

SOUND
SOUND
SOUND
SOUND
SOUND

Kodak **EKTASOUND 140** movie camera



KODAK EKTASOUND 140 Movie Camera

Welcome to the world of sound movies that *you* make! With your new camera and super 8 sound cartridges, you add the dimension of sound to your movies. Now your movies take on a new realism, the new excitement of sound, and a new and colorful depth as you record scenes as they actually happen. You can make sound movies in almost *any* kind of lighting without movie lights or separate recording equipment because your camera does it all! It *simultaneously* records both the sound and the scene on the super 8 film within the camera. Whether at a ball game or a concert, at a birthday party or a graduation, you capture the sights and sounds of the moment as they happen, to share later with others. The camera's zoom lens permits you to frame your subjects for interesting close-ups or group shots.

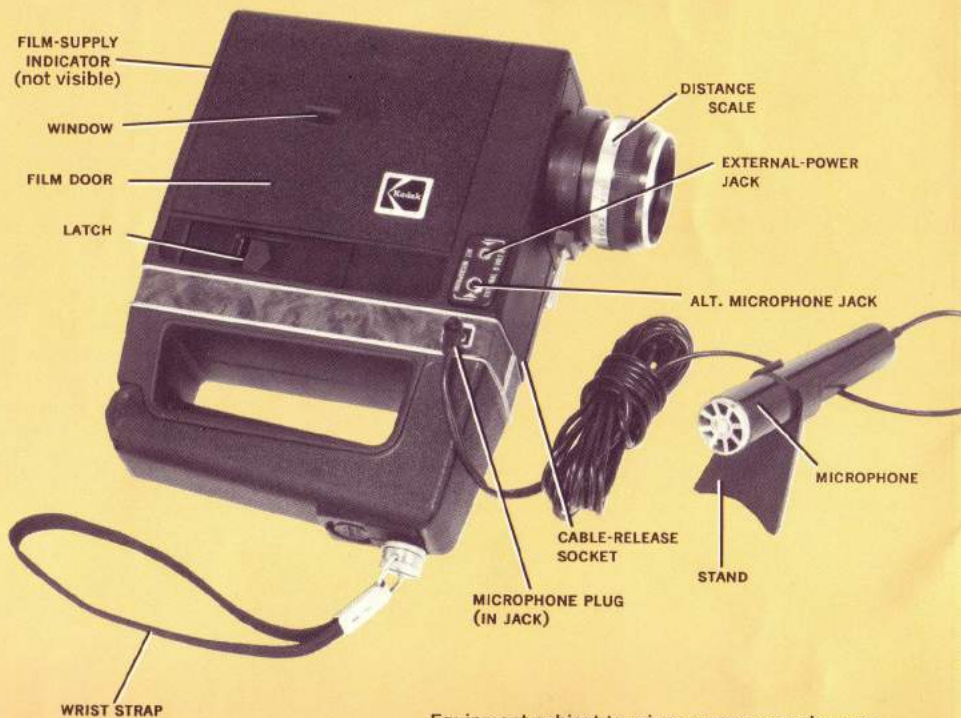
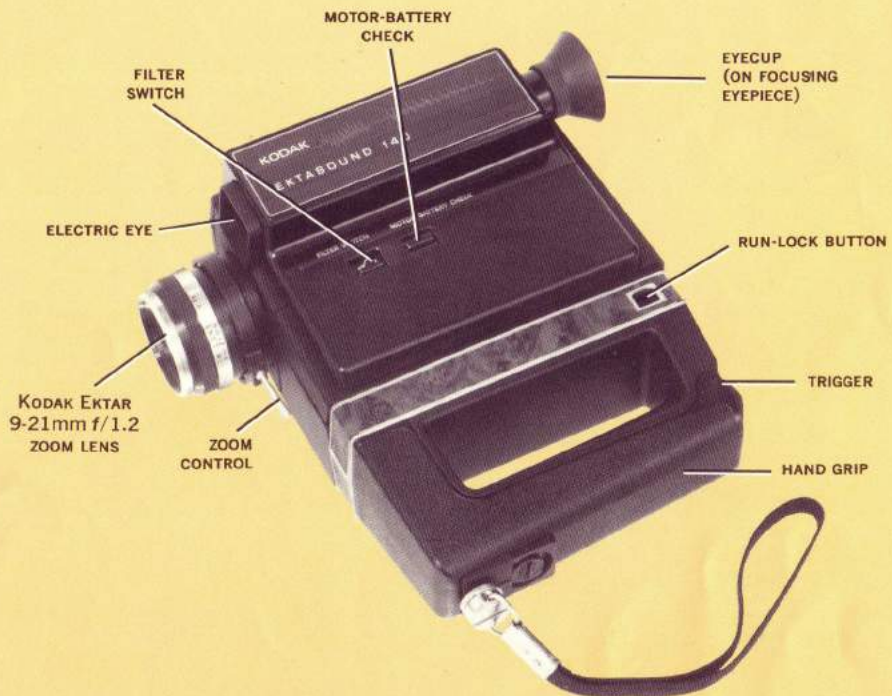
Just as the camera's built-in electric exposure control automatically adjusts the lens for the amount of light existing in a scene, the camera's built-in recording mechanism *automatically* adjusts for the sound level. Merely plug in the microphone for easy sound movies.

As with any fine piece of equipment, it is important to become familiar with your camera and its operation by reading this manual *before* you use your camera. When you thoroughly understand the operation of your camera, read "sound-movie tips" on page 15 for ideas which will increase your enjoyment of sound movies.

After your sound movies are processed, project them on a super 8 magnetic-sound projector. Kodak super 8 sound projectors are described on page 17.

If you feel that you need help or advice on using your camera, please write to our staff of photographic experts at Eastman Kodak Company, Photo Information, Department 841, Rochester, New York 14650. (Should your camera ever require service, the warranty and instructions for obtaining service are printed at the back of this manual. There is additional helpful information in the Service Brochure packed with your camera.)

Fold out this page for reference as you read the manual.



