


Kodak

Retinette

**AND HOW TO
USE IT**



hAKA



*M*ake friends with your "Retinette".

If you do it will bring more fun to your hours of leisure and lend a hand with any job; it will never let you down. Learn to explore and to enlist the great possibilities now open with this precision camera and its superior equipment . . .

But first of all, get well acquainted with it.

FIRST STEPS

How to open the camera — ... How to close it — ... How to hold it.

MAIN FEATURES

Lens aperture — Shutter speed — Focus — Depth of Field.

THE CAMERA CONTROLS

Focus — Lens Aperture — Shutter Speed — Setting for Snapshots — Cocking the shutter — and making the exposure.

THREE OTHER FEATURES OF IMPORTANCE

1. The Depth of Field Scale — 2. The Self-timer — 3. The Fully-synchronized Shutter for Flash Shots.

AND NOW LET US BEGIN

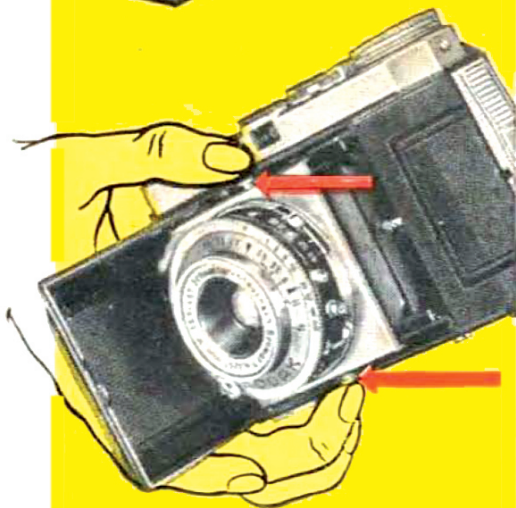
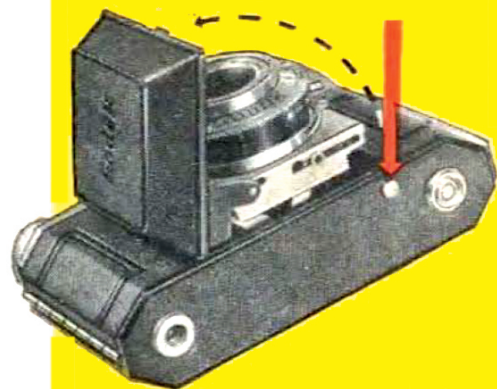
Loading the camera — The Exposure Counter — Taking the picture — Removing the film.

WIDEN YOUR SCOPE WITH ACCESSORIES

Ever-ready Case — Cable Release — Sports Finder — Lens Hood — Filters — "KODABLITZ".

TO SUM UP

THE CAMERA PARTS — EXPOSURE TABLE



THE FIRST

How to Open the Camera

Press Button (1) underneath the camera and pull down the bed carefully until you hear it click. The lens and shutter are now in position.

. . . And how to Close it

Press the two buttons (2) located on either side of the lens support and close the bed. The release button (12) cannot be operated when the camera is closed.

The "Retinette" can be closed even with an F-series "Kodak" filter in position, irrespective of the setting of the focusing mount (3).

STEPS

How to Hold it

for horizontal pictures. The "Retinette" body is shaped for your grip. The camera nestles firmly and safely in both hands, with your right index finger resting on the release button (12) on top of the body.

Just try this a few times until you have got the knack of holding the camera correctly. Get used to holding the camera even with gloves on, for you are sure to want to use your "Retinette" in almost any place and in any weather, too. Also try gripping the camera with one hand only in case you have to hold on to something else with the other.



POINTS THAT

Lens Aperture - Exposure Time -

To produce a correct negative, the film must receive a definite amount of light through the lens. On a sunny Summer day more light will pass through the open lens in a given time than, for instance, on a dull Winter afternoon. So in the latter case we must keep the lens open for a longer time to get the same amount of light acting on the film. In other words, we need more exposure. The shutter with its varying speeds will regulate the necessary supply of light.

However, it is not the only means of doing so. Another control is the lens aperture or lens stop. It acts rather like a water tap; the wider you open it, the more light passes in a given time. And the more you close it down, or stop it down — as the photographic term goes — the less light can come through the lens.

The lens stop has yet another important function. It not only regulates the light, but also controls the so-called depth of field. How does it do so?

The lens defines really sharply only the subjects on which it is focused. This maximum sharpness decreases gradually, so that there is a region in front of and

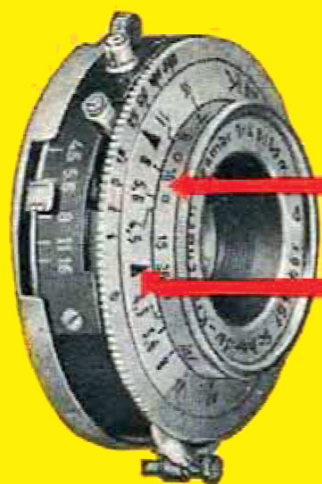
MATTER

Distance - Depth of Field

behind the focused subject within which the picture is not noticeably unsharp. That region is the depth of field.

This depth of field becomes greater as the lens is "stopped down", and also as the distance between camera and subject is increased, e.g. at a distance of 3 feet and with a lens aperture of $f/5.6$ the depth of field extends from 3 to $3\frac{1}{2}$ feet, and at $f/11$ from 3 to 4 feet. At a greater distance, e. g. 20 feet and with a lens aperture of $f/5.6$ it extends from 12 to 65 feet, and at $f/11$ from 9 feet to infinity.

These facts are worth some thought. For the whole secret of a technically good negative is the right choice of lens aperture, shutter speed and distance setting. You will soon find the right combination to suit your own photography with a little practice. Until then you can mostly manage with the focusing zones recommended on p. 11 which provide ready made and adequate depths of field for a near and a distant region of subjects.



