flash guide

To calculate the lens opening, divide the exposure guide number by the lamp-to-subject distance in feet.

THE SELF-TIMER

If you wish to include yourself in a picture, first operate the rapid wind lever; then set the selector pointer to V. Start the self-timer mechanism by pressing the exposure release. The shutter will go off after about 10 seconds; you therefore have sufficient time to take your place in the picture.

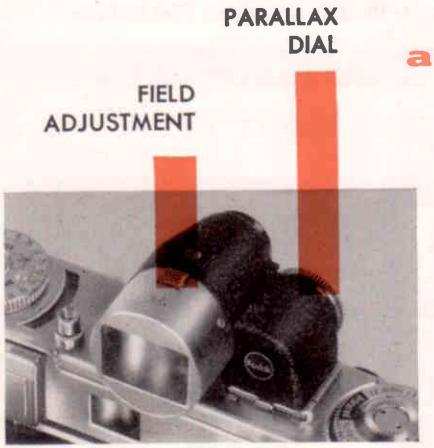
If you use the self-timer for flash shots, the camera works with the X-synchronization. As the self-timer runs down, the synchronizing lever automatically moves to X. Be sure to use the correct shutter speed setting for X-synchronization, (see table).

Flash Exposure Guide Numbers for Kodak Retina IIIc with Kodak Standard Flasholder

Lamps	Selector	Shutter Speed	Plus-X	Super-XX	Tri-X	Kodachrome Type A	Ektachrome Type F
SM-SF	"X"	Open to 1/30	85	120	160	55	
		1/60	80	120	160	50	
		1/125	75	100	150	45	
No. 5 or No. 25	"M"	Open to 1/30	150	220	300	80*	120
		1/60	130	190	270	70*	100
		1/125	110	150	220	55*	85
		1/250	85	120	170	40*	65
		1/500	60	85	120	30*	45
No. 8	"M"	Open to 1/15	110	150	220	55*	85
		1/30	95	140	190	50*	75
		1/60	90	130	180	45*	70
		1/125	85	120	170	40*	65
		1/250	70	100	140	35*	55

			Kodachrome Daylight Type	Ektachrome Daylight Type
No. 5B or No. 25B	"M"	Open to 1/30	50	80
		1/60	45	70
		1/125	35	55

*With Kodak **Flash Filter No. 81C**



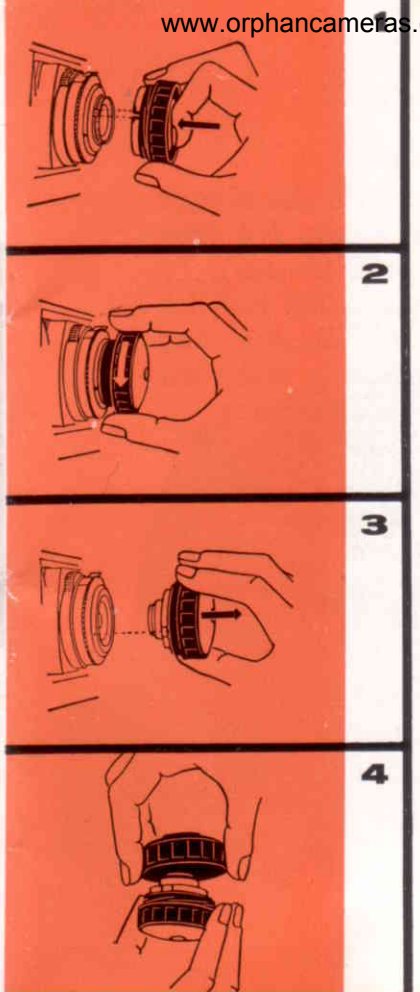
Attach this finder to the camera by sliding the base shoe of the finder into the clip as shown above. Roll the knurled FIELD ADJUSTMENT as far as it will go toward 80 to set the field for the 80mm lens, and toward 35 to show the field for the 35mm lens. The red dot on the adjustment will indicate the finder setting.

Rotate the PARALLAX DIAL until a red figure corresponding to the camera-to-subject distance in feet is at the white index dot. Disregard the chrome figures corresponding to the camera-to-subject distance in meters.

auxiliary interchangeable lenses

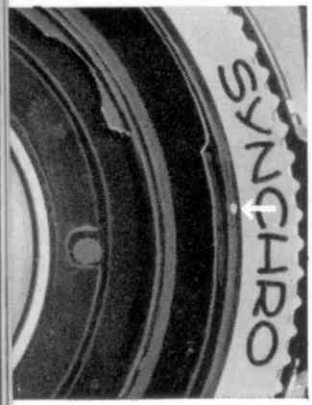
Both an 80mm long-focus lens component, especially suited to portraits and long-range subjects, and a 35mm wide-angle lens component, particularly useful when you wish to cover a wide subject field, are available to widen the scope of your Retina IIIc Camera. The Kodak Retina 35-80 Optical View Finder (for Kodak Retina IIIc and IIc Cameras), shown at the left, is available to show the field of view for both the 35 and 80mm lenses.

