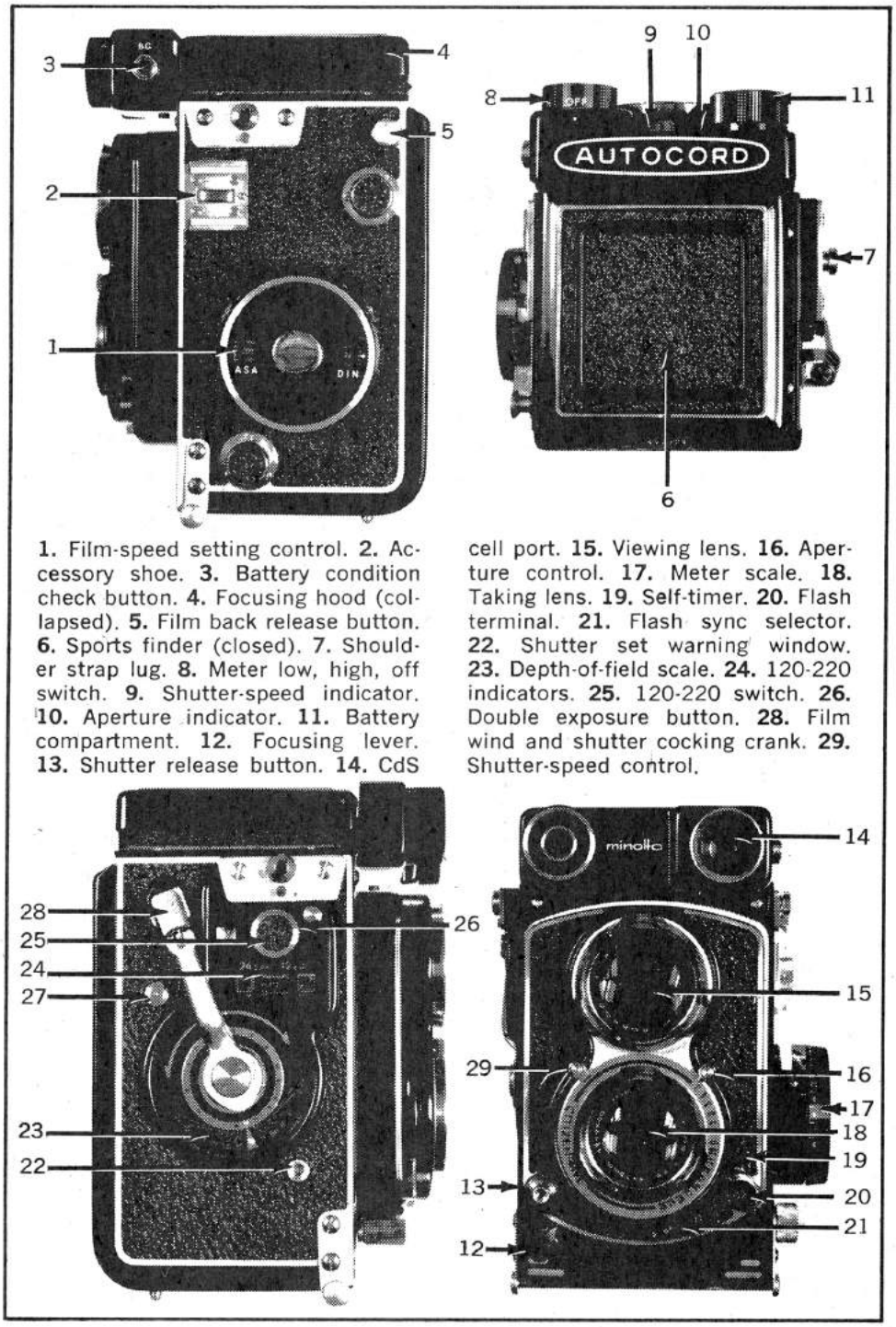
The meter has dual light intensity scales controlled by a ring around the CdS cell. For the low light scale, you read the red LVS (EVS) number opposite the meter pointer. On the bright light scale, you read the white LVS (EVS) scale. Films with ASA ratings of 6 to 25,000 can be accommodated.

Once you've read the LVS (EVS) number from the meter scale, you move the shutter-speed or lens aperture setting levers until the lens aperture lever is set opposite the LVS number on the face of the lens mount. After this setting, if you should change aperture or shutter speed, you reposition the other control to retain the same LVS number.

When you're loaded with 220 roll film instead of the usual 12-exposure 120 roll you first remove the pressure plate inside the camera, turn it 90° and refasten it. This removes the extra space required for the pressure of the paper backing of the 120 film. 220 has no such backing and requires less of a film channel.

On the previous model after shooting 12 exposures with 220 film in the camera you pushed a button which reset the counter for another 12 shots. The Autocord III has a switch (25), which you set either before or after loading film, that permits the counter to go the entire 24-exposure distance of the 220 roll.

In field tests, the Autocord proved its usual reliable self. The meter was judged convenient and able to make readings as low as ¼ sec. at f/3.5 with films having an ASA index of 400. It provided good accuracy throughout the entire scale.



1. Film-speed setting control. **2.** Accessory shoe. **3.** Battery condition check button. **4.** Focusing hood (collapsed). **5.** Film back release button. **6.** Sports finder (closed). **7.** Shoulder strap lug. **8.** Meter low, high, off switch. **9.** Shutter-speed indicator. **10.** Aperture indicator. **11.** Battery compartment. **12.** Focusing lever. **13.** Shutter release button. **14.** CdS cell port. **15.** Viewing lens. **16.** Aperture control. **17.** Meter scale. **18.** Taking lens. **19.** Self-timer. **20.** Flash terminal. **21.** Flash sync selector. **22.** Shutter set warning window. **23.** Depth-of-field scale. **24.** 120-220 indicators. **25.** 120-220 switch. **26.** Double exposure button. **28.** Film wind and shutter cocking crank. **29.** Shutter-speed control.

Rolleiflex 2.8 F/120-220

TYPE: 2¼ x 2¼ twin-lens reflex.
LENSES: 80mm f/2.8 Planar taking, 80mm f/2.8 Heidosmat viewing, stops to f/22, focusing to 3 ft.
SHUTTER: Snychro-Compur between-lens with speeds from 1 to 1/500 sec. plus B, MX sync, self-timer.
VIEWING: Waist-level with Rollei-clear focusing screen, central microprism, automatic parallax compensation, eye-level sports-type viewing, accessory pentaprism.
OTHER FEATURES: Combined shutter cock film advance crank; automatic film loading and frame counter, double exposure prevention with provision for intentional double exposures; adjustable pressure plate for 35mm film (with adapter); built-in exposure meter, E.I. 12 to 1600, coupled to lens aperture wheel; filter factor compensation adjustment; accepts 120 or 220 roll film.
PRICE: $479.50.
MANUFACTURER: Rollei-Werke Franke & Heidecke, Braunschweig, West Germany. IMPORTER: Honeywell Photographic, 5501 S. Broadway, Littleton, Colo. 80217.
PHYSICAL DIMENSIONS: 3 in. long, 5½ in. high, 4¼ in. deep. WEIGHT: 2 lb. 13 oz.

The 120-220 model F has the familiar wheels for adjusting aperture (4) and speeds (2); it has the automatic film advance system made famous by its predecessors; the fully synchronized Compur shutter; and precision workmanship. These properties are synonymous with "Rollei" and they're incorporated in the Rolleiflex 2.8F/120-220 along with the features last added to the 2.8F: 1) a fine optical focusing screen which produces a sharp, bright image to the corners; 2) removable focusing head for easy masking; 3) photoelectric exposure meter (3) manually coupled to the diaphragm mechanism. The 120-220 adds flick-of-a-switch-convenient change from the 120 to the longer 220 roll. And a central microprism simplifies accurate focusing. The 2.8F viewing screen is extremely sharp and bright from center to corners. Using the central microprism, especially with the accessory pentaprism, adds a new dimension to the pleasure of Rollei operation.

The built-in photoelectric exposure meter (3) may be used from the picture-taking position for making average reflected light readings, or incident readings with an accessory. We obtained the best results by making reflected readings close to our subject.

