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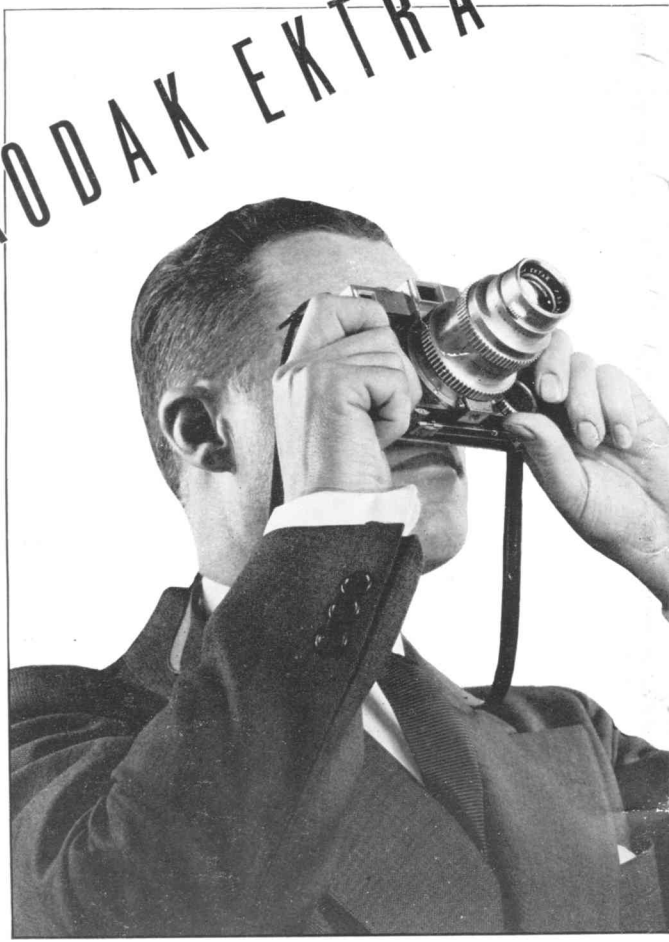
HOW TO USE THE

KODAK EKTRA

KODAK EKTRA



THE WORLD'S MOST DISTINGUISHED CAMERA

In the superb Kodak Ektra you will find a combination of features never before available in one 35 mm. camera.

These features include interchangeability of lenses and magazine backs; focal plane shutter with speeds from 1 second to 1/1000 second and bulb; split-field range finder coupled to operate automatically with any one of six available lenses; an optical built-in control to change the field of the view finder to correspond to the field covered by each of the lenses; automatic parallax correction in the view finder for distances as close as 3½ feet; chemically treated lens surfaces to give greater clarity and brilliance to pictures; and arrangement of operating controls so that they are readily visible from the top of the camera.

Six Ektar precision lenses are available, ranging from 35 mm. to 153 mm. in focal length. The 50 mm. lenses can be focused as close

as 18 inches, without a supplementary lens and the wide angle 35 mm. lens as close as 1 foot.

Interchangeable magazine backs, available as accessories, make it possible to change from one type of film to another without waiting to finish the roll and without loss of a single frame.

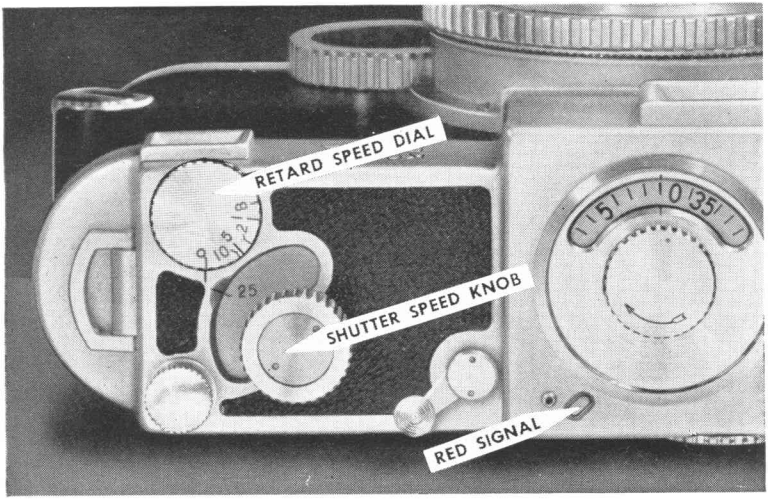
Focal plane shutter is of the pre-set variable slit type, designed for unsurpassed accuracy at all speeds.

Arranging the controls so they are visible from the top of the camera makes it easier for the user to make the exposure quickly, and to be sure each picture is taken at the desired speed. Winding the shutter and advancing the film with the same lever leaves the hands always in the operating position with the camera at eye level.

These features make the Kodak Ektra truly the world's most distinguished camera. Operating instructions and a detailed description of its features will be found on the following pages.

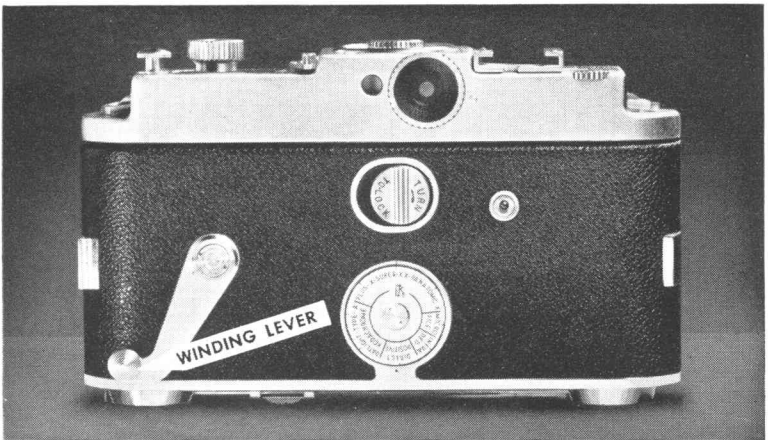
1. WINDING THE SHUTTER

If exposures 1/25 second or faster are desired, the cipher "0" of the RETARD SPEED DIAL *must* be at the index line as illustrated. Push the WINDING LEVER toward the center of the camera as far as it will



go to wind the shutter. The lever should be pushed twice, or until the RED SIGNAL in the window on the top of the camera disappears.

This RED SIGNAL *is a warning that the shutter must be wound before you attempt to change shutter speeds.*



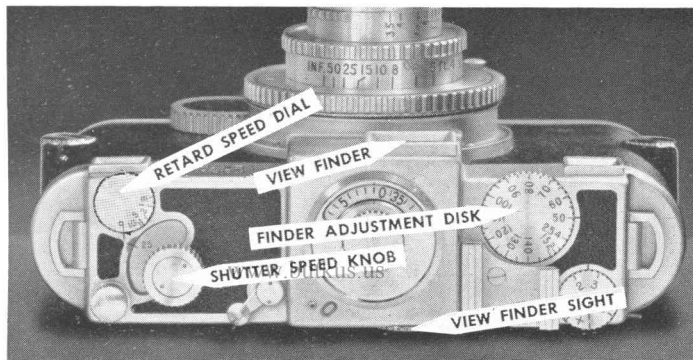
2. SETTING THE SHUTTER SPEED

The shutter must be wound before attempting to set shutter speeds. Lift the SHUTTER SPEED KNOB as far as it will come. A slight click will be heard. Turn the KNOB until the desired speed comes to the index line. If 25 is at the index line, the wheel must be turned counter-clockwise to set the shutter for any of the higher speeds. Exposures of 1/1000, 1/500, 1/250, 1/100, 1/50, 1/25, 1/10, 1/5, 1/2, and 1 second as well as "Bulb" Exposures can be made with the Kodak Ektra.

For exposures slower than 1/25 second, the shutter must be wound, *and 25 brought to the index line;* then revolve the RETARD SPEED DIAL until the exposure desired is at the index line. For example: If an exposure of 1/5 second is wanted, bring 5 to the index line.

3. VIEW FINDER

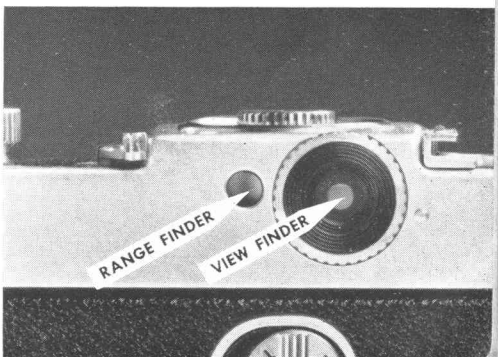
Before using the VIEW FINDER the number agreeing with the focal length of the lens in millimeters, must be brought to the index line of the FINDER ADJUSTMENT DISK on the right side of the camera. For example, when a 50 mm. lens is used, 50 must



be at the line; if the 135 mm. lens is used, the line between 130 and 140 must be at the index line. This disk controls in the VIEW FINDER the angle of view covered with the lenses of different focal lengths.

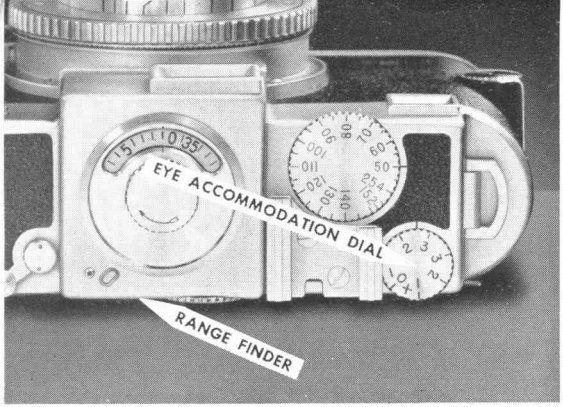
To accommodate the finder to your eye revolve the VIEW FINDER SIGHT by the knurled wheel until the field seen in the finder is sharp; this is necessary for each lens of a different focal length. The finder shows what will appear in the picture but on a much reduced scale. Hold the camera at that distance from the eye which permits seeing the entire front frame of the finder. This will assure the proper aiming of the Kodak. During the exposure, hold the Kodak steady by pressing the hand supporting it against the face. All vertical lines in the subject should appear parallel with the vertical sides of the front frame of the finder, when the Kodak is held in the vertical or horizontal position. Unusual effects can be obtained by tilting the Kodak.

