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# Kodak Retina IIa Camera

**RETINA — XENON *f*/2 LENS · SYNCHRO-COMPUR SHUTTER**



# DETAILS

## FILM
NEGATIVE SIZE—24 x 36mm
FILM—Kodak 135: 20- or 36-exposure

## LENS
SCHNEIDER RETINA—XENON—Coated 50mm *f*/2
LENS OPENINGS—*f*/2, *f*/2.8, *f*/4, *f*/5.6, *f*/8, *f*/11, *f*/16

## SHUTTER
SYNCHRO-COMPUR—Cocked by film advance lever
SPEEDS—1, 1/2, 1/5, 1/10, 1/25, 1/50, 1/100, 1/250, 1/500 second, and "B"
FLASH—Built-in synchronization for Class F, M, and Speedlamp

## FOCUSING AND VIEWING
COUPLED RANGE FINDER—Superimposed image
VIEW FINDER—Optical, eye-level, combined with range finder
FOCUSING RANGE—3½ feet to infinity

## DOUBLE-EXPOSURE PREVENTION—Automatic

## FILM ADVANCE LEVER—Advances film and cocks shutter with one stroke
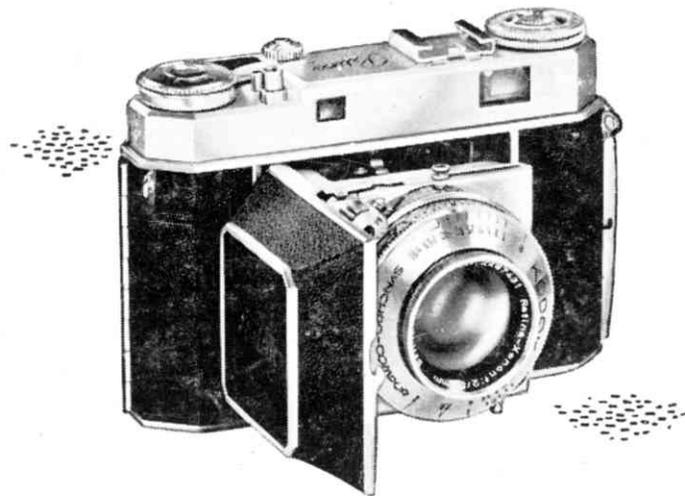
## CONSTRUCTION
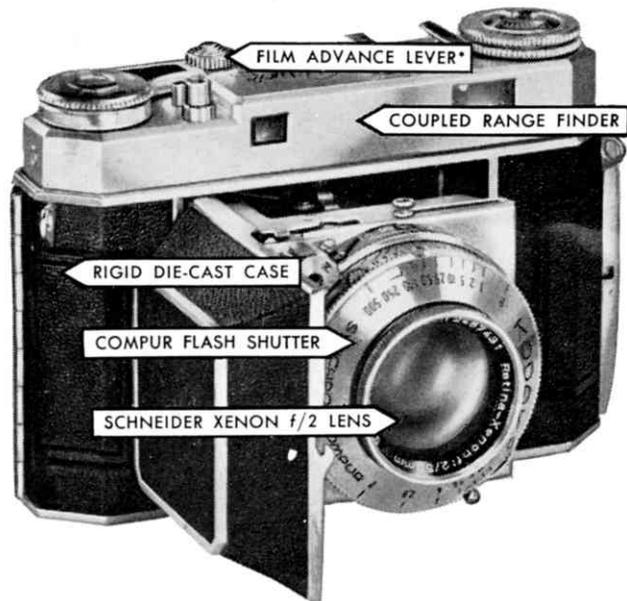BODY—Die-cast—Black leather covered
TRIPOD SOCKET—Standard American thread

## COMBINATION LENS ATTACHMENTS
No. 29 Kodak Adapter Ring or the 1¼-inch Kodak Adapter Ring, Series VI; Series VIA Lens Hood

FILM ADVANCE LEVER*

COUPLED RANGE FINDER

RIGID DIE-CAST CASE

COMPUR FLASH SHUTTER

SCHNEIDER XENON f/2 LENS

**\*important:** The film advance lever advances the film and cocks the shutter; *it should not be forced.* It locks when the counter is set at 1, also when the film has been advanced but not exposed.