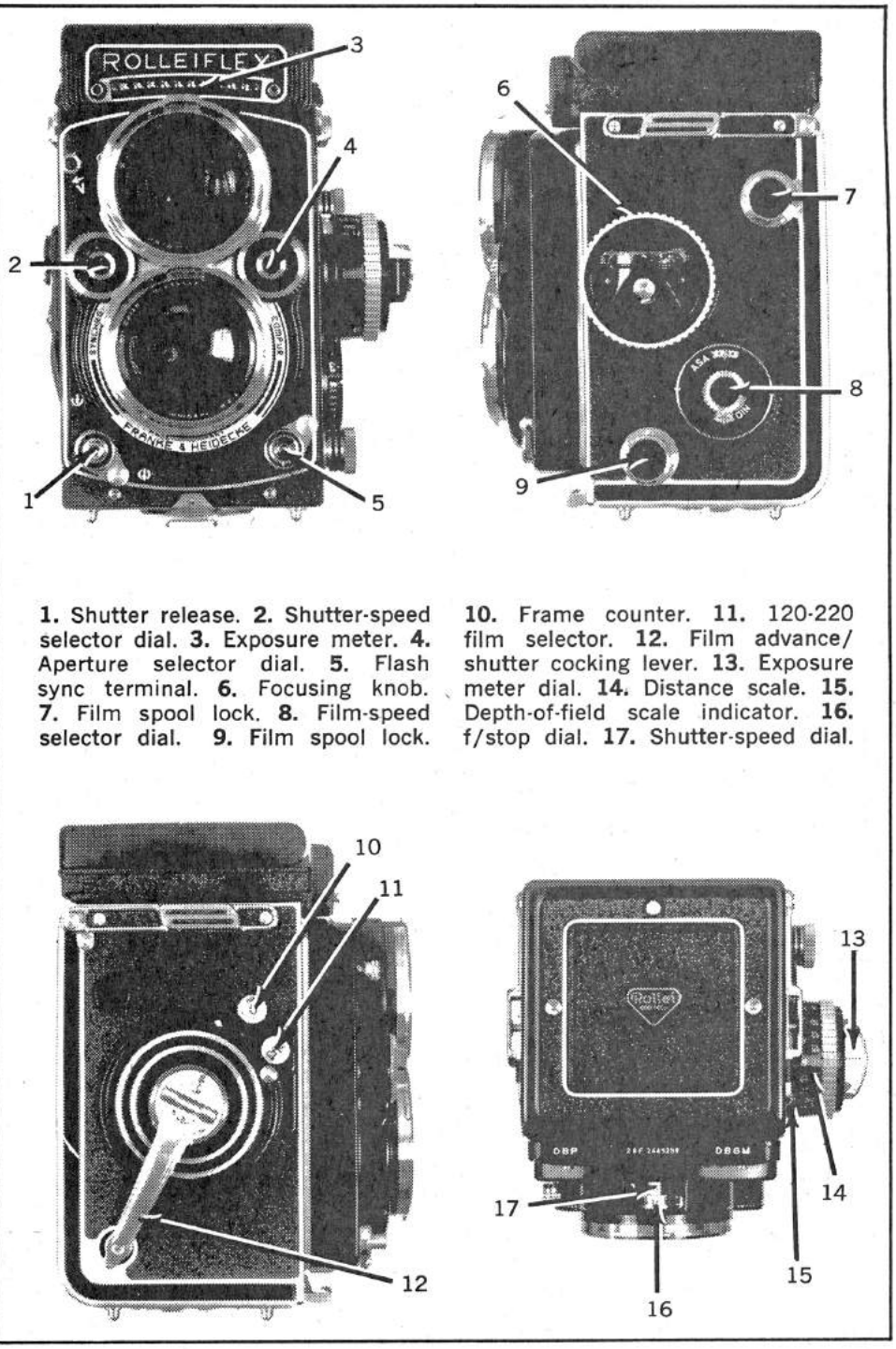
The moving pointer (13) is lined up with the stationary one in the focus knob (6) by adjusting the camera's aperture wheel (4). Everything's set if you've already set the appropriate shutter speed (17) and also have set the Exposure Index of the film you're using on a dial (8) situated on the camera. Previous Rollei meters had high and low sensitivity positions. The one on the new Rollei has one position, yet is surprisingly sensitive.

Just how sensitive is this single scaled meter? We found that it could read all the way down to 1/15 sec. at f/2.8 when used with a film having an ASA rating of 400.

In addition to the Rolleiflex 2.8F/120-220, there is the Tele-Rollei which has a 135mm f/4 Carl Zeiss Sonnar taking lens and a 135mm f/4 Heidosmat viewing lens.

The Tele-Rollei comes with a central split-image rangefinder which is not as satisfactory as the central microprism of the 2.8F/120-220 Rollei. The screen can be replaced with one having the central microprism. With either screen, the use of the accessory pentaprism brings a new excitement to 2¼ twin-lens reflex photography.

Because the Rollei is parallax corrected, the use of the accessory 0.35 and 0.7 Rolleinars or the Rolleinar 1, 2, and 3 close-up supplementaries make the Rolleis superior to the 2¼ single-lens reflexes for some photographic applications.



1. Shutter release. **2.** Shutter-speed selector dial. **3.** Exposure meter. **4.** Aperture selector dial. **5.** Flash sync terminal. **6.** Focusing knob. **7.** Film spool lock. **8.** Film-speed selector dial. **9.** Film spool lock. **10.** Frame counter. **11.** 120-220 film selector. **12.** Film advance/shutter cocking lever. **13.** Exposure meter dial. **14.** Distance scale. **15.** Depth-of-field scale indicator. **16.** f/stop dial. **17.** Shutter-speed dial.

Yashica Mat 124

TYPE: 2¼ x 2¼ twin-lens reflex.
LENSES: 80mm f/3.5 Yashinon taking and f/2.8 viewing, stops to f/32, focusing to 3.3 ft.
SHUTTER: Copal-SV between-lens with speeds from 1 to 1/500 sec. plus B, MX sync, self-timer.
VIEWING: Waist-level with full focusing screen, central fine focusing spot, eye-level sports-type viewing.
OTHER FEATURES: Combined shutter cock-film advance crank; semiautomatic film loading with auto frame counter; double exposure prevention; built-in CdS exposure meter, E. I. 25 to 400, coupled to lens, shutter wheels; accepts 120 or 220 roll film.
PRICE: $110.
MANUFACTURER: Yashica Co., Ltd., Tokyo, Japan. IMPORTER: Yashica, Inc., 50-17 Queens Blvd., Woodside, N.Y. 11377.
PHYSICAL DIMENSIONS: 3 in. long, 5½ in. high, 4 in. deep.
WEIGHT: 2 lb. 6 oz.

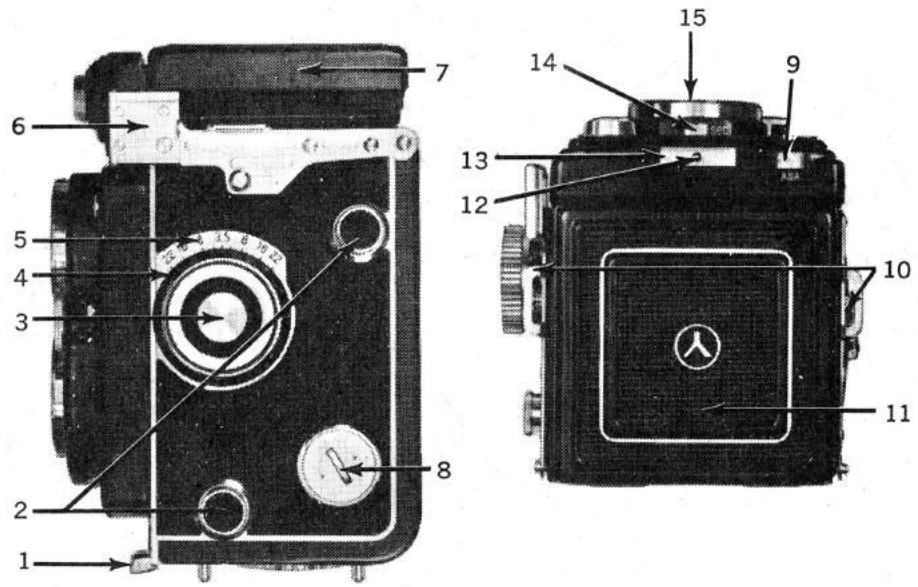
For Yashica the number 124 stands for a combination of 12 and 24, or 120 and 220 (roll film, that is). Changing from one film format to the other is a one-step procedure. You just slip off the film pressure plate, turn it 90° and slip it back into position. Diagrams and matching, color-coded (green for 120, red for 220) triangles on the plate and camera back make it easy. The only place you can go wrong is in lining up the film. The 124 has semiautomatic film loading, which means you load and wind the film until the arrow on the film's paper backing is aligned with a mark inside the camera.

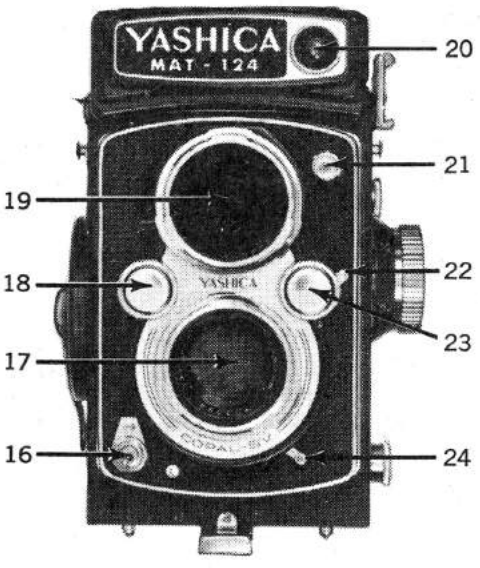
The 220 mark (red, following the color scheme) is in almost the same spot on the camera's back as the mark in most regular 120 cameras. But its 120 (green) mark is on the underside of the camera's inside, quite close to the film spool itself. Thus it comes up pretty fast when you are winding the film. You have to slow down your winding a bit and keep your eye on the bottom, not the back, in order to load 120 film properly.

Up on the nameplate, top front, is the telltale eye that reveals the CdS cell exposure meter (20). Such an exposure system means there's a battery (located in a small compartment (8) on bottom left side with slotted, easily-opened-with-coin top) and a circuit that should be turned off when not in use to prevent drain on the battery. The Mat-124 prevents this drain very neatly. The circuit is on only when the focusing hood (7) is raised in viewing position. We like this feature because it eliminates one step and means one less item to worry about.

Along the top front are the meter controls. At the right end a small window (9) contains the ASA scale—from 25 to 400—which you set via a small knurled wheel on the side. Here you have to be a little careful not to move the wheel accidentally and dislodge your ASA setting. However, since you are always looking down at the pointer window (13) next to the ASA window (9), a periodic glance will tell you when and if the setting has been changed.