Besides the regular view finder there are available as accessories the High-Low Angle Finder, especially useful when taking pictures over the heads of a crowd, and the Right Angle Finder, which permits photographing a subject while looking at right angles to it.

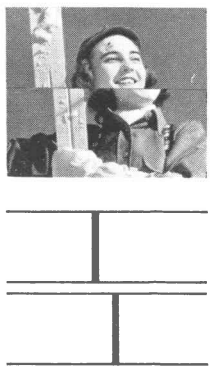


4. RANGE FINDER

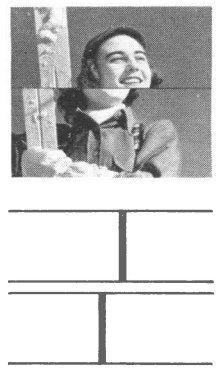
The RANGE FINDER of the Kodak Ektra is



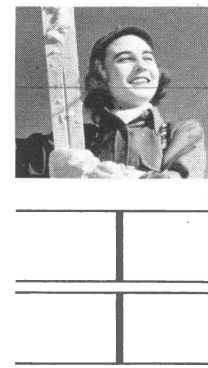
coupled with the lens of the camera. The RANGE FINDER is of the split-field type. Look through the range finder eyepiece. A distinct horizontal line cuts the field of view in two equal parts. Should the field of view be blurred, turn the range finder EYE ACCOMMODATION DIAL clockwise until the field is sharp and distinct. This dial is marked in diopters and after it has once been set for your eye accommodation it need not be ad-



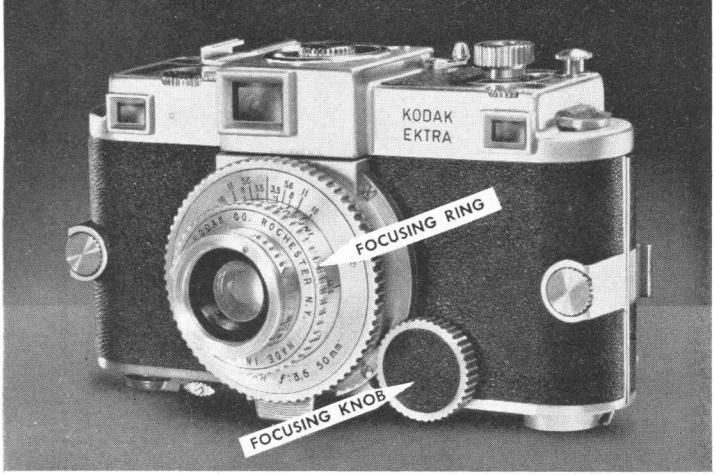
As image will appear when RANGE FINDER *is set for a distance nearer than the correct one.*



As image will appear when RANGE FINDER *is set for a distance beyond the correct one.*



As image will appear when RANGE FINDER *is correctly focused.*



justed again. Every user of the camera should make this adjustment before using the RANGE FINDER. Move the FOCUSING RING of the lens to the approximate focus and then look through the range finder eyepiece at some vertical line in the subject.

The selected vertical line will appear broken. The part seen in the upper area will be either to the right or left of the vertical line which is seen in the lower area. Fine focusing is done by turning the FOCUSING KNOB with either 50 mm. Kodak Ektar Lens *f*/1.9 or *f*/3.5, with the wide-angle Kodak Ektar Lens *f*/3.3 of 35 mm. focal length and Kodak Ektar Lens *f*/3.5 of 90 mm. focal length. (With the Kodak

Telephoto Lenses, focusing is done by revolving the lens barrel.) Turn the FOCUSING KNOB until the vertical line is unbroken.

The RANGE FINDER can be used only on still objects.

The RANGE FINDER can also be used with the camera held vertically. When it is used in this position, focus on some *horizontal line* in the subject. When the line is continuous, the Kodak is in focus.

Another method of using the RANGE FINDER is to set the lens for the distance desired, then while looking through the eyepiece of the range finder, move back or forth until a vertical line in the subject appears continuous in the upper and lower area of the finder.

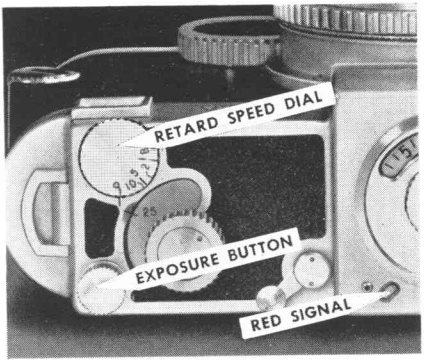
The Kodak Ektar Lenses *f*/1.9 and *f*/3.5 both of 50 mm. focal length can be focused on subjects as close as 3½ feet with the RANGE FINDER. See detailed instructions for using the lens on your Kodak, pages 20 to 33.

5. STOP OPENINGS

The stop openings regulate the amount of light passing through the lens. The openings are enlarged or reduced by turning the Diaphragm Control Ring near the front of the lens. (With the Wide-Angle Lens turn the Diaphragm Control Ring by the knurled edge which projects from the front of the lens.)

For average subjects outdoors when the sun is shining, turn the Diaphragm Control Ring to *f*/8, and make an exposure of 1/100 second when using Kodak Plus-X Panchromatic Film. See table on pages 38 and 39 for exposure data for daylight.

6. RELEASING THE SHUTTER

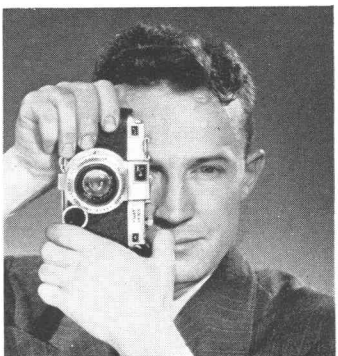


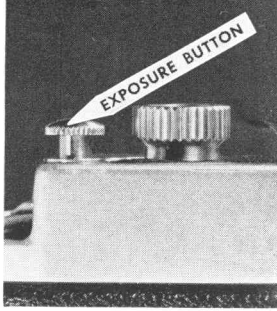
After the shutter is wound and the RED SIGNAL does not appear in the window on the top of the camera, the shutter is released by pushing the EXPOSURE BUTTON all the way down. Regardless for what speed the shutter had been previously set, the number 25 appears at the index line after the exposure is made. When the shutter is wound again the shutter is automatically

HOLD THE KODAK STEADY

Holding the Kodak for a horizontal picture.

Holding the Kodak for a vertical picture.

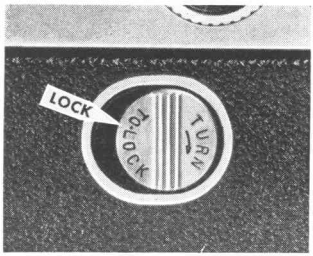




set for the speed of the previous exposure.

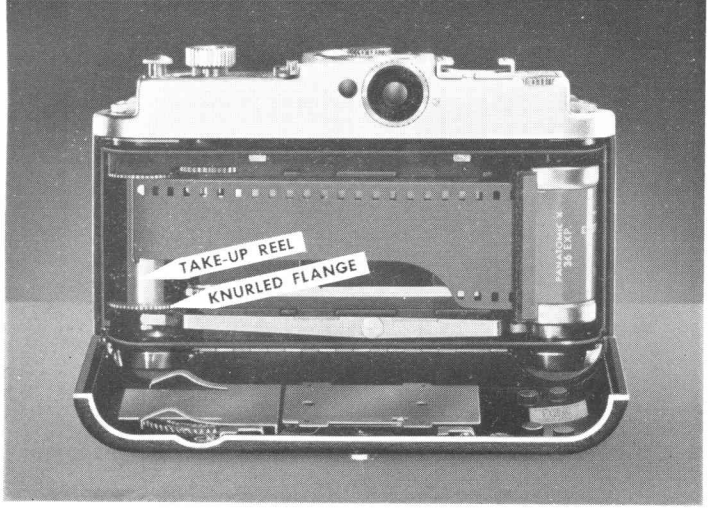
When carrying the camera loaded with film, the EXPOSURE BUTTON can be lifted and turned counter-clockwise as far as it will go, where it will drop into the lock position; this prevents the accidental release of the EXPOSURE BUTTON.

