



KODAK  
Retina S1  
Camera

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Your KODAK RETINA S1 Camera is a member of the long line of traditionally excellent RETINA cameras. A certain pride of ownership comes with this knowledge. Features of this versatile camera include . . . unique daylight exposure control . . . automatic flash exposure control with rotating flashcube . . . easy loading and unloading . . . plus many other features which promise picture-taking ease and picture quality.

- Before taking any important pictures—on a trip or of a special event—take some test pictures to check the camera and your operation of it. Expose pictures outdoors, and indoors with flash. If time is pressing, black-and-white film can be processed very quickly.

**Note:** Equipment subject to minor appearance changes.

## PICTURE-TAKING . . . It's as easy as A-B-C!

After loading, and setting the film speed, you . . .

**A**

Set the shutter speed; for example, at 125 (1/125 sec.).

**B**

Set the lens opening for the prevailing lighting condition.

**C**

Set the distance for Close-ups, Groups, or Scenes.

. . . You're ready to take the picture. Read on for the important details of camera operation.

**Note:** The shutter release on your camera cannot be depressed unless film has been loaded in the camera, as on page 6.



## FILMS

Your camera accepts KODAK 135 film. You can make color prints, black-and-white prints, or color slides. Prints are handy to carry, mail, and make enlargements of—slides are brilliant, compact, and good for showing to large groups. Select the film that provides the type of picture you want.

### color films

**KODACHROME II Film**—For color slides for projection or from which color prints or enlargements can be made. Expose by daylight or blue flashbulbs. 20 or 36 exposures.

**KODACHROME-X Film**—A higher-speed film than KODACHROME II, this film also yields color slides for projection or from which color prints and enlargements can be made. Expose by daylight or blue flashbulbs. 20 or 36 exposures.

**KODAK EKTACHROME-X Film**—For color slides for projection, or from which color prints and enlargements can be made. You can process this film yourself or have it processed by a laboratory. Expose by daylight or blue flashbulbs. 20 or 36 exposures.

**KODACOLOR-X Film**—A negative color film for color prints, enlargements or from which color slides can be made. Expose by daylight or blue flashbulbs. 20 exposures.

**KODAK High Speed EKTACHROME Film**—This extremely fast film permits excellent color pictures in low illumination. Yields color slides for projection or from which color prints and enlargements can be made. Available in Daylight Type (for exposure in daylight or by blue flashbulbs) or Type B (for tungsten light). 20 or 36 exposures.

## black-and-white films

**KODAK PANATOMIC-X Film**—The film to use for big enlargements when high film speed is not needed. It has exceptionally fine grain and the ability to record extremely fine detail. 20 or 36 exposures.

**KODAK PLUS-X Pan Film**—An excellent high-speed panchromatic film for general outdoor and interior use. The fine grain and high resolving power permit high-quality enlargements. 20 or 36 exposures.

**KODAK TRI-X Pan Film**—An extremely fast panchromatic film of moderate contrast, wide exposure and development latitude, and color sensitivity suitable for all types of illumination. 20 or 36 exposures.

How to get your film processed—by Kodak or other laboratories offering such service—is described in the instructions packed with the film.

KODAK Films	ASA FILM SPEEDS	
	Daylight	Photoflood
KODACHROME-X	64	25*
KODACHROME II	25	12*
EKTACHROME-X	64	25*
High Speed EKTACHROME (Daylight)	160	—
High Speed EKTACHROME (Type B)	80†	100**
KODACOLOR-X	80	25*
PANATOMIC-X	40††	
PLUS-X Pan	125††	
TRI-X Pan	400††	

\*With a photoflood filter, such as the No. 80B (for Daylight Type Color Films).

\*\*With a filter, such as the No. 81A. Film speed 125 in existing tungsten light (without filter).

†With a daylight filter for Type B Color Films, such as the No. 85B.

††For daylight or photoflood.

