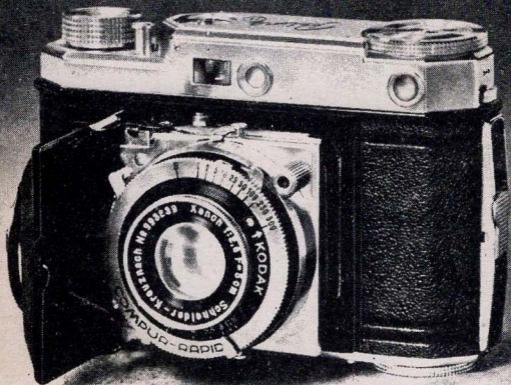


HOW TO USE THE

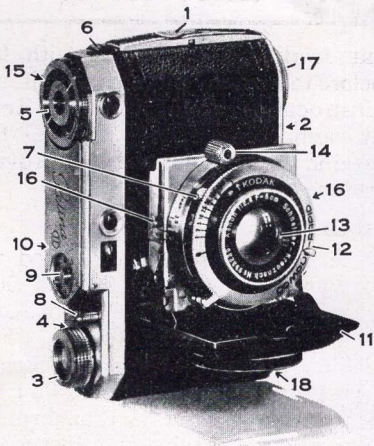
KODAK

Ketina

II



XENON ANASTIGMAT LENS 1:2.0 OR 1:2.8 • COMPUR RAPID SHUTTER



- | | |
|---|-------------------------------|
| 1. Lock for Back | 8. Shutter Release |
| 2. Button for Opening Front | 9. Exposure Counter |
| 3. Film Winding Knob | 10. View Finder |
| 4. Lever Controlling Clutch for Forward and Reverse Winding | 11. Bed |
| 5. Film Rewind Knob | 12. Shutter |
| 6. Brake Lever for Rewind Knob | 13. Lens |
| 7. Shutter Setting Lever | 14. Focusing Knob |
| | 15. Range Finder |
| | 16. Buttons for Closing Front |
| | 17. Depth of Focus Indicator |
| | 18. Tripod Socket |

KODAK RETINA II

BEFORE loading your Kodak with film, and before taking any pictures with it, read these instructions carefully. As the Retina Kodak cannot be operated without film, a magazine of clear film base is provided for practice purposes.

TO LOAD

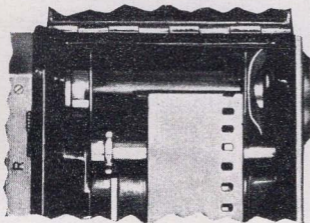
Use the Kodak Magazine loaded with Kodak Panatomic (F 135), Kodak Super Sensitive Panchromatic (SS135), or Kodak Super X Panchromatic (X 135) Film. These films are available in 36-exposure (24 x 36 mm.) lengths. The Kodak Panatomic and the Super X Panchromatic Film can also be obtained in 18-exposure lengths.

To obtain color film positives, use the Kodak Magazine loaded with Kodachrome (K 135) Film for daylight, or (K135A) for Photoflood or Photoflash light, in 18-exposure lengths only. This film must be returned to an Eastman Kodak Laboratory for processing.

Load and unload your camera in subdued light, never in direct sunlight or in exceptionally strong artificial light. The magazine should not be allowed to remain

unprotected in the light; any slight light-leak through the slot will fog the film.

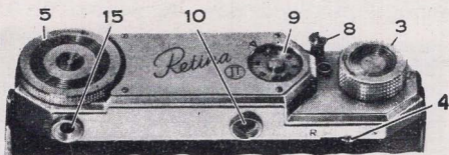
Lift the lock 1, page 2, and open the back of the Kodak. Draw out the film rewind knob 5, page 5, as far as it will come and insert the Kodak Magazine in the recess opposite the reel, with the end in which a cross piece is seen, towards the rewind knob. Push in the rewind knob as far as it will go *and turn it until it locks.*