LOADING

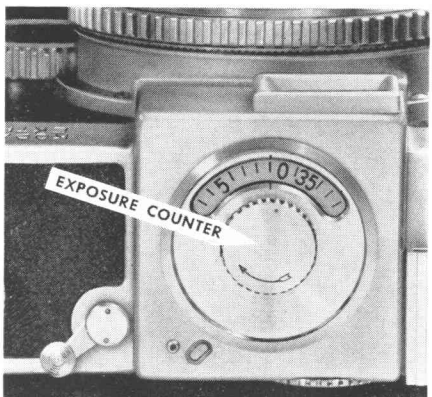


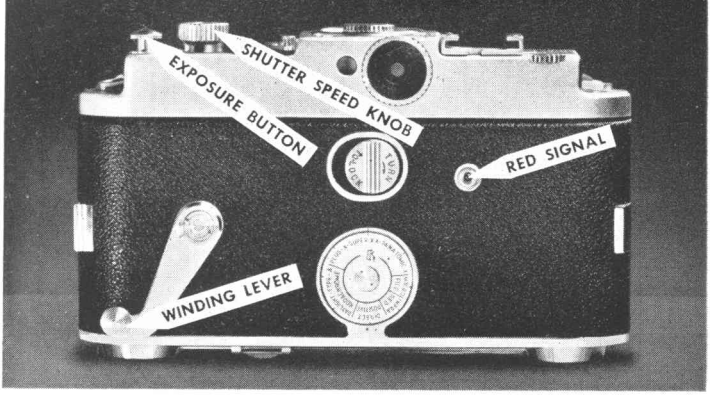
Give the LOCK a half-turn counter-clockwise and slide it to the left; open the back. Insert a magazine of Kodak 135 Film (for the various types of film see pages 34 and 35) in the recess on the right, first engaging the two prongs in the camera into the opening of the magazine having the crosspiece. Draw the film across the film track and insert the end of the film into the slot of the TAKE-UP REEL and engage the second film perforation with the lug in the slot, see illustration.

Revolve the TAKE-UP REEL by the KNURLED FLANGE to bind the film on the reel, and make certain that the lug is engaged in the perforation. Close the back of the camera, slide the LOCK to the right as far as it will go, and turn it clockwise in the



direction of the arrow. Wind off the equivalent of four frames by pushing the WINDING LEVER from left to right. Two full strokes are sufficient to move the film one frame. The WINDING LEVER winds both the shutter and the film. It will be necessary to release the shutter by pressing the EXPOSURE BUTTON after each time the WINDING LEVER locks, except the fourth time. Enough film will now be wound on the TAKE-UP REEL so that the figure 1, which appears on the margin of the film after it is developed, will be in position for the first exposure. Turn the EXPOSURE COUNTER dial in the direction of the arrow to the first line after "O," see il-





lustration. The Kodak is now ready for the first exposure. While pushing the WINDING LEVER hold the camera steady and watch the RED SIGNAL on the *back* of the camera. If this signal does not vibrate, it is a warning that the film is not properly threaded. If this should be the case, open the camera and rethread film.

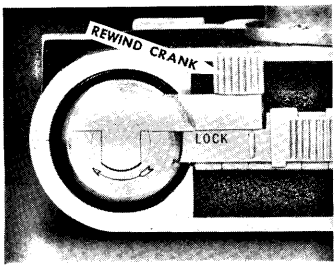
After making the exposure, push the WINDING LEVER until the RED SIGNAL on the *top* of the camera disappears. Every time a new section of film is brought into position the FILM COUNTER automatically moves to the next exposure number.

Either 36 or 18 exposures can be made on the film in the Kodak Magazine, see pages 34 and 35. After each exposure, wind the next section of film into place with the WINDING LEVER. It is impossible to make a double exposure with the Kodak Ektra when the WINDING LEVER is used for winding the shutter and film. Sometimes in trick photography you may wish to make a double exposure. This can be done

IMPORTANT: When the SHUTTER SPEED KNOB is being turned be sure to grip the KNOB firmly so that it does not slip back before the shutter is fully wound. The KNOB must be turned until 25 is at the shutter speed index. If the KNOB does slip back, lift it again and slowly turn it clockwise until 25 is at the index line. Do not press the EXPOSURE BUTTON, before 25 has been brought to the index line. If the KNOB has slipped back accidentally and in attempting to wind it the second time, it is found that the dial will not stop on the 25, it will be necessary to set the shutter with the WINDING LEVER. This procedure, of course, advances the film one frame.

by making the first exposure in the usual way; then, instead of winding the shutter with the WINDING LEVER, lift and turn the SHUTTER SPEED KNOB clockwise one complete turn. This will set the shutter for an exposure of 1/25 second. If a speed other than 1/25 is desired, reset the shutter speed in the usual way. Press the EXPOSURE BUTTON to make the double exposure.

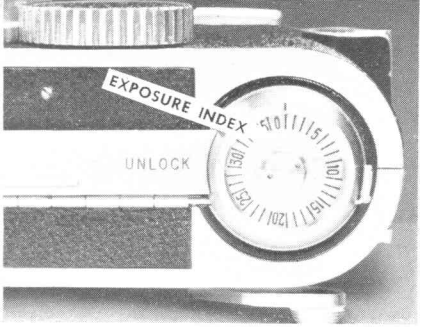
REMOVING THE FILM



After the last exposure has been made, lift the film REWIND CRANK and rewind the film into its magazine, turning the crank in the direction of the arrow. Watch the RED SIGNAL on the *back* of the camera and when it ceases to vibrate, reseat the REWIND CRANK, open the back of the Kodak and remove the film.

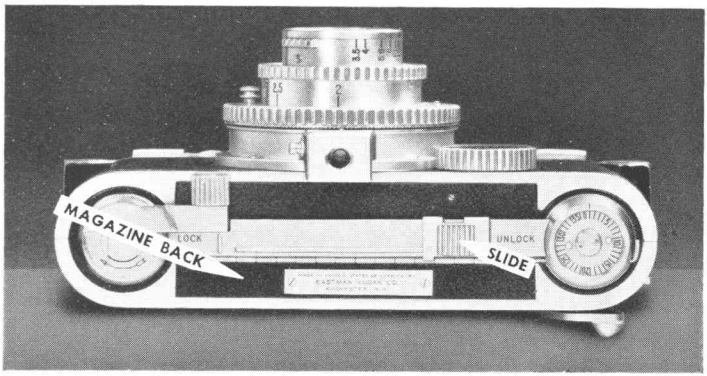
THE MAGAZINE BACK

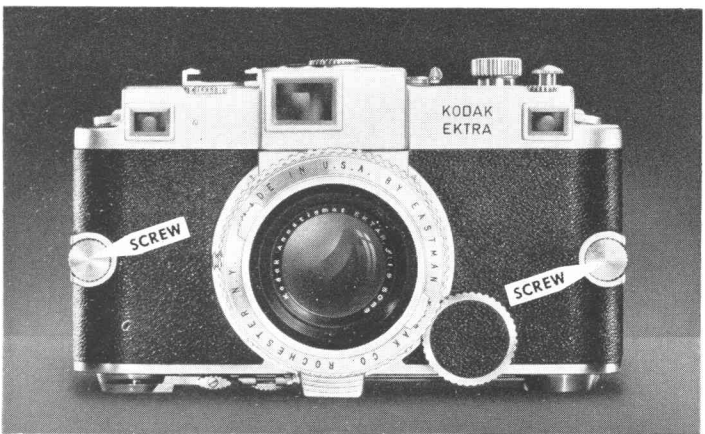
Separate MAGAZINE BACKS can be purchased, permitting black-and-white or Kodachrome photography before finishing all the exposures in any one MAGAZINE BACK. The dial on the cover, listing the various Kodak Films, should be set to indicate the

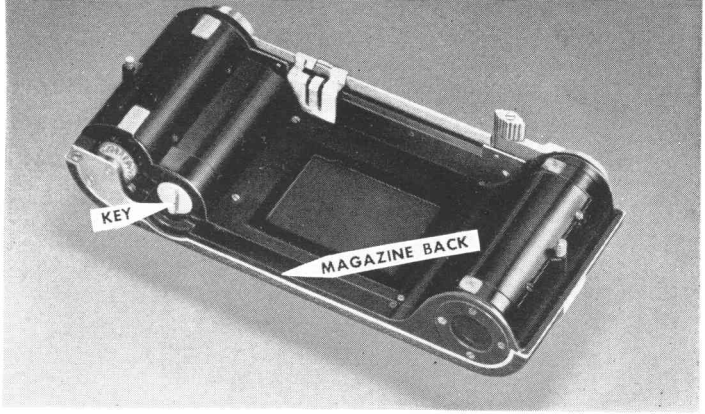


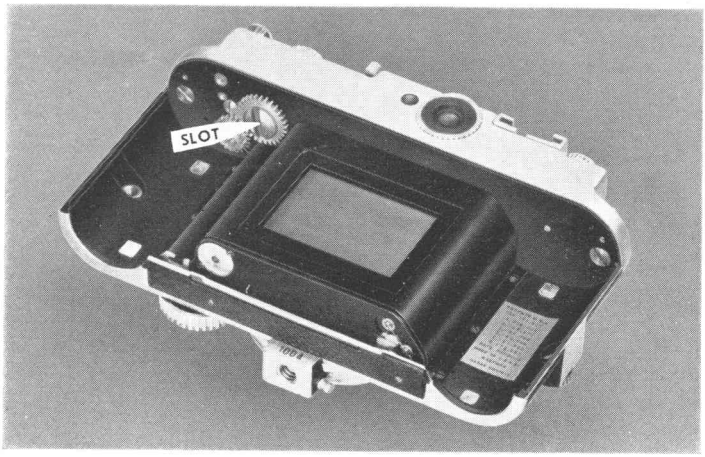
type of film in the MAGAZINE BACK. *Before removing the* MAGAZINE BACK *wind the shutter and film with the* WINDING LEVER; then lock the EXPOSURE BUTTON, see page 10. Turn the EXPOSURE INDEX on the bottom of the MAGAZINE BACK to the figure registered by the EXPOSURE COUNTER on the top of the Kodak.

