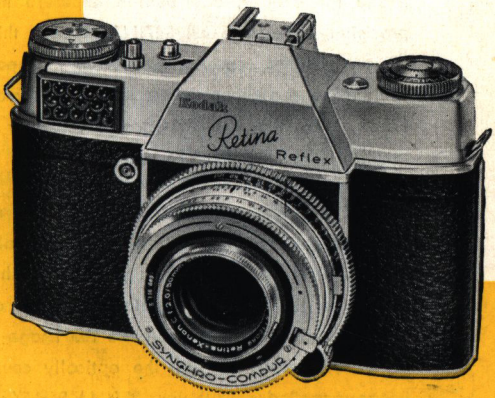
Kodak

Retina REFLEX



INSTRUCTION BOOKLET

REFLEX

is the most advanced model of the RETINA series: a genuine single-lens reflex camera for 24×36 mm negatives. It features a full-size ground glass screen, split-image rangefinder, and built-in exposure meter with precision scale. Like all RETINA models, this camera is very easy to use. And you have the special convenience of the ground glass screen: the screen shows exactly what the film will record, whatever the focal length of the lens you are using.

The brilliant screen image is upright, the right way round, and completely free from any parallax error at all subject distances. When you shoot with the standard lens, the screen shows the subject in approximately natural size. You can focus the image either on the ground glass, or with the optically coupled split image rangefinder. With your RETINA REFLEX you therefore have full and immediate control of every subject, and you see the correct view with any lens.

The precision scale of the built-in exposure meter of the RETINA REFLEX gives readings of whole and intermediate light value settings. You therefore always know the exact exposure — an indispensable aid in colour photography.

All scales of your RETINA REFLEX are clearly laid out. Whether you are a beginner or experienced photographer, we suggest that you read this instruction booklet really carefully. The scope of your RETINA REFLEX is immense; you should be able to make the fullest use of it.

To start with, practise operating the main controls without a film in the camera; by the time you take your first picture, you will then be really familiar with your RETINA REFLEX.

With your RETINA REFLEX and the versatile RETINA system of equipment you can tackle virtually any job: from telephoto shots to photomicrographs, and from stereo photography to copying. Please ask your photographic dealer — or write to us — for the general catalogue "The RETINA and its System" which will give you full information about all accessories for your RETINA REFLEX.

KODAK AG. STUTTGART-WANGEN

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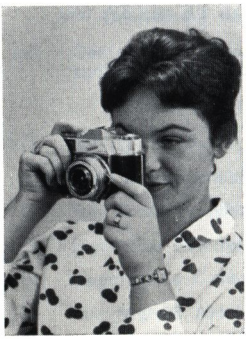


Your hands get a really comfortable grip on the RETINA REFLEX. You may have noticed that the lens is mounted slightly to one side of the camera centre; this makes the RETINA REFLEX particularly easy to hold. Normally grip the camera with both hands, as shown in the accompanying illustrations. The best camera hold is of course always the one which you find most convenient, so try experimenting until you find which suits you best. A steady camera hold is very important for sharp pictures.

Using the Exposure Meter

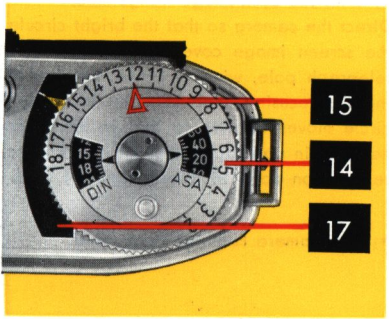
The RETINA REFLEX has a photo-electric exposure meter with precision scale built into the body. This eliminates a lot of calculations, for it indicates the correct "light value" for almost any subject. This light value is shown by a number (marked in red) which is a measure of the amount of light required for correct exposure.

The precision scale of the exposure meter enables you to read off **whole** as well as **intermediate** light values, which is important for accurate exposure with colour films.

Determining the light value

To obtain the correct reading, first set the appropriate film speed (page 18). The different methods of taking readings (reflected light and incident light) are described on page 29.

Point the camera at the subject, taking care not to obscure the honeycomb lens of the exposure meter with your fingers. The white pointer of the meter will move in the window (17). Turn the meter setting ring (14) to move the **yellow** pointer until it coincides with the **white** pointer. Now read off the light value opposite the red triangular index mark (15) on the meter setting ring (14).



Getting the Picture Sharp

Hold your RETINA REFLEX up to your eye, and loock through the eyepiece (5)*. **The finder image is only visible after operating the rapid winding lever** (6)*. In the centre of the ground glass screen you will see a bright circular area divided by a horizontal edge; this is the split-image rangefinder.

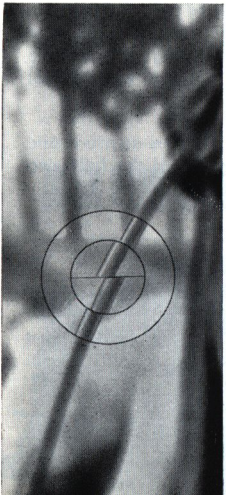
There are two ways of getting the picture sharp: by means of the ground glass screen image, or with the aid of the optically coupled split-image rangefinder. The choice of the method depends largely on the nature of the subject.

Subjects without prominent horizontal or vertical lines are more easily focused on the ground glass screen. But if the subject has such lines, the split image rangefinder is very suitable for checking the correct focus (with the camera held horizontally for vertical lines, and upright for horizontal lines).

a) On the Ground Glass Screen
Turn the focusing knob (30) until the ground glass screen image appears perfectly sharp. Your camera is then correctly focused. Note the remarks on page 20 about depth of field.

b) With the Split-image Rangefinder
Direct the camera so that the bright circular area in the centre of the screen image covers a vertical line of the subject (e. g. a telegraph pole, window frame, tree, or building, etc.). On turning the focusing knob (30), the image in the upper half of the circle moves relative to that in the lower half. When the two halves join up exactly, the camera is correctly focused. Note the remarks on page 20 about depth of field.

*) See Camera Features page 35-37.



Setting the Shutter

The Synchro-Compur shutter of your RETINA REFLEX carries the following **three scales:**

The Shutter Speed Scale (26): The numbers signify fractions of a second; thus 2 stands for $1/2$ second, 15 for $1/15$ second, 125 for $1/125$ second, and so on. The automatically timed shutter speeds from 1 to $1/500$ second are marked in **black** on the shutter speed scale (numbers 1 to 500). The **green** numbers signify full seconds (see page 13).