Equipment subject to minor appearance changes.

sound movies with your camera are easy...follow these basic steps



(Only brief instructions are given here. Read on for important details.)

- 1** After installing six AA-size batteries and 9-volt battery (page 2), open FILM DOOR and insert cartridge of super 8 sound film (page 6).



- 2** Fully insert MICROPHONE PLUG into MICROPHONE JACK (page 11). Place the microphone near your subject to avoid picking up unwanted sounds (at least 3 feet from camera and at least 1 foot from subject).



- 3** Set FILTER SWITCH at “” for regular light bulbs, or at “” for daylight and most other lighting conditions (page 4).



- 4** Rotate lens barrel to set camera-to-subject distance (page 8); move ZOOM CONTROL to frame your subject in viewfinder (page 9).



table of contents

introduction	
serial number	1
wrist strap	2
eyecup	2
batteries	2
installing batteries	2
checking batteries	2
Kodak super 8 movie films	4
filter setting	4
loading the camera	6
holding the camera	8
viewfinder focus	8
focusing the camera lens	8
range of sharpness	8
zoom lens	9
trigger	9
automatic exposure control	9
microphone	11
sound indicator	11
cable-release socket	12
daylight movies	12
existing-light movies	13
indoor movies with movie lights	13
unloading the camera	13
film processing	14
camera care	14
cleaning lenses	14
cleaning film aperture	14
sound-recording mechanism	14
tips	15
sound movies	15
scene length	15
panning	16
indoor movies	16
batteries	16
cold-weather operation	16
technical details	16
auxiliary equipment	17
service facilities	OBC
warranty	OBC

serial number

A serial number is stamped on the base of the **HAND GRIP** near the **TRIGGER**. Make a note of this number for your records.

5 Slowly push in the **TRIGGER**. The first movement of the trigger energizes the automatic exposure control and the capstan motor—you'll hear a slight whirring sound. Pressing the trigger farther starts the film-drive motor. You may notice a variation in the sound of this motor—this is normal. **For the most satisfactory movies, hold your camera still, except to follow moving subjects.**



wrist strap

A WRIST STRAP, provided for your convenience in carrying the camera, is supplied with your camera. Attach the strap to the tripod socket on the HAND GRIP after you install the batteries.

eyecup

A rubber EYECUP, which reduces extraneous light and helps position your eye at the center of the viewfinder, is supplied with your camera. To use the eyecup, snap it onto the viewfinder.

batteries

Your camera uses six AA-size, 1.5-volt *alkaline* batteries to power the drive motors and automatic exposure control, and one 9-volt *alkaline* battery (like those used in transistor radios) to power the sound amplifier. (Don't use zinc-carbon batteries except in an emergency, and then only when the temperature is above 55 F.) The batteries (supplied with outfits) are housed in the hand grip of the camera. At normal temperatures, the AA-size batteries will drive approximately 15 sound cartridges or up to 25 silent cartridges through the camera. (If the camera cools to temperatures below 32 F, allow the camera to warm up before you use it for sound movies, or insert a silent cartridge into the camera. For extended cold-weather operation, you can use an auxiliary battery pack to "boost" the motor batteries—see page 16. When you use this auxiliary battery pack, camera batteries *must* be in the camera to provide correct exposure.) Check the batteries periodically (see "checking batteries") and replace them when necessary. *Be sure to use alkaline batteries when you install new batteries.*

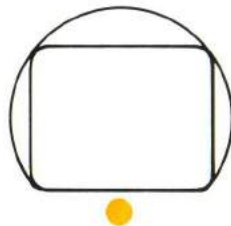
installing batteries

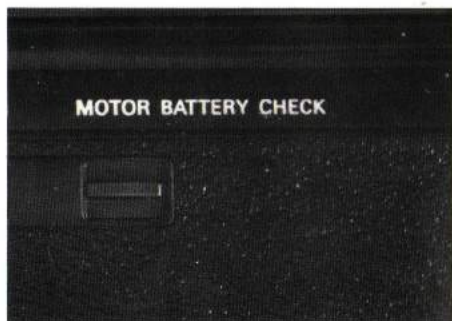
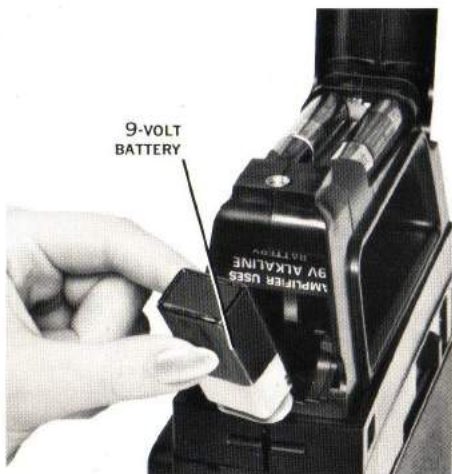
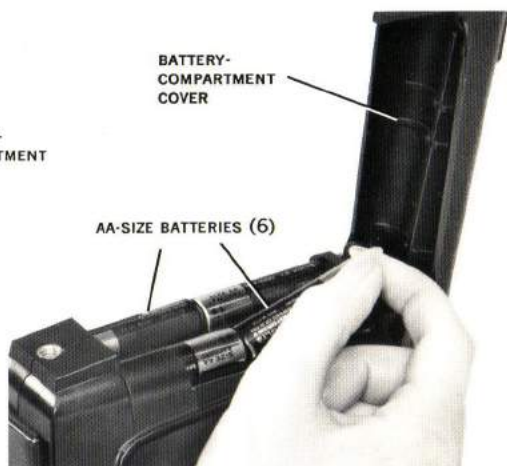
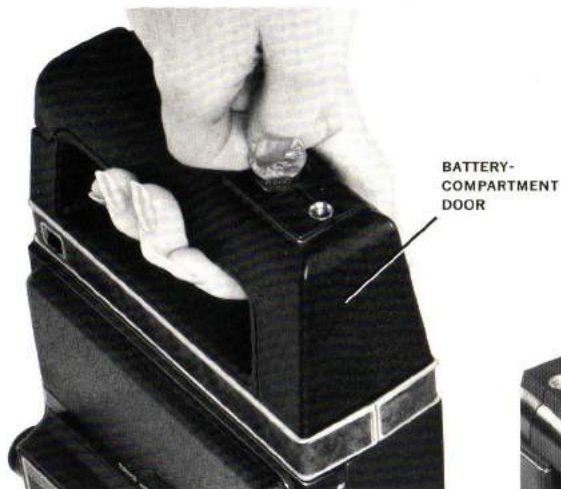
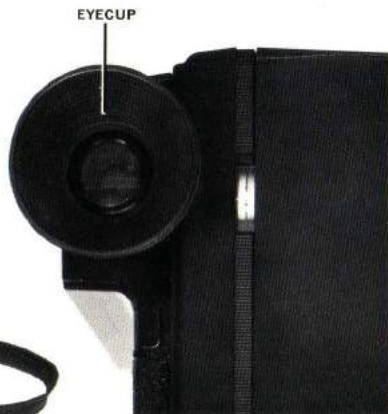
To install the batteries, hold the camera with the hand grip up. (Remove the wrist strap.) Turn the coin-slotted screw counterclockwise and raise the BATTERY-COMPARTMENT COVER as shown to expose the battery compartment. Install the AA-SIZE BATTERIES with the "+" ends facing as shown on the label in the battery compartment. (If you install the batteries incorrectly, the motor will run slowly, backward, or not at all.)