HOW TO

The Distance

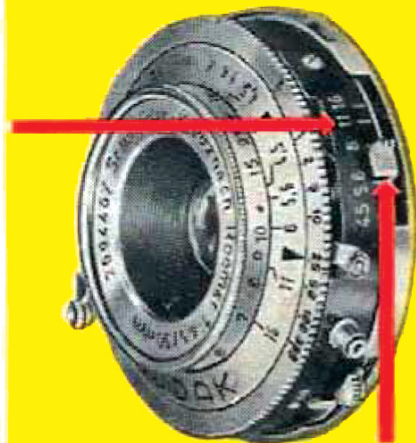
Engraved on the revolving lens mount (3), you will find the figures 3.5, 4, 4.5, 5 feet etc. to infinity, and on the adjacent shutter plate you will notice an inverted triangle. Turn the lens mount until the figure indicating the desired distance coincides with this index mark. Your subject will now be in sharp focus. For near subjects (remember the shallow depth of field) measure the distance between the lens and subject as accurately as possible. For more distant subjects you may estimate the distance, or pace it (one average pace is about 2.5—3 feet). Subjects more than 100 feet away count as infinity (∞).

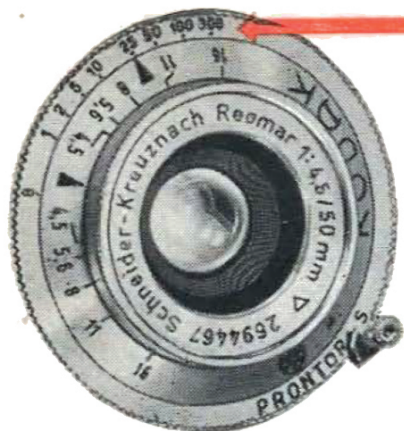
Before setting the aperture a few words about the lens of your "Retinette" camera. It is a three-component anastigmat "REOMAR" with a maximum aperture of $f/4.5$ and a focal length of 50 mm. It is hard-coated, and corrected for use with colour films. The lens is the eye of your camera. Do take care of it. If you want clear and sharp pictures, your lens must be clean. The best material for cleaning it is a clean, soft, lintless cloth. Sudden changes of temperature may condense moisture on the lens surface. Wait until this disappears rather than try to wipe it off. Above all, never attempt to screw the lens apart. This may easily lead to lack of sharpness and loss of quality in your negatives.

FOCUS

The Lens Aperture

And now the Lens Aperture. As already mentioned, $f/4.5$ is the widest aperture. The aperture is enlarged or reduced by moving the aperture lever (4). The f /number scale consists of the following numbers: — 4.5, 5.6, 8, 11 and 16. The smallest number (4.5) marks the largest aperture and the largest number (16) the smallest aperture. Each f /number admits, in a given exposure time, twice as much light as the next higher number. Thus if the correct exposure were $1/100$ second at $f/4.5$, the same exposure would be given by $1/50$ at $f/5.6$ or $1/25$ at $f/8$. In all three cases, the same amount of light passes through the camera lens (assuming constant lighting conditions).





The Exposure Time

THE SHUTTER of your "Retinette" camera is a Prontor SV shutter — permitting exposures of 1, $\frac{1}{2}$, $\frac{1}{5}$, $\frac{1}{10}$, $\frac{1}{25}$, $\frac{1}{50}$, $\frac{1}{100}$ and $\frac{1}{300}$ second. You will find the respective figures on the milled ring (5) (the number 2 signifies $\frac{1}{2}$ second, number 5 means $\frac{1}{5}$ second, etc.). To the left of the figures you will find the letter "B" (bulb). Turn the ring until the selected shutter speed coincides with the arrow head. For time exposures turn the ring until the letter "B" coincides with the triangle.

With exposures of $\frac{1}{25}$ second and slower, place the camera on a tripod or other firm support in order to prevent blurred pictures. The tripod screw fits directly into the tripod socket (20) underneath your camera. For longer exposures use the "Kodak" Cable-Release. It fits into the cable release socket of the exposure button, and helps you to avoid shaking the camera.

Suggestions for correct exposures are given in the Exposure Table at the end of this manual; alternatively use a photo-electric exposure meter.

Zone Focusing

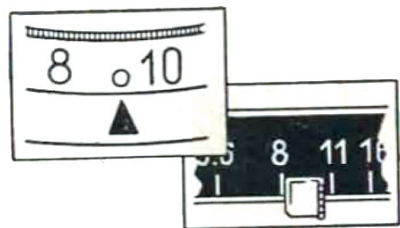
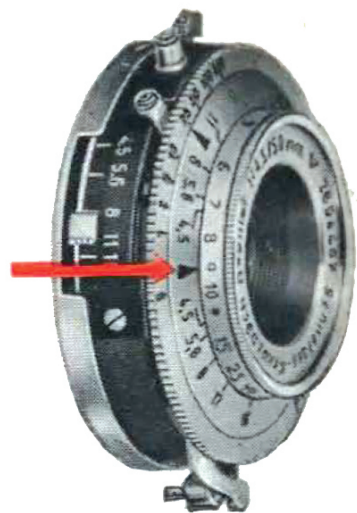
As already mentioned, the technique of making good pictures depends largely upon the skilful combination of focus, exposure and aperture. A certain amount of practice is necessary to obtain this. There are fleeting moments (sports or scenes with children) which you will miss if you stop to think. The "fixed focus" settings (one for close range and one for distant views) are the solution to this problem.

NEAR OBJECTS

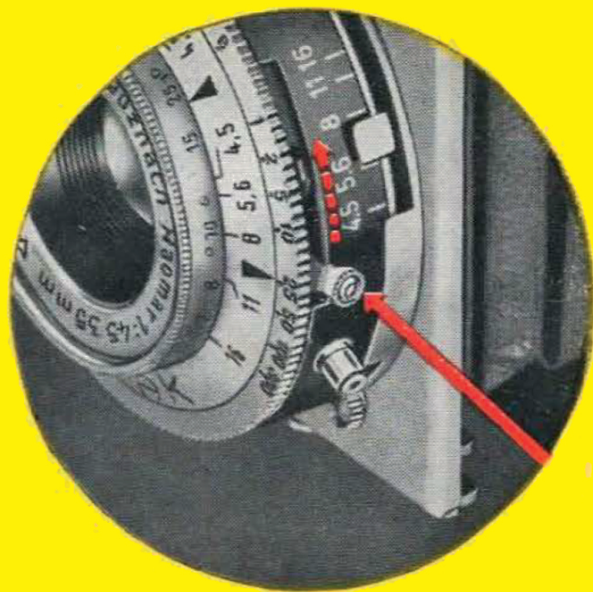
Set the focus at the black dot between 8 and 10 ft. and use aperture 8.
The resulting depth of field will range from 7½ to 16 feet.