*SERIAL NUMBER* — for positive identification — is located in front of the accessory clip; keep a record of this number. The prefix ''EK'' is used to designate those Retina Cameras imported by the Eastman Kodak Company. Be sure to fully describe your camera, including the full serial number with prefix when corresponding about it. Be sure to save the Certificate of Import and Ownership included with your camera.

# Kodak Retina IIa Camera

## table of contents

T. M. REG. U. S. PAT. OFF.

• To get the most from your camera, take time to get acquainted with it. Follow the directions carefully, practicing with your camera as you go along. This is a precision instrument, never force anything; if something does not work smoothly, review the instructions about its operation.

Before making any important pictures—a trip, some special event, or any pictures expected to prove valuable— you should shoot a roll or two of film and take a few flash pictures. This will

## introduction

give you practice and will provide a check on your equipment. If you have any questions, your Kodak dealer will always be glad to help you in any way he can.

**note**: Like any fine lens, this lens should be cleaned with care. To clean the front or back surface, first brush away any grit or dust. Then wipe the surface gently with Kodak Lens Cleaning Paper or a soft, lintless cloth. If moisture is necessary, breathe on the lens or use Kodak Lens Cleaner.

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**To open the camera**
. . . press the OPENING BUTTON and pull down the front until it locks.

**To close the camera**
. . . this camera cannot be closed if it is focused for anything but infinity. Be sure the focusing knob is pushed clockwise, as you face the lens, as far as it will go; then squeeze the two CLOSING BUTTONS while closing the bed.

# the key to good pictures

### Your Camera A B C's:

When you press the exposure button to take a picture, light goes through the lens to make an invisible image of the subject on the film.
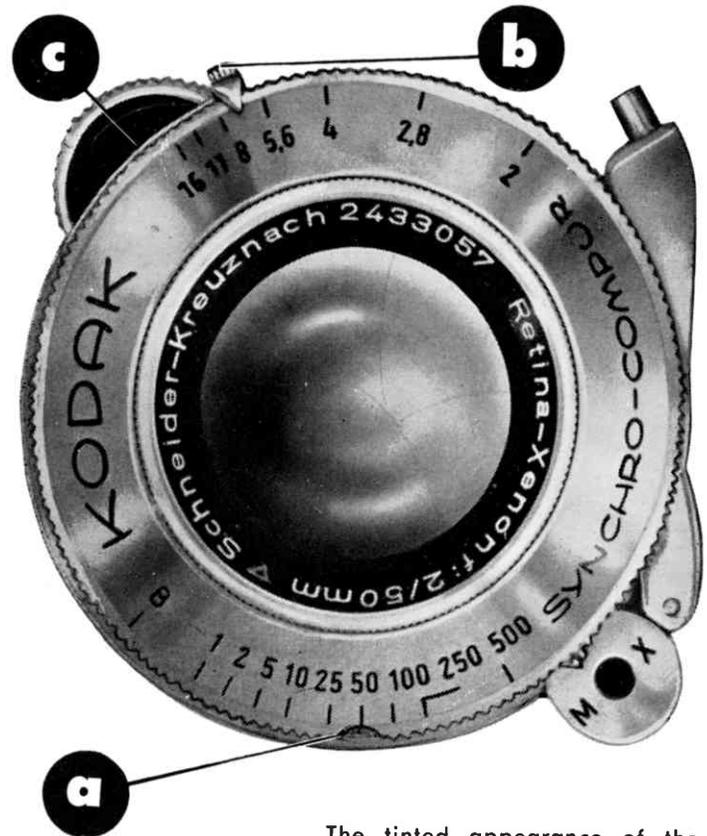
## a

By turning the knurled shutter speed ring, "a," you control the *length of time* the film is exposed to this light.

## b

By moving the lever, "b," to one of the settings on the lower scale, you change the *amount* of light reaching the film.

## c

By moving the focusing knob, "c," until the double image in the range finder becomes superimposed, you control the *sharpness* of the picture.

The tinted appearance of the lens is due to a special coating which improves the brilliance of black-and-white pictures and the color purity of full-color pictures.

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## standard settings
## for simple snapshots

For snapshots of average subjects in bright sunlight, use the following settings:

### With Kodachrome Film Daylight Type:

Set "a" (shutter speed) on 50 (1/50 second).
Set "b" (lens opening) between $f/5.6$ and $f/8$.
Set "c" (focus) to bring the small circle, near the 10-foot mark, to the focusing index for subjects in the 7- to 15-foot range. For subjects 13 feet and beyond, bring the small circle, near the 25-foot mark, to the focusing index.