## Loading—always in subdued light

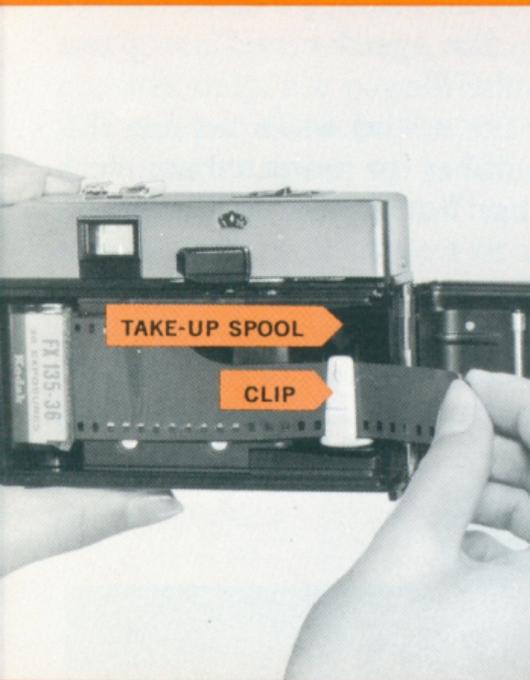
1 To open the back cover of the camera, press in the bright metal cover LATCH, as shown, until the cover springs open.

2 As shown opposite, place the film magazine in its compartment, and rotate the built-in TAKE-UP SPOOL until one of the two white pressure CLIPS is up; then slide the film edge under the white clip as far as possible in the direction of the arrow.

3 Close the back of the camera. Swing out the film RAPID WIND LEVER and allow it to return—repeat until the lever locks.

4 Press down the SHUTTER RELEASE; then operate the rapid wind lever until it locks again. Repeat this operation once more to bring the figure 1 into the center of the exposure COUNTER. You are now ready for the first exposure. The exposure counter indicates the number of exposures taken.





2



3



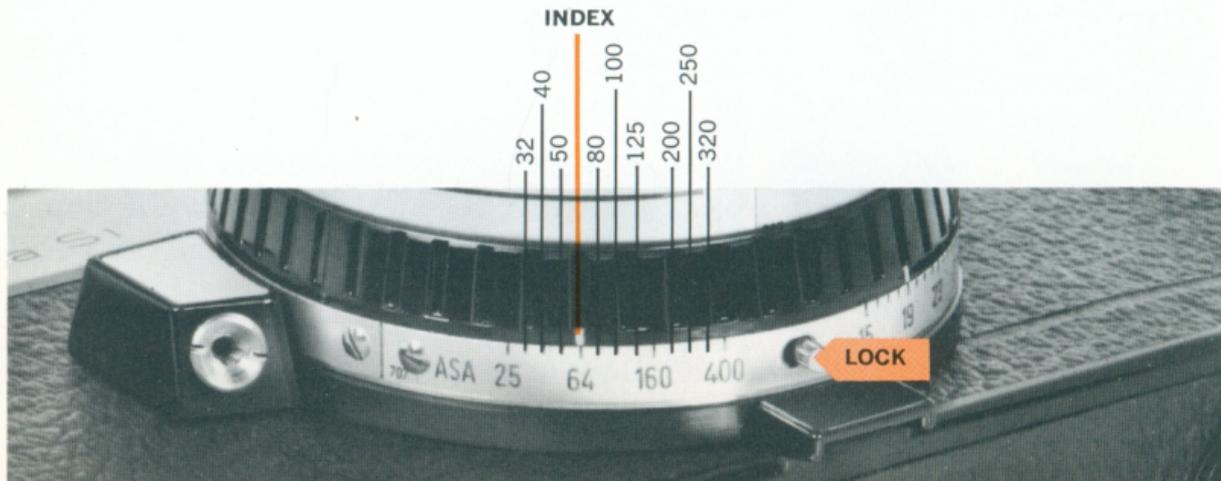
4

## SETTING THE FILM SPEED

*Set the speed of the film loaded in the camera before taking pictures—otherwise pictures will be incorrectly exposed. ASA film speed values are given on page 5 and in the instructions packed with the film.*

To set the film speed, press in and hold the LOCK stud while turning the black knurled ring until the proper film speed number (or indicated number) on the scale labeled ASA\* is opposite the orange INDEX line. A film speed setting of 64 is shown in the illustration.

\*The scale marked DIN (15-27) applies to films rated by a different method.