DISTANT OBJECTS

Set the focus at the black dot beyond 25 feet and use aperture 8.
This will result in a depth of field from 12 feet to ∞.



Now cock the Shutter . . .



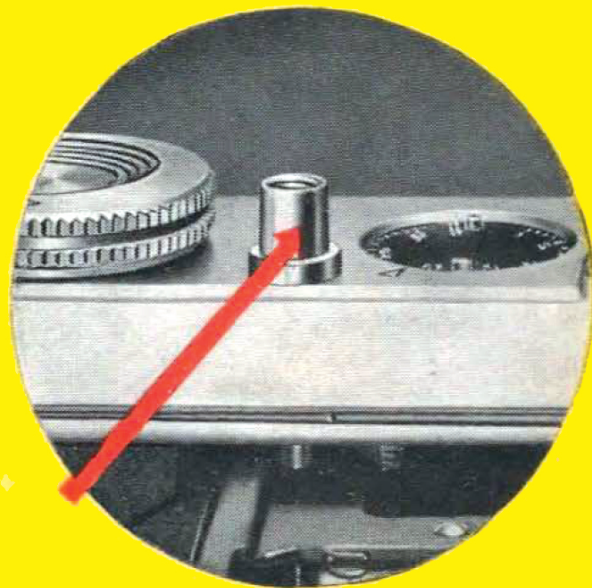
But do not cock the shutter unless focus, aperture and shutter speed have been set — the order in which you set these does not matter. To cock the shutter, push the Cocking Lever (6) counter-clockwise as far as it will go. Now bring the camera into the picture-taking position — (you will probably have practised this already as described on page 5) — **almost automatically your right forefinger comes just over the exposure button (12) — a slight pressure — and the picture is taken.**

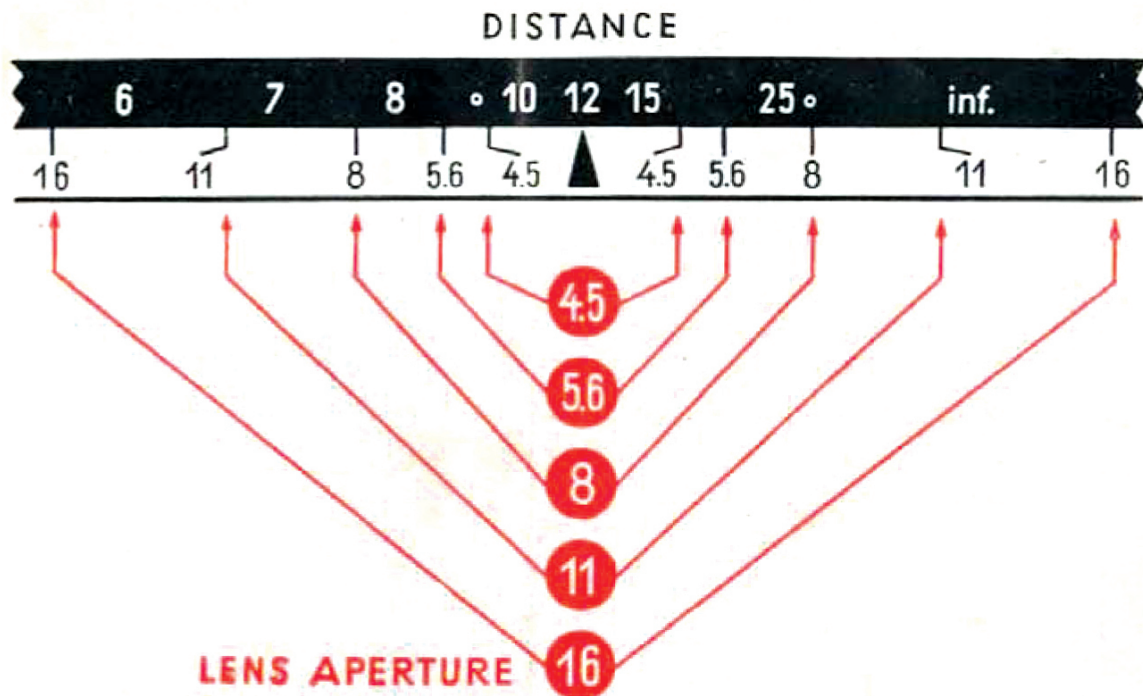
... and press the Exposure Button

When time exposures are made ("B"-setting) the shutter remains open as long as the exposure button is depressed. You must bear in mind however that the exposure button does not work if the camera is not loaded. This is because of the

Automatic Film Stop

— an ingenious device to save you trouble and disappointment. It couples exposure button, shutter, and film winding mechanism, thereby preventing double exposures and unexposed frames. So, never try to trip the exposure button by force if the camera is not loaded. The only result will be a damaged camera.