### With Kodak Plus-X Film:

Set "a" (shutter speed) on 50 (1/50 second).
Set "b" (lens opening) on 11 ($f/11$).
Set "c" (focus) to bring the small circle, near the 10-foot mark, to the focusing index for subjects in the 6- to 25-foot range. For subjects 10 feet and beyond, bring the small circle, near the 25-foot mark, to the focusing index.

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## a shutter speed

Turn the knurled shutter speed ring to bring the RED DOT opposite the required shutter speed. The following speeds are provided: 1, 1/2, 1/5, 1/10, 1/25, 1/50, 1/100, 1/250, and 1/500 second. "B" exposures can also be made; see page 21.

The shutter is cocked automatically when the film is advanced.

Do not change the shutter setting from 1/250 to 1/500 or vice versa *when the shutter is cocked.*

A tripod or other firm support should be used for speeds slower than 1/25 second.

*Note:* Never oil the shutter or camera mechanism.

## b lens opening

Move the LENS OPENING LEVER across the scale, illustrated on page 8, to regulate the amount of light reaching the film. This lever click stops at each opening. By pressing down on it, the lever is easier to move.

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LENS OPENING LEVER

The opening is largest when the lever is set at 2 (f/2) and smallest when set at 16 (f/16). Each succeeding larger opening lets through twice the light of the one before; for example, f/8 lets through twice the light of f/11, and f/11 lets through twice the light of f/16.

The shutter speed and lens opening work together to give the right exposure. Exposure tables are on pages 28 and 29.
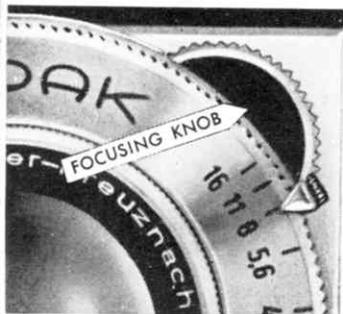
## c  focusing

The range finder of this camera is coupled to the lens. Moving the FOCUSING KNOB until the two images in the range finder coincide focuses the camera.

FOCUSING KNOB

Carefully look through the view-and-range finder opening and you will see that part of the picture is clear and part is tinted. When the camera is out of focus, the tinted image is separate from the clear image, forming a double image of the subject. Move the focusing knob until the two images coincide to become a single image. The range finder can be used only on still subjects.

To focus the camera without using the range finder, estimate the distance by eye; then move the focusing knob to bring the proper distance to the FOCUSING INDEX. The numbers on the FOCUSING SCALE represent the camera-to-subject distance in feet. When using infrared film, use the red dot for the index instead of the regular index.

The two small circles on the focusing scale are for the two standard settings described on page 6.



FOCUSING INDEX

FOCUSING SCALE

8

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## Kodak Films

### Use Kodak 135 Film

For beautiful color—use Kodachrome Film—Daylight Type outdoors, Type A with flood or flash, 20 or 36 exposures.

With full-color Kodachrome you can capture the vivid colors of an autumn landscape, of spring flowers, of gaudy carnivals . . . or the gay colors at a children's garden party, a picnic, a cherished holiday . . . or the delicate colors of that infant son or daughter. Yes, with color there are new fields to conquer.

Kodachrome Film is sent to Kodak for processing at no extra cost. It is returned to you as 2 x 2-inch mounted transparencies (unless otherwise specified) which can be viewed by transmitted light, projected as slides, and from which color prints can be made. See your Kodak dealer for *full-color Kodacolor Prints and Enlargements at moderate prices.*

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**For high-quality enlargements**

. . . use Kodak Plus-X Panchromatic Film—fine grain and high resolving power permit high-quality enlargements. An excellent film for general outdoor and well-lighted interior use. 20 or 36 exposures.

**For poor light**

. . . use Kodak Super-XX Panchromatic Film—very high speed makes this an ideal film to use with artificial light. 20 or 36 exposures.

