

KOWA
SUPER



OWNER'S MANUAL



Welcome to the world-wide family of KOWA owners! Your new KOWA Super 66 SLR camera offers a wealth of innovative, practical features to make medium-format SLR photography faster and more rewarding than ever before. Please take the few minutes required to check through this owner's manual. Then, if at all possible load up and expose a sample roll of film before using the camera on an important assignment. This 'test' roll will confirm that you are operating all camera controls properly, and provide an accurate indication of the superb negative quality delivered by your KOWA Super 66.

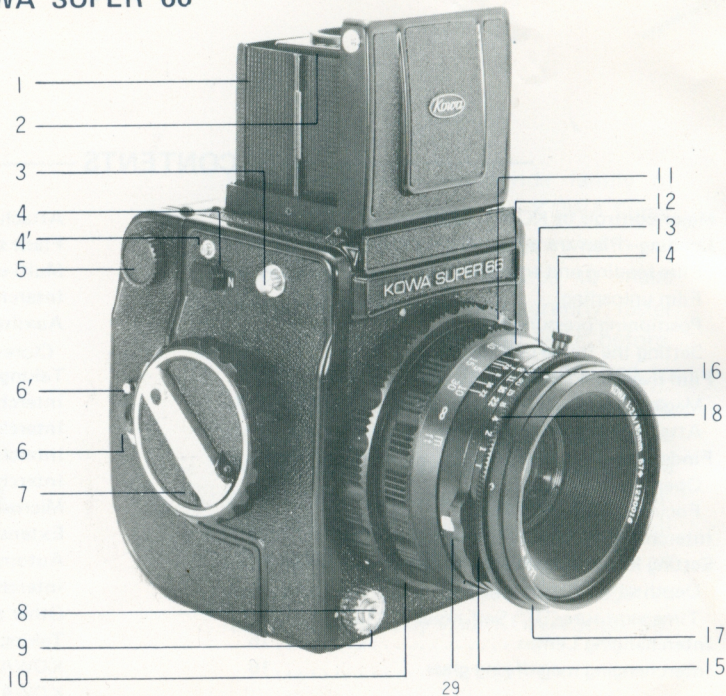
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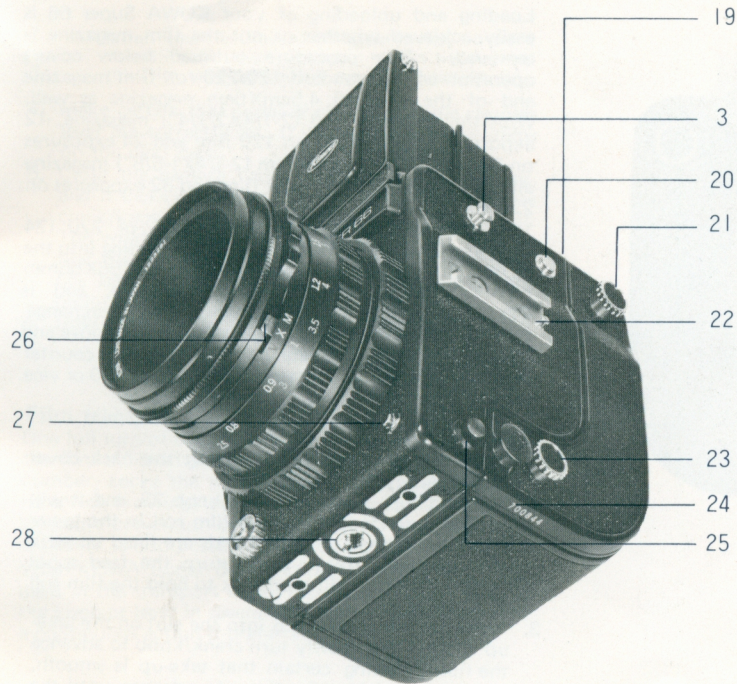
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MAJOR CONTROLS OF KOWA SUPER 66

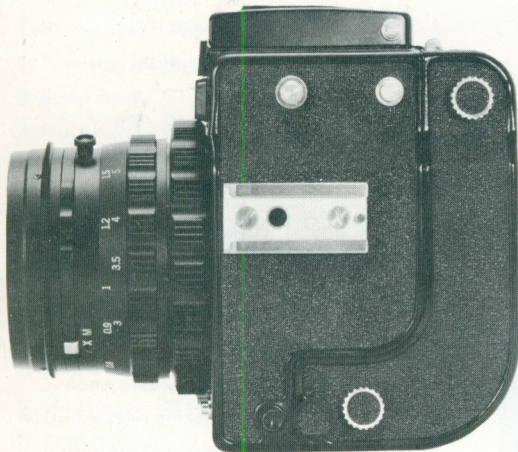
- 1 Removable finder hood
- 2 Focusing magnifier
- 3 Strap stud
- 4 Multi-exposure button
- 4' Lock for multi-exposure button
- 5 Film take-up knob
- 6 Frame counter selector
- 6' Release button for frame counter selector
- 7 Crank/knob (film advance)
- 8 Shutter release button
- 9 Shutter release button lock ring
- 10 Lens mount ring
- 11 Focusing ring
- 12 Distance scale
- 13 Depth-of-field scale
- 14 Flash synchronization terminal
- 15 Aperture ring
- 16 Aperture scale





- 17 Shutter speed ring
- 18 Shutter speed scale
- 19 Back cover hinge release
- 20 Finder hood, finder screen release button
- 21 Take-up spool knob
- 22 Accessory shoe
- 23 Feed spool knob
- 24 Back cover release knob
- 25 Film magazine release button
- 26 M/X flash synchronization and self-timer lever
- 27 Lens mount release button
- 28 Tripod mount
- 29 Depth-of-field preview lever

LOADING—FILM TRANSPORT—UNLOADING



Loading and unloading of your KOWA Super 66 is easily achieved whether or not the film magazine is removed. The procedure outlined below covers operation of the standard 120/220 roll film magazine and of the optional 4.5cmX6cm magazine as well. With the standard 6X6 (2-1/4X2-1/4") magazine, 12 exposures are obtained on 120 film and 24 exposures on 220 size. (The 4.5cmX6cm (2-1/4X1-5/8") magazine allows 16 exposures on 120 film and 32 exposures on 220 size.)

Various types of 120 (12 exposures) or 220 (24 exposures) of rollfilm are available for loading into the KOWA SIX Type II. Actual picture size is 56X56mm on the standard and Polaroid magazine, and is 42X56mm on the 4.5X6 magazine. (See Interchangeable magazine, page 33.) It is necessary to remove and reverse the pressure plate and to set frame counter lever when films are changed from 120 to 220 or vice versa.

