

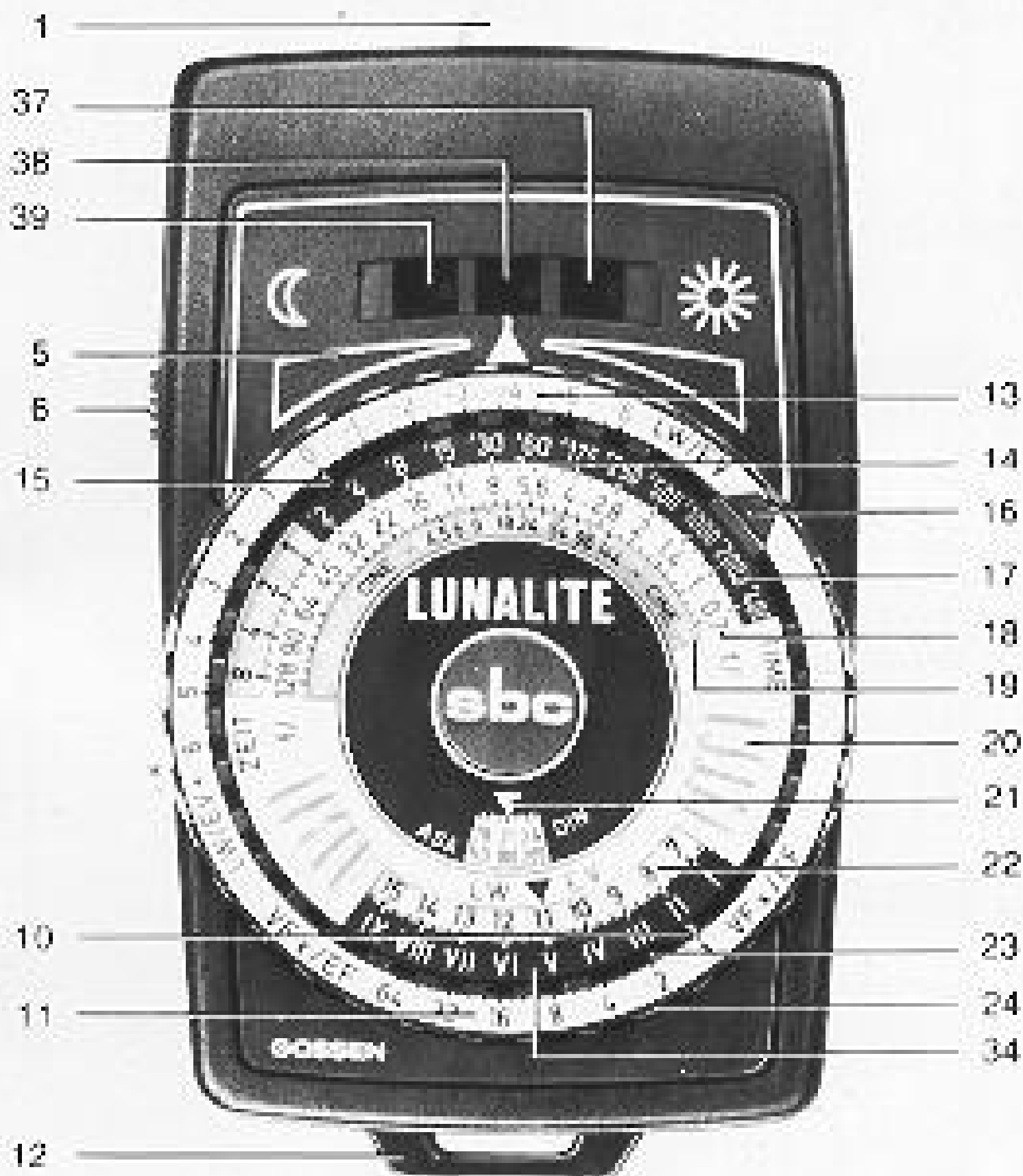


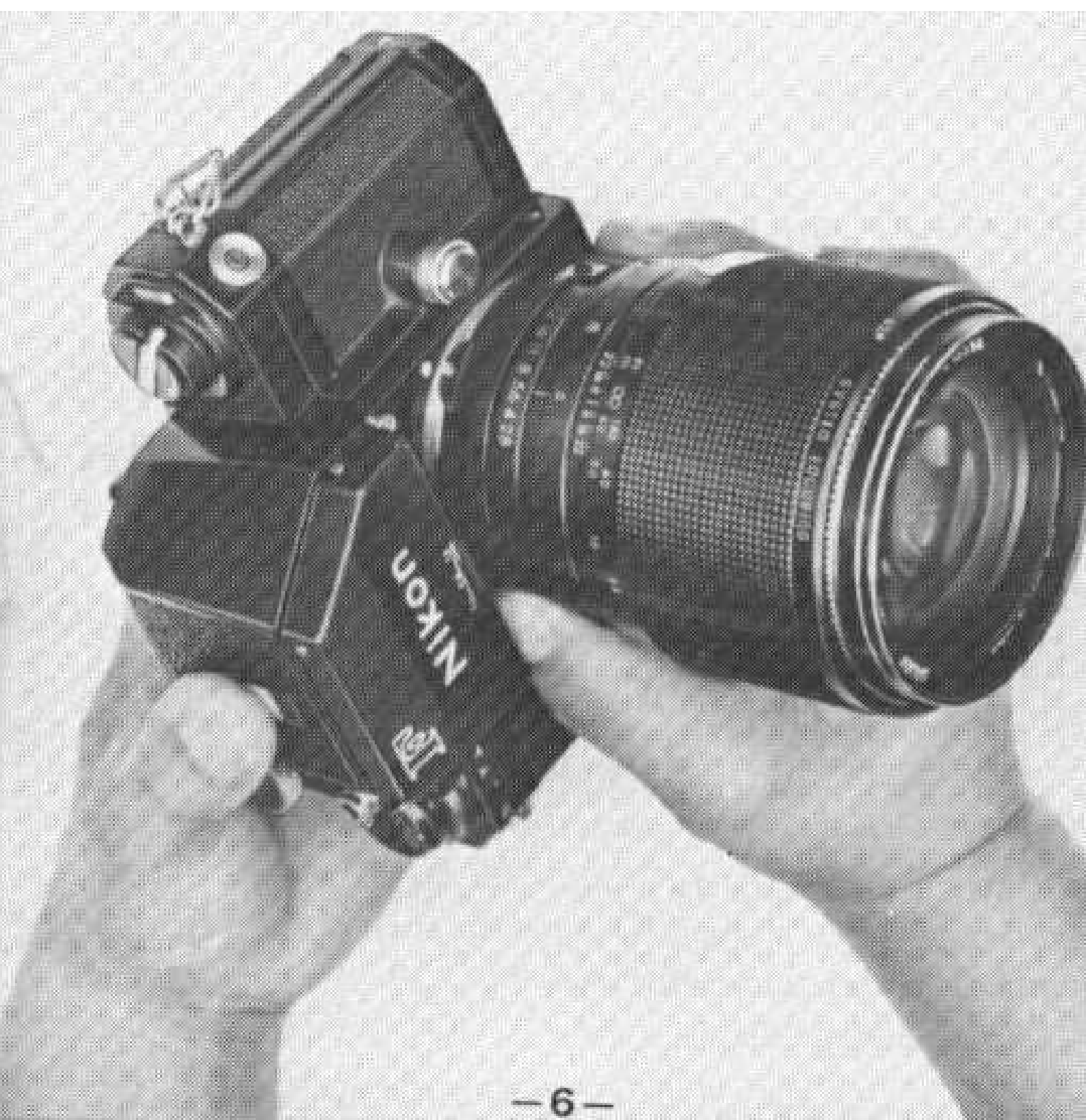








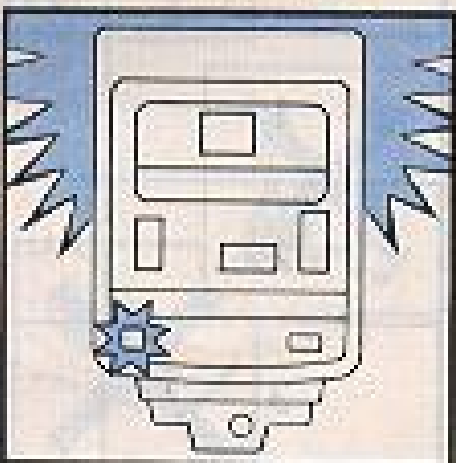
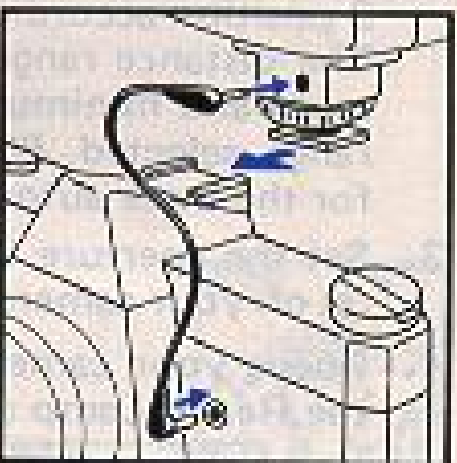
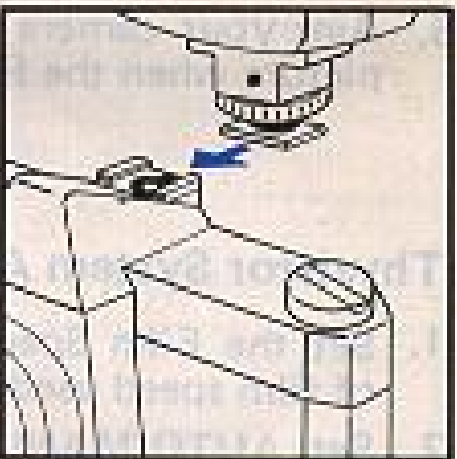
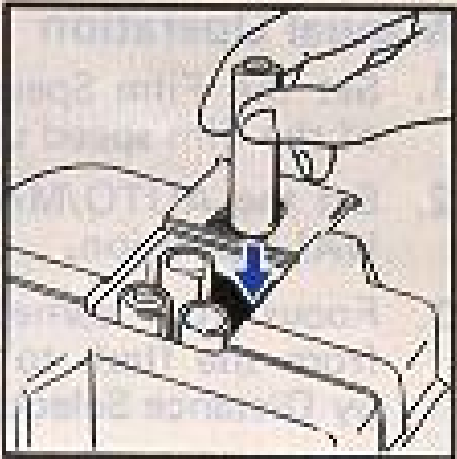


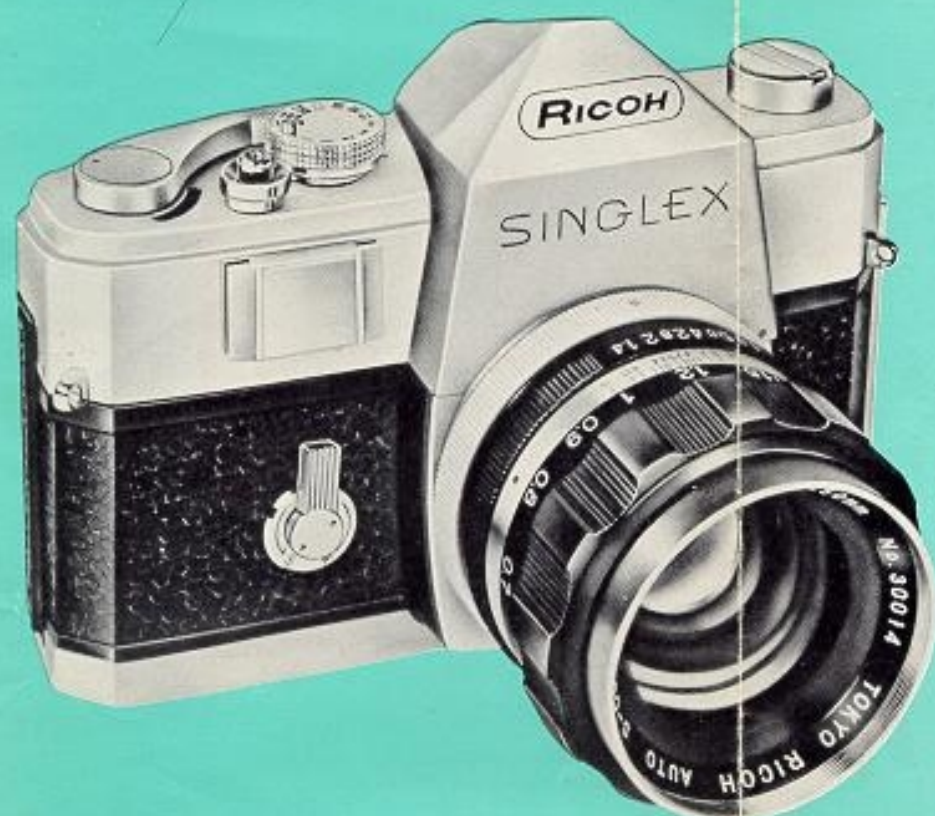


[illegible]

Received
H. Z. Young.

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RICOH**FACT SHEET**

RICOH "SINGLEX" CAMERA

**SINGLE LENS
REFLEX CAMERA
EQUIPPED WITH RICOH AUTO
RIKENON F1:4 55mm LENS
(35mm)**

F1.4 55MM RICOH AUTO RIKENON LENS • RUGGED AND ACCURATE SPRING STEEL SHUTTER • DEPTH OF FIELD PREVIEW • SPEEDS FROM 1 SEC. TO 1/1000 SEC. • AUTOMATIC MIRROR • AUTOMATIC DIAPHRAGM • FRESNEL PRISM FINDER COMBINED WITH SPLIT-IMAGE RANGE FINDER FOR BRIGHTNESS AND ACCURACY • CDS COUPLED EXPOSURE METER (OPTIONAL ACCESSORY)

DELUXE EVEREADY TOP GRAIN COWHIDE CARRYING CASE (accommodates "Singlex" CDS Coupled Exposure Meter) 23.00

"SINGLEX" COUPLED EXPOSURE METER (Couples to shutter speed dial) 27.50

Specifications of Ricoh "Singlex" Exposure Meter

1. Reflected light method clip on type
2. Coupled to shutter speed dial
3. CdS photo cell
4. Mercury battery, 1.3 volt 1 pc
5. Angle of acceptance 44 degrees
6. Measuring range: At ASA 100 LV 3 to LV 17
7. ASA Range: 6 to 1600

RICOH "SLIP-ON" LENS HOOD for F/1.4 55mm lens with Leather Case 5.25

RICOH 52mm SCREW-IN TYPE FILTERS Y-2; UV; Skylight 8.85

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LENS CAP—FRONT 55mm TO 200mm 2.65

LENS CAP—FRONT 200-600mm 4.95

RICOHLITE V BULB TYPE FLASH GUN uses cartridge holding five AG-1 bulbs. Provides rapid fire sequence flash action, 12.95

RICOHTRON ELECTRONIC FLASH GUN GUIDE #40; uses 6 penlight batteries. Battery case interchangeable with optional AC adaptor. Batteries provide to 60 shots per loading. Recharging time 5-6 seconds; flash duration 1/800th sec. 29.95

RICOH BC 605 D FLASH GUN 8.95
Clip on type using 22.5v Eveready type battery #412. Has additional socket to permit varying size bulbs. Has built in easy ejector behind 9 leaf folding reflector.

INSTRUCTION BOOK (replacement only)50

RICOH "SINGLEX" INTERCHANGEABLE LENSES. All have bayonet mount.

RICOH WIDE RIKENON	F:2.8	35mm	89.50
*RICOH WIDE AUTO-RIKENON	F:2.8	35mm	129.50
*RICOH TELEPHOTO AUTO-RIKENON	F:1.8	85mm	139.50
RICOH TELEPHOTO RIKENON	F:2.8	135mm	119.50
*RICOH TELEPHOTO AUTO-RIKENON	F:2.8	135mm	149.50
RICOH TELEPHOTO RIKENON	F:4.0	200mm	179.50
RICOH TELEPHOTO RIKENON	F:5.5	300mm	248.30
RICOH TELEPHOTO RIKENON	F:6.3	400mm	304.70
RICOH ZOOM RIKENON	F:5.8	90-190mm	304.70

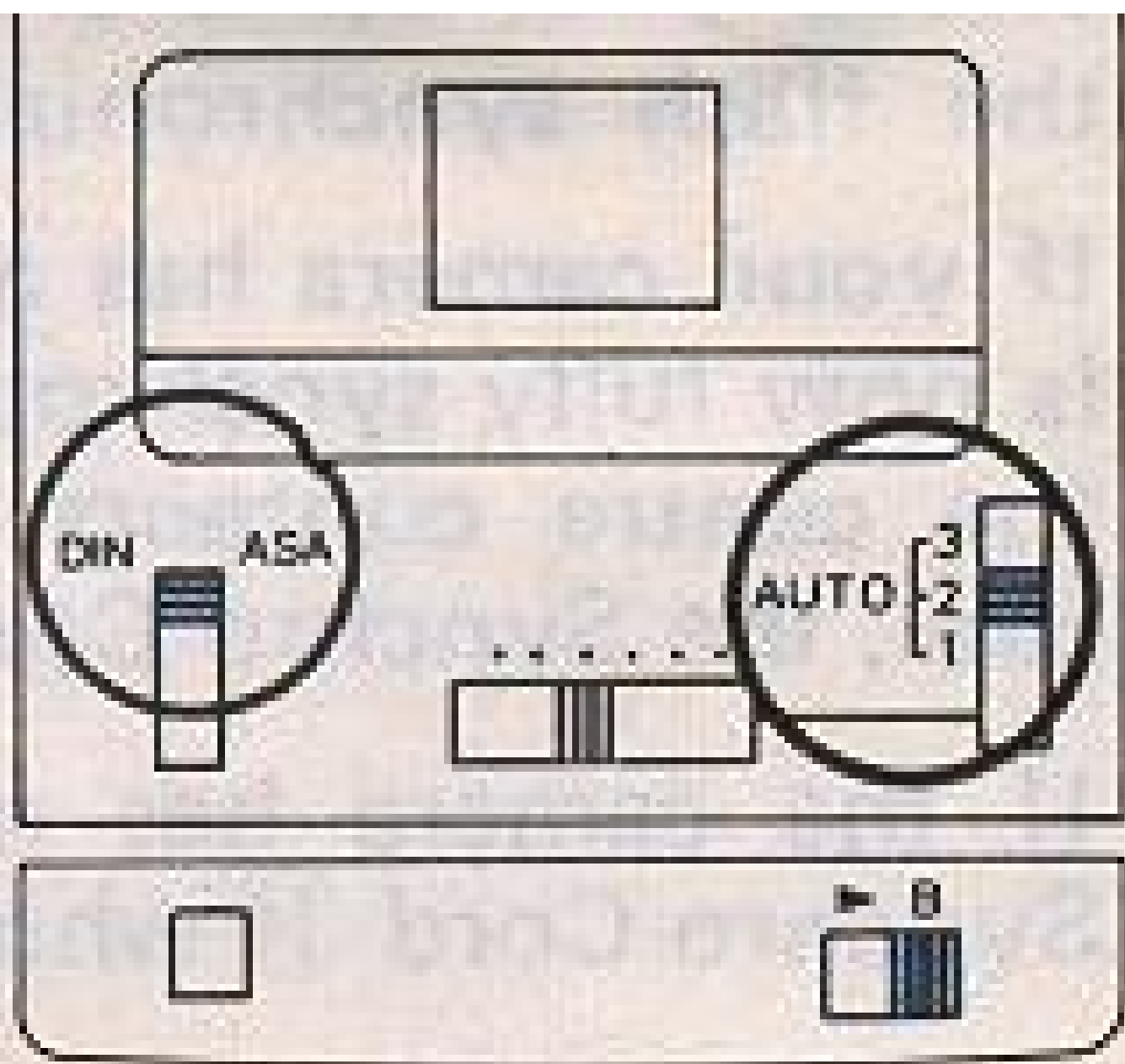
*These lenses will be available August 1964