To change the MAGAZINE BACK, move the SLIDE on the bottom of the camera to "*Unlock*" and

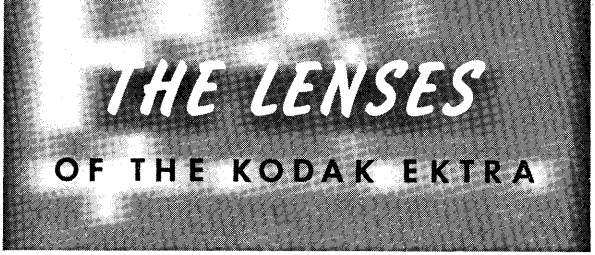








loosen the two SCREWS on each side of the front of the camera; then lift off the MAGAZINE BACK. Place the second MAGAZINE BACK on the camera, engaging the KEY on the upper side of the MAGAZINE BACK, with the SLOT in the upper left side of the camera. Tighten the two SCREWS on the front of the camera and push the SLIDE to "*Lock*."



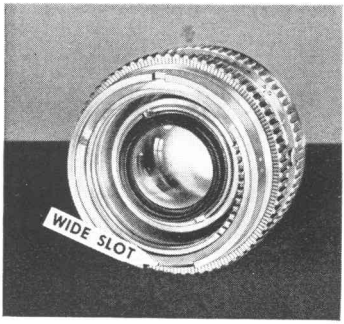
The Kodak Ektra is designed to take interchangeable lenses. Among the lenses that are now available are three Kodak Ektar Lenses, two of 50 mm. focal length (one *f*/3.5, the other *f*/1.9), and one of 90 mm. focal length, *f*/3.5. There are two Kodak Telephoto Ektar Lenses, one of 135 mm. focal length *f*/3.8 and the other of 153 mm. focal length *f*/4.5, and a wide-angle Kodak Ektar Lens of 35 mm. focal length and a maximum aperture of *f*/3.3.

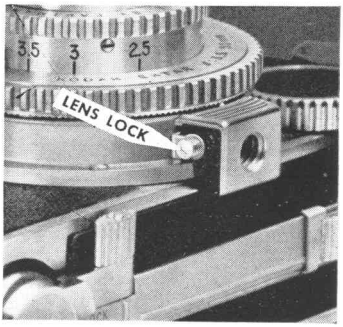
All the lenses of the Kodak Ektra are especially treated by depositing on each inner surface of the lens a transparent, extremely thin film of a depth of less than 1/50,000 of an inch. Since the deposited layer is easily abraded, only the inner, protected surfaces of a lens are treated.

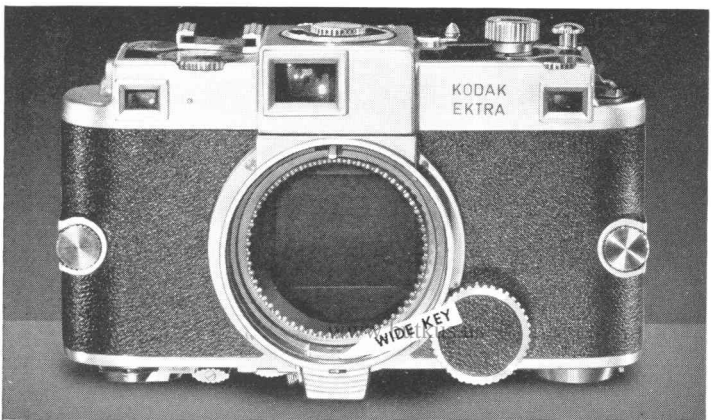
This process improves the clarity and brilliance of the images formed by the lens, insures superior contrast in black-and-white negatives and greater color purity in Kodachrome transparencies. This is accomplished by greatly reducing the intensity of the reflections from the several glass-air surfaces within the lens.

Glass treated by this process is almost invisible, except when viewed at an acute angle, when it appears to assume a delicate characteristic tint.

The lenses are attached to the Kodak Ektra by fitting the WIDE SLOT in the bottom rim of the lens barrel over the wide KEY in the lens opening of the camera and then screwing the lens in place by means of the lower knurled collar. A red dot is placed on the top of the lens for a further convenience. To remove a lens, first press the LENS LOCK toward the camera body and give the lower knurled collar a half turn, counter-clockwise; then release the LOCK and continue unscrewing the lens.







For general work, lenses of 50 mm. focal length give the most natural perspective, but for close-ups such as portraiture, the 90 mm. lens will give the most pleasing results. Specific instructions for each lens are given on pages 20 to 33. Refer to the section describing the lens you are using.

DEPTH OF FIELD

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

STOP OPENINGS

Stop openings regulate the amount of light passing through the lens.

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

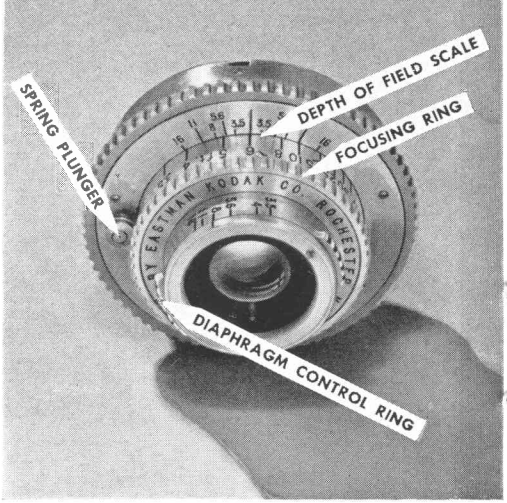
Take the Kodak Ektar *f*/1.9 Lens for example: The stop openings are marked *f*/1.9, 2.8, 4, 5.6, 8, 11, 16, and 22. The largest stop is *f*/1.9 and allows approximately twice as much light to enter the lens as *f*/2.8; *f*/2.8 twice as much as *f*/4, etc. In other words the lens is so marked that each smaller opening (larger number) admits half the light of the

preceding larger stop opening. Thus, if the correct exposure is 1/100 second at *f*/5.6; then the exposure for *f*/8 should be 1/50 second, and for *f*/11, 1/25 second.

While we have taken the *f*/1.9 lens for an example, the difference in respect to the other lenses is the largest stop opening, the value of which can be estimated by comparison. Comparative exposure required for any *f*/ number may be found by figuring the ratio of the square of the two numbers. Thus in comparing the value of *f*/4 in relation to *f*/3.5, we multiply 4 x 4 = 16, while 3.5 x 3.5 = 12.25. Dividing 16 by 12.25 gives 1.3 times longer exposure necessary for *f*/4 than for *f*/3.5.

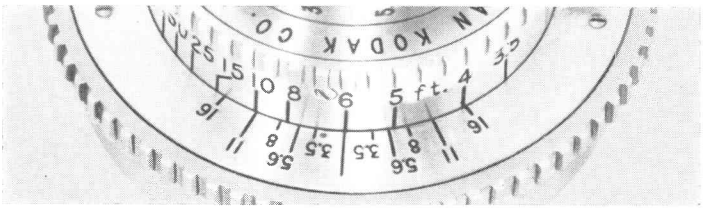
The exposure for the average outdoor subject, when the sun is shining, is *f*/8 and 1/100 second when using Kodak Plus-X Panchromatic Film. If the day is exceptionally brilliant, use the next smaller stop to *f*/8, that is *f*/11 and 1/100 second. *The important thing to remember is the average exposure of f/8 and 1/100 second.* When the light conditions differ from the average, change the aperture, keeping in mind the basic exposure *f*/8 and 1/100 second. See the exposure guide on pages 38 and 39. (For Kodachrome Film follow the guide included with the film.)

The smaller the stop opening the greater is the range of sharpness.



KODAK
EKTAR LENS
f/3.5, 50 MM.

The Kodak Ektar Lens *f*/3.5 of 50 mm. focal length is marked *f*/3.5, 4, 5.6, 8, 11, and 16. The openings are enlarged or reduced by turning the DIAPHRAGM CONTROL RING near the front of the lens. It can be focused with the Range Finder for any distance from 3½ feet to Infinity and the FOCUSING RING is engraved in black for focusing on the following distances: 3½, 4, 5, 6, 8, 10, 15, 25, 50 feet, and Infinity. To focus, turn the FOCUSING RING until the distance required comes under the red focusing line.



Depth of Field Scale on the Kodak Ektar f/3.5, 50 mm. Lens

There is a DEPTH OF FIELD SCALE engraved directly above the FOCUSING RING; this will be found very convenient for telling at a glance the depth that will

be obtained with the stop opening and distance selected. When pressed for time, and photographing subjects at 10 feet or farther, consult this scale and estimate the distance instead of using the Range Finder.

The DEPTH OF FIELD SCALE gives the *f*/ numbers on both sides of the focusing line. To determine the Depth of Field for a given distance and stop opening, read the distances on the FOCUSING RING under the *f*/ numbers marked on the DEPTH OF FIELD SCALE. Example: If you are focused for 6 feet and you are using *f*/8 everything from about 4¾ feet to a little beyond 8 feet will be sharp. If you are using *f*/16, everything from about 4 feet to about 14 feet will be sharp.

When using Kodak Infra-Red Film, see pages 47 to 49, use the red dot for focusing, instead of the focusing line, since the infra-red rays are brought to a focus slightly behind the focus of visual rays.

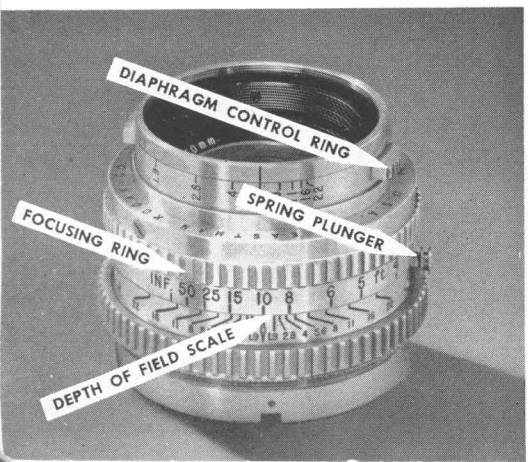
The FOCUSING RING is marked in red for focusing on close-up distances. These are 1½, 2, 2½, and 3 feet. To adjust the lens for these close-up distances the SPRING PLUNGER must be drawn out and the FOCUSING RING then turned to the distance required. The Range Finder can not be used for these close-up distances. There is a tiny red spot on top of the camera, near the RED SIGNAL, marking the focal plane. Before photographing a close-up subject, the distance from the subject to this point must be

measured and the FOCUSING RING adjusted accordingly. The camera must be on a tripod. To use the camera with a tripod for a vertical picture an Optipod or a Tilt-a-pod must be used. The picture should be composed in the finder, and for a horizontal picture the camera should be raised so that the center of the lens is in line with the center of the subject. For a vertical picture, if the finder is to the right, the camera should be turned to the right after composing the picture in the finder, lining up the center of the lens with the center of the subject.