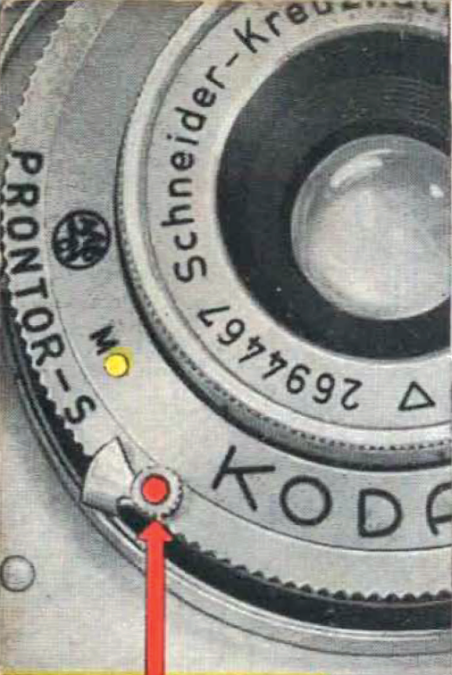


THREE FEATURES OF IMPORTANCE

1. The Depth of Field Scale

Upon close inspection of your "Retinette" Camera, you will probably have discovered that the numbers of the black lens-aperture scale 4.5; 5.6, etc. are repeated on the shutter plate on each side of the focusing pointer. This scale enables you to tell at a glance the nearest and furthest distances that will be in sharp focus for any particular aperture. For example, when you have focused your camera at 12 feet, the depth of field for a lens aperture of $f/5.6$ is the range of distances indicated by the two 5.6 figures. In this case, you will notice that one figure lies between 8 and 10 feet and the other between 15 and 25 feet.

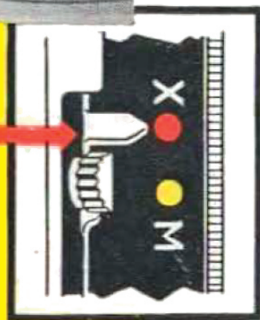
This means that with a aperture of $f/5.6$ and focus set to 12 feet everything from about 8.5 feet to 20 feet will be adequately sharp. With an aperture of $f/8$ one figure "8" corresponds to 7.5 and the other figure 8 nearly to ∞ (inf.). Therefore the depth of field ranges from 7.5 feet to ∞ (inf.).



2. The Self-Timer

Another interesting feature of your "Retinette" is the self-timer or delayed action release. After cocking the shutter, you can push the self-timer lever marked with the red dot (9) clockwise as far as it will go. This winds the delayed action mechanism.

Important: The self-timer only works when the synchronizing lever (7) described in the next section is set to the red dot (X).

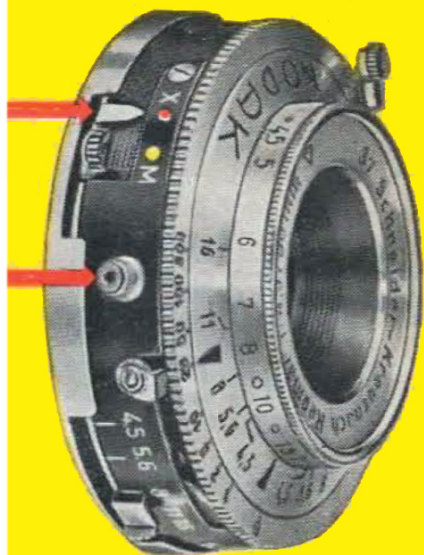


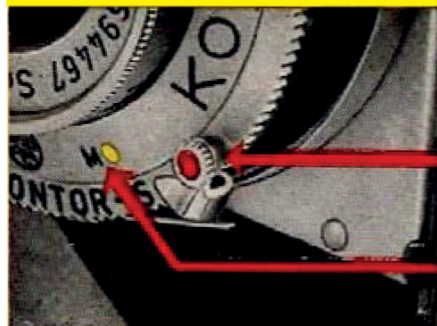
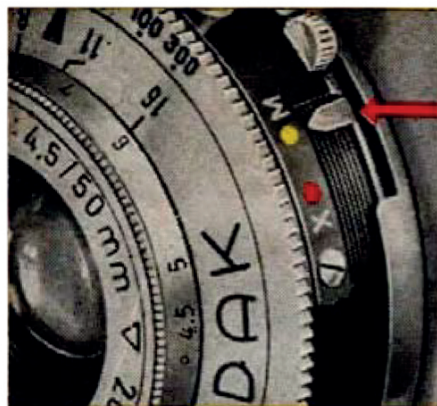
3. The Fully-synchronized Shutter

Your "Retinette" is fitted with the **fully-synchronized** Prontor SV shutter. This means that you can make synchronized flash exposures with the "KODABLITZ" or an electronic flash unit **at all shutter speeds** in just the same way as a press photographer.

The external features of this shutter are the synchronizing lever (7) with its X- and M-settings (the red and yellow dot respectively), and the flash socket (8) next to it, which takes the plug of the flash cable from the flash gun. You will also find another yellow dot marked "M" (10) next to the self-timer. We shall come back to its purpose later.

The "KODABLITZ" or other flash gun is firmly fixed to the camera by means of the tripod bush (20). We do not advise you to mount the flash gun directly on the accessory shoe (13) of your "Retinette", as this type of outfit is much too heavy for the shoe which is designed to take small precision accessories.





The Flash Exposure

The only difference between flash exposures and normal shots is that you also have to take the light output and characteristics of the flash used into consideration.

For exposure data please refer to the exposure tables enclosed with the flash bulbs or electronic flash units.

There are two basic types of flash:

- Electronic flash units which flash instantaneously.
- Flash bulbs and flash powder capsules which take a definite time (the firing delay) to reach their peak brightness.

The fully-synchronized Prontor SV shutter of your "Retinette" camera therefore has two main settings which are selected as required by means of the synchronizing lever (7):

Red dot (X): Use this setting for all electronic flash units, for class F flash bulbs (SM-type) at speeds of 1 to $\frac{1}{50}$ second, and for class M flash bulbs at speeds of 1 to $\frac{1}{25}$ second.

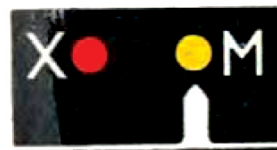
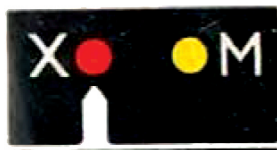
The self timer works in the usual way.

Yellow dot (M): Use this setting for class M flash bulbs at speeds of $\frac{1}{50}$ to $\frac{1}{300}$ second and for class S flash bulbs at speeds of 1 to $\frac{1}{50}$ second.

⑩

The self-timer will not work with the M-setting.