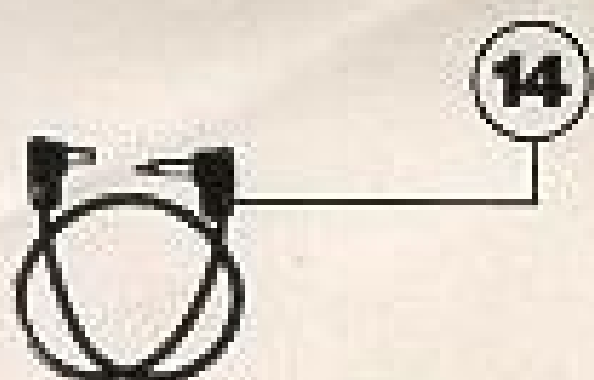
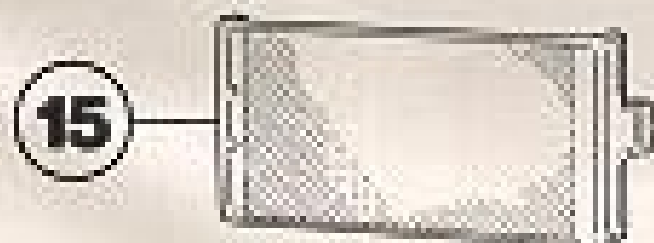
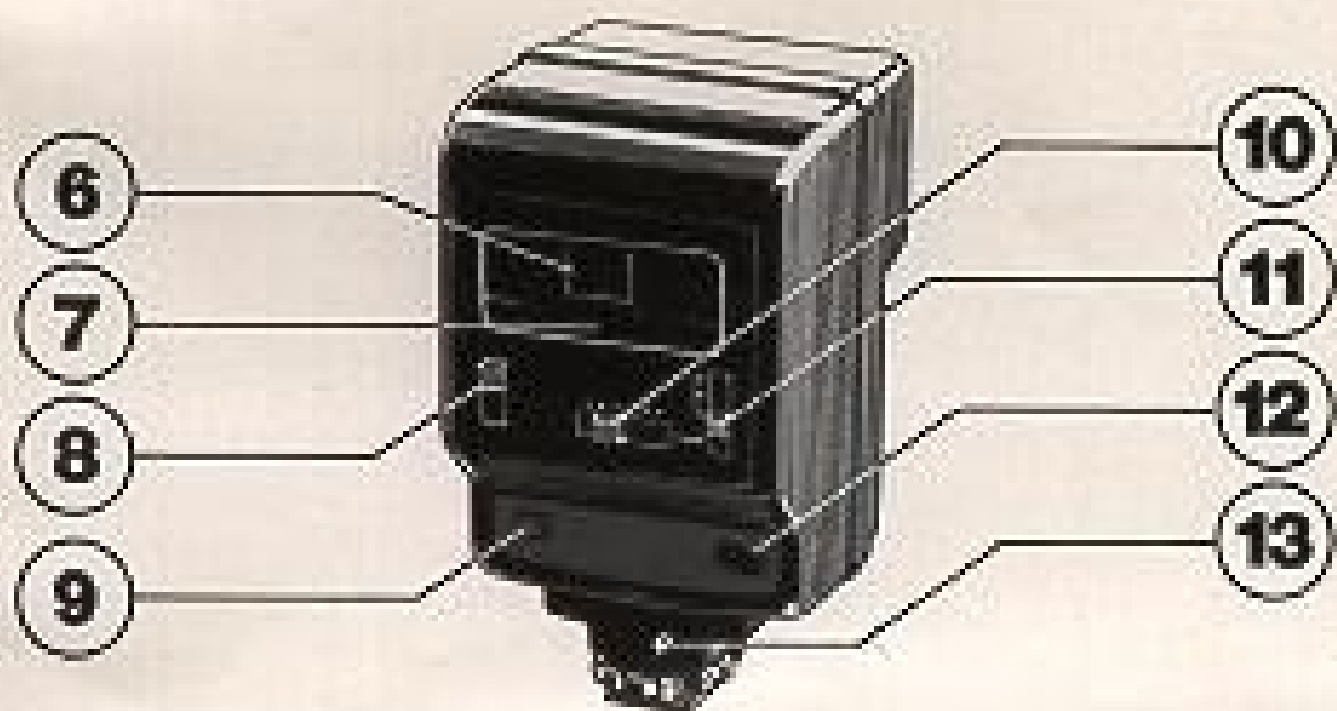
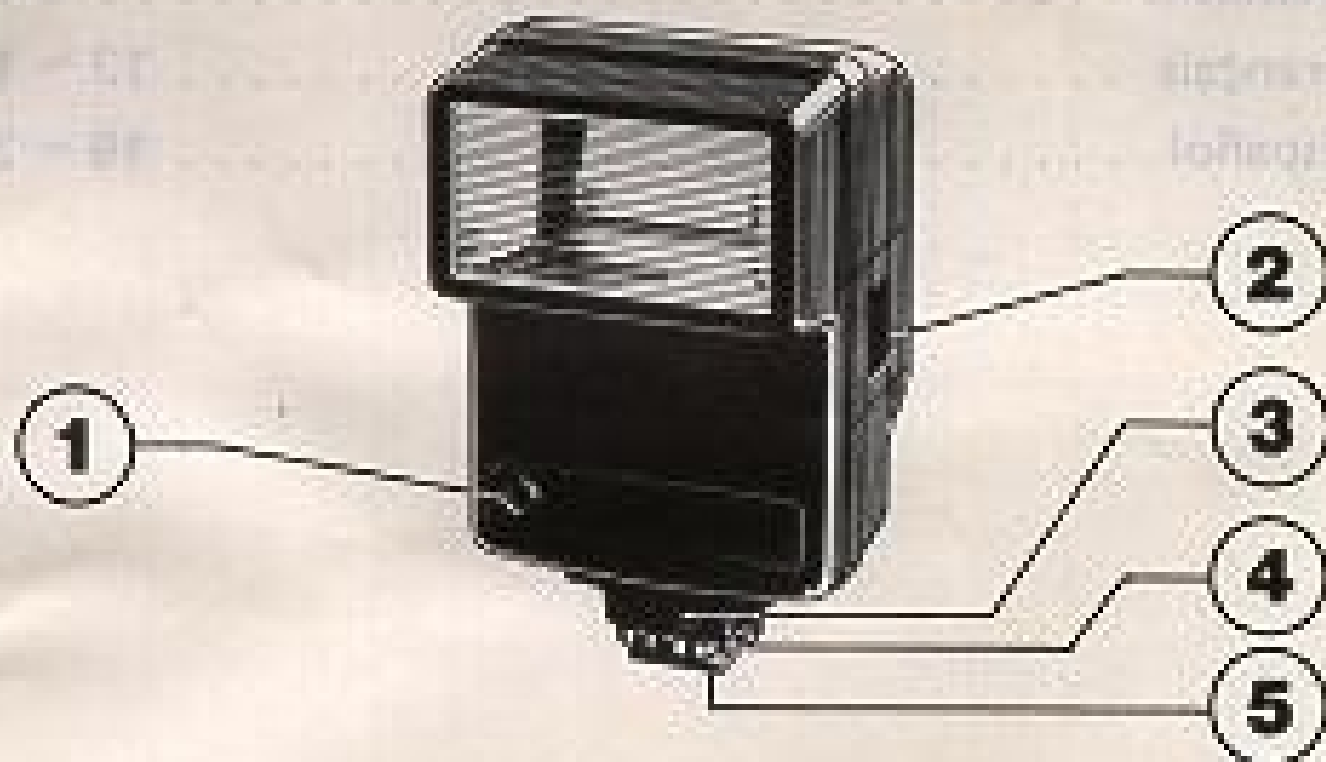
ONLY \$199⁹⁵

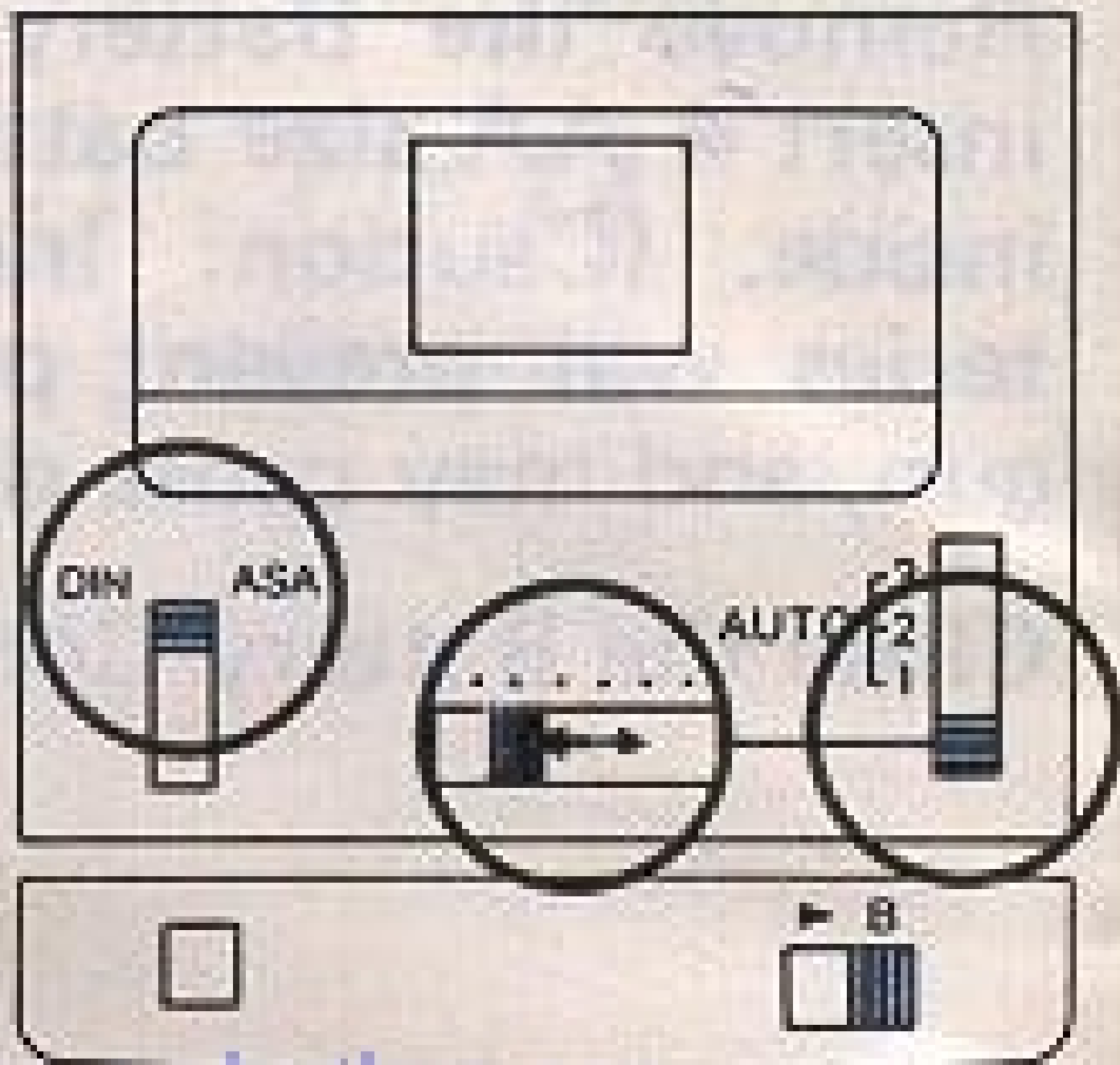


RICOH INDUSTRIES, U.S.A., INC.

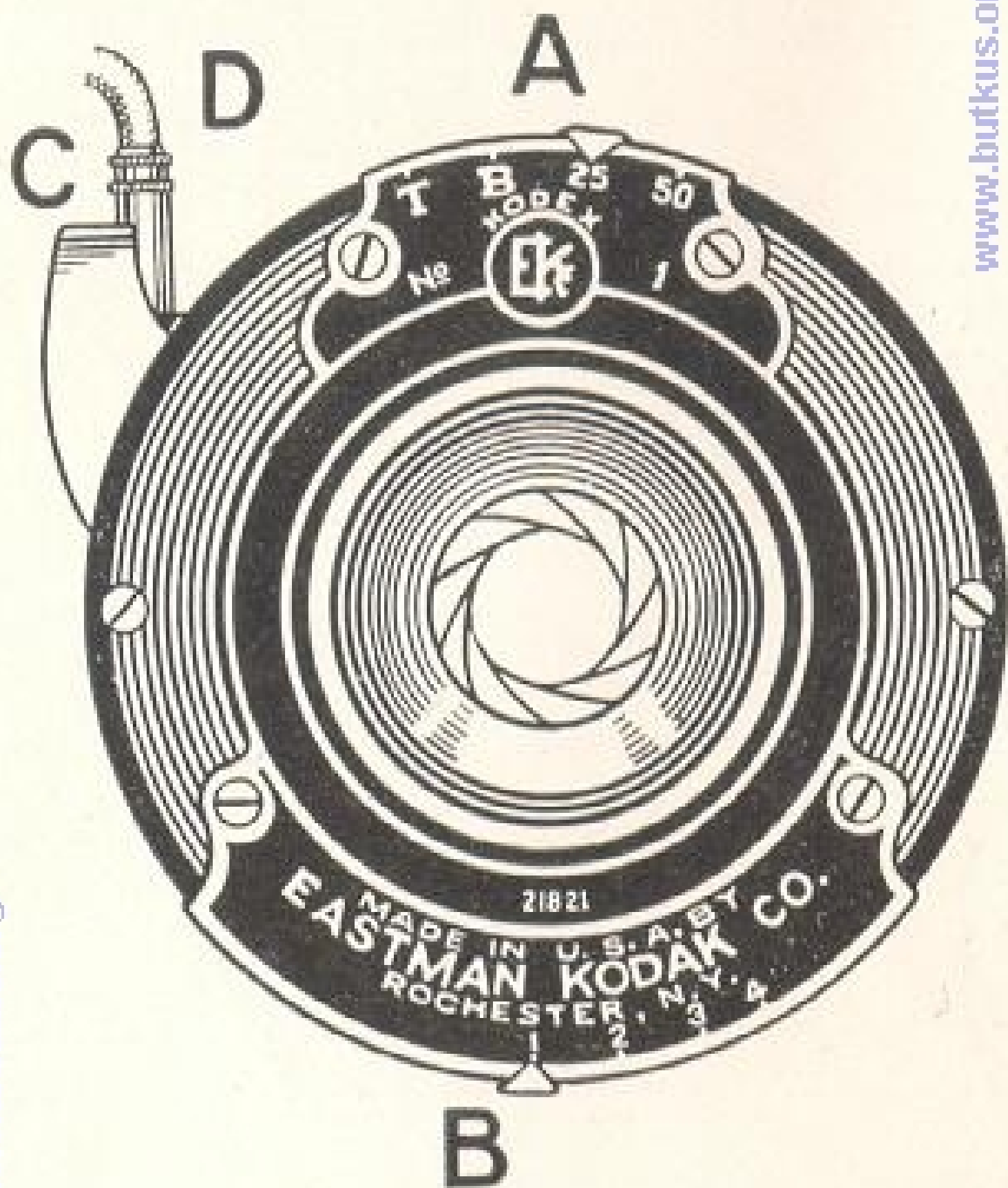
432 Park Ave. South, New York 15, N. Y.











■ № 1

■ № 2

■ № 3

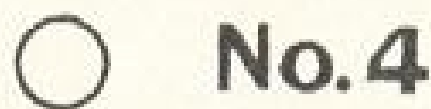
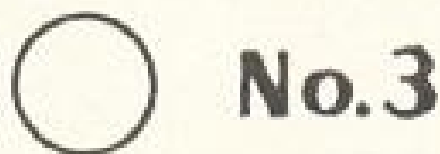
■ № 4

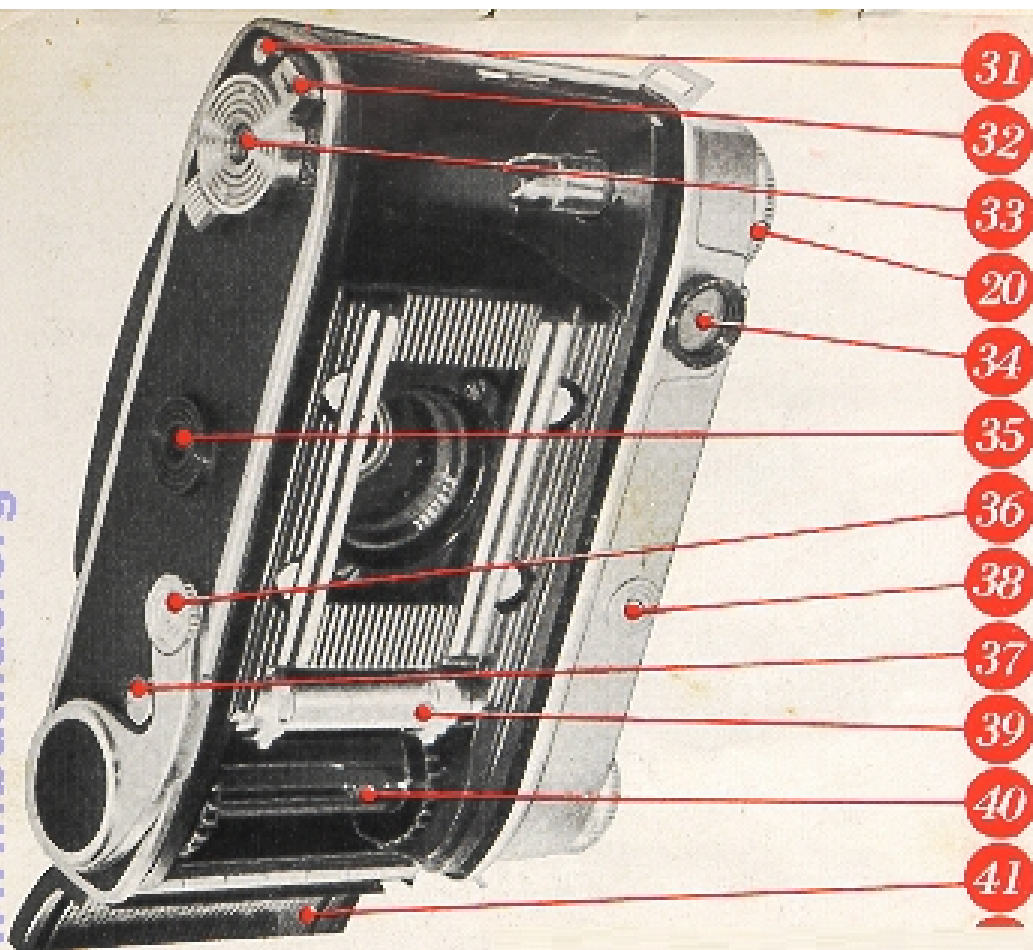
Rainbow Hawk-Eye
No. 2 Folding



COPYRIGHT 1922 BY
EASTMAN KODAK CO.