The standard lens of your camera is the 6-element, *f*/2, 50mm, Kodak Retina-Xenon C Lens. When the front component of this lens is removed to admit one of the auxiliary lenses, the shutter blades are exposed. Behind the blades is the rear lens component. This forms a complete lens only in combination with the standard, telephoto, or wide-angle lens components specified for this camera. *Change lenses in subdued light.*



The front component of the standard lens is locked in place by a bayonet-type, internal snap-lock mechanism. For removal and storage of the front component, the use of the Kodak Retina 50mm Lens Component Case, a special grip-top container, is recommended. As shown in the illustration, after removing the top of the case, (1) press in the transparent center of the top to bring the grip-insert to its full-open position. (2) Place the insert over the lens rim, press the black outer ring toward the lens as far as it will go to tighten the hold of the grip-insert; then turn counterclockwise. (3) Remove the lens. (4) Without removing the lens from the grip-top, place the bottom of the container over the lens while it is held in the grip-top, engage the threads of the top and bottom of the container, and tighten. The lens can be replaced on the camera by placing the red dot on the lens flange opposite the red dot on the lens opening ring and turning the lens clockwise until the snap-lock engages. *Make sure that the lens is tight.*

telephoto shots



Telephoto effects can be obtained with the Kodak Retina Longar Lens Component, 80mm *f*/4 (for Kodak Retina Cameras with Xenon C Lenses). To attach the lens to the camera, place the red dot exactly opposite the red dot (arrow in illustration) on the lens opening ring; then press in and turn the lens clockwise until the snap-lock engages.

The rangefinder can be used to focus not only the 50mm lens, but also the 80mm or 35mm lens.

To focus the Longar lens, determine the camera-to-subject distance with the camera rangefinder and note the distance figure opposite the index on the focusing scale for the standard 50mm lens. Now, tilt the camera up and look underneath the shutter to find the TELE-SCALE. Then transfer the measured value to the part of the tele-scale marked with chrome figures on black. To do this, turn the focusing knob until the measured distance on the tele-scale is opposite the "T" INDEX mark.

By attaching a Kodak Retina 80mm Auxiliary

Lens (for Kodak Retina Longar Lens Component, 80mm *f*/4) to your telephoto lens, you can also focus the telephoto lens with the rangefinder for distances from 6 feet to 3.5 feet. In that case, transfer the measured distance to the part of the tele-scale with the gold figures on black.

"T" INDEX TELE-SCALE

The rotating ring on the telephoto lens is for indicating depth of field only; the camera cannot be focused with this ring. The distance scale of the ring is engraved in the same colors as the tele-scale as a reminder to set the appropriate scale for correct focus.

CAUTION: Remember that the largest lens opening of your Longar lens is f/4. Therefore, when moving the speed ring, make sure that the lens opening lever does not indicate a larger lens opening than f/4; that is, f/2 or f/2.8. Otherwise the picture will be underexposed.

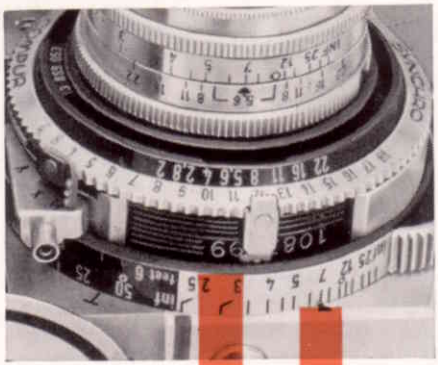
wide-angle shots

CAUTION: Remember that the largest lens opening of your Curtar lens is f/5.6. Therefore, when moving the speed ring, make sure that the lens opening lever does not indicate a larger lens opening than f/5.6; that is, f/4, f/2.8, or f/2. Otherwise the picture will be underexposed.

For wide-angle effects with your camera, use the Kodak Retina Curtar Lens Component, 35mm f/5.6 (for Kodak Retina Cameras with Xenon C Lenses). To attach the lens to the camera, place the red dot opposite the red dot on the lens opening ring; then press in and turn the lens clockwise until the snap-lock engages.

To focus the Curtar lens correctly, get the camera-to-subject distance with the rangefinder and note the distance figure opposite the index on the focusing scale for the standard lens. Now, transfer the distance figure obtained with the rangefinder to the WIDE-ANGLE SCALE (black figures on chrome) by turning the focusing knob to bring the appropriate figure to the triangular WIDE-ANGLE INDEX.

Like the telephoto lens, the wide-angle lens carries a color-keyed scale for indicating depth of field *only*.



