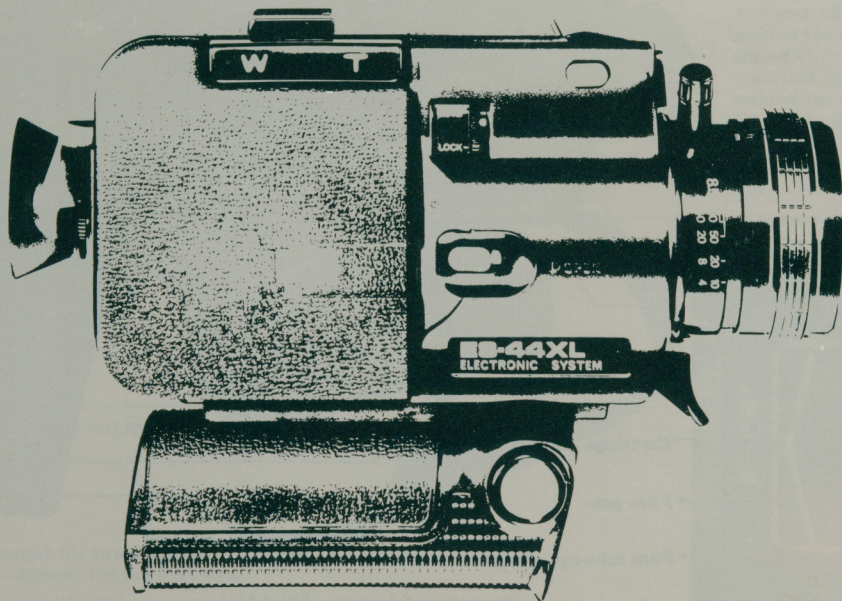


# Sankyo

# ES-44XL/25XL

ELECTRONIC SYSTEM SUPER 8

INSTRUCTION MANUAL



Thank you for buying a Sankyo Electronic System ES-44XL/25XL Super-8 low light movie camera. Your new camera is equipped with an electromagnetic shutter release which lets you use it with different optionally available accessories as a systems camera.

- The optional accessories which make the camera more versatile include a Radio Control, Self-Timer, Interval Timer and Remote Control.
- Indoor filming is possible in normal lighting conditions without movie lights; you will still get clear and sharp pictures.

These two big features are further enhanced by the increased size of the viewfinder and the compact size and reduced weight of the camera which make it easier to operate.

The ES-44XL offers another possibility; macrophotography.

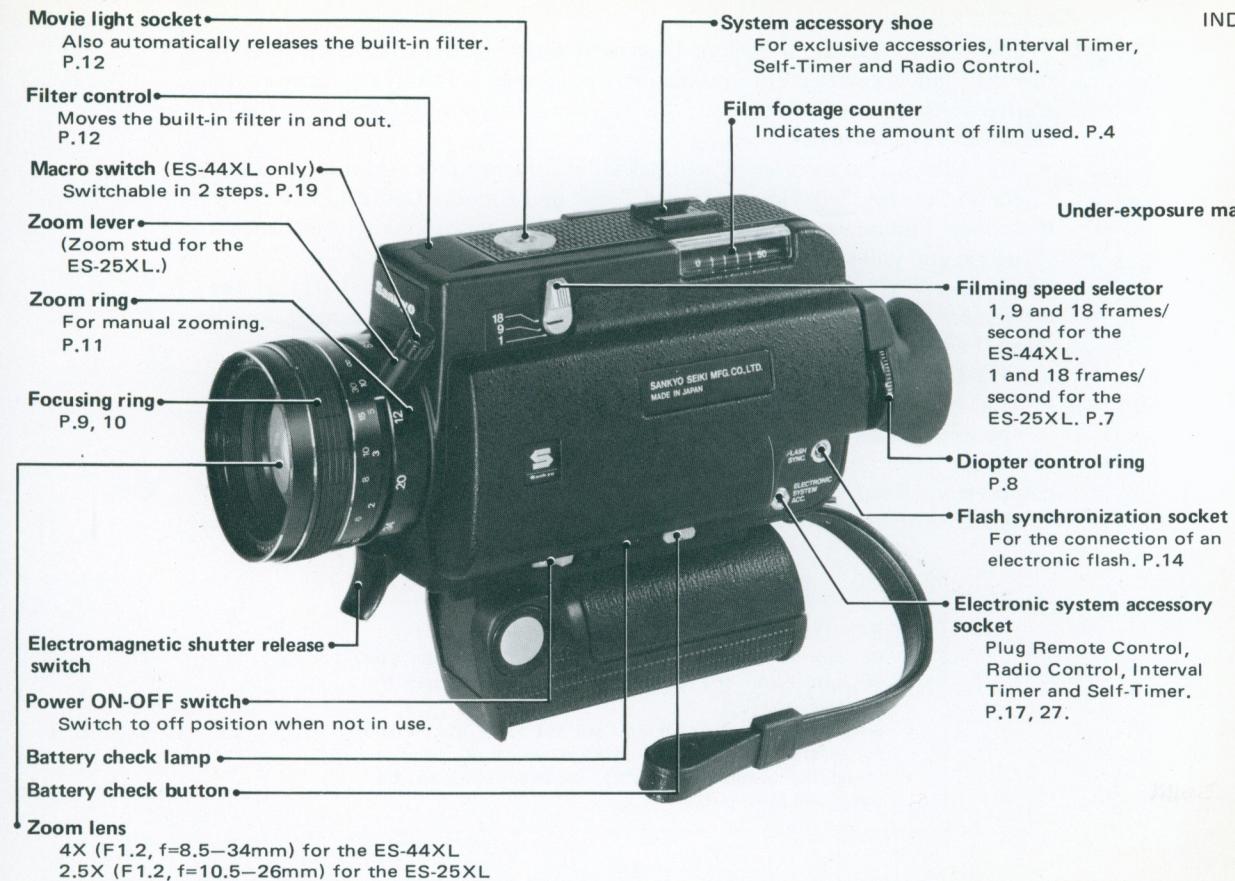
- The macro zoom lens makes the filming of ultra close-ups easy without any extra attachments.

