

Nikon

8X

***SUPER
ZOOM***

**INSTRUCTION
MANUAL**

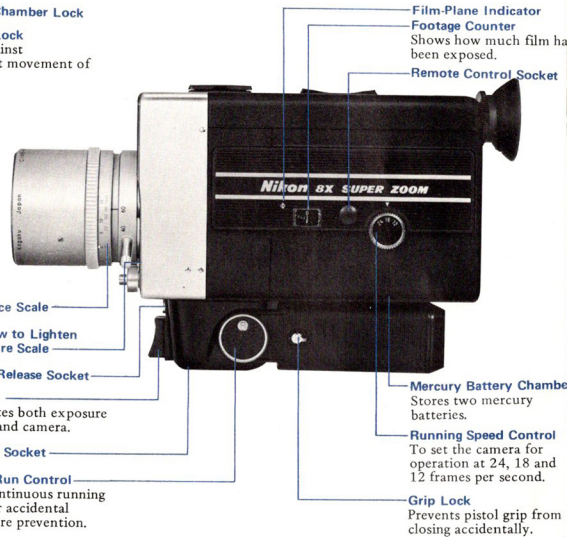
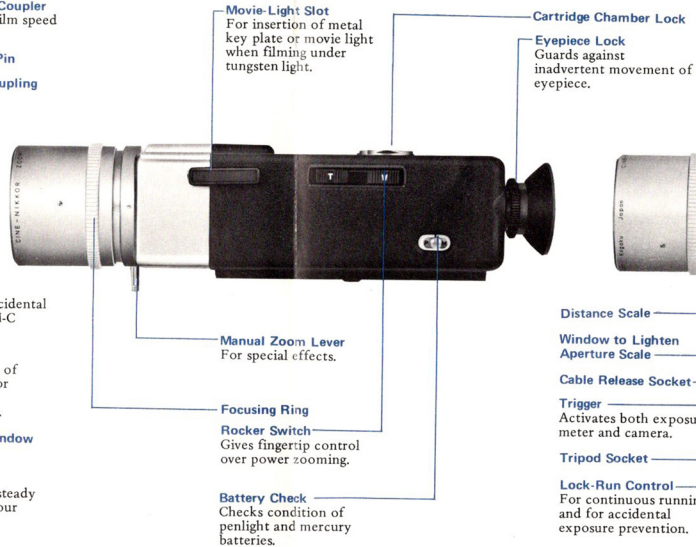
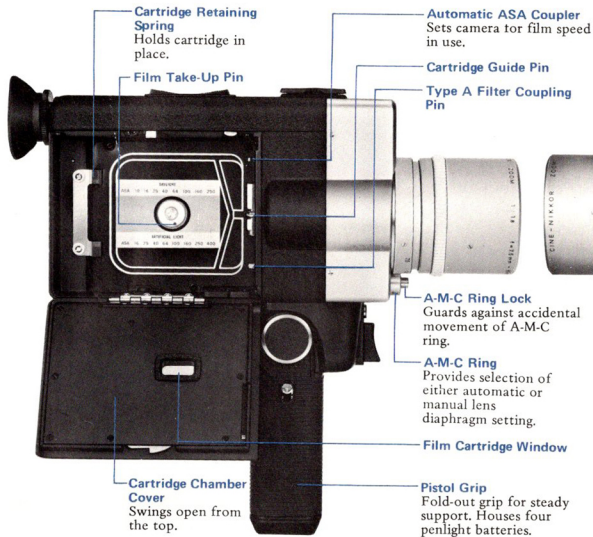
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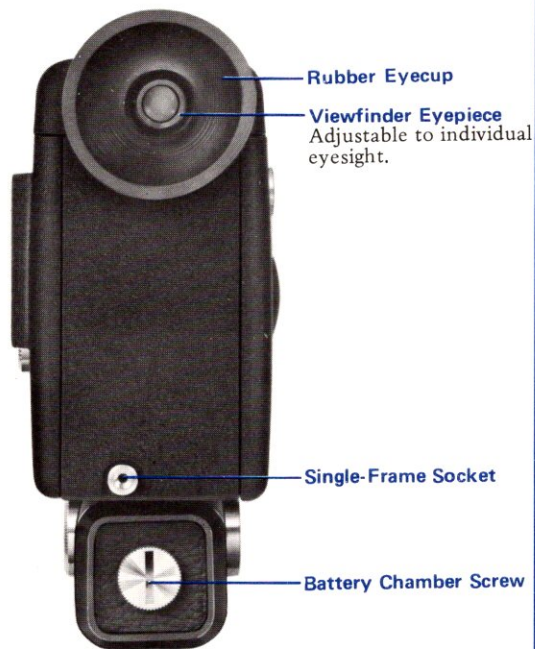
The Nikon 8X Super Zoom offers the quality performance, handling convenience and versatility you need for truly professional moviemaking. To get the best results from your camera, you must be thoroughly familiar with its operation. Study the instructions carefully and practice using the controls before you load any film in the camera. Keep this booklet handy for ready reference until you have mastered its basics. Follow the suggestions for camera care on page 32 and your Nikon 8X Super Zoom will give you maximum enjoyment and movies you will be proud to show.



For a quick guide to moviemaking, follow the 10 simple steps indicated by this symbol.







CONTENTS

Fold Out the Pistol Grip	6
Insert the Penlight Batteries	7
Penlight Battery Check	7
Load the Camera	8
Metal Key Plate for Shooting	
Under Artificial Light	9
Adjust the Viewfinder	10
Focus	11
Depth of Field	12
Select the Running Speed	13
Pull the Trigger	14
Exposure Data Within Viewfinder	15
Mercury Batteries	16
Footage Counter	17
Zoom-In, Zoom-Out	18
Cine-Nikkor Lens	19
Power Zooming	20
Manual Zooming	21
Add the Professional Touch	22
Fade-in, Fade-out	22
To Expose Single Frames	23
Shooting by Remote Control	24
Unload	25
Accessories	26
Tips for Better Home Movies	28
Depth-of-Field Table	29
Camera Care	32
Features/Specifications	33



FOLD OUT THE PISTOL GRIP



The large pistol grip provides a firm, comfortable gripping hold. Fold out the pistol grip to the shooting position and it locks in place automatically and will not close when the camera is tilted. Slide the grip lock in the direction of the arrow and the grip folds flat against the camera to make a compact unit for easy carrying, or for mounting the camera on a tripod.