Snap the connector onto the 9-VOLT BATTERY (it fits only one way); then push the battery into the opening just beneath the tripod socket. Lower the cover to its normal position and rotate the coin-slotted screw clockwise to secure the cover.

checking batteries

The built-in battery checker permits you to check the AA-size batteries periodically. Look through the viewfinder as you press the button labeled MOTOR-BATTERY CHECK. **IMPORTANT: Don't hold the battery-check button longer than 5 seconds.** If the AA-size batteries are good, you'll see a blue light just below the viewfinder rectangle. (When the microphone is plugged into the camera, this light will flicker red as you make sound movies, indicating that the 9-volt battery is good. See page 11.)





Kodak super 8 movie films

Your camera uses sound or silent cartridges of movie film with speeds of ASA 40 or ASA 160. (A notch in the cartridge *automatically* adjusts the camera for the appropriate speed.) For daylight illumination, these speeds are reduced to ASA 25 or ASA 100 by a filter built into your camera. For regular light bulbs (tungsten illumination), the built-in filter can be moved out of position manually, or automatically by inserting a movie light into the slot on top of the camera.

Select a film from the table for the conditions under which you will be making movies. (The table gives examples of different light sources.)

If you have a sound cartridge in the camera and wish to add sound later (with a projector capable of recording sound), simply unplug the microphone (and the *optional* extension cord) from the camera. If you use a cartridge of silent movie film, the recording mechanism in your camera will not be activated. If you decide to add sound later, a sound stripe such as KODAK SONOTRACK Coating can be added to your silent film. However, this will cost more than if you use a sound cartridge initially.

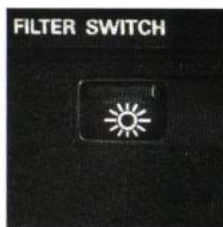
Don't carry unwrapped, unexposed film cartridges in your pocket or purse, because dust may accumulate on the film and appear as black specks on your movies.

Before making any especially important movies—on a trip or at some special event—expose a cartridge of film and check the results. This will give you practice in camera operation and will provide a check on your equipment. If you have any questions, your photo dealer will be glad to help.

filter setting




Regular light bulbs, flames, floodlights, movie lights, other tungsten-light sources



Daylight, fluorescent light, carbon-arc spotlights

If you're not sure of the type of light, set the switch to "☀." If more than one kind of light exists in a scene, set the filter switch for the predominant light source. In some situations the use of the camera filter is a matter of personal taste. With the filter switch at "☀," movies will appear "warmer," or more red-yellow, than those made without the filter. If in doubt, set the filter switch to "☀."

IMPORTANT: Store your camera and film away from heat and direct sunlight—never in the glove compartment, on the rear-window shelf, or in any other "hot spot" in a car.

	KODAK Films	Film Speed	Filter Switch	Light Sources
color movies	EKTACHROME 160 Sound Movie Film (Type A)*	ASA 100 (with built-in filter)		Daylight, fluorescent, carbon-arc spotlight, or other
	EKTACHROME 160 Movie Film (Type A)	ASA 160 (no filter)		Existing tungsten light, fireworks, flames, floodlight, bounce movie light (3400 K)
	KODACHROME II Sound Movie Film (Type A)*	ASA 25 (with built-in filter)		Daylight
	KODACHROME II Movie Film (Type A)	ASA 40 (no filter)		Movie light (3400 K)
	EKTACHROME 40 Movie Film (Type A)†	ASA 25 (with built-in filter)		Daylight
		ASA 40 (no filter)		Movie light (3400 K)
special-purpose black-and-white movies	TRI-X Reversal Film 7278‡	ASA 200 (no filter‡)		Daylight
		ASA 160 (no filter)		Existing tungsten light, bounce movie light (3400 K)
	PLUS-X Reversal Film 7276†	ASA 25 (with built-in filter)		Daylight
		ASA 40 (no filter)		Movie light (3400 K)

*Like other magnetic sound-recording materials, this film should be kept away from strong magnetic fields.

†Only silent cartridges available.

‡Cartridge automatically moves filter out of light path; exposure is at ASA 160.

loading the camera

1 Slide the film-door LATCH as far as it will go toward the front of the camera. The latch has two functions—the first movement releases the film door and the second movement lifts the cartridge slightly for easy removal. Open the door to the position shown; **don't force it beyond this position.**

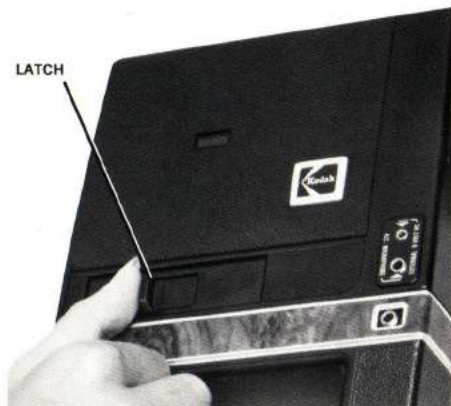
2 Slip a cartridge of super 8 film (sound or silent) into the camera, tilting the cartridge as shown. Push on the rear of the cartridge until it snaps into place. With sound cartridges, the sound-recording mechanism is automatically activated.