Film loading

1. Open the back cover by pulling the back cover release knob 24.
2. Pull and turn the feed spool knob 23, and it will remain extended. Place the film roll in the lower chamber so that the spool ends are lined up with the spindles. Rotate and return the feed spool knob 23, and it will snap back to hold the film roll in position.
3. Insert the film leader tip into the slot on the take-up spool. Then slowly turn crank/knob to advance the film*, making certain that take-up is smooth, taut and straight. Continue to advance until the "start markings" (usually arrows) line up with the index points (red dots on the camera's film guides).

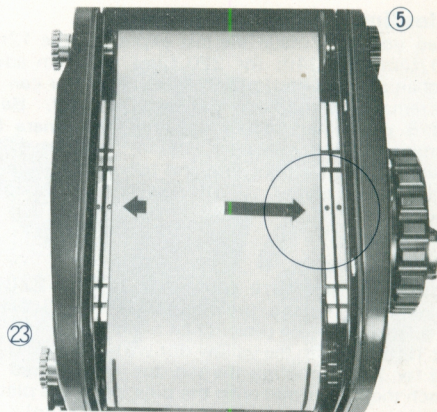
*When the film magazine is removed, advance the film and align the start marks by turning the film take-up knob 5 on the magazine.

4. Make certain that pressure plate and frame counter lever are correctly set. If not, proceed to the items on the next page.
5. Close the camera back-cover and press it gently, and it locks in position. Advance the film with the crank/knob (about six turns) until resistance is felt. The window of frame counter shows "1" and the first frame is now ready for exposure. The shutter has been wound and you may now take your picture.
6. Insert the film box end into the holders provided.

Film transport

One full turn of the crank/knob (about 480°) advances the film by one frame, advances frame counter by one number, cocks the shutter and returns the mirror to its lower (viewing) position, simultaneously. Double exposure prevention is incorporated. However, multi-exposure is also possible. (See page 18)

Your KOWA Super 66 incorporates a ratchet mechanism in the transport knob; this allows you to operate the knob or lever in several down/up strokes instead of a continuous action if preferred.



Unloading

When you have made the last exposure (the 12th for 120 film; the 24th for 220 film), the film advance mechanism automatically releases and you can wind the remaining film onto the take-up spool. **Be sure this is completed before opening the camera back.** Remove the film and seal it.

Move the empty spool into the take-up position (top) of the film chamber. It will now serve as the take-up spool.

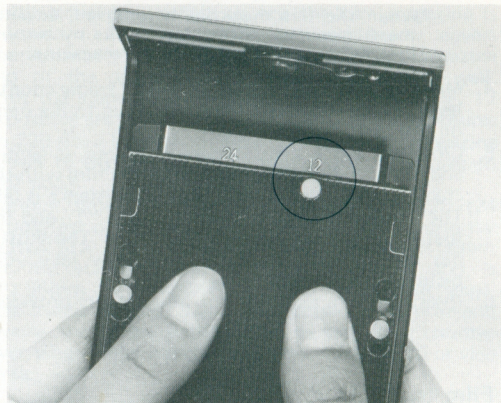
Positioning pressure plate for 120 or 220 film

To remove the plate, press and slide it until the holes are aligned with the pins. Then lift it out.

For 120 film align the yellow dot with the yellow "12", and for 220 film align the red dot with the red "24". Match the plate holes with the pins, press the plate and slide it into locking position. (See illustration)

Setting the frame counter for 120 or 220 film

While pressing the release button 6', turn the lever 6 and align the black dot with "12" (for 120 film) or "24" (for 220 film).



FILM MAGAZINE CHANGING

Your KOWA Super 66 incorporates a unique 'single action' interchangeable film magazine which contains its own automatic dark slide or light shield. **Removal of magazine is possible only after the crank/knob has been operated (film advanced).**

When the camera is "wound".

1. The crank/knob winding will not move any further, indicating the shutter has been cocked and;

NOTE: When the magazine is not loaded, the crank knob turns freely.

2. The mirror returns to the "lower (viewing/focusing)" position, and the subject is visible within the viewfinder.

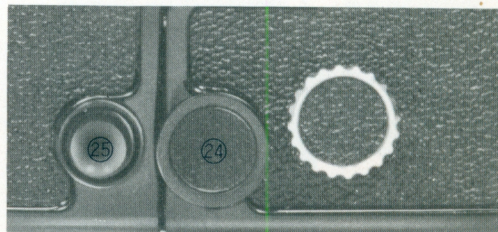
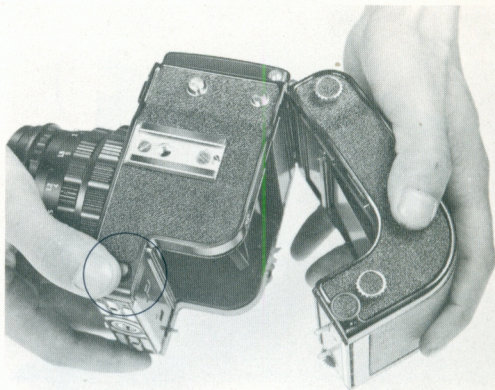
Magazine removal

To remove the film magazine from the camera body, press the magazine release button while gently swinging the magazine outwards, as illustrated.

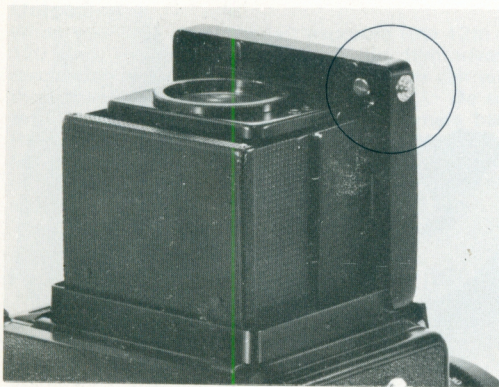
NOTE: When the magazine is removed, do not move any exposed magazine parts.

Attaching the film magazine

Mate slots on top of the magazine with slot keys on top of the body. Then, simply press the magazine against the body, and the magazine locks into position. As the shutter has been cocked and the mirror is already in viewing position you can start taking pictures at once.



FINDER HOOD AND FOCUSING



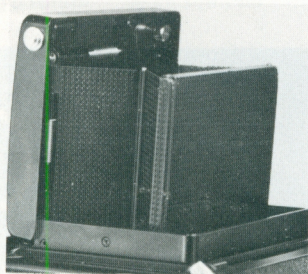
The finder hood can be opened or closed with one action. Both the finder and screen are interchangeable. The standard magnifier is -2 diopter, and adjustment to individual eyesight is possible in the range from -4 (for shortsightedness) to $+3$ diopters (farsightedness) by exchanging the magnifying glass. Magnification of the magnifier is 1.2 times. The finder field covers 95% of the actual picture area.