INSERT THE PENLIGHT BATTERIES



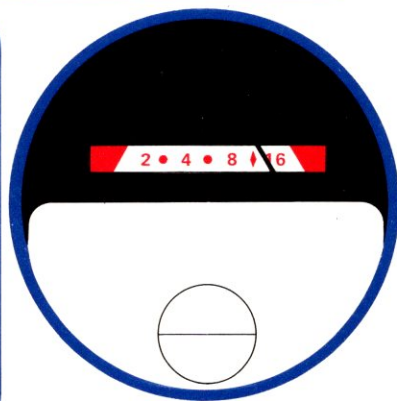
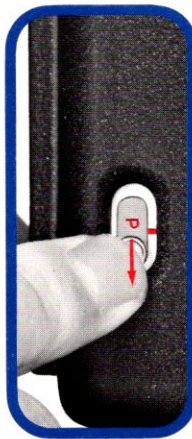
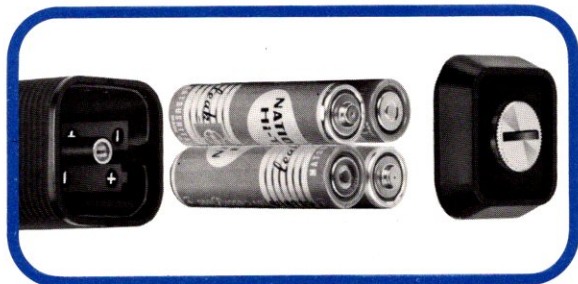
The four 1.5-volt penlight batteries which power the camera's film-transport and power-zoom mechanisms must be installed inside the pistol grip before you operate the camera. A set of batteries will normally supply power for shooting more than 20 film cartridges before they need to be replaced.

Batteries are easy to install or replace. Just unscrew the battery chamber cover on the bottom of the pistol grip using a small coin or similar object. When inserting the batteries, make sure that the positive and negative (+ and -) terminals are lined up correctly as shown inside the battery chamber.

Note: Ordinary zinc-carbon batteries may be used, but manganese-alkaline batteries will last longer.

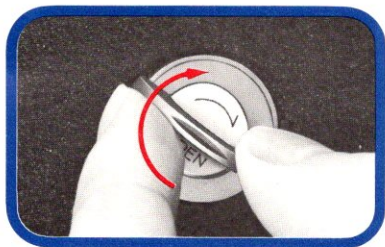
Penlight Battery Check

The built-in battery checker allows you to see at a glance whether or not the batteries are still good. Look through the viewfinder and slide the battery check button towards you so that the "P" mark lines up with the red index. If the aperture needle swings to the red diamond or past it, the batteries are still good. If not, replace all four batteries.





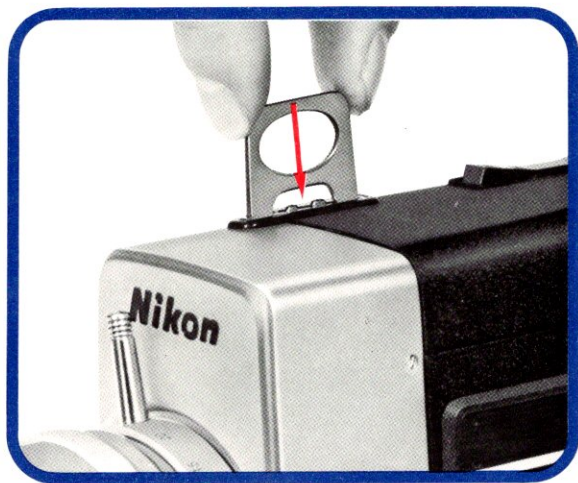
LOAD THE CAMERA



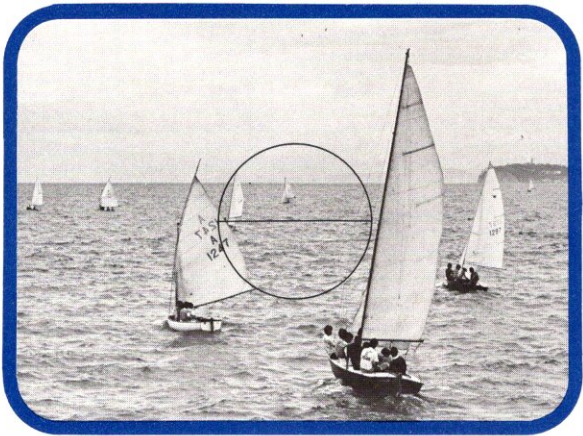
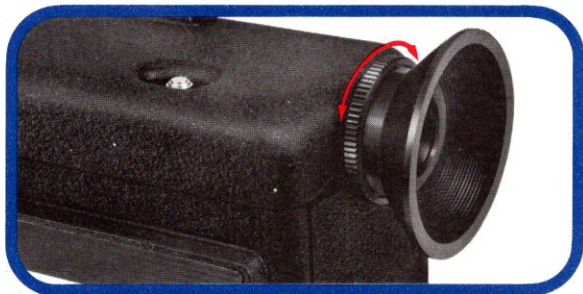
The Nikon 8X Super Zoom accepts Kodapak instant-load cartridges containing 50 feet of Super-8 movie film. To load the camera, turn the cartridge chamber lock in the direction of the arrow and the cover will swing open from the top. Place a Kodapak cartridge in the chamber with the label facing up. Press down on the end of the cartridge nearest the lens first to mate the cartridge notches to the cartridge guide pin and Type A filter coupling pin respectively. Then press down on the other end until the cartridge clicks into place. The camera is now set automatically for the film speed. The name of the film appears in the film cartridge window on the side of the camera.

Metal Key Plate for Shooting Under Artificial Light

The camera has a built-in type A filter for shooting outdoors with Kodachrome Type A film, which is intended for tungsten (artificial) lighting. When filming indoors under artificial light, move the filter out of the way by removing the dust cover from the movie light slot on top of the camera and inserting the metal key plate which comes with the camera. When a standard Super-8 movie light is attached to the camera, the filter moves out of the way automatically.



4 ADJUST THE VIEWFINDER



The reflex-type viewfinder has a central split-image rangefinder for fast precise focusing. The large, bright finder image makes for easy, accurate viewing, framing and focusing.

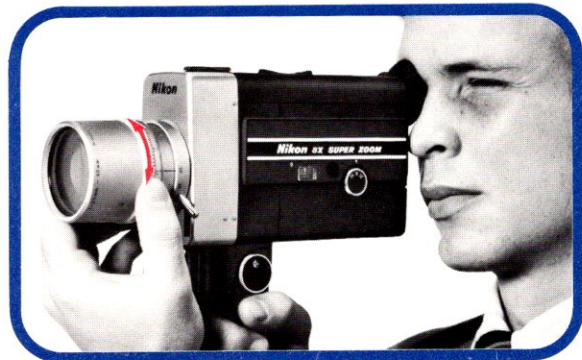
To adjust the viewfinder eyepiece for your own eyesight, loosen the eyepiece lock by turning it to the left. With the lens at the full telephoto setting and focused at infinity (∞), rotate the eyepiece until the image in the rangefinder circle is sharp. The eyepiece should not require readjustment unless the camera is used by more than one person.

Fit the eyepiece with the comfortable rubber eyecup which comes with the camera to keep out stray light and allow you to view with either eye. The eyecup can be rotated and folded back.

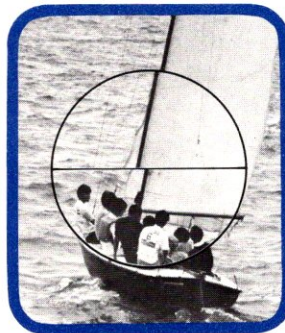
The circular split-image rangefinder in the center of the viewfinder serves as an aid to quick and accurate focusing. Aim the camera so that an edge of the subject falls within the central focusing spot and turn the focusing ring until the two halves of the image coincide to form one continuous sharp image. When the subject is out of focus, the two halves of the image will appear disjointed.