The Aperture Scale (24): The stop numbers indicate relative apertures. The largest aperture is f/2, the smallest f/22.

The Light Value Scale (20): The red figures from 1 to 18 are the light value settings.

The light value determined with the exposure meter (see page 7) is now set on the camera shutter. Press the milled light value setting lever (22) in the direction of the arrow (see illustration), and move it sideways to set the red dot (21) to the required light value. If the lever comes to a stop before you reach the light value number, turn the shutter speed setting ring (27) until the light value to be used is opposite the red dot. You can also set intermediate light values, e. g. $11\frac{1}{2}$.

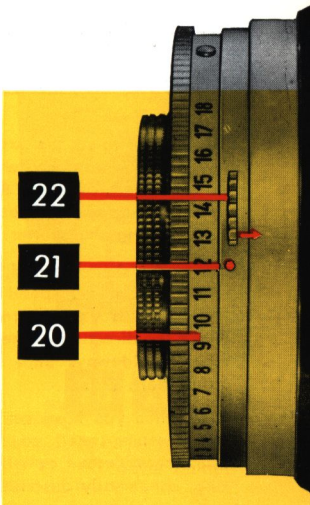
Once you have set the **light value** to, say, **12,** the aperture and shutter speed index mark (23) will indicate one of the following **aperture-speed combinations:**

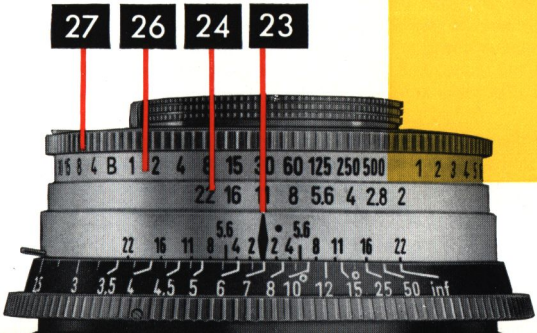
Aperture f/	22	16	11	8	5.6	4	2.8
Shutter speed in seconds	$1/8$	$1/15$	$1/30$	$1/60$	$1/125$	$1/250$	$1/500$

According to the requirements of the subject you can now select the most suitable one of these combinations. For instance if you want to take a sports shot at $1/500$ second, turn the shutter speed setting ring (27) to $1/500$ second. The aperture automatically adjusts itself to f/2.8.

On the other hand if the subject calls for great depth of field, for example an architectural view, set a correspondingly smaller aperture. The shutter speed will again follow suit automatically.

In all cases the effective exposure remains the same, whichever way you move the shutter speed setting ring (27). You will also notice that the ring clicks into position at each step. This ensures exact exposure times.





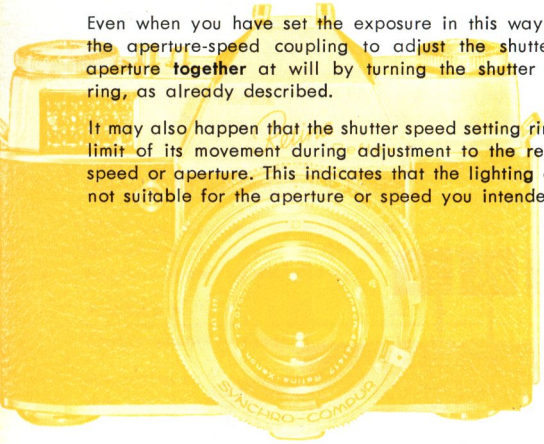
Light Values and the Aperture-speed Coupling

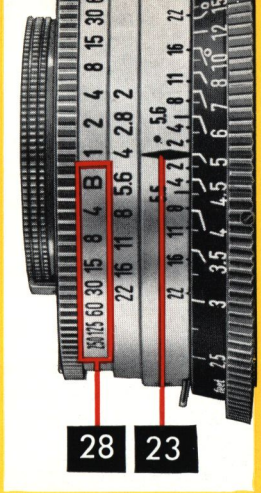
If you want to set the exposure **without using light values,** as you have to, for instance, with flash shots, be sure to set **first the shutter speed,** and **then the aperture.** If you do it the other way round, the aperture-speed coupling would alter the aperture when setting the shutter speed.

To set the shutter speed, turn the shutter speed setting ring (27) until the required speed figure is opposite the index mark (23). To set the aperture, press the milled light value setting lever (22) in the direction of the arrow (see illustration on page 11) and move it sideways until the required aperture is opposite the index mark (23).

Even when you have set the exposure in this way, you can use the aperture-speed coupling to adjust the shutter speed and aperture **together** at will by turning the shutter speed setting ring, as already described.

It may also happen that the shutter speed setting ring reaches the limit of its movement during adjustment to the required shutter speed or aperture. This indicates that the lighting conditions are not suitable for the aperture or speed you intended to use.





The Green Numbers

If a subject needs a longer exposure time than 1 second, the green seconds scale (28) indicates the time in **full seconds** opposite the aperture numbers. The green letter B stands for "Brief Time". When you set this green letter "B" to the index mark (23), the shutter opens on pressing the release, and remains open as long as the release is kept depressed (use a tripod and cable release).

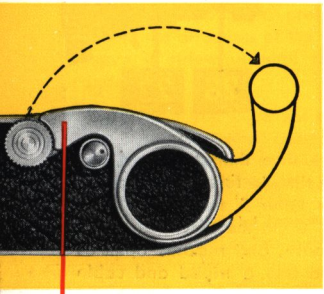
Here is an example (see illustration): The correct light value for the subject is 4, and in this case you can only use f/4 at the slowest shutter speed of 1 second. If, however, you want to use f/11 to obtain adequate depth of field, the green number opposite f/11 indicates that you must expose for 8 seconds. Set the shutter therefore to B, and f/11 opposite the index mark (23). Expose for 8 seconds, and the picture is "in the bag".

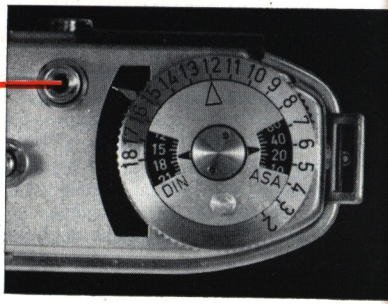
You may have noticed that there is no number 2 in the series of green numbers. When reading off full seconds, its place is taken by the letter B. If in the above example you want to use f/5.6, you would have to expose for 2 seconds.

