Kodak Interchangeable Lenses for the Kodak Retina Reflex III, Reflex S and IIIS Cameras

(28mm to 135mm)

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Kodak Interchangeable Lenses* for the Kodak Retina Reflex III, Reflex S and IIIS Cameras

TO REMOVE A LENS

To remove the lens on the camera, press in the safety LOCK and, at the same time, turn the lens counterclockwise by its second KNURLED RING and lift it off. Change lenses in subdued light.

TO ATTACH A LENS

The red figure 4 on the lens opening scale identifies this *f*/number as the correct setting

*28 to 135mm. Instructions for the Kodak Retina Tele-Xenar 200mm, f/4.8 Lens Kit are packed with the lens.

for attaching interchangeable lenses. Therefore, first turn the setting wheel to set the lens opening at the red figure 4; then line up the red dot on the lens mount with the red dot on the rim of the shutter, insert the lens and turn it clockwise until the safety lock engages.

AUTOMATIC EXPOSURE CONTROL

Setting the automatic exposure control is mechanically the same with all interchangeable lenses.*

Set the required shutter speed and adjust

*If the brightness of the field seen by the lens in use differs from that of the 50mm lens (seen by the meter), see "Hints on Using the Exposure Meter," page 26 of the camera manual.

the setting wheel for correct exposure.

FOCUSING

RETINA REFLEX III and REFLEX S — Focusing, with any Retina interchangeable lens mounted on either of these cameras, is accomplished in the same manner as with the standard lens. Use either the rangefinder or ground glass method as described in the camera manual. Remember, the finder image is visible only after operating the rapid wind lever.

RETINA IIIS CAMERA — Retina interchangeable lenses (28mm to 135mm), mounted on the Retina IIIS Camera, are auto-

matically coupled with the rangefinder. You can therefore set the correct focus in the same manner as described in the camera manual for the standard lens.

VIEWING

RETINA REFLEX III and REFLEX S – Whichever interchangeable lens is attached to either of these cameras, the reflex finder with full-sized ground glass always shows the correct field of view. This field is free of parallax with all focal length lenses and at all distances.

Viewing is always at the largest lens opening with a subsequent automatic "stop-down" to a previously selected lens opening.

RETINA IIIS CAMERA—Look through the eyepiece of the camera. The outer, permanent viewframe shows the field of view for the 35mm wide-angle lens. When you attach lenses of from 50 to 135mm in focal length, the inner viewframe changes automatically to show the field of view for the lens in place. To show the field of view for the 28mm wide-angle lens, the Kodak Retina 28 Optical Finder is available to slide into the accessory clip on top of the camera.

Parallax correction in the camera finder is automatic—the viewframes shift to compensate automatically for film-to-subject distances.

DEPTH OF FIELD

All interchangeable Retina lenses have an automatic depth-of-field indicator. You simply read off the nearest and farthest distances that will be in sharp focus opposite the two red pointers, as described in the camera manual.

THE T/AUXILIARY LENSES

These auxiliary lenses permit working at closer camera-to-subject distances.

The minimum focusing distances for the 135mm and 85mm telephoto lenses are 14 and 6 feet, respectively. If you wish to use these lenses at closer distances, one of the following auxiliary lenses is required:

KODAK RETINA TELE AUXILIARY LENS T 1/60—for 135mm telephoto lens pictures within the range from about 7 ft to 5 ft.

KODAK RETINA TELE AUXILIARY LENS T 11/60—for 135mm telephoto lens pictures within the range from about 13 ft to 7 ft.

KODAK RETINA TELE AUXILIARY LENS T 1/32—for 85mm telephoto lens pictures within the range from about 6 ft to 3 ft.

Attach an auxiliary lens to one of the telephoto lenses by screwing the threaded shoulder of the auxiliary lens into the front of the telephoto lens mount. It is recommended that

lens openings of *f*/5.6 or smaller be used when possible.

WITH THE RETINA REFLEX III and REFLEX S – Focus the camera either by means of the ground glass or rangefinder. To determine depth-of-field, read off the distance figure shown opposite the index mark on the lens; then, from the appropriate table on pages 12 to 17, find the depth-of-field for the lens opening in use.