WIDE-ANGLE SCALE WIDE-ANGLE INDEX

setting exposures without light values

Shutter speeds and lens openings can also be set without reference to the light value scale. However, the *shutter speed must be set first* and the lens opening after. Otherwise, the lens opening will be changed because of the speed ring coupling.

time exposures

If a meter reading indicates a lens opening-shutter speed combination by which the lens opening lever reaches the limit of its movement when you try to set a small lens opening, you can still take the picture. Simply mount the camera on a tripod and take a time exposure* with the shutter set at B. The green figures on the meter setting ring show the exposure required at the desired lens opening setting. The illustration shows exposures of 2 sec. at *f*/11, 4 sec. at *f*/16, or 8 sec. at *f*/22.

Set the lens opening; then press the exposure release for the correct interval; the shutter is open while the exposure release is depressed.

*The Kodak Metal Cable Release No. 5 screws into the top of the exposure release.

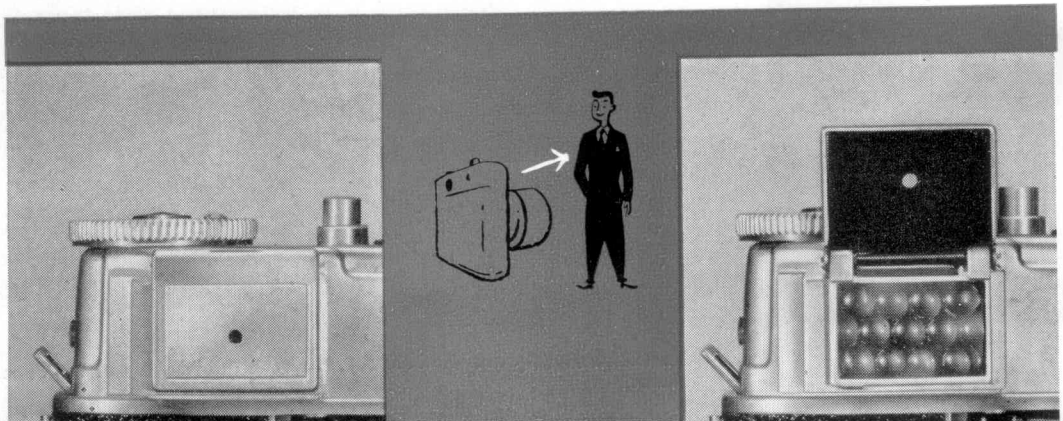
exposure meter

Two ways to use it

The exposure meter of the Retina IIIc can be used in two different ways: for reflected light readings (usual way) and for incident light readings.

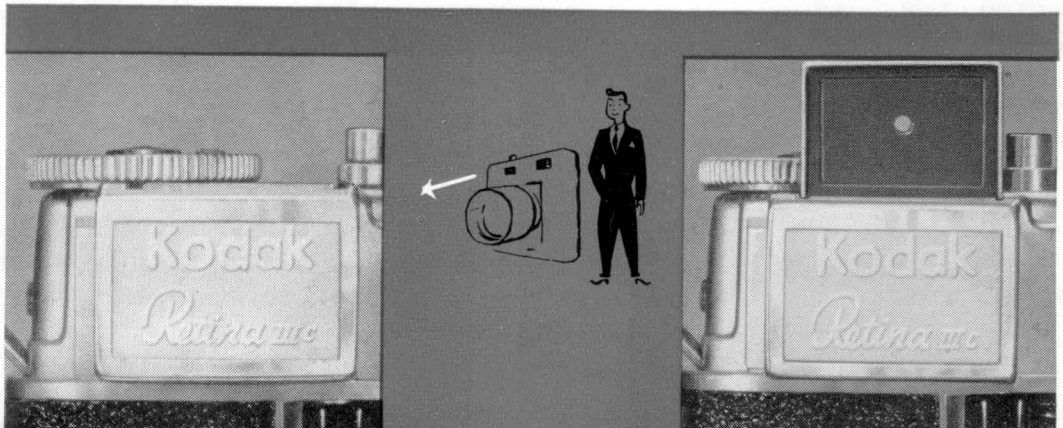
Reflected light readings are taken from the camera position toward the subject as described on page 7. This method is suitable for all subjects without strong contrasts of light and shade and where there is no particularly dark or exceptionally brilliant background or surroundings (sky or water).

1



Incident light readings are taken with the camera pointed from the subject towards the picture-taking position. With this method, the incident light mask must always be fitted over the cell of the exposure meter regardless of whether the cover is opened, or closed as shown below. This method is particularly suitable for determining the light value in against-the-light shots, snow subjects, and close-ups.