When using class F flash bulbs, leave the self-timer lever (9) in its normal position, as these bulbs have a small firing delay of about 5—8 milliseconds. With class M bulbs (and S), however, which have a firing delay of 15—25 (30—32) milliseconds, the delayed action mechanism of the self-timer provides the delay for synchronizing the flash with the shutter. **Therefore pull over the self-timer lever with the red dot (9) as far as it will go, so that its pointer is opposite the yellow dot M (10).**



Synchronizing lever (7) "X":

All electronic flash tubes without delay: 1— $\frac{1}{300}$ sec.; Relay-fired electronic flash 5 ms. delay: 1— $\frac{1}{50}$ sec. Class F flash bulbs: 1— $\frac{1}{50}$ sec. Class M flash bulbs: 1— $\frac{1}{25}$ sec.

Delayed action release (9) can be used in the normal way.

Synchronizing lever (7) "M":

Class M-flash bulbs: $\frac{1}{50}$ — $\frac{1}{300}$ sec. Class S-flash bulbs: 1— $\frac{1}{50}$ second.

Delayed action release (9) cannot be used as self-timer. Pull self-timer lever (9) as far as it will go.

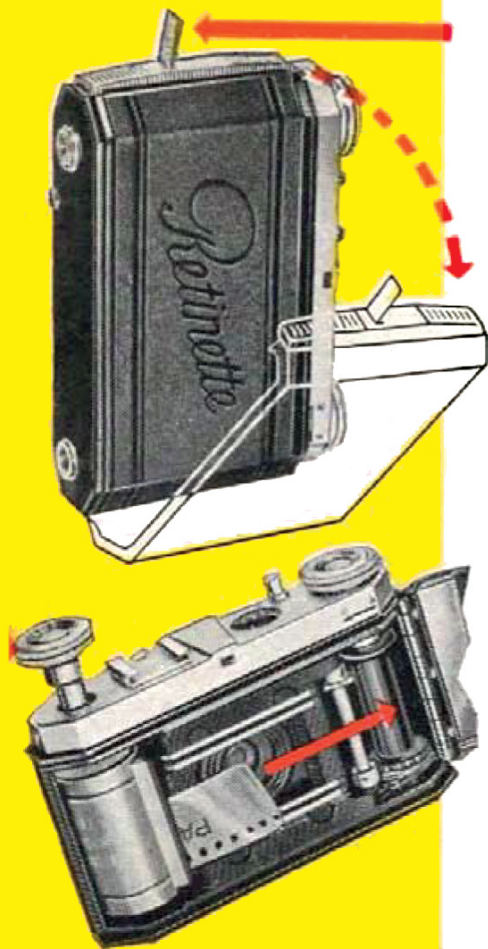


AND NOW

Loading the Film

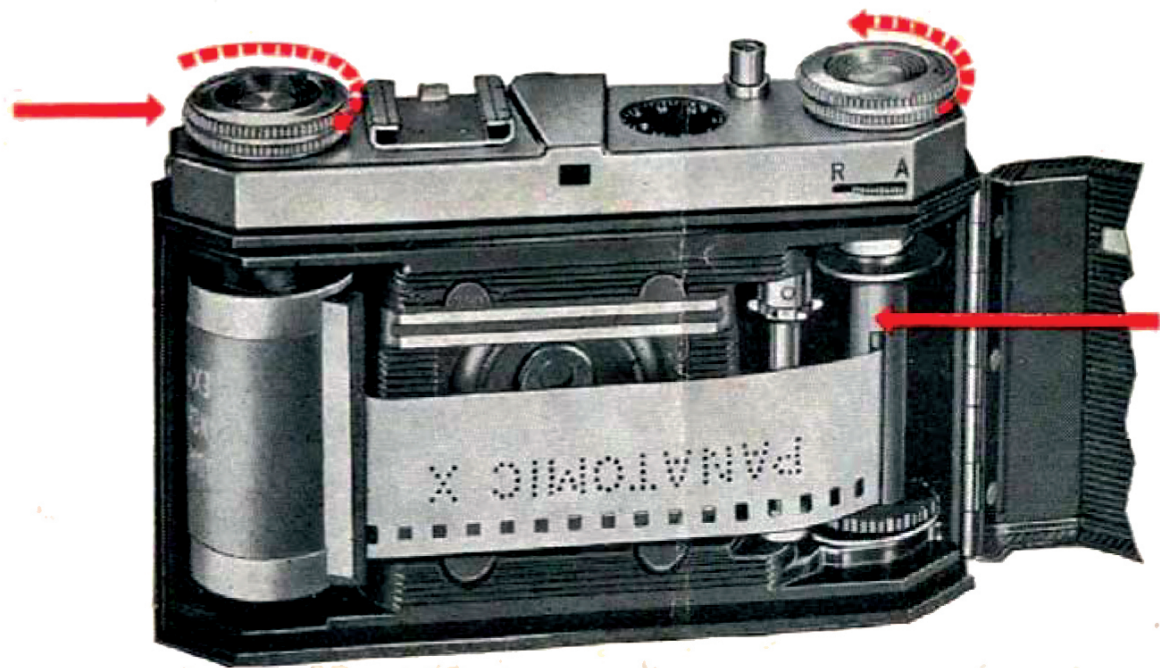
We hope that you have followed us so far, and now know all the parts of your "Retinette" camera, and also how to handle it. In the meantime, you will have procured a daylight loading cassette of film. It is best to use, to begin with, a panchromatic film with an exposure index number of 27⁰ (B.S.I.) or 40 (A. S. A.).

To insert the film lift the locking lever (19) and open the back of the camera. Draw out the film rewind knob (18) as far as it will go and insert the cassette in the film chamber opposite the take-up reel, with the projecting end away from the rewind knob. Push in the rewind knob (18). If it will not go right in, turn slightly in the direction of the arrow. Thread the end of the film as far as possible into one of the slots in the take-up spool, making sure that the edge of the film lies close to the spool-flange to ensure that it will wind up properly. Now close and lock the back of the camera, and turn the winding knob in the direction of the arrow until it locks.



LET US BEGIN . . .