The longer window (13), smack in the middle, has a thin red pointer and a thickish green open-ended pointer (12), both clearly visible against a copper-colored background. The shutter-speed setting wheel (18), on the right, controls the red pointer, and the aperture wheel (23) controls the green. You set whichever value you want first, then operate the other wheel until both pointers are aligned. Both setting wheels are knurled and placed within easy reach of both thumbs. During our field tests they worked freely and helped speed up the match pointer operation. Since both thumbs seemed to fall naturally on the wheels, our index finger was left to rest comfortably on the shutter release (16)—which also helped speed up picture taking. Once exposure was set, the left thumb could be pressed into service for fast focusing via the largish knurled knob (3) on the left.





1. Back lock. **2.** Film spool holder knobs. **3.** Focusing knob. **4.** Footage scale. **5.** Depth-of-field scale. **6.** Accessory shoe. **7.** Focusing hood. **8.** Battery compartment. **9.** Film-speed scale. **10.** Carrying strap lugs. **11.** Sportsfinder. **12.** Meter pointer. **13.** Meter window. **14.** Shutter-speed indicator. **15.** Aperture indicator. **16.** Shutter release button. **17.** Taking lens. **18.** Shutter-speed selector wheel. **19.** Viewing lens. **20.** CdS cell window. **21.** Flash sync terminal. **22.** Flash sync selector. **23.** Aperture selector wheel. **24.** Self-timer.

Polaroid 360

TYPE: Polaroid Land Camera Model 360.
LENS: 114mm f/8.8 with stops to f/42, focusing to 3½ ft.
SHUTTER: CdS electronic with speeds from several seconds to 1/2000 sec.
VIEWING: Single window view/rangefinder with bright frame field and automatic parallax correction.
OTHER FEATURES: Auto CdS exposure control for 75, 150, 300 and 3000 speed films, provision for accessory automatic electronic flash unit and charger included in the price.
PRICE: $199.95.
MANUFACTURER: Polaroid Corp., Cambridge, Mass. 02139.
PHYSICAL DIMENSIONS: 7⅜ in. long, 5¾ in. high (with erect finder), 6½ in. deep (with full bellows extension).
WEIGHT: 2 lb. 12½ oz.

Take a Polaroid 250 camera, add fully automatic electronic flash exposure plus an automatic developing timer and you have the new 360, basically. But what a flash unit! The 360 has nickel-cad cells that recharge in only 1 hour—even less, according to our tests.

Exposure automation is simple in concept and accurate in application within a range of 3½ to 10 ft. The 360 flash has a series of adjustable louvers in front of the flashtube. These are coupled to the camera's focusing system, opening and closing according to camera-to-subject distance.

Since flash automation is determined primarily by the louvers in the flash head rather than the electronic shutter, the flash unit is equipped with a separate lighten-darken control. This compensates for exposure errors by changing the setting of the louvers.

Since the charger circuit turns itself off when the cells reach peak voltage, you can simply put the flash head on the charger—keep it there and forget it. Leave your 360 flash head on the charger between shooting sessions and it will turn itself back on briefly now and then to keep the cells topped off.

Recycling time for the flash proved slow. With the unit tested, recycling started at 23 sec. with freshly recharged cells went to about 25 sec. after 40 flashes.

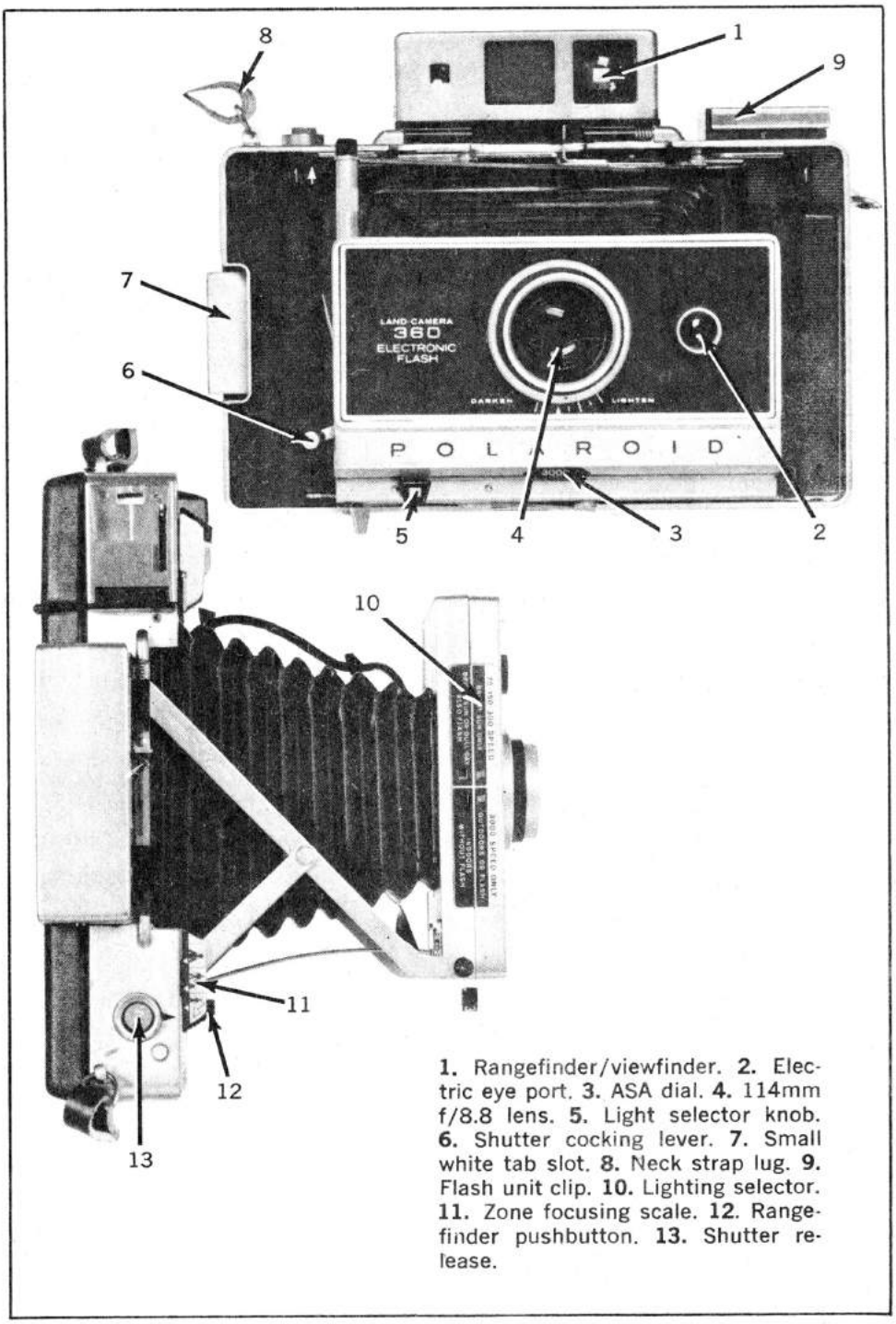
How do you know if the flash is ready? There is a little window located about ¾ in. below the upper left-hand corner of the camera back. As soon as you turn the flash unit on a tiny light glows in the window. Then it goes out and starts flashing on briefly about once a second.

The timer is located just to the left of center on the back of the camera and can be set for times from 15 to 120 sec., depending on film type and conditions. You set it and, as you pull the film (not the tab) from the camera, a paddle senses the thickness of the paper that will be your print. That turns the timer on. It has a light in it too, which stays on until the time is up. Then the timer gives a most satisfying "beeeeeep" that can be easily heard.

Although the user has no way of knowing which f/stop is in use, the range available from f/8.8 to f/42 is selected by the automatic lighting selector which can be programmed to use films with speeds of 75, 150, 300 and 3000. For most shooting, the electronic control will select shutter speeds from 1/9 to 1/1200 sec. but may automatically supply time exposures lasting several seconds. Evidently, if you shoot in very dim light, you will need a tripod to insure sharp prints.

Our tests indicate that the three-element 114mm f/8.8 lens, the Polaroid Land mainstay, is capable of sharp imaging.

The combination rangefinder-viewfinder, made by Zeiss Ikon, shows both a coincident rangefinder dual image and an automatic parallax corrected bright frame finder. Eyeglass wearers should have no trouble seeing the corners of the field. And the unique focusing side-to-side system used by Polaroid is smooth and fast.



1. Rangefinder/viewfinder. **2.** Electric eye port. **3.** ASA dial. **4.** 114mm f/8.8 lens. **5.** Light selector knob. **6.** Shutter cocking lever. **7.** Small white tab slot. **8.** Neck strap lug. **9.** Flash unit clip. **10.** Lighting selector. **11.** Zone focusing scale. **12.** Rangefinder pushbutton. **13.** Shutter release.

Polaroid 180

TYPE: Polaroid Land camera.
LENS: 114mm f/4.5 Tominon with stops to f/90, focus to 3.5 ft.
SHUTTER: Between-the-lens Seiko SLV with speeds from 1 to 1/500 sec. plus B, MX sync.
VIEWING: Combined range viewfinder with automatic parallax compensating bright frame line.
OTHER FEATURES: Self-timer, provision for accessory automatic exposure flashgun.
MANUFACTURER: Polaroid Corp., Cambridge, Mass. 02139.
PRICE: $189.95.
PHYSICAL DIMENSIONS: 7½ in. long, 5¾ in. high (maximum), and 6¾ in. deep (from front of lens to camera back). WEIGHT: 3 lbs.

This combination of international effort (camera body, lens and shutter from Japan; rangefinder-viewfinder from Germany and design and film and flashgun from the U.S.) opens in much the same manner as other Polaroid film pack cameras.