You can also prefocus by setting the lens-to-subject distance in feet or meters on the distance scale engraved on the focusing ring. The measured or estimated distance should be set opposite the black line on the fixed portion of the lens barrel.

For critical focusing at close distances, focus with the lens at its maximum focal length. After you have focused, reduce the focal length for the desired picture composition. This will result in a larger image to focus on and greater focusing accuracy. The Cine-Nikkor lens focuses from 4 feet (1.2 meters) to infinity.

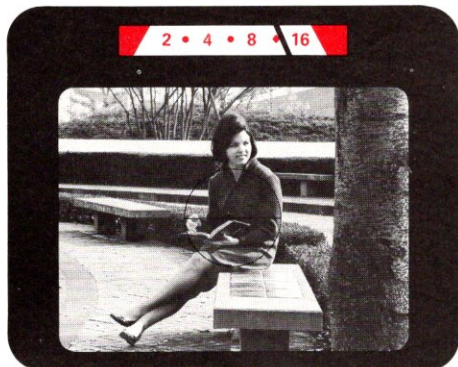


Out of focus



In focus





Depth of Field

Depth of field is a zone extending in front of and behind the focused distance. Within this zone blur is too slight to be noticeable and everything will appear sharp when the film is projected on a screen. It extends a greater distance behind the subject in focus than in front. Depth of field depends on three factors: lens aperture, focal length and lens-to-subject distance. Remember, the smaller the aperture and the shorter the focal length of the lens, the greater the depth of field. Since these three factors operate inter-dependently, one may cancel out the effect of the others for greater control over final results. When in doubt about depth of field for an important scene, refer to the tables on page 29.

1. Lens at $f/2$. Small depth of field with only main subject in focus.
2. Lens at smaller aperture. Great depth of field with subject, background and foreground in focus.

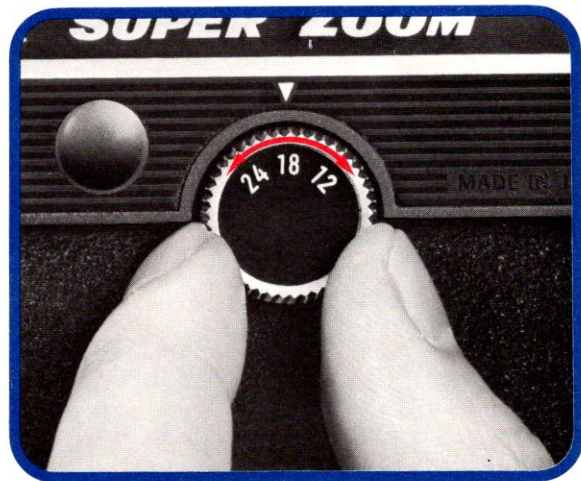
SELECT THE RUNNING SPEED

6

The camera can be set to operate at 12, 18 or 24 frames per second (fps) by means of the running speed control knob on the side of the camera. Turn the knob until the desired speed clicks into place opposite the white triangular index. Exposure compensation is made automatically. The camera cannot be set for intermediate speeds between the click-stopped settings.

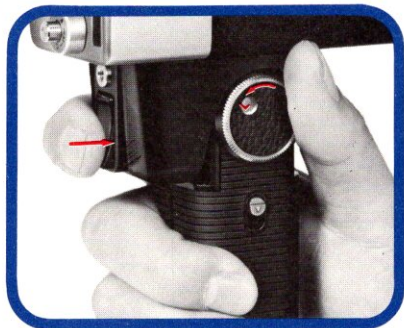
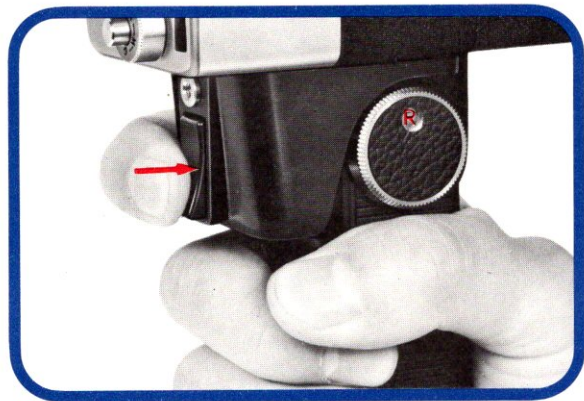
Silent films are usually shot at 18 fps, although some moviemakers prefer 24 fps since the higher speed tends to give smoother, less bouncy images when projected. Because most sound projectors are designed to operate at 24 fps, high-quality sound recordings should be made at this speed.

When a film is regularly shot and projected at 18 fps, the 24-fps speed can be used for occasional slow-motion effects. The 12-fps speed has the opposite effect—the action will be speeded up when projected as in old-fashioned movies—and can be used to add a touch of humor to home movies. The 12-fps speed also gives one more stop exposure than 18 fps, so it may be used to avoid underexposure in dimly lighted scenes. However, scenes shot at this speed should have little or no action since any movement will be unrealistically fast when projected.





PULL THE TRIGGER



The dual-purpose trigger turns on the exposure meter and also runs the camera. Pull the trigger in halfway with a light pressure to activate the exposure meter. When you are ready to begin filming, pull the trigger all the way back. The camera will stop without a trace of run-on when you release the trigger. The cable release socket located just above the trigger accepts a cable release for use when making critical exposures such as close-ups, panning, fade-in/-out with the camera mounted on a tripod.

Lock-Run Control Knob

The lock-run control knob locks the camera to prevent accidental triggering between takes. Turn the control knob to “L” (lock) when the camera is not in use.

The control knob also locks the camera in running position for continuous filming. To lock the camera in continuous-run position, start the camera by pulling the trigger all the way back and set the lock-run control to “L”. When filming is completed, turn the control to “R” (run) to stop the camera.

Note: A cable release with locking screw can be used to operate the camera in continuous run. Screw it into the cable release socket. Then depress its plunger and tighten the screw to keep the plunger pressed down.