**For fine-grain copying**

. . . use Kodak Micro-File Film—an extremely fine-grain, slow, panchromatic film for copying printed matter, maps, documents, etc. 36 exposures.
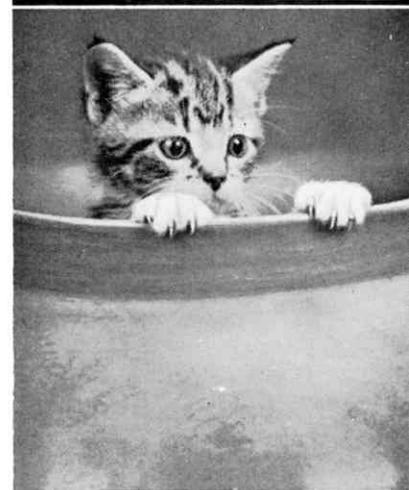
## loading

Load the camera in subdued light, never in bright light. Kodak 135 Film is contained in a lighttight magazine. *Rewind the film into this magazine after the exposures have been made and before the camera back is opened.* Various Kodak 135 Films are described on pages 10 and 11.

**1.** Lift the lock and open the camera back.

**2.** Turn the knurled edge of the counter in the direction of the arrow to bring the diamond near 36 to the index mark for a 36-exposure magazine. Bring the diamond near 20 to the index mark for a 20-exposure magazine. The counter will move a mark every time the film is advanced. *It will always show the number of exposures REMAINING on the film.*
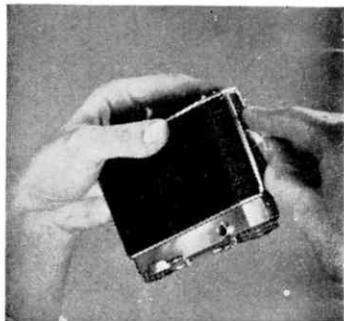
**3.** Draw out the film REWIND KNOB as far as it will go. Insert the film magazine in the recess under the rewind knob. The end of the magazine containing the crosspiece goes toward the rewind knob. Push in the rewind knob and turn it to engage the slot with the crosspiece in the magazine.

**4.** Insert the end of the film leader in the slot of the take-up reel. Do not try to remove this reel from the camera. Give the flange of the reel a turn with the thumb until the film is wrapped once around the reel.

**5.** Continue to turn the flange of the reel with the thumb, until the first or second perforation on the edge of the film toward the *top* of the camera is engaged by one of the sprocket teeth. The teeth of the sprockets must fit in the holes in the
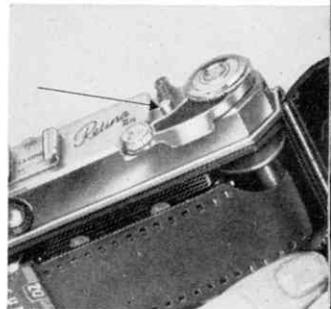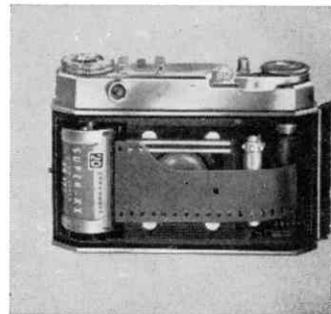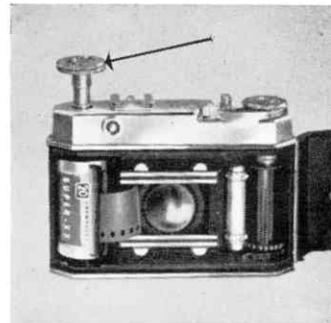
film. Close and lock the camera back.

**6.** Press and release the film lever button (arrow in 5); then operate the film lever. *Do this 3 times.* Be sure to make a complete stroke with the lever; then let it fly back to its original position. After winding three times the first frame of film is in place and 36 or 20 on the film counter is in position. Advancing the film also cocks the shutter.

**7.** Rotate the film-type indicator with the ball of the thumb to bring the name of the film opposite the index.
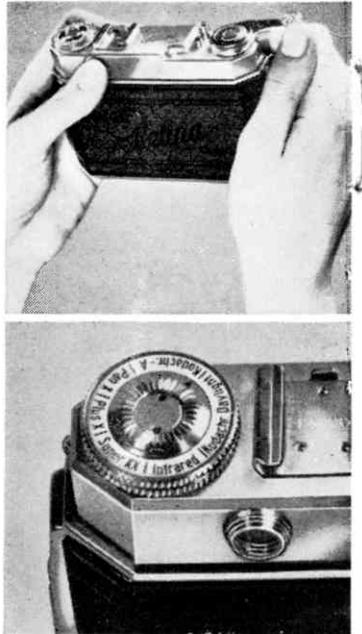
Note: When the figure 1 on the film counter reaches the index, make the last exposure. The film lever is locked and the film should be rewound into the magazine (see page 17). If the film lever locks at any time, *do not force it* but check the counter to see if it is set at 1. Move the counter off 1 to release the film winding mechanism.