Insert the end of the film in a slot of the reel, see illustration. *Do not attempt to remove the reel from the camera.*

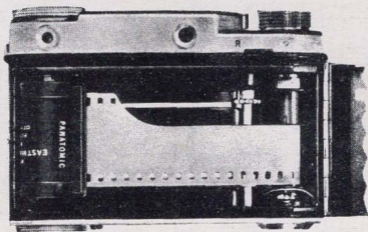
The lever 4, controlling the clutch for winding forward, must be at the end of the slot *opposite* to the letter "R." Turn the film winding knob 3 in the direction of the arrow, to bind the film on the reel until the full width of film just emerges from the magazine. See illustration on opposite page. Be sure that the film will ride properly in the path provided for it. Should the film winding knob 3 be locked, revolve

the sprocket, which engages the film perforations, a turn or two, to release this knob.



Now close the back of the camera and lock it.

Turn the film winding knob 3 in the direction of the arrow until it locks.

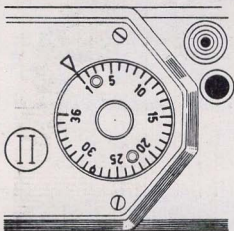


OPENING THE KODAK

Press the button 2, page 2, and draw down the bed 11 until it locks.

Push the shutter setting lever 7, page 2, to the top of the shutter; then press the shutter release 8; now turn the winding knob until it locks. Set the shutter a second

time, press the shutter release and again turn the film winding knob until it locks. Enough film will now be wound on the



take-up reel to avoid having the first exposure ruined by fog. Turn the exposure counter 9 (located near the film winding knob) until the figure 1 is at the indicator, as shown in the illustration above.

The film is now in position ready for the first exposure.

After making the exposure turn the film winding knob until it locks; this automatically controls the exposure counter which gives an accurate check on the number of exposures made. The next section of film is now in position. It is impossible to make a double exposure with the Kodak Retina II if the body shutter release is used, because the shutter can not be operated with this release until a new section of film is wound into position.

THE VIEW FINDER

The finder 10, page 5, shows what will appear in the picture, but on a much re-

duced scale. In viewing, the rear of the finder is brought as close to the eye as possible with the camera pressed firmly



against the face, as in the above illustration. All vertical lines in the subject should appear parallel with the vertical lines of the front frame of the finder.

For vertical pictures the camera is simply turned end up.

FOCUSING THE KODAK

The Kodak Retina II has a range finder which is coupled with the lens of the camera. Focusing is done by moving



knob 14, page 10. This knob controls the focus of the lens and the range finder.

Look through the eyepiece 15, of the range finder, page 5, holding the camera as shown above. If nothing can be seen

through the eyepiece, the film rewind knob 5, page 5, has not been locked in place. Turn this knob until the brake lever 6 snaps back to lock the knob.

Two images of the subject will appear (one in a clear disk, the other—yellow); move the focusing knob 14 until these two images coincide, and only one image is visible. The distance between the camera and subject focused on can be read on the focusing scale if desired.

Another method of using the range finder is to move the focusing knob until the distance desired is at the focusing indicator; then, while looking through the eyepiece of the range finder, move back or forth until the two images appear as one.

The range finder can be used only on subjects that are motionless.

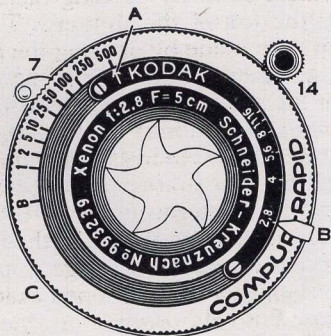
Before making the exposure, check the composition of the picture in the view finder 10, page 5, but since the Kodak is focused, do not approach nearer to or step back from the subject.

The camera has a focusing collar engraved for the following distances: 3.5, 4, 4.5, 5, 6, 7, 8, 10, 12, 15, 25, 50 feet, and infinity. It is unnecessary to consult this scale when using the range finder. for

when the subject is properly focused with the range finder, the camera is in focus.