The most important point in making good films is to understand the camera completely. Read this instruction manual carefully and completely and familiarize yourself with the camera's operation before you start filming.

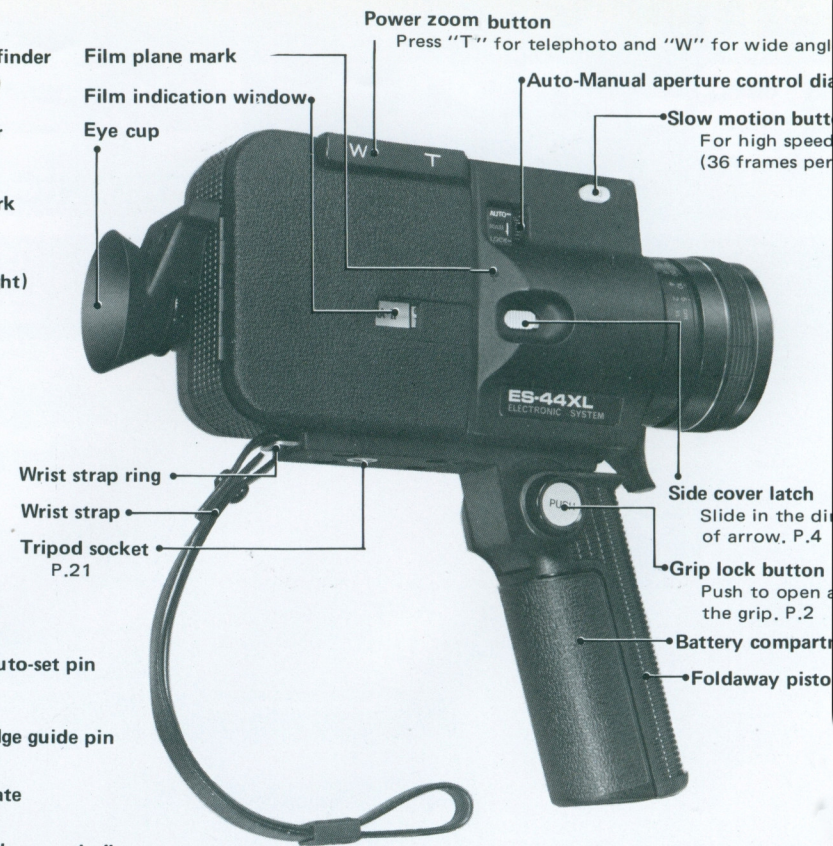
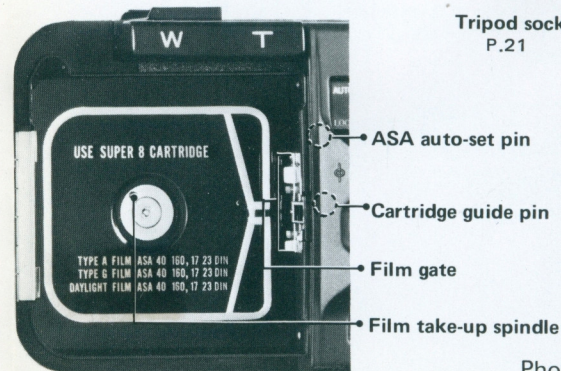
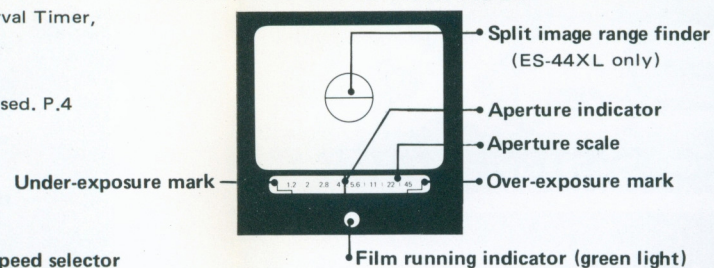
#### PRECAUTIONS