For close-up work, however, we strongly recommend the use of the Ground Glass Focusing Back, an accessory.

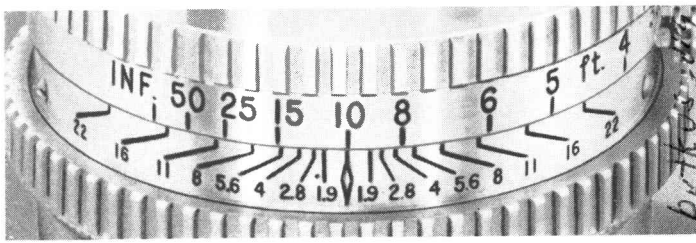
KODAK EKTAR LENS f/1.9, 50 MM.

The Kodak Ektar *f*/1.9 Lens of 50 mm. focal length is marked *f*/1.9, 2.8, 4, 5.6, 8, 11, 16, and 22. The openings are enlarged or reduced by turning the DIAPHRAGM CONTROL RING near the front of the lens. It can be focused with the Range Finder for any distance from 3½ feet to Infinity and the FOCUSING RING is engraved in black for focusing on the fol-



lowing distances: 3½, 4, 5, 6, 8, 10, 15, 25, 50 feet, and Infinity. To focus for any of these distances turn the FOCUSING RING until the distance required coincides with the red focusing line.

There is a DEPTH OF FIELD SCALE engraved on the lens barrel; this will be found very convenient



Depth of Field Scale on the Kodak Ektar f/1.9, 50 mm. Lens

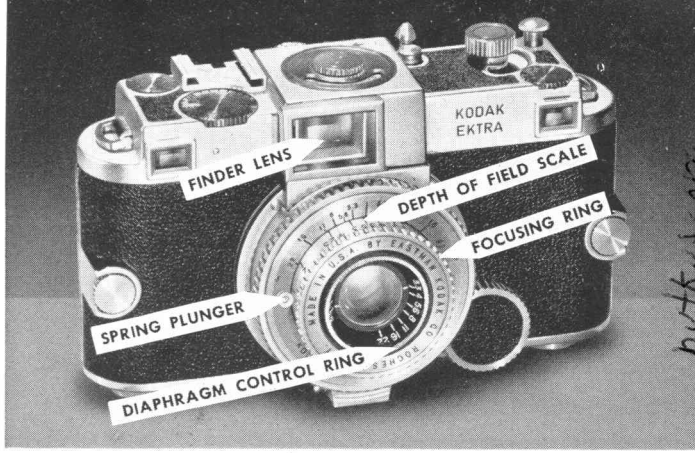
for telling at a glance the depth that will be obtained with the stop opening and distance selected. When pressed for time, and photographing subjects at 10 feet or farther, consult this scale and estimate the distance instead of using the Range Finder.

The DEPTH OF FIELD SCALE gives the *f*/ numbers on both sides of the focusing line. To find the Depth of Field for a given distance and stop opening, read the distances on the FOCUSING RING at the *f*/ numbers marked on the DEPTH OF FIELD SCALE. Example: If the camera is focused for ten feet and *f*/5.6 is used, everything from about 7¾ feet to 15 feet will be sharp; with *f*/11 everything from about 6 feet to about 30 feet will be sharp. When using Kodak Infra-Red Film, see pages 47 to

49, use the red dot for focusing instead of the focusing line, since the infra-red rays are brought to a focus slightly behind the focus of visual rays.

The FOCUSING RING is marked in red for focusing on close-up distances. These are 1½, 2, 2½, and 3 feet. To adjust the lens for these close-up distances, the SPRING PLUNGER must be lifted and the FOCUSING RING then turned to the distance required. The Range Finder cannot be used for these close-up distances. There is a tiny red spot on top of the camera, near the RED SIGNAL, marking the focal plane. Before photographing a close-up subject, the distance from the subject to this point must be measured and the FOCUSING RING adjusted accordingly. The camera must be on a tripod. To use the camera with a tripod for a vertical picture an Optipod or a Tilt-a-pod must be used. The picture should be composed in the finder, and for a horizontal picture the camera should be raised so that the center of the lens is in line with the center of the subject. For a vertical picture, if the finder is to the right, the camera should be turned to the right after composing the picture in the finder, lining up the center of the lens with the center of the subject.

For close-up work, however, we strongly recommend the use of the Close Range and View Finder for the Kodak Ektra, with the Kodak Ektar *f*/1.9, 50 mm. Lens, or the Ground Glass Focusing Back.



KODAK EKTAR LENS f/3.3, 35 MM.

The Kodak Ektar *f*/3.3 Lens 35 mm. focal length is a wide-angle lens. This lens is recommended for photographing interiors, street scenes, and wherever the widest possible view is desired. The extra FINDER LENS supplied with the wide-angle lens should be slipped over the front of the view finder as shown in the illustration, and the FINDER ADJUSTMENT DISK (page 4) set at 50. The Kodak Ektar *f*/3.3 Lens is marked *f*/3.3, 4, 5.6, 8, 11, 16, and 22. These openings are enlarged or reduced by turning the DIAPHRAGM CONTROL RING by the knurled edge which projects from the front of the lens mount. It can be focused for any distance from 3½ feet to Infinity with the Range Finder, and the FOCUSING RING is engraved in black for focusing on the following distances: 3½, 4, 5, 6, 8, 10, 15, and 35 feet, and Infinity. To focus for any of these dis-

tances turn the FOCUSING RING until the distance required comes under the focusing line.

There is a DEPTH OF FIELD SCALE engraved above the lens; this shows at a glance, the depth that will be obtained with the stop opening and distance selected.

The DEPTH OF FIELD SCALE gives the *f*/ numbers on both sides of the focusing line. To estimate the Depth of Field for a given distance and stop opening, read the distances on the FOCUSING RING at the *f*/ numbers marked on the DEPTH OF FIELD SCALE. Example: If the camera is focused for 5 feet and *f*/5.6 is used, everything from about 3¾ feet to about 7¾ feet will be sharp; if *f*/11 is used, everything from about 3 feet to 15 feet will be sharp.

The FOCUSING RING is marked in red for focusing on close-up distances. These are 1, 1¼, 1½, 1¾, 2, 2½, and 3 feet. To adjust the lens for these close-up distances, the SPRING PLUNGER must be drawn out and the FOCUSING RING then turned to the distance required. The Range Finder cannot be used for these close-up distances.

For photographing close-up subjects with the Wide-Angle Lens the Ground Glass Focusing Back, an accessory, will be very convenient.

KODAK COMBINATION LENS ATTACHMENTS

The Kodak Combination Lens Attachments permit using in combination unmounted Wratten

Filters, one of the Kodak Supplementary Lenses such as the Kodak Portra 3+ Lens for close-ups, the Kodak Pola-Screen and the Kodak Lens Hood.

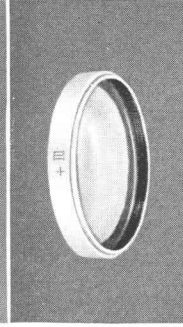
The basis of the combination is the Kodak Adapter Ring with its Adapter Ring Insert. The Adapter Ring must be of the proper Series and size to fit your lens.

The Series VI Lens Attachments are used with the lenses of the Kodak Ektra. For the 50 mm. Kodak Ektar Lens *f*/1.9 obtain a No. 24 screw-in Adapter Ring. For the 50 mm. Kodak Ektar Lens *f*/3.5 obtain a No. 25 screw-in Adapter Ring. For the 35 mm. wide-angle Kodak Ektar Lens *f*/3.3 obtain a No. 26 screw-in Adapter Ring. For the 90 mm. Kodak Ektar Lens *f*/3.5 see page 33, and for the 135 mm. and 153 mm. Kodak Ektar Telephoto Lenses, see page 30. All Wratten Filters, supplementary lenses, Pola-Screen and Lens Hood must be Series VI.

The Adapter Ring Insert, which is a retaining collar, is first unscrewed from the Adapter Ring. The Adapter Ring is then screwed into the lens mount, and an unmounted Wratten Filter Series VI or Portra Lens Series VI (convex side up) inserted in the Adapter Ring and held in place by screwing in the Adapter Ring Insert.