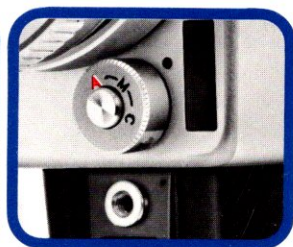
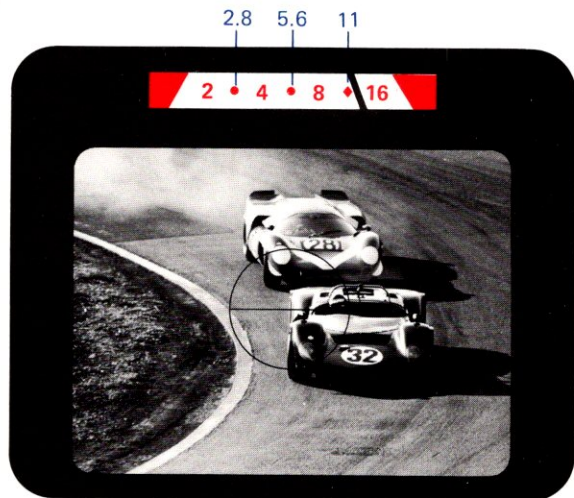
Exposure Data Within Viewfinder

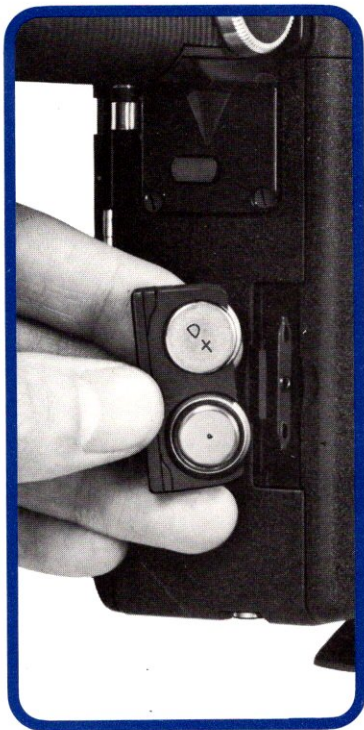
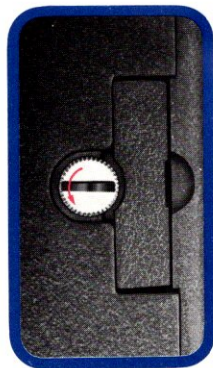
The built-in exposure meter automatically sets the lens diaphragm aperture for correct exposure when the A-M-C ring is set at "A" (automatic). The ASA speed of the film in use and the shooting speed of the camera match automatically. Nikon's patented "Instant Response" system reacts to any sudden light changes when the camera is tilted or panned from a lighter or darker area. Apertures are expressed in f/numbers; the larger the number, the smaller the aperture and vice versa. The f/number scale with the numbers in red on a white background and an aperture needle are visible in the viewfinder.

To switch on the meter, pull the trigger in halfway to the first click stop. The needle shows the taking aperture and swings into the red zones at the extreme ends of the scale to warn you of over- or under-exposure when the light is too bright or dim for the film in use.

You can also override the automatic exposure meter for best results in high-contrast or backlit scenes, or for special effects. To set the lens aperture manually, hold down the A-M-C button and turn the knurled A-M-C ring until the aperture needle in the viewfinder points to the desired setting.

Note: Be careful not to cover or shade the window for lighting the aperture scale, located beside the A-M-C ring, with your fingers while turning the A-M-C ring. If you do, the f/number scale in the viewfinder will be blacked out.





Mercury Batteries

The two 1.3-volt mercury batteries which power the exposure meter are housed in the mercury battery chamber on the bottom of the camera. These two batteries come installed in the camera. Their normal life is about one year. To replace exhausted batteries, unscrew the battery chamber screw and lift out the battery carrier. Place one new battery into the carrier with its positive (+) side facing up, and the other with its positive side facing down. Replace the carrier into the battery chamber and close the chamber.

To Check the Battery

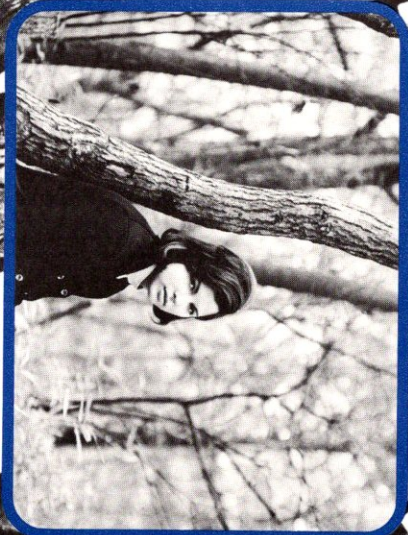
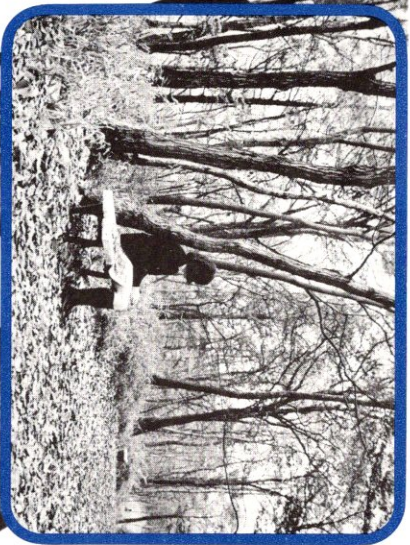
Follow the same procedure given for checking the penlight batteries, except push the battery check button away from you so that the "M" mark appears opposite the red index.

Footage Counter

The footage counter, located beneath a glass window on the side of camera, shows how many feet of film have been exposed. It serves as a handy reminder of how much film remains in the camera. The counter stops just past the "E" exposed mark and resets itself to zero when the camera is opened for reloading.



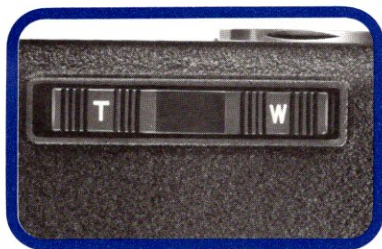
3 ZOOM-IN, ZOOM-OUT



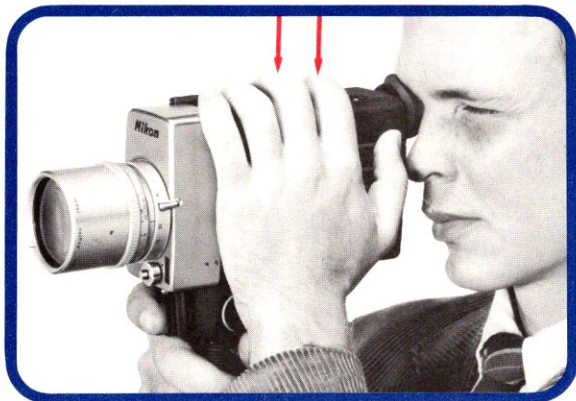
Cine-Nikkor Lens

The Cine-Nikkor lens mounted on your camera has an 8-to-1 zoom ratio extending from 7.5mm wideangle to 60mm telephoto. The maximum aperture of $f/1.8$ makes this lens fast enough for most available-light shooting. With power zooming, you can go from wideangle to telephoto in six seconds by pressing the rocker switch on top of the camera. There is also a manual zoom lever for manual control of zooming. The front lens mount is threaded to accept 52mm filters, lens hoods and other accessories.