- Be sure to set the power switch to OFF when you are not using the camera so as not to waste the battery power.
- Remove the batteries if you are not using the camera for several weeks; battery leakage can cause corrosion.
- Insert the batteries correctly; incorrectly loaded batteries will burn out.





#### INDICATORS IN THE VIEWFINDER



Photographs of the ES-44XL are used in this instruction manual.



# CONTENTS

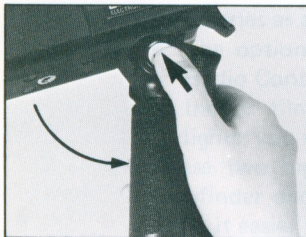
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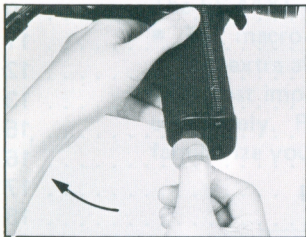
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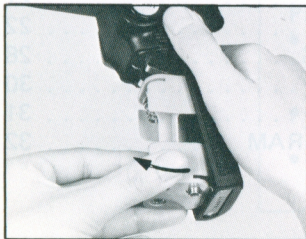
## 1 LOADING THE BATTERIES



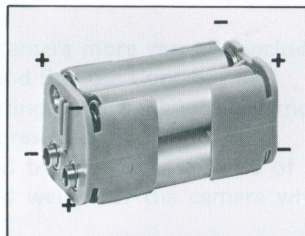
- Fold the grip away while pushing the lock button.



- Remove the battery compartment cover.



- Take out the battery case.



- Insert 4 "AA"-size dry batteries following the diagram inside the case.

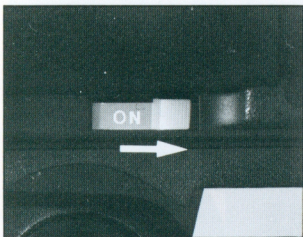


- Replace the case as shown inside the compartment.
- Replace the cover.

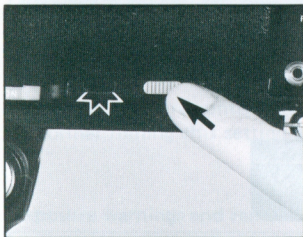
*Make it a rule to set the power switch to OFF when you are not using the camera.  
This will save battery power.*

## 2

### CHECKING THE BATTERY POWER



- Set the power switch to ON.



- Press the battery check button.

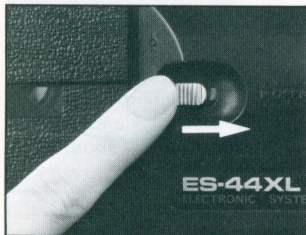
The batteries have enough power if the battery check lamp lights. If it does not light, replace the batteries. The lamp lights when there is  $4.5V \pm 5\%$  power. When the power is slightly lower than this, the lamp may flash the moment the button is pressed. In this case it is also necessary to replace the batteries.

- \* Do not press the battery check button while pressing the shutter release switch.
- \* In extremely cold temperature, even a fresh set of batteries may provide insufficient power because of the cold. If this happens, warm the battery case (containing the batteries) by putting it in your pocket for about 10 minutes before you start filming.