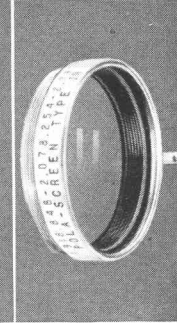
If it is desired to use a Kodak Pola-Screen with a supplementary lens or filter, the Pola-Screen is first screwed into the Adapter Ring and the filter

Adapter Ring

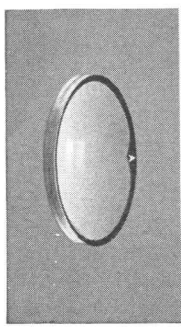


Portra Lens

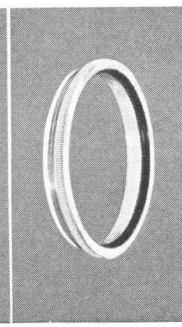
Retaining Ring



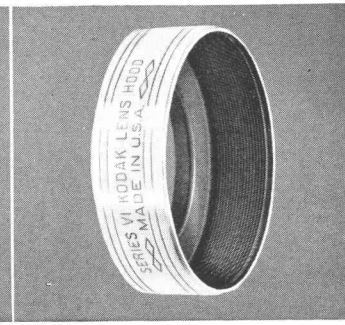
Kodak Pola-Screen



Wratten Filter



Adapter Ring Insert



Kodak Lens Hood

or supplementary lens is placed in front of the Pola-Screen, which then is held in place by the Adapter Ring Insert. With a Kodak Lens Hood in this combination, the Adapter Ring Insert is omitted and the Lens Hood is used to hold the filter or supplementary lens in front of the Pola-Screen.

To use a Portra Lens with a filter it will be necessary to obtain a double threaded Kodak Retaining Ring, Series VI. The Portra Lens (convex side up) is placed in the Adapter Ring and then the double

threaded Retaining Ring is screwed into the Adapter Ring. The filter is inserted into the Retaining Ring and held in place either with the Adapter Ring Insert or Kodak Lens Hood. If a Kodak Pola-Screen is used in this combination, the Portra Lens (convex side up) is put into the Adapter Ring. Then the double threaded Retaining Ring is screwed into the Adapter Ring, which in turn takes the Pola-Screen. The Wratten Filter is placed in front of the Pola-Screen and held in place either with the Adapter Ring Insert or Kodak Lens Hood.

KODAK TELEPHOTO EKTAR LENSES f/3.8 OF 135 MM. FOCAL LENGTH, AND f/4.5 OF 153 MM. FOCAL LENGTH

These two telephoto lenses can be focused with the Range Finder by revolving the knurled collar of the FOCUSING RING. The lenses are engraved for focusing on the following distances: Infinity, 200, 100, 50, 25, 15, 10, 8, 6, and 5 feet. The 135 mm. lens can also be focused on an object as close as 4 feet. It is advisable to have the camera on a tripod, when these lenses are used. The camera must be carefully focused as the Depth of Field is very limited.

As the name implies, these lenses are used primarily for obtaining large image pictures of distant subjects. The sportsman, who hunts with a camera as well as a gun, will bag striking photographic trophies for his collection.

The longer the focal length of a lens, the larger is the image obtained by that lens, but the field that it covers is smaller. The illustrations show graphically the results obtained with the various lenses. All these pictures were made from the same spot.

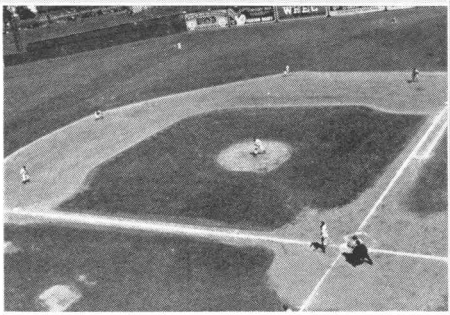
As we mentioned on page 18, the focal length of a lens has a bearing on the Depth of Field. The longer the focal length of a lens, the less Depth of Field. This is very clearly demonstrated by the DEPTH OF FIELD SCALES engraved on the telephoto lenses. Nevertheless, regardless of the focal length of a lens the depth is always increased, when the lens is stopped down and a smaller stop opening used.

Lenses of the longer focal lengths are particularly useful for photographing events and scenes which are impossible to approach closely, such as boat races, football games, the finish line at a horse or auto race, etc. They are also the lenses to use for making pictures of individuals or groups from a distance so that the subjects are not aware of being photographed, in this way getting a natural unposed picture of the subject.

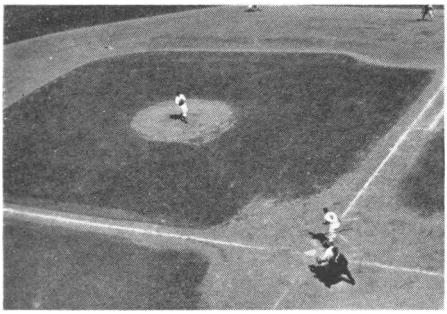
When the Kodak Combination Lens Attachments are used with the 135 mm. and 153 mm. Kodak Ektar Telephoto Lenses no Adapter Ring is necessary. The filter is simply inserted in the lens barrel and held in place with a double threaded Kodak Retaining Ring. Additional attachments

RESULTS WITH EKTAR LENSES OF VARIOUS FOCAL LENGTHS

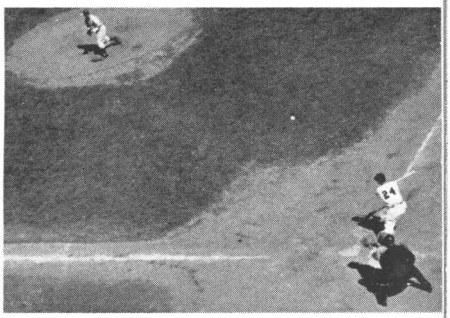
These pictures made from the same position show the relative field sizes of the various Kodak Ektar Lenses. This demonstrates that using a lens of longer focal length decreases the field size.



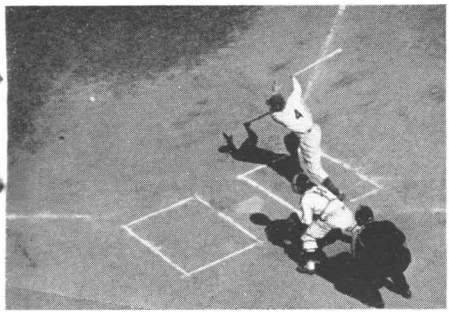
Made with 35 mm. Wide Angle Lens



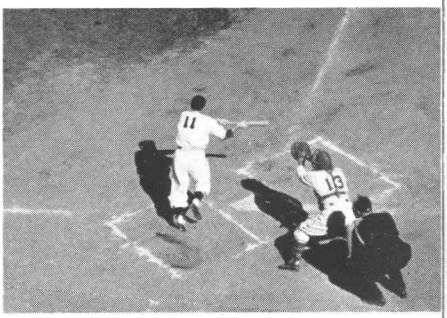
Made with 50 mm. Lens



Made with 90 mm. Lens



Made with 135 mm. Lens



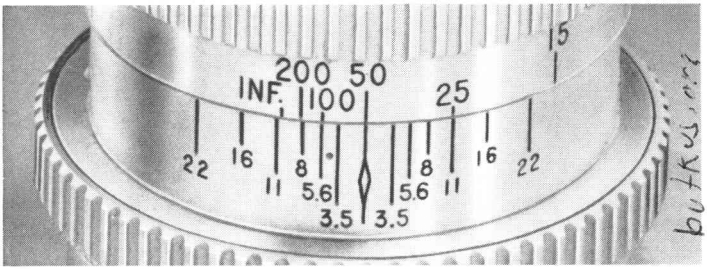
Made with 153 mm. Lens

are mounted in the regular manner, see pages 26 to 29, using the double threaded Retaining Ring as an Adapter Ring. All filters and Attachments must be Series VI.

KODAK EKTAR LENS f/3.5, 90 MM.

The Kodak Ektar 90 mm. Lens is marked *f*/3.5, 4, 5.6, 8, 11, 16, and 22. The openings are enlarged or reduced by turning the DIAPHRAGM CONTROL RING near the front of the lens. It can be focused with the Range Finder by turning the FOCUSING KNOB (see page 7). The FOCUSING RING is engraved for focusing on the following distances 3½, 4, 5, 6, 8, 10, 15, 25, 50, 100, and 200 feet, and Infinity.

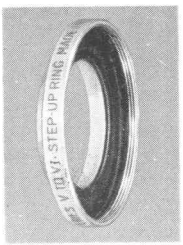
There is a DEPTH OF FIELD SCALE engraved on the lens barrel. The scale gives the *f*/ numbers on both sides of the focusing line. To find the Depth of Field for a given distance and stop opening, read the distances on the FOCUSING RING at the *f*/ numbers marked on the DEPTH OF FIELD SCALE. Example: When the camera is focused for 50 feet and the lens is set at *f*/5.6 everything from about 35



Depth of Field Scale on the Kodak Ektar f/3.5, 90 mm. Lens

feet to 100 feet will be sharp. If the lens is set at *f*/11, everything from about 25 feet to Infinity will be in focus.

The 90 mm. lens will be found the most suitable lens for portraiture giving depth and the most pleasing perspective, see pictures on page 45.



When the Kodak Combination Lens Attachments are used with the 90 mm. Kodak Ektar Lens *f*/3.5 a Series V to VI Step-up Ring is used instead of an Adapter Ring, and all filters and attachments must be Series VI, see pages 26 to 29.

The Standard Film for Miniature Photography

KODAK PLUS-X PANCHROMATIC FILM

The combined high speed and fine grain of Kodak Plus-X Panchromatic Film make it the ideal film for general outdoor work. It gives correct color values in a black-and-white print. Its speed is twice that of Kodak Panatomic-X Film. PX135; obtainable in 18 or 36 exposure magazines.

For Difficult Shots at Night and High Speed Work

KODAK SUPER-XX PANCHROMATIC FILM

This extremely fast film is recommended for poor light conditions; stage shots, boxing and wrestling bouts, etc. On account of its great speed (twice that of Kodak Plus-X Film) it's the film to use for indoor candid shots, and high speed shots outdoors. XX135; obtainable in 18 or 36 exposure magazines.