Opening the finder hood

Raise the top panel by catching hold of the knobs on its sides. To raise the focusing magnifier, pull the knob (circled in the picture) in the direction of arrow, and it pops up into position.

Closing the finder hood

To close the finder hood, press the magnifier down until it locks in the closed position. Now, press in both sides of the finder hood while gently pressing the front panel towards the back; the hood will close by itself.



Focusing

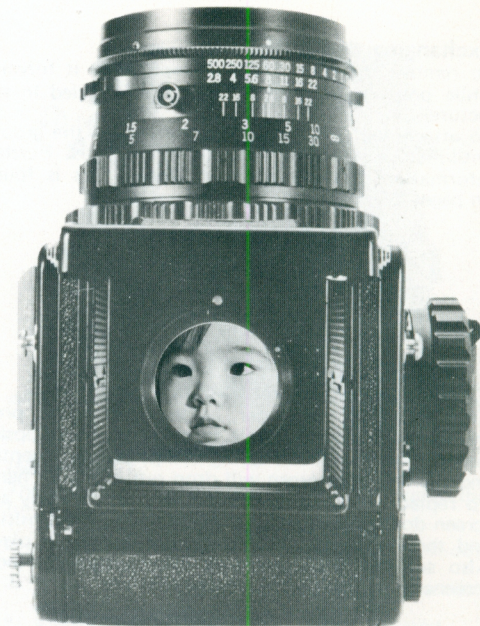
To focus on an object, turn the focusing ring so that the image on the view finder becomes sharpest in the center spot of the finder screen.

The distance can then be read off the distance scale on the lens barrel. The scale indicates the distance from subject to film plane.

As the diaphragm works automatically, the finder screen always shows the image at full aperture. Push down the depth-of-field preview lever when you wish to check the depth-of-field at the preset aperture. (See page 14)

Infra-red mark

When using infra-red film, first focus normally and then move the distance indication, aligned with center line index, to this infrared mark (a red line in the depth-of-field scale). Generally an R1 or O2 filter is used for infra-red photography.

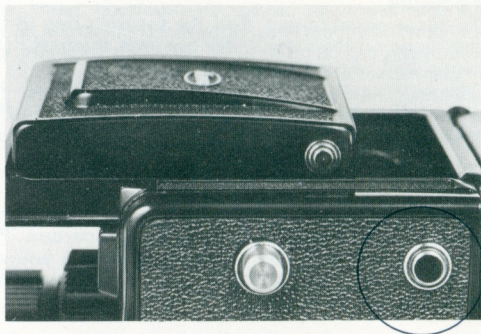


INTERCHANGING FINDERS, FINDER SCREENS

Exchanging the finders

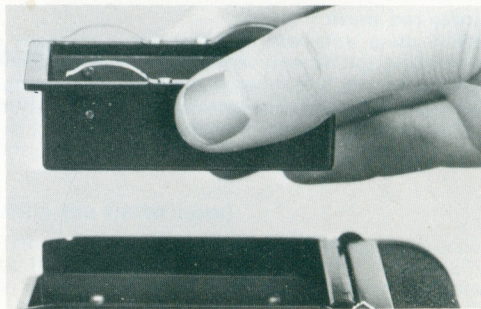
To remove the finder hood, simply slide it forward while pressing the release button 20 (circled in the picture).

To attach the new one, just slide it into the groove until it stops. It will be automatically locked. Further information about interchangeable finders is found on pages 27 ~ 28.



Exchanging the finder screens

After removing the finder, as described above, press the release button 20 while turning the camera upside down. Pull the (silver) spring clamps outwards gently, and the focusing screen will drop out into your hand. To replace a new one, place it so that the body and screen dots are aligned. Drop the screen into position and then press the button and it will lock in place. Also see the descriptions of interchangeable finder screens on page 29.



SETTING THE LENS APERTURE AND SHUTTER SPEED

The diaphragm functions automatically and is provided with depth-of-field preview lever. The aperture scale is engraved in even, multiple progression (geometrically), and is provided with click-stops at each half stop. The diaphragm is always in the full open position and is stopped down to the preset aperture only at the moment when the shutter release button is pressed or when the depth-of-field preview lever is moved.

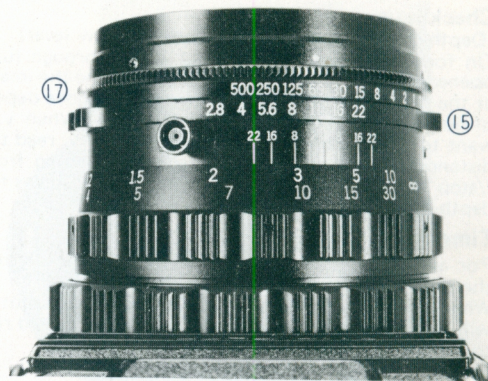
The shutter: Every interchangeable KOWA lens has the same SEIKO SLV #0 leaf shutter. Shutter speed range is from 1 to 1/500 sec. plus T (time) in equidistant settings. Shutter speed scale is engraved in even multiples and is provided with click-stops at each step. **The same exposure (EV value) is maintained when the shutter speed ring and the lens aperture ring are turned together in the same direction.**

Setting the aperture

Turn the aperture ring 15 and set the desired f/value to the index and the diaphragm is preset.

Setting the shutter speed

Turn the shutter speed ring 17 and align the desired speed with index (dot). Set it at the click-stop position. **DO NOT SET IT AT THE INTERMEDIATE (BETWEEN THE CLICK-STOPS) SHUTTER SPEEDS.** Shutter speed setting can be made before or after winding.



IMPORTANT:

The shutter release button will not function in the following cases:

1. When the film magazine is removed.
2. When the film has not been wound after shooting (pressing the shutter button).
3. When the mount ring is not in the "locked" position.
4. Shutter release button lock is not released.

Checking depth-of-field

(Depth-of-field scale, depth-of-field preview lever)

On focusing you are viewing an image through fully opened diaphragm. If you wish to examine the image at the taking (stopped down) diaphragm, move depth-of-field preview lever 29 until it stops. When you want to assess the depth-of-field numerically, read the distances indicated by the two lines extending from f/stop in use. The blue dots in the picture shows the depth-of-field at 3m, aperture f/16.

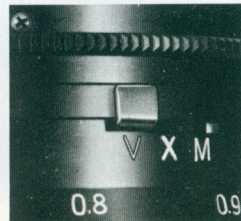
Time exposure (T)

For an exposure longer than 1 sec., align the "T" on the shutter speed ring with the index mark. When the shutter release button is pressed, the shutter will remain open until you turn the shutter speed ring to the "1" position. The shutter will then close.

Self-timer (V)

For delayed exposure, place the M/X flash synchronization selection and self-timer lever 26 at the "V" position. Then when the shutter release button is pressed, the shutter will be tripped in about 10 seconds. Return the lever to "X" position after shooting. At the V setting, only "X" flash synchronization is possible.