Tensioning and Releasing

To tension the shutter, pull out the rapid winding lever (6) **in one movement** as far as it will go. Then let it shoot back into its original position. If it does not move back, you did not pull out far enough, so carry on to complete the movement. This at the same time tensions the shutter, makes the finder image visible, winds on the film by one frame (provided you have a film in the camera), and advances the film counter (see page 17). Now you can press the release button (18).

Make a habit of **operating the rapid winding lever immediately after every exposure,** so as to have your RETINA REFLEX always ready for action. Keeping the shutter tensioned — even for some time — does not harm it in any way.





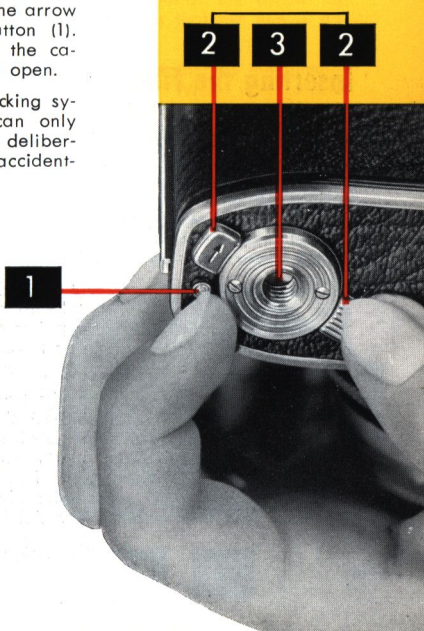
Opening the Camera Back

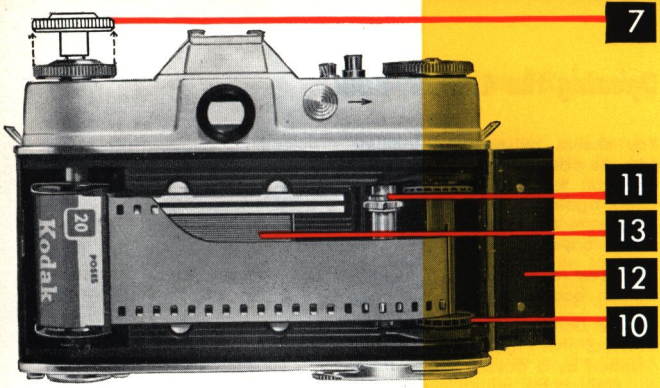
You should by now be familiar with the most important operations, and can take your first picture. Check again all the controls, and make sure that you have not forgotten anything.

To insert a film, first open the camera back as follows:

On the bottom of the camera you will find the tripod bush (3), surrounded by a double safety lever (2). Pushing the milled end of the lever in the direction of the arrow uncovers the opening button (1). Depress this button, and the camera back (12) will spring open.

The advantages of this locking system are obvious. You can only open your RETINA REFLEX deliberately, and never by any accidental movement or knock.





Inserting the Film

If you operate the rapid winding lever and the release button with the camera back open, you can watch the movement of the capping plate (13) through the film aperture. This capping plate springs up on pressing the release, and folds down again in front of the film window on working the rapid winder. To ensure perfect functioning of the precision mechanism of your RETINA REFLEX never press against this capping plate.

To insert the film, fully pull out the rewind knob (7) to its **second** stop. Then turn the built-in take-up spool (10) by its serrated flange until the slit in the core points upwards. Push the trimmed end of the film into the slit so as to anchor a perforation hole in the little hook of the slit.

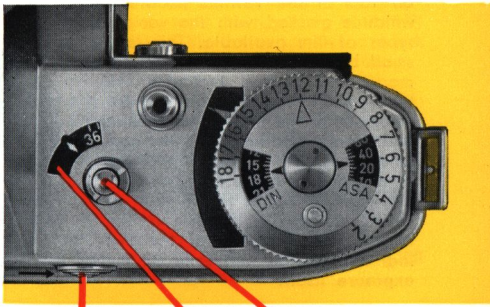
Now draw the film across the film track, and insert the cassette in the cassette chamber. Push back the rewind knob (7) again, turning it at the same time in the direction of the arrow to tension the film. Make sure that the "teeth" of the transport sprocket properly engage the lower row of perforations of the film, and that at least two perforations holes of the upper row overlap the film track (see illustration). Now close the camera back.

Setting the Film Counter

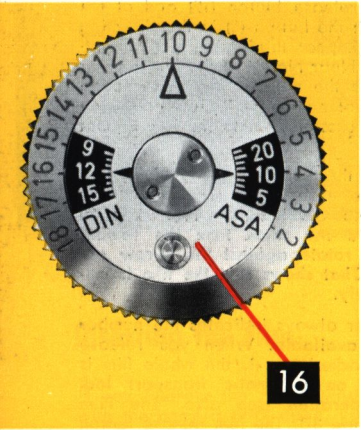
Press the film release button (19) and at the same time push the button (8) in the direction of the arrow. Repeat this until the diamond-shaped mark ♦ Near No. 36 of the film counter (38) is opposite the notch in the upper edge of the film counter window. If you are using a 20-exposure cassette, set to the index mark ♦ at No. 23.

Now operate the rapid winding lever and press the film release button (19). Repeat this until the film counter indicates No. 36 or 20 respectively. **At the same time the rewind knob (7) must rotate against the arrow engraved on it. That shows that the film is advancing properly.**

The film counter always **indicates the number of shots still available.** When you release after it has reached No. 1, the whole film is exposed, and **an automatic transport lock comes into operation** (see also "The Film Release" on page 31). The film release button (19) incorporates a safety lock to prevent accidental releasing.



Setting the Film Speed



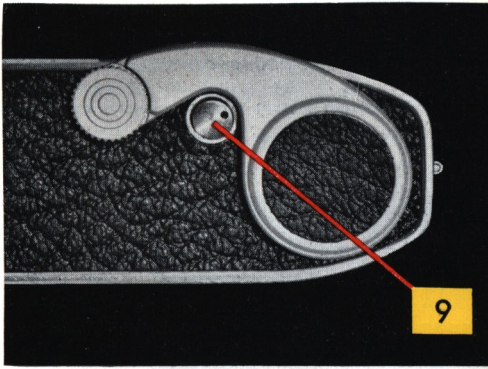
Always remember to set the speed of the film in the camera. This should be done:

a) on the film speed disc of the meter setting ring (16). Turn the film speed disc by means of the small knob until the black triangular mark points to the appropriate speed number of the film in the camera in one of the two windows (for DIN and ASA respectively). For instance use 12 for a 12/10° DIN film.