The Film that Makes the Finest Enlargements

KODAK PANATOMIC-X FILM

Because of its ultra fine grain, this film is especially recommended when big enlargements are to be made. It is the film to use when making black-and-white negatives from your Kodachrome transparencies. Its speed is half of Kodak Plus-X Film. FX135; in 18 or 36 exposure magazines.

For Pictures in Full Gorgeous Color

KODACHROME FILM K135 or K135A

For color film transparencies, use the K135 for daylight, and the K135A for Photoflood or Photoflash light. Both in 18-exposure lengths only. It must be processed at an Eastman Kodak Laboratory. The film is then returned in individual mounts ready for projection. K135 or K135A.

SUGGESTIONS ON EXPOSURE

INSTANTANEOUS EXPOSURES

When the sun is shining, it should be behind your back or over the shoulder; if it shines directly into the lens, it will blur and fog the picture. However, beautiful effects can be obtained by back- or side-lighting. When pointing the Kodak towards the sun, the lens must be shaded so that the direct sunlight will not strike it; for the best results, use the Kodak Lens Hood of the Kodak Combination Lens Attachments, see pages 26 to 29.

Instantaneous exposures can be made indoors with either Kodak Plus-X Panchromatic Film or Kodak Super-XX Panchromatic Film, provided the subject is receiving the direct illumination from a window. Pictures similar to that at the bottom of the opposite page can be made with an exposure of *f*/5.6 and 1/25 second with Kodak Plus-X Panchromatic Film, and *f*/5.6 and 1/50 second with Kodak Super-XX Panchromatic Film.

Snapshots should be made during the hours from one hour after sunrise until one hour before sunset; see the table on pages 38 and 39. If earlier or later, the exposure must be increased.

For a moving object use 1/100 second or one of the higher speeds, with the proper stop opening.

For an average subject use f/8 and 1/100 second with Kodak Plus-X Pan Film.

For portraits indoors and daylight illumination use f/5.6 and 1/25 second.

DAYLIGHT EXPOSURE TABLE

Kind of Film	Brilliant[1] Subjects	Bright[2] Subjects
Panatomic-X	*f*/11 and 1/100	*f*/8 and 1/100
Plus-X	*f*/16 " "	*f*/11 " "
Super-XX	*f*/22 " "	*f*/16 " "
Panatomic-X	*f*/8 and 1/100	*f*/5.6 and 1/100
Plus-X	*f*/11 " "	*f*/8 " "
Super-XX	*f*/16 " "	*f*/11 " "
Panatomic-X	*f*/5.6 and 1/100	*f*/4 and 1/100
Plus-X	*f*/8 " "	*f*/5.6 " "
Super-XX	*f*/11 " "	*f*/8 " "
Panatomic-X	*f*/4 and 1/100	*f*/2.8 and 1/100
Plus-X	*f*/5.6 " "	*f*/4 " "
Super-XX	*f*/8 " "	*f*/5.6 " "

[1]**Brilliant Subjects:** Beach, marine and snow scenes, distant landscapes and mountains without prominent dark objects in the foreground.

[2]**Bright Subjects:** Near-by people in marine, beach or snow scenes; scenics with foreground objects.

For Kodak Panatomic-X; Kodak Plus-X, and Super-XX Panchromatic Films. These exposures apply when the film is processed in Developer D-76.

Average[3] Subjects	Shaded[4] Subjects	Light Condition
f/5.6 and 1/100 *f*/8 " " *f*/11 " "	*f*/4 and 1/100 *f*/5.6 " " *f*/8 " "	Bright Sun
f/4 and 1/100 *f*/5.6 " " *f*/8 " "	*f*/2.8 and 1/100 *f*/4 " " *f*/5.6 " "	Hazy Sun
f/2.8 and 1/100 *f*/4 " " *f*/5.6 " "	*f*/1.9 and 1/100 *f*/2.8 " " *f*/4 " "	Cloudy-Bright
f/1.9 and 1/100 *f*/2.8 " " *f*/4 " "	*f*/1.9 and 1/50 *f*/1.9 " 1/100 *f*/2.8 " "	Cloudy-Dull

[3]**Average Subjects:** Near-by people, gardens, houses and scenes, *not in the shade*. Use this classification if in doubt.

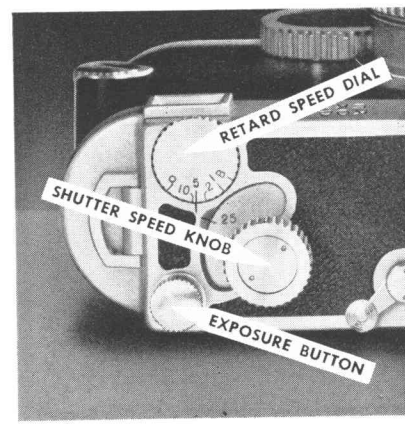
[4]**Shaded Subjects:** People, gardens, and other subjects in the *open shade* (lighted by open sky—not under trees, porch roof, etc.).

"BULB" EXPOSURES

For all "bulb" exposures the Kodak must be placed on a tripod or some other steady, firm support—*do not hold it in the hands* or the picture will be blurred.

An Optipod or a Tilt-a-pod will be necessary for using the camera on a tripod, with the camera in the vertical position.

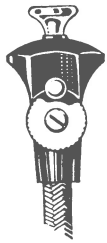
To make a "bulb" exposure, the figure 25 must be brought to the index line with the SHUTTER SPEED KNOB after the shutter is wound. Then revolve the RETARD SPEED DIAL until B is at the index line. Press the EXPOSURE BUTTON; the shutter will remain open as long as the EXPOSURE BUTTON is held down.



TIME EXPOSURES

Time exposures can be made with your Kodak when it is fitted with a T.B.I. Cable Release No. 1. Snapshots can also be made with this release.

To attach the cable release unscrew the cap of the EXPOSURE BUTTON and screw the cable release into place. The shutter cannot be locked (page 10)



when the cable release is used.

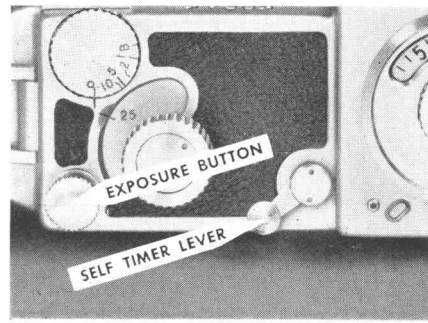
To make a time exposure, the circular piece should be turned so that the notch on the edge is directly under the small button, see illustration at left. Set the shutter for a "bulb" exposure. Press the pushpin of the cable release; time the exposure by a watch; then press the small button to release pushpin to complete the exposure.

For making "bulb" and instantaneous exposures with the cable release, turn the circular piece so that it slides under the small button (see illustration). Press the pushpin of the cable release which will spring back to its original position when the finger is removed.

THE SELF TIMER

There is a self-acting release built into the shutter; by using this self timer you can include yourself in the picture.

To use the self timer, place the Kodak on a tripod. Use the proper speed and stop opening. Push the SELF TIMER LEVER for-



ward as far as it will go. Press the EXPOSURE BUTTON, giving just enough pressure to start the SELF TIMER LEVER. Get into the picture. After about twelve seconds the exposure will be made. Do not use the self timer for "bulb" exposures.

EXPOSURES FOR INTERIORS BY DAYLIGHT

It is easy to make pictures of interiors by daylight where the windows get direct light from the sky. For the average room either a 50 mm. lens or the 35 mm. wide-angle lens should be used.

To make a picture of a room interior by daylight, adjust the shutter for a "bulb" exposure, see page 40, and set the lens at *f*/11; this opening gives the best average results.

When the Kodak is on a table, do not place it more than two or three inches from the edge, or the table will show in the picture.

Compose the picture in the finder, including more of the floor of the room than of the ceiling. Leave the furniture in the room in its usual place, as far as possible, but be sure there are no pieces close to the camera lens.

Focus the Kodak for the average distance between the objects in the room and the camera.

For an interior with medium-colored walls and furnishings and two windows, with the sun shining —make an exposure of about *2 seconds*, with stop *f*/11 and Kodak Plus-X Panchromatic Film. With

one window, double the exposure, and if there are more than two windows, halve the exposure.

If the day is cloudy, make an exposure of 4 seconds to 8 seconds.

No definite rule can be given for all interiors because of the great variety of light conditions. It is suggested that a series of exposures be made from about 1 second to 8 seconds, using stop *f*/11, making each exposure double the previous one.

With Kodak Panatomic-X Film, double the exposures recommended above, with Kodak Super-XX Panchromatic Film give one-half the exposure.

Interiors by daylight should be made from three hours after sunrise until three hours before sunset; if earlier or later the exposures must be longer.

If no more "bulb" exposures are to be made, adjust the shutter for an instantaneous exposure.

INDOOR PICTURES AT NIGHT

To take snapshots or other indoor pictures at night, you need only a magazine of Kodak Film, a few Kodak Handy Reflectors, and a few Photoflood or Photo*flash* bulbs. The bulbs can be screwed into all regular lamp sockets.

PhotoFLOOD gives a steady light of great brilliance. Comes in two sizes for the amateur, No. 1 and No. 2. The No. 2 bulb gives twice the light, lasts three times as long.

PHOTOFLOOD EXPOSURE TABLE

Lens apertures to use with 1/25 second—two No. 2 Photoflood Lamps in Kodak Handy Reflectors, for average subject in room with light-colored walls.

Lamp Distance	3½ ft.	5 ft.	6 ft.	7 ft.	8 ft.	10 ft.
Panatomic-X	*f*/8	*f*/5.6—8	*f*/5.6	*f*/4—5.6	*f*/4	*f*/3.5
Plus-X	11	8—11	8	5.6—8	5.6	4—5.6
Super-XX	16	11—16	11	8—11	8	5.6—8

For two No. 1 Photoflood Lamps double the above exposures. For example, if the table calls for an exposure of *f*/8 and 1/25 second, give an exposure of 1/25 second and *f*/5.6. See pages 18 and 19 for a comparison of stop openings.