IMPORTANT: Don't move the film in either the picture aperture or sound-recording opening or you may cause the cartridge to jam, making it unusable. Don't operate the camera when the door is open and a cartridge is in place.

3 Close the film door and press on its lower rear corner to secure the door. (The camera will not operate properly if the door is not closed.) The film-type designation will appear in the WINDOW in the film door.

4 The FILM-SUPPLY INDICATOR is marked like a gas gauge ("1- $\frac{3}{4}$ - $\frac{1}{2}$ - $\frac{1}{4}$ -0"). As you make movies, the indicator moves to show you how much unexposed film remains. For example, when the indicator is at $\frac{3}{4}$, you have exposed approximately 12 $\frac{1}{2}$ feet of film and have approximately 37 $\frac{1}{2}$ feet of unexposed film remaining.

NOTE: We don't recommend removing a cartridge of film before it is completely exposed because you will fog approximately 6 inches of film; also, the film-supply indicator will return to "1" (see "unloading the camera," page 13).



SOUND CARTRIDGE

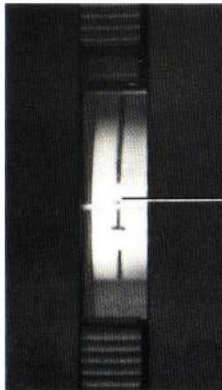


SILENT CARTRIDGE





WINDOW



FILM-SUPPLY
INDICATOR

holding the camera

Place either hand on the **HAND GRIP** so that your thumb falls on the **TRIGGER**. Cup your other hand over the top of the camera, being careful not to cover the lens or the electric eye or to move the filter switch. Bring the camera up to your eye and hold the camera in a comfortable position where you can see through the viewfinder clearly. The scene you see in the finder is about the same as that which will be projected on the screen after the film is processed.

The sports-type viewfinder has a circular transparent area surrounding the rectangular frame. In this transparent area, you can see action occurring *outside the scene being photographed*. This permits you to anticipate movement in to the scene.

At close distances, the viewfinder and taking lenses don't "see" quite the same view because they are separated. This effect, called "parallax," is especially noticeable in close-ups. To correct this when you are making movies of subjects at 8 feet or closer, position your subject slightly below and to the right of center in the finder to avoid cutting off part of your subject in the film.

viewfinder focus

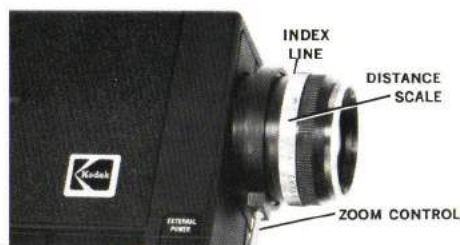
By rotating the viewfinder focus eyepiece, you can focus the finder for your

individual eye characteristics. Look through the viewfinder and rotate the eyepiece until the image is sharp. (This will focus only the viewfinder image.)

focusing the camera lens

For sharp movies, you will need to set (focus) the camera lens for the camera-to-subject distance.

scale focusing—Estimate or measure the camera-to-subject distance; then rotate the lens barrel until the appropriate footage on the **DISTANCE SCALE** is opposite the **INDEX LINE**.



range of sharpness

After you focus the camera, the subject will appear sharp on the film. An area both in front of and behind the subject will also be in acceptable focus. This range of sharpness depends on the lens opening (set automatically), the position of the zoom lens, and the subject distance. For example, a bright-sun condition (small lens opening) and/or zoom setting at wide angle provides an in-

Scale Setting	Bright Day (Sun)		Dull Day (Cloudy)		Inside Scenes (Max. Lens Opening)		
	Wide-Angle	Telephoto	Wide-Angle	Telephoto	Wide-Angle	Telephoto	
ASA 40 Films	25	2'6" to ∞	9'6" to ∞	3'2" to ∞	11'1" to ∞	8'7" to ∞	18'6" to 39'
	12	2'4" to ∞	6'9" to 55'	2'9" to ∞	7'6" to 30'	6'3" to ∞	10'4" to 14'6"
	8	2'1" to ∞	5'3" to 16'8"	2'6" to ∞	5'8" to 13'6"	5' to 20'	7'2" to 9'
	6	1'11" to ∞	4'4" to 9'10"	2'3" to ∞	4'8" to 8'8"	4' to 11'	5'6" to 6'7"
ASA 160 Films	25	1'4" to ∞	5'11" to ∞	2'6" to ∞	9'6" to ∞	8'7" to ∞	18'6" to 39'
	12	1'3" to ∞	4'9" to ∞	2'4" to ∞	6'9" to 55'	6'3" to ∞	10'4" to 14'6"
	8	1'3" to ∞	3'11" to ∞	2'1" to ∞	5'3" to 16'8"	5' to 20'	7'2" to 9'
	6	1'2" to ∞	3'5" to 25'	1'11" to ∞	4'4" to 9'10"	4' to 11'	5'6" to 6'7"

creased range of sharpness. Check the table on page 8 for range-of-sharpness.

zoom lens

The 9mm to 21mm, *f*/1.2 KODAK EKTAR Lens in your camera has a variable focal length which covers the individual fields of wide-angle and telephoto lenses. It also permits zooming so that the size of your subjects will be larger or smaller on the screen when you project your movies.

For sharp, distinct movies, you must focus your camera as previously described. Using the zoom feature is not a substitute for proper focusing—it requires even greater focusing care, particularly when you use the telephoto position.