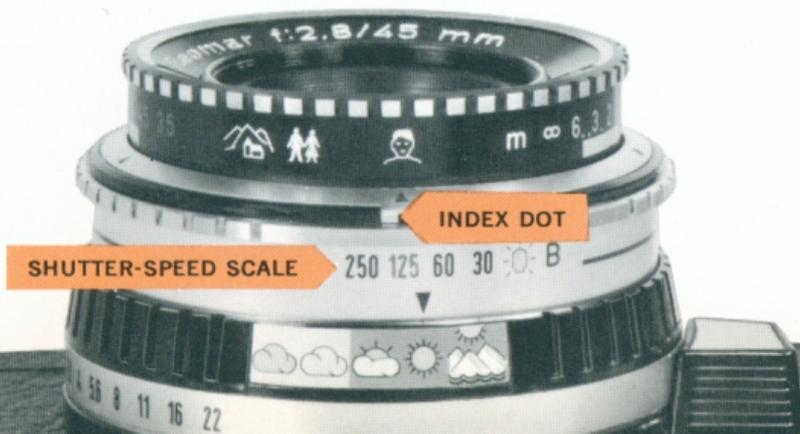


## SELECTING THE SHUTTER SPEED

Your camera has the following shutter speeds: 30 (1/30 second), 60, 125, and 250. These settings, along with the blue flashcube symbol (for flashcube pictures only, see page 17) and the letter “B,” for time exposures (see page 20), are provided on the SHUTTER-SPEED SCALE.

A shutter speed of 1/125 (marked in red) is recommended for general daylight picture-taking. The faster shutter speed of 1/250 is useful to minimize the effect of subject or camera movement, while the slower speeds of 1/60 and 1/30 can be used for less favorable lighting conditions.

Rotate the SHUTTER-SPEED SCALE until the number representing the desired shutter speed “clicks” into place opposite the red INDEX DOT. Do not make intermediate settings.