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## holding the camera

Hold the camera as shown below. Either position is comfortable and practical; you can hold the camera remarkably steady while you squeeze the exposure button to take the picture.

## using the view finder

Steady the camera against your face. Focus the camera as described on page 8. Place the rear of the finder close enough to the eye so that the entire front frame can be seen. Compose the picture, moving the camera and your head together.

15
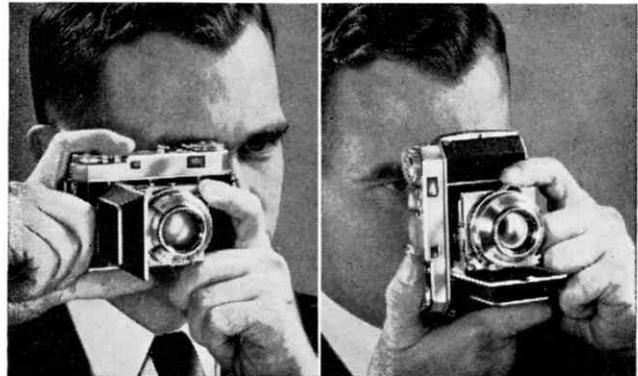
## taking the picture

**1.** Make the lens and shutter settings.



**2.** Cock the shutter and advance the film° with a single full stroke of the film advance lever.

**3.** Focus and compose the picture in the finder.

**4.** Make the exposure. Hold the camera steady; it's a good idea to hold your breath while you s-q-u-e-e-z-e the exposure button.

°When the exposure button is depressed, the film lever is released. It is necessary to press and release the film lever button *only* when you wish to advance film without having pressed the exposure button (as in loading).

After the 20th or 36th exposure has been made, and the counter is at 1, the film advance lever will lock; rewind the film and unload the camera (page 17). *Do not open the back of the camera until the film has been rewound into the film magazine,* or the film will be fogged.

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## unloading

When the last exposure has been made, the counter will be at 1 and the film lever will lock. Pull out the rewind knob halfway, press the REWIND BUTTON as far as it will go, and turn the rewind knob in the direction of the arrow. Continue turning the rewind knob until the rewind button stops turning. The film (except for an inch or two of leader strip) is now back in the magazine. Now open the back; pull out the rewind knob as far as it will go; remove the magazine.

It's a good idea to get your exposed film processed promptly. The Kodacraft Miniature Roll-Film Tank makes it easy to develop your own black-and-white film.

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## flash pictures

. . . are easy and lots of fun to make with this camera. Flashing of the lamp is controlled by the synchro feature of the shutter. Class F or M flash lamps can be used as well as speedlamps. The Kodak B-C or the Kodak Standard Flasholder and fresh batteries are all the extra equipment you need for flash shots. If *photoflash* batteries are not available, flashlight batteries can be used. The batteries should test at least 5 amperes.

The flasholder is attached by screwing the thumbscrew on the standard bracket into the tripod socket of your camera. Be sure to slip the Kodak Single-Post Flasholder ADAPTER, supplied with your camera, on the FLASH POST before attempting to connect the flasholder cord to the flash post.

### Using Class F Lamps*, such as SM or SF

. . . set the synchronizer SELECTOR on "X," set the shutter speed at any speed up to and including 1/100, cock the shutter with the film advance lever, and snap the picture.

### Using Class M Lamps*, such as No. 5 or No. 25

. . . set the synchronizer SELECTOR on "M," select any shutter speed up to and including 1/250, cock the shutter, and snap the picture.

### Using Speedlamps

. . . connect a Kodatron Speedlamp (or similar equipment with no lag in the trip circuit) to the flash post, using the adapter. 19

*Be sure the bottom of the lamp base is clean and bright before inserting the lamp in the flasholder. If the contact point is tarnished, rub it on a rough surface.