# 3

## LOADING THE FILM



- Slide the side cover latch.
- Open the side cover.

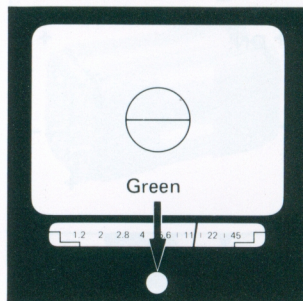


- Insert a Super-8 film cartridge.
- Close the cover.



The film sensitivity is automatically set.  
To remove the cartridge, lift out from the back.

### Film running indicator



Press the shutter release switch, and a green light will flicker to indicate that the film is running correctly. When the light either disappears or stops flickering, it indicates that the film has come to end or is not running correctly.

### Film footage counter

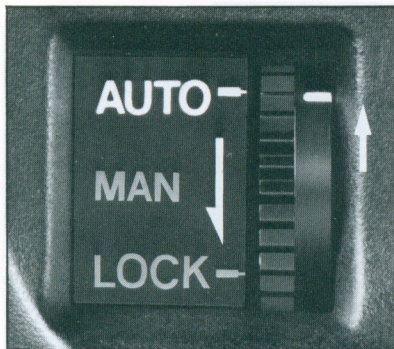


The green strip shows how much film has been used. When the cartridge is removed, the green strip returns to zero automatically.

*When the film running indicator light disappears or stops flickering before the film counter reaches "50", there may be something wrong with the cartridge or camera. Consult a camera shop.*

# 4 APERTURE CONTROL

## 1. Automatic

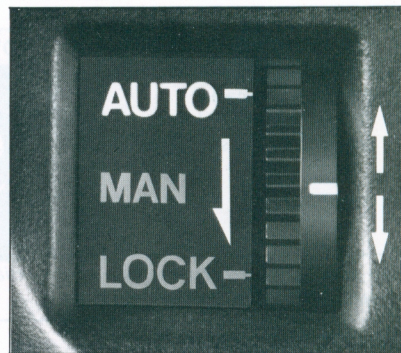


- Set the aperture control dial to "AUTO". In normal filming this setting gives correct exposure at all times.

### Exposure warnings and remedies

<p>Under-exposure</p>	<p>The aperture indicator in the viewfinder enters the left red area.</p>	<p>Use artificial lighting.</p>
<p>Over-exposure</p>	<p>The aperture indicator in the viewfinder enters the right red area.</p>	<p>Use ND filters. (55mm dia. screw-in type or 57mm dia. slip-on type.)</p>

## 2. Manual



- Set the aperture indicator needle to the desired value by turning the aperture control dial in the range of "MAN".

Use this manual control when the subject is strongly backlit or when the subject-background contrast is high, or when you want to get special effects.



### For accurate manual control

- Set the aperture control dial to "AUTO".
- Move the camera close to the subject and note the F-stop on the aperture scale.
- Return to your shooting position and manually adjust the aperture to the setting previously noted.

*Be sure to return the aperture control dial to "AUTO" when you have finished manual exposure.*

### 3. Lock

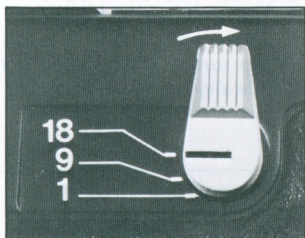


- Set the aperture control dial to "LOCK".

This protects the delicate EE mechanism from shocks and vibrations. Use this lock facility when you are transporting your camera.

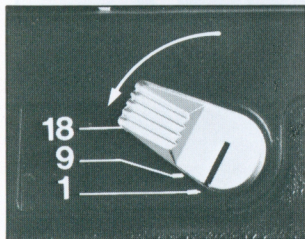
# 5

## SELECTING THE FILMING SPEED



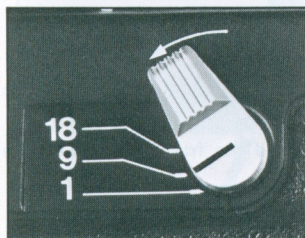
### Normal filming

- Set the filming speed selector to "18".



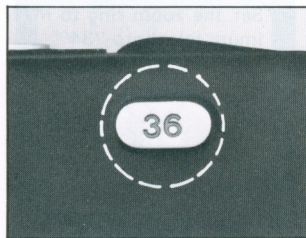
### Single frame exposure (P. 13)

- Set the filming speed selector to "1".