2

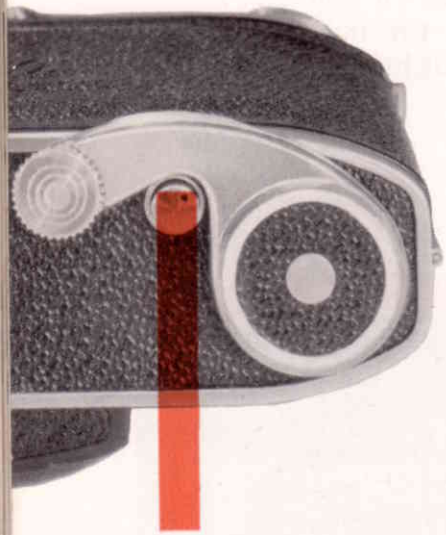


multiple exposures

In normal use of the camera, the interlock system guards against multiple exposure by locking the exposure release after an exposure until the rapid wind lever is actuated; operating this lever also sets the shutter, advances a frame of film, and moves the film counter.

To take an intentional multiple exposure, first make the original exposure; then *press and hold* the CLUTCH BUTTON *while operating* the rapid wind lever. Pressing this button disengages the film advance mechanism but permits the operation of the rapid wind lever to set the shutter. (Use this method also for saving film if flash lamps fail to fire.)

Inasmuch as the film counter is also advanced, one or more frames of film will be available than is shown on the counter. To be able to use these frames of film after the counter reaches 1, thus locking the rapid wind lever, press and hold down the film release button; then press the film

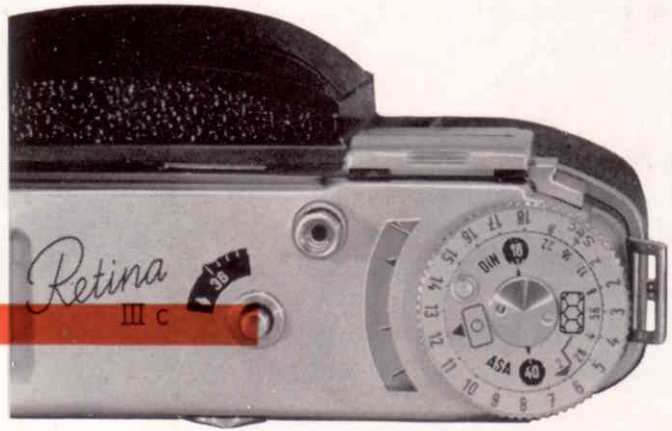


CLUTCH BUTTON

counter advance in the direction of the arrow as many times as is necessary to bring the diamond-shaped mark on the film counter opposite the notch. The rapid wind lever can then be operated.

the film release

The FILM RELEASE button can be used to deal with any blockage of the rapid wind lever that may occur. Just press the film release button; if the lever is locked between the start and end of its swing, it will spring back into place.



FILM RELEASE

a complete system

of photography with the

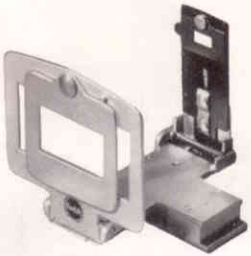
Retina IIIc

Certain auxiliary equipment has been referred to and described previously in the manual. This equipment, and the items that follow are, or soon will be, available to extend the picture-taking scope of your Retina Camera. See your Kodak dealer.

Kodak Combination Lens Attachments. Standard and Curtar Lenses use the No. 29 Kodak Adapter Ring to accept the Kodak Combination Lens Attachments Series VI; Kodak Lens Hood, Series VI-A. The Longar Lens uses the 2⅜ inch (60mm) Adapter Ring to accept the Series VIII lens attachments.

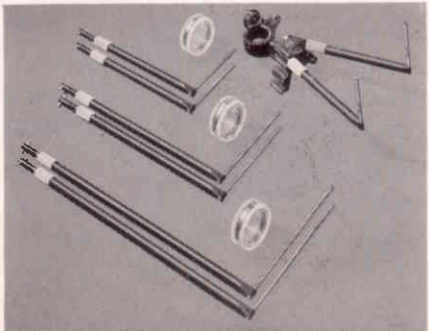
Kodak Retina Field Case Model B (for Kodak Retina IIIc, IIc, and Ib Cameras). Stitchless construction — leather with chrome-finished metal reinforcement — plush lined — pivoting and removable front — adjustable neckstrap. Elastic band inside of top is for storing incident light attachment of exposure meter. To remove front of field case, *slide* attaching button *upward.*

Kodak Retina 50-80 Sports Finder (for Retina IIIc and IIc Cameras). This folding, open-frame finder shows the field covered by the 50 and 80mm lenses. Manual parallax adjustment. 80mm finder frames swing in or out of 50mm frame. Chrome finished. Compact. Supplied in leather case attachable to carrying case strap.

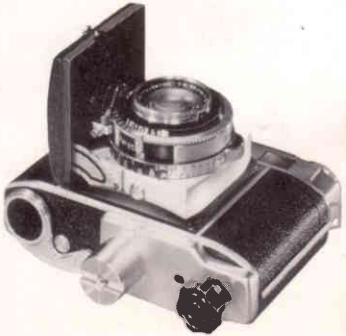


Kodak Retina Close Range and Viewfinder Kit, Model B (for Kodak Retina IIIc, IIc, and Ib Cameras). This kit is used for optically measuring film-to-subject distances, and for determining the precise field covered by the 50mm lens supplemented by the N1, N2, or the combination of the N1 and N2 auxiliary lenses. This extends the focusing range of the Retina Camera down to 11 5/8 inches film-to-subject distance. Supplied complete: Range and viewfinder with two supplementary lenses in fitted case.