T — Telephoto
W — Wideangle

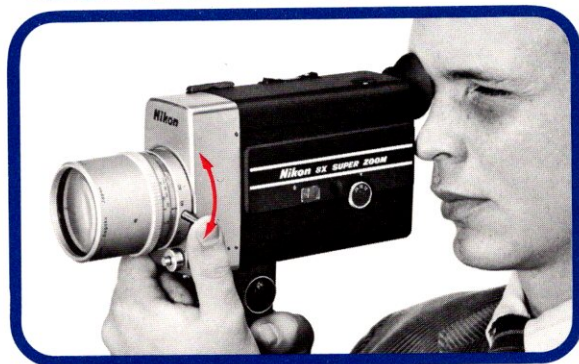


Power Zooming

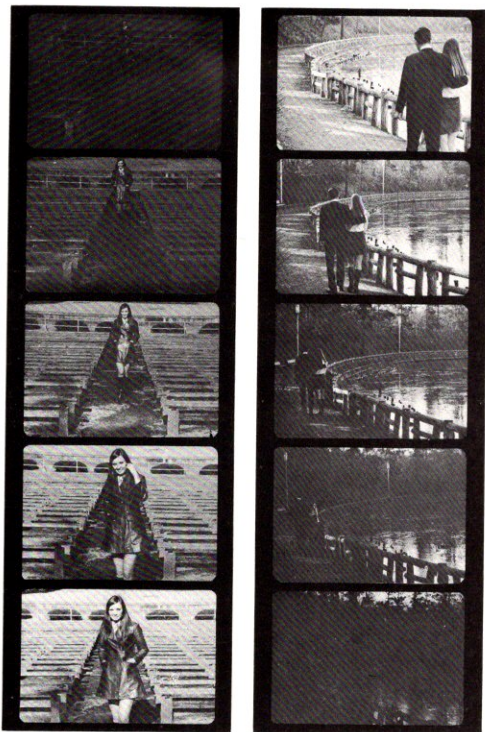
Power zooming gives you fingertip control over picture composition. Look through the viewfinder and press either the “T” (telephoto) or “W” (wideangle) position of the rocker switch on top of the camera until you see as much or as little as you want to photograph. When you press the “T” position, the main subject grows larger and surrounding elements drop out of the picture. Press the “W” position and the picture angle widens to take in more of the scene, but objects become correspondingly smaller. When you see the exact coverage you want through the viewfinder, remove your finger from the switch to stop the zooming action at the desired focal length.

Manual Zooming

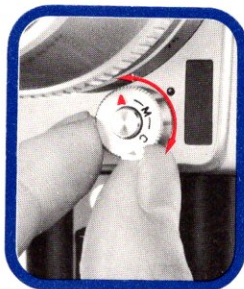
You can override the camera's power zoom mechanism by turning the manual zoom lever on the lens barrel. Manual zooming is recommended for preselecting lens focal length accurately, for matching the speed of zooming to that of an approaching subject or for creating just the right mood through carefully controlled zooming. The lever covers the entire zoom range in an angle of only about 130° . A six-position scale engraved on the lens barrel shows the focal length at which the lens is set (the position of the lever corresponds to 30mm focal length). The focal-length setting will be opposite the black indicator line on the side of the fixed portion of the lens barrel.



9 ADD THE PROFESSIONAL TOUCH



Fade-in, Fade-out



These are cinematic devices used to darken a scene gradually until it becomes entirely black (fade-out) or appear gradually out of darkness (fade-in).

To shoot a fade-out, set the exposure manually and turn the A-M-C ring slowly while you film until its “C” (close) mark meets the black dot.

For a fade-in, reverse the procedure.

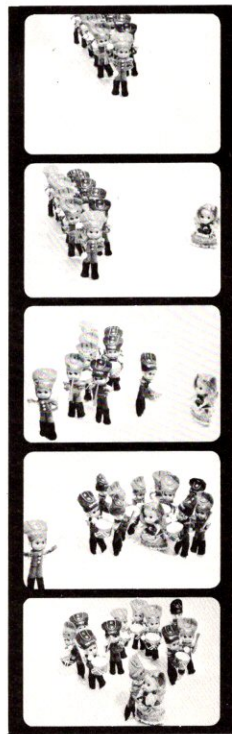
Determine the correct exposure setting and begin filming with the A-M-C ring set at “C”. Gradually turn the ring clockwise until the aperture needle in the viewfinder points to the predetermined exposure setting. Fade-in and fade-out are possible when the range of aperture stops is great enough to produce complete blackness or to open up fully. A sound rule of thumb is to release the trigger when the exposure is set at $f/5.6$.

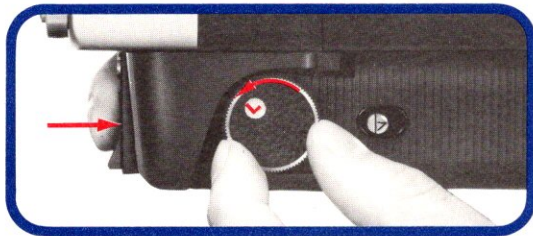
Note: For best results, fade-in or fade-out scenes should last from three to five seconds. The camera should be mounted on a tripod to prevent camera shake.

To Expose Single-Frames

With the Nikon 8X Super Zoom, you can expose one frame at a time for animated sequences or stop motion. To expose one frame, insert a Nikon cable release in the single-frame socket on the back of the camera. When the cable release button is pressed, one frame will be exposed. Exposure must be set manually beforehand, since the automatic metering system does not function at the single-frame speed.

With single-frame exposures you can make inanimate objects come alive on the screen. Just move the object you are filming a fraction of an inch after each exposure. Single-frame exposures of slow-moving objects, such as clouds, will be speeded up greatly when projected. For example, if you film at 1 fps and project at 18 fps, objects will appear to move 18 times their actual speed. Remember to mount the camera on a tripod or other support to avoid camera shake.





Shooting by Remote Control

An accessory remote-control release allows you to start and stop the camera from up to 10 feet away, so you can include yourself in your movies. It is also useful for filming wildlife studies, or where danger exists.

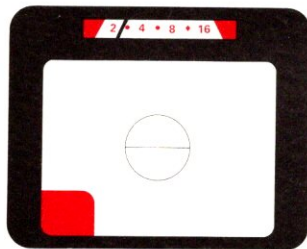
Plug the free end of the remote-control cable into the remote-control socket on the side of the camera. Pull the trigger all the way back and set the lock-run control at "L". Now the camera can be operated by the remote-control switch.

Note: Make sure that the remote-control switch is in the "off" position when you plug the cable into the remote-control socket. Otherwise the camera will start running.

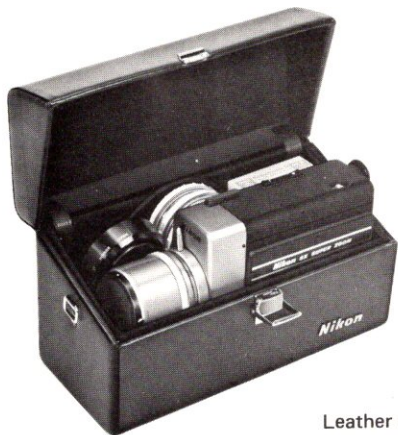
When filming by remote control, do not expose the eyepiece to intense light. Cover it with a cloth or other opaque object.

Occasionally one or two blank frames appear between continuous runs. This is a characteristic of the camera mechanism, and is not due to malfunctioning. These frames can be edited out easily.

When the red warning indicator appears in the viewfinder and the footage counter reads 50, the end of the film cartridge has been reached. Open the cartridge chamber cover and remove the cartridge. The word “exposed” will appear on the film to indicate that it has been exposed and prevent mix-ups.