Rainbow Hawk-Eye
No. 2A Folding





31

Button to open camera back

32

Back-locking button cover

33

Tripod bush

20

Rewind knob

34

Finder eyepiece

35

Locating hole

36

Rapid-winding lever

38

Button to set film counter

37

Reversing button

39

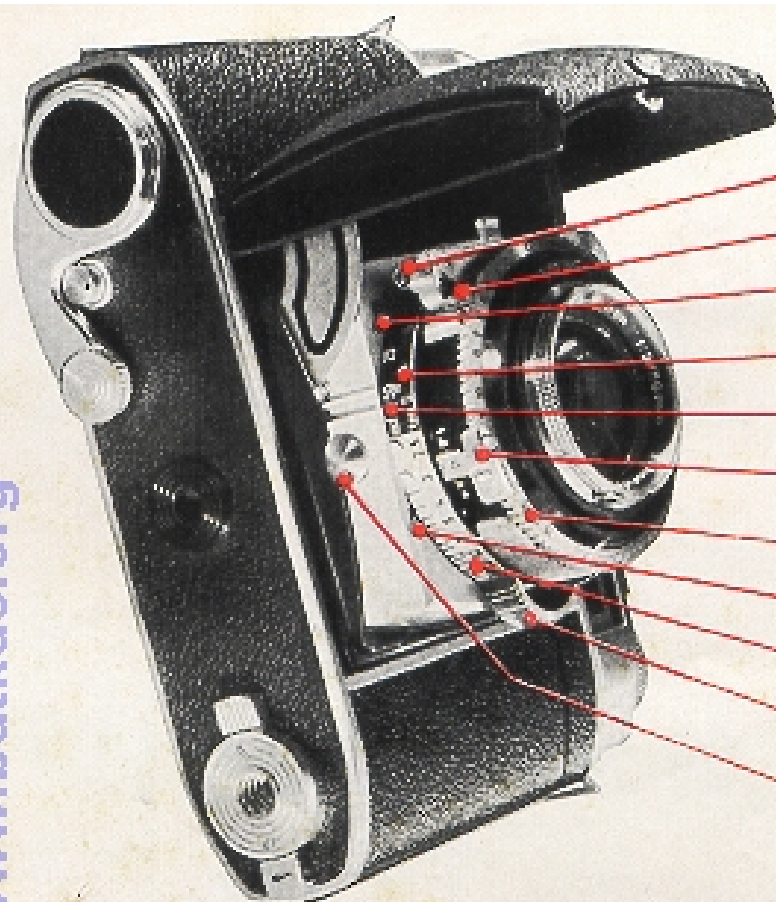
Transport sprocket

40

Built-in take-up spool

41

Camera back



21

Flash socket

22

Lever for flash synchronisation and self-timer

23

Distance-setting index mark for telephoto lens

24

Distance scale for telephoto lens with T 1 lens

25

Distance scale for telephoto lens

26

Light value setting lever

27

Light value scale

28

Distance-setting index mark for wide-angle lens

29

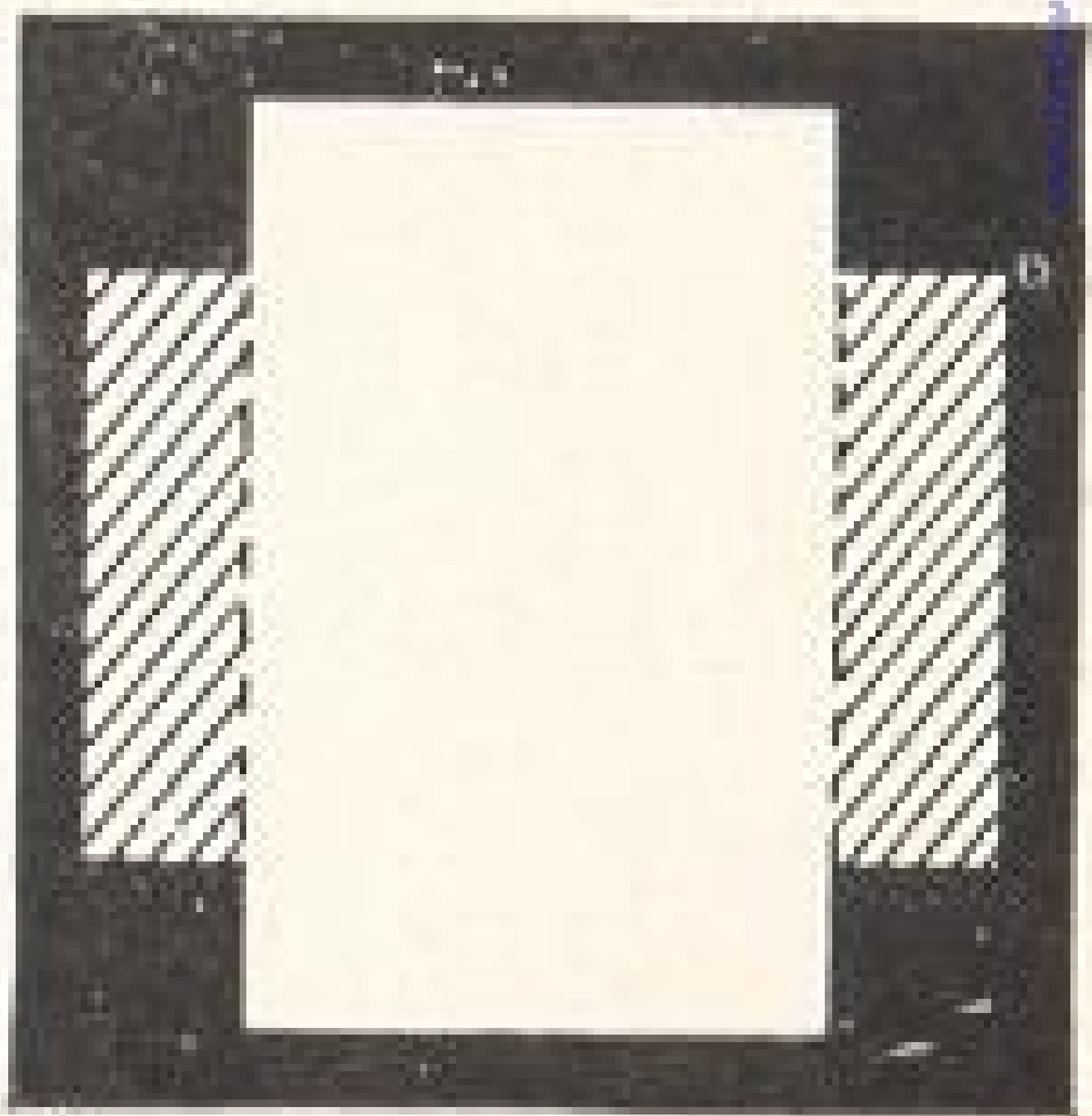
Distance scale for wide-angle lens

30

Focusing knob

11

Button to close camera



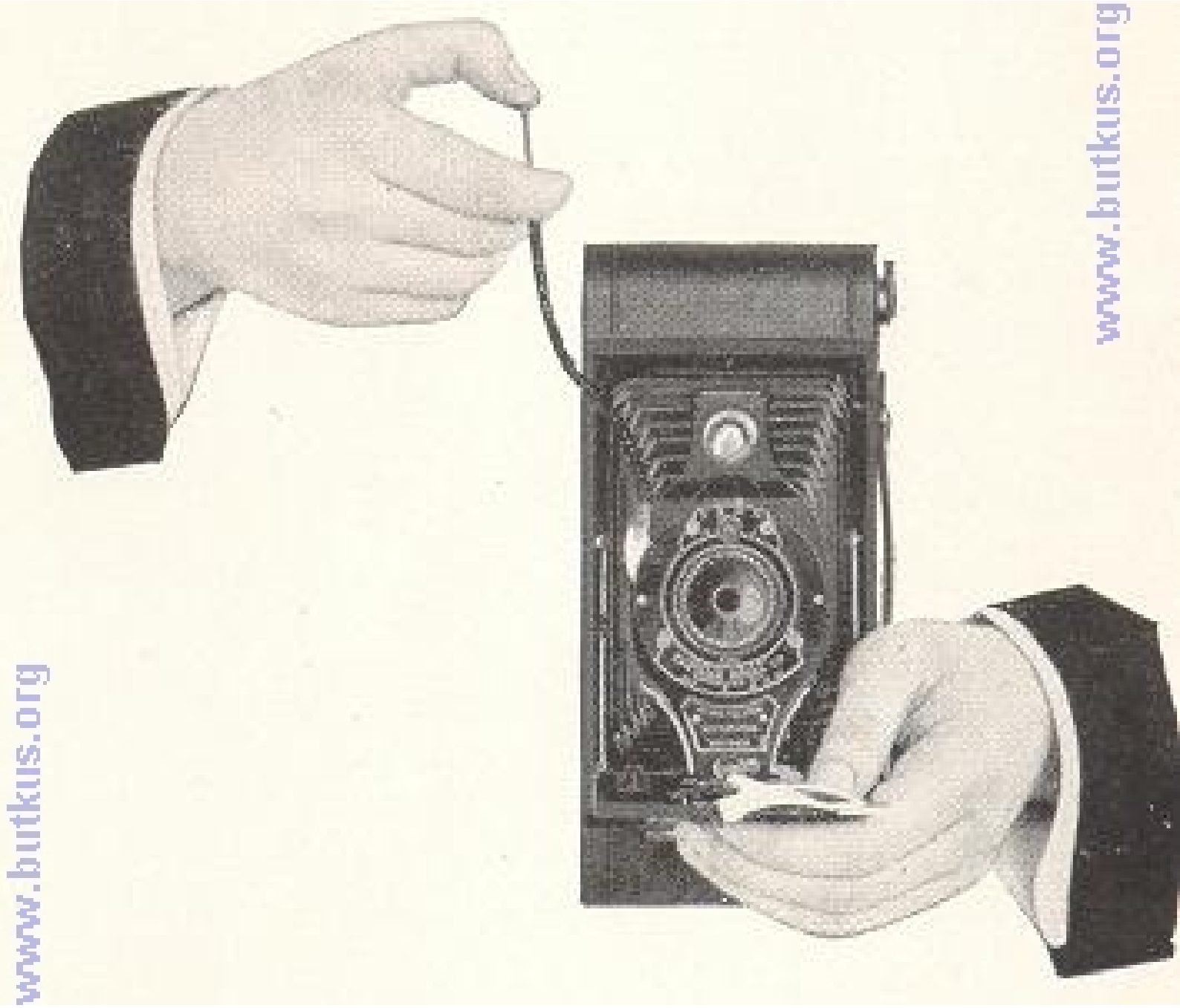


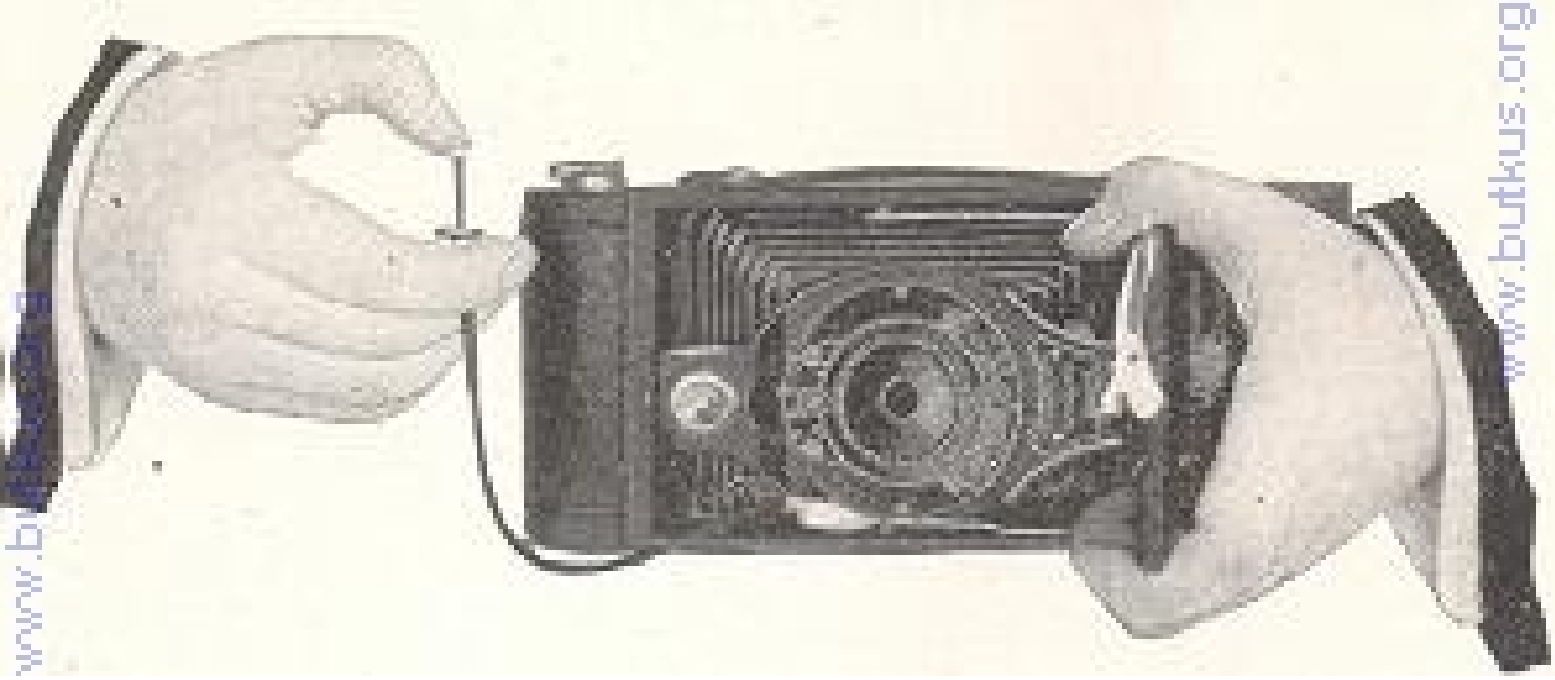
Table for use with the Rainbow Hawk-Eye No. 2

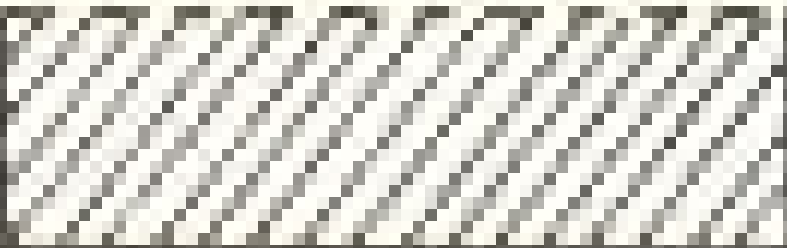
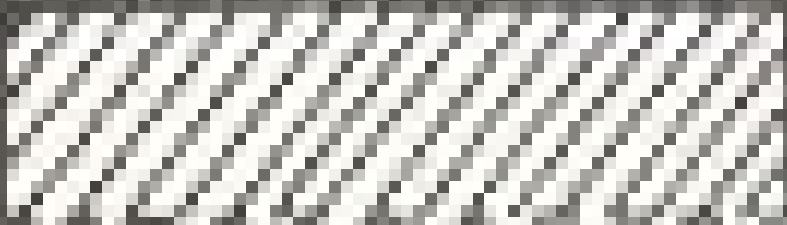
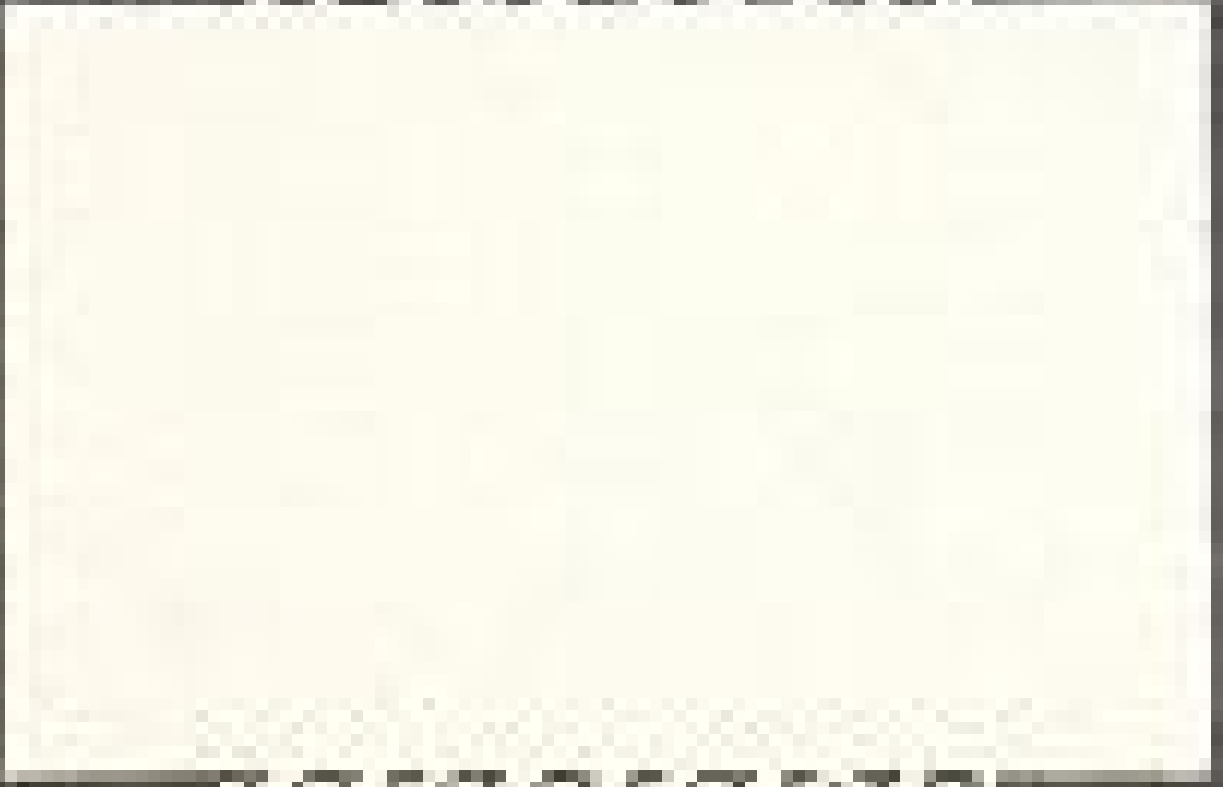
STOPS	No. 1		No. 2		No. 3		No. 4	
Distance Focused Upon	RANGE OF SHARPNESS							
	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.
100 Ft.	22	to Inf.	17	to Inf.	13	to Inf.	9	to Inf.
"Fixed"	14	to Inf.	11½	to Inf.	9½	to Inf.	7½	to Inf.
8 Ft.	6½	to 11	6	to 13	5¼	to 18	4¾	to 36

Table for use with the Rainbow Hawk-Eye No. 2A

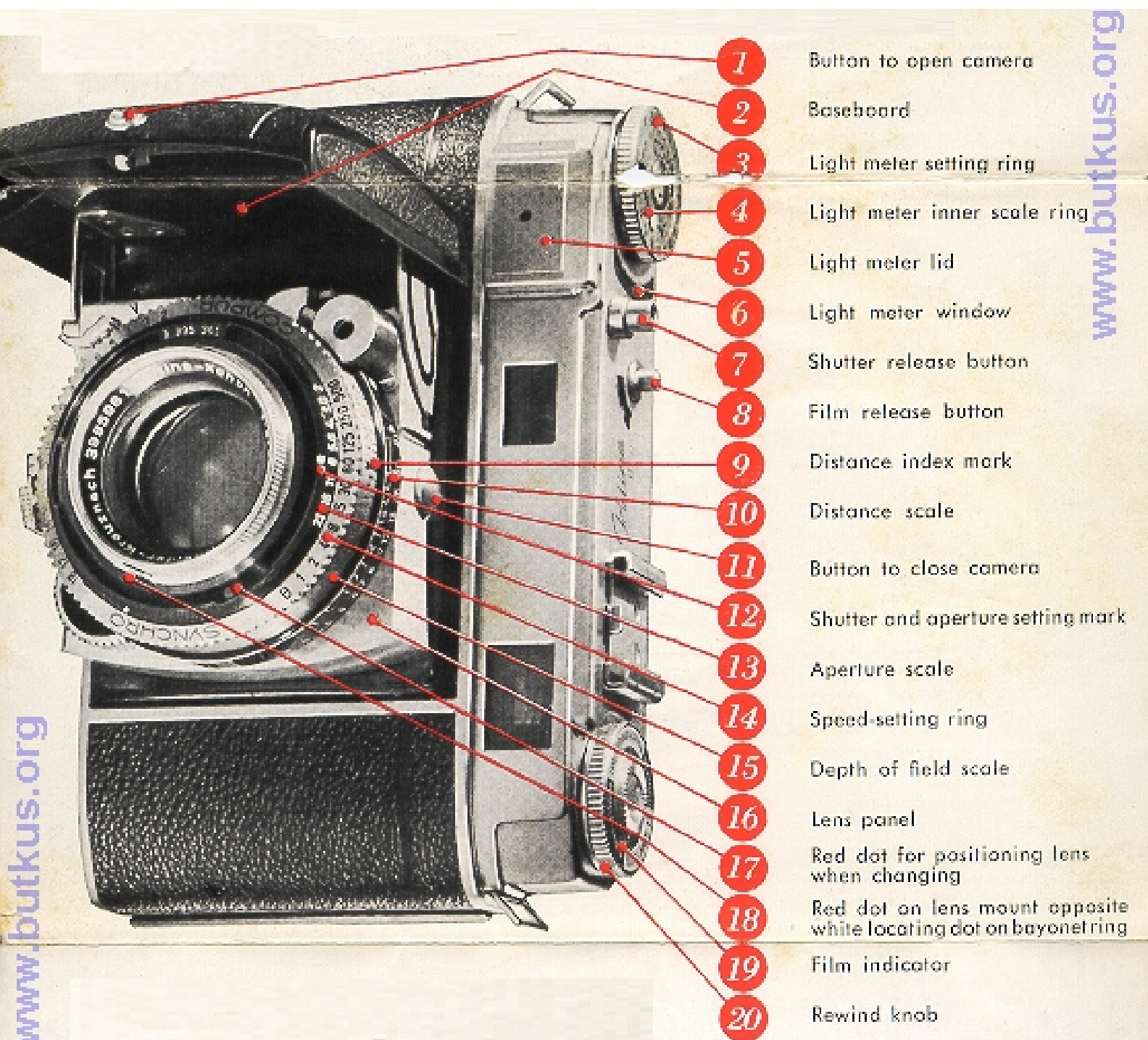
STOPS	No. 1		No. 2		No. 3		No. 4	
Distance Focused Upon	RANGE OF SHARPNESS							
	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.
100 Ft.	28	to Inf.	21	to Inf.	17	to Inf.	12	to Inf.
"Fixed"	15½	to 68	13½	to Inf.	11	to Inf.	9	to Inf.
8 Ft.	7	to 9¾	6½	to 10½	6	to 13	5¼	to 17

"Inf." is the abbreviation for Infinity—meaning an unlimited distance from the lens.