Kodak Retina Close-up Kit, Model B (for Kodak Retina IIIc, IIc, and Ib Cameras). This kit measures close distances (11 to 6 inches) and the field sizes mechanically at 4 settings by means of 4 pairs of field guides. The maximum field covered is about 4 x 6 inches. The minimum is about 1½ x 2 inches. The outfit consists of a field guide holder, 4 pairs of field guides, and 3 R-type auxiliary lenses. For use, the kit requires the Kodak Retina Camera Platform, Model B.



Kodak Retina Camera Platform, Model B (for Kodak Retina IIIc, IIc, Ib, and Retinette f/3.5 Cameras). This platform fits the bottom of the camera and provides a tripod socket in the center of the camera base. It is required for using certain auxiliary items of equipment.



Kodak Table Top Camera Stand, Model B. Consists of base, 2-section telescoping column, ball-and-socket head, and right angle head. It provides flexible yet rigid support for miniature cameras from a few inches to about a foot above the base. Can be disassembled.

Kodak Retina Microscope Adapter Kit, Model B (for Kodak Retina IIIc, IIc, and Ib Cameras). Photomicrographs can be made easily with the above outfit. Fits practically all microscopes — eye piece diameter 1 inch. Reduction on the film is 5 to 1. The negatives can be enlarged considerably in excess of 5 times; consequently, microphotographs can be made considerably in excess of the power of the microscope. Exposure is made while watching the specimen through the eye piece. Outfit consists of microscope adapter, clamping ring, and light-value diaphragm locking ring.

DETAILS

FILM

FILM SIZE—Kodak 135, 20- or 36-exposure magazines
NEGATIVE SIZE—24mm x 36mm

LENS—50mm, f/2 Retina-Xenon C, coated, 6 elements. Changeable front component held by bayonet-type snap lock; removable to substitute auxiliary lenses
LENS OPENINGS—f/2, f/2.8, f/4, f/5.6, f/8, f/11, f/16, f/22

SHUTTER

SYNCHRO - COMPUR — Automatically cocked when film is advanced
SPEEDS—1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, 1/500 and "B"
RELEASE—plunger type on top of camera, or Kodak Metal Cable Release No. 5
SELF-TIMER—Built-in, selector at "Y," about 10 seconds delay
FLASH—Built-in synchronization for class F, M, and electronic flash

EXPOSURE METER—Integral part of camera. Element is moisture sealed. Reads reflected and incident light (with mask)

FOCUSING AND VIEWING

COUPLED RANGE FINDER—Superimposed image type
VIEWFINDER — Optical, projected view-frame type combined with range finder
FOCUSING RANGE—2½ feet to infinity

DOUBLE EXPOSURE PREVENTION—Automatic; multiple exposures possible

RAPID WIND LEVER—Advances film and sets shutter with one stroke

CONSTRUCTION

BODY—Die-cast aluminum alloy, black leather covered
TRIPOD SOCKET—In camera base, standard American thread
SERIAL NUMBER—On top of Camera, behind accessory clip

Combination Lens Attachments — Series VI, Kodak Adapter Ring No. 29 with standard or wide-angle lens. Series VIa Lens Hood. Series VIII 2⅜-inch Kodak Adapter Ring with telephoto lens