ACCESSORIES



Leather Carrying Case



Zippered Soft Case

Leather Carrying Case

The optional leather carrying case stores the camera, lens hood, filters and several cartridges of Super-8 film. A wrist strap is supplied with the carrying case.

Zippered Soft Case

The zippered soft case holds the camera body and protects the camera when not in use.

Slide Copying Adapter ES-1

Used in conjunction with the EC-1 close-up attachment lens, the ES-1 Slide Copying Adapter allows you to copy standard 35mm format color or black and-white transparencies.

Microscope Adapter EM-1

Designed to be used in conjunction with EC-1 close-up lens, the Microscope adapter EM-1 makes possible easy, accurate photomicrography.

Lens Hood

The use of a lens hood is recommended to prevent extraneous light from striking the lens surface and causing flare or ghost, and as an added measure of protection for the lens. The front lens mount is threaded to accept the screw-in lens hood for the Nikkor Auto 35mm f/2.8 or f/2 lenses designed for the Nikon F.

Filters

A wide range of 52mm screw-in Nikon filters is available for the 8X Super Zoom.

Close-Up Attachment Lens

You can focus close-up with the 8X Super Zoom by adding a close-up attachment lens in front of the camera lens. Close-up attachment lenses are available in three different powers: No. 0 (0.7 diopter), No. 1 (1.5) and No. 2 (3). The camera's focusing range extends from 4 feet (1.2m) to infinity, so the No.0 close-up attachment lens will enable you to focus on any object between 29.6 in. (75cm) and 60.9 in. (155cm). The table on page 31 shows the distance from subject to film plane (focused distance), area covered and depth of field at the extremes of the focusing range when close-up attachment lenses are used. For extreme close-up work such as photographing small living creatures, the close-up attachment lens EC-1 is available.



Lens Hood



Close-Up Attachment Lenses



Filters

TIPS FOR BETTER HOME MOVIES

Knowledgeable use of a few basic techniques is what distinguishes professional moviemakers. The following are some simple suggestions designed to help you improve your own home movies. With just a little practice, you can double your pleasure in creating movies. And your audiences will get more pleasure from seeing your efforts, too.

Hold the Camera Level: Hold the camera level with respect to the horizon when shooting. A tilted horizon line is an unpleasant sight when projected on a screen.

Hold the Camera Steady: Practice steady camera holding. Camera shake is the worst enemy of sharpness and results in bouncy, amateurish-looking films.

Keep Your Shots Long Enough: Avoid short bursts. Make each shot at least seven seconds long, and use longer shots for interesting action.

Keep the Sun Behind You: You will get the best results when the sun is behind you or shining over your shoulder.

Shoot "Reaction" Shots: While you are filming a race, football game or other event, shoot close-ups of the spectators' faces as they react to peaks of action. Splice these into the main footage and they will add drama and human interest to your film.

When Shooting From a Car: Set the lens at wideangle, shoot preferably at 24 fps and point the camera no

more than 45 degrees away from the direction in which the car is traveling. This will help to smooth out bumps and prevent blur. Shooting directly across the direction of travel will cause an unpleasant blurry appearance.

Zooming: Power zooming presents an almost irresistible temptation to include a zoom effect in every sequence. The result, however, is dizzying footage which will leave your audience bored by repetitiveness. Use the zoom sparingly or it will lose its effectiveness altogether.

Panning: Moving the camera to follow a moving subject or sweep across a panoramic scene is called panning. Use this technique sparingly, and if you do pan use a tripod with a pan head for smoothest results. Practice moving the camera slowly and evenly and "follow through" with the movement until after you have released the trigger.

Edit Your Films: When you're shooting action-packed sporting events or a baby's first steps, you don't have time to think about the best sequence of takes. Concentrate on getting what you want on film. Later on, snip out unwanted frames and arrange your best footage for maximum interest and drama. For home movies that look professional, an inexpensive movie editor is one of the best investments you can make.

DEPTH-OF-FIELD TABLE

for f=7.5mm

Focused Distance (ft) (m)	f/1.8	f/2	f/2.8	f/4	f/5.6	f/8	f/11	f/16
∞	8'6"-∞	7'8"-∞	5'7"-∞	4'-∞	2'11"-∞	2'2"-∞	1'8"-∞	1'3"-∞
∞	2.59-∞	22.34-∞	1.70-∞	1.21-∞	0.89-∞	0.65-∞	0.50-∞	0.37-∞
50	7'4"-∞	6'8"-∞	5'-∞	3'9"-∞	2'9"-∞	2'1"-∞	1'7"-∞	1'2"-∞
10	2.08-∞	1.92-∞	1.47-∞	1.09-∞	0.83-∞	0.61-∞	0.48-∞	0.36-∞
20	6'1"-∞	5'8"-∞	4'5"-∞	3'5"-∞	2'7"-∞	2'-∞	1'6"-∞	1'2"-∞
5	1.74-∞	1.63-∞	1.29-∞	1.00-∞	0.77-∞	0.59-∞	0.46-∞	0.35-∞
10	4'9"-∞	4'6"-∞	3'8"-∞	2'11"-∞	2'4"-∞	1'10"-∞	1'5"-∞	1'1"-∞
3	1.43-∞	1.35-∞	1.12-∞	0.90-∞	0.71-∞	0.55-∞	0.44-∞	0.34-∞
7	4'-37'2"	3'10"-73'1"	3'3"-∞	2'8"-∞	2'2"-∞	1'9"-∞	1'5"-∞	1'1"-∞
2	1.17-8.22	1.12-12.8	0.96-∞	0.79-∞	0.65-∞	0.52-∞	0.42-∞	0.33-∞
5	3'3"-11'4"	3'2"-13'4"	2'9"-44'4"	2'4"-∞	2'-∞	1'7"-∞	1'4"-∞	1'1"-∞
1.5	0.99-3.34	0.95-3.88	0.84-11.7	0.71-∞	0.60-∞	0.49-∞	0.40-∞	0.32-∞
4	2'10"-7'	2'9"-7'9"	2'6"-12'10"	2'2"-∞	1'10"-∞	1'6"-∞	1'3"-∞	1'-∞
1.2	0.86-2.09	0.83-2.29	0.74-3.70	0.64-87	0.55-∞	0.46-∞	0.38-∞	0.31-∞