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SELECTOR

ADAPTER

FLASH POST
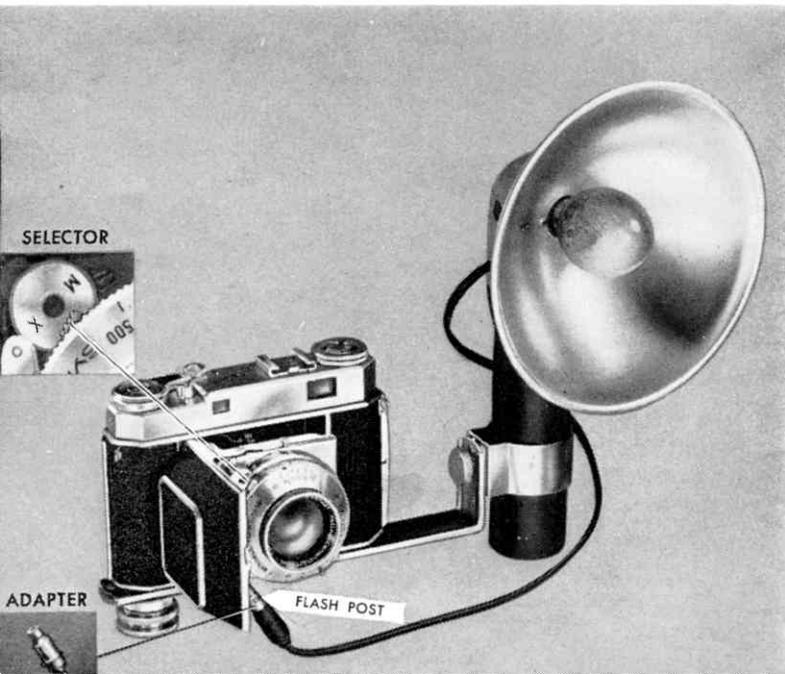
Set the synchronizer selector on "X," select a shutter speed, cock the shutter, and snap the picture.

The light will flash when the shutter blades are open at all shutter speeds.

**note:** Do not use units flashed by means of heavy-duty relays or solenoids. Such units may completely destroy the shutter contacts.

### Supplementary Flash—Outdoors

. . . blue flash bulbs are used with Daylight Type color films to reduce excessive contrast with back- or side-lighted subjects in bright sun. With selector on M use No. 5B or No. 25B flash lamps. A lamp-to-subject distance of 8½ feet gives good contrast. Use the basic exposure for subjects in bright sunlight.

Flash exposure data are given on page 28, and on the reflector of the Kodak Flasholders.

**caution:** Since lamps may shatter when flashed, the use of a Kodak 2-way Flashguard or other shield over the reflector is recommended. Do not flash the lamps in an explosive atmosphere.

Do not insert flash lamps in the reflector if the shutter is open—the lamp will flash and a serious burn may result.

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## time exposures

. . . enable you to take pictures at night outdoors or indoors of still subjects, using the existing light. Night pictures can add variety to your picture collection.

The "B" setting enables you to keep the shutter open for as long as required. Place the camera on a tripod or other firm support. *Both camera and subject must be still during the exposure.*

To make a "B" exposure, the focus and lens opening having been set, set the shutter on "B," cock the shutter by operating the film advance lever, press the exposure button, hold it down for the exposure time required, and release the button to close the shutter. The Kodak TBI Metal Cable Release No. 2, available from your Kodak dealer, can be used to hold the shutter open for as long as required.

21
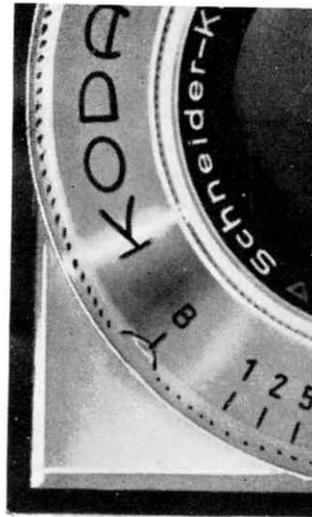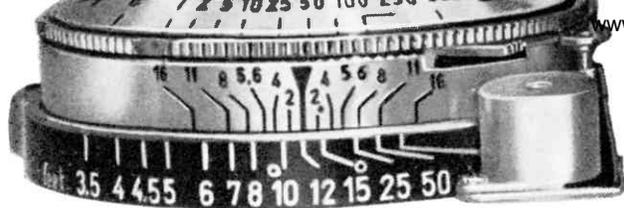
## depth of field

Objects some distance in front of and beyond the subject focused on will be sharp. This depth of field varies with the lens opening used; the smaller the lens opening, the greater the range of sharpness.