If you forget this setting, you may obtain incorrect light values and thus wrong exposures!

and b) on the film indicator (39), on top of the rewind knob (7), which is marked with the various types of film available. This is a small but useful aid for your memory, and always indicates the type of film loaded into the camera. Grip the rewind knob with two fingers, and turn the inner serrated ring with a finger tip of the other hand until the triangular index mark ▼ points to the type or speed of the film loaded in the camera. **The position of the film indicator has no influence on the exposure itself.**

Unloading the Camera



To rewind the exposed film depress the reversing button (9) in the base of the camera, and half pull out the rewind knob (7) to its first stop (see page 16), to get at it more easily. Then turn the rewind knob in the direction of the arrow until the reversing button (9) ceases to rotate. This button carries a black dot near its edge for easier observation.

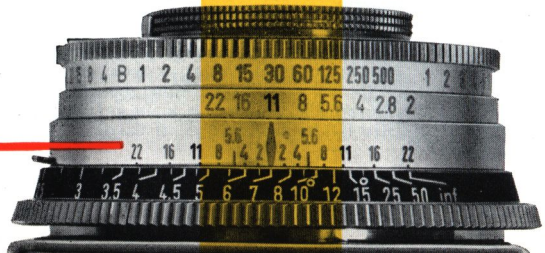
You have now rewound the film into its cassette. Open the camera back (see page 15), fully pull out the rewind knob (7), and remove the cassette.

Do not load or unload films in full sunlight or strong artificial light, or you may fog the first few exposures. After removing the exposed film, re-wrap it in its original packing for full protection against the light.

The Depth of Field Scale

The lens reproduces sharply not only that part of the subject on which it is actually focused, but also a certain zone in front and behind. This zone is called the **depth of field.**

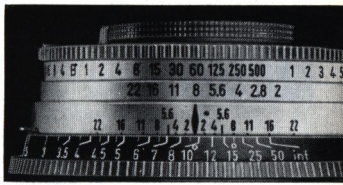
To permit instant readings of the depth of field for any aperture and distance, a depth of field scale (31) is arranged symmetrically around the index mark (23). Suppose you have set the distance to 7 feet. This is how you read off the depth at f/11: To the left of the distance index the line marked with the figure 11 is opposite about 4.5 feet, and to the right opposite 15 feet. This tells you that with a setting of 7 feet at f/11 you have a depth of field zone from 4.5 to 15 feet. Within this zone everything will be sharp.



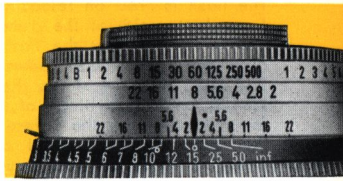
Focusing Zones

You may often come across fast moving subjects where you just have no time to focus the image accurately on the ground glass screen (e. g. sports shots, children, unobserved candid shots, etc.). For such occasions your RETINA REFLEX carries two zone focus settings.

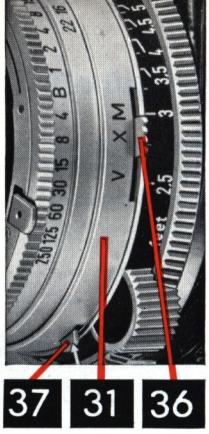
a) For near subjects set the distance to the small circle near the 10-feet mark, and the aperture to f/8. This yields a depth of field from about 6 to 20 feet.



b) For more distant subjects use the small circle near the 20-feet mark, and an aperture of f/8. You then have a depth of field from about 9 feet to infinity.



With these settings you must, however, have enough light. The exposure meter will indicate whether the light is adequate for an aperture of f/8 (e. g. a light value of 12 corresponds to $^1/_{60}$ second at f/8).



Synchronized Flash

The Synchro-Compur shutter of your RETINA REFLEX is **speed-synchronized.** That means that you can take flash shots at all shutter speeds up to the fastest setting of $^1/_{500}$ second with any flash bulb or electronic flash unit on the market.

The depth of field scale (31) carries three engraved letters M, X, and V next to the green milled synchronizing lever (36). **M** and **X** are synchronizing settings for flash, while **V** is the self-timer setting.

The green milled synchronizing lever (36) for flash (M and X) and the self-timer (V) is also connected to a locking lever (37). The synchronizing lever can only be moved after depressing the locking lever (see illustration). This avoids errors due to accidental movement of the lever.

The flash is fired on releasing the shutter release button (18) of the camera. You must of course first connect the flash cable from the flash gun to the flash socket on the camera. The table opposite shows the suitable shutter speeds and the settings of the synchronizing lever required for the different types of flash. The **aperture** to be used can be obtained from the so-called guide numbers which are included with each package of flash bulbs. Divide this guide number by the distance; the result is the required aperture number:

$$\frac{\textbf{Guide number}}{\textbf{Distance in feet}} = \textbf{Aperture}$$

For instance, if the guide number is 120 and you are 15 feet from the subject, $120/15 = 8$; so set the aperture to f/8.

PHILIPS ar

Synchronizing Lever set t

Type of bulb	Exposur time
XP	$^1/_{60}$ sec
XO	$^1/_{30}$ sec

If electronic flash is use the synchronizing lever should be set to X

The Self-timer

If you want to include yourself in a shot, release the green synchronizing lever (36) by depressing the locking lever (37), and set the synchronizing lever to V. This lever must only be set after operating the rapid winding lever. Start the self-timer mechanism by pressing the shutter release button. The shutter will go off after about 10 seconds; you have sufficient time to take your place in the picture.

Once the self-timer mechanism is tensioned, you cannot alter the position of the synchronizing lever (36) any more. **Operate the green synchronizing lever therefore only after setting all the other controls.**

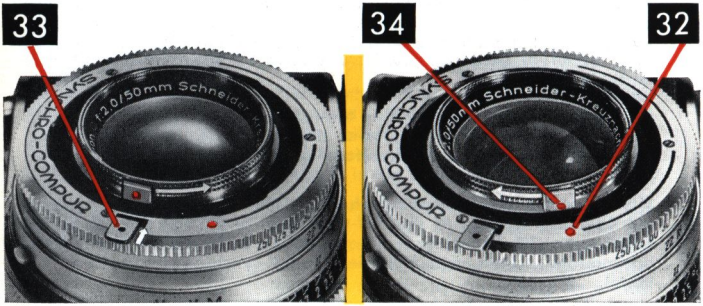
If you use the self-timer for flash shots, the camera works with the X-synchronization. As the self-timer runs down, the synchronizing lever (36) automatically moves to X. Be sure to use the appropriate shutter speed setting for X-synchronization (see table).