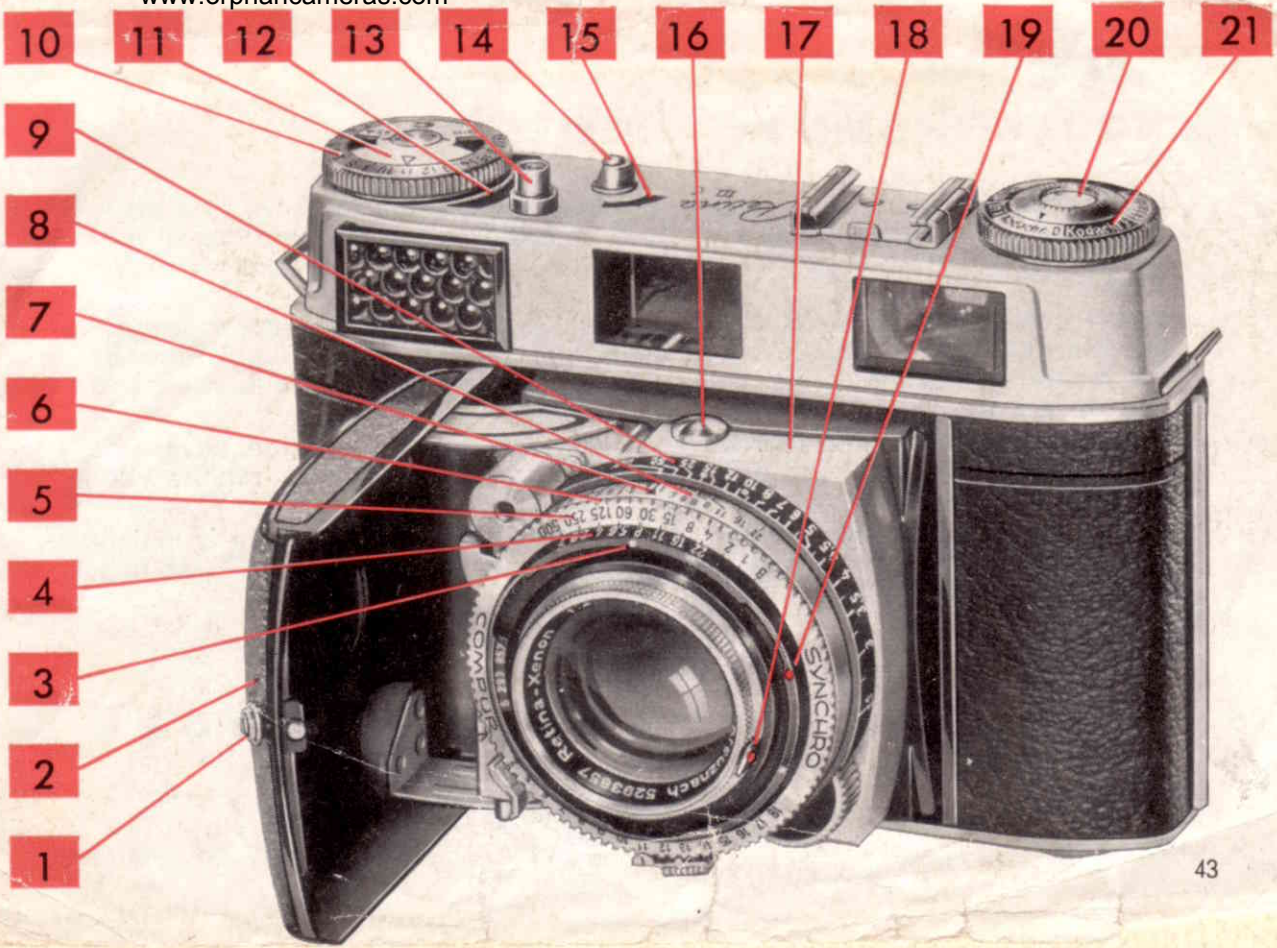
EASTMAN KODAK COMPANY • ROCHESTER 4, NEW YORK