As you hold the camera to your eye, move the ZOOM CONTROL to your left to move the lens to the telephoto position, or to the right to move the lens to the wide-angle position. (You can frame your subject in the viewfinder before you start to make movies.)

lens positions—The wide-angle position covers wide-area situations, such as groups of people and outdoor scenes. The telephoto position provides larger images of subjects not close to the camera, such as children at play, birds, animals, and spectator sports. You must hold the camera extra steady, focus accurately, and center the subject in the viewfinder when using the telephoto position.



Wide-angle 9mm



Telephoto 21mm

trigger

The trigger is located at the rear of the hand grip. Holding the camera as de-

scribed earlier, your thumb will fall naturally on the trigger. While making movies, be sure to push the trigger in completely. You can lock the trigger to avoid accidental running of the camera, wasting film and battery power. Push the RUN-LOCK BUTTON to LOCK.

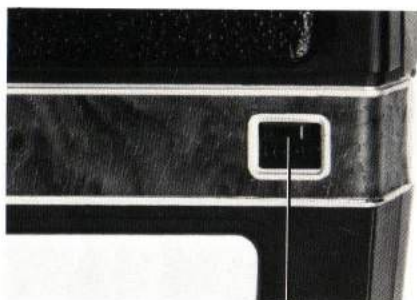
To run the camera continuously, press the trigger in as far as possible; then slide the run-lock button to LOCK. To stop the camera, slide the button to the RUN position. If you want to be in the movie, place the camera on a tripod and set the camera to run continuously.

automatic exposure control

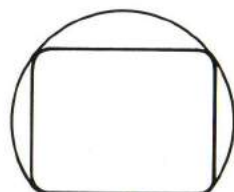
To help you get well-exposed movies, the lens opening is automatically controlled by the amount of light reflected by the scene to the ELECTRIC EYE. Therefore, don't obstruct the electric eye during movie-making by covering it with your fingers or any other object, and don't point the camera directly toward the sun or other bright light sources.

As you look through the viewfinder, you will see a small round spot located below the viewfinder rectangle; this is the LOW-LIGHT SIGNAL. When you start to make movies, partially depress the trigger, pausing for a moment to allow the automatic exposure control to adjust for the lighting conditions. (The first movement of the trigger energizes the exposure control and the capstan motor—you'll hear a slight whirring sound—and further depression starts the film-drive motor. You may notice a variation in the sounds of this motor—this is normal.) Under low-light conditions, the spot will turn blue. (It may also flicker red—see "sound indicator," page 11.)

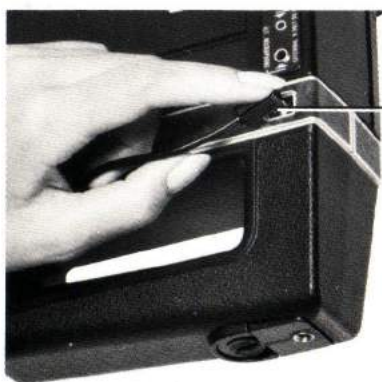
NOTE: The blue light may come on momentarily as the exposure control adjusts for the lighting conditions. The light will also come on when the motor-battery check button is pressed and the AA-size batteries are good.



RUN-LOCK
BUTTON



LOW-LIGHT
SIGNAL



MICROPHONE
PLUG



STAND

microphone

For good sound movies, microphone placement is extremely important! If you stop and listen carefully, you will hear sounds that your senses normally ignore. For example, when you are reading, you may not hear the television set in the next room or the airplane passing overhead. *But your camera will “hear” and record these sounds.* So, place the microphone near your subject for the best sound pickup, but at least 3 feet from the camera to minimize pickup of camera sounds. *Remember, the loudest sound (whether background noise or someone speaking loudly near the microphone) will control the recording level.*

When you make sound movies in small rooms with sound-reflecting walls, sounds of the camera are sometimes recorded at a noticeable level. To reduce the chance of recording sounds of the camera, an alternate microphone jack (labeled **ALT. MICROPHONE**) is located just above the **MICROPHONE JACK**. When you plug the microphone into this alternate jack, sound pickup is reduced (attenuated by 10db). Use this alternate jack whenever the microphone is located near the camera or, in general, when your subject is closer than 8 feet and its sounds are strongest in a scene. Background noises can be minimized by using the alternate microphone jack.

NOTE: Use only one microphone at a time. With a microphone plugged into the microphone jack, the alternate microphone jack is bypassed.

Plug the microphone into the microphone jack or the alternate microphone jack. With a sound cartridge in the camera and the microphone plugged in, you are ready to make sound movies. The automatic gain control (AGC) will adjust the recording level *automatically*. (To use a microphone other than the one

supplied, select one with an impedance from 200 to 600 ohms.)

The supplied microphone is sensitive to sounds from all directions (omni-directional) and to handling noises. So locate the microphone near your subject *and leave it there while filming the scene.* (Perhaps you can conceal the microphone near your subject. To extend the range of the microphone, use the *optional* KODAK Microphone Extension Cord, 15-foot. See page 17.) Don't rub or handle the microphone roughly during recording. If you place the camera on a tripod, don't place the microphone on the same support. The **STAND** supplied with the microphone permits you to place it on a table or other flat surface.

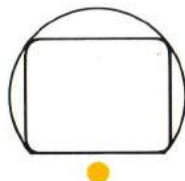
If you wish to narrate a scene while filming, lay the microphone down next to you, or place it in your pocket. The recording level will be adjusted by your voice, thus minimizing the sounds of the camera on the sound track.

Experiment with microphone position and with the two microphone jacks. Learning how these affect your approach to sound movies will provide more enjoyment from your KODAK EKTASOUND Movie Camera.

NOTE: If the camera stops running while the trigger is pressed, check batteries.

sound indicator

A **SOUND INDICATOR** is built into your camera. This indicator flickers *red* while making movies if these four conditions occur: **(1)** a sound cartridge is in the camera, **(2)** the microphone is plugged *correctly* into the camera, **(3)** the 9-volt alkaline battery is good, and **(4)** there are sounds in the scene you are filming. If the indicator



SOUND INDICATOR
(LOW-LIGHT SIGNAL)

does not appear while making sound movies, check these items. (This light may also appear red, blue, or purple if you are making movies in low-light levels.)