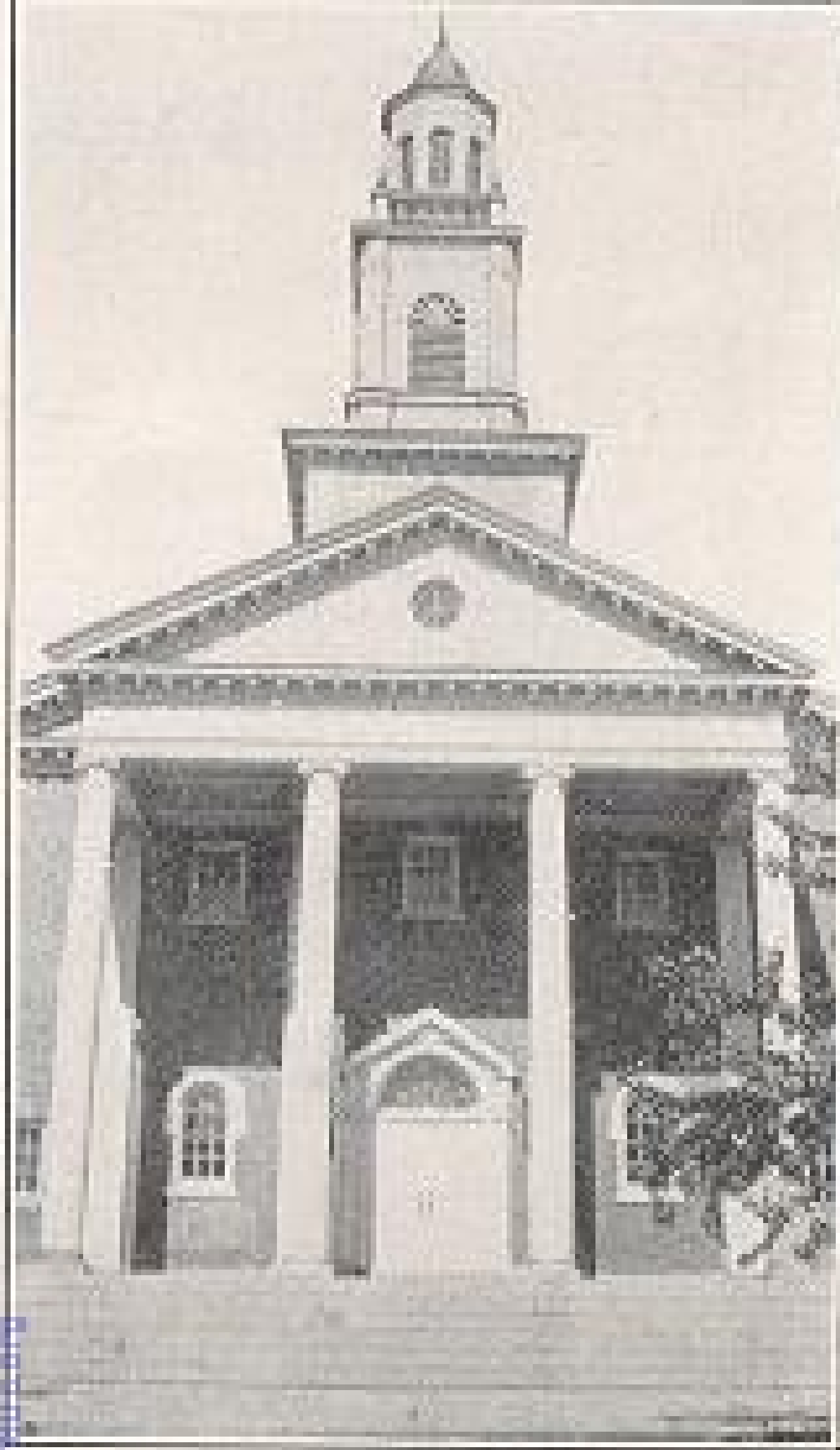




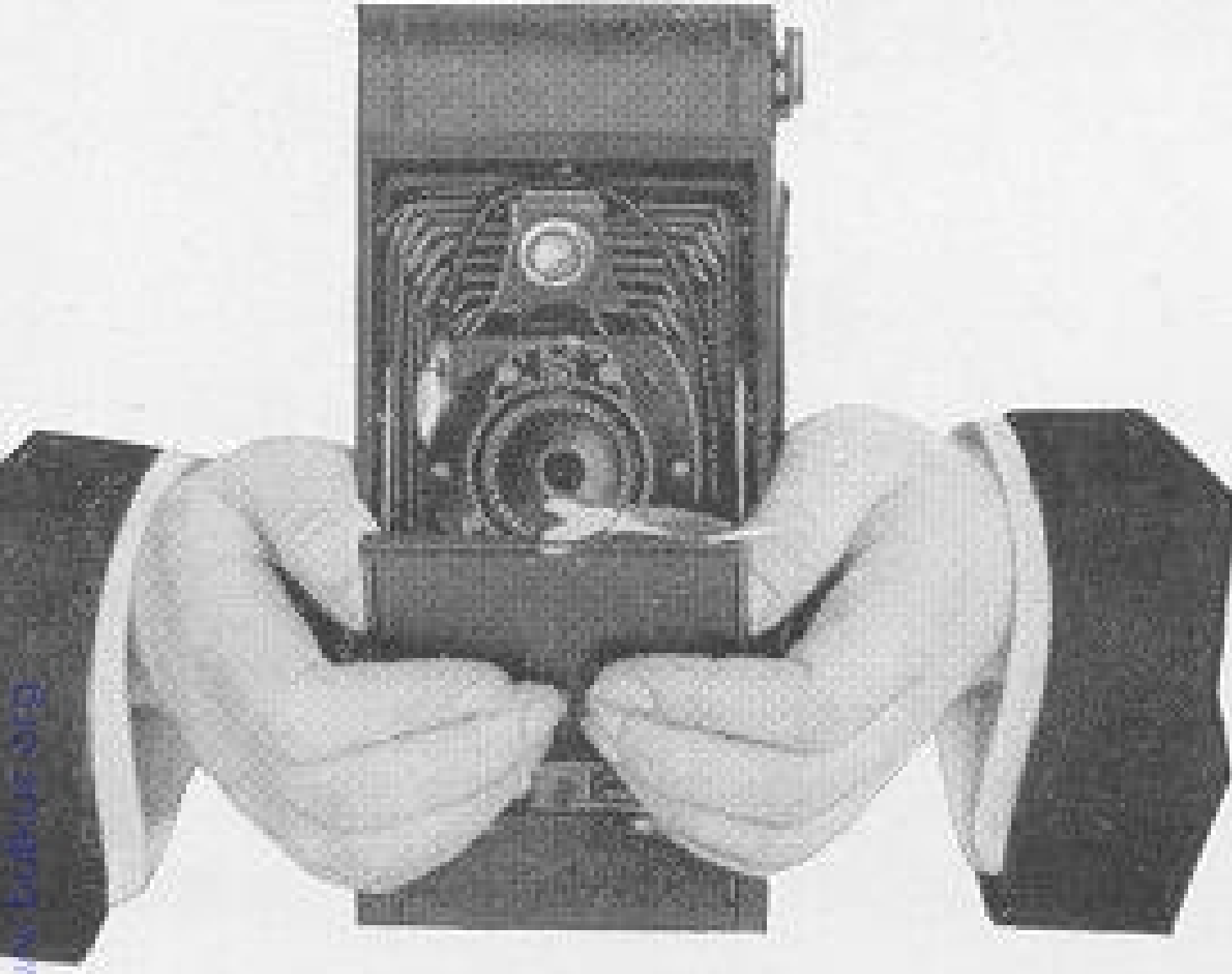


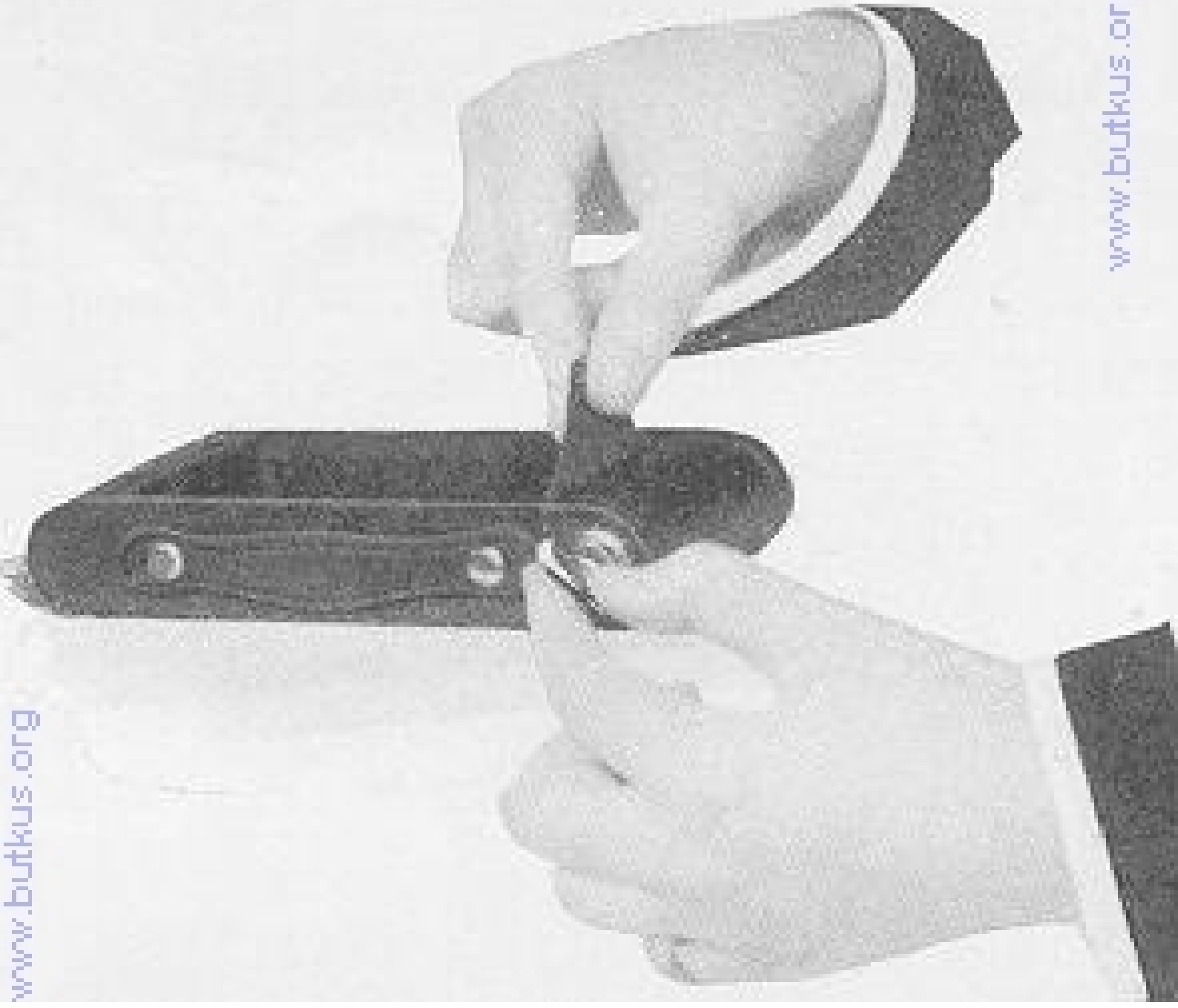
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العدد ٢١



ect produced by tilting the camera.







The All-Purpose Film . . .

KODAK VERICHROME FILM



Has great speed and is well balanced for recording tone values in a black-and-white print. Its double coating guards against over- and underexposure. 8 exposures. V620 for the Six-20 and V616 for the Six-16.

For Pictures at Night and Difficult Daytime Shots . . .

KODAK SUPER-XX PAN FILM



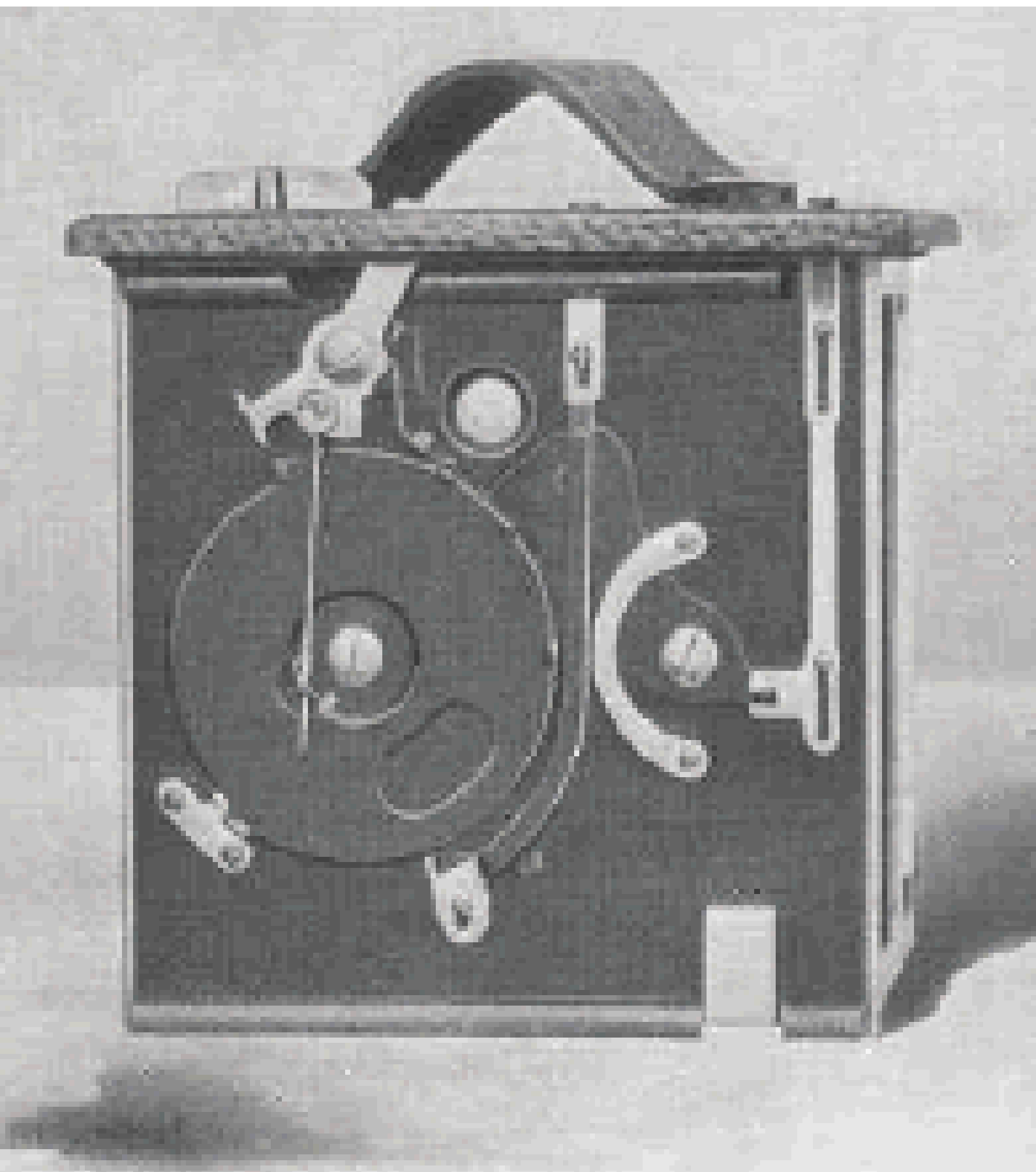
Gives correct color values in a black-and-white print. Its speed makes it ideal for taking pictures at night by artificial light, and outdoor snapshots in the shade. 8 exposures. XX620 for the Six-20 and XX616 for the Six-16.

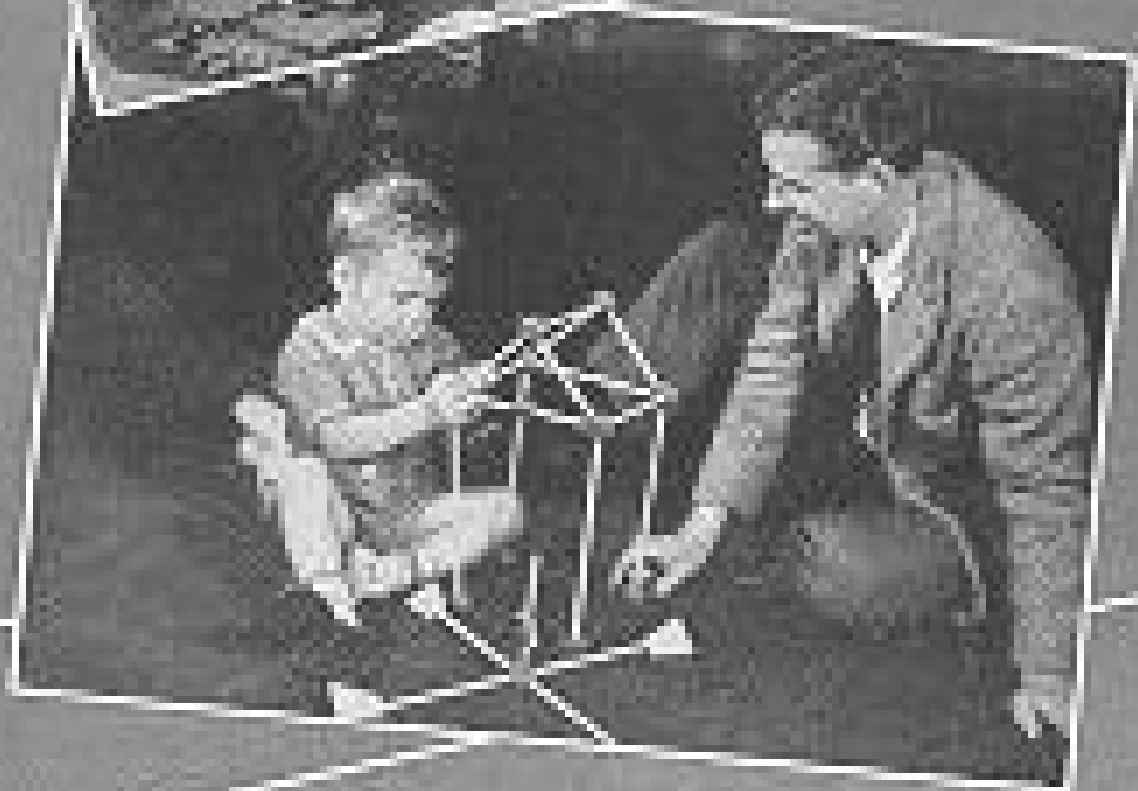
The Film that Makes the Finest Enlargements . . .

KODAK PANATOMIC-X FILM



It records color values correctly in a black-and-white print. It has an exceptionally fine grain enabling the making of enlargements of great size. 8 exposures. FX620 for the Six-20 and FX616 for the Six-16.





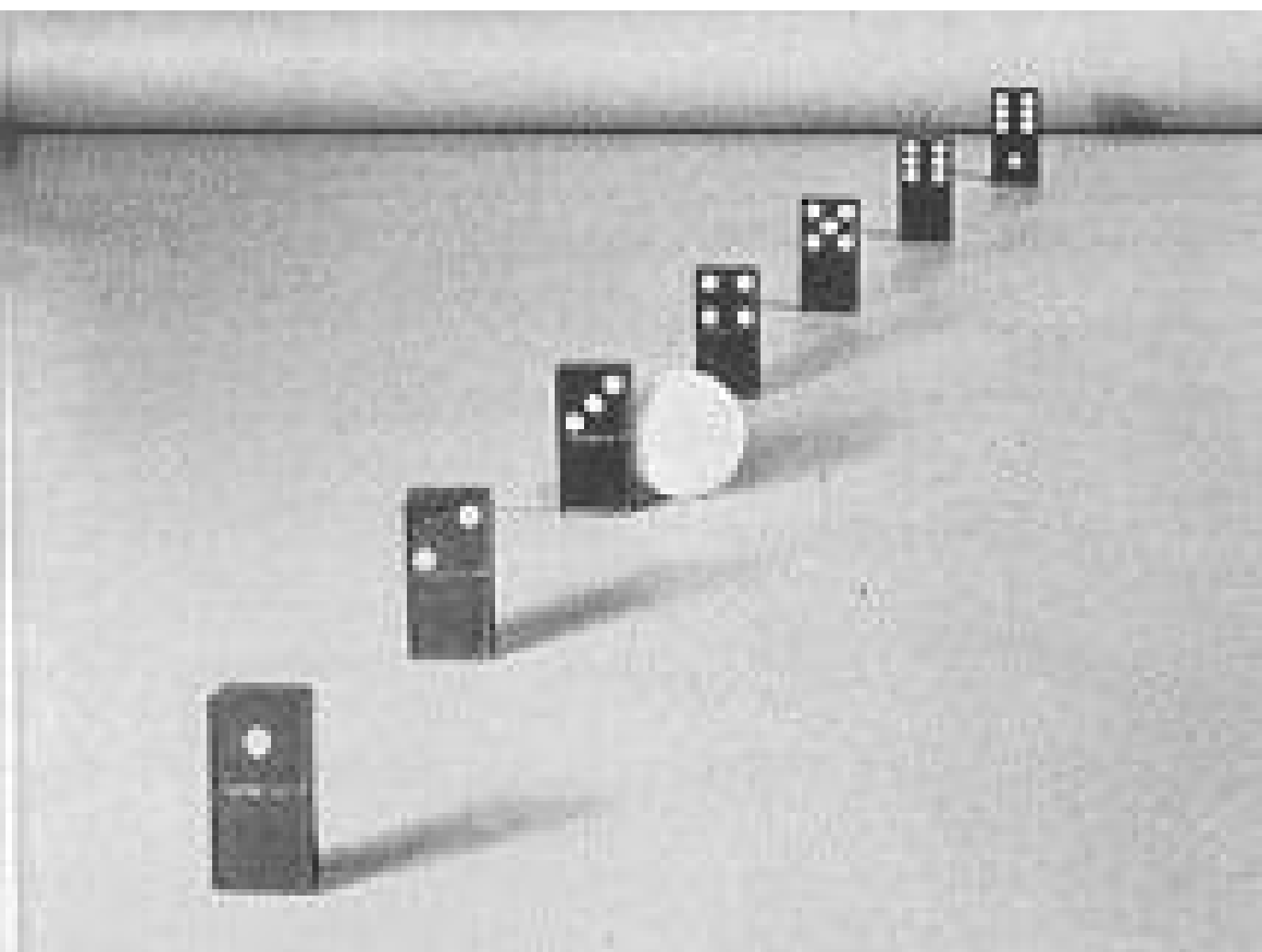
Close-up portraits.
Subjects should be
 $3\frac{1}{2}$ or 4 feet from
camera. The lens
mount must be set
accordingly.

For groups, set the
focus at 15 or 25
feet.



For distant
subjects
the focus
should
be set at
INF. (in-
finity).







For a moving object
use $f/8.3$ or $f/8$ and
 $1/100$ second.

When subject is in
the open shade
use $f/8.3$ and $1/25$
second.



For near-by
subjects on
the beach in
sunshine,
use $f/16$ and
 $1/25$ sec-
ond.



The Depth of Field for Different Stop Openings

By "depth of field" is meant the range of sharpness, in front of and behind the subject focused on, within which details in the picture will be sharp and distinct.

TABLE FOR USE WITH THE KODAK VIGILANT **SIX-20**

Dis- tance Focused Upon	<i>f/6.3</i>	<i>f/8</i>	<i>f/11</i>	<i>f/16</i>	<i>f/32</i>
INF.	42 ft. to inf.	33 ft. to inf.	24 ft. to inf.	16½ ft. to inf.	8½ ft. to inf.
50 ft.	23 ft. to inf.	20 ft. to inf.	16 ft. to inf.	13 ft. to inf.	7 ft. to inf.
25 ft.	16 ft. to 55 ft.	15 ft. to 80 ft.	13 ft. to inf.	10½ ft. to inf.	6½ ft. to inf.
15 ft.	11½ ft. to 22 ft.	10½ ft. to 26 ft.	9½ ft. to 35 ft.	8 ft. to 85 ft.	5½ ft. to inf.
10 ft.	8 ft. to 12½ ft.	7½ ft. to 13½ ft.	7½ ft. to 16 ft.	6½ ft. to 22 ft.	4½ ft. to inf.
8 ft.	6½ ft. to 9½ ft.	6½ ft. to 10½ ft.	6½ ft. to 12 ft.	5½ ft. to 15 ft.	4½ ft. to 122 ft.
6 ft.	5½ ft. to 7 ft.	5½ ft. to 7½ ft.	5 ft. to 8 ft.	4½ ft. to 9 ft.	3½ ft. to 20 ft.
5 ft.	4½ ft. to 5½ ft.	4½ ft. to 6 ft.	4 ft. to 6½ ft.	3½ ft. to 7½ ft.	3 ft. to 14 ft.
4 ft.	3½ ft. to 4 ft. 5 in.	3 ft. 7 in. to 4 ft. 7 in.	3 ft. 5 in. to 4 ft. 10 in.	3 ft. 4 in. to 5 ft. 5 in.	2½ ft. to 8½ ft.
3½ ft.	3¼ ft. to 3 ft. 10 in.	3 ft. 2 in. to 3 ft. 11 in.	3 ft. 1 in. to 4 ft. 2 in.	2 ft. 11 in. to 4 ft. 6 in.	2½ ft. to 6½ ft.

The depth or range of sharpness is not given for *f/22*. The range for this opening can be estimated by comparison.

"Inf." is the abbreviation for Infinity—meaning an unlimited distance from the lens.

The Depth of Field for Different Stop Openings

By "depth of field" is meant the range of sharpness, in front of and behind the subject focused on, within which details in the picture will be sharp and distinct.