Your camera is equipped with a depth-of-field scale so that you can read this range of sharpness easily before you take each picture. The focusing scale combined with the lens opening numbers engraved on the shutter barrel each side of the focusing index comprise the depth-of-field scale.

The following example shows you how to read this scale: Subject is 12 feet away, exposure calls for a lens opening of f/8.

Set the focusing scale with 12 opposite the focusing index. Look for the number 8 on each side of the index. The one on the right is opposite 25 and the one on the left is near 8. Therefore, all objects between about 8 and 25 feet will be sharp.

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## Kodak combination lens attachments

Series VI with the Series VIA Lens Hood are used with this camera. The VIA Lens Hood must be used to allow clearance of the camera bed.

All items fit the Kodak Adapter Ring No. 29, or the 1¼-inch Kodak Adapter Ring.

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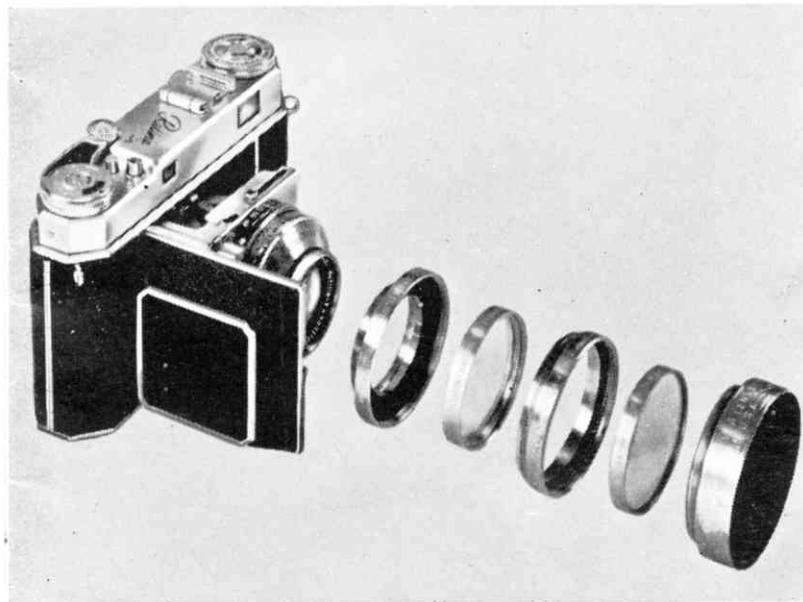
To assemble a filter or Portra Lens in the ring, unscrew and remove the insert; then place the filter or lens in the ring; replace the insert. The Kodak Lens Hood can be used in place of the insert. If a Portra Lens and a filter or a Pola-Screen are to be used together, a Kodak Retaining Ring is also necessary.

The Kodak Wratten Filters K2, A, X1, and G are used for darkening the sky and are used with panchromatic films; *do not use these filters with color film.*

### Filters for Kodachrome Film

Kodachrome pictures made in open shade under a clear blue sky, or on overcast or hazy days will be improved if a *Kodak Sky-light Filter* is used.

If the *Kodak Daylight Filter for Kodak Type A Color Films* is used, Type A film can be used in daylight.

### Kodak Standard Flasholder

—converts your Retina to a flash camera. It's light, rugged, and dependable. A guide on

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the reflector tells you instantly how to set your camera for flash.

### Kodak Ektalux Flasholder

—is adapted to all types of flash picture-taking. The built-in battery-condenser system assures dependable lamp-firing and longer battery life. The Ektalux uses either midget or medium-base lamps and offers accessories that greatly expand the versatility of flash work with your camera.
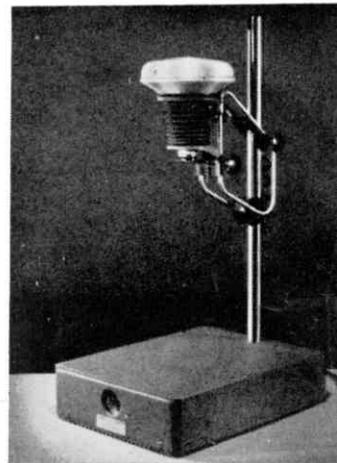
### Kodaslide Projectors

— are made in two outstanding models: the low-priced but very efficient Koda-slide Merit Projector, and the power-cooled Kodaslide Projector Master Model. Both models have precise optical systems, and Lumenized projection lenses, to provide brilliant pictures.