### Quick motion filming (ES-44XL only, P. 15)

- Set the filming speed selector to "9".



### Slow motion filming (P. 16)

- Press the "36" button.



## 6 ADJUSTING VIEWFINDER TO YOUR EYESIGHT

### ES-44XL



- Set the zoom ring to maximum telephoto "34".



- Set the focusing ring to infinity ( $\infty$ ).



- Turn the diopter control ring while looking through the viewfinder.

Turn the diopter control ring so that a distant subject (over 100m/330ft) and the center line of the split image focusing circle can be seen most clearly. Make sure that the upper and lower halves of the subject in the circle align perfectly with each other. If they are out of alignment, turn the ring to correct it.

*This adjustment should be accurate as it has an effect on the split image focusing accuracy.*

### ES-25XL

- Set the zoom ring to maximum telephoto "26".
- Set the focusing ring to infinity ( $\infty$ ).
- Turn the diopter control ring while looking through the viewfinder.

Adjust so that a distant subject and the frame of view can be seen most clearly.

## 7 FOCUSING

The ES-44XL uses the split image focusing system and the ES-25XL the aerial image focusing system.

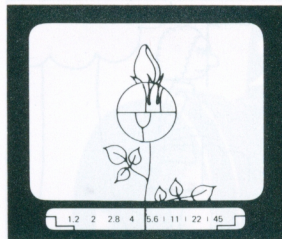
### Split image focusing for the ES-44XL



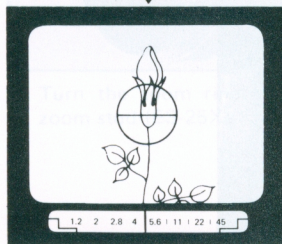
- Set the zoom ring to maximum telephoto "34".



- Turn the focusing ring so that the upper and lower halves of the subject in the split image focusing circle align with each other.



Out of focus



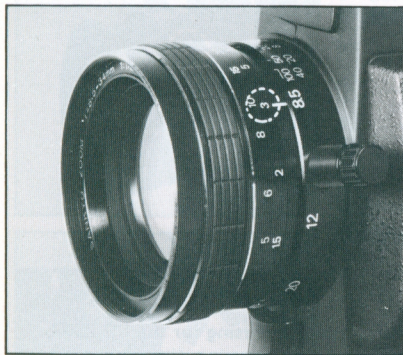
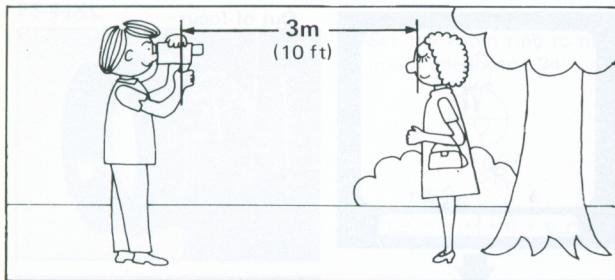
In focus

### Aerial image focusing for the ES-25XL

- Turn the focusing ring so that the image is seen most clearly in the viewfinder.



## Other simplified focusing techniques



### • Scale focusing

Measure or estimate the distance between camera (  $\phi$  mark) and subject. Then set the focusing ring to this value.

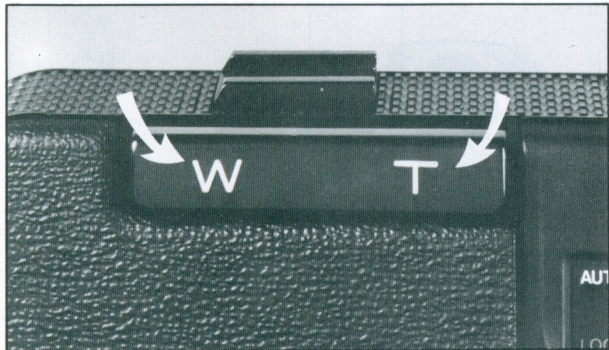


### • Universal focusing

Set the focusing ring to 5m (15ft). This method is based on the depth of field. The aperture should be F5.6 or higher. Use this method when you have no time to focus as when making documentaries.

## 8 ZOOMING

### 1. Power zoom (P. 24)



- Press the "T" side of the power zoom button and the size of the image increases (zoom to telephoto).
- Press the "W" side of the power zoom button and the size of the image decreases (zoom to wide-angle).