Camera operation is identical with the automatic 200-series film pack cameras. While all body parts of the 180 did seem to match similar parts of the less expensive, more automatic Polaroid Land series in general contour, the solid aluminum-cast body and front lens board seems finer.

The lens mount features two concentric simple-to-set shutter speed and aperture rings.

The 114mm Tominon lens produced as sharp or sharper results than we are accustomed to getting on the 100-series cameras. The unusually small apertures from f/23 to f/90 are made necessary by the tremendous speed of Polaroid film Type 107 with its exposure index of 3000. The top 1/500 sec. speed of the 180 plus the standard f/45, f/64 and f/90 settings regularly achieved with the leaf diaphragm represents a sound optical solution.

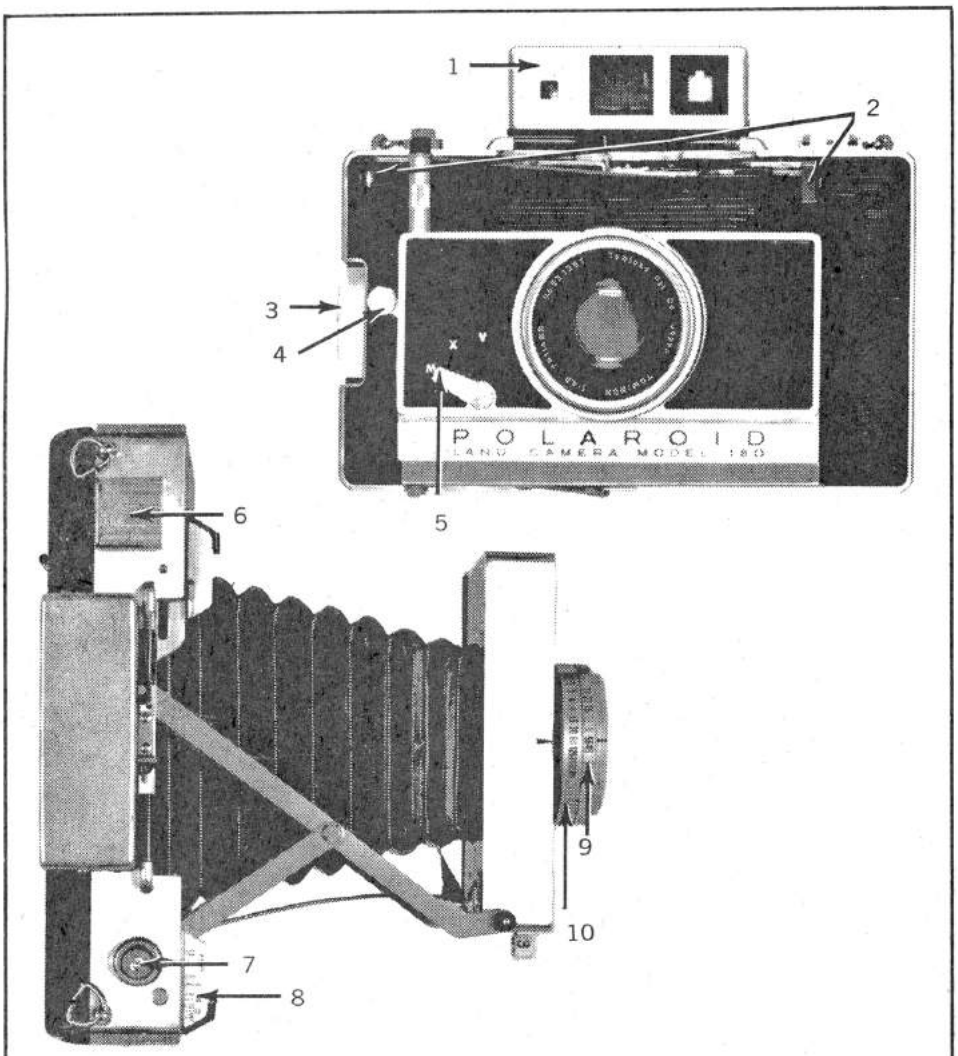
The flip-up Zeiss-made combined range and viewfinder (1) provides a smaller than life-size image and a good, adequately large, yellow-colored secondary image which can easily be aligned with the primary image for pinpoint accurate focus. However, the image size and parallax compensating picture frame lines are all but invisible unless light is falling directly on the front of the rangefinder-viewfinder.

The small f/90 aperture may raise a few skeptical eyebrows. A careful check of an intricate black-and-white landscape made at f/90, f/64, f/45 and f/32 did indicate a gradual image deterioration provided the print was examined by a 10X or better magnifier.

However, photographs made at f/90 at 1/30 sec. were overexposed by one full f/stop as compared with pictures made at f/45 at 1/125 sec., even though these are theoretically equivalent exposures. The fault is in the very efficiency of the tiny f/90 and f/64 apertures. These apertures are almost immediately fully uncovered when the shutter blades part and stay uncovered until the last instant when the shutter blades close. Therefore, although the shutter is working accurately and the aperture is a true f/64 or f/90, exposures through the small apertures are comparatively longer than through larger openings.

The Polaroid #280 flashgun ($13.95) consists of a metal tube, plastic housing with an odd four-sided AG-1 flash reflector. A small plastic flash shield with a metal knob can then be swung over the bulb. This strange beast attaches to the left side of the 180 lens mount. As you focus the camera the flashbulb moves in and out of the reflector. When the camera is focused up to 10 ft. (the maximum flash distance recommended by Polaroid) the bulb is pushed outward, producing more light.

It work splendidly, producing a soft and even illumination.



1. Folding range/viewfinder. **2.** Rangefinder push button. **3.** White tab slot. **4.** Shutter cocking lever. **5.** Flash sync and self-timer lever. **6.** Accessory shoe. **7.** Shutter release. **8.** Distance scale. **9.** Shutter-speed ring. **10.** Aperture control ring.

Koni-Omega Rapid M

TYPE: 2¼ x 2¾ roll film rangefinder.
LENSES: 90mm f/3.5 with stops to f/32 and focusing to 3½ ft.
SHUTTER: Seikosha between-lens with speeds from 1 to 1/500 sec. plus B and MX sync.
VIEWING: Combined view/rangefinder, with bright frame lines for 90 and 180mm lenses, automatic parallax correction.
OTHER FEATURES: Interchangeable 120 and 220 roll film backs, automatic film advance and shutter cocking, flash guide, three accessory shoes, cable release clip, adjustable hand grip.
PRICE: With 90mm f/3.5 and 120 back, $449.50; with 220 back, $469.50
MANUFACTURER: Konishiroko Photo Industry Co. Ltd., Tokyo, Japan.
IMPORTER: Konica Camera Corp. 25-20 Brooklyn-Queens Expressway West, Woodside, N. Y. 11377.
PHYSICAL DIMENSIONS: 7½ in. long (with pistol grip), 5 in. high, 5¼ deep.
WEIGHT: 4 lb. 12 oz.

The all-American made Omega first appeared in 1953. Production stopped in 1958 and suddenly dealers were faced with a land office rush for cameras remaining on the shelves. In 1962 the Omega's manufacturers, Simmon Brothers, joined Berkey Inc. and the new Koni-Omega Rapid emerged—the result of a combined effort of Simmon design and Konishiroku manufacture. And now—the Koni-Omega Rapid M. Both cameras are in production.

Basically, the breach-lock (9) mechanism on the Rapid and the Rapid M are alike. You push up on a lever on the side of the mount to change lenses. However, while you had to close a light baffle by turning a knurled knob on the camera body with the Rapid, on the Rapid M you must have a dark slide all the way home or you can't operate the lock. All Koni-Omega lenses have two fixed pins at the rear that locate lenses precisely. In addition, the 90mm lens has a rangefinder coupling pin that connects to the finder system through an opening in the camera body. All pins are sturdy, but it's a good idea to always store lenses in the specially fitted cases to prevent accidental damage to the mounts.

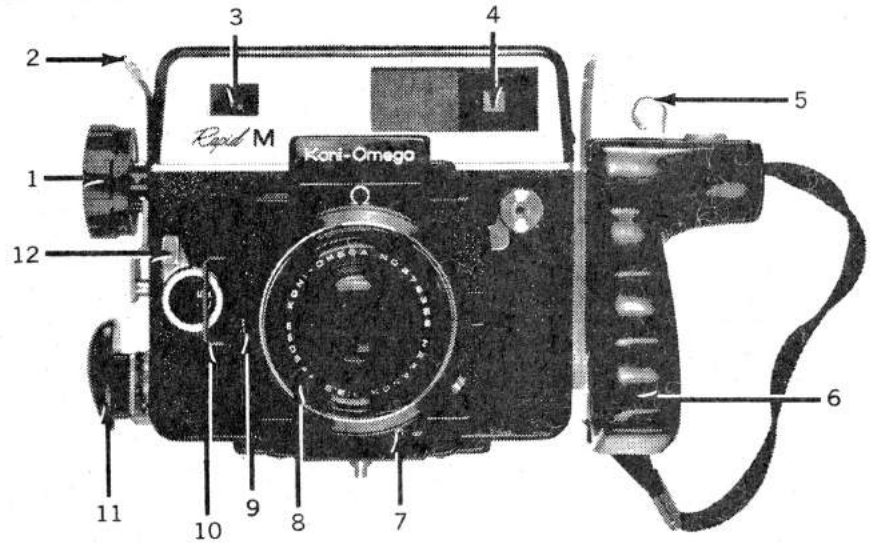
As in all top grade Konica rangefinder cameras the finder automatically adjusts for change in focal length and parallax. And by the way, the Konica projected frame system is about the most accurate available. There are no coupling pins for wide-angle lenses since there's no bright frame finder. All Koni-Omega lenses are neatly finished in matte black with highly readable yellow aperture numbers (15) and white shutter speeds (17).