for f=20mm

Focused Distance (ft) (m)	f/1.8	f/2	f/2.8	f/4	f/5.6	f/8	f/11	f/16
∞	58'5"-∞	52'7"-∞	37'7"-∞	26'4"-∞	8'10"-∞	13'3"-∞	9'8"-∞	6'8"-∞
∞	17.8-∞	16.0-∞	11.5-∞	8.03-∞	5.74-∞	4.03-∞	2.94-∞	2.03-∞
50	27'-346'	25'8"-∞	21'6"-∞	17'3"-∞	13'9"-∞	10'5"-∞	8'1"-∞	5'10"-∞
10	6.41-22.76	6.16-26.5	5.34-78.4	4.46-∞	3.65-∞	2.87-∞	2.27-∞	1.68-∞
20	14'11"-30'4"	14'6"-32'2"	13'1"-42'7"	11'5"-82'8"	9'9"-∞	8'-∞	6'6"-∞	5'-∞
5	3.91-6.94	3.82-7.25	3.49-8.84	3.09-13.2	2.68-38.4	2.24-∞	1.85-∞	1.44-∞
10	8'7"-12'1"	8'5"-12'4"	7'11"-13'7"	7'3"-16'1"	6'7"-21'2"	5'9"-40'8"	4'11"-∞	4'-∞
3	2.57-3.60	2.53-3.68	2.38-4.05	2.19-4.77	1.98-6.24	1.73-11.6	1.49-∞	1.21-∞
7	6'3"-7'11"	6'2"-8'1"	5'11"-8'7"	5'7"-9'6"	5'2"-11'1"	4'7"-14'9"	4'1"-25'3"	3'5"-∞
2	1.80-2.25	1.78-2.28	1.71-2.41	1.61-2.65	1.49-3.05	1.34-3.93	1.20-6.19	1.01-138
5	4'7"-5'6"	4'7"-5'6"	4'5"-5'9"	4'3"-6'2"	4'-6'9"	3'8"-8'	3'4"-10'3"	2'11"-19'9"
1.5	1.39-1.63	1.37-1.65	1.33-1.72	1.27-1.84	1.19-2.02	1.10-2.37	1.00-3.03	0.87-5.65
4	3'9"-4'3"	3'9"-4'4"	3'8"-4'6"	3'6"-4'9"	3'4"-5'1"	3'1"-5'8"	2'10"-6'9"	2'6"-9'10"
1.2	1.13-1.28	1.12-1.29	1.09-1.34	1.05-1.40	1.00-1.51	0.93-1.69	0.86-2.00	0.76-2.88

(in inch system)
(in metric system)

The depth of field is measured from the film plane marked ϕ on the side of the camera. Disc of confusion: 1/80mm dia.

for f=40mm

Focused Distance (ft) (m)	f/1.8	f/2	f/2.8	f/4	f/5.6	f/8	f/11	f/16
∞	233'-∞	210'-∞	150'-∞	105'-∞	75'-∞	52'4"-∞	38'-∞	26'1"-∞
∞	71-∞	64-∞	46-∞	32-∞	23-∞	16-∞	12-∞	8-∞
50	41'1"-63'9"	40'4"-65'9"	37'5"-75'3"	33'9"-96'	29'10"-152'	25'5"-∞	21'5"-∞	17'-∞
10	8.75-11.7	8.63-11.9	8.18-12.8	7.59-14.6	6.92-17.9	6.11-27.0	5.33-74	4.39-∞
20	18'5"-21'11"	18'3"-22'2"	17'7"-23'2"	16'9"-24'10"	15'9"-27'5"	14'5"-32'7"	13'-42'8"	11'2"-87'
5	4.66-5.39	4.63-5.43	4.49-5.63	4.31-5.59	4.08-6.44	3.78-7.34	3.46-8.89	3.03-13.7
10	9'7"-10'6"	9'6"-10'6"	9'4"-10'9"	9'1"-11'1"	8'9"-11'7"	8'4"-12'6"	7'10"-13'9"	7'2"-16'6"
3	2.87-3.14	2.86-3.15	2.81-3.22	2.73-3.32	2.64-3.47	2.51-3.72	2.36-4.09	2.15-4.89
7	6'9"-7'3"	6'9"-7'3"	6'8"-7'4"	6'6"-7'6"	6'4"-7'9"	6'2"-8'2"	5'10"-8'8"	5'5"-9'9"
2	1.94-2.06	1.94-2.07	1.91-2.10	1.88-2.14	1.83-2.20	1.76-2.30	1.69-2.44	1.58-2.71
5	4'11"-5'1"	4'11"-5'2"	4'10"-5'2"	4'9"-5'3"	4'8"-5'5"	4'6"-5'7"	4'5"-5'10"	4'2"-6'3"
1.5	1.47-1.54	1.46-1.54	1.45-1.56	1.43-1.58	1.40-1.61	1.36-1.67	1.31-1.74	1.24-1.88
4	3'11"-4'1"	3'11"-4'1"	3'11"-4'11"	3'10"-4'2"	3'9"-4'3"	3'8"-4'4"	3'7"-4'6"	3'5"-4'10"
1.2	1.18-1.22	1.18-1.23	1.17-1.24	1.15-1.25	1.13-1.27	1.11-1.31	1.08-1.35	1.03-1.44

for f=60mm

Focused Distance (ft) (m)	f/1.8	f/2	f/2.8	f/4	f/5.6	f/8	f/11	f/16
∞	524'-∞	473'-∞	338'-∞	236'-∞	168'-∞	118'-∞	86'-∞	59'-∞
∞	160-∞	144-∞	103-∞	72-∞	51-∞	36-∞	26-∞	18-∞
50	45'7"-55'4"	45'2"-56'	43'5"-59'	41'1"-64'	38'5"-71'6"	34'11"-88'	31'4"-122'	26'9"-344'
10	9.39-10.7	9.33-10.8	9.09-11.1	8.75-11.7	8.33-12.5	7.77-14.0	7.16-16.4	6.34-23.0
20	19'3"-20'10"	19'2"-20'11"	18'10"-21'4"	18'4"-21'11"	17'9"-22'10"	17'-24'4"	16'1"-26'5"	14'9"-30'10"
5	4.84-5.17	4.82-5.19	4.75-5.27	4.66-5.40	4.53-5.57	4.36-5.86	4.15-6.26	3.85-7.05
10	9'10"-10'3"	9'9"-10'3"	9'8"-10'4"	9'7"-10'6"	9'5"-10'8"	9'2"-11'	8'10"-11'5"	8'5"-12'3"
3	2.94-3.06	2.93-3.07	2.91-3.10	2.87-3.14	2.82-3.20	2.75-3.30	2.66-3.43	2.53-3.66
7	6'11"-7'1"	6'11"-7'1"	6'10"-7'2"	6'9"-7'3"	6'9"-7'4"	6'7"-7'6"	6'5"-7'9"	6'2"-8'1"
2	1.97-2.03	1.97-2.03	1.96-2.05	1.94-2.07	1.91-2.09	1.88-2.14	1.84-2.19	1.77-2.29
5	4'11"-5'1"	4'11"-5'1"	4'11"-5'1"	4'11"-5'2"	4'10"-5'2"	4'9"-5'3"	4'8"-5'4"	4'6"-5'7"
1.5	1.48-1.52	1.48-1.52	1.47-1.53	1.46-1.54	1.45-1.55	1.43-1.58	1.40-1.61	1.36-1.66
4	4'-4'1"	4'-4'1"	3'11"-4'1"	3'11"-4'1"	3'11"-4'2"	3'10"-4'2"	3'9"-4'3"	3'8"-4'4"
1.2	1.19-1.21	1.19-1.21	1.18-1.22	1.18-1.23	1.17-1.24	1.15-1.25	1.13-1.27	1.11-1.31

(in inch system)
(in metric system)

With Close-Up Attachments

These are supplementary lenses that permit focusing the lens closer than its normal 4-foot limit. Three powers are available: **No. 0**, **No. 1** and **No. 2**.