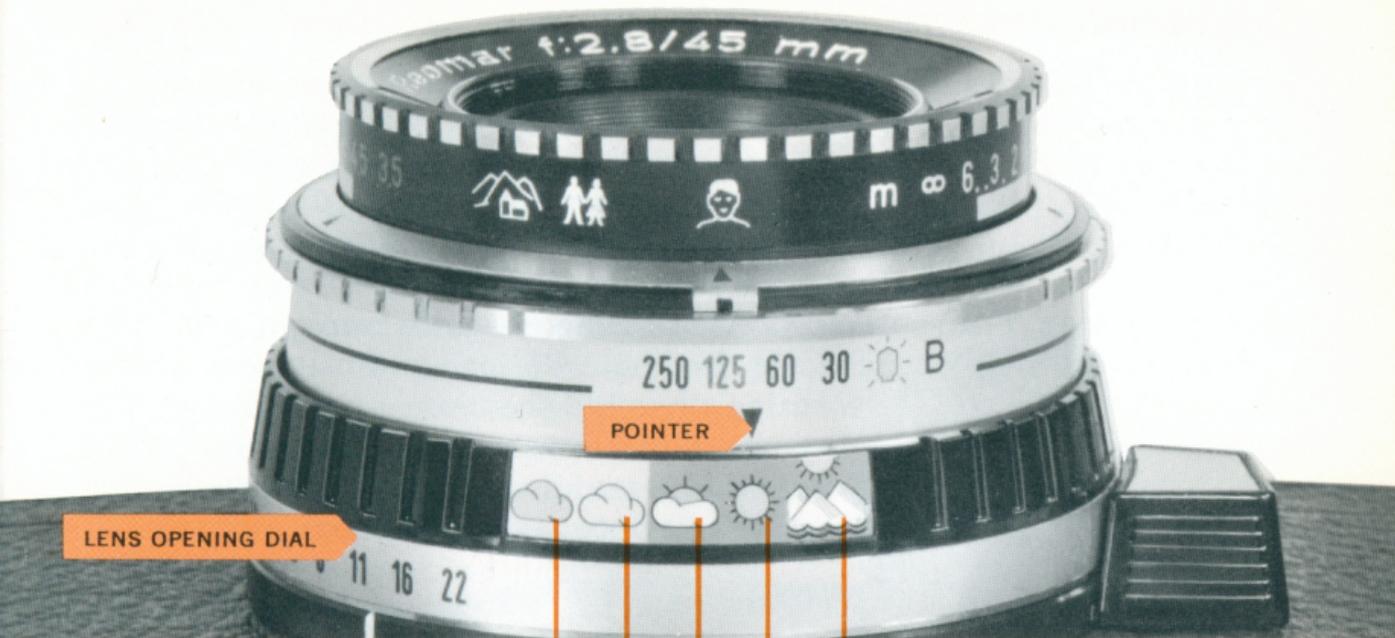


## SELECTING LIGHT-CONDITION SYMBOL (Daylight Pictures)

From the blue and gray scale, select the light-condition symbol which represents the prevailing light condition. Rotate the LENS OPENING DIAL by its black, knurled ring until this symbol is opposite the black triangular POINTER. This setting adjusts the lens opening for the light condition selected on the symbol scale.

If a symbol in the blue background (good lighting conditions) cannot be set opposite the triangular pointer, select a faster shutter speed (1/250 instead of 1/125). If a symbol in the gray background (poor lighting conditions) cannot be set opposite the triangular pointer, select a slower shutter speed.

If you prefer to make *f*-number settings directly, lens opening values from  $f/2.8$  to  $f/22$  on the lens opening scale can be set opposite the white index line.



LENS OPENING DIAL

POINTER

HEAVY OVERCAST OR  
OPEN SHADE

CLOUDY-BRIGHT  
(NO SHADOWS)

HAZY SUN (INDISTINCT SHADOWS) OR  
SIDE-LIGHTED CLOSE-UPS IN BRIGHT SUN

HIGH ALTITUDE, BEACH OR  
SNOW SCENES IN BRIGHT SUN

AVERAGE SUBJECTS IN  
BRIGHT SUN (DISTINCT SHADOWS)

## SETTING THE FOCUS

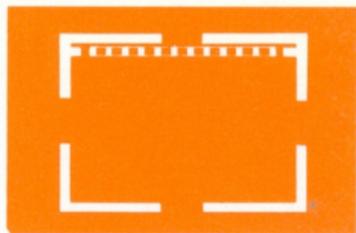
**Handy, Zone Focusing:** For quick focusing, a symbol-type scale appears on the FOCUSING SCALE. The right hand (head and shoulders) symbol represents CLOSE-UPS (3½ to 8 feet), the middle symbol represents GROUPS (8 to 18 feet), the left hand symbol represents SCENES (beyond 18 feet). Rotate the focusing ring to position a symbol opposite its triangular pointer.

**Scale Focusing:** For more accurate focusing (distance setting), and always for flash, use the footage scale. Estimate the camera-to-subject distance carefully; then rotate the focusing ring until the *orange* number, representing the camera-to-subject distance in feet, is opposite its triangular pointer. The blue bar under the footage scale is useful for flash only. A metric scale (white figures) is also provided for distance settings in terms of meters.



## VIEWFINDER

Hold the camera either horizontally or vertically, depending on the nature of the subject. Center your eye on the rear eyepiece of the viewfinder so that the complete luminous viewframe in the finder is visible. The image seen within this viewframe will be included in the picture, except at short camera-to-subject distances. To avoid "cut-off" when the subject is closer to the camera than 7 feet, aim the camera so that the subject image is below or within an imaginary line drawn between the two pointers on opposite sides of the luminous viewframe, as illustrated above. An equal area will be added to the opposite boundary of the picture.



## SHUTTER RELEASE AND FILM ADVANCE

Because of the double-exposure prevention feature of your camera, the SHUTTER RELEASE can be depressed only after the RAPID WIND LEVER has been operated. Always press down the shutter release as far as it will go *with a slow, squeezing action*.

Swing out the rapid wind lever to the limit of its travel and allow it to return to its original position; this sets the shutter and advances film for the next exposure.