TABLE FOR USE WITH THE KODAK VIGILANT **SIX-16**

Distance Focused Upon	<i>f</i> /6.3	<i>f</i> /8	<i>f</i> /11	<i>f</i> /16	<i>f</i> /32
INF.	66 ft. to inf.	52 ft. to inf.	38 ft. to inf.	26 ft. to inf.	13 ft. to inf.
50 ft.	28½ ft. to inf.	25½ ft. to inf.	21½ ft. to inf.	17 ft. to inf.	10½ ft. to inf.
25 ft.	18½ ft. to 40½ ft.	16½ ft. to 48½ ft.	15 ft. to 75½ ft.	12½ ft. to inf.	8½ ft. to inf.
15 ft.	12½ ft. to 19½ ft.	11½ ft. to 21½ ft.	10½ ft. to 25 ft.	9½ ft. to 36½ ft.	6½ ft. to inf.
10 ft.	8½ ft. to 11½ ft.	8½ ft. to 12½ ft.	7½ ft. to 13½ ft.	7½ ft. to 16½ ft.	5½ ft. to 45½ ft.
8 ft.	7½ ft. to 9½ ft.	7 ft. to 9½ ft.	6½ ft. to 10½ ft.	6 ft. to 13½ ft.	5 ft. to 21½ ft.
6 ft.	5½ ft. to 6½ ft.	5 ft. 5 in. to 6½ ft.	5½ ft. to 7½ ft.	5 ft. to 8 ft.	4½ ft. to 12 ft.
5 ft.	4½ ft. to 5 ft. 5 in.	4 ft. 7 in. to 5½ ft.	4 ft. 5 in. to 5 ft. 9 in.	4 ft. 2 in. to 6 ft. 2 in.	3 ft. 7 in. to 8 ft. 2 in.
4 ft.	3½ ft. to 4 ft. 3 in.	3 ft. 8 in. to 4½ ft.	3 ft. 7 in. to 4 ft. 6 in.	3 ft. 6 in. to 4 ft. 9 in.	3 ft. to 5 ft. 9 in.

The depth or range of sharpness is not given for *f*/22. The range for this opening can be estimated by comparison.

"Inf." is the abbreviation for Infinity—meaning an unlimited distance from the lens.



Exposure Table for No. 11A Photoflash Lamp and for Kodak Verichrome or Kodak Panatomic-X Film

With the No. 21 Photoflash Lamp, use next smaller opening.

For Kodak Super-XX Panchromatic Film, use two stop openings smaller.

<i>Distance Lamp to Subject</i>	<i>Stop Opening</i>		
	One Photo- flash in Kodak Handy Reflector	One Photo- flash in Ordinary Reflector	One Photo- flash with- out Re- flector
20 feet	$f/6.3$	—	—
14 "	$f/8$	$f/6.3$	—
10 "	$f/11$	$f/8$	$f/6.3$
7 "	$f/16$	$f/11$	$f/8$

A white card held directly behind a bare Photoflash Lamp will enable you to use the stop opening recommended for ordinary reflector.



A suggestion for an interior story telling picture. For information on exposures, see pages 31 and 33.



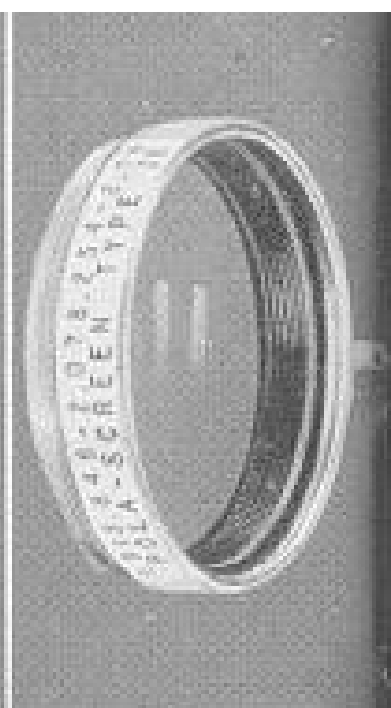
Adapter Ring



Portrait
Diffusion Disk



Retaining Ring



Kodak
Pola-Screen

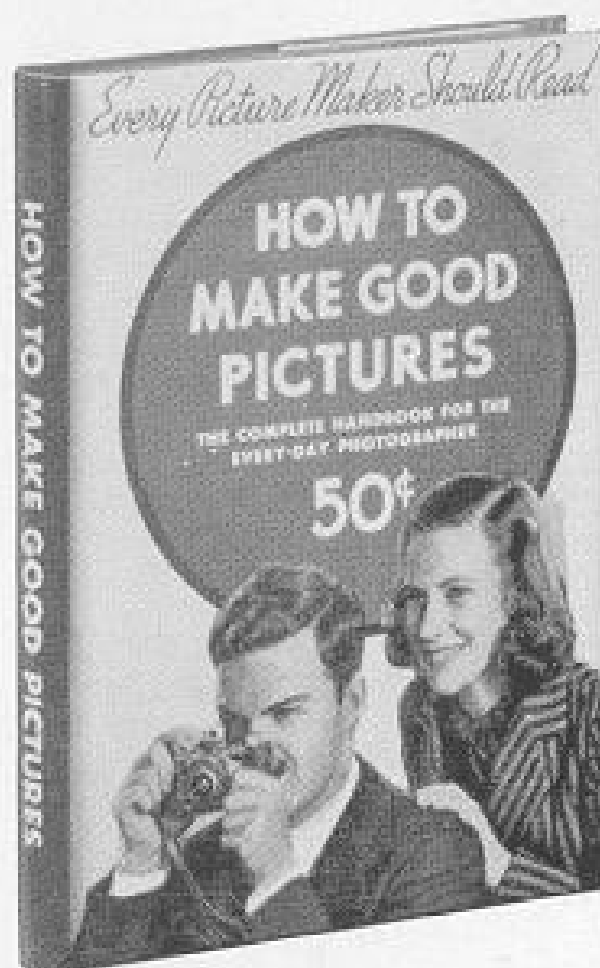
Exposure Table for Photoflood Lamps

For pictures of people, using Kodak Super-XX Panchromatic Film and two Photoflood Lamps in Kodak Handy Reflectors. For interiors without people, double the exposures.

<i>Distance Lamps to Subject</i>	<i>Stop Opening</i>	<i>*Exposure in Seconds</i>	
		Two No. 1 Photofloods	Two No. 2 Photofloods
6 feet	<i>f/6.3</i>	1/50	1/100
6 "	<i>f/8</i>	1/25	1/50
6 "	<i>f/11</i>	1/10	1/25
6 "	<i>f/16</i>	1/5	1/10
8 feet	<i>f/6.3</i>	1/25	1/50
8 "	<i>f/8</i>	1/10	1/25
8 "	<i>f/11</i>	1/5	1/10
8 "	<i>f/16</i>	1/2	1/5

*For Kodak Verichrome or Kodak Panatomic-X Film use two stop openings larger, or give four times the exposure.

Rooms should have light-colored walls; with dark walls, more Photoflood Lamps in reflectors will usually be required. Do not use more than three No. 2 lamps or six No. 1 lamps on a single fused circuit.



“HOW TO MAKE GOOD PICTURES”

Explains every phase of photography in which the amateur is likely to be interested, including methods of making pictures, developing, printing, enlarging, coloring, interior photography, home portraiture, etc. Profusely illustrated. Sold at your dealer's.

EASTMAN KODAK CO., ROCHESTER, N. Y.

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Ease with the . . .

**KODAK
ADJUSTABLE
ROLL FILM TANK**

ABOVE:
*Ease of load-
ing is an out-
standing fea-
ture.*



● Remarkable loading ease . . . uniform development . . . wide adaptability . . . are but a few features of the Kodak Adjustable Roll Film Tank.

Loading is done in darkness. After loading, all developing, fixing and washing operations may be carried out in daylight. Loaded capacity: 32 ounces.

The Kodak Adjustable Roll Film Tank takes the most popular roll film sizes by merely moving the upper flange of the reel along the core. It is adjustable for four standard widths, including: Nos. 828, 135, 235, 127, 116 and 616, 120 and 620.

See the Kodak Adjustable Roll Film Tank at your dealer's.

EASTMAN KODAK CO., ROCHESTER, N. Y.

Outdoor Exposure Guide

SUBJECT	STOP OPENING	SHUTTER SPEED
Average Subjects: Near-by People, Gardens, Houses, Scenes <i>not in shade.</i>	<i>f/11</i>	<i>1/25</i>
Bright Subjects: Near-by People in Marine, Beach, and Snow Scenes. Scenics with foreground objects.	<i>f/16</i>	<i>1/25</i>
Brilliant Subjects: Beach, Marine, and Snow Scenes, Distant Landscapes and Mountains without prominent dark objects in the foreground.	<i>f/22</i>	<i>1/25</i>
Shaded Subjects: People, Gardens, and other subjects in Open Shade (lighted by open sky, not under trees, porch roof, etc.)	<i>f/6.3</i>	<i>1/25</i>
Moving Objects: When photographing a moving object such as a runner, train or an automobile, the subject should be moving towards or away from the camera at an angle of about 45 degrees.	<i>f/6.3</i>	<i>1/100</i>

Exposures are for the hours from one hour after sunrise until one hour before sunset on days when the sun is shining. If pictures are made earlier or later, or if it is a *slightly* cloudy or hazy day, use a larger stop opening. This table is for Kodak Verichrome and Panatomic-X Films.

With Kodak Super-XX Panchromatic Film use the second smaller stop opening, or use a shutter speed four times as fast as that given in the table.

The largest stop opening is *f/6.3*. The *higher* the number the *smaller* the opening.

Holding

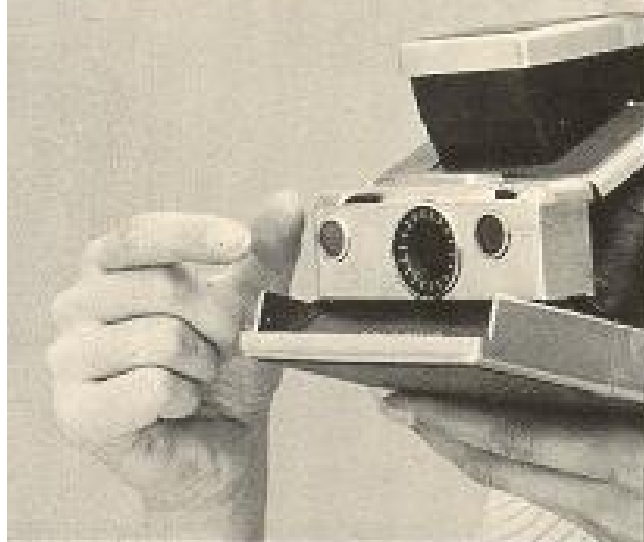
1. Hold in palm of left hand, thumb and fingers behind hinge (A).



Fingers should not block exit slot (B).



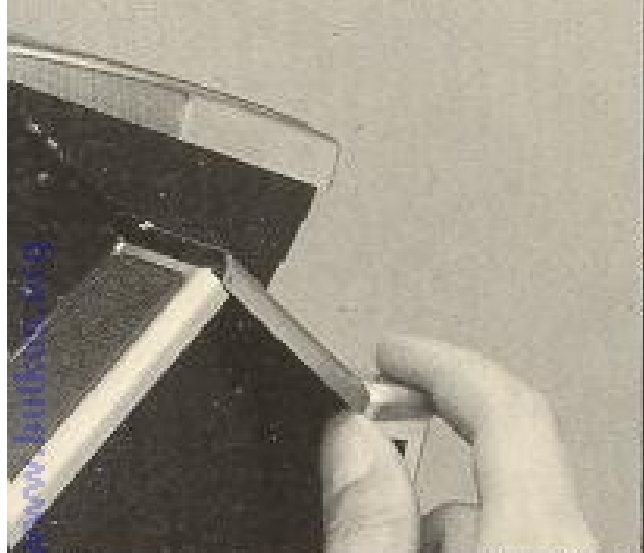
2. Extend right thumb and index finger; curl other fingers tightly into palm.



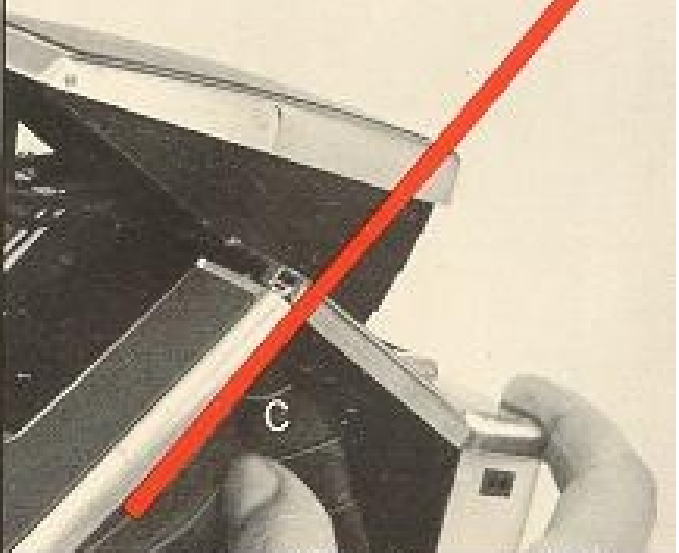
Fingers should not stray in front of camera or FlashBar.



3. Place index finger on focus wheel, thumb as shown.



Fingers and thumbs should not touch camera bellows (C).



How to focus

Hold camera about one inch from eye and look through center of eyepiece. You should see square black frame around scene. If you cannot see all four corners, move camera until you can. Split circle in lower center of viewfinder is focusing aid for some situations. Instructions for using it are in panel below.

1. At first, subject may look fuzzy and unclear.



OUT OF FOCUS

Focusing with split circle

For dim light or flash pictures of people, or other subjects with distinct vertical lines, split circle helps to focus.

Aim circle at line like lapel, necktie, front seam of shirt or dress, necklace, line between light and dark areas. Line must be about same distance from you as most important part of subject, not behind it or in front of it.

1. When line is broken, subject is out of focus.



OUT OF FOCUS

Shooting

To take a picture, press shutter button. Hold button in and hold camera very steady until picture comes out of exit slot.

After picture develops fully, it is highly flexible and damage resistant, but it should not be bent or squeezed while it is developing.

1. Press shutter button, holding it until...



2. Roll focus wheel all the way in each direction, noting how image changes.



3. Return wheel to point at which image first began to look sharp and clear.



2. Roll focus wheel until line is continuous.



 **IN FOCUS**

Split circle is for focusing, not for framing. Reframe picture after focusing, so you see in black frame just what you want in picture. After focusing, do not change distance from subject.

Split circle does not help on subjects with soft or furry outlines, or on repetitive patterns, where you could mismatch vertical lines.

www.butkus.org

2. ...picture comes out of exit slot.



3. Remove picture by wide border. That's all you have to do.



4. Now roll wheel a small amount each way until details are sharpest.



IN FOCUS

Focusing is like tuning radio or TV set to get best reception. Turn slightly past perfect setting once or twice to be sure you have found it. Concentrate on most important part of your picture as you focus.

Focusing controls exposure for flash, so you must focus accurately to get flash pictures which are both well exposed and sharp.

After focusing, you will sometimes...



FOCUS

...need to reframe.



REFRAME

Using flash

Use FlashBar for all indoor pictures (except time exposures) of subjects from 10 in. to 20 ft. from camera. Remove FlashBar when not taking flash pictures.

Focus carefully. As you focus, you automatically set flash exposure. Too light or too dark flash pictures are usually caused by inaccurate focusing.

Insert FlashBar into socket; reverse it after 5 flashes.

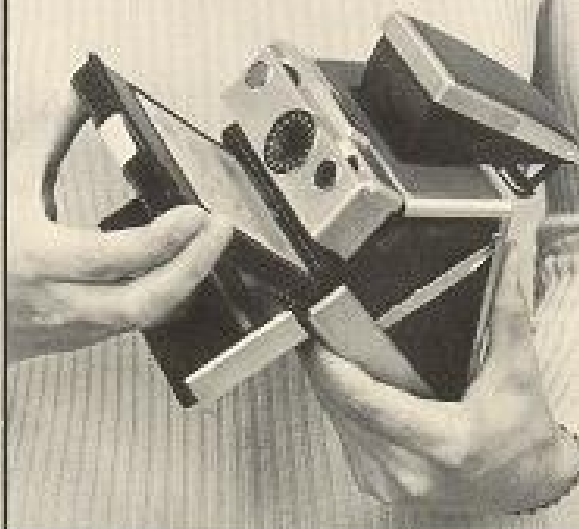


Loading

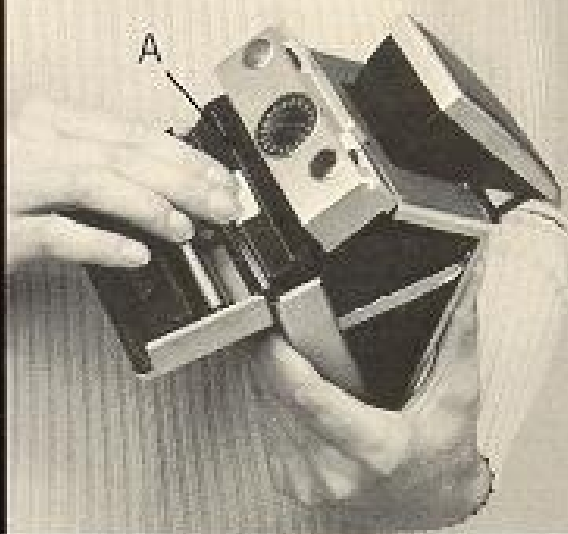
1. Push yellow bar; film door opens.



2. Insert pack, pushing it in...



3. ...until narrow end cap (A) snaps open.



4. Close film door.

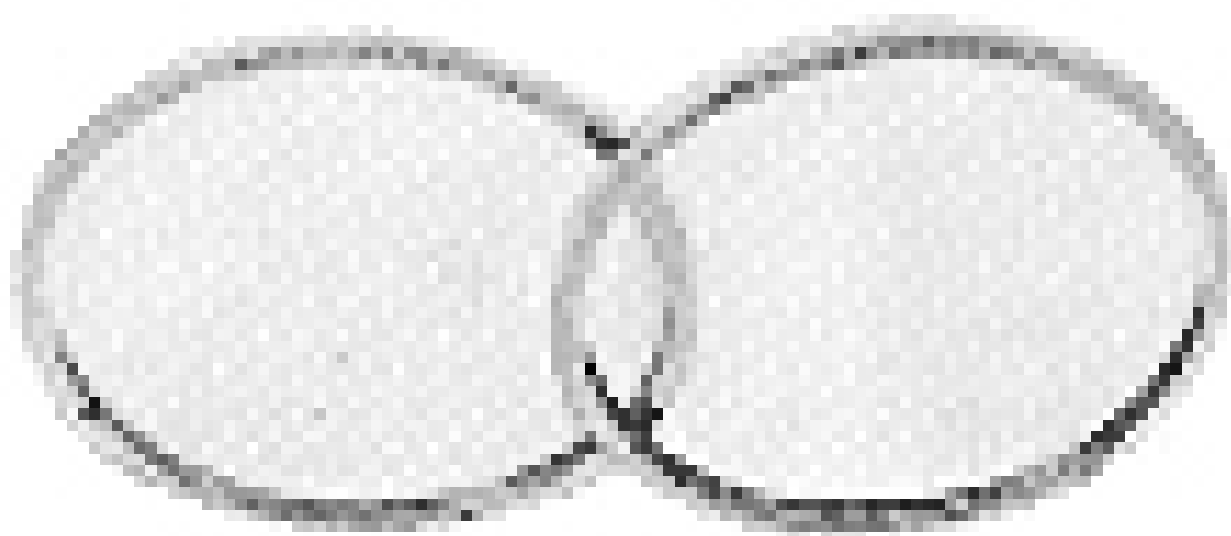


5. Film cover comes out.



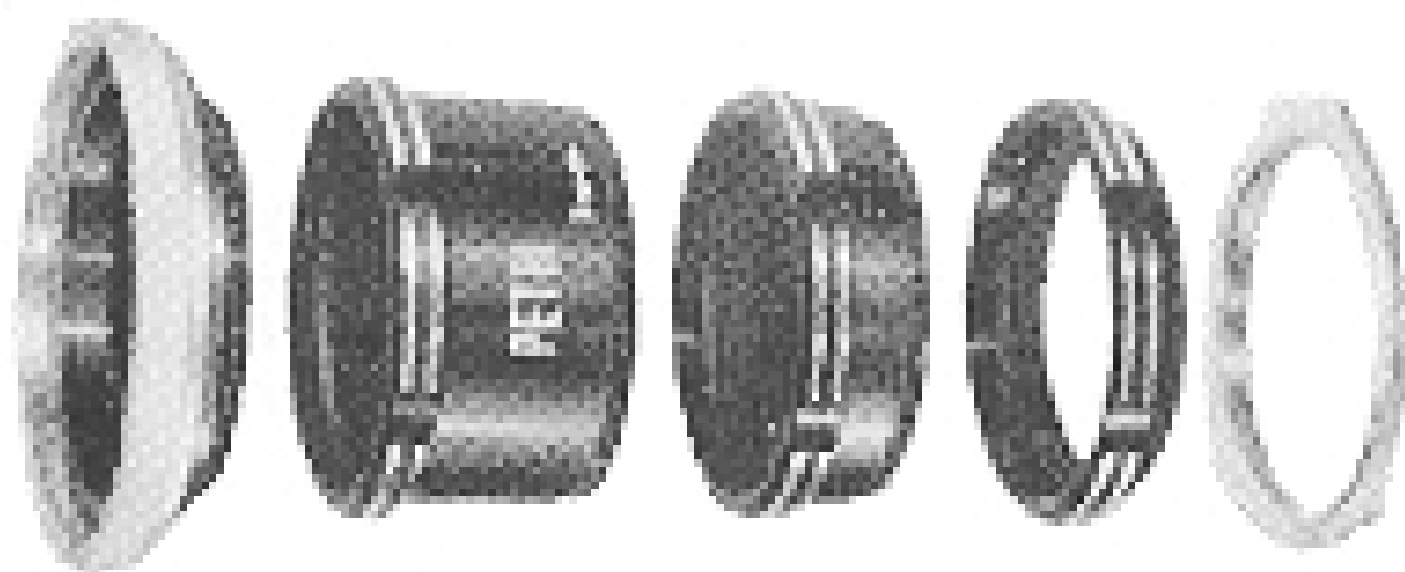
6. Remove cover.