\* With the ES-44XL the power zoom mechanism has an independent motor and can be used without running the camera.

\* With the ES-25XL the power zoom mechanism only works when the shutter release switch is being pressed.

### 2. Manual





- Turn the zoom ring by the zoom lever (ES-44XL) or the zoom stud (ES-25XL).



## 9 FILTER CONTROL

This filter control is to move in or out the built-in type-A filter (color compensation filter for type-A color film).

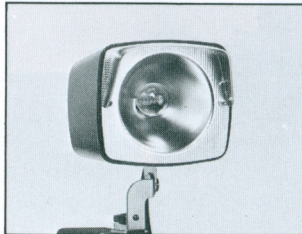
- Down . . . . . Filter in
- Up . . . . . No filter

Filter control	Lighting
	<ul style="list-style-type: none"> <li>• Sunshine</li> <li>• Fluorescent light</li> <li>• Blue light</li> </ul>
	<ul style="list-style-type: none"> <li>• Tungsten light</li> <li>• Movie light</li> </ul>

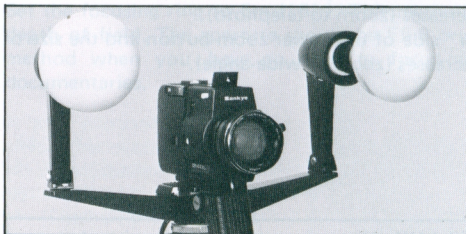
### Type-G film

Type-G film requires no color compensation filter for any type of lighting. When the film cartridge is inserted, the built-in type-A filter is automatically removed. The filter control has no effect.

### Movie light

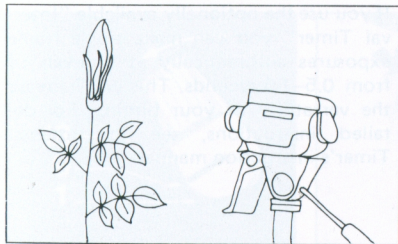


1. With the movie light screwed into the movie light socket, the filter is automatically removed. There is no need to operate the filter control.

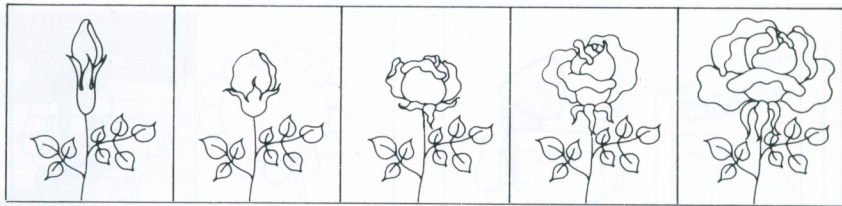


2. When the movie light is mounted on a bracket screwed into the tripod socket, raise the filter control.

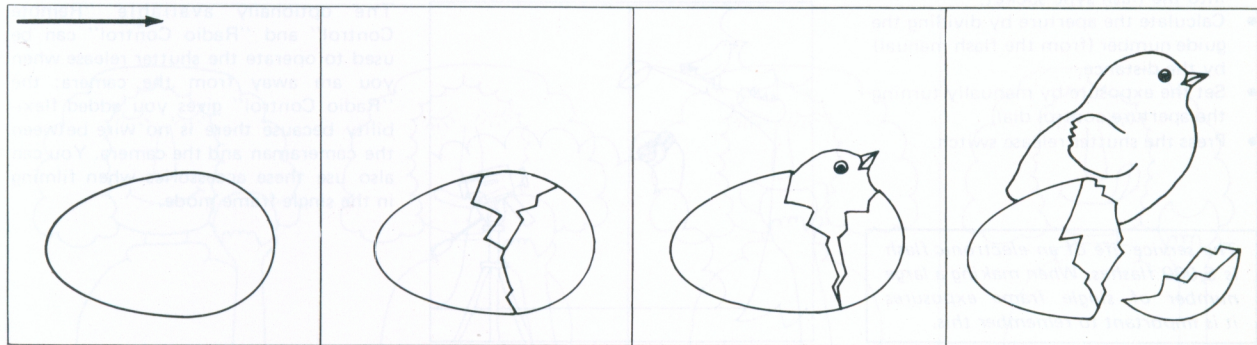
# 10 SINGLE FRAME EXPOSURE



- Set the filming speed selector to "1".
- Set the aperture control dial to "AUTO".
- Press the shutter release switch.