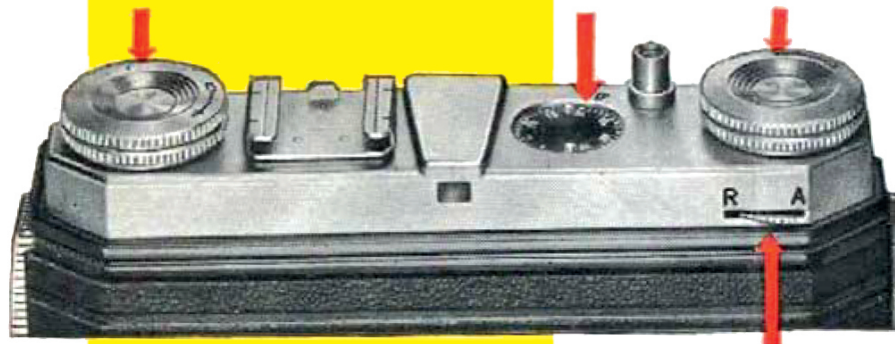
Since loading the film may fog the first few frames, it is advisable to make two or three blank exposures first. Open the baseboard, cock the shutter, and release by pressing down the release button (12) as far as it will go. Now turn the film winding knob (16) in the direction of the arrow until it locks, thus advancing the film by one frame. Repeat this after every exposure. The locking mechanism already described prevents double exposures.



The Exposure Counter

The "Retinette" carries a convenient exposure counter (15) to show you at any time how much film you have in hand. The counter indicates **the number of still unexposed frames available.**

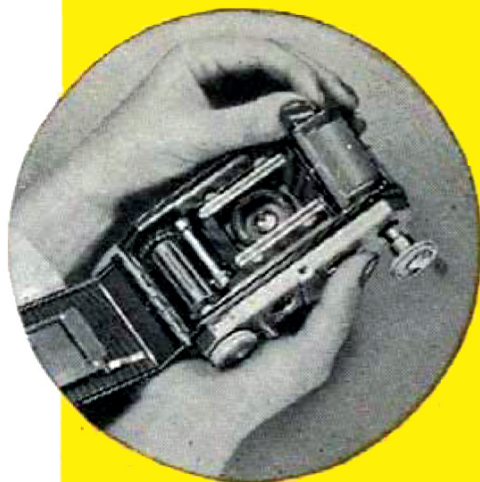
After loading the film and making 2—3 blank exposures (as described on pages 20 and 21) turn the film counter by its two pins until the figure 36 is opposite the ▽ index mark. When using 20 exposure film cartridges set the counter to 20. After every exposure the exposure counter will now move on automatically by one division.

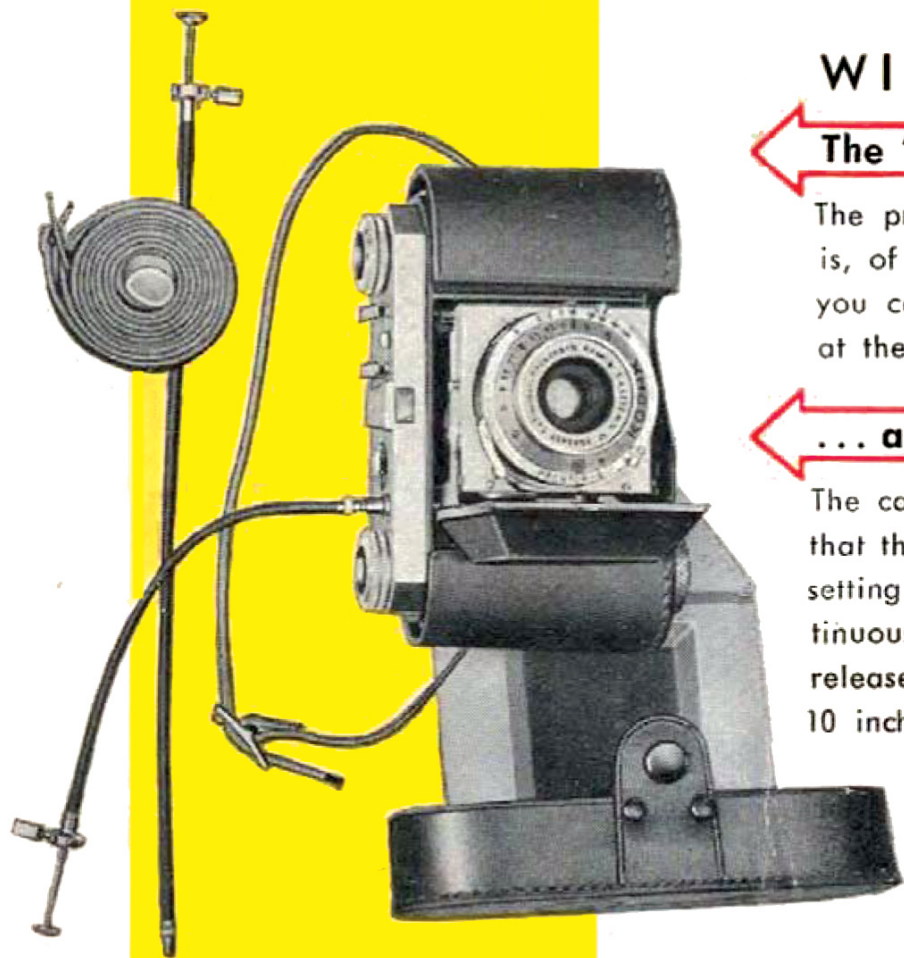


Removing the Film

When the exposure counter (15) shows the number "1" you have used all your film. Now push the rewind lever (17) to "R" and rewind the cassette. When the film winding knob (16) and the exposure counter stop turning, give a few more turns to the rewind knob (18). The film is now completely rewound into the magazine. All that remains is to open the back of the camera and to draw out the film rewind knob (18), whereupon the magazine may be easily removed.

Remember to load and unload the camera in subdued light only — never in strong direct light — in order to prevent fogging of the first few frames. It is best to put the exposed film back into its original packing immediately after it has been removed from the camera in order to avoid the possibility of light getting in.