Suitable shutter speeds in seconds

SRAM Flash Bulbs			GENERAL ELECTRIC and SYLVANIA Flash Bulbs			
nchronizing Lever set to M or X			Synchronizing Lever set to X		Synchronizing Lever set to M	
Type of bulb	Exposure time M	Exposure time X	Type of bulb	Exposure time	Type of bulb	Exposure time
PF 1	1 sec to 1/500 sec	1 sec to 1/30 sec	PH/M 2	1 sec to 1/60 sec	PH/8	1 sec to 1/500 sec
PF 5			PH/SM		PH 5 u. 5B	
PF 25			Type SF		Bantam 8	
XM 1					Press 25	
XM 5					Type 25B	
SO					Type 25C	

Unless stated otherwise by the makers, all exposure times from 1 to 1/500 sec may be used with electronic flash.

The Interchangeable Lenses of the RETINA REFLEX



You have the choice of the following alternative lens units:
For wide-angle shots:
the 1 3/8 inch (35 mm) RETINA Curtar-Xenon C
or RETINA Heligon C* f/4
For telephoto shots:
the 3 1/8 inch (80 mm) RETINA Longar-Xenon C
or RETINA Heligon C * f/4. * See also foot note on page 27.

Removing and Inserting the Lens

The standard lens of the RETINA REFLEX is a 6-element 2 inch (50 mm) RETINA Xenon C or RETINA Heligon C f/2. The front component of the standard lens is interchangeable. To remove it from the shutter, press the safety catch (33) in the direction of the arrow (see illustration, left) and turn the front part of the standard lens anti-clockwise as far as it will go. For easy removal and safe storage we earnestly recommend the use of the special container for the standard lens.
To insert an alternative lens unit into the camera, place it in position over the mount so that the red dot on the lens mount (34)

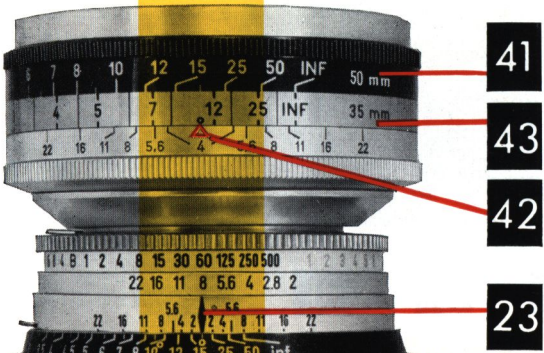
is opposite the red dot on the bayonet ring (32) (see illustration, right). The lens must be firmly mounted in position, so after insertion turn the wide-angle or telephoto unit clockwise as far as it will go, to engage the bayonet lock.
To remove the alternative front units, proceed in the same way as already described for the standard lens.

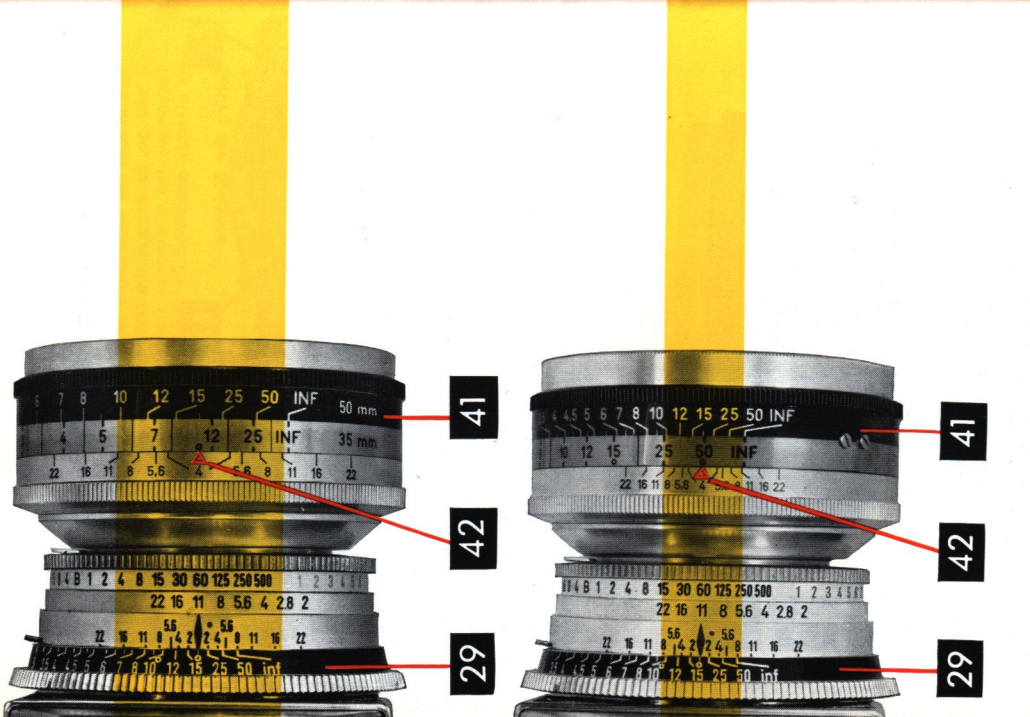
Setting the Distance

After changing the standard lens against the wide-angle or telephoto unit, focus the image either on the ground glass screen or with the optically coupled split image rangefinder in the same way as with the standard lens (see page 8-9). The full-size ground glass screen of your RETINA REFLEX shows you the image exactly as it will be recorded on the film when you release the shutter, at any subject distance and with any focal length.

Depth of Field

To find the depth of field available for telephoto or wide-angle shots, focus the RETINA REFLEX by means of the ground glass screen image or the split image rangefinder. Read off the distance setting opposite the index mark (23) on the camera. Then set this figure on the **black scale** (41) of the alternative lens unit against the red triangular index mark (42).
Now read off the extent of the depth of field to the left and right of this red triangular index mark on the white scale (43) of your telephoto or wide-angle lens unit.
The items numbered 41-44 refer only to the interchangeable lens units and will not therefore be found among the general features on pages 35-37.