THE SHUTTER

The shutter is marked for exposures of 1 second and 1/2, 1/5, 1/10, 1/25, 1/50, 1/100, 1/250 and 1/500 second, as well as "Bulb" Exposures.



Exposures of intermediate speeds can be made from 1 second to 1/100 (except between 1/10 and 1/25) by setting the shutter between the exposure numbers on the shutter; thus an exposure of 1/75 second is made by turning the knurled collar so that the arrow A is midway between 1/50

and $1/100$. Intermediate exposures cannot be made between $1/100$ and $1/250$ or between $1/250$ and $1/500$ second.

Revolve the knurled collar C on the front of the shutter until the figure representing the time of exposure desired is at the arrow A, page 10.

Before an exposure can be made, the shutter must be *set* by pressing the lever 7 towards the top of the shutter. The exposure is then made by pressing the release 8, page 5. It is not advisable to change the speed of the shutter from $1/250$ to $1/500$ or vice versa *after the shutter has been set*.

For "Bulb" Exposures, the letter "B" engraved on the shutter must be at the arrow A, the shutter must be set by pressing the lever 7 toward the top of the shutter and the shutter release 8, page 5, pressed down; the shutter remains open as long as the release 8 is held down.

A cable release No. 5 can be screwed into the opening directly behind release 8.

Automatic exposures of 1 second, $1/2$, $1/5$, or $1/10$ second must not be made with the camera held in the hands; a tripod or other firm support must be used for exposures slower than $1/25$ second.

Important: *Never oil the shutter.*

STOP OPENINGS

Stop openings regulate the amount of light passing through the lens. These openings are enlarged or reduced by moving the lever B, see page 10.

A knowledge of the comparative values of the stop openings is necessary for correctly timing exposures.

The stop openings are marked *f.2.8*, 4, 5.6, 8, 11 and 16. Besides these apertures the Kodak Retina II with the Xenon *f.2.0* Anastigmat Lens has the marking *f.2.0*. This opening (*f.2.0*) allows twice as much light to enter the camera as *f.2.8*; *f.2.8* twice as much light as *f.4*, etc.

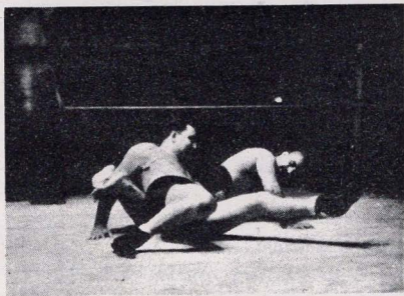
Each smaller opening (larger number) admits half the light of the preceding larger stop opening. Thus, if the correct exposure is $1/100$ second at *f.5.6*, then for the other stop openings the exposure should be approximately: *f.8* and $1/50$; *f.11* and $1/25$ second.

The exposure for the average outdoor subject, when the sun is shining, is *f.5.6* and $1/100$ second. If the day is hazy or slightly cloudy, use the next larger opening, that is *f.4* and $1/100$ second. In this way you will give twice the normal exposure. If the day is exceptionally brilliant

use the next smaller stop, that is $f.8$ and $1/100$ second. *The important thing to remember is the average exposure of $f.5.6$ and $1/100$ second.* When the light conditions differ from the average, change the aperture, keeping in mind the basic exposure $f.5.6$ and $1/100$ second. See the exposure guide on the back cover. (For Kodachrome Film follow the guide included with the film.)

The smaller the stop opening the greater is the depth of focus or range of sharpness.

SNAPSHOTS OF INDOOR SPORTS



Snapshot exposures can be made of boxing and wrestling matches, swim meets, etc., provided there is sufficient illumination. An exposure of $f.2.0$ and $1/50$ second

was made with Kodak Super X Panchromatic Film for the picture on page 13.