You focus with a generous sized knurled knob (1) on the right side of the camera body. Overall image brightness on the Rapid M is good—in fact somewhat better than on the Rapid. The rangefinder on the M is fine for general daylight and well-lit interiors.

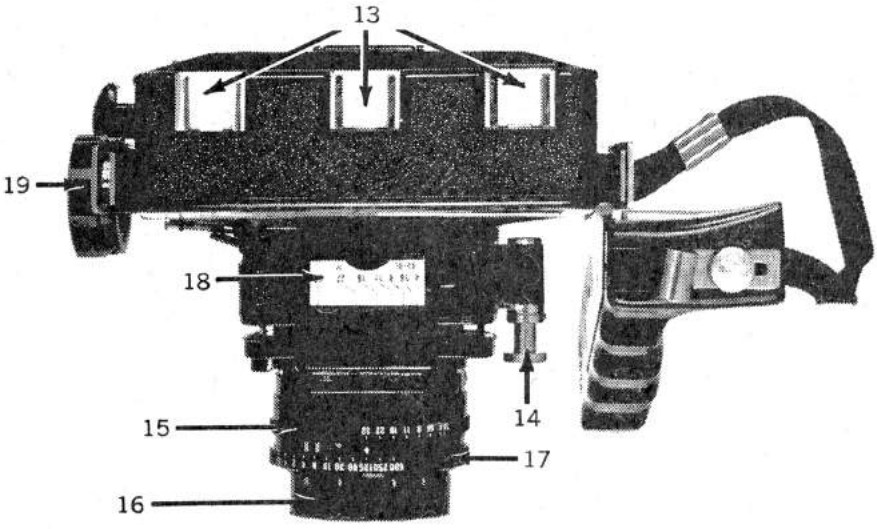
To advance film and cock the shutter on the Rapid M you pull out and then push in the film advance lever (11). During actual film advance the pressure plate is withdrawn from the film. Pushing in on the lever repositions the plate for exposure. On the Rapid the plate is repositioned when you press the shutter release. The different approach makes pressure considerably lighter.

The film back on the Rapid is not designed to allow mid-roll film removal. The magazine locks directly to the camera and there's no way of safely inserting a dark slide short of going into a dark room. The M back system actually consists of two sections locked together —a magazine and a section containing the dark slide. You can simply unlock the magazine at the end of the roll and exchange it for another back. Or you can insert the dark slide and remove the entire unit—which makes it possible to change emulsions in mid-roll.

The hand grip (6) on the M is larger than the one for the Rapid and we found it more comfortable to grasp.



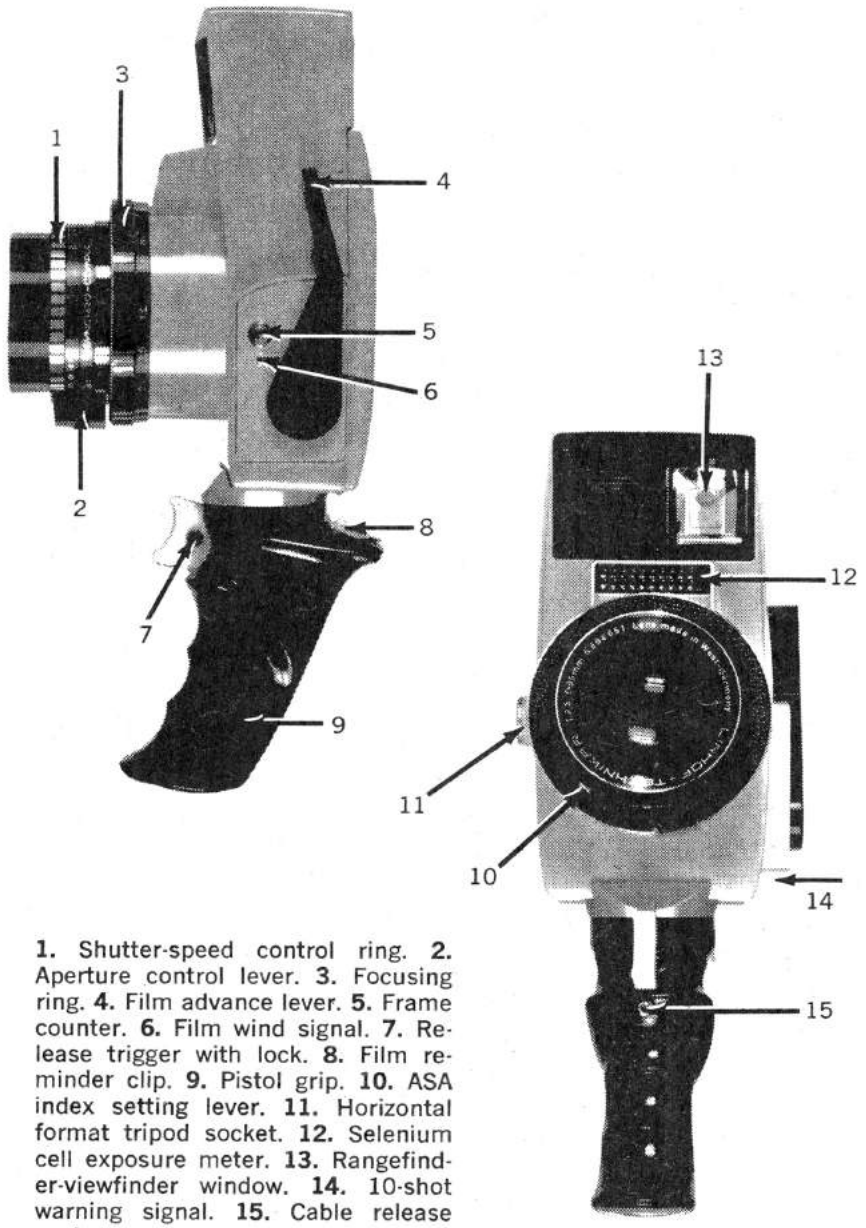
1. Focusing knob. **2.** Neck strap lug. **3.** Rangefinder window. **4.** Viewfinder window. **5.** Cable release holding clip. **6.** Hand grip. **7.** Automatic lens cocking lever. **8.** 90mm f/3.5 Hexanon lens. **9.** Lens mount lock. **10.** Film magazine dark slide. **11.** Film advance and shutter cocking lever. **12.** Film magazine lock. **13.** Accessory shoes. **14.** Shutter release. **15.** Lens aperture scale. **16.** Collapsible lens hood. **17.** Shutter-speed control. **18.** Flash guide. **19.** Footage scale.



Linhof 220

TYPE: View-rangefinder camera for 2¼ X 2¾-in. pictures on 120 or 220 film.
LENS: Noninterchangeable 95mm f/3.5 Rodenstock Technikar with stops to f/32, focus to 3½ ft.
SHUTTER: Synchro-Compur between-lens leaf with speeds from 1 to 1/500 sec., plus B, MX sync.
VIEWFINDER: Combined range-viewfinder with etched frames for normal and close focusing distances.
OTHER FEATURES: Selenium cell exposure meter with pointer visible in finder coupled to shutter speed and aperture controls, single-stroke rapid advance lever, rotating pistol grip handle with shutter release trigger, hot sync contact accessory shoe.
PRICE: $599.50.
MANUFACTURER: Nikolaus Karpf KG Prazisions-Kamera-Werke, Munich 25, Germany. **IMPORTER:** Kling Photo Corp., 2520 Brooklyn-Queens Expressway West, Woodside, N.Y. 11377.
PHYSICAL DIMENSIONS: 7 in. high (less handle), 4 in. wide, 5 in. deep.
WEIGHT: 3 lb. 4 oz.

The Linhof 220 still remains the most compact ideal format camera to date. The 220 balances beautifully right over the well-contoured trigger release handle (9). The trigger release (7), which has an internal cable, is ideally placed.



1. Shutter-speed control ring. **2.** Aperture control lever. **3.** Focusing ring. **4.** Film advance lever. **5.** Frame counter. **6.** Film wind signal. **7.** Release trigger with lock. **8.** Film reminder clip. **9.** Pistol grip. **10.** ASA index setting lever. **11.** Horizontal format tripod socket. **12.** Selenium cell exposure meter. **13.** Rangefinder-viewfinder window. **14.** 10-shot warning signal. **15.** Cable release socket.

The bright, life-sized viewfinder window (13) has a central well-separated yellowish rangefinder spot which provides pinpoint focus as you turn the easily grippable knurled focusing collar (3) around the lens mount. The frames which are etched on the rear finder eyepiece and reflected to the eye from the partially silvered surface of the Von Albada front finder are best seen in bright illumination. When there is little light directed at the finder, the frames are, admittedly, very dim. Since the frames do not have auto-parallax compensation, it's advisable to allow sufficient room around the edge.

The concentric shutter-speed (1) and aperture rings (2) are clearly visible with white numerals on a black background. The speeds have indents but the f/stop ring has deliberately been left without click positions so that the match pointer meter system can be used for the most precise settings between full f/stops. After setting the ASA index from 12 to 1600 on the 220's lens barrel you need only align the round circle pointer with the meter needle in the finder to get proper exposure. The visibility of the match pointers in the finder is good in adequate illumination, poor in low light.

Our Aerotronic P-803 meter tester indicated that the meter was accurate to well within ½ f/stop over its entire usable range down to f/3.5 at 1/30 sec. with an ASA 400 film.