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Focusing Zones with the Interchangeable Lenses

1. Wide-angle Lens

The zone focus setting is marked on your wide-angle lens unit by a black circle. Set this circle to the red triangular index mark (42). The black scale (41) of the wide-angle unit then indicates 20 feet. Now set the distance scale (29) of the RETINA REFLEX to 20 feet, and the lens aperture to f/11. This yields a depth of field zone extending from about 5½ feet to infinity (see illustration).

2. Telephoto Lens

The zone focus settings are marked on your telephoto lens by two black circles.

a) Near focusing zone:

Set the black circle near the figure 15 to the red triangular index mark (42). The black scale (41) of the tele lens unit then indicates a distance of 6 feet.

Now set the distance scale (29) of the RETINA REFLEX to 6 feet, and the aperture to f/11. The zone of sharp focus then extends from about 12 to about 20 feet (see illustration).

b) Far focusing zone:

Set the black circle near 50 feet to the red triangular index mark (42). The black scale (41) of the tele lens unit then indicates 20 feet.

Now set the distance scale (29) of the RETINA REFLEX to 20 feet, and the lens aperture to f/11. This yields a depth of field zone from about 25 feet to infinity.

Please note: The RETINA Xenon C interchangeable lens units can only be used with a RETINA REFLEX fitted with a RETINA Xenon C standard lens. Similarly, a RETINA Heligon C standard lens must only be used with RETINA Heligon C interchangeable lens units. Moreover, never interchange the standard lens of your RETINA REFLEX with the standard lens of any other RETINA. The serial number of the standard lens must always be the same as the serial number engraved on the bayonet ring on the camera.

Telephoto Shots Between 3½ and 6½ feet

The telephoto lens unit can be focused over a range from infinity down to 6½ feet. With a **T 1/60 supplementary lens** fitted over the front, you can also take telephoto shots of subjects between 3½ and 6½ feet (mainly of use in portraiture to avoid distorted perspective rendering). Adjust the image for sharpness in exactly the same way as with the standard lens (see page 8-9).

To find the depth of field available, focus the image on the ground glass screen or by means of the split image rangefinder and read off the distance setting on the index mark (23) of the RETINA REFLEX. Then use the **black ring** of the telephoto lens (41) next to the yellow figures to set this value to the triangular red index mark (42). Now read off the extent of the depth of field to the left and right of this red index mark on the **yellow scale** of your telephoto lens (44).

General points

You will find that the scale ring of your wide-angle and telephoto lens units carries subdivisions between the distance figures. The same subdivisions are repeated on the distance scale (29) of the RETINA REFLEX, and are an aid to more accurate reading of depth of field zones.

For pictures with the interchangeable lenses of the RETINA REFLEX the same aperture and shutter speed settings apply as with the standard lens. One point is, however, important: **do not set a larger stop than f/4 with the alternative lens units. Otherwise the picture will be underexposed.**

However, before you put down this instruction booklet, we should like to give you a few more hints.

Important Hints

Reflected and Incident Light Readings

The exposure meter of your RETINA REFLEX can be used in two different ways: for reflected light readings, and for incident light readings.

Measuring the Reflected Light

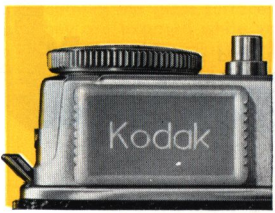
Reflected light readings are taken from the camera position towards the subject as described on page 7. You therefore measure the light **reflected** from the subject in front of the camera. This is the most frequently used method, and gives reliable exposures when the light is behind or to one side of the camera. If the scene includes great brightness differences, do not direct the exposure meter at too bright or too dark a part of the subject, but choose an area of average brightness.

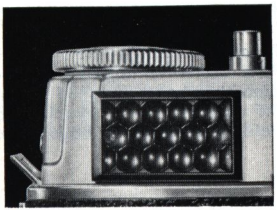
On no account tilt the camera upwards when taking a reading. Otherwise the meter will measure the brightness of the **sky,** and give false readings.

Measuring the Incident Light

Incident light readings are taken in the reverse direction, i. e. with the meter pointing from the subject towards the taking position. This is the more accurate method, for it **directly** measures the light falling on the subject. **For incident light readings the diffusing screen must always be fitted over the cell.** The diffusing screen is normally carried in the loop of elastic in the lid of the ever-ready case.

Incident light measurement is particularly suitable for determining the light value in against-the-light shots and snow scenes, as well as close-ups and small subjects.





Complete Freedom from Parallax

Once more we want to emphasize that the full-size ground glass screen image of your RETINA REFLEX is completely free from any parallax error at all subject distances and with all focal lengths. This applies not only to the interchangeable lenses, but also of course to all supplementary close-up lenses.

Buying Additional Lens Units

If you want to buy a wide-angle or telephoto lens unit, please note our remarks on page 27. The standard Xenon C lens can only be used with interchangeable Xenon C units, and the standard Heligon C lens only with the interchangeable Heligon C units.

Eyesight Correction

The eyepiece of the RETINA REFLEX is designed for easy viewing of the whole area of the full-size ground glass screen even when wearing spectacles. Correction lenses can, however, be supplied to special order (please state power in + or — dioptres) for users with defective eyesight who do not wear spectacles and are thus unable to see the screen image clearly. These lenses screw into the eyepiece mount. No correction lenses are available for astigmatism.

The Right-angle Finder for the RETINA REFLEX

To make copying, low-angle views, and similar subjects easier to tackle, a right-angle viewfinder eyepiece has been designed for the RETINA REFLEX. This fits over the finder eyepiece of the camera, and is held in place by a bayonet lock.

Infra-red Photography

For infra-red photography the depth of field scale carries a small red dot to the right of the distance setting index. This is used as distance setting index for exposures on infra-red film. In that case an infra-red filter must also be used.

The Film Release

If you forgot to set the film counter when loading the film (see page 17), the film counter may reach No. 1 before the film is finished. **At No. 1, however, the rapid winding lever automatically locks.** You than have to readjust the film counter accordingly to enable you to work the rapid winding lever and advance the film again. If you cannot pull it out completely, press the film release button to make it spring back. If the film is finished before the counter reaches No. 1, the rapid winding lever may stop in a half-way position.