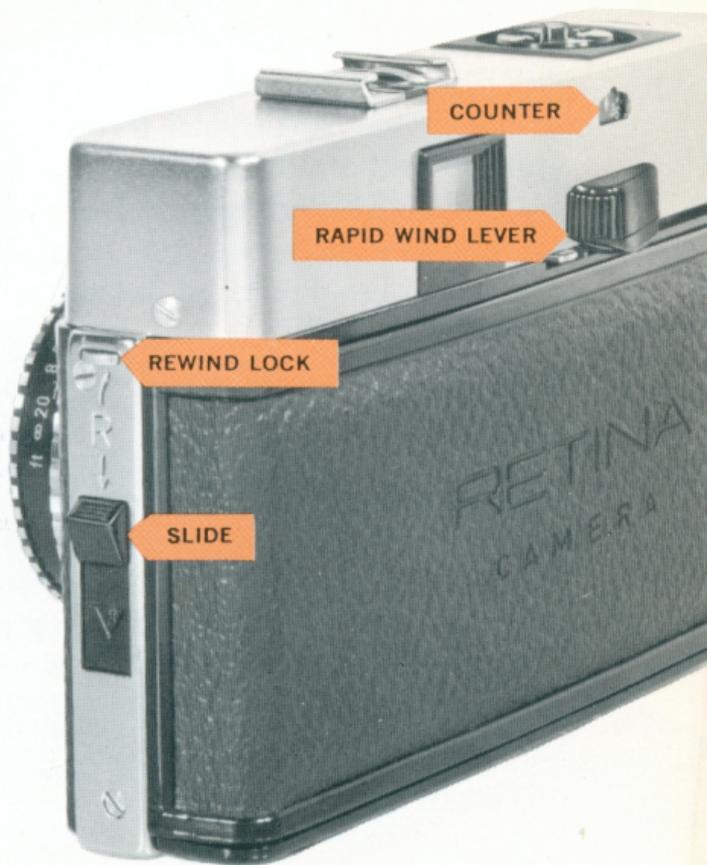
## DAYLIGHT PICTURE-TAKING STEPS

After loading the camera and setting the ASA film speed . . .

- 1 Set the shutter speed; 1/125 sec (125) is recommended for general picture-taking.
- 2 Set the lens opening by bringing the appropriate light-condition symbol opposite the black triangular index.
- 3 Set the focus by the handy 3-symbol scale, or by setting the footage scale for the camera-to-subject distance in feet.
- 4 Compose the picture within the luminous viewframe of the finder.
- 5 Hold the camera steady and press the shutter release all the way down with a slow, squeezing action to take the picture.

## UNLOADING—always in subdued light

After the last exposure (20 or 36), and before opening the camera, rewind the film into its magazine, as follows. (1) Push in the **REWIND LOCK**. Hold it and push the **REWIND SLIDE** toward the base until it locks in its down position. (2) Operate the film **RAPID WIND LEVER** until the diamond-shaped mark (◆) is centered in the exposure **COUNTER**; then, operate the lever several more strokes to wind the film into the magazine. (3) Open the back cover of the camera by pressing the cover latch on the bottom of the camera (shown on page 6), and remove the film magazine.





## FLASH PICTURES

Your camera provides X-type synchronization for the 4-bulb flashcube, flashbulbs (in cordless-type flashholders), and electronic flash.

**Battery:** One 5.6 volt, mercury-type battery such as the Mallory PX-23 (supplied) is required to supply power to fire flashcubes. Open the battery compartment on the bottom of the camera by pushing the COVER in the direction of the arrow and swinging it open on its hinge, as shown. Clean battery terminals with a rough cloth; then insert the battery with its positive (+) terminal toward the center of the camera, as illustrated. Close the cover by pressing it down firmly until it locks.

**IMPORTANT:** Flash failure usually results from tarnish (often invisible) on camera and battery contacts. Clean battery and camera contacts often with a rough, damp cloth. If flash failure persists, install fresh batteries.

## FLASHCUBES

● **Set Flash Exposure Control**—Rotate the SHUTTER-SPEED SCALE until the FLASH SYMBOL clicks into place opposite the red INDEX DOT, as shown in the illustration; then set the lens opening dial at  $f/22$  and rotate the focusing scale back and forth until the two scales are locked together. This coupling automatically sets the correct lens opening as you focus the camera for subject distances between 5 and 18 feet (indicated by blue band).



● **Insert Flashcube**—Insert a FLASHCUBE in the flash socket on the top of the camera; with one of the four bulbs facing forward, press down the cube until it snaplocks in place. The cube revolves  $\frac{1}{4}$ -turn each time film is advanced for the next exposure, thus providing flash for four exposures if a fresh cube is in place. To remove a used or partially used cube from the camera, lift it out of the socket. When returning a partially used cube to the camera, make sure that a *fresh bulb is facing forward* before the exposure is made. The flashcube can be rotated manually *in the direction of the arrow*.