When the lens is set for wideangle and focused nearer than 5 feet (1.5m) the use of a filter or a close-up lens may cause vignetting.

Close-up Lens No.	Lens Setting (ft) (m)	Focused Distance (in.) (cm)	Focal Length f (mm)	Subject Area (in.) (cm)	Depth of Field (in.) (cm)			
					f/5.6	f/8	f/11	f/16
No. 0	∞	60.9" 154.7	7.5	42.8"x30.6" 108.8x77.7	25.1"— ∞ 63.7— ∞	20.5"— ∞ 52.1— ∞	17.0"— ∞ 43.1— ∞	13.5"— ∞ 34.3— ∞
			60	5.5"x3.9" 13.9x9.9	59.4"—62.5" 150.8—158.7	58.8"—63.2" 149.2—160.5	58.0"—64.1" 147.3—162.8	56.8"—65.6" 144.1—166.7
	5' 1.5	33" 83.2	7.5	20.2"x14.4" 50.8x36.3	20.6"—106.9" 52.2—262.0	18"— ∞ 45.6— ∞	15.7"— ∞ 39.7— ∞	13.1"— ∞ 33.2— ∞
			60	2.6"x1.9" 6.6x4.7	32.6"—33.4" 82.3—84.1	32.5"—33.5" 81.9—84.5	32.3"—33.7" 81.5—84.9	32"—34" 80.7—85.8
No. 1	∞	32" 81.2	7.5	20.4"x14.6" 51.9x37.1	19.6"—121.8" 49.9—309.3	17.1"— ∞ 43.5— ∞	14.9"— ∞ 37.8— ∞	12.4"— ∞ 31.6— ∞
			60	2.6"x1.9" 6.6x4.7	31.6"—32.3" 80.3—82.1	31.4"—32.4" 79.5—82.5	31.3"—32.7" 79.5—83.0	31.0"—33.0" 78.7—83.8
	5' 1.5	23.6" 59.5	7.5	13.1"x9.4" 33.1x23.7	17.3"—39.5" 43.9—99.2	15.7"—57.8" 39.7—144.1	14.1"—150.1" 35.7—346.7	12.2"— ∞ 30.9— ∞
			60	1.7"x1.3" 4.3x3.1	23.4"—23.7" 59.2—59.9	23.4"—23.8" 59.0—60.0	23.3"—23.9" 58.8—60.3	23.1"—24" 58.5—60.6
No. 2	∞	18.7" 47.5	7.5	10.3"x7.3" 26.1x18.6	14.7"—27.2" 37.2—69.1	13.5"—34.6" 34.3—87.9	12.4"—54.3" 31.4—138.0	10.9"— ∞ 27.8— ∞
			60	1.3"x0.9" 3.3x2.4	18.6"—18.8" 47.3—47.7	18.6"—18.8" 47.2—47.8	18.6"—18.9" 47.1—47.9	18.4"—18.9" 46.9—48.1
	5' 1.5	16.3" 41.4	7.5	7.9"x5.6" 19.9x14.2	13.75"—20.6" 34.9—52.1	12.9"—23.4" 32.8—59.0	12.1"—28.3" 30.6—71.4	10.9"—45.5" 27.6—113.7
			60	1"x0.8" 2.6x1.9	16.3"—16.4" 41.3—41.6	16.3"—16.4" 41.3—41.6	16.3"—16.4" 41.2—41.7	16.3"—16.5" 41.1—41.8

(in inch system)
(in metric system)

The depth of field is measured from the film plane marked ϕ on the side of the camera. Disc of confusion: 1/80mm dia.

CAMERA CARE

Good camera care is primarily common sense care. Treat your camera as you would treat any valuable precision instrument and it will last a lifetime. Although the Nikon 8X Super Zoom is ruggedly built to stand up for years under normal use, it may be damaged by shock, heat, water or misuse. The following are some basic tips for keeping your camera in top condition.

Storage

Store the camera in a carrying case when not in use to protect it from dust.

Avoid storing the camera in excessively hot, cold or damp places.

Always attach a lens cap to the lens when storing the camera to prevent dust from settling on the lens surface.

Do not leave film in the camera for a long period of time.

Remove exhausted batteries before storing the camera for any length of time.

Camera Interior

Dust the inside of the camera periodically with a soft brush or blower brush designed for photographic equipment.

Remove dust and film chips with a blower brush.

Hold the camera with the film chamber facing down so dust and film chips fall out.

Clean the film aperture plate with a soft brush.

Remove film and stubborn dust particles with a cotton-tipped stick. Never use any metallic object to clean the film aperture plate: its fine polished surface is easily scratched and the scratches will be transferred to the film.

Lens

Keep the lens surface free from fingerprints and dust as far as possible.

Remove dust with a blower brush or lens tissue. Never use cloth or ordinary tissue.

Do not use water on the lens' glass surfaces. If smudges or fingerprints persist, use lens tissue moistened sparingly with alcohol or lens cleaner. Remember that even approved cleaner can cause damage if it seeps into the lens mount.

Automatic Exposure Meter

Check your camera's exposure meter periodically to make sure that it will operate when you need it. The batteries that power the CdS cells normally last for a year or more, but when they grow weak the meter will tend to overexpose.

Keep the Camera Away From Water

Avoid excessive moisture. When using the camera near water, guard against splashes, especially salt water spray.

Never Oil Any Part of the Camera

Lubrication should be left to an authorized serviceman.

FEATURES/SPECIFICATIONS

Film: Super-8 cartridge; film speed ASA 10 - 250 (daylight) and 16 - 400 (tungsten light).

Lens: Cine-Nikkor Zoom 7.5-60mm f/1.8; power zoom control with manual override; focusing from 4 feet (1.2m) to infinity.

Power Source: 4 penlight batteries.

Film Speeds: 12, 18, 24 fps and single-frame.

Exposure Meter: Fully automatic "instant response" exposure control with manual override for special effects; compensates automatically for filming speeds; powered by two 1.3V-mercury batteries.

Viewfinder: Reflex-type with split-image rangefinder; 0.5 to 4.0X magnification with eyesight adjustment from -5 to +3 diopters; meter needle visible in the viewfinder constantly indicates taking aperture and warns of over- and underexposure, also doubles as battery checker; with rubber eyecup.

- **Footage Counter:** Resets itself to zero for reloading.
- **Pistol Grip:** Fold-away grip houses four penlight batteries, provides a firm comfortable gripping surface.
- **Trigger:** Dual-purpose trigger activates the exposure meter and starts the camera.
- **Tripod Socket:** 1/4" threaded.
- **Remote Control Socket:** Provided.
- **Single-Frame Socket:** Provided.
- **Built-in Type A Filter:** Swings out of the way automatically when Super-8 movie light is attached to the camera; can also be displaced manually.
- **Dimensions:** 60 x 140 x 250mm (2.4 x 5.5 x 9.8 in.).
- **Weight:** 1.45kg (3.1 lb).



NIPPON KOGAKU K.K.