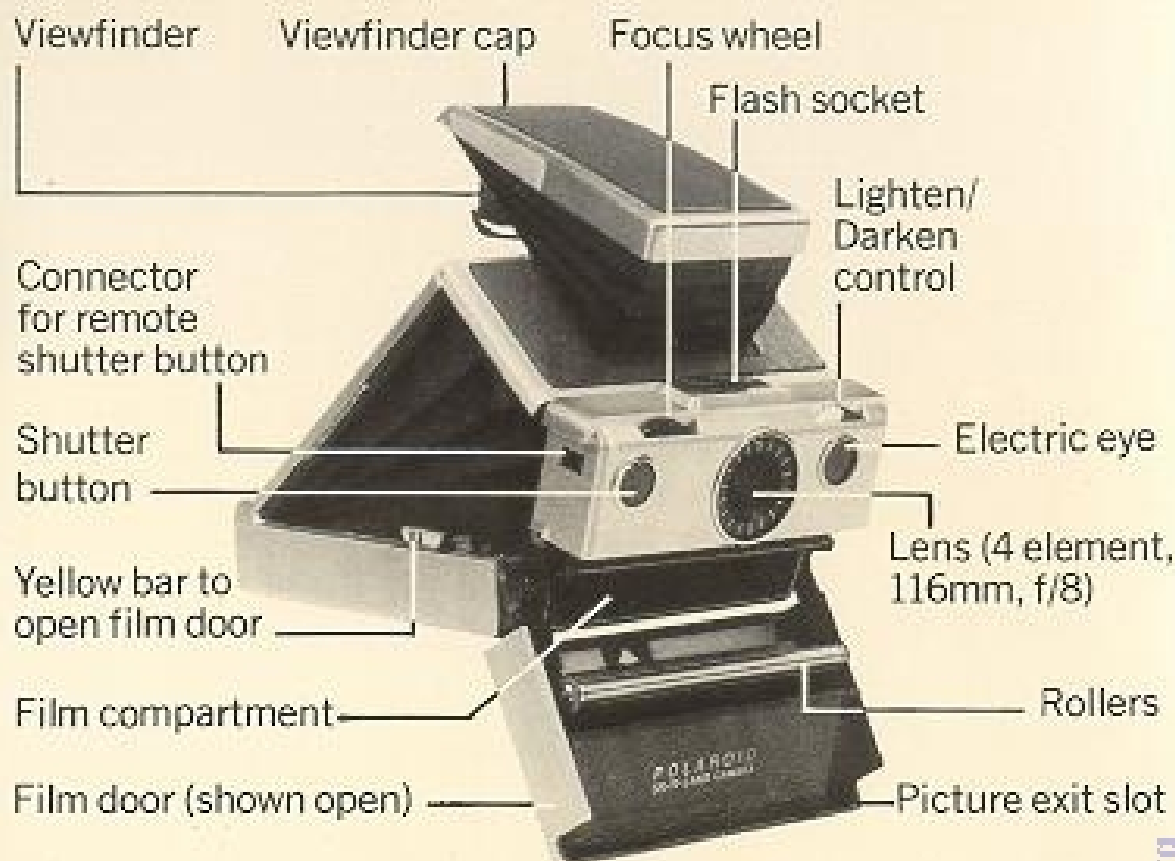
FILTER

	$\frac{1}{500}$	$\frac{1}{250}$	$\frac{1}{125}$	$\frac{1}{60}$	X	$\frac{1}{30}$	$\frac{1}{15}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	B
FP	FP class (Screw mount)										
	FP class (Bayonet)										
X						F class bulb					
							M class bulb				
					Speed Light						



EXTENSION TUBE SET

Camera parts



PICTURE TAKING INFORMATION

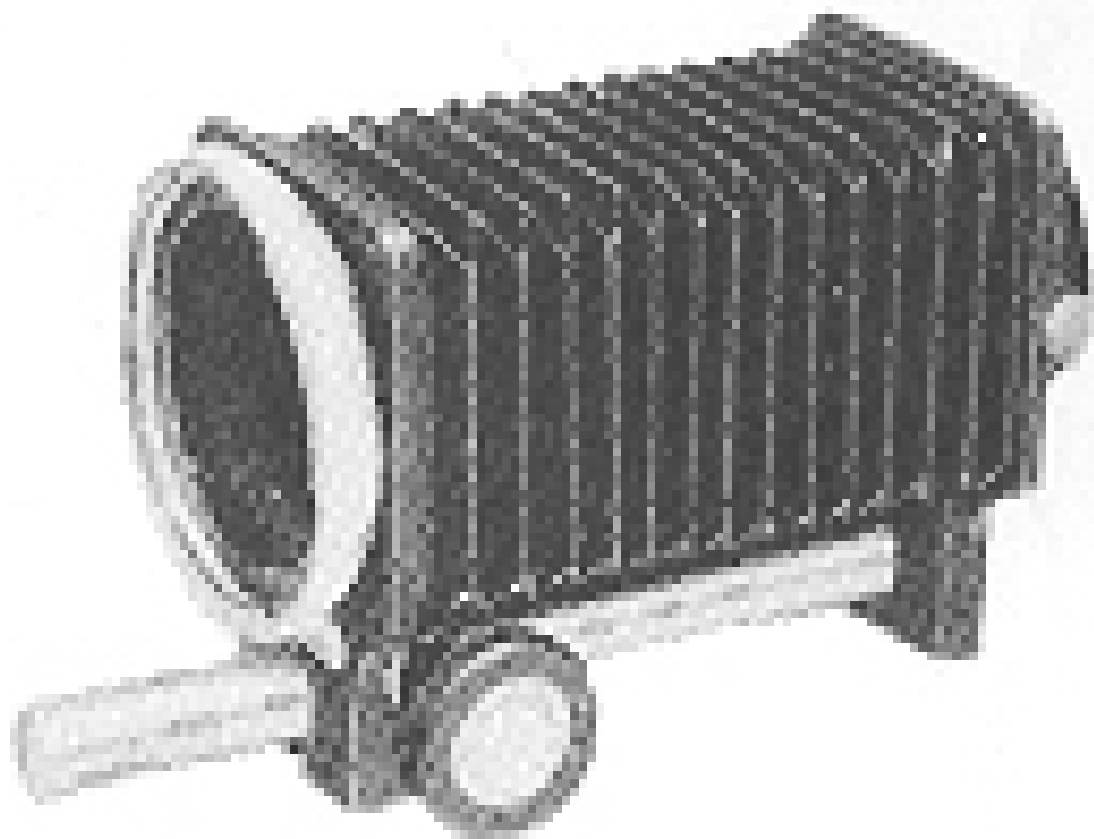
Lighting conditions: The electric eye sets short exposures in bright light and longer exposures in dim light. In sunlight, prevent direct rays of the sun from striking the lens. In very dim light, you may not be able to hold the camera steady enough. Use Tripod Mount #111 which allows you to attach the camera to a tripod, or to rest it on a firm surface.

Taking pictures in hot and cold weather: In cold weather, a loaded camera should be kept warm in a pocket except when it is being used. At temperatures below 60°F (15°C), put each picture into a warm pocket as soon as it comes out of the camera, but take care not to bend or crush it as it develops. In hot weather, shield the picture from direct sunlight as it develops. In very hot weather, pictures may be lighter than normal; in very cold weather, they may be darker than normal. Adjust the exposure with the Lighten/Darken control. The film, or a loaded camera, should never be stored in a hot place, such as the glove compartment of a car.

The Lighten/Darken control: In normal lighting conditions, the electric eye automatically sets the camera for a well exposed picture with the L/D control at the Normal position, as shown. For a darker picture, turn the L/D control so you can see more black on the dial; for a lighter picture, turn it so more white shows. For a small change, turn it one mark; for a bigger change, turn it farther. The L/D control resets to Normal when you close the camera.







EXTENSION BELLOWS



LENS HOOD



www.ANGLEUPFINDER

The picture counter: It appears in a small window on the back of the camera, and enables you to keep count of the number of pictures you have left in a pack. The counter is blank when the camera is empty, and reads 10 when you put in a new pack. The number in the window indicates how many pictures you have left. When the pack is empty, an orange 0 appears.



TECHNICAL INFORMATION

Care of your camera: Keep the camera closed when it is not in use. The lens should seldom need cleaning; a fingerprint can be removed by rubbing gently with a clean, soft handkerchief. You can clean the viewfinder eyepiece in the same way. Before loading a new film pack, check the rollers inside the film door, to be sure they are free from lint and dirt.

Checking the battery in a film pack: If the film cover does not come out of the camera when you insert a new pack, remove that pack and insert another one. If the film cover comes out this time, it may be an indication that the battery in the first pack is dead. Return the first pack intact to your dealer or to Customer Service at the address given below, and we will replace it. If the film cover is not ejected from the camera with any film pack, your camera may need repair. Please contact Customer Service (see details below).

If film jams in the exit slot: Do the following in subdued light. Open the film door before attempting to remove a jammed film. If the film is still between the rollers, turn the gear on the top roller with your thumb to move the film toward the lens, and guide it out of the camera.

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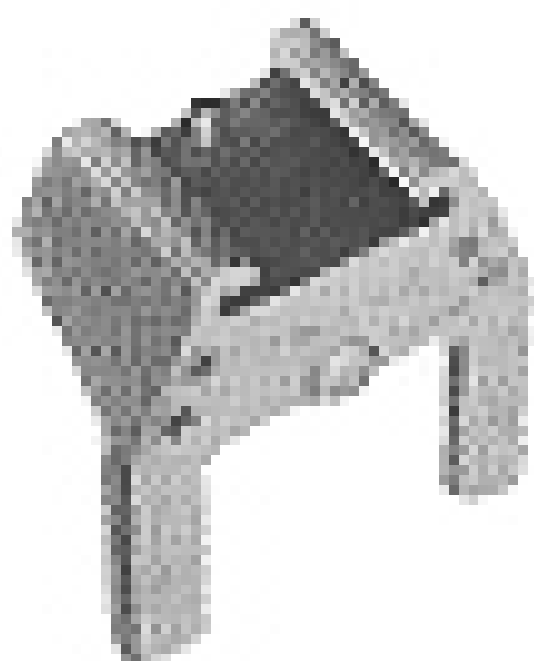
FOR FURTHER ASSISTANCE AND INFORMATION

Write to Customer Service, Polaroid Corporation, Cambridge, Massachusetts 02139, U.S.A. Or telephone toll-free from anywhere in the U.S.A., except Massachusetts. The number is 800-225-1384. From Massachusetts, and from Canada, call collect (617) 864-4568. If you write about a picture problem, please enclose samples and explain the conditions in which the problem occurred.

DEPTH OF FIELD TABLE

(PETRI 55 mm f:1.8 & f: 2)

FNO. feet	1.8	(2)	2.8	4	5.6	8	11	16
2	1.98 2.02	1.97 2.02	1.96 2.03	1.94 2.05	1.92 2.07	1.90 2.11	1.86 2.15	1.81 2.23
2.5	2.46 2.54	2.45 2.54	2.44 2.56	2.41 2.58	2.38 2.62	2.34 2.67	2.29 2.74	2.20 2.89
3	2.95 3.05	2.94 3.06	2.91 3.08	2.88 3.12	2.83 3.18	2.77 3.26	2.70 3.36	2.58 3.58
4	3.90 4.10	3.89 4.11	3.85 4.16	3.79 4.23	3.71 4.33	3.60 4.49	3.48 4.69	3.27 5.13
5	4.85 5.16	4.83 5.17	4.76 5.25	4.67 5.37	4.55 5.53	4.38 5.80	4.21 6.14	3.91 6.92
6	5.78 6.23	5.75 6.26	5.66 6.37	5.53 6.55	5.36 6.79	5.13 7.21	4.89 7.74	4.49 9.02
8	7.61 8.43	7.57 8.47	7.41 8.68	7.18 9.01	6.91 9.48	6.52 10.33	6.14 11.47	5.51 14.58
12	11.15 13.00	11.05 13.11	10.71 13.62	10.25 14.47	9.68 15.76	8.94 18.21	8.23 22.11	7.13 37.82
30	25.12 37.19	24.67 38.21	23.04 42.92	20.49 55.90	18.71 75.47	16.11 215.70	13.92 ∞	11.01 ∞
∞	154.9 ∞	139.31 ∞	99.54 ∞	64.69 ∞	49.76 ∞	34.83 ∞	25.99 ∞	17.41 ∞



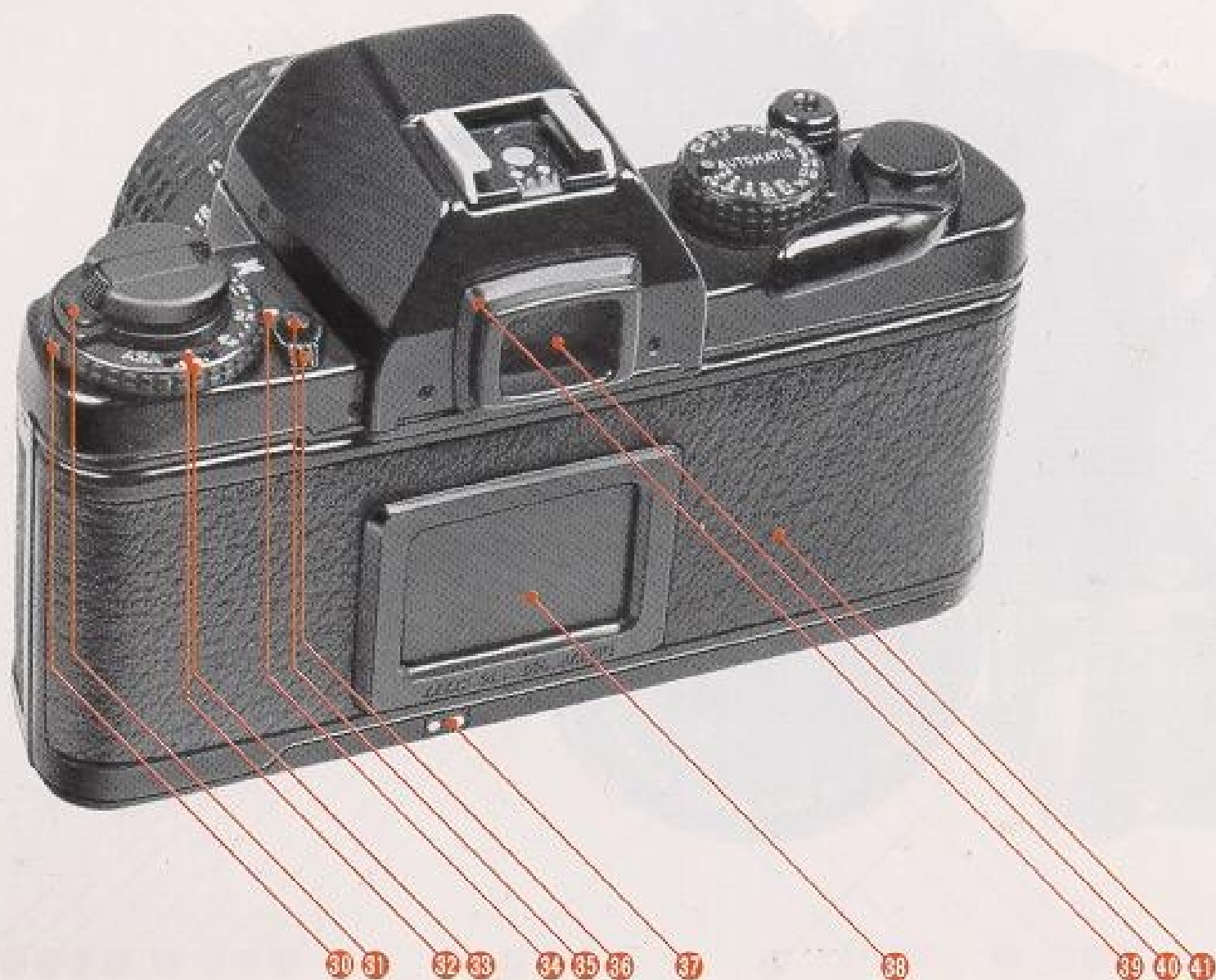
www.ACCESSORY SHOE

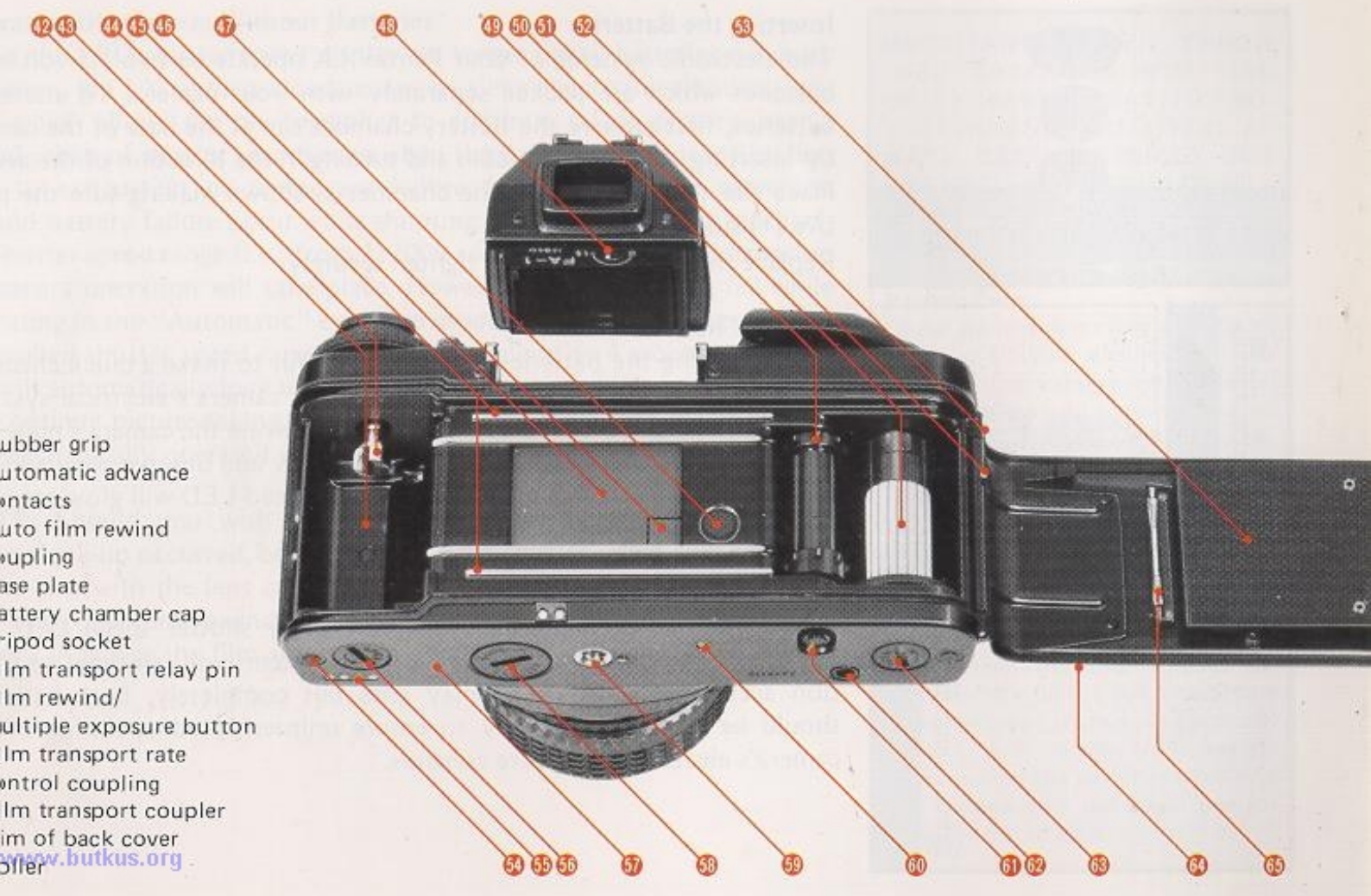


TELE CONVERTOR
(2X and 3X)



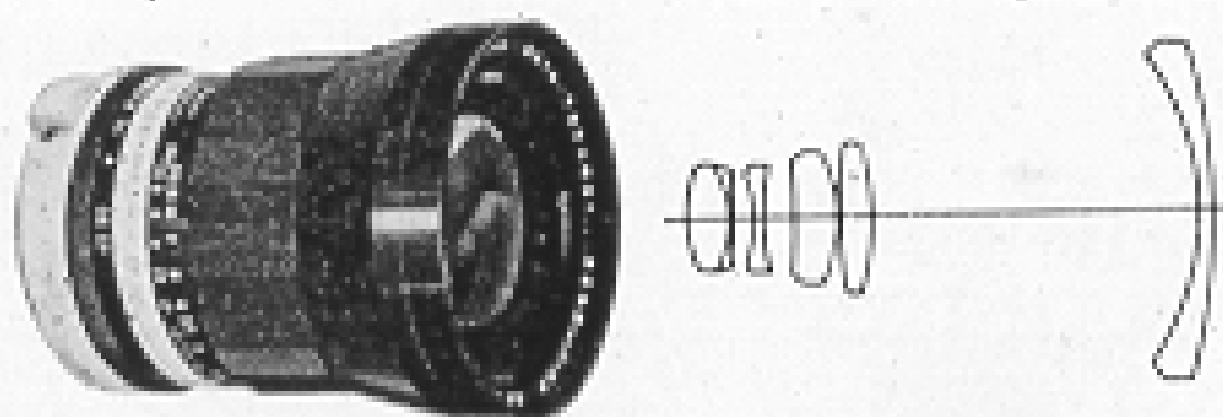






Auto-Takumar

35mm f/2.3

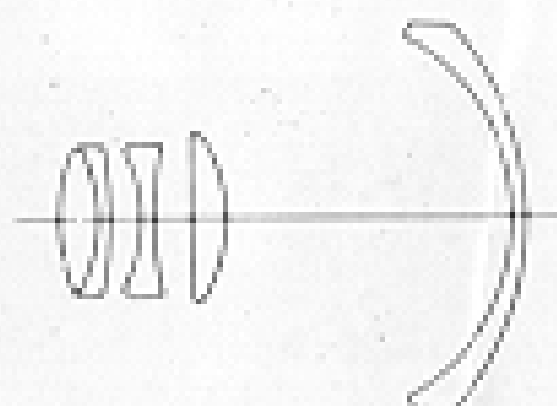


One of the world's brightest retrofocus wide angle lenses for single lens reflex cameras. Edge-to-edge sharp resolution at full aperture; unique lens design without distortion; suitable for architectural photography.