Your KOWA's self-timer offers another valuable application: use it in critical close-up and macro work. As the timer raises the mirror and removes the light shield (inside the camera) at the beginning of the cycle, maximum freedom from possible vibration is achieved and ultimate image sharpness is assured.



INTERCHANGING LENSES

The lens has a bayonet mount (the lens is locked by turning the lens mount ring). Lens interchanging can be made only after winding the crank/knob (see page 9).

Removing the lens

Turn the lens mount ring until the index on it lines up with index (red dot on the body) while pressing the release button 27. The lens can now be removed. Utmost care should be exercised when removing or mounting the lens.

Mounting the lens

To mount the lens, follow the foregoing steps in reverse.

Reset the lens and/or the body respectively, as the pictures show.

Photo-A The mirror should be at the viewing position and the two indices must be aligned. (on body)

Photo-B The two pins should be aligned with the red dots (indices). Turn the pins on the lens as arrow shows until they stop and a click is heard.

Aligning the lens index with the mount ring index mark, slip the lens into the camera lens mount. While pressing the lens slightly against the mount base, turn the ring clockwise. After you hear a click (about 30°) turn slightly more to fasten the lens properly.

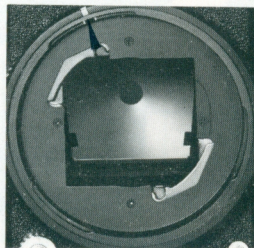


Photo A

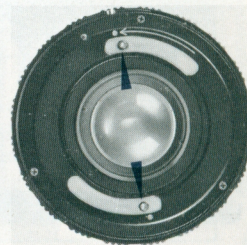


Photo B

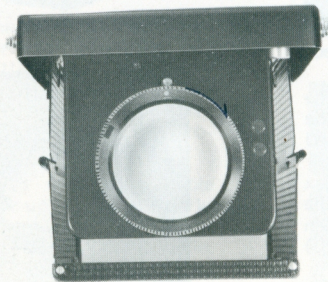
INTERCHANGING THE MAGNIFYING GLASS

The magnifying glass of the standard panel type finder hood is interchangeable for dioptric correction.

The interchangeable magnifying glass is available in seven different strengths (diopters): for nearsighted users, -4, -3, -1; for farsighted owners, +1, +2, and +3. Any of these (your optometrist can advise which one is most suitable) may easily be installed in place of the standard (-2) diopter glass in this way.

To remove the glass: While releasing the stopper on the reverse side, turn it in the direction of arrow until two indices are aligned.

To attach a new glass: Insert the new glass into the mount seat aligning two dots and turn it clockwise until it stops.



ATTACHING AND DETACHING THE STRAP

To attach the strap to the camera, match the hole with the stud head, press and pull.

To remove the strap, push forward until it stops at the hole while pressing the spring plate. Then lift it outward.



FLASH SYNCHRONIZATION

Photographing with flash, electronic flash

Each KOWA Super 66 lens contains an individual Seiko leaf shutter, which allows use of any electronic or bulb-type flash at all shutter speeds. M and X synchronization is set by lever 26.

Setting the synchro-switch lever

When using electronic flash the lever should be set at "X". It is to be at "M" when flashbulbs are to be used. IMPROPER SETTING WILL RESULT IN FLASH SYNCHRONIZATION FAILURE AS THE TABLE SHOWS.

Connecting the flash cord

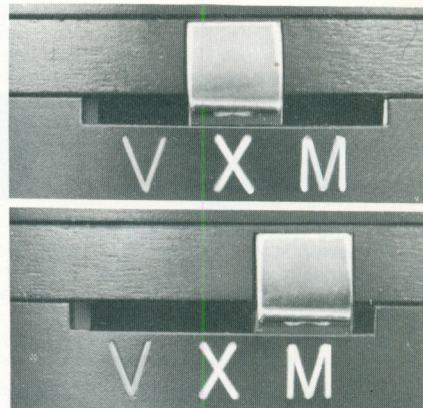
While the flash post on KOWA Super 66 lenses accepts most PC-tip flash cables, the use of the KOWA flash cable is recommended because it locks into the flash socket by means of a threaded collar, preventing accidental loosening of the flash cable. This is a coiled 5-foot cable, equipped with a two-prong polarized plug to fit all professional flash equipment.

Setting the lens aperture

Calculate the appropriate f/value and set it on the lens

Guide number of flash \div distance from flash to subject = appropriate aperture (f/value)

Always reset the lever to "X" after synchro-flash photography using the "M" settings.



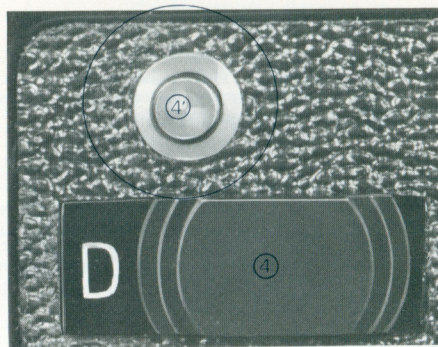
Setting Flash type	M	X (V)
M-class flash bulb	Synchronizes at all speeds	Synchronizes at 1/30 sec. and slower
Electronic flash	No synchro-nization	Synchronizes at all speeds

MULTI-EXPOSURE PHOTOGRAPHY

The camera is designed to normally provide double exposure prevention. After you have pressed the shutter release button, you have to advance the film for the next exposure. However, you can make multi-exposures, such as intentional double exposure or triple exposure, by setting the multi-exposure button in following manner.

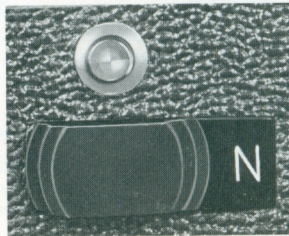
Setting the multi-exposure button

Switch button 4 to the right ("D" becomes visible) while pressing lock button 4' after having pressed the release button. After the first exposure, wind the crank/knob one full turn (it cocks only the shutter), and take the second shot in the ordinary way. Repeat this until you get the desired number of exposures on the frame.



Releasing the multi-exposure device

Simply press button 4', and the multi-exposure device will be released to normal film advance (namely to double exposure prevention) and "N" is exposed.



INTERCHANGEABLE LENSES

Every KOWA interchangeable lens is equipped with built-in SEIKO SLV leaf shutter between the elements of the lens. Diaphragm and shutter controls are automatically coupled to your KOWA Super 66 body when lens is mounted.

Operating parts and scales are arranged in the same manner with all lenses.

The following items are common to all Kowa Super 66 lenses.