The Linhof 220 isn't likely to pop open accidentally. To swing open the back, you push downward heavily on back latch. The pressure plate has two positions: one for 120 film and a second position for unbacked 220. As you shift the plate the figures "120" or "220" appear in a small window.

The wind lever (4) is 3/4 in. long, 7/16 in. wide, and smoothly finished. It winds film and cocks shutter easily with two flips. A small adjacent window (6) shows a red signal when the shutter isn't cocked, green when it is.

You're now set to fire away. The film transport lever will lock automatically after the 10 shots. A small red lever (14) will drop down from the transport lever housing. If you have a 120 load, just push inward on the red lever and continue winding up the film end. If you have 220 film, push in the red lever and shoot the second 10 shots.

With its ease of operation, sturdiness, the 220 should prove an ideal companion to the newsman, wedding photographer or serious amateur who wants a no-nonsense, one-lens camera which will give him a negative five times the size of a 35mm—big enough for contact-size snapshots and good enough for mural-sized enlargements.

Mamiya Super 23

TYPE: 2¼ x 3¼, 2½ x 3½, 6 x 9cm and 6 x 7cm cut film, film pack, plate, and roll film camera.
LENSES: 65mm f/6.3 Mamiya-Sekor, stops to f/32, focusing to 3½ ft.; 100mm f/3.5, stops to f/32, focusing to 3½ ft.; 100mm f/2.8, with stops to f/32, focusing to 3½ ft.; 150mm f/5.6 with stops to f/45, focusing to 7 ft.; and 250mm f/5, with stops to f/45, focusing to 8 ft.
SHUTTER: Seikosha-S with speeds from 1 to 1/500 sec. plus B, MX sync.
VIEWING: Eye-level view-rangefinder with separate bright frame fields for 100, 150 and 250mm lenses.
OTHER FEATURES: Swinging back tilts 15° in four directions, 1 3/16-in. back extension, auto parallax adjustment for 100, 150, 250mm lenses, detachable hand grip, interchangeable roll film, cut film, plate film backs.
PRICE: With 100mm f/3.5 and Graflok back, $349.50
MANUFACTURER: Mamiya Camera Co.
IMPORTER: Ehrenreich Photo-Optical Industries, Inc., 623 Stewart Ave., Garden City, N.Y. 11533.
PHYSICAL DIMENSIONS: with roll film holder and grip—7½ in. long, 6½ in. high, 6½ in. deep (front of lens to camera back).
WEIGHT: 5 lb. 12 oz.

The new Mamiya Press Super 23 is a vastly improved version of the Mamiya 23 Deluxe—stronger, more versatile, and with several advanced features. The Super replaces the Deluxe, which is being "phased out." The 23 Standard—without the swing back—continues.

One look at the lens mount and you know that the Super 23 is a brand-new camera. The Mamiya 23 Standard and Deluxe both have bayonet mount lens lock buttons. On the Super 23 there's a massive, knurled bayonet locking ring (12) around the entire lens mount. It locks lenses in place quickly and efficiently. One prime reason for the change is the rather large, new 250mm f/5 requiring a beefed up mount.

The viewfinder has been vastly improved, making it much more versatile. The eyepiece (19) is more substantial and larger. While the Standard and Deluxe depend on a masking system to change viewfinder viewing angle, the Deluxe has a system of separate bright frame finders. Push a slide at the rear of the camera and the focal length frame you want shows in a tiny window at the back of the camera and is also projected in the finder. In addition, the finder has auto parallax compensation.

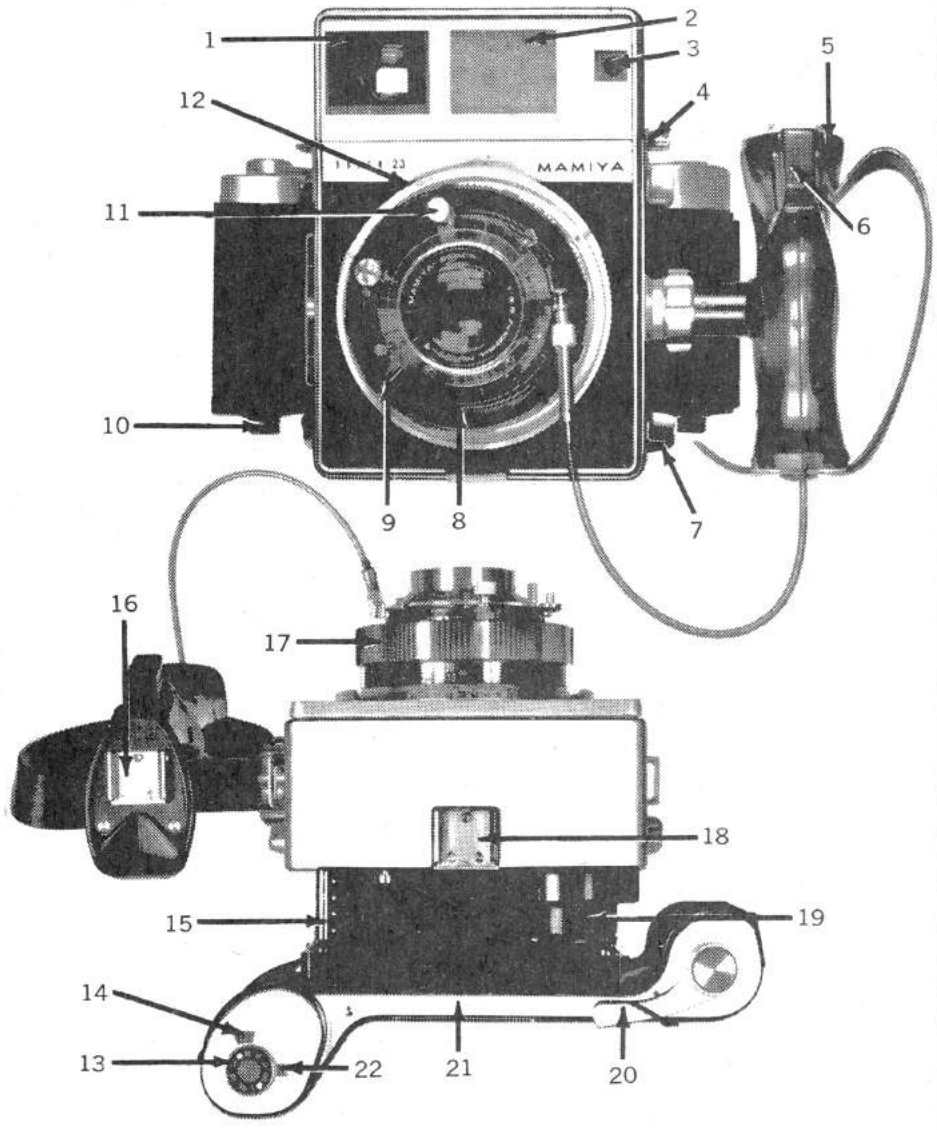
The new standard lens for the Super 23 is a 100mm f/3.5 or f/2.8, as against the 90mm f/3.5 for the older machines.

A new 65mm wide-angle is on the way. In the meantime the current 65mm f/3.5 can be used on the Super. However, the new 250mm f/5 can't be used on the Standard or Deluxe. It's physically possible to mount the lens, but there's some doubt that the camera mount is strong enough to take the weight. In addition, there are no finder masks available for the 250mm.

The hand grip (5) on the Super is slightly different in shape, and is also fitted with an accessory shoe (16). The grip felt a mite more comfortable than the older one, and like the unit on the earlier machines, can be removed quickly when not needed. The trigger release (6) for the cable release falls quite conveniently under the index finger of the left hand. You can release the shutter with the regular release lever (9) on the lens.

Typical of press type cameras, there's no double exposure prevention, since film advance (20)—on the roll film holder—and shutter cocking (11) are independent actions.

There's enough articulation in the swing back to correct for some distortion when shooting architectural and other subjects. In addition you can shoot extreme close-ups without extension rings or close-up lenses, since the distance between lens and film plane can be increased a full 1 13/16 in.



1. Viewfinder window. **2.** Bright frame screen. **3.** Rangefinder window. **4.** Neckstrap lug. **5.** Hand grip. **6.** Shutter release trigger for cable release. **7.** Lock for swing back. **8.** 100mm f/3.5 Mamiya-Sekor lens. **9.** Shutter release lever. **10.** Flash sync terminal. **11.** Shutter cocking lever. **12.** Bayonet mount locking ring. **13.** ASA reminder dial. **14.** 120-220 film wind stop control window. **15.** Swing-back sliding rod. **16.** Accessory shoe. **17.** Focusing ring. **18.** Accessory shoe. **19.** View-rangefinder eyepiece. **20.** Roll film holder film advance lever. **21.** Roll film holder. **22.** Roll film holder exposure counter window.

Nikonos II

TYPE: 35mm all-weather, underwater camera.
LENS: 35mm f/2.5 or 28mm f/3.5 U. W. Nikkor with stops to f/16, focus to 2¾ ft., interchangeable bayonet mount.
SHUTTER: Focal-plane with speeds from 1/30 to 1/500 sec.
VIEWING: Optical finder and accessory sportsfinder for underwater shooting.
OTHER FEATURES: Combination film advance and shutter release, focus and f/number controls on either side of lens, auto resetting frame counter.
PRICE: With 35mm f/2.5 U. W. Nikkor, $195.50; with 28mm f/3.5 U. W. Nikkor, $274.50; body only, $125; flash without batteries, $89.50; finder, $6.95.
MANUFACTURER: Nippon Kogaku, Tokyo, Japan. IMPORTER: Ehrenreich Photo-Optical Industries, Inc., 623 Stewart Ave., Garden City, N.Y. 11533.
PHYSICAL DIMENSIONS: 5 in. long, 4 in. high (max.), 2½ in. deep (front of lens to camera back). WEIGHT: 27 oz.