WIDEN YOUR SCOPE

The "Retinette" ever-ready case

The proper place for your "Retinette" camera is, of course, inside a leather case in which you can carry the camera comfortably, and at the same time protect it against damage.

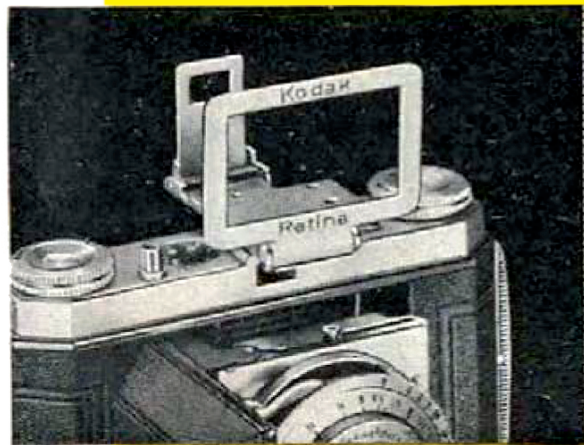
... and the Cable-Release

The cable release carries a locking screw so that the shutter can be held open at the "B" setting for any length of time, without continuous pressure on the release. This cable release is available in two lengths: 6½ and 10 inches (16 and 25 cm).

WITH ACCESSORIES

The »Retina« Sports Finder

The "Retina" sports finder is equally suitable for use with your "Retinette". It is a useful accessory for photographing fast moving subjects, and fits into the accessory shoe on the top of the camera. With it you can sight and follow your subject in full size before it enters the actual field of view. Its position on the camera automatically eliminates any lateral parallax, while the vertical parallax is compensated by moving the viewing aperture according to a fitted scale. The finder can be folded up while still on the camera. When not in use, it is kept in a leather case.





» Kodak « Lens Hood

makes attractive against-the-light pictures safe. But shots by side light also gain in brilliance when you use the lens hood. No exposure should really be made without it.

The "Kodak" lens hood can be attached to the lens even with a filter screwed on. It can also be used together with supplementary lenses or supplementary lens plus filter.

» Kodak « - Filters

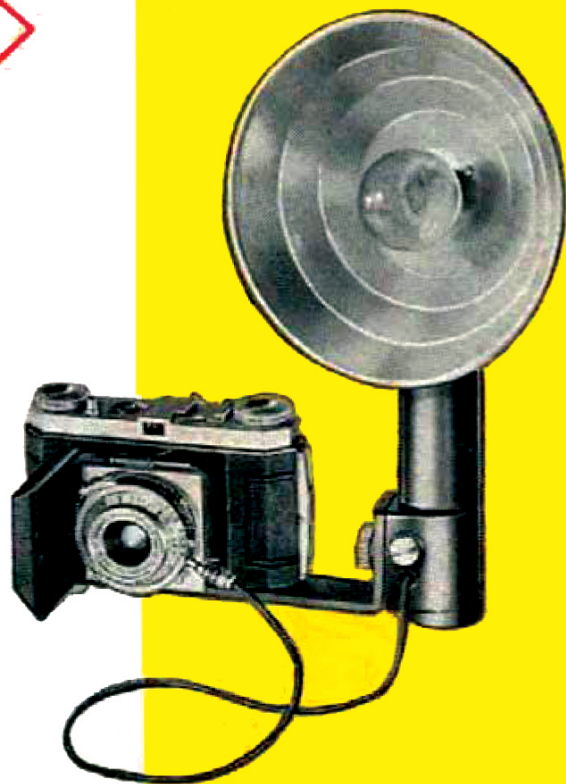
for correct tone reproduction or for special effects are available in pale yellow, medium yellow, green, orange, red, blue, or as ultraviolet protective filter. They are fitted with screw-in mounts and are marked F 1/32 to F VII/32 UV.

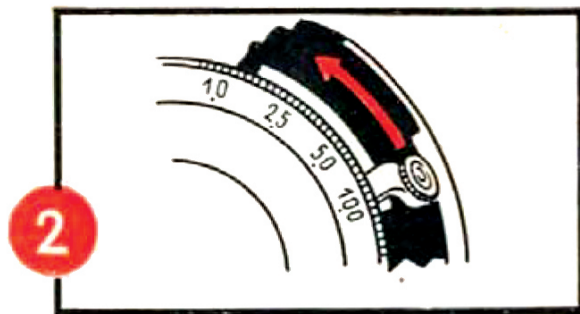
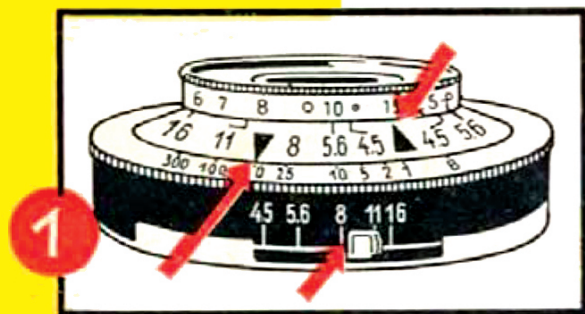
The "KODABLITZ"

This handy, light-weight, and extremely versatile flash gun can be fixed to your "Retinette" in a moment. With it you can even take shots at the fastest shutter speeds in total darkness. The "KODABLITZ" can be used either with torch batteries, or with a capacitor unit. It is fully protected against short-circuits.

The "KODABLITZ" will also take extension flash holders for obtaining every kind of lighting effect. Further advantages of this excellent unit are a battery case which opens from the side for easy changing of batteries, very light weight, and an ejector mechanism for used bulbs.

Suitable for all flash bulbs with bayonet cap.
(S. C. C. or A. S. C. C.)