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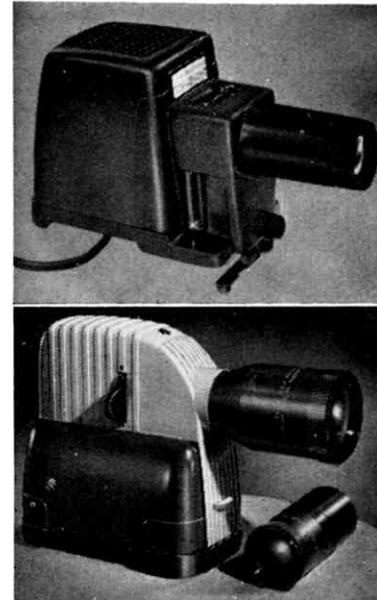
**Kodak Flurolite Enlarger**

. . . for those who appreciate fine equipment and who take pride in turning out first-quality enlargements. Features fluorescent, integrated illumination.

**Kodaslide Table Viewer 4X and Model A Series 2**

. . . These compact, lightweight, efficient viewers provide everything necessary for projecting your slides in a normally lighted room. They are easy to carry and easy to use. Just plug them into the electric line and feed the slides through them.

**Kodak Auto-Release**

. . . A delayed-action device that trips the shutter about 10 seconds after it is set. It is used with the Kodak Metal Cable Release No. 5.

**EASTMAN KODAK COMPANY**

Rochester 4, New York

# EXPOSURE TABLES

## flash guide numbers

### With Kodak B-C or Standard Flasholder and Lumaclad Reflector

*Exposure guide numbers* can be used to determine exposure. Divide the numbers in the table below by the distance in feet from lamp to subject to find the *f*-number. For example, using Kodachrome Film Type A with a No. 5 or 25 lamp, and the shutter set at 1/100 with the subject 5 feet away, the correct lens opening would be 60 ÷ 5 = 12 (set the lens opening lever to *f*/11).

| LAMP | SM or SF | | No. 5 or 25 | | | |
|---|---|---|---|---|---|---|
| SHUTTER SPEED | B to 1/50 | 1/100 | B to 1/25 | 1/50 | 1/100 | 1/250 |
| Kodachrome Type A | 55 | 50 | 80* | 70* | 60* | 45* |
| Kodak Plus-X | 85 | 75 | 150 | 140 | 120 | 90 |
| Kodak Super-XX | 120 | 110 | 220 | 200 | 170 | 130 |
| Kodachrome Daylight Type with blue No. 5B or 25B lamp | | | 50 | 45 | 40 | |

*With Kodak Flash Filter No. 81C.
With satin-finished reflector, use ½-stop larger.

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## flash distance table

With flash as the main light source, the lens opening depends on the lamp-to-subject distance. In this table, the correct lens opening is shown for various distances. Use this table with the Kodak Standard or B-C Flasholders with the Lumaclad Reflector.

**Kodachrome Film Type A**      **Shutter at 1/50 second**

| No. 5 or 25 lamp* | | | | | | |
|---|---|---|---|---|---|---|
| f/2 | f/2.8 | f/4 | f/5.6 | f/8 | f/11 | f/16 |
| 35 ft | 25 ft | 17 ft | 12 ft | 9 ft | 6½ ft | 4½ ft |

*With Kodak Flash Filter No. 81C

| SM or SF lamp | | | | | | |
|---|---|---|---|---|---|---|
| f/2 | f/2.8 | f/4 | f/5.6 | f/8 | f/11 | f/16 |
| 28 ft | 20 ft | 14 ft | 10 ft | 7 ft | 5 ft | 3½ ft |

## supplementary flash with color films

In bright sunlight lighting contrast is often excessive. More pleasing results can be obtained by lighting the shadows with blue flashlamps. As the amount of fill-in light is a matter of personal preference, ranges are given. Use these settings for front, side, or back lighting.

**Kodachrome Film Daylight Type**

| blue No. 5B or 25B lamp | | |
|---|---|---|
| 5 to 10 feet | 6 to 12 feet | 8 to 16 feet |
| 1/25 between f/8 and f/11 | 1/50 between f/5.6 and f/8 | 1/100 between f/4 and f/5.6 |