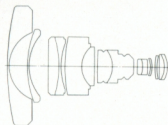
Lens mount: KOWA bayonet mount
Shutter: 1-1/500 sec. plus T
speed: (time) with self-timer (V)

Synchro- M (flash bulb) and X
nization: (electronic flash), fully synchronizes at all shutter speeds. Coaxial synchro-terminal Auto-diaphragm; Aperture scale is engraved with equidistant settings in geometric progression with click-stops at every half f/stop. Depth-of-field preview lever.

Focusing: Direct helicoid focusing

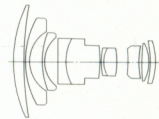
Others: Infra red mark, depth-of-field scale, black finish

19mm F/4.5 fisheye



Taking angle: 180° fisheye (equidistant projection type)
Construction: 14 elements in 9 groups, retrofocus type
Aperture: f/4.5 ~ 22
Minimum focusing distance: 0.4m (1.3 ft)
Filter: 37.5mm square gelatine filter, built-in removable filter holder
Dimensions: 136φ X 168mm (5.35 X 6.62 inch)
Weight: 4 lb. 13 oz. (2,180 g)
Supplied with: lens holder and carrying case
Accessory: spare gelatine filter holder

35mm F/4.5 super wide-angle



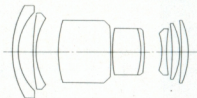
Taking angle: 98°
Construction: 10 elements in 8 groups, retrofocus
Aperture: f/4.5 ~ 32
Minimum focusing distance: 0.4m (1.3 ft.)
Filter: 33mm gelatine filter, attached filter holder
Dimensions: 100φ X 89mm (3.94 X 3.86 inch)
Weight: 1 lb. 9 oz. (720 g)
Supplied with: lens case, filter holder
Accessory: spare gelatine filter holder

40mm F/4 super wide-angle



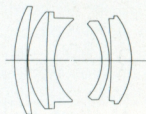
Taking angle: 90°
Construction: 9 elements in 7 groups, retrofocus
Aperture: f/4.5 ~ 32
Minimum focusing distance: 0.4m (1.3 ft.)
Filter: 33mm gelatine filter, attached filter holder
Dimensions: $100\phi \times 106$ mm (3.94 \times 4.18 inch)
Weight: 2 lb. 2 oz. (970 g)
Supplied with: lens case, filter holder
Accessory: spare gelatine filter holder

55mm F/3.5 wide-angle



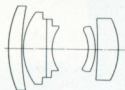
Taking angle: 72°
Construction: 8 elements in 7 groups, retrofocus
Aperture: f/3.5 ~ 22
Minimum focusing distance: 0.5m (1.6 ft.)
Filter: 67mm screw-in
Dimensions: $80\phi \times 98$ mm (3.15 \times 3.86 inch)
Weight: 1 lb. 9 oz. (725 g)
Supplied with: lens case
Accessories: lens hood, filters

85mm F/2.8 standard



Taking angle: 50°
Construction: 5 elements in 4 groups,
Aperture: f/2.8 ~ 22
Minimum focusing distance: 0.8m (2.6 ft.)
Dimensions: $80\phi \times 64$ mm (3.15 \times 2.52 inch)
Weight: 1 lb. 3 oz. (530 g)
Filter: 67mm screw-in
Accessories: lens hood, filters, lens case

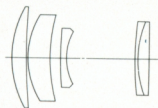
110mm F/5.6 macro



Taking angle: 40°
Construction: 5 elements in 4 groups,

Aperture: f/5.6 ~ 32
Minimum focusing distance: 0.8m (2.6 ft.)
Filter: 67mm screw-in
Dimensions: 80φ X 80mm (3.15 X 3.15 inch)
Weight: 1 lb. 8 oz. (680 g)
Supplied with: lens case
Accessories: lens hood, filters
Other: magnification scale on focusing ring

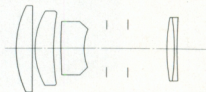
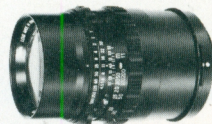
150mm F/3.5 telephoto



Taking angle: 29.5°
Construction: 5 elements in 4 groups,

Aperture: f/3.5 ~ 22
Minimum focusing distance: 1.5m (5 ft.)
Filter: 67mm screw-in
Dimensions: 80φ X 83mm (3.15 X 3.27 inch)
Weight: 1 lb. 8 oz. (675 g)
Supplied with: lens case
Accessories: lens hood, filters

200mm F/4.5 telephoto



Taking angle: 22°
Construction: 5 elements in 4 groups, telephoto

Aperture: f/4.5 ~ 32
Minimum focusing distance: 2.5m (8.2 ft.)
Filter: 67mm screw-in
Dimensions: 80φ X 113mm (3.15 X 4.46 inch)
Weight: 1 lb. 13 oz. (830 g)
Supplied with: lens case
Accessories: lens hood, filters

250mm F/5.6 telephoto



Taking angle: 18°
Construction: 6 elements in 5 groups, telephoto
Aperture: f/5.6 ~ 32
Minimum focusing distance: 4m (13.2 ft.)
Filter: 67mm screw-in
Dimensions: 80φ X 140mm (3.15 X 5.52 inch)
Weight: 1 lb. 12 oz. (780 g)
Supplied with: lens case
Accessories: Lensholder, lens hood, filters

500mm F/8 super telephoto



Taking angle: 8°
Construction: 7 elements in 6 groups, telephoto
Aperture: f/8 ~ 45
Minimum focusing distance: 8m (26.4 ft.)
Filter: 95mm screw-in
Dimensions: 102φ X 320mm (4.02 X 12.6 inch)
Weight: 4 lb. 5 oz. (1,960 g)
Supplied with: lens holder, lens hood, carrying case
Accessories: filters



AUXILIARY LENSES

Close-up lenses KOWA-UPs No.1, No.2, No.3



Three close-up lenses are provided for simple close-up photography with 67mm filter mount lenses. No.1 is most effective of the three. The close-up effect depends on the focal length of the master lens. See the table below.

HOW TO USE: Screw onto the filter thread. Take picture without exposure increase. Image magnifications are given in the table. More detailed description is provided in instruction sheet supplied with the lens.

Magnification at the minimum distance	55mm	85mm	110mm	150mm	200mm	250mm
Lens only	0.19	0.14	0.20	0.13	0.11	0.08
With No.3	0.22	0.19	0.26	0.21	0.22	0.12
With No.2	0.24	0.23	0.31	0.29	0.32	0.34
With No.1	0.30	0.32	0.44	0.46	0.55	0.64

2X Optical Image Magnifier (2X Tele-converter)



This is a rear conversion lens for KOWA 500mm telephoto lens when using it as 1,000mm lens. It can also be used with 150mm, 200mm and 250mm telephoto lenses. It doubles the focal length of the master lens. Exposure factor is 4X.