DEPTH OF FOCUS

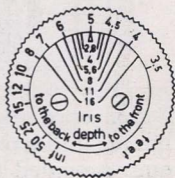
Depth of focus is the distance from the nearest to the farthest objects that will appear sharp in the negative or print. It depends upon the distance between subject and lens, the focal length of the lens, and the size of the stop opening used; the smaller the stop opening the greater the depth of focus or range of sharpness.

DEPTH OF FOCUS INDICATOR

The Depth of Focus Indicator, engraved on the disk 17, page 2, is a help in obtaining correctly focused pictures.

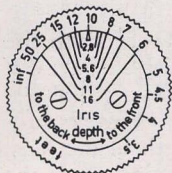
After adjusting the focus of the lens for a certain number of feet, turn the outer ring of the indicator until the number for which the lens is focused is at the pointer.

Example 1: To find the depth of focus when the lens is focused for five feet, turn the outer ring of the indicator until 5 is at the pointer; we now can read the depth of focus which will be obtained with the various stop openings.



Example 1

With $f.11$, for example, everything from about 4 feet to about $6\frac{1}{2}$ feet will be sharp.



Example 2

Example 2: When the lens is focused for ten feet, turn the outer ring of the indicator until 10 is at the pointer; we then find that with $f.5.6$, objects approximately as near as 8 feet and as distant as 13 feet will be sharp; with $f.16$

everything from a little less than 6 feet to about 35 feet will be sharp.

When the subject is $3\frac{1}{2}$ feet from the camera the depth of focus indicator shows the depth of focus to the rear only, at the various stop openings.

With the Kodak focused at $3\frac{1}{2}$ feet, the depth of focus when using $f.2.0$ is 3 feet $4\frac{1}{4}$ inches to 3 feet $7\frac{3}{4}$ inches; with $f.2.8$ the depth is 3 feet $3\frac{3}{4}$ inches to 3 feet $8\frac{1}{2}$ inches.

HOLD KODAK LEVEL

The Kodak should be held level if it is desired to have the vertical lines of the subject parallel with the sides of the picture. Unusual effects can be obtained by tilting the Kodak.

HOLD KODAK STEADY

When making instantaneous exposures or snapshots, hold the Kodak firmly against the face, see page 7, and when pressing the shutter release, hold the breath for the instant. If the Kodak is moved during the exposure, the picture will be blurred.

CLOSING THE KODAK

Before closing the Kodak, *first make sure it is focused for infinity*. Do not attempt to close the camera unless it is focused for infinity. To close the Kodak, press the two buttons 16, page 2, and raise bed 11.

REMOVING THE FILM

After the thirty-sixth exposure has been made (eighteenth exposure with an 18-exposure magazine) push the lever 4, page 5, controlling the clutch, to "R." To rewind the film into the magazine push the brake lever 6 in the direction of the arrow and hold it at that end of the slot, while turning the film rewind knob 5 in the direction of the arrow. Rewinding the film after the thirty-sixth exposure (eighteenth exposure with an 18-exposure magazine) will prevent any possibility of

the film winding too far and tearing loose from the supply spool.

While rewinding the film, a clicking sound is heard caused by the film perforations moving the ratchet next to the take-up reel. When this sound is no longer heard, give a few more turns to the rewind knob. The film is now rewound into the magazine. The magazine should be replaced in the aluminum tube, in which it was originally packed, immediately after removal from the Kodak, to avoid light leaking into the slot.

Important: Film should be developed as soon as possible after exposure. The quality of the image on all sensitized products is retained by prompt development after exposure.

It is a good plan to reload the camera as soon as an exposed film has been removed, to be ready for the next pictures.

KODAK RETINA II FILTERS

There are four filters obtainable for the Kodak Retina II for black-and-white pictures: N-1 Light Yellow, N-2 Medium Yellow, N-3 Green and N-4 Orange. These filters are screwed into the inside flange of the lens mount. The factors for

Kodak Super Sensitive Panchromatic, Kodak Super X Panchromatic and Kodak Panatomic Film are:

Retina II Filter	Daylight	Tungsten
N-1	1.5	1.5
N-2	2.0	1.5
N-3	2.5	1.5
N-4	3.0	

By a filter factor is meant the number of times the exposure must be increased when using a filter.