Lens elements	6
Minimum aperture	f/22
Minimum distance	1.5 ft.
Angle of view	63°
Weight	11 ozs.

Takumar

35mm f/4



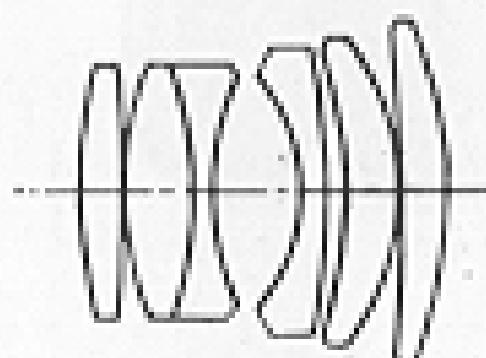
Same size as the standard lens; can be put into the camera case together with the PENTAX. Light in weight; easy to use. You do not usually need an aperture brighter than f4 for general daylight outdoor picture taking.

Lens elements	5
Minimum aperture	f/22
Minimum distance	1.5 ft.
Angle of view	63°
Weight	4.8 ozs.

Helicoidal lens barrel; without pre-set diaphragm ring.

Auto-Takumar

55mm f/1.8

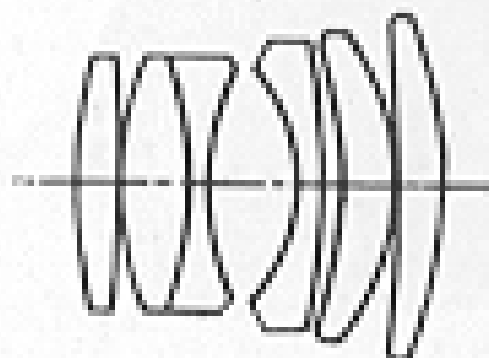


Razor-sharp, fully corrected, high-speed standard lens, using rare-earth glass, designed by top lens designers. Equipped with fully automatic diaphragm.

Ideal for professional results.

Lens elements	6
Minimum aperture	f/16
Minimum Distance	1.5 ft.
Angle of view	43°
Weight	7.9 ozs.

Auto-Takumar 55mm f/2.2

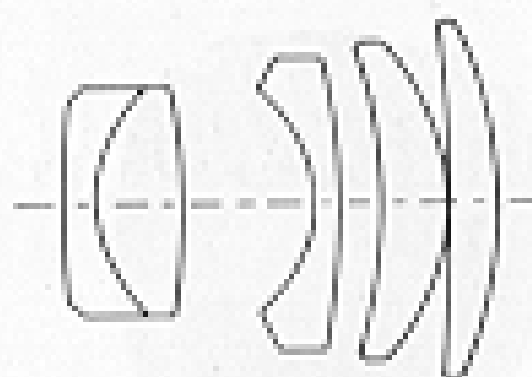


Newest high-speed 6-element lens, utilizing latest optical glass advances. High resolving power combines with outstanding brightness for easiest focusing. Ideal for exceptional results indoors or at night.

Lens elements	6
Minimum aperture	f/22
Minimum distance	1.8 ft.
Angle of view	43°
Weight	5.8 ozs.

Auto-Takumar

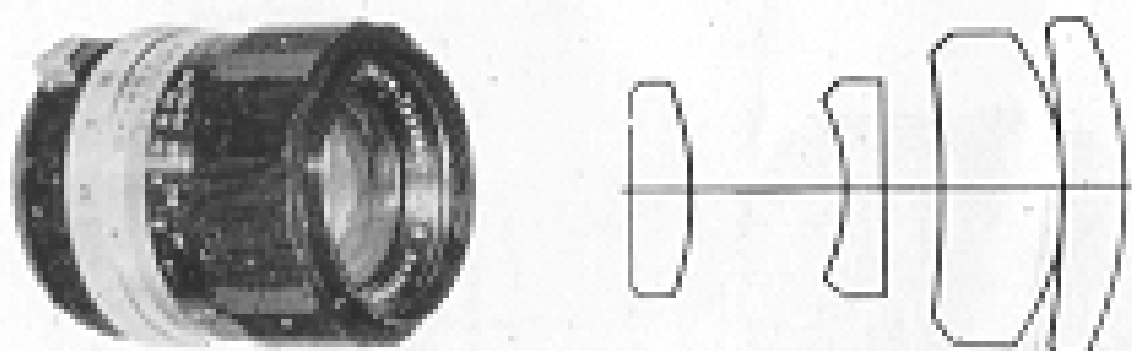
85mm f/1.8



A new, ultra-fast 5-element lens which produces an image slightly larger than the standard lens. Perfect for available light portraiture, nature studies, and sports coverage. Used as a standard, general purpose lens by many photographers.

Lens elements	5.
Minimum aperture	f/16
Minimum distance	3 ft.
Angle of view	29°
Weight	12 ozs.

Auto-Takumar 105mm f/2.8



A quality medium telephoto lens of 4 elements, with well corrected aberrations. Light weight design for portability and easy handling. Recommended for scenery, portrait, news photos, other moderate telephoto effects.

Lens elements		4
Minimum aperture		f/22
Minimum distance		4 ft.
Angle of view		23°
Weight		9.9 ozs.

Automatic diaphragm; helicoidal lens barrel.

DEPTH-OF-FIELD TABLE FOR AUTO-TAKUMAR 55mm F/2.2 LENS

Distance Scale F Setting	Ext. Tubes 1, 2, 3 @ 1.8 Ft.	Ext. Tubes 1, 2 @ 1.8 Ft.	Ext. Tube 1 @ 1.8 Ft.	1.8 Ft.	2 Ft.	2.25 Ft.	2.5 Ft.	3 Ft.	3.5 Ft.	4 Ft.	5 Ft.	7 Ft.	10 Ft.	15 Ft.	30 Ft.
F/2.2	0.72 ~0.72	0.79 ~0.80	1.09 ~1.10	1.78 ~1.82	1.98 ~2.02	2.22 ~2.28	2.46 ~2.54	2.94 ~3.06	3.42 ~3.58	3.90 ~4.11	4.83 ~5.18	6.67 ~7.37	9.3 ~10.8	13.5 ~16.9	24.4 ~38.9
F/2.8	0.72 ~0.72	0.79 ~0.80	1.09 ~1.10	1.78 ~1.82	1.97 ~2.03	2.21 ~2.29	2.45 ~2.55	2.93 ~3.07	3.40 ~3.61	3.87 ~4.14	4.79 ~5.23	6.58 ~7.45	9.1 ~11.0	13.1 ~17.5	23.2 ~42.3
F/4	0.72 ~0.72	0.79 ~0.80	1.08 ~1.10	1.77 ~1.83	1.96 ~2.04	2.20 ~2.31	2.43 ~2.57	2.90 ~3.11	3.36 ~3.65	3.81 ~4.21	4.70 ~5.34	6.42 ~7.70	8.8 ~11.5	12.5 ~18.9	21.2 ~51.4
F/5.6	0.72 ~0.72	0.79 ~0.80	1.08 ~1.10	1.76 ~1.85	1.94 ~2.06	2.18 ~2.33	2.41 ~2.60	2.86 ~3.15	3.31 ~3.72	3.75 ~4.29	4.60 ~5.48	6.21 ~8.03	8.4 ~12.3	11.7 ~21.0	19.0 ~72.1
F/8	0.72 ~0.72	0.79 ~0.80	1.08 ~1.11	1.74 ~1.87	1.92 ~2.09	2.15 ~2.36	2.37 ~2.65	2.81 ~3.22	3.23 ~3.82	3.65 ~4.43	4.44 ~5.72	5.93 ~8.57	7.9 ~13.7	10.7 ~25.4	16.4 ~182.2
F/11	0.72 ~0.73	0.79 ~0.80	1.07 ~1.12	1.72 ~1.89	1.89 ~2.12	2.11 ~2.41	2.32 ~2.71	2.74 ~3.32	3.14 ~3.96	3.53 ~4.62	4.27 ~6.05	5.61 ~9.36	7.3 ~15.9	9.6 ~34.5	14.1 ~∞
F/16	0.72 ~0.73	0.78 ~0.80	1.06 ~1.13	1.68 ~1.94	1.85 ~2.18	2.05 ~2.49	2.25 ~2.81	2.64 ~3.49	3.00 ~4.21	3.35 ~4.98	4.00 ~6.70	5.14 ~11.8	6.5 ~21.7	8.3 ~85.3	11.3 ~∞
F/22	0.72 ~0.73	0.78 ~0.81	1.05 ~1.14	1.64 ~2.00	1.80 ~2.26	1.99 ~2.60	2.17 ~2.95	2.52 ~3.72	2.85 ~4.56	3.16 ~5.49	3.73 ~7.70	4.68 ~14.23	5.8 ~39.1	7.1 ~∞	9.2 ~∞

The depth-of-field distances above are expressed in feet, and the distance is measured from the film plane. When distances such as 0.72~0.72 appear, the depth-of-field is less than 0.01 ft. For PENTAX H1, use extension tubes for H1.

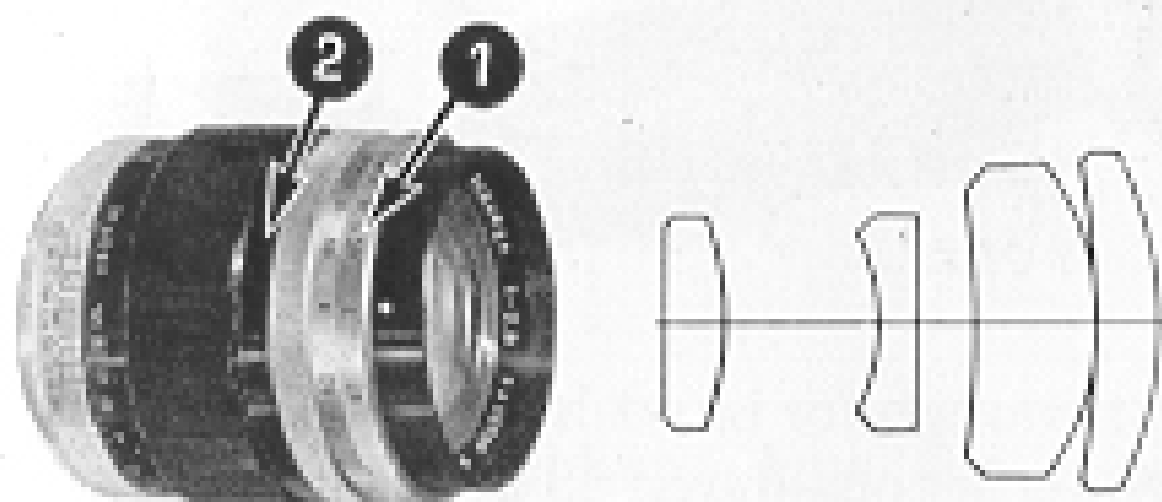
DEPTH-OF-FIELD TABLE FOR AUTO-TAKUMAR 55mm F/1.8 LENS

Distance Scale F Setting	Ext. Tubes 2, 3 @ 1.5 Ft.	Ext. Tubes 2 @ 1.5 Ft.	Ext. Tubes 1 @ 1.5 Ft.	1.5 Ft.	1.7 Ft.	2 Ft.	2.25 Ft.	2.5 Ft.	3 Ft.	3.5 Ft.	4 Ft.	5 Ft.	7 Ft.	10 Ft.	15 Ft.	30 Ft.
F/1.8	0.72 ~0.72	0.80 ~0.80	0.94 ~0.94	1.47 ~1.47	1.69 ~1.71	1.98 ~2.02	2.23 ~2.27	2.47 ~2.53	2.95 ~3.05	3.44 ~3.57	3.91 ~4.09	4.86 ~5.15	6.72 ~7.30	9.4 ~10.6	13.7 ~16.5	25.3 ~36.9
F/2	0.72 ~0.72	0.80 ~0.80	0.94 ~0.94	1.47 ~1.47	1.68 ~1.71	1.98 ~2.02	2.22 ~2.28	2.47 ~2.54	2.95 ~3.05	3.43 ~3.57	3.90 ~4.10	4.85 ~5.16	6.70 ~7.33	9.4 ~10.7	13.6 ~16.7	24.8 ~37.9
F/2.8	0.72 ~0.72	0.80 ~0.80	0.94 ~0.94	1.47 ~1.47	1.68 ~1.72	1.97 ~2.03	2.21 ~2.29	2.45 ~2.55	2.93 ~3.07	3.40 ~3.61	3.87 ~4.14	4.79 ~5.23	6.58 ~7.45	9.1 ~11.0	13.1 ~17.5	23.2 ~42.3
F/4	0.72 ~0.72	0.80 ~0.80	0.94 ~0.95	1.44 ~1.50	1.67 ~1.73	1.96 ~2.04	2.20 ~2.31	2.43 ~2.57	2.90 ~3.11	3.36 ~3.65	3.81 ~4.21	4.70 ~5.34	6.42 ~7.70	8.8 ~11.5	12.5 ~18.9	21.2 ~51.4
F/5.6	0.72 ~0.72	0.80 ~0.80	0.93 ~0.95	1.44 ~1.50	1.66 ~1.74	1.94 ~2.06	2.18 ~2.33	2.41 ~2.60	2.86 ~3.15	3.31 ~3.72	3.75 ~4.29	4.60 ~5.48	6.21 ~8.03	8.4 ~12.3	11.7 ~21.0	19.0 ~72.1
F/8	0.72 ~0.73	0.80 ~0.80	0.93 ~0.95	1.44 ~1.50	1.65 ~1.76	1.92 ~2.09	2.15 ~2.36	2.37 ~2.65	2.81 ~3.22	3.23 ~3.82	3.65 ~4.43	4.44 ~5.72	5.93 ~8.57	7.9 ~13.7	10.7 ~25.4	16.4 ~182.2
F/11	0.72 ~0.73	0.79 ~0.81	0.93 ~0.96	1.41 ~1.54	1.63 ~1.78	1.89 ~2.12	2.11 ~2.41	2.32 ~2.71	2.74 ~3.32	3.14 ~3.96	3.53 ~4.62	4.27 ~6.05	5.61 ~9.36	7.3 ~15.9	9.6 ~34.5	14.1 ~∞
F/16	0.72 ~0.73	0.79 ~0.81	0.92 ~0.96	1.41 ~1.57	1.60 ~1.82	1.85 ~2.18	2.05 ~2.49	2.25 ~2.81	2.64 ~3.49	3.00 ~4.21	3.35 ~4.98	4.00 ~6.20	5.14 ~11.8	6.5 ~21.7	8.3 ~85.3	11.3 ~∞

The depth-of-field distances above are expressed in feet, and the distance is measured from the film plane. When distances such as 0.72~0.72 appear, the depth-of-field is less than 0.01 ft. For PENTAX H3, use extension tubes for H3.

Takumar

105mm f/2.8

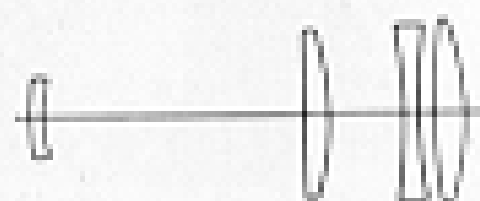


Exactly same as Auto-Takumar 105 mm; except this is equipped with pre-set diaphragm, weight 8.8 ounces.

The pre-set diaphragm ring [1] is set at a desired aperture before focusing. Turn the actual diaphragm ring [2] to f2.8 to focus with the diaphragm fully open. After accurate focusing has been achieved, turn the diaphragm ring [2] which automatically stops at the preselected aperture setting.

Takumar

200mm f/3.5



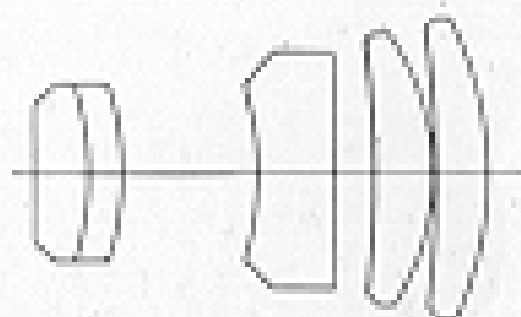
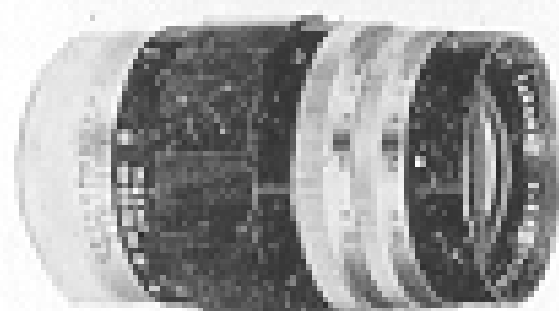
A bright 4-element telephoto lens for hand-held shooting. New optical glass used with recently advanced theory of design. Ideal for extraordinary snapshots, stage, sports and news photos with exceptionally fascinating telephotographic effects.

Lens elements	4
Minimum aperture	f/22
Minimum distance	9 ft.
Angle of view	12°
Weight	26.5 oz.

Pre-set diaphragm; helicoidal lens barrel.

Takumar

135mm f/3.5



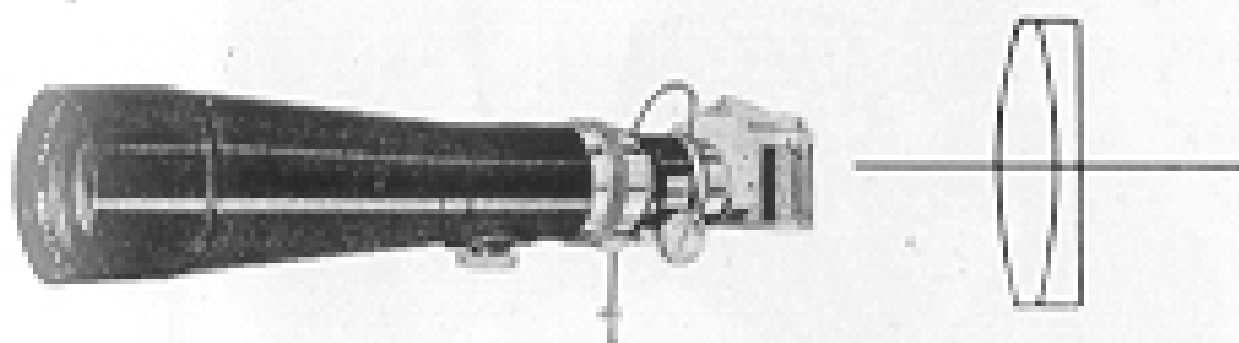
Produces a brilliant image in all corners of the photo even with the diaphragm fully open. Indispensable for distant subject matter and for portraits. Ideal for close-ups of animals or plants even at a distance. Recommended as the ideal long telephoto lens for hand-held camera operation.

Lens elements	5
Minimum aperture	f/22
Minimum distance	6 ft.
Angle of view	18°
Weight	10.6 ozs.

Pre-set diaphragm; helicoidal lens barrel.

Takumar

500mm f/5



Perfect ultra-telephoto lens for sports, scenic and wildlife photography. Bright f/5 image simplifies aiming and focusing. Produces edge-to-edge coverage of high resolution. Comparatively light and small for its performance.

Lens elements	2
Minimum aperture	f/22
Minimum distance	35 ft.
Angle of view	5°
Weight	6 lbs. 5 oz.

Built-on lenshood; rack and pinion focusing; without pre-set diaphragm ring.

Takumar

300mm f/4



Light enough for hand-held picture taking, this lens is considered to be the most ideal for spectacular telephotographic effects. Even with the diaphragm fully open, the aberrations are corrected to the greatest extent possible. Gives needle-sharp resolution to every corner of the picture.

Lens elements		3
Minimum aperture		f/22
Minimum distance		25 ft.
Angle of view		8°
Weight		48.8 oz.

Screw-on lenshood; helicoidal lens barrel; without preset diaphragm ring.

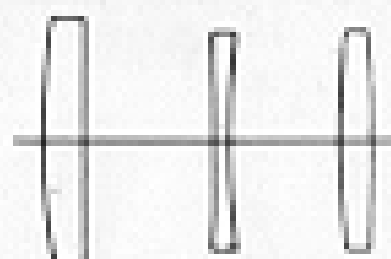
Takumar

1000mm f/8



Photographs subjects which are too far away to be seen by the naked eye.

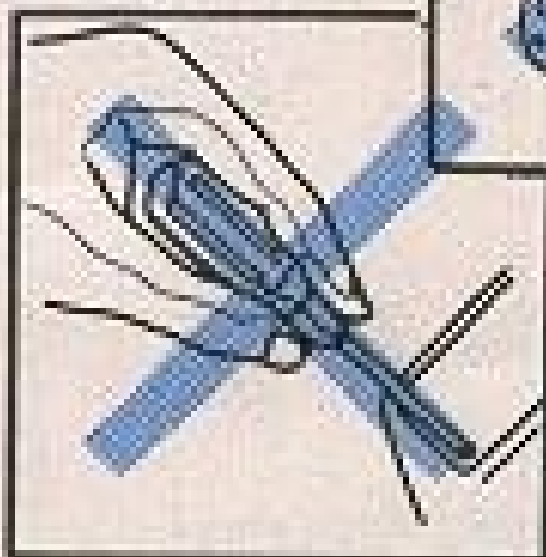
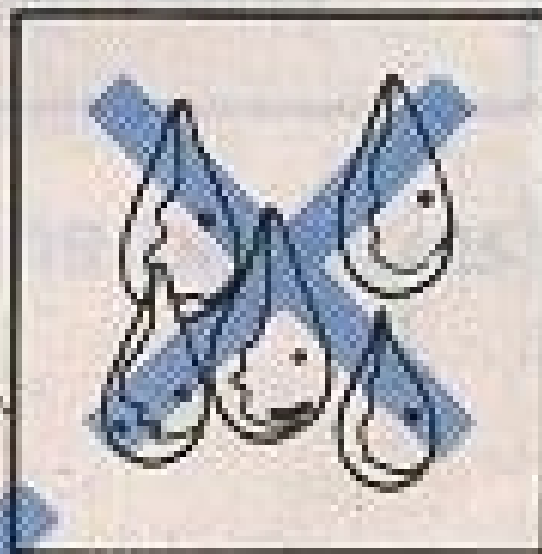
The ultimate in fine optics for the photographer who specializes in news, sports, scientific, or wildlife photography. Fast, accurate focusing. Furnished with tripod.