Absorption factor: two f/stops. A particular advantage of the KOWA tele-converter is that all automatic camera controls remain automatic. In addition, the close-focusing capability of the master lens is unaffected; thus, close-ups of twice the image size may be taken when using this precision optical instrument.

TAKING ANGLE, PERSPECTIVE and DEPTH-OF-FIELD

Taking angle

The taking angle of a lens denotes the corner-to-corner angle. The following illustrations in the upper row show the taking angles of identical subject photographed from the same point.

Perspective

Perspective depends solely on the focal length of the lens. The shorter the focal length is, the stronger the perspective becomes. For example, in wide angle lenses an object near the lens is photographed as an exaggerated and larger image than you perceive directly with your eyes. On the contrary, when telephoto lenses are used the perspective becomes less accentuated and objects that are far apart are photographed as if located close together.

Depth-of-field

You can check the depth-of-field on the finder viewing screen by moving the depth-of-field preview lever. Depth-of-field depends on the focal length of lens, lens aperture and the taking distance.



85mm F/2.8
50°





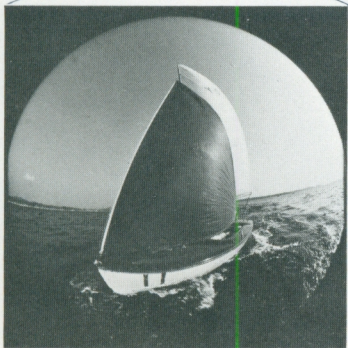
19mm F/4.5
180°



35mm F/4.5
98°



40mm F/4
90°





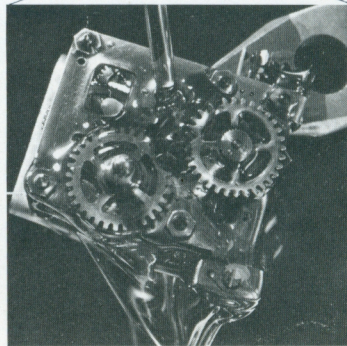
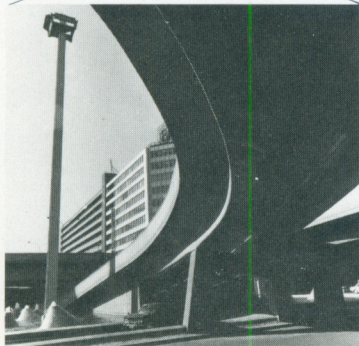
55mm F/3.5
72°



110mm F/5.6
40°



150mm F/3.5
29.5°

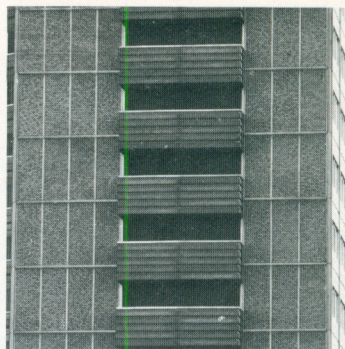




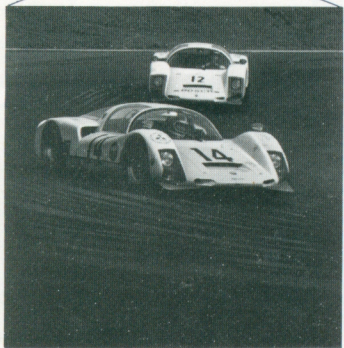
200mm F/4.5
22°



250mm F/5.6
18°



500mm F/8
9°



FILTERS



When you wish to reduce or eliminate haze from your picture, to enhance contrast on B&W pictures and to use daylight films under artificial light, filters will provide effective results.

Filter sizes for KOWA lenses are found with the lens specifications (page 19~23). Use gelatine filter using filter holder (attached or inserted) with 19mm, 35mm and 40mm lenses.

UV and 1A filters need no exposure compensation, but other filters require exposure adjustment accordingly. Exposure factors are provided in the table at right. If you utilize the EXPOSURE FINDER or EXPOSURE PRISM FINDER, exposure compensation will not be required in most cases. Some correction may be needed with orange (O2) and red (R0, R1) filters.

NOTE:

PL filter is available only in 67mm.

Types and Uses of KOWA Filters

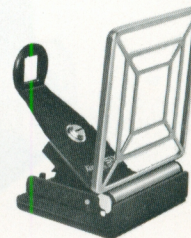
	Designation	Color	Exposure Factor	Application
For Black & White Film	UV	Colorless	1	To eliminate hazardous ultra-violet rays and protect lens
	Y2	Light yellow	2	Widely used for enhancing the tone of photo taken outdoor
	O2	Orange	4	Intensifies contrast in photographing mountains, distant scenes, buildings and carvings
	R0	Red	6	Gives higher contrast than O2
	R1	Dark red	8	Used for infra-red photography
	PO0	Yellowish green	2.5	Renders more beautiful flesh tones in portrait and beautiful B&W pictures of colorful subjects.
For B&W/Color	ND-4	Neutral grey	4	Moderates sensitivity for acquiring haze effect with iris opened
	PL (polarization)	Neutral grey	3~4	Polarized filter for eliminating reflecting light caused by plane (For details, refer to manual for polarized filter)
	1A (sky light)	Light pink	1	Removes ultra-violet rays that tends to make the photo blue-tinged, and protects lens
For Color Film	*82C	Light blue	1.5	Used when photographing in morning or evening with daylight color film
	*80B	Blue	3	Used when photographing with daylight color film by clear flash bulb illumination
	*80A	Dark blue	3	Used when photographing with daylight color film under reflector lamp illumination
	*81B	Light amber	1.5	Used when photographing with daylight color film in cloudy day or at a shaded place in a fine day
	85C (*85)	Amber	1.8	Used in daytime photo-taking with tungsten type A color film
	85A (*85B)	Dark amber	2.2	Used in daytime photo-taking with tungsten type B color film

*= Equivalent to Wratten type designation.