- **Set the Distance**—Rotate the focusing scale until the orange number, representing the subject distance in feet (between 5 and 18 feet, as indicated by the blue band) is opposite its triangular index.
- **Flash the Picture**—Compose the picture within the luminous viewframe of the finder, hold the camera steady, and press the shutter release slowly to flash the bulb and take the picture.

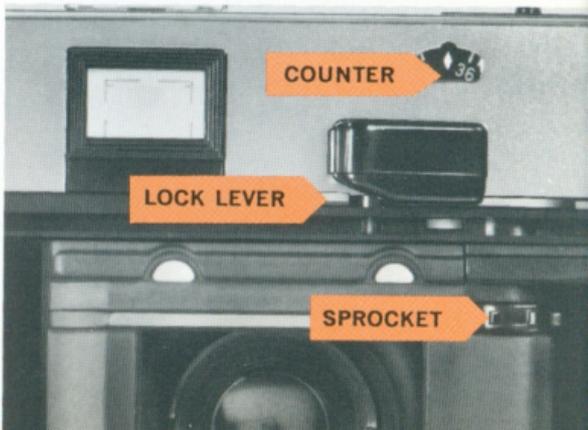
### **Other Flash Sources**

Your camera accepts:

- 1 Cordless-type flashholders** with a center contact in the base, such as the KODABLITZ Flashholder, slip into the shoe-type bracket on the top of the camera. Set the shutter speed for  $1/30$  sec (30) and determine the lens opening from the table on the flashholder or in the film instruction sheet.
- 2. Electronic flash equipment**—Set the shutter speed from  $1/30$  to  $1/250$  sec. See instructions packed with your flash unit.

## TIME EXPOSURES

If a subject needs a longer exposure time than 1/30 second, such as for night pictures or other low-light situations, place the camera on a firm support\* and make a time exposure. Rotate the shutter speed scale until the letter "B" clicks into place opposite the red index dot, as shown. Now the shutter will remain open as long as the shutter release is depressed. The exposure time depends on the lens opening (*f*-number) used and the light available (do not use symbol scale). To reduce camera movement use a cable release attached to the threaded socket in the underside of the shutter release.



## SETTING EXPOSURE COUNTER

If the exposure counter has not returned to the diamond-shaped mark (◆) for any

\*A threaded tripod socket is located on the base of the camera.

reason (such as removal from the camera of a partially exposed film magazine, without rewinding), the counter must be reset manually, before loading the camera again. Open the back cover of the camera, and with the LOCK LEVER depressed, rotate the SPROCKET until the diamond mark (◆) is centered in the counter.

## **CARE OF THE CAMERA**

Your KODAK RETINA S1 Camera is a ruggedly built precision instrument. For long service and quality performance, protect the camera from dust and dirt and avoid rough handling. Use a rubber syringe to blow out any dust that may be inside the camera. If the lens needs cleaning, first brush or blow away any grit or dust. Wipe the surface gently with KODAK Lens Cleaning Paper. If moisture is needed, use KODAK Lens Cleaner.

Do not attempt to make any repairs or remove any parts from the shutter, lens, or camera. Never oil the shutter or any parts of the camera. If you find that service is necessary, see page 24.

## PHOTO AIDS

**KODAK RETINA Field Case, Model K**—This attractive, black, plush-lined case will provide maximum protection for your camera. This case attaches to the camera by a snap fastener, which fits a receptacle in the base of the camera. The fold-down front permits instant picture-taking with the camera in its case. The case is supplied with a hand strap, and an adjustable extension strap.

**Adapter Ring, Series 5 (screw-in type)**—Permits use of Series 5 filters and other lens attachments.

**KODAK RETINA Lens Attachments (32mm)**—For close and ultra-close pictures, the KODAK RETINA Close-Up Lens Set N/32, and the Close Range and Viewfinder Kit Model C are available. Filters for both black-and-white and color, and the KODAK RETINA 32 Lens Hood (to protect lens from extraneous light) can also be obtained from your photo dealer.