1 SET THE FOCUS

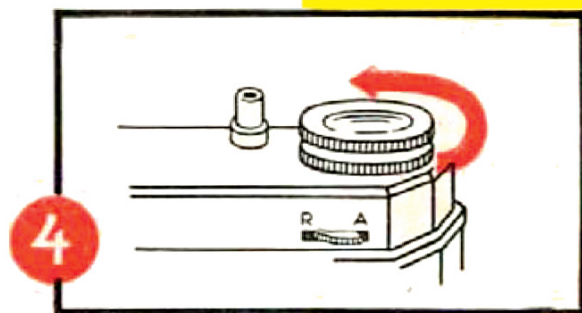
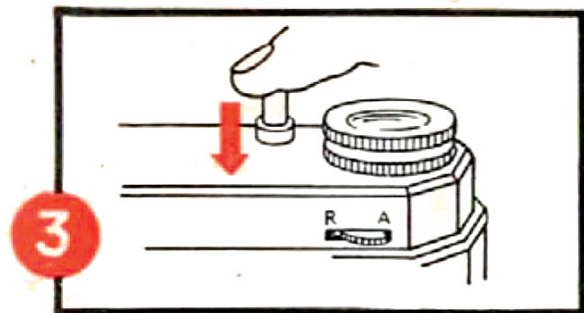
Estimate, measure or pace the distance between camera and object (1 long pace corresponds to approximately 3 feet).

SET APERTURE

The correct exposure can be obtained by reference to Exposure Table or by using an exposure meter.

SET SHUTTER SPEED

The exposure tables or an exposure meter will give you the correct speed setting.

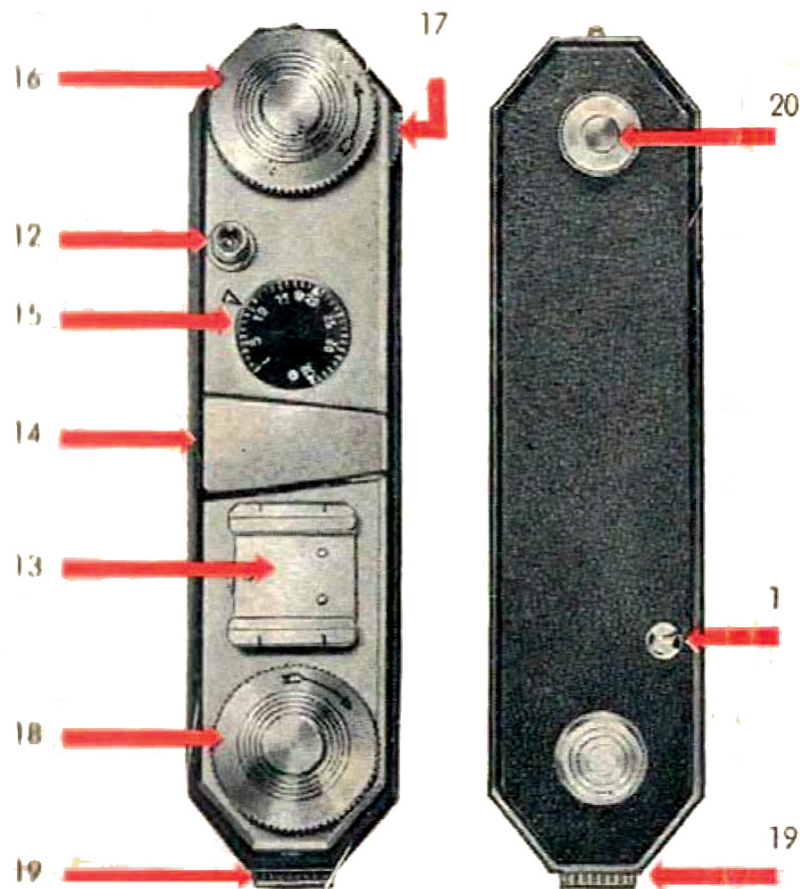


2 COCK THE SHUTTER

3 GENTLY DEPRESS RELEASE BUTTON

4 WINDING THE FILM

















Turn winding knob in direction of arrow until it locks.



THE CAMERA PARTS

- 1) Opening Button
- 2) Closing Buttons
- 3) Lens Mount with Focusing Scale
- 4) Aperture Lever
- 5) Shutter Speed Ring
- 6) Shutter Cocking Lever
- 7) Synchronizing lever with X- and M-setting
- 8) Socket for flash contact
- 9) Setting lever for Self-timer and synchronizer
- 10) M-setting for class M flash bulbs
- 11) Depth of field scale
- 12) Release button with cable release socket
- 13) Accessory shoe
- 14) Optical View Finder
- 15) Exposure Counter
- 16) Film Winding Knob
- 17) Rewind Lever
- 18) Film Rewind Knob
- 19) Camera Back Lock
- 20) Tripod Socket

Retinette exposure Table for black-and white Film

Subject	Recom- mended Aperture	Wea- ther	Film Speed		 = Clear sun  = Overcast sky
			32-50 ASA 26-28 ⁰ BSI	64-100 ASA 29-31 ⁰ BSI	
Sea, seaside and snow shots	11-8		$1/100 - 1/300$	$1/300$	
			$1/50 - 1/100$	$1/100 - 1/300$	
Open land- scapes	8		$1/50 - 1/100$	$1/100 - 1/300$	
			$1/25 - 1/50$	$1/50 - 1/100$	
Landscapes with foreground *	8 5,6		$1/25 - 1/50$	$1/50 - 1/100$	
			$1/25 - 1/50$	$1/50 - 1/100$	
Snapshots, groups, street scenes *	8-5,6		$1/50 - 1/100$	$1/100 - 1/300$	
			$1/25 - 1/50$	$1/50 - 1/100$	
Fast moving subjects, sports	4,5		$1/300$	$1/300$	
			$1/100$	$1/300$	
People in the shade	4,5		$1/25$	$1/25 - 1/50$	
			$1/10 - 1/25$	$1/25 - 1/50$	
People in bright room	4,5		$1 - 1/10$	$1/5 - 1/10$	
			$2 - 1/5$	$1 - 1/10$	

The exposures are correct from 10 a.m. to 4 p.m. during late spring, summer, and early autumn.

Double the exposures: In the winter months, or between 9 and 11 a.m. and 4-6 p.m.

* Use the snapshot setting.