Double Exposures

The double exposure lock of the RETINA REFLEX prevents accidental double exposures. To make a deliberate double exposure for special purposes, press the reversing button (9) after the first exposure, and keep it depressed while tensioning the shutter with the rapid winding lever (6). The film then remains in position for a second exposure on the same frame. Note that operating the rapid winder after the second exposure also advances the film counter to indicate one frame **more** than the number exposed.

Care of the Camera

Protect your lens against damage and especially avoid touching the glass surfaces and also the shutter blades when they are exposed while you change the lens. The best means of cleaning the glass surfaces and the finder eyepiece is a soft rag as used for cleaning spectacle lenses. Careful treatment especially of these parts of the Camera will ensure really brilliant pictures. Clean also the film chambers and film track occasionally with a soft brush to remove any dust.

RETINA REFLEX AND RETINA SYSTEM

The world-wide fame of the RETINA is based as much on its recognized precision as on its versatility. With your RETINA REFLEX and the accessories of the RETINA system you can successfully tackle practically any photographic job. Here we can refer only briefly to the many fields of application, and refer you again to our detailed general catalogue "The Kodak RETINA and its System" available free from your photo dealer or from us.

Lens Hoods and Filters

A rectangular lens hood is available for the standard lens of your RETINA REFLEX, and a round hood for the telephoto and wide-angle lenses. As every photographer knows, lens hoods as well as filters for black-and-white and colour film are indispensable aids to good pictures. Please note the light value corrections given on page 34 when using the various filters.

Close-ups

Two supplementary N-lenses bring an immense world of small subjects within your reach — the interesting close-up range from 38 down to about 12 inches. The full-size ground glass screen of your camera shows you an exact and parallax-free view of the subject at all apertures and distances.

The Close-up Attachment

The three supplementary R-lenses are designed for shots at four fixed near distances between 11 and 6 inches. Even at this close range the ground glass screen will of course permit parallax-free focusing. However, for close-ups of live subjects or of rapid movement (insects, butterflies, etc.) we recommend the use of the RETINA close-up attachment.

The Table Stand

The highly versatile table stand has been developed for close-ups of subjects which require, or permit, longer exposure times, and for all shots where quick setting up and absolute steadiness of the camera are important.

The Copying Stand

For quick and convenient copying of documents, important letters, valuable prints and the like from about 6 × 8 inches to 8 × 12 inches large, use the copying stand. A special lighting unit for it is available separately.

The Frame Finder Model c

The frame finder model c is a valuable aid when shooting fast moving subjects, architectural views, or night or flash pictures. It can be used with the standard and telephoto lenses.

The Kodablitz

Be ready for action with your RETINA REFLEX at any time and under any light conditions: get the handy KODABLITZ flash gun with the grained soft-light reflector. It fits either into the accessory shoe, or it can be fixed to the tripod bush of your RETINA REFLEX by means of the flash bracket. The 22.5 volt anode battery of the KODABLITZ will also operate two to three extension units without additional power source.

The Stereo Attachment

For three-dimensional photography the RETINA stereo attachment fits in front of the standard lens of your RETINA REFLEX. The inexpensive and handy RETINA stereo viewer shows your subjects almost full-size and amazingly life-like in 3-D. You will get the most beautiful effects with stereo shots on KODACHROME film, for they combine the third dimension with colour to achieve the utmost realism.

The Micro Adapter

Doctors, biologists, and all scientists and science students will find the micro adapter the ideal equipment for making black-and-white or colour records of their microscope investigations with the RETINA REFLEX.

Light Value Correction when Using Filters

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

Filter		Factor	Reduce light value setting by
Light yellow	F I	1½ x	½
Medium yellow	F II	2 x	1
Yellow green	F III	2 x	1
Orange	F IV	3 x	1½
Red	F V	7 x	3 (2¾)
Blue	F VI	2½ x	1½ (1¼)
Ultra-violet	—	—	—
Polarizing filter	—	2½ x	1½ (1¼)

Please note also the filters for KODACHROME film. It will be worth while to find out more about this popular Kodak colour film. See also our hints on KODACHROME film on page 39. Ask your photo dealer, or write to us, for literature.

The Camera Features ▶

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		Factor	Reduce light value setting by
ellow	F I	1½ x	½
n yellow	F II	2 x	1
green	F III	2 x	1
	F IV	3 x	1½
	F V	7 x	3 (2¾)
	F VI	2½ x	1½ (1¼)
olet	—	—	—
ng filter	—	2½ x	1½ (1¼)

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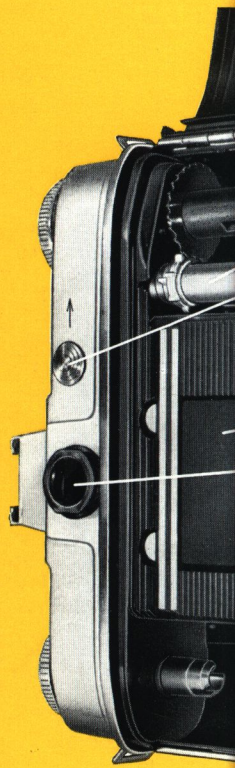
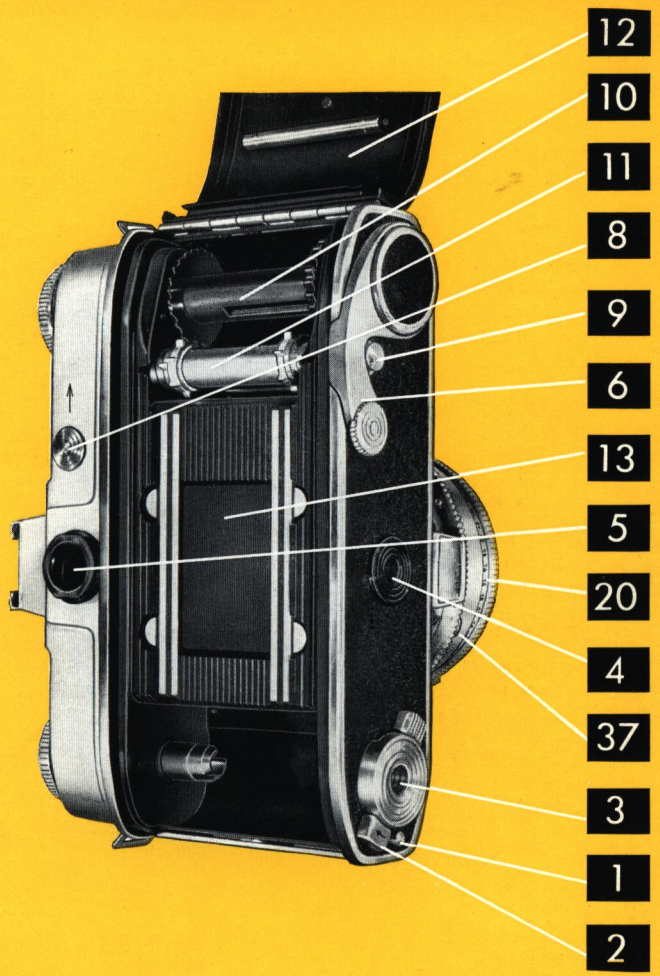
The Camera Features ▶