The Nikonos is primarily designed to take pictures under water without the need for an accessory housing. It consists of an outer shell and inner camera body. An O-ring seal between them is designed to prevent water, dust, dirt, or what have you from penetrating. There's also a glass, waterproof port over the lens. The interchangeable lens mount of the Nikonos also has an O-ring seal.

There are footage (4) and aperture (8) scales on the front of the lens, operated by knurled knobs (7 and 9) on the sides of the lens mount.

To load the camera you first remove the lens by pulling it out slightly and twisting to the right. This relieves the partial vacuum inside the camera and allows removing the inner camera body from the shell in the following manner.

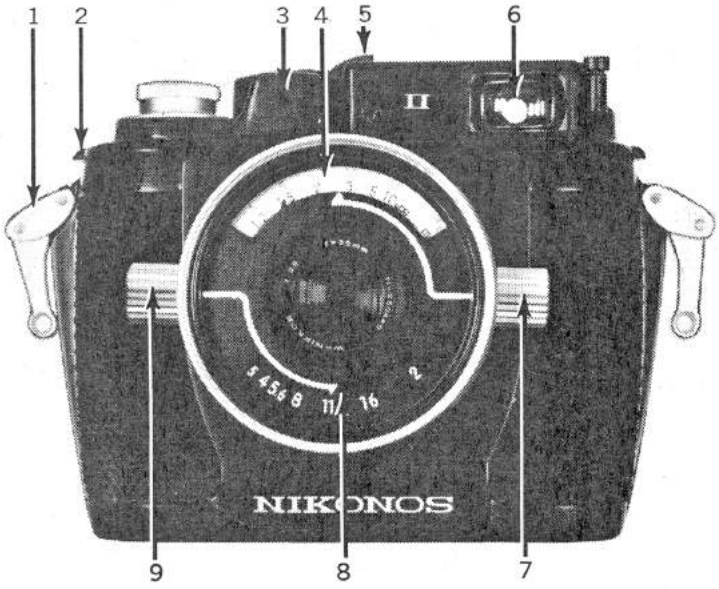
Two swivel-mounted hooks (1) on the sides of the camera are placed under lugs (2) on the upper part of the camera. A slight downward pressure, creating leverage, separates the inner camera from the shell. You load the camera by slipping the 35mm cartridge into place, the leader under a pressure plate and connecting it to the take-up spool. Slip the inner camera back into the shell, replace the lens, and you're set. The film advance lever is also the shutter release. You advance the film with one stroke of the lever. You push the lever again to release the shutter.

MODERN had tested out the Nikonos I in Turkish baths and, by dropping it into the snow for long intervals, but the many professionals who now rely on it for continuous underwater photography at great depths and as an all-weather camera when the going gets rough have long showed the Nikonos can take more than we dished out in original tests. Special adaptations of the fisheye lenses have been made for the Nikonos and many a Nikonos picture has appeared in major magazines.

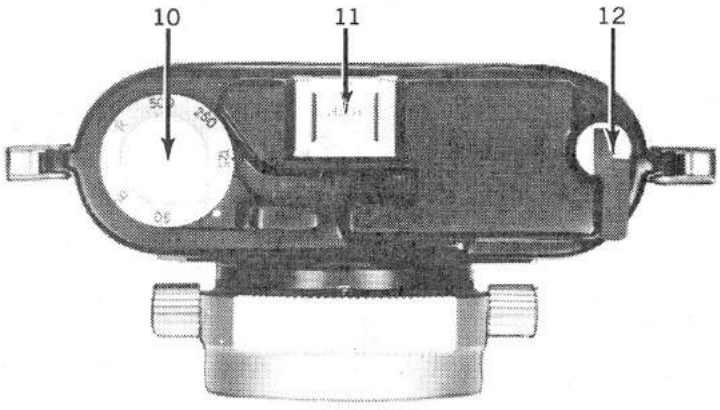
So now we come to the Nikonos II, which in looks, features and operations is almost identical to the first model. However, there are improvements. There's a folding rewind crank instead of the tiny rewind knob, more clearly marked aperture and footage scales with clickstops, a flash sync socket which is pressurized without the tripod thread screw plug, an improved shutter mechanism and a slightly altered dullish black finish.

For photographers who have been complaining about the smallish and hard-to-hold (underwater) size of the focusing and aperture controls, there are now rubber slip-on knobs supplied in gray and black which clear up the problem. For other photographers who have been grumping about the lack of control markings at the rear or top, the extra knobs provide surfaces which could be marked by you, although this small problem should be solved someday on the camera design itself.

For flash under water there's a BC flash unit using No. 6 bulbs but an electronic flash, we hope, will come in the future.



1. Body opening lever. **2.** Body opening lugs. **3.** Film advance/shutter release lever. **4.** Footage scale. **5.** Shutter lock. **6.** Viewfinder window. **7.** Focusing knob. **8.** Aperture scale. **9.** Aperture control and depth-of-field indicator knob. **10.** Shutter-speed dial. **11.** Accessory shoe. **12.** Folding rewind lever.



Rollei 35

TYPE: 35mm compact, nonrangefinder camera.
LENS: Fixed 40mm f/3.5 Carl Zeiss Tessar with apertures to f/22, focus to 3 ft.
SHUTTER: Special Compur between-lens leaf shutter with speeds from ½ to 1/500 sec. plus B, X sync.
VIEWING: Optical viewfinder with etched bright frame.
OTHER FEATURES: CdS cell meter with matched pointers coupled to aperture and shutter controls, accessory shoe with hot flash contact.
PRICE: $199.50.
MANUFACTURER: Rollei-Werke Franke & Heidecke, Braunschweig, West Germany. IMPORTER: Honeywell Photographic, 4800 E. Dry Creek, Denver, Colorado.
PHYSICAL DIMENSIONS: 3¾ in. long, 2⅜ in. high, 1¼ in. deep. WEIGHT: 15 oz.

The Rollei 35, although now widely copied, still remains the smallest, most pocketable, highest precision-built 35mm—a cigarette-pack-sized 3¾ x 2⅜ x 1¼-in. conversation piece capable of mural-sized enlargements.

This isn't the simple, does-everything-itself machine for a tyro. It isn't automatic and the manual setting footage scale (8) has no simplified close, middle distance and infinity symbols. You must gauge, and set footages, rely on the clearly marked depth-of-field scale (7) and make your own shutter-speed (6) and aperture settings (10).

The Rollei 35 is essentially an average illumination or better camera. The CdS meter will react accurately down to f/5.6 at 1/30 sec. with a film having an ASA speed of 400.

When you slide the back plate off the camera for loading you'll note that the pressure plate isn't attached to the camera back. It's hinged to the main camera body. Even the shutter parts are built directly onto it instead of the shutter being attached as a unit as you might expect.

You thread the film across the film guide rails into a rather wide take-up spool slot, which has a bright yellow center so you can't miss the slot even if the illumination is poor. You then slide the camera back on, pull out the lens tube (9) and twist slightly to lock it in place, give three flips on the left-handed 190° single-stroke rapid-wind lever (15) and you are ready for the first shot. The white meter needle and red circle pointer are easily visible atop the camera. The shutter-speed dial (6) and aperture wheel (10) have markings whose legibility would do credit to a camera five times the size of this. Markings are far apart and there are even click halfstops.

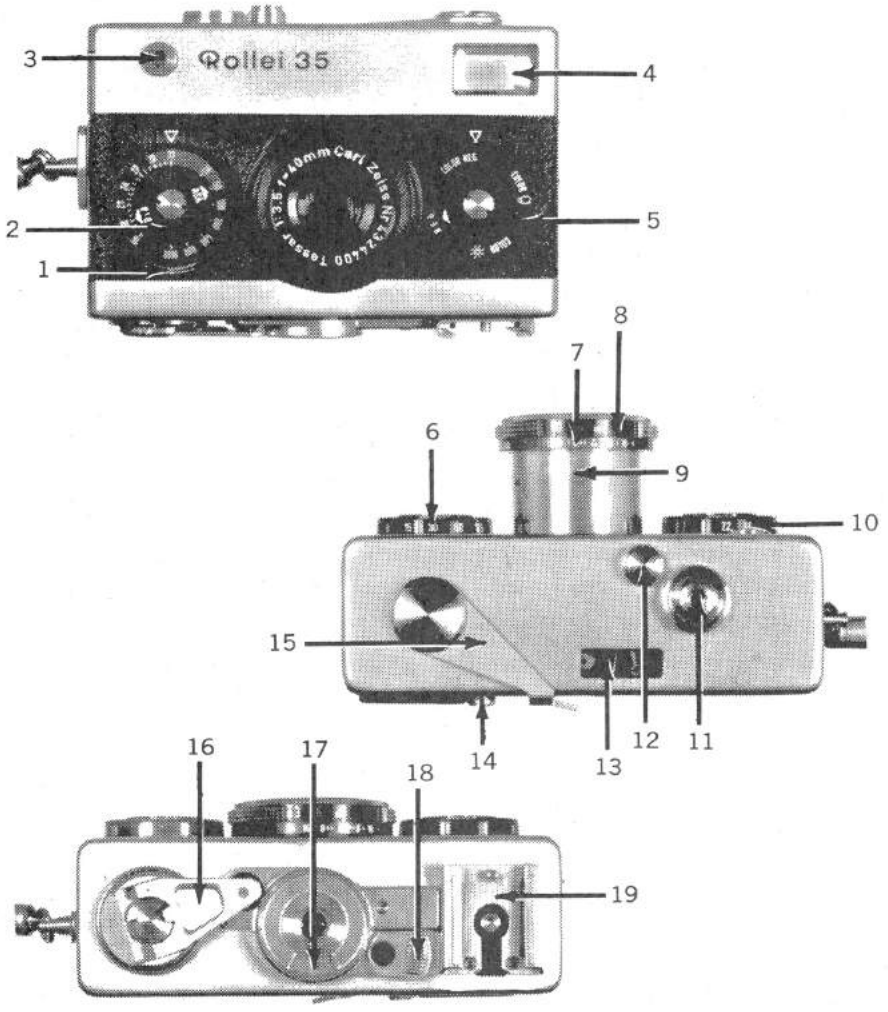
Make a good guess of distance, frame the subject within the bright frame of the optical viewfinder (4) which shows a smaller than life-size but surprisingly big image, and squeeze off a shot with the cable-release-threaded shutter button (11) on the top right of the camera.