INTERCHANGEABLE FINDERS

Specifications:

	Magnifying hood	Prism finder (horizontal viewing)	Prism finder (45° viewing)	Sports finder
Lens usable	all lenses	all lenses	all lenses	55mm•85mm•150mm
Operating position	waist level	eye level	eye level	eye level
Field of view ratio	95%	95%	95%	90%
Finder image	erected, reversed	erected, unreversed	erected, unreversed	direct
Image magnification	0.8X	0.7X	0.8X	(1X)
Diopter	variable from -4 to +3D continuously	-1D, fixed	-1D, fixed	—



Specifications

	Exposure finder (model II)	Exposure prism finder (45°)
Lens usable	All lenses	All lenses
Body usable	All models	All models
Operating position	Waist level	Eye level
Field of view ratio	95%	95%
Finder image	Erected, reversed	Erected, unreversed
Diopter	-2D, fixed	-1D, adjustable from -4 to +3D

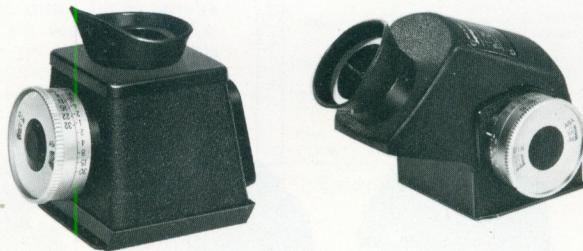
Exposure meter:

Type: Open aperture, average light reading through-the-lens exposure meter; stopped-down measurement is possible; zero method read off type (non-coupled)

EV range: EV 2 ~ 17

Film sensitivity: ASA 10 ~ 3,200

Cell: 1,35V mercury cell
(Mallory PX625)



INTERCHANGEABLE FOCUSING SCREENS

1 Standard plain matte

Overall plain matte with condenser lens and fresnel lens, clear 10mm dia. center spot. Excellent general-purpose type, supplied as standard equipment on KOWA Super 66.

2 Horizontal split-image

Plain matte screen with a horizontal 3mm split-image at center of 10mm focusing spot. Inclination 10° . Particularly valuable for wide-angle and fisheye lenses.

3 Grid with clear spot

Plain matte screen, engraved vertical and horizontal reference grid lines with separations of 11mm.

4 Grid with split-image

Mixed type viewing screen with "split-image" and "grid reference lines".

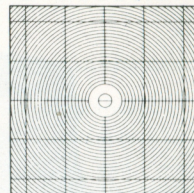
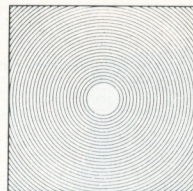
5 Diagonal split-image

Split-image screen, split line angled 45° from horizontal. More convenient than horizontal split-image when the subject does not have clear vertical lines.

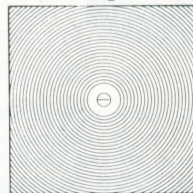
6 Microprism

Center focusing spot of 4mm dia. is covered with micro diaprism with inclination 9° . Other specifications are the same as the "standard clear spot". Convenient for close-up and telephotography.

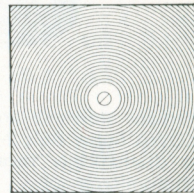
1 Standard plain matte 4 Grid with split-image



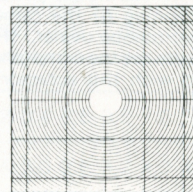
2 Horizontal split-image



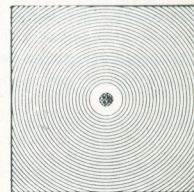
5 Diagonal split-image



3 Grid with clear spot



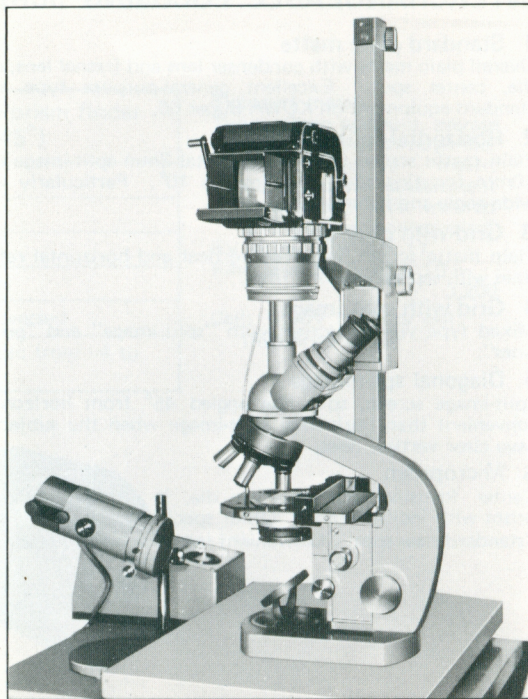
6 Microprism



MICROSCOPE ADAPTER



Perhaps nowhere are the advantages of your KOWA Super 66's 2-1/4 X 2-1/4" negative size as dramatically revealed as in the realm of photomicrography. The KOWA Microscope Adapter contains a precision Seiko leaf shutter for accurate timing; the helical mount permits extremely accurate positioning of the camera body in relation to the microscope ocular. (For complete information, please see the comprehensive instructions supplied with this accessory.)



EXTENSION TUBES



There are three extension tubes, T_1 , T_2 , T_3 , any two of which may be coupled. The automatic diaphragm and shutter cocking features are retained with these extension tubes.

The tubes are attached to the body in the same manner as the lenses. The lens is mounted on the tubes in the same way as attached to the body.

To remove the tube, first remove the lens from tube, then remove the tube from body.

The table shows image magnification with various combinations of lenses and tube(s).

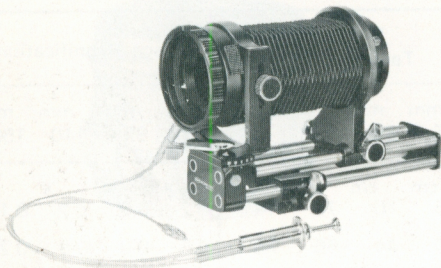
Exposure factor depends on image magnification, and these are tabulated in the lower rows.

Extension Tubes		Minimum Taking Distance				Image Magnification			
Combinations	Flange Length	mm 55	mm 85	mm 110	mm 150	mm 55	mm 85	mm 110	mm 150
Without Tube(s)	mm —	cm 45	cm 76	cm 78	cm 141	X 0.2	X 0.2	X 0.2	X 0.1
T_3	16 "	30	44	56	95	0.5	0.3	0.3	0.2
T_2	32 "	27	37	48	78	0.8	0.5	0.5	0.4
T_1	75 "	28	33	43	63	1.6	1.0	0.9	0.6
$T_2 + T_3$	49 "	27	34	45	69	1.1	0.7	0.6	0.5
$T_1 + T_3$	91 "	29	34	43	61	1.8	1.2	1.0	0.7
$T_1 + T_2$	107 "	30	34	43	60	2.1	1.4	1.2	0.8

Image Magnification X	0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2
Exposure Factor	1.4 2.0 2.6 3.2 4.0 4.8 5.8 6.8 7.8 9.0 10.2

Note: In close-up photography, focus more carefully, check depth-of-field and wherever possible use self-timer to avoid vibration.