NOTE: The indicator may flicker momentarily even if the microphone is not plugged into the camera.

cable-release socket

A cable-release socket, in the front of the camera, enables you to run the cam-

era remotely. To use this feature, mount the camera on a tripod and screw a cable release into the socket.

daylight movies

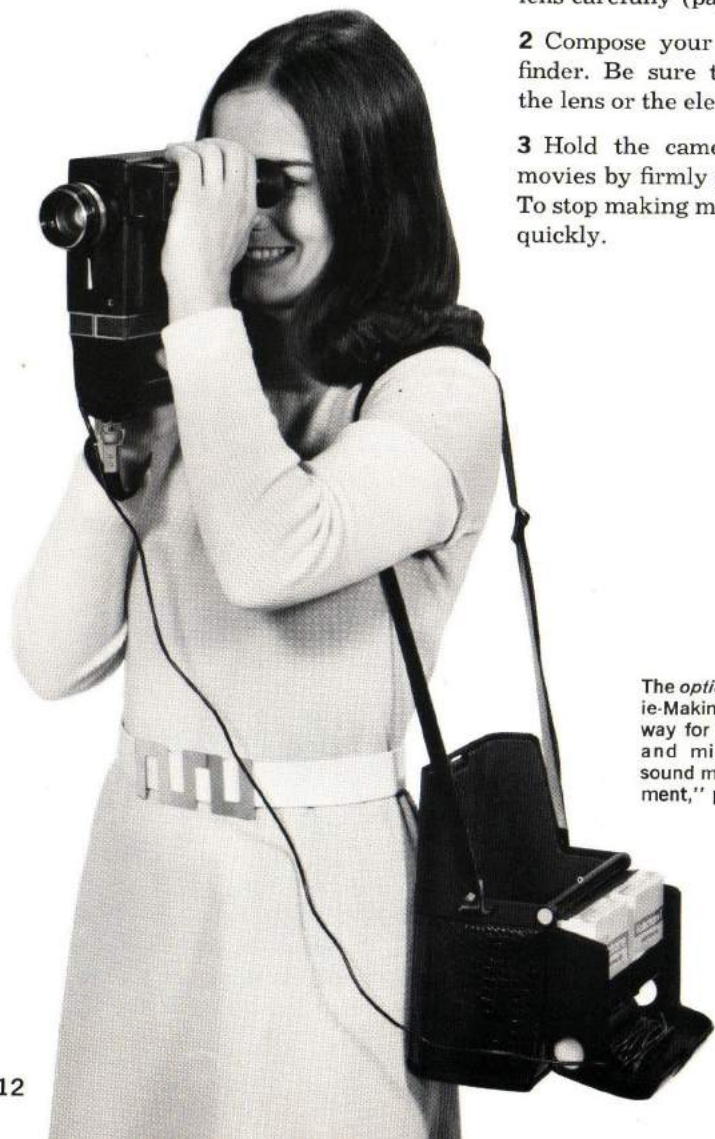
For bright color movies, your subject should be either entirely in bright or hazy sunlight with the sun approximately behind you, or entirely in the shade (not partially in each). Set the filter switch to “☀”

1 For sharp movies, focus the camera lens carefully (page 8).

2 Compose your picture in the viewfinder. Be sure that nothing obstructs the lens or the electric eye.

3 Hold the camera steady and make movies by firmly pushing in the trigger. To stop making movies, release pressure quickly.

The *optional* KODAK EKTASOUND Movie-Making Case provides an easy way for you to handle the camera and microphone while making sound movies. See “auxiliary equipment,” page 17.



existing-light movies

Low-level existing light is the light found in homes, schools, churches, and stage shows; outdoors at night; and in lighted street scenes or scenes including illuminated buildings after dark. This includes daylight indoors and artificial light which exists in a scene.

Your camera, loaded with KODAK EKTACHROME 160 Movie Film (Type A), is designed for making movies with existing light. You can make movies indoors with the light existing in a typical living room, at stage or ice shows, or in any similarly lighted surroundings. The automatic exposure control automatically adjusts the lens opening.

For movies of subjects illuminated by regular light bulbs (tungsten light), set the filter switch to the “☉” position. (For other types of lighting, such as fluorescent, carbon-arc spotlights, or daylight indoors, the switch should be set to the “☼” position. When there is more than one type of light and you aren’t sure which type is strongest, set the switch for daylight, “☼.”)

When the low-light signal appears, the lens opening is at its maximum. You can continue to make movies with the signal on; your movies will be somewhat darker than normal, but acceptable in most instances. (If your subject is spotlighted against a dark background, the camera’s automatic exposure control will adjust for the dark background and your subject may appear light in your movie.)

When making movies with existing light, avoid any unusually bright light sources facing toward the camera. Otherwise, the camera’s automatic exposure control will adjust for the bright light and your subject may appear dark in your movie.

Be certain to set the filter switch to “☼” before making daylight movies.

indoor movies with movie lights

You can also use a movie light with your camera if you desire. See your photo dealer for a suitable movie light.

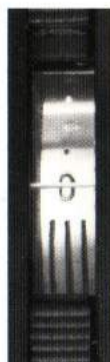
CAUTION: For the safety and comfort of your subjects, read the manufacturer’s instructions carefully before using any movie light.

unloading the camera

When the film-supply indicator approaches the “0” position, you are nearing the end of the film. A pointer will appear at the top right of the viewfinder rectangle when there is approximately three feet of film remaining to be exposed. Listen very carefully as you continue to operate the camera until you hear the sudden “free-running” sound of the camera mechanism. The pointer should be at the right center of the viewfinder and the film-supply indicator will be at “0,” indicating the cartridge is fully exposed. Open the film door and remove the cartridge. (Slide the latch all the way forward to raise the cartridge for easy removal.) The word “EXPOSED” appears on the film in the picture aperture of a fully exposed cartridge.

Never open the cartridge or manually advance film into the cartridge, or you may cause the cartridge to jam.