**KODAK Flashcube Extender**—Produces more pleasing modeling and shadow effects by increasing the distance between the flashcube and the lens.

**KODAK Projectors**—A KODAK projector or viewer will show your color slides big, bright and sharp on the screen. Ask your dealer to see the low-cost KODAK READYMATIC Viewer or the popular KODAK CAROUSEL projectors.

**KODAK Publications**—KODAK Publications cover a wide range of subjects. Your dealer will be glad to show you, for example, "How to Make Good Pictures"—perhaps the most popular picture-taking book of all time—and other inexpensive books on photography.

## CAMERA FACTS

**Film:** Film Load—KODAK 135, 20- or 36-exposure magazines.

**Negative Size**—24mm x 36mm.

**Lens:** 45mm, f/2.8 Schneider REOMAR Lens. Openings—f/2.8, f/4, f/5.6, f/8, f/11, f/16, f/22.

**Shutter:** Automatically cocks when film is advanced.

**Speeds**—1/30, 1/60, 1/125, 1/250 second, plus "Flash" and "B" setting.

**Release**—On front of camera, or KODAK Metal Cable Release No. 5. Double-exposure prevention.

**Flash Synchronization**—Flashcubes at flash symbol; flashbulbs at 1/30 sec; electronic flash at all speeds.

**Daylight Exposure Control:** Set by five lighting-condition symbols. For films with ASA speeds 10 to 400.

**Automatic Flash Control:** Correct lens opening set by focusing. ASA 10 to 400.

**Battery**—Uses one 5.6-volt mercury battery.

**Focusing and Viewing:** Focusing—Zone focusing (Close-ups, Groups, and Scenes) and scale focusing 3½ ft to Inf.

**Viewfinder**—Projected viewframe type with parallax marks.

**Rapid Wind Lever:** Advances film and sets shutter with one stroke; rewinds film after setting for rewind.

**Photo Aids:** An extensive line of specialized photo aids extends the picture-taking scope of your camera. See page 22 for partial listing.

## SERVICE FACILITIES

If your Kodak camera should require attention, complete service facilities are provided at Rochester and in Kodak Regional Sales Divisions at the addresses at right. Also, service, covered under the guarantee, is available through independent service shops in many cities. For such local, guarantee-covered service, please see your Kodak dealer or refer to the yellow pages of your telephone directory under Photographic Equipment and Supplies—Factory Approved Warranty Service.

**Eastman Kodak Company**  
Apparatus Service  
800 Lee Road  
Rochester, New York 14650

**Eastman Kodak Company**  
Apparatus Service  
5315 Peachtree Industrial Blvd.  
Chamblee, Georgia 30005

**Eastman Kodak Company**  
Apparatus Service  
1901 West 22nd Street  
Oak Brook, Illinois 60523

**Eastman Kodak Company**  
Apparatus Service  
3250 Van Ness Avenue  
San Francisco, California 94119

**Eastman Kodak Company**  
Apparatus Service  
6300 Cedar Springs Road  
Dallas, Texas 75235

**Eastman Kodak Company**  
Apparatus Service  
1334 York Avenue  
New York, New York 10021

**Eastman Kodak Company**  
Apparatus Service  
808 Rivera Road  
Whittier, California 90606

**Eastman Kodak Company**  
Apparatus Service  
1065 Kapiolani Blvd.  
Honolulu, Hawaii 96807

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## GUARANTEE

Within a year after purchase, any repairs necessary to this KODAK RETINA S1 Camera—bearing a serial number with “EK” prefix—due to a defect in materials or workmanship will be made or, at our option, the camera will be replaced without charge, provided the camera has not been altered, modified, or disassembled in any manner. No other warranty or guarantee, express or implied, shall be applicable to this equipment. Nor are we responsible for loss of film, for other expenses or inconveniences, or for any consequential damages occasioned by the equipment.

In case of unsatisfactory operation, the camera should be sent directly or through a Kodak dealer to Eastman Kodak Company or a repair firm authorized by us to make such repairs. It should be accompanied by a description of the trouble encountered and other available information regarding the camera, including the date and place of purchase.

**EASTMAN KODAK COMPANY • Rochester, N.Y. 14650**