KOWA AUTOMATIC BELLOWS WITH DUAL CABLE RELEASE



Ideally suited to macro applications, this precision dual-track bellows allows continuously variable magnifications from 1X—3X with standard (85mm) lens, and 0.7—2X when using the KOWA 110mm F/5.6 macro lens. Other KOWA lenses may also be used for varying magnification and camera-to-subject distances. Automatic diaphragm coupling is retained through use of heavy-duty dual cable release, equipped with built-in lock for time exposures. When coupled with either of the KOWA TTL Meter/Finders, your KOWA Super 66 become a remarkably versatile close-up/macro camera. Coarse sliding adjustment (tripod head) and fine adjustment (fine adjustment knob) are provided for focusing and magnification selection. The mount ring allows rise and fall of 15mm each, and forward and backward swing of 20° each.

Magnification

Lens	Distance from film to object	Magnification
55mm F3.5	23 ~ 36cm	1.5 ~ 4.3X
85mm F2.8	34 ~ 44	0.94 ~ 2.8
110mm F5.6	44 ~ 50	0.74 ~ 2.2
150mm F3.5	60 ~ 66	0.53 ~ 1.6

INTERCHANGEABLE FILM MAGAZINES

Standard film magazine (6X6 magazine)

This magazine is an integral part of the standard set. It permits 12 exposures on #120 film and 24 exposures on #220 film. The picture size is 56X56mm.

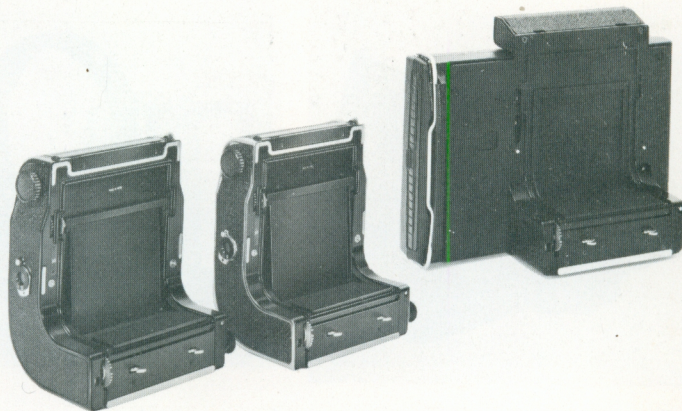
4.5 X 6 magazine

The dimensions and appearance of this magazine are the same as the "standard 6X6 magazine". It permits 16 exposures on #120 film and 32 exposures on #220 film. Picture size is 42X56mm.

Polaroid® magazine

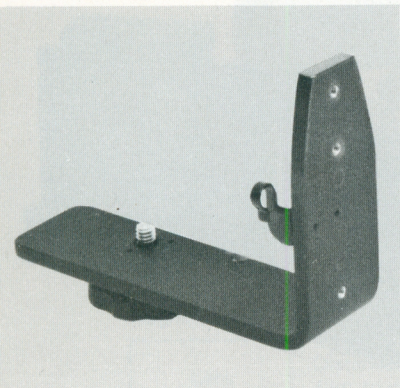
For instant-picture results using Polaroid black-and-white, color, or print/negative film types. Image size 2-1/4 X 2-1/4". Requires no spacers or adapters: Polaroid film selected may be used at rated ASA speed.

NOTE: The interchangeable magazines are supplied with a plastic cover, respectively.



<u>Standard magazine</u>	<u>Polaroid® magazine</u>
	4.5 X 6 magazine

OTHER ACCESSORIES



Flash bracket

Rugged, easily-attached bracket secures to camera body at two points for maximum stability. Accepts standard Graflex or Honeywell quick-release battery-case clips. Handle of flash unit serves as auxiliary handgrip.



Lens support

Precision lens support (cradle) provides added support for oversize lenses by bracing in camera's tripod socket. Easily attached, removed. Supplied with KOWA 19mm fisheye and 500 mm super-telephoto lenses; optional for KOWA 250mm lens.



Lens hoods

Lens hoods are available for 55mm, 85mm, 110mm, 150mm, 200mm and 250mm lenses, respectively. Non-reflective black metal finish: Folding rubber type is supplied for 85mm lens.



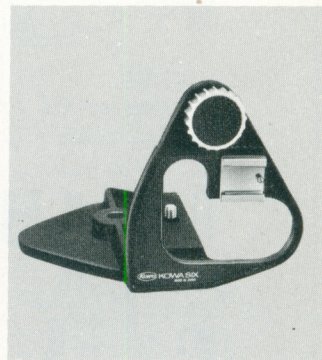
Focusing handle

This is a solid plastic focusing handle with hinge, easy to attach to the focusing ring of the lens.



Hand grip

It is very convenient for carrying the camera and useful for action photography. The angle between grip and body is fixed.



Quick-load tripod mount

Permits loading or unloading of Kowa Super 66 while camera remains attached to tripod. Particularly valuable for studio applications. Die-cast metal construction.

SPECIFICATIONS OF KOWA SUPER 66

Type:	6X6 (2-1/4" square) leaf shutter type single lens reflex camera.
Film:	#120 (12-exposure) #220 (24-exposure) rollfilm, switch-over pressure plate.
Film magazine:	Interchangeable type, with built-in automatic light shield. Hinged and removable back cover; Polaroid® and 4.5X6 (1-5/8X2-1/4") magazines available.
Lens:	Standard lens: KOWA LENS 85mm F/2.8. Construction: 5 elements in 4 groups. Taking angle: 50°. Minimum focusing distance: 80cm (30 inches). Auto-diaphragm, aperture range: f/2.8 ~ 22 with click-stops at each half f/stop. Depth-of-field preview lever. Infrared (R) mark. Depth-of-field scale.
Shutter:	Between-the-lens leaf-shutter SEIKO SLV #0. Speed range: 1 ~ 1/500 sec. plus T with self-timer. M/X synchronization usable at all shutter speeds. Shutter button locking.
Focusing:	Single lens reflex type, direct helicoid focusing.
Finder:	Through-the-lens system, finder interchangeable. Standard system consists of waist-level finder hood, opening and closing in one action, with pop-up interchangeable magnifier. Interchangeable finder screen combines condenser and fresnel lenses. Dioptric adjustment possible cover range from -4 to +3D. Standard -2 diopter eyepiece interchangeable with -4, -3, -1, 0, +1, +2, +3 eyepiece magnifiers. Area shown in finder corresponds to 95% of total negative area.
Mirror:	Swings up and back, returns as film winding crank/knob is wound to next exposure.
Film advance:	Automatic loading system alignment start marks. One and one-third (480°) turn of film winding crank/knob advances the film and cocks shutter. Double-exposure prevention. Multi-exposure possible. Film runs from bottom to top.
Frame counter:	Automatic zero-reset, sequential frame counter 12/24-exposure selection lever.
Others:	Tripod mount: U-1/4, U-3/8". Strap stud, front and rear.
Dimensions:	5.4 X 4.96 X 6.22 inches. 137 (height) X 126 (width) X 158 (length) mm.
Weight:	4 lb. 3 oz. (1,900 grams)

NOTE: Specifications subject to change without notice.