NOTE: We feel that it is better if you don’t remove partially exposed cartridges because some “light-fogging” of



the film will result in the picture aperture and sound opening of the cartridge. In addition, when a *partially exposed* cartridge is placed in the camera, the film-supply indicator will be at "1," indicating a "full" cartridge.

However, if you choose to remove the film cartridge before it is fully exposed, be sure to run the camera for 1 or 2 seconds to advance your scenes beyond the sound opening in the cartridge to avoid spoiling any scenes. Note the setting of the film-supply indicator before you remove the cartridge. Mark this setting on the cartridge so that it will appear in the window. When you re-insert this cartridge into the camera, subtract the marked setting from "1" to determine the setting at which the cartridge will be fully exposed. For example, if the marked setting is " $\frac{3}{4}$," make movies until the indicator is at " $\frac{1}{4}$." (Listen very carefully for the sudden "free-running" sound of the camera mechanism when the indicator approaches " $\frac{1}{4}$.") This gives you a fully exposed film cartridge, but the end-of-film pointer will not appear in the finder.

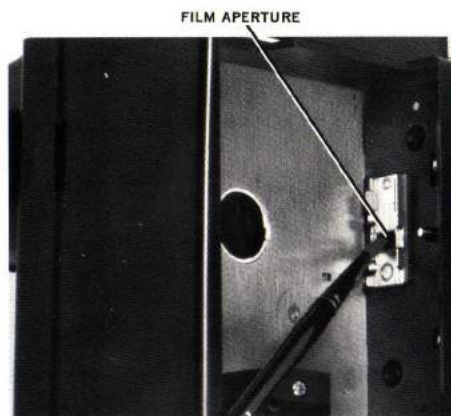
film processing

You can have your film processed as follows: (1) Take the exposed super 8 film cartridge to your dealer, who will arrange for processing (specify the processor, if you desire); or (2) You can mail your exposed cartridge of Kodak color movie film to a Kodak laboratory (Kodak doesn't process black-and-white film) if you purchase the appropriate KODAK Mailer from your photo dealer and then send the exposed film cartridge directly to a Kodak laboratory according to the instructions on the mailer. The Kodak laboratory will mail your processed film directly to any address you specify.

camera care

cleaning lenses—The picture-taking lens and the viewfinder lenses are built into the camera and cannot be removed for cleaning. Clean the protective glass in front of the front viewfinder lens and the picture-taking lens by first blowing away any dust or grit from the surfaces; then gently wipe the surfaces with a clean, soft, lintless cloth. If necessary, use KODAK Lens Cleaner on the cloth. Clean the rear viewfinder lens by first blowing away any dust from the surface; then gently wipe the surface with a clean, soft, lintless cloth.

cleaning film aperture—Clean the FILM APERTURE in the camera frequently to prevent buildup of dust at the aperture. Open the film-compartment door; then, while holding the camera up so that dust will not fall onto the rear of the lens, use a small, soft brush to clean the aperture. Remove any dust in the film compartment.



sound-recording mechanism—As the film passes the sound-recording mechanism, it "wipes" away any dust or dirt. Therefore, you don't need to clean the sound-recording head in your camera.

tips

1. sound movies—With the added dimension of sound, there are many new techniques for you to use. If you already own or have used a tape recorder, you probably are familiar with techniques for good sound recordings. Many of these same techniques can help you make good sound movies.

If you notice that the sound indicator light is on constantly (not flickering) while you are making sound movies, the background noise level may be too high. Turn off any radio or television set (or other appliance) operating in the background. Then position the microphone equidistant from your subjects so that one subject doesn't predominate over the others (especially important with musical instruments). This enables the automatic gain control (AGC) to adjust the recording level for your subjects.

For the best continuity in your movies, keep the camera centered on your main subject, even though another person may be speaking. This will avoid quick, confusing, and distracting scene changes.

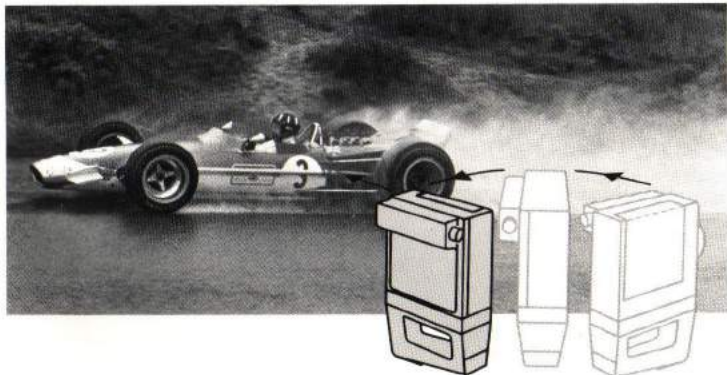
The area where you record can influence the sound quality of your movies. Rooms with carpeting and heavy draperies help deaden echoes, thereby improving the quality of recorded sound. Outdoors, be sure that you place the microphone near your prime subject so that wind, traffic, or other background noises will be reduced.

Handling of the microphone during

recording will produce excessive, distracting noises on the sound track. Once you determine a position for the microphone in a specific scene, leave it there until you change scenes. Use an extension cord (available from your photo dealer) for the microphone if the camera position will be limited by the length of the microphone cord.

The sound recording is placed on the film 18 frames ahead of the picture. To avoid sounds from one scene being played with an adjacent unrelated scene, run the camera about 2 seconds *before and after* your subjects' actions. This compensates for the 1- to 2-second delay of sound at the beginning of each scene and makes editing your sound movies much easier.

2. scene length—With sound movies, the scene length will probably be controlled by your subject's dialogue or other significant sounds. With silent movies, about 5 to 10 seconds of filming time (approximately 1½ to 2½ feet of film) is appropriate for movie scenes of average action. Give your movies an interesting change of pace and make them more fun to see by making some scenes longer than others. So decide how long you want the scene to be on the screen, and expose the film for that length of time. Some scenes need to be long, some medium in length, and some short. For example, an overall shot of a beach to establish location may last only a few seconds, but the more interesting close-ups may deserve a much longer time.