WITH THE RETINA IIIS—You can measure the exact subject distance with the camera rangefinder and the standard lens in place, or with a tape measure. Then find the required

focus (distance) setting for the desired auxiliary lens – telephoto lens combination from the appropriate table on pages 12 to 17. For example, with the T 1/60 auxiliary lens, you have measured the subject distance to be 72 inches. In the table on page 12, opposite 72 inches, 50 feet is shown as the setting for the camera focusing scale. Set the focusing scale for this distance. The table also shows field size and depth-of-field* at the various lens openings.

*Disregard the depth-of-field indicator on the camera with these auxiliary lenses.

Table for Kodak Retina Tele Auxiliary Lens

Field Size in inches	Subject distance (inches)	Focusing scale of camera set to (feet)*	Depth of field*			
			f/4		f/5.6	
			from	to	from	to
12⅝" x 18¾"	79½"	∞	78¾"	80½"	78¼"	79⅞"
12⅜" x 18¼"	77⅝"	200	76¾"	78⅝"	76½"	79"
12" x 17¾"	75¾"	100	74⅞"	76¾"	74¾"	77"
11¼" x 16⅝"	72"	50	71¼"	72⅞"	71"	73⅛"
10⅜" x 15⅜"	67½"	30	66¾"	68⅜"	66½"	68⅝"
10" x 14¾"	65⅜"	25	64¾"	66⅛"	64½"	66⅜"
9½" x 14"	62⅜"	20	61⅞"	63"	61⅝"	63¼"
9⅛" x 13½"	67⅞"	18	60⅜"	61⅜"	60⅛"	61⅝"
8¾" x 13"	59"	16	58½"	59½"	58⅜"	59¾"
8⅜" x 12⅜"	57⅛"	14	56¾"	57⅝"	56½"	57¾"

*The distances are measured from the film plane. The
of $\frac{1}{750}$ inch ($\frac{1}{30}$ mm.)

T 1/60 for use with 135 mm Telephoto Lens

in inches at aperture								Reproduction scale 1:
f/8		f/11		f/16		f/22		
from	to	from	to	from	to	from	to	
77¾"	81½"	77⅛"	82¼"	75¾"	84"	74¾"	85¼"	0.0714
76"	79½"	75⅜"	80¼"	74"	81¾"	73¼"	82⅞"	0.0733
74¼"	77½"	73⅝"	78¼"	72⅜"	79¾"	71⅝"	80¾"	0.0755
70⅝"	73⅝"	70⅛"	74⅛"	69"	75½"	68¼"	76⅜"	0.0803
66¼"	68⅞"	65⅞"	69⅜"	64⅞"	70½"	64¼"	71¼"	0.0869
64¼"	66⅝"	63⅞"	67⅛"	63"	68¼"	62⅜"	68¾"	0.0904
61⅜"	63½"	61⅛"	63⅞"	60⅛"	65⅛"	59¾"	65½"	0.0958
59⅞"	61⅞"	59⅝"	62¼"	58¾"	63⅛"	58⅜"	63⅝"	0.0989
58⅛"	60"	57⅞"	60⅜"	57⅛"	61⅛"	56⅝"	61⅝"	0.1026
56¼"	58"	56"	58¼"	55¼"	59⅛"	54⅞"	59⅝"	0.1072