After your last exposure, you swing out the large rapid-rewind crank (16) on the bottom of the camera, check to make sure its keying lug is locked snugly into the rewind spindle, throw the rewind lever (14) on the back of the camera and rewind away.

To collapse the lens, you push a small button (12) atop the camera, twist the lens and push the tube inward. You cannot take a picture with the lens collapsed, you can't push the release or even advance the film to frame 1 after loading unless the lens is extended.

A few cautionary words. You must not try to force the lens to collapse it until you've cocked the shutter. Unless the camera's innards are arranged properly there isn't enough room for the lens tube.

Tests showed that the CdS circuit was accurate to within ½ f/stop over its entire range; the shutter was within 15 percent over its speed range—a very good leaf shutter performance.



1. Aperture dial lock. **2.** Film-speed selector. **3.** Exposure meter window. **4.** Viewfinder window. **5.** Film type reminder dial. **6.** Shutter-speed selector dial. **7.** Depth-of-field scale. **8.** Distance scale. **9.** Retractable lens mount. **10.** Aperture selector dial. **11.** Shutter release. **12.** Lens mount release/lock. **13.** Exposure meter dial. **14.** Rewind-advance selector. **15.** Film advance lever. **16.** Film rewind crank. **17.** Frame counter. **18.** Body locking catch. **19.** Accessory shoe.

Tessina 35L

TYPE: 35mm ultraminiature focusing twin-lens reflex camera which takes 23 black-and-white or 18 color pictures in special cassettes.
LENSES: 25mm f/2.8 Tessinon taking and viewing, stops to f/22, focusing to 1 ft.
SHUTTER: Between-lens with speeds from ½ to 1/500 sec. plus B, and FP, MX sync.
VIEWING: Waist-level with full focusing screen, eye-level sports-type viewing.
OTHER FEATURES: Combined film advance-shutter cock motor, selenium exposure meter coupled to shutter speed and lens aperture controls.

PRICE: $169.50; less meter, $149.50.
MANUFACTURER: Concava S.A., Postfach 22, Lugano-Cassarate, Switzerland.
IMPORTER: Karl Heitz Inc., 979 Third Ave., New York, N.Y. 10022.
PHYSICAL DIMENSIONS: 2⅝ in. long, 1¼ in. high (maximum), 2 in. deep.
WEIGHT: 8 oz.

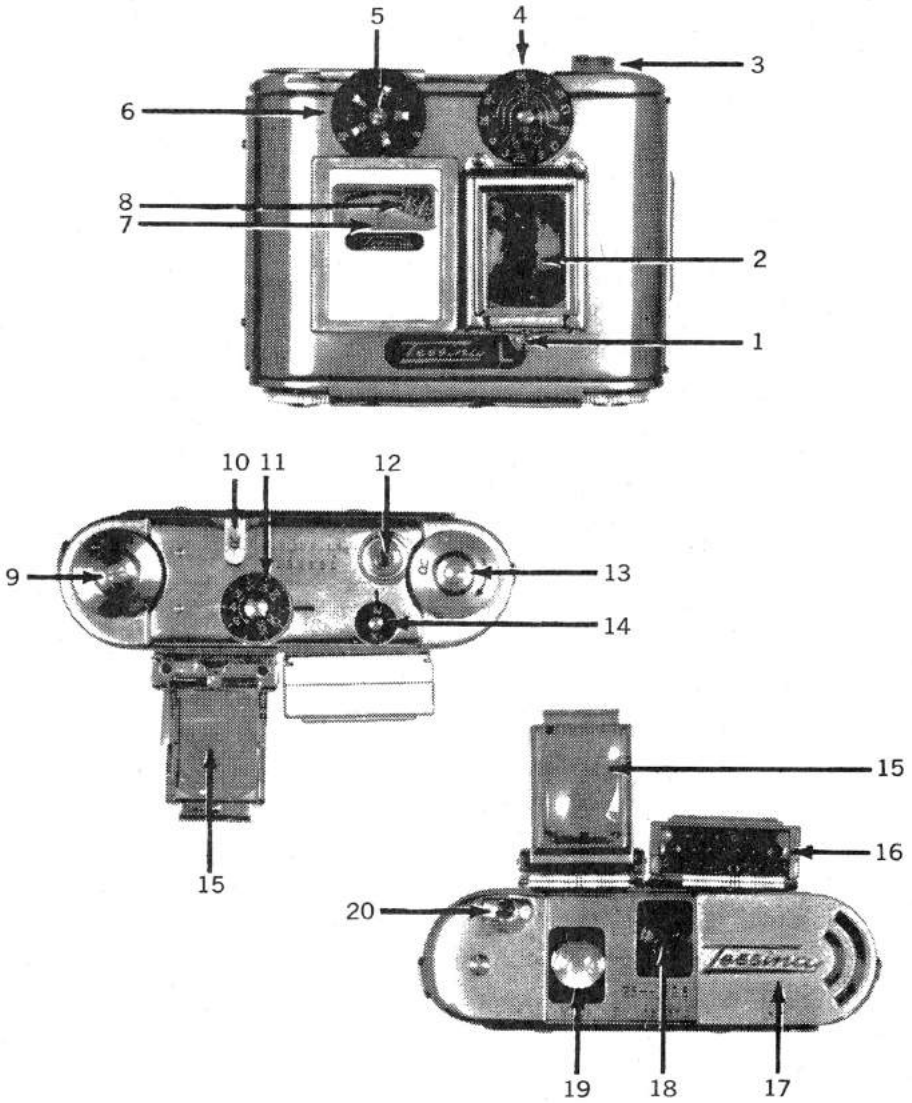
Most ultraminiature cameras use ultraminiature film and give you an ultraminiature picture. The Tessina gives you an ultraminiature negative too (14 x 21mm, slightly more than half the 35mm format) but from a grown-up (35mm) film and does it with the same equipment the big boys use. On this box, less than half the size and weight of most 35's, you'll find two lenses (for focusing and viewing a la twin-lens reflex), a full range of adjustable f/numbers and shutter speeds, a cable release socket, a film advance-shutter cock motor, flash sync and the usual film rewind items. Then there's a flock of accessories you can add. Model 35L comes with a coupled selenium meter as standard equipment.

It's interesting to note that this product of Switzerland also offers a wrist strap as an accessory so that it can be worn like a watch. And upon handling the camera, certain similarities between it and a watch are apparent. All dials are knurled, close to the body and wind and turn with precision and authority; the clickstopped shutter speed (11), sync (14) and frame counter (5) dials click in decisively; and the combination focusing hood-sportsfinder (2, 15) and meter (16) slip into the accessory shoes on the camera top tightly but smoothly.

A further accessory—a daylight film loader—lets you roll your own film from a standard 35mm cassette into the Tessina cassette, but we prefer the factory-loaded Tessina variety. Loading the film in the camera is standard, but on a smaller scale, of course. The only drawback here (a minor one) is that the Tessina's back is detachable. The sliding lens cover (17) must be open for the film to advance, and if it's not actually all the way open the camera won't work. This could be a nuisance, but we found it gave us an unexpectedly secure feeling. (Those tiny lenses were always being protected.)

The manufacturer claims you get from five to eight shots on one winding of the motor, but, in some cases, we squeezed out a few more. If the motor is too loud for you, there's the noiseless model Tessina—for $30 more. The lack of noise comes from the lack of motor, which means you must turn the film advance-shutter cock knob (9) manually after each exposure.

The big problem with the Tessina is focusing. The manufacturer recommends setting the footage scale (4) to 10 ft. and using a small aperture (f/5.6) to take advantage of the extended depth of field of the 25mm focal length. We found we could get critical focusing by removing the hood (2) and putting a small magnifier over the finder screen. As with any TLR, the image on that screen is reversed left to right, but with the accessory eye-level prism finder ($39.95) the image comes out right. The final picture is also backward, because it's a mirror image that is photographed. That means you must project your slides and put your negatives in your enlarger backward for a right-side-up print.



1. Viewfinder hood release catch. **2.** Viewfinder hood. **3.** Shutter release button. **4.** Focusing wheel/footage scale. **5.** Frame counter. **6.** Aperture selector wheel. **7.** Meter pointer. **8.** Meter shutter-speed index. **9.** Film advance motor knob. **10.** Film rewind release lever. **11.** Shutter-speed selector wheel. **12.** Flash sync terminal. **13.** Film rewind knob. **14.** Flash sync selector. **15.** Sportsfinder. **16.** Selenium meter cell. **17.** Sliding lens cover. **18.** Taking lens. **19.** Viewing lens. **20.** Cable release socket.