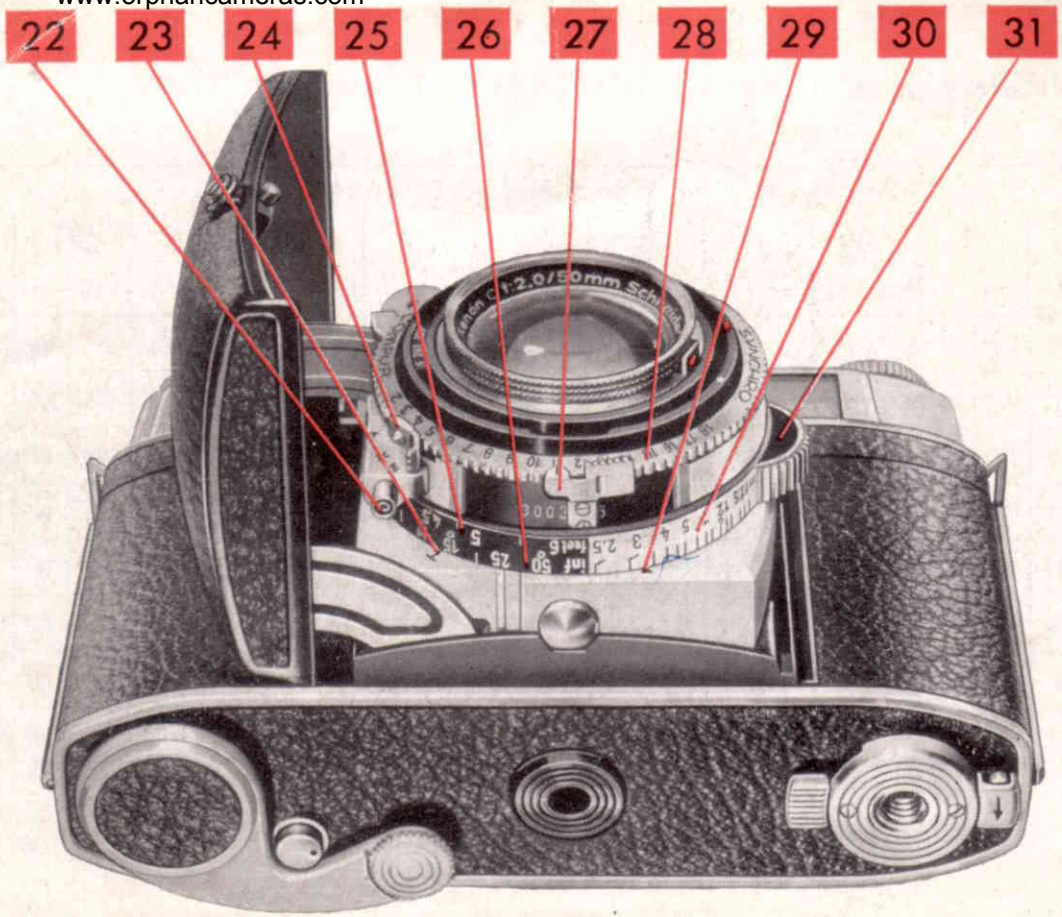
4-55-CH-AE

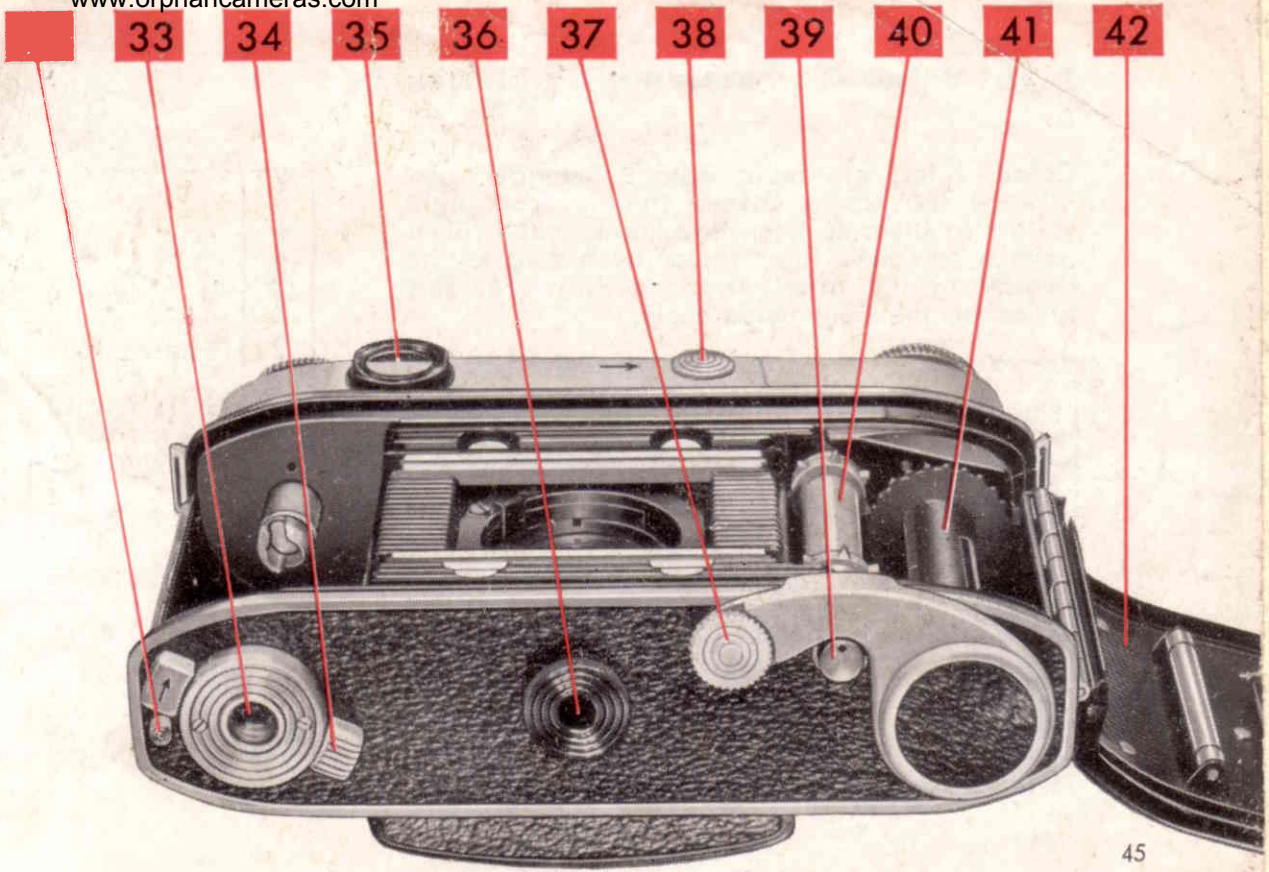
PRINTED IN THE UNITED STATES OF AMERICA

The Camera Features

1 Button to open camera front
2 Baseboard
3 Setting index for apertures and shutter speeds
4 Aperture scale
5 Shutter speed scale
6 Shutter speed setting ring
7 Focusing index
8 Depth of field scale
9 Distance scale
10 Exposure meter setting ring
11 Film speed disc of exposure meter
12 Exposure meter cell
13 Shutter release button
14 Film release button
15 Film counter
16 Button to close camera
17 Lens panel
18 Red dot on lens mount
19 Red dot on bayonet mount of camera
20 Rewind knob
21 Film indicator
22 Flash socket
23 Focusing index for tele lens
24 Green synchronizing and self-timer lever
25 Distance scale for tele lens with T 1/60 close-up lens
26 Distance scale for tele lens
27 Light value setting lever
28 Light value scale
29 Focusing index for wide-angle lens
30 Distance scale for wide-angle lens
31 Focusing knob
32 Button to open camera back
33 Tripod bush
34 Safety lever for button 32
35 Eyepiece of large-size view- and rangefinder
36 Locating hole for accessories
37 Rapid winding lever
38 Button to set film counter
39 Reversing button
40 Transport sprocket
41 Built-in take-up spool
42 Camera back







Light Value Correction with Filters

Colour filters are indispensable for good pictures – the range covers colours from light yellow to blue. As you may know, most filters have a so-called filter factor according to the density of the filter. You can allow for this factor on the light value scale.

Filter		Factor	Reduce Light Value Setting by
Light yellow	F I	1½ x	1½
Medium yellow	F II	2 x	1
Yellow green	F III	2 x	1
Orange	F IV	3 x	½
Red	F V	7 x	3 (2¾)
Blue	F VI	2½ x	1½ (1¼)