depth of field is calculated for a circle of confusion

Table for Kodak Retina Tele Auxiliary Lens

Field Size in inches	Subject distance* (feet)	Focusing scale of camera* set to (feet)	Depth of field*			
			f/4		f/5.6	
			from	to	from	to
25⅝" x 38⅝"	12' 10½"	Inf.	12' 5 15/16"	13' 3½"	12' 4¾"	13' 4¾"
24⅜" x 36⅜"	12' 2⅜"	200	11'10½"	12' 2⅜"	11' 9½"	12' 7⅛"
23½" x 35"	11' 7⅛"	100	11' 2⅜"	11' 9½"	11' 1 3/16"	11'10½"
21 1/16" x 31⅝"	10' 4¾"	50	10' 1 3/16"	10' 7⅛"	10'	10' 8¼"
18⅛" x 27¼"	9' 2⅜"	30	9' 1/16"	9' 4¾"	8'11 3/16"	9' 5 5/16"
16½" x 24⅝"	8' 8¼"	25	8' 6½"	8'10½"	8' 5 15/16"	8'11 3/16"
15 13/16" x 23⅝"	8' 1 3/16"	20	7' 9½"	8' 1 3/16"	7' 8 13/16"	8' 2⅜"
15¼" x 23 1/16"	7' 9½"	18	7' 7¾"	7'10½"	7' 7⅛"	7'11 3/16"
14⅛" x 21 5/16"	7' 4¾"	16	7' 4⅛"	7' 7⅛"	7' 3½"	7' 7¾"
13" x 19½"	7'	14	6'10"	7' 1 3/16"	6' 9½"	7' 1¾"

*The distances are measured from the film plane. The of 1/750 inch (1/30 mm).

T 11/60 for use with 135 mm Telephoto Lens

in feet at aperture								Reproduction scale 1:
f/8		f/11		f/16		f/22		
from	to	from	to	from	to	from	to	
12′ 3½″	13′ 8¼″	12′	13′10½″	11′ 7⅛″	14′ 5¹⁵⁄₁₆″	11′ 2⅜″	15′ 2⅜″	.036
11′ 7⅛″	12′10½″	11′ 4¾″	13′ 1⅜₁₆″	11′ 1⅜₁₆″	13′10½″	10′ 7⅛″	14′ 3½″	.039
11′	12′ 2⅜″	10′ 9½″	12′ 4¾″	10′ 5¹⁵⁄₁₆″	12′ 9½″	10′ 1⅜₁₆″	13′ 4¾″	.040
9′10½″	10′10½″	9′ 9½″	11′ 1⅜₁₆″	9′ 5¹⁵⁄₁₆″	11′ 4¾″	9′ 2⅜″	11′10½″	.045
8′10″	9′ 7⅛″	8′ 8¼″	9′ 8¹³⁄₁₆″	8′ 5¹⁵⁄₁₆″	9′10½″	8′ 3½″	10′	.052
8′ 4¾″	9′ ⅝₁₆″	8′ 3½″	9′ 2⅜″	8′ 1⅜₁₆″	9′ 4¾″	7′10½″	9′ 8¼″	.057
7′ 8¼″	8′ 3½″	7′ 7¾″	8′ 4¾″	7′ 5¹⁵⁄₁₆″	8′ 7⅛″	7′ 3½″	8′10½″	.0595
7′ 5¹⁵⁄₁₆″	8′ ⅝₁₆″	7′ 5⅝₁₆″	8′ 1¾″	7′ 3½″	8′ 3½″	7′ 1¾″	8′ 6½″	.062
7′ 3″	7′ 8¹³⁄₁₆″	7′ 1¾″	7′10″	7′ ⅝₁₆″	8′ 1⅜₁₆″	6′10½″	8′ 2⅜″	.0665
6′ 8¹³⁄₁₆″	7′ 2⅜″	6′ 8¼″	7′ 3½″	6′ 7⅛″	7′ 5⅝₁₆″	6′ 5¹⁵⁄₁₆″	7′ 7⅛″	.072