The N-1 filter is recommended when only a partial correction of color values in a black-and-white negative is desired; the N-2 filter gives a better color correction and the N-3 a full correction with daylight. Write to the Service Department, Eastman Kodak Company, Rochester, N. Y., for a free copy of the booklet "Color Filters and Kodak Films."

The N-4 filter should be used only for cutting haze when making a distant landscape.

Use the No. 5 Kodachrome Filters with Kodachrome Film, see directions included with the film.

The No. 5 Kodak Sky Filter, Diffusion Portrait Attachment and Pictorial Diffusion Disk can be used with the Kodak Retina II.

KODAK RETINA II PORTRAIT ATTACHMENTS A, B, AND C

While this Kodak can be focused for subjects as close as $3\frac{1}{2}$ feet, permitting the obtaining of head and shoulder portraits, it can be focused for much closer distances when the Kodak Retina II Portrait Attachments are used.

By using the Kodak Retina II Portrait Attachments, large images of flowers and similar "still life" subjects can be obtained. For the best results when making pictures of subjects at short distances, it is advisable to use the $f.8$ or a smaller stop opening.

Screw the Attachment into the lens mount. When making a horizontal picture, center the subject in the finder; then tilt the camera up *slightly*. When making a vertical exposure, the finder should not be used, as the short distances at which the subject must be from the lens make it necessary to center the subject by eye instead of by the finder. This is done by sighting over the top of the camera, the eye being very close to the camera.

The subject must be at one of the distances from the Kodak given in the table below and those on page 21, depending upon which Attachment is used. Measure the distance carefully from the lens to the subject, and move the focusing knob 14, page 10, until the correct figure is at the focusing indicator, according to the table.

The same exposure is required as without the Attachment.

The front of the Kodak Retina II Portrait Attachment Mounts are threaded so that a color filter can be screwed into the front of the Attachment.

KODAK RETINA II PORTRAIT ATTACHMENT A

WITH THE FOCUS SET AT	DISTANCE SUBJECT TO LENS	SIZE OF SUBJECT SHOULD NOT EXCEED
3½ feet	20 inches	8½x13 inches
4 "	22 "	9 x14 "
4½ "	23 "	9½x14¾ "
5 "	24 "	10 x15¼ "
6 "	26 "	10⅝x16 "
7 "	27 "	11½x17¼ "
8 "	28 "	12 x18 "
10 "	30 "	13 x19½ "
12 "	31 "	13⅝x20½ "
15 "	33 "	14¼x21½ "
25 "	35 "	15⅜x23 "
50 "	38 "	16⅝x25 "
Inf.	40 "	17¾x26⅝ "

KODAK RETINA II PORTRAIT ATTACHMENT B

WITH THE FOCUS SET AT	DISTANCE SUBJECT TO LENS	SIZE OF SUBJECT SHOULD NOT EXCEED
3½ feet	16 inches	6½x10½ inches
4 "	17 "	7 x11 "
4½ "	17½ "	7½x11½ "
5 "	18½ "	8 x12 "
6 "	19 "	8¼x12½ "
7 "	20 "	8½x13 "
8 "	20¾ "	9 x13½ "
10 "	21½ "	9¼x14 "
12 "	22 "	9½x14¼ "
15 "	23 "	10 x14¾ "
25 "	24 "	10½x15½ "
50 "	25 "	11 x16½ "
Inf.	26 "	11¼x17 "