Ultra-violet	–	–	–
Polarising filter	–	2½ x	1½ (1¼)

There are also special filters for KODACHROME film.

Depth of Field Table (Sharp Zones * in feet)

Aperture	Depth at Distance Setting in feets																											
	2 1/2		3		3 1/2		4		4 1/2		5		6		7		8		10		12		15		25		50		INF	
	from	to	from	to	from	to	from	to	from	to	from	to	from	to	from	to	from	to	from	to	from	to	from	to	from	to	from	to	from	to
2	2'5"	2'7"	2'11"	3'1"	3'4"	3'8"	3'10"	4'2"	4'3"	4'9"	4'9"	5'4"	5'7"	6'6"	6'5"	7'8"	7'3"	8'11"	8'9"	11'6"	10'3"	14'3"	12'5"	18'9"	18'6"	38'	29'	166'	70'9"	INF
2,8	2'5"	2'8"	2'10"	3'3"	3'4"	3'9"	3'9"	4'4"	4'2"	4'11"	4'7"	5'6"	5'4"	6'9"	6'2"	8'	7'	9'4"	8'4"	12'3"	9'9"	15'5"	11'8"	20'10"	16'10"	48'	25'	220'	51'	INF
4	2'5"	2'8"	2'10"	3'3"	3'3"	3'10"	3'8"	4'5"	4'2"	5'1"	4'6"	5'10"	5'3"	7'1"	5'11"	8'6"	6'8"	10'1"	8'	13'6"	9'1"	17'7"	10'7"	25'3"	14'9"	81'	20'10"	INF	35'10"	INF
5,6	2'4"	2'9"	2'9"	3'4"	3'2"	4'	3'5"	4'8"	3'11"	5'4"	4'3"	6'1"	5'	7'8"	5'7"	9'5"	6'3"	11'8"	7'3"	16'	8'3"	21'11"	9'7"	35'	12'9"	91'5"	16'11"	INF	25'7	INF
8	2'3"	2'10"	2'8"	3'6"	3'	4'3"	3'3"	4'11"	3'9"	5'10"	4'	6'8"	4'8"	8'8"	5'2"	11'	5'8"	13'10"	6'6"	21'6"	7'4"	34'6"	8'4"	85'	10'7"	INF	13'4"	INF	18'	INF
11	2'2"	3'	2'6"	3'9"	2'10"	4'6"	3'2"	5'6"	3'6"	6'9"	3'9"	7'10"	4'3"	10'3"	4'8"	14'9"	5'1"	20'5"	5'9"	43'9"	6'4"	192'	7'2"	INF	9'	INF	10'3"	INF	12'9"	INF
16	2'1"	3'3"	2'4"	4'2"	2'8"	5'4"	2'11"	6'8"	3'2"	8'	3'5"	10'7"	3'9"	16'	4'2"	27'6"	4'5"	57'6"	4'11"	INF	5'4"	INF	5'10"	INF	6'10"	INF	8'	INF	9'2"	INF
22	1'11"	3'7"	2'1"	4'10"	2'5"	6'8"	2'8"	9'	2'10"	12'	3'1"	17'7"	3'4"	49'	3'7"	INF	3'10"	INF	4'2"	INF	4'5"	INF	4'10"	INF	5'5"	INF	6'	INF	6'10"	INF

The distances are measured from the film plane.

* The depth of field is calculated for a circle of confusion of 1/500 inch.