PHOTOFLASH EXPOSURE TABLE

Lens apertures with No. 7 or No. 11A Photoflash Lamps in Kodak Handy Reflectors for average subject in average room with light-colored walls. For outdoor subjects at night double the exposure.

Lamp Distance	7 ft.	8 ft.	10 ft.	12 ft.	14 ft.	17 ft.	20 ft.	25 ft.
Panatomic-X	*f*/16	11—16	11	8—11	8	5.6—8	5.6	4—5.6
Plus-X	22	22	16	11—16	11	8—11	8	5.6—8
Super-XX	22	22	22	22	16	11—16	11	8—11

SNAPSHOTS with PHOTOFLOODS

To take snapshots at night with the Kodak Ektra, load the camera with Kodak Plus-X Panchromatic, Super-XX Panchromatic or Panatomic-X Film. Place two bridge lamps fitted with the Kodak Handy Reflectors and two No. 2 Mazda Photoflood Lamps, at any of the distances from the subject given in the table on page 44; then focus the Kodak.

CAUTION: Photoflood Lamps, especially the No. 2 size, become quite hot and should not be kept burning any longer than necessary. Do not permit bulbs to come in contact with Kodak Handy Reflectors or the fabric of lamp shades.

Made with the 90 mm.
Kodak Ektar Lens
4¾ feet from the subject

Made with the 50 mm.
Kodak Ektar Lens
4¾ feet from the subject

EXPOSURES UNDER EXISTING ARTIFICIAL LIGHT FOR SUPER-XX FILM

For Plus-X—give double the exposure For Panatomic-X—give 4 times the exposure

			f/Value	*Shutter Speeds*
Stage	White Spotlights on Principal Subject	(Colored lights require more exposure)	3.5	1/100—1/25 sec.
	Average White General Illumination		3.5	1/25—1/10
Boxing Wrestling-Ring	Bright Floodlight		3.5	1/100—1/25
Public Events	Bright Overhead Lighting: Hockey Games, Track Meets, etc. Public Places, Buildings, etc.		3.5	1/25—1/10
Downtown Street Scenes	To show electric signs		3.5	1/100—1/25
	To show detail in darker objects: Store Windows, Floodlit Buildings, etc.		3.5	1/10—Short "Bulb" Exposure
In the Home	Average bright: Overhead lighting. General illumination. Open lamps.		3.5	1/25—1/10
	Subdued Lighting: Light from Shaded Lamps.		3.5	Short "Bulb" Exposure

PHOTOFLASH PICTURES

PhotoFLASH gives an instantaneous flash; it is good for one picture. No smoke, no noise. The No. 7 or the No. 11A size is equally efficient.

When making a Photo*flash* picture, adjust the shutter for a "bulb" exposure, see page 40.

Use the proper stop opening, depending upon distance between lamp and subject, and kind of film, see exposure table, page 44.

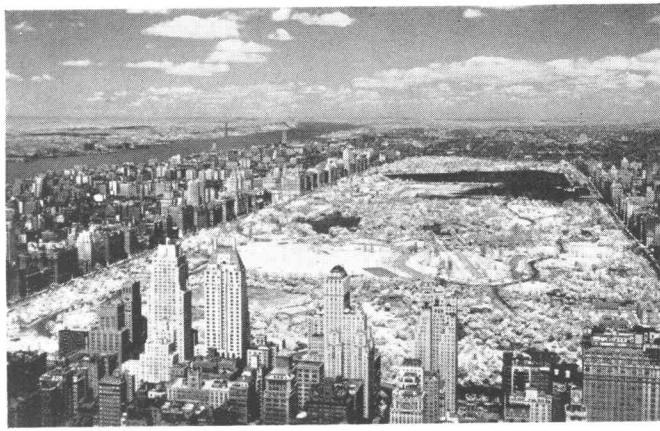
Use a Photo*flash* bulb in any home lamp or a portable reflector unit having flashlight batteries.

To make the exposure, turn out all lights (except a small light behind the camera), direct the Photo*flash* at the subject, open the shutter, flash the bulb, and close the shutter.

KODAK INFRA-RED FILM I-R135

This film reaches into that portion of the spectrum beyond the visible red. The most common use for the Kodak Infra-Red Film is distant landscape photography, though it is also very useful for scientific, medical and criminological photography.

When a distant landscape is photographed on an ordinary film, the distance often lacks detail on account of the haze. This is because violet and blue light, to which an ordinary film is sensitive, is scattered by atmospheric haze. The longer wave lengths of the visible light and particularly the



Landscape made on Kodak Infra-Red material with No. 25 (A) Wratten Filter. Exposure: f/5.6 and 1/25 second.

Landscape made on panchromatic film without a filter.

invisible infra-red, however, are freely transmitted by the haze. A photograph made on infra-red film with a deep yellow or red filter over the lens, to absorb the violet and blue light, will often (depending on atmospheric conditions) show distant objects very clearly even if the haze makes them invisible to the eye.

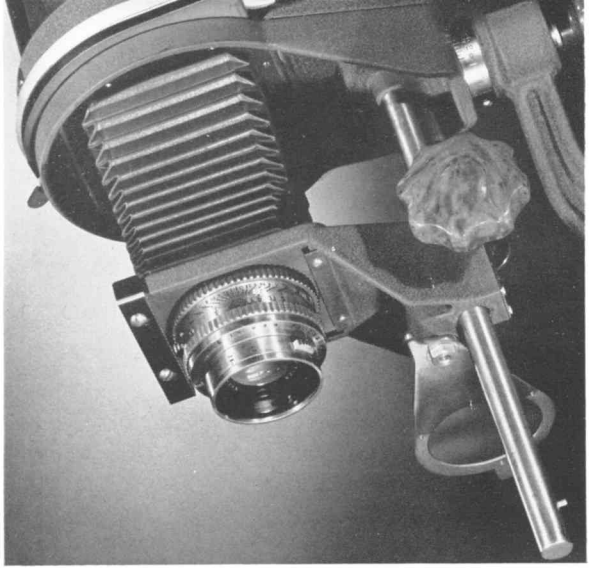
Landscape photographs taken on infra-red film, outdoors in sunlight, frequently have the appearance of pictures taken by moonlight.

While several Wratten Filters can be used, we recommend the Wratten Filter No. 25 (A) (red) and an average exposure with bright sunlight of about *f*/5.6 and 1/25 second. Use a Wratten Filter No. 25 (A) with the Kodak Combination Lens Attachments, see pages 26 to 29.

Important: After determining the distance between the subject and the Kodak with the RANGE FINDER, move the FOCUSING KNOB to bring the figure representing the distance for which the lens is focused, to the *red dot* a little to one side of the regular focusing line, since the infra-red rays come to a focus slightly behind the focus of the visual rays.

Instructions for developing Kodak Infra-Red Film I-R135 are enclosed with each film magazine.

For further details, obtain from your dealer a copy of "Infrared Photography with Kodak Materials," sold at a nominal price.



ENLARGING WITH THE LENSES OF THE KODAK EKTRA

The Bellows Assembly A of the Kodak Precision Enlarger is so constructed that either 50 mm. lens of the Kodak Ektra can be screwed directly into it, making the use of a lens board unnecessary. While you can use the lens of your Kodak Ektra on the Kodak Precision Enlarger, it is designed primarily for a camera lens, and therefore it should be stopped down between *f*/5.6 and *f*/8, when it is used on the enlarger.

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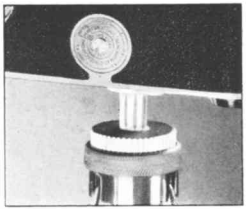
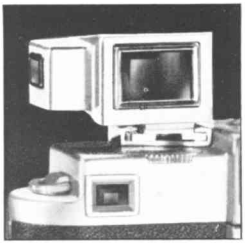
ACCESSORIES



Tripod Clearance Head

The Tripod Clearance Head for the Kodak Ektra permits opening the hinged back for loading and unloading the Kodak, when it is attached to a tripod.

The High-Low Angle Finder with the Kodak Ektra permits photographing over the heads of a crowd; it also can be used with the Kodak Ektra on a tripod or table for making pictures below eye-level.



The Right-Angle Finder

The Right-Angle Finder is used for picture taking with the Kodak Ektra held at a right angle to the line of sight.

The Ground Glass Focusing Back for the Kodak Ektra is recommended for close-up work, copying, etc.

The Close Range and View Finder is intended for use only with the 50 mm. *f* 1.9 Kodak Ektar Lens. It permits focusing and framing extremely close-up subjects with this lens alone, or when the lens is used with the Kodak Portra 3+ Lens.

FILMS FOR SPECIAL PURPOSES

Kodak Micro-File Safety Film M135 is recommended for copying on account of its extremely fine grain.

Kodak Direct Positive Pancromatic Film D-P135 is a reversal film for making black-and-white transparencies directly.

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COMBINATION CASE

A BROWN COWHIDE CASE of excellent quality is available for the convenient carrying of the Kodak Ektra with some useful accessories.

The case is designed to take the Kodak Ektra fitted with either 50 mm. Kodak Ektar Lens or the 35 mm. lens and the Kodak Combination Lens Attachments Series VI in position over the lens. The Kodak Ektra with the 90 mm. lens in place but without lens attachments will also fit in the case.

Compartments are also provided for an extra Magazine Back and for two extra film cartons. A cover in the lid, with a snap fastener, conceals compartments for storing the Series VI Kodak Combination Lens Attachments, three unmounted filters and Kodak Pola-Screen.

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