KODAK RETINA II PORTRAIT ATTACHMENT C

WITH THE FOCUS SET AT	DISTANCE SUBJECT TO LENS	SIZE OF SUBJECT SHOULD NOT EXCEED
3½ feet	11⅜ inches	4⅞x 7¼ inches
4 "	11⅞ "	5 x 7½ "
4½ "	12⅛ "	5⅛x 7¾ "
5 "	12⅜ "	5¼x 7⅞ "
6 "	12¾ "	5½x 8⅛ "
7 "	13⅛ "	5⅝x 8⅜ "
8 "	13⅜ "	5¾x 8½ "
10 "	13¾ "	5⅞x 8¾ "
12 "	14 "	6 x 9 "
15 "	14¼ "	6⅛x 9¼ "
25 "	14⅞ "	6¼x 9½ "
50 "	15⅛ "	6½x 9¾ "
Inf.	15½ "	6¾x10 "

EXPOSURE TABLE FOR INTERIORS USING STOP f.5.6

	BRIGHT SUN	HAZY SUN	CLOUDY BRIGHT	CLOUDY DULL
White walls and more than one window.	$\frac{1}{2}$ sec.	1 sec.	3 secs.	5 secs.
White walls and only one window.	$\frac{3}{4}$ sec.	2 secs.	4 secs.	8 secs.
Medium colored walls and furnishings and more than one window.	1 sec.	3 secs.	5 secs.	10 secs.
Medium colored walls and furnishings and only one window.	$1\frac{1}{2}$ secs.	4 secs.	8 secs.	15 secs.
Dark colored walls and furnishings and more than one window.	2 secs.	5 secs.	10 secs.	20 secs.
Dark colored walls and furnishings and only one window.	5 secs.	10 secs.	20 secs.	40 secs.

These exposures are for rooms where windows get the direct light from the sky and for hours from three hours after sunrise until three hours before sunset. If earlier or later the exposures must be longer.

EXPOSURE TABLE FOR INTERIORS

The table on page 22 gives suitable exposures when using stop $f.5.6$.

With stop $f.2.0$	give	one-eighth;
" "	$f.2.8$	" one-quarter;
" "	$f.4$	" one-half;
" "	$f.8$	" twice;
" "	$f.11$	" four times;
" "	$f.16$	" eight times

the exposure given in the table on page 22.

CLEANING THE LENS

It is well to wipe the front and back of the lens with Lens Cleaning Paper or a clean handkerchief before using the camera. Never remove the lens.

SERVICE DEPARTMENT

For further information on any photographic subject, do not hesitate to write to our Service Department. *There is no charge, no obligation.*

EASTMAN KODAK COMPANY
ROCHESTER, N. Y., U. S. A.

OUTDOOR EXPOSURE GUIDE

SUBJECT	STOP OPENING	SHUTTER SPEED
Near-by landscapes with little or no sky. Near-by subjects in open field, park or garden. Street scenes.	<i>f.5.6</i>	1/100
Ordinary landscapes with sky, and a principal object in the foreground.	<i>f.8</i>	1/100
Marine and beach scenes. Extremely distant landscapes. Mountains. Snow scenes without prominent dark objects in the foreground.	<i>f.11</i>	1/100
	<i>f.8</i>	1/250
Candid portraits in the open shade, not under trees or the roof of a porch. Shaded near-by scenes.	<i>f.2.0</i> or <i>f.2.8</i>	1/250 or 1/100
	<i>f.4</i>	1/100
Moving objects: When photographing a moving object such as a runner, train or an automobile, the subject should be traveling towards or away from the camera at an angle of about 45 degrees.	<i>f.2.0</i> or <i>f.2.8</i>	1/500 or 1/250

Exposures are for the hours from one hour after sunrise until one hour before sunset on days when the sun is shining. If pictures are made earlier or later, or if it is a *slightly* cloudy or hazy day, use a larger stop opening. The above exposure table is for use with Kodak Panatomic Film. Kodak Super X Panchromatic Film is twice as fast as Kodak Panatomic Film by daylight, if the films are developed in Developer D-76. For Kodachrome Film follow the exposure guide supplied with the film; do not use the above guide.

Kodak Super X Panchromatic Film is about fifty per cent faster than Kodak Super Sensitive Panchromatic Film.