Lens elements	3
Minimum aperture	f/22
Minimum distance	98 ft.
Angle of view	2.5°
Weight of lens	16 lbs. 9 oz.
Weight of tripod	29 lbs. 15 oz.

Built-on lenshood; rack and pinion focusing; without pre-set diaphragm ring.

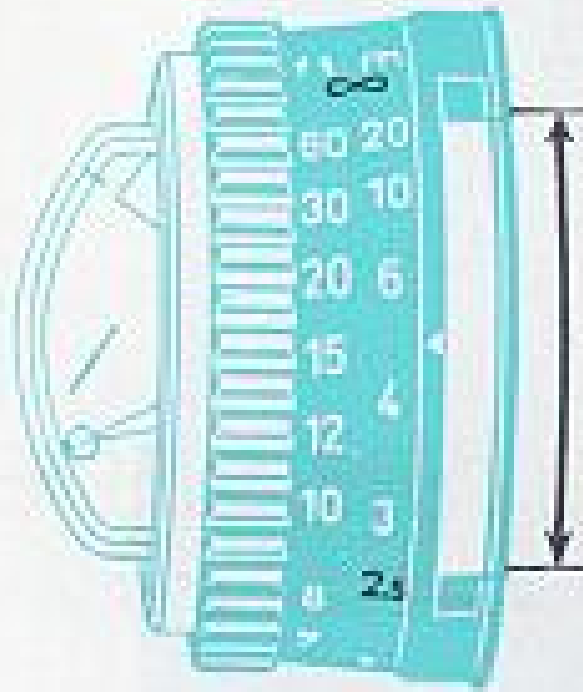


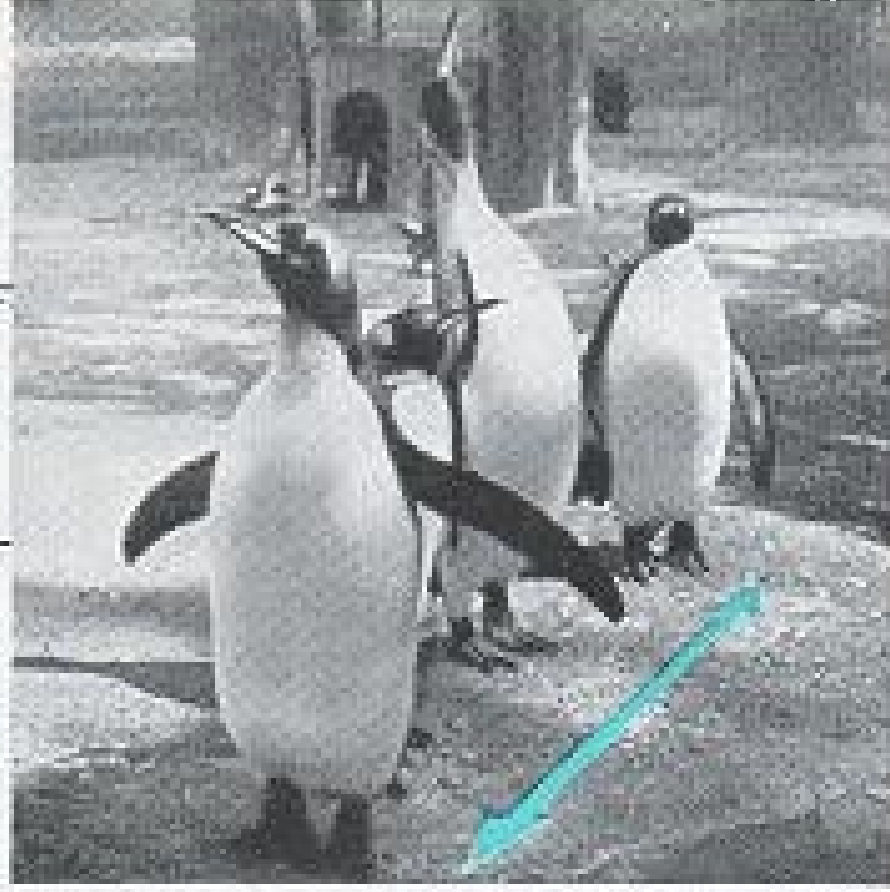
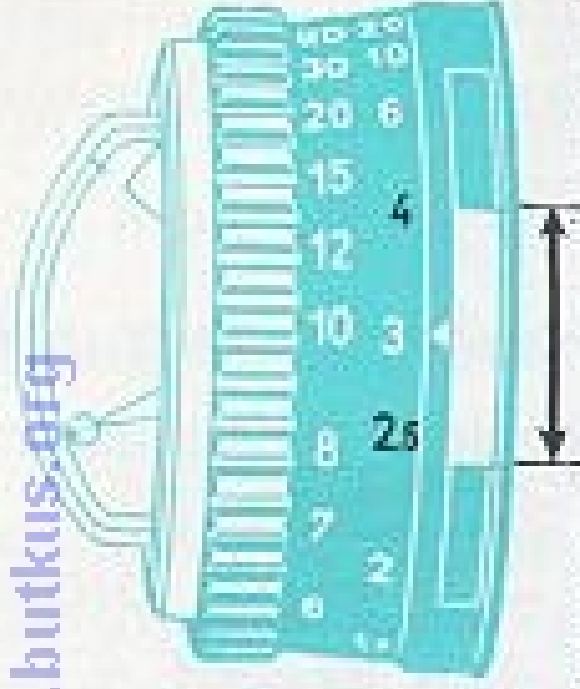


Distance scale	1'6"	2'	3'	5'	10'	15'	30'	∞
F1.4	1'6.12" 1'6.13"	1'11.8" 2' 0.2"	2'11.5" 3' 0.6"	4'10.4" 5' 1.7"	9' 5.6" 10' 7.2"	13' 9.7" 16' 4.9"	25' 6.6" 36' 4.2"	169' 9.2" ~ ∞
F2	1' 5.9" 1' 6.1"	1'11.6" 2' 0.4"	2'11.3" 3' 0.8"	4' 9.8" 5' 2.4"	9' 3.1" 10'10.6"	13' 4.3" 17' 1.2"	24' 0.2" 39'11.8"	118' 3.5" ~ ∞
F2.8	1' 5.8" 1' 6.2"	1'11 2' 0.	2'10.9" 3' 1.1"	4' 9" 5' 3.4"	8'11.9" 11' 3.2"	12' 9.6" 18' 1.4"	22' 3" 46' 1.4"	84'11.6" ~ ∞
F4	1' 5.6" 1' 6.4"	1'11.4" 2' 0.6"	2'10.6" 3' 1.7"	4' 7.7" 5' 7"	8' 7.4" 11'11.2"	12' 0.6" 19' 11"	20' 0.4" 59'11.6"	59' 6.4" ~ ∞
F5.6	1' 5.5" 1' 6.5"	1'11.2" 2' 1"	2' 10" 3' 2.3"	4' 6.2" 5' 7.2"	8' 1.9" 12'11.2"	11' 2" 22'10.7"	17' 8.3" 100'1.3"	42' 6.8" ~ ∞
F8	1' 5.4" 1' 6.6"	1'10.8" 2' 1.3"	2' 9.1" 3' 3.4"	4' 4.1" 5'10.9"	7' 6.8" 14' 9.5"	10' 1" 29' 7.2"	15' 0.7" ~ ∞	29'10.2" ~ ∞
F11	1' 5.2" 1' 7"	1'10.4" 2' 1.9"	2' 8.2" 3' 4.8"	4' 1.6" 6' 4.2"	6'11.3" 18' 0.6"	8'11.8" 46' 9.7"	12' 8.4" ~ ∞	21' 9" ~ ∞
F16	1' 4.8" 1' 7.3"	1' 9.7" 2' 2.9"	2' 6.7" 3' 7.6"	3' 10" 7' 3"	6' 1.2" 28' 7.6"	7' 7.2" ~ ∞	10' 1" ~ ∞	15' ~ ∞

Distance scale	0.45m	0.6m	1m	1.5m	2m	5m	10m	∞
F1.4	0.45 ~ 0.453	0.59 ~ 0.61	0.98 ~ 1.02	1.46 ~ 1.54	1.93 ~ 2.07	4.57 ~ 5.52	8.40 ~ 12.36	51.75 ~ ∞
F2	0.45 ~ 0.454	0.59 ~ 0.61	0.98 ~ 1.02	1.45 ~ 1.56	1.90 ~ 2.11	4.41 ~ 5.78	7.86 ~ 13.75	36.24 ~ ∞
F2.8	0.44 ~ 0.46	0.5 ~ 0.6	0.97 ~ 1.03	1.43 ~ 1.58	1.87 ~ 2.16	4.21 ~ 6.16	7.24 ~ 16.19	25.90 ~ ∞
F4	0.44 ~ 0.46	0.55 ~ 0.62	0.95 ~ 1.05	1.40 ~ 1.62	1.81 ~ 2.23	3.94 ~ 6.84	6.48 ~ 22.05	18.14 ~ ∞
F5.6	0.44 ~ 0.46	0.58 ~ 0.62	0.94 ~ 1.07	1.36 ~ 1.68	1.75 ~ 2.34	3.64 ~ 8.03	5.68 ~ 42.68	12.97 ~ ∞
F8	0.44 ~ 0.47	0.57 ~ 0.63	0.91 ~ 1.11	1.24 ~ 1.89	1.66 ~ 2.52	3.26 ~ 10.87	4.80 ~ ∞	9.10 ~ ∞
F11	0.43 ~ 0.47	0.56 ~ 0.65	0.88 ~ 1.15	1.30 ~ 1.77	1.56 ~ 2.80	2.88 ~ 19.53	4.02 ~ ∞	6.63 ~ ∞
F16	0.42 ~ 0.48	0.54 ~ 0.67	0.84 ~ 1.24	1.16 ~ 2.16	1.42 ~ 3.42	2.42 ~ ∞	3.16 ~ ∞	4.57 ~ ∞

6 22





8 11 1

Distance scale F setting	0.45m	0.6m	1m	1.5m	2m	5m	10m	∞
F1.4	0.45 ~ 0.453	0.59 ~ 0.61	0.98 ~ 1.02	1.46 ~ 1.54	1.93 ~ 2.07	4.57 ~ 5.52	8.40 ~ 12.36	51.75 ~ ∞
F2	0.45 ~ 0.454	0.59 ~ 0.61	0.98 ~ 1.02	1.45 ~ 1.56	1.90 ~ 2.11	4.41 ~ 5.78	7.86 ~ 13.75	36.24 ~ ∞
F2.8	0.44 ~ 0.46	0.59 ~ 0.61	0.97 ~ 1.03	1.43 ~ 1.58	1.87 ~ 2.16	4.21 ~ 6.16	7.24 ~ 16.19	25.90 ~ ∞
F4	0.44 ~ 0.46	0.59 ~ 0.62	0.95 ~ 1.05	1.40 ~ 1.62	1.81 ~ 2.23	3.94 ~ 6.84	6.48 ~ 22.05	18.14 ~ ∞
F5.6	0.44 ~ 0.46	0.58 ~ 0.62	0.94 ~ 1.07	1.36 ~ 1.68	1.75 ~ 2.34	3.64 ~ 8.03	5.68 ~ 42.68	12.97 ~ ∞
F8	0.44 ~ 0.47	0.57 ~ 0.63	0.91 ~ 1.11	1.24 ~ 1.89	1.66 ~ 2.52	3.26 ~ 10.87	4.80 ~ ∞	9.10 ~ ∞
F11	0.43 ~ 0.47	0.56 ~ 0.65	0.88 ~ 1.15	1.30 ~ 1.77	1.56 ~ 2.80	2.88 ~ 19.53	4.02 ~ ∞	6.63 ~ ∞
F16	0.42 ~ 0.48	0.54 ~ 0.67	0.84 ~ 1.24	1.16 ~ 2.16	1.42 ~ 3.42	2.42 ~ ∞	3.16 ~ ∞	4.57 ~ ∞

Distance scale F setting	1'6"	2'	3'	5'	10'	15'	30'	∞
F1.4	1'6.12" 1'6.13"	1'11.8" 2' 0.2"	2'11.5" 3' 0.6"	4'10.4" 5' 1.7"	9' 5.6" 10' 7.2"	13' 9.7" 16' 4.9"	25' 6.6" 36' 4.2"	169' 9.2" ~ ∞
F2	1' 5.9" 1' 6.1"	1'11.6" 2' 0.4"	2'11.3" 3' 0.8"	4' 9.8" 5' 2.4"	9' 3.1" 10'10.6"	13' 4.3" 17' 1.2"	24' 0.2" 39'11.8"	118' 3.5" ~ ∞
F2.8	1' 5.8" 1' 6.2"	1'11.5" 2' 0.5"	2'10.9" 3' 1.1"	4' 9" 5' 3.4"	8'11.9" 11' 3.2"	12' 9.6" 18' 1.4"	22' 3" 46' 1.4"	84'11.6" ~ ∞
F4	1' 5.6" 1' 6.4"	1'11.4" 2' 0.6"	2'10.6" 3' 1.7"	4' 7.7" 5' 7"	8' 7.4" 11'11.2"	12' 0.6" 19' 11"	20' 0.4" 59'11.6"	59' 6.4" ~ ∞
F5.6	1' 5.5" 1' 6.5"	1'11.2" 2' 1"	2' 10" 3' 2.3"	4' 6.2" 5' 7.2"	8' 1.9" 12'11.2"	11' 2" 22'10.7"	17' 8.3" 100'1.3"	42' 6.8" ~ ∞
F8	1' 5.4" 1' 6.6"	1'10.8" 2' 1.3"	2' 9.1" 3' 3.4"	4' 4.1" 5'10.9"	7' 6.8" 14' 9.5"	10' 1" 29' 7.2"	15' 0.7" ~ ∞	29'10.2" ~ ∞
F11	1' 5.2" 1' 7"	1'10.4" 2' 1.9"	2' 8.2" 3' 4.8"	4' 1.6" 6' 4.2"	6'11.3" 18' 0.6"	8'11.8" 46' 9.7"	12' 8.4" ~ ∞	21' 9" ~ ∞
F16	1' 4.8" 1' 7.3"	1' 9.7" 2' 2.9"	2' 6.7" 3' 7.6"	3' 10" 7' 3"	6' 1.2" 28' 7.6"	7' 7.2" ~ ∞	10' 1" ~ ∞	15' ~ ∞

ASAHI PENTAX SPOTMETER III

CONVERSION OF L.L. VALUES TO
CANDLE POWER/FOOT LAMBERTS

$$K = 1.3$$

EV	cd/m ²	cd/ft ²	ft-L
3	1.1	0.1	0.3
4	2.2	0.2	0.6
5	4.4	0.4	1.3
6	8.8	0.8	2.5
7	17.5	1.6	5.1
8	35	3.2	10.2
9	70	6.5	20.4
10	140	13.1	40.9
11	280	26.1	81.8
12	560	52.2	163
13	1,120	104	326
14	2,240	208	652
15	4,480	416	1,304
16	8,960	832	2,608
17	17,920	1,664	5,216
18	35,840	3,328	10,432

Shutter Speeds ASA	B	1	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{15}$	$\frac{1}{30}$	$\frac{1}{60}$	$\frac{1}{125}$	$\frac{1}{250}$	$\frac{1}{500}$	$\frac{1}{1000}$
20												
• (25)												
32												
• (40)												
• (50)												
64												
• (80)												
100												
• (125)												
• (160)												
200												
• (250)												
• (320)												
400												
• (500)												
• (640)												
800												
• (1000)												
• (1250)												
1600												

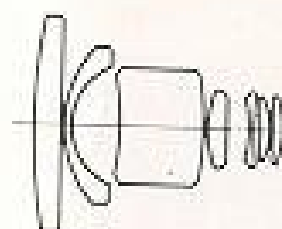
The area A indicates the reading range of the meter. The area B indicates that although the shutter speed index is black and the meter needle moves, the meter is NOT operating properly.

When the meter needle is centered with the shutter speed dial set at B using ASA 20~50 films, this indicates that the exact shutter speed required is 2 seconds. Please expose your picture for 2 seconds.

Super-Takumar 28mm f/3.5

A new super-wide-angle lens of 7 elements, designed and produced to meet the most exacting of the professional requirements, this is *the* lens you professionals and advanced amateurs need to shoot more artistic photographs. Equipped with fully automatic diaphragm; ideal for architecture, fast-action and *artistic* photography.

Lens element	7
Minimum aperture	f/16
Minimum distance	1.3 ft. (40 cm)
Angle of view	75°
Weight	7.6 ozs. (218 gr.)



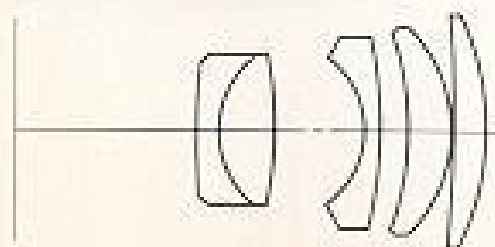
56



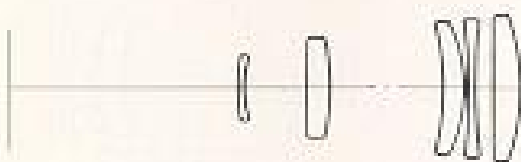


Super-Takumar 85mm f/1.9

A new, ultra-fast 5-element lens which produces an image slightly larger than the standard lens. Perfect for available light portraiture, nature studies, and sport coverage. Used as a standard, general purpose lens by many photographers. Equipped with fully automatic diaphragm; supplied with special lenshood.



Lens element	5
Minimum aperture	f/16
Minimum distance	2.75 ft. (85 cm)
Angle of view	28°
Weight	12.3 ozs. (350 gr.)



Super-Takumar 200mm f/4

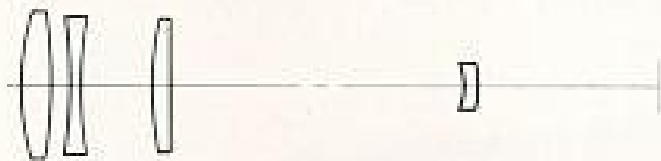
A new member to the superb Takumar telephoto lens family. Equipped with a fully automatic diaphragm. Compact, light, and elegantly designed for fast handleability.

Lens element	5
Minimum aperture	f/22
Minimum distance	8.2 ft. (2.5 m)
Angle of view	12.5°
Weight	19.3 ozs. (550 gr.)

Depth-of-field table: Super-Takumar 50mm lens

Distance Scale f Setting	1'6"	2'	3'	5'	10'	15'	30'	∞
f/1.4	1' 6.12" 1' 6.13"	1'11.8" 2' 0.2"	2'11.5" 3' 0.6"	4'10.4" 5' 1.7"	9' 5.6" 10' 7.2"	13' 9.7" 16' 4.9"	25' 6.6" 36' 4.2"	169' 9.2" ∞
f/2	1' 5.9" 1' 6.1"	1'11.6" 2' 0.4"	2'11.3" 3' 0.8"	4' 9.8" 5' 2.4"	9' 3.1" 10'10.6"	13' 4.3" 17' 1.2"	24' 0.2" 39'11.8"	118' 3.5" ∞
f/2.8	1' 5.8" 1' 6.2"	1'11.5" 2' 0.5"	2'10.9" 3' 1.1"	4' 9" 5' 3.4"	8'11.9" 11' 3.2"	12' 9.6" 18' 1.4"	22' 3" 46' 1.4"	84'11.6" ∞
f/4	1' 5.6" 1' 6.4"	1'11.4" 2' 0.6"	2'10.6" 3' 1.7"	4' 7.7" 5' 5"	8' 7.4" 11'11.2"	12' 0.6" 19'11"	20' 0.4" 59'11.6"	59' 6.4" ∞
f/5.6	1' 5.5" 1' 6.5"	1'11.2" 2' 1"	2'10" 3' 2.3"	4' 6.2" 5' 7.2"	8' 1.9" 12'11.2"	11' 2" 22'10.7"	17' 8.3" 100' 1.3"	42' 6.8" ∞
f/8	1' 5.4" 1' 6.6"	1'10.8" 2' 1.3"	2' 9.1" 3' 3.4"	4' 4.1" 5'10.9"	7' 6.8" 14' 9.5"	10' 1" 29' 7.2"	15' 0.7" ∞	29'10.2" ∞
f/11	1' 5.2" 1' 7"	1'10.4" 2' 1.9"	2' 8.2" 3' 4.8"	4' 1.6" 6' 4.2"	6'11.3" 18' 0.6"	8'11.8" 46' 9.7"	12' 8.4" ∞	21' 9" ∞
f/16	1' 4.8" 1' 7.3"	1' 9.7" 2' 2.9"	2' 6.7" 3' 7.6"	3'10" 7' 3"	6' 1.2" 28' 7.6"	7' 7.2" ∞	10' 1" ∞	15' ∞

Takumar 500mm f/4.5



Comparatively light and small for its performance, this powerful long-focus lens brings the inaccessible within reach. Its bright f/4.5 image simplifies composition and focusing, and it produces edge-to-edge coverage of high resolution. Equipped with manual diaphragm; supplied with

special lenshood.

Lens element	4
Minimum aperture	f/45
Minimum distance	32.8 ft. (10 m)
Angle of view	5°
Weight	122.5 ozs. (3500 gr.)

Bellows-Takumar 100mm f/4



Lens element..... 5
Minimum aperture f/22
Angle of view 24°
Weight..... 4.9 ozs. (139 gr.)



Super-Takumar 35mm f/2

One of the fastest wide-angle lenses for 35mm single-lens reflex cameras. Edge-to-edge sharp resolution at full aperture; unique lens design without distortion; perfect for architectural photography.

Lens element	8
Minimum aperture	f/16
Minimum distance	1.5 ft. (45 cm)
Angle of view	63°
Weight	14 ozs. (398 gr.)