The Camera Features

1 Button to open camera back
2 Safety lever
3 Tripod bush
4 Locating hole for accessories
5 Finder eyepiece
6 Rapid winding lever
7 Rewind knob
8 Button to set film counter
9 Reversing button
10 Built-in take-up spool
11 Transport sprocket
12 Camera back
13 Capping plate
14 Exposure meter setting ring
15 Red triangular setting index of exposure meter
16 Film speed disc of exposure meter
17 Exposure meter window
18 Shutter release button
19 Film release button
20 Light value scale
21 Light value setting index (red dot)
22 Light value setting lever
23 Index mark (for aperture, shutter speed and focusing)
24 Aperture scale
25 Aperture setting ring
26 Shutter speed scale
27 Shutter speed setting ring
28 Green seconds scale
29 Distance scale
30 Focusing knob
31 Depth of field scale
32 Red dot on bayonet ring
33 Safety catch
34 Red dot on lens mount
35 Flash socket
36 Synchronizing and self-timer lever
37 Locking lever for synchronization and self-timer
38 Film counter
39 Film indicator
40 Accessory shoe

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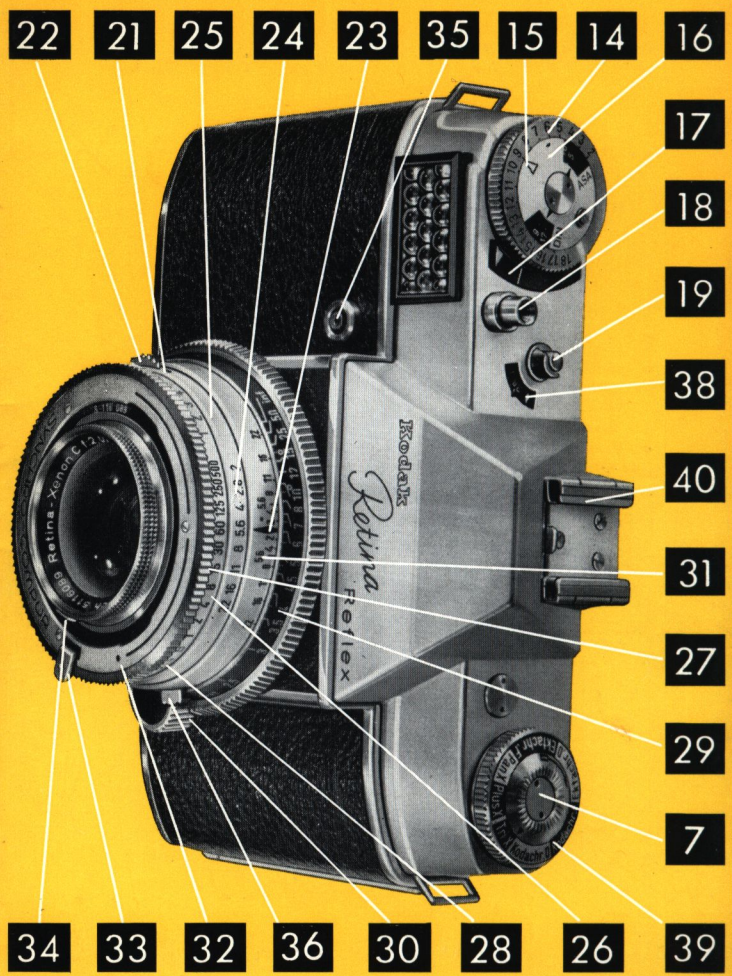
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Kodak
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Changing Partly Exposed Films

If you want to unload a partly exposed film (e. g. to change from black-and-white to KODACHROME), rewind the film into its casette as described on page 19. However, take care not to draw the trimmed film leader completely into the cassette; stop rewinding immediately the reversing button (9) ceases to rotate. Also, remember to note on the beginning of the film leader the number of the last exposure read off the film counter.

When reloading the partly exposed film, proceed as described on page 16. As before, set the film counter to the ▲ mark before No. 20 or 36. Close the camera back and advance the film by alternately working the rapid winder (6) and pressing the film release button (19). On no account press the shutter release (18)! Carry on until the film counter indicates the same number at which you originally unloaded the film. To be on the safe side, advance the film by an extra frame.

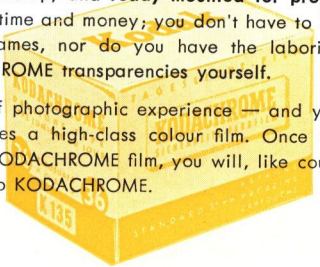
A Final Hint:
KODACHROME in the RETINA REFLEX

Every real photographer longs for colour — to capture the wealth of hues of nature as colourfully as it is in reality. Nothing is easier! KODACHROME film opens up a new and gloriously beautiful field of photography. It is the miniature film used for colour photography in all five continents.

The outstandingly faithful colour rendering of KODACHROME film is probably the most decisive point in its favour, and the main reason why it is so popular with amateurs as well as professional photographers. Everybody is thrilled by the lifelike natural colours.

But our **prompt processing service** has equally become a convenience no KODACHROME user wants to do without. You take the pictures, the Kodak processing laboratories do the rest. Within a few days your KODACHROME transparencies come back by post right to your doorstep, and **ready mounted for projection.** This saves you both time and money; you don't have to buy separate transparency frames, nor do you have the laborious job of mounting KODACHROME transparencies yourself.

Colour is the fulfilment of photographic experience — and your high-class camera deserves a high-class colour film. Once you have exposed your first KODACHROME film, you will, like countless others, always stick to KODACHROME.



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