Follow a moving subject by keeping it centered in the viewfinder. The subject will be sharp, the background blurred. (See "panning," page 16.)

3. panning—“Panning” is a term that means moving the camera while you’re filming to cover an extended view. Your movies will be more enjoyable if you keep panning to a minimum. When panning is excessive or too fast, subjects and backgrounds are blurred and seem to race by on the screen.

By holding your camera still for most of the time, you can make movies with the “professional” touch—ones that are easy on the eyes, and more fun to see. “Pan” only in rare instances. Whenever possible, try to photograph a wide view by making a series of shots, moving the camera between takes and overlapping each scene slightly. However, in some instances, a panning shot may be desirable. The secret of a good pan is to move the camera slowly and smoothly. Stand still, hold the camera steady on the first part of the scene for a moment, pivot from the waist, and pan *slowly*. Never pan on nearby objects.

4. indoor movies—When you make movies indoors, seat your subjects midway between and slightly behind two lamps of approximately the same wattage; and the results will be quite pleasing. Scenes filmed in dining rooms with overhead lighting and including a white or light-colored tablecloth will also make attractive indoor movies. It’s also a good idea to have all the room lights on while making movies.

5. batteries—If the camera stops running, clean the AA-size battery and camera contacts with a rough cloth. Check the batteries and replace them if necessary. To prevent interruption during movie-making, use live batteries and keep battery and camera contacts clean.

If the film-supply indicator does not advance when you have a film cartridge in the camera and the camera motor is running, check to see if the batteries are correctly installed, *with the “+” and “-” ends of the batteries matching the “+” and “-” on the battery compart-*

ment. Incorrect insertion of batteries will cause the motor to run slowly, backward, or not at all. *If your processed film is “black” (unexposed), check to see if the batteries are inserted correctly.*

When you go on a trip, always take along a spare set of fresh batteries. Replace batteries after a year of use (sooner if a check indicates the need). Batteries will run fewer cartridges through the camera under cold temperatures.

6. cold-weather operation—For sound movies outdoors (temperatures below 32 F), an *optional* 9-volt external power supply, which plugs into the camera’s EXTERNAL-POWER JACK, can be ordered from your photo dealer. This power supply “boosts” the motor batteries for extended cold-weather operation. (For correct exposure, batteries must be in the camera.) To protect the camera from cooling to temperatures below 32 F, place the camera inside your coat when you stop for scene changes.

technical details

film—Uses super 8 sound or silent cartridges.

batteries—Six AA-size *alkaline* batteries to power drive motors and automatic exposure control; one 9-volt *alkaline* battery (transistor-radio type) to power sound amplifier.

lens—KODAK EKTAR 9-21mm, *f/1.2*, 10-element; built-in Type A filter; aperture range *f/1.2* to effective *f/36*.

shutter—230° opening with exposure of 1/28 second at 18 frames per second with sound cartridges (approximately 20 frames per second with silent cartridges); cable-release socket.

exposure control—Automatic; CdS cell; low-light signal in viewfinder.

viewfinder—Optical with large aperture; blue light for low-light levels and motor-battery check; flickering red light for sound indicator; pointer for end-of-film indicator.

sound system—Built-in amplifier; 18 frames separation (picture to sound); automatic gain control (AGC) for recording; input impedance—200 to 600 ohms; maximum input voltage (other than microphone)—3 mv from 300 ohm impedance source.

construction—Metal and plastic with built-in hand grip; tripod socket; cable-release socket; microphone jacks; external-power jack (for drive motors); drum-type film-supply indicator.

auxiliary equipment . . .

. . . see your dealer

Kodak Ektasound movie-making case—

Provides an easy way to carry the camera and microphone while making sound movies. A removable tube holds the microphone securely in the case, but you can remove the tube and place it near the scene being photographed. Although the case provides an easy way to carry your equipment, it's still best to place the microphone near to your subject.

The case holds the camera, microphone, and two rolls of movie film. The film is held securely by two special clips. It's a convenient way to use or store your camera.

Kodak Ektasound camera battery pack—

Allows the addition of six AA-size batteries to "boost" the motor batteries for extended cold-weather operation (in temperatures down to approximately 20 F). Simply plug it into the camera's external-power jack. (For correct operation batteries *must* be in the camera.)

Kodak microphone extension cord, 15-foot—

This cord extends the range of the microphone up to 27 feet from the camera. This allows you to improve your recordings by positioning the microphone near your subject when you can't get the camera close, i.e., at stage plays, for group shots, etc.

Kodak Presstape universal splicer—

Easy-to-use dry splicer for super 8, 8mm, and 16mm films uses pressure-sensitive tape (KODAK PRESSTAPES) to make splices.

Kodak Ektasound 245 movie projector—

New, modern design for easy projection of your super 8 sound movies. Attractively styled wood cabinet, with a smoke-tinted dust cover. Projects up to 400-foot reels of super 8 movie film in either of two directions (from the front

or rear of the projector). A single projection control sets the projector for threading, forward, fast forward, still, or rewind. You can record your own sound tracks, add sound-on-sound, or erase portions of your recorded material. An auxiliary speaker jack is provided, as well as jacks for microphone and phonograph inputs. Projection speeds of 18 fps (for movies made with KODAK EKTASOUND Movie Cameras) and 24 fps (for commercial sound movies).



Kodak Ektasound 235 movie projector—

Similar in design to the EKTASOUND 245 Movie Projector, except it has playback *only* rather than playback/record capabilities. As with the 245 Projector, a unique projection-mirror system permits you to project movies with the projector sitting on a bookshelf or a table.

Kodak projection screen (40 x 40 inches)

—Designed for use at home with your projector. The KODAK Projection Screen is made of mildew-resistant fabric with a highly reflective, glass-beaded surface for bright screen images. The screen has easy-opening legs and can be adjusted for overall height from the floor.

Kodak publication—

How to Make Good Sound Movies, AD-2. In addition to general movie-making techniques, this book deals with equipment, special considerations for sound movies, sound-recording techniques, adding sound, and editing and splicing sound movies.

See your photo dealer for this and other Kodak publications.