depth of field is calculated for a circle of confusion

Table for Kodak Retina Tele Auxiliary Lens

Field Size in inches	Subject distance* (feet)	Focusing scale of camera* set to (feet)	Depth of field*			
			f/4		f/5.6	
			from	to	from	to
18 5/16" x 27 3/8"	5' 11 3/16"	Inf.	5' 9 1/2"	6' 1 3/16"	5' 8 1/4"	6' 2 3/8"
17 3/4" x 26 13/16"	5' 7 3/4"	100	5' 5 15/16"	5' 9 1/2"	5' 4 3/4"	5'10 1/2"
16 13/16" x 25 1/2"	5' 4 3/4"	50	5' 2 3/8"	5' 5 15/16"	5' 1 3/4"	5' 7 1/8"
15 3/8" x 22 7/8"	4' 11 3/16"	25	4' 9 1/2"	5' 1 3/16"	4' 8 13/16"	5' 1 3/4"
13 3/8" x 20 1/16"	4' 4 3/4"	15	4' 3 1/2"	4' 5 15/16"	4' 3"	4' 6 1/2"
12 5/8" x 18 15/16"	4' 1 3/4"	12	4' 5/16"	4' 3"	4' 1/16"	4' 3 1/2"
11 13/16" x 17 3/4"	3' 10 1/2"	10	3' 9 1/2"	3'11 3/16"	3' 8 13/16"	4' 5/16"
11 1/16" x 16 1/2"	3' 7 1/8"	8	3' 6 1/2"	3' 7 1/8"	3' 5 15/16"	3' 7 3/4"
9 5/16" x 13 13/16"	3' 4 3/4"	7	3' 4 3/4"	3' 5 5/16"	3' 3 1/2"	3' 5 15/16"
8 7/8" x 13 3/8"	3' 1 3/4"	6	3' 1 3/16"	3' 2 3/8"	3' 5/16"	3' 3"

*The distances are measured from the film plane. The
of $\frac{1}{750}$ inch ($\frac{1}{30}$ mm). Values not given can be estimated

T 1/32 for use with 85 mm Telephoto Lens

in feet at aperture								Reproduction scale 1:
f/8		f/11		f/16		f/22		
from	to	from	to	from	to	from	to	
5′ 7⅛″	6′ 4⅛″	5′ 5⁵⁄₁₆″	6′ 5¹⁵⁄₁₆″	5′ 3″	6′ 9½″	5′ ⁹⁄₁₆″	7′ 2⅜″	.051
5′ 3½″	6′	5′ 2⅜″	6′ 1¾″	5′	6′ 5¹⁵⁄₁₆″	4′ 9½″	6′ 7⅛″	.053
5′ 1⅜₁₆″	5′ 8¼″	5′ ⅛₁₆″	5′10″	4′ 9½″	6′ 1⅜₁₆″	4′ 7¾″	6′ 4¾″	.054
4′ 8¼″	5′ 2⅜″	4′ 7⅛″	5′ 3½″	4′ 5¹⁵⁄₁₆″	5′ 5¹⁵⁄₁₆″	4′ 3½″	5′ 9½″	.061
4′ 3¼″	5′ 7¾″	4′ 1¾″	4′ 8¼″	4′ ⁹⁄₁₆″	4′10″	3′10½″	5′ ⁹⁄₁₆″	.070
3′11⅜₁₆″	4′ 4⅛″	3′10½″	4′ 4¾″	3′ 9½″	4′ 6½″	3′ 8¼″	4′ 8¼″	.072
3′ 8¼″	4′ 1⅜₁₆″	3′ 7¾″	4′ 1¾″	3′ 7⅛″	4′ 3″	3′ 5¹⁵⁄₁₆″	4′ 4¾″	.078
3′ 5⁵⁄₁₆″	3′ 8¼″	3′ 4¾″	3′ 8¹³⁄₁₆″	3′ 4⅛″	3′10″	3′ 3″	4′ ⁹⁄₁₆″	.085
3′ 3″	3′ 6½″	3′ 2⅜″	3′ 7⅛″	3′ 1¾″	3′ 7¾″	3′ 1⅜₁₆″	3′ 8¹³⁄₁₆″	.101
3′ ⅛″	3′ 3½″	3′	3′ 4⅛″	2′11⅜₁₆″	3′ 4¾″	2′10½″	3′ 5⁵⁄₁₆″	.109

depth of field is calculated for a circle of confusion by comparison.

HELPFUL HINTS

- *Hold the camera steady — especially with telephoto lenses.*
- *Keep lenses clean.*
- *Protect lenses by storing them in the containers in which they were supplied.*
- *Change lenses in subdued light.*
- *Use Kodak Retina Lens Hoods and Filters with Kodak Interchangeable Lenses.*