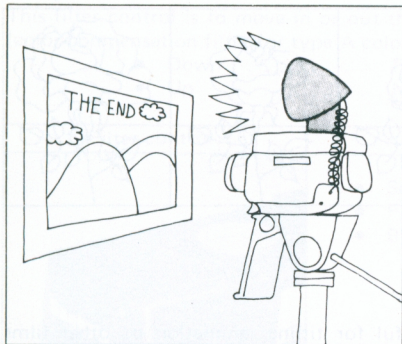


This technique is useful for titling, animation or other films where you want a time lapse effect (filming plants growing, blooming, etc.).





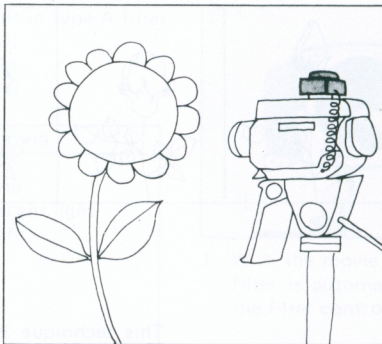
### Using an electronic flash



- Plug the cord of an electronic flash into the flash sync socket.
- Calculate the aperture by dividing the guide number (from the flash manual) by the distance.
- Set the exposure by manually turning the aperture control dial.
- Press the shutter release switch.

*The service life of an electronic flash is 5,000 flashes. When making a large number of single frame exposures it is important to remember this.*

### Using with Interval Timer



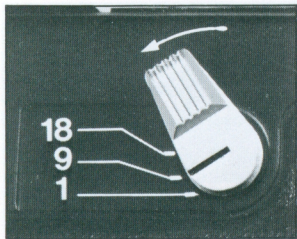
If you use the optionally available "Interval Timer" you can make single frame exposures automatically at intervals of from 0.5—60 seconds. This will increase the versatility of your filming. For detailed instructions, see the Interval Timer's instruction manual.

### Using with Remote Control and Radio Control



The optionally available "Remote Control" and "Radio Control" can be used to operate the shutter release when you are away from the camera: the "Radio Control" gives you added flexibility because there is no wire between the cameraman and the camera. You can also use these accessories when filming in the single-frame mode.

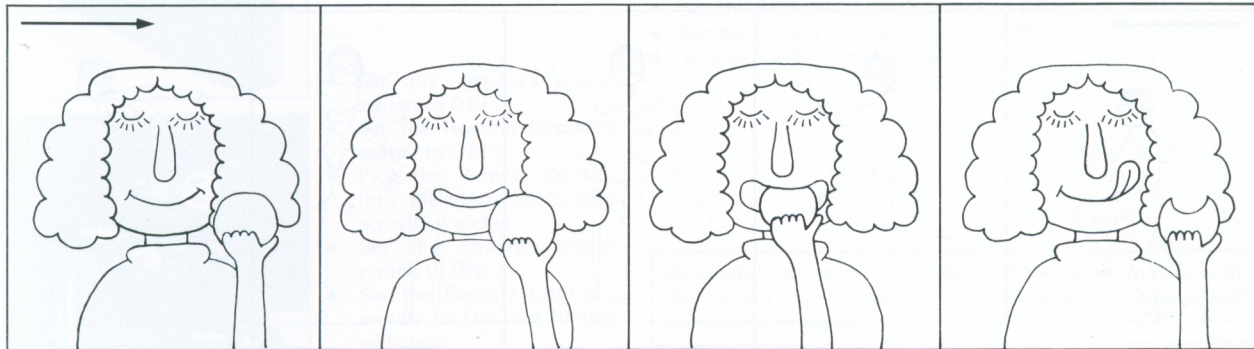
# 11 QUICK MOTION FILMING (ES-44XL only)



- Set the filming speed selector to "9".

The film moves at the low speed of 9 frames per second (half the normal speed). When projected at normal speed, this will give a speeded-up comic effect.

In quick motion exposure, the field brightness is increased by one F-stop over that in normal speed filming. Using this facility will enhance this camera's usefulness under low-light conditions.

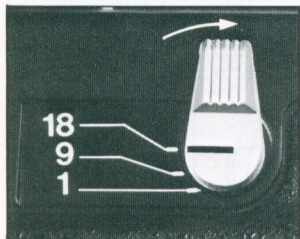




# 12 SLOW MOTION FILMING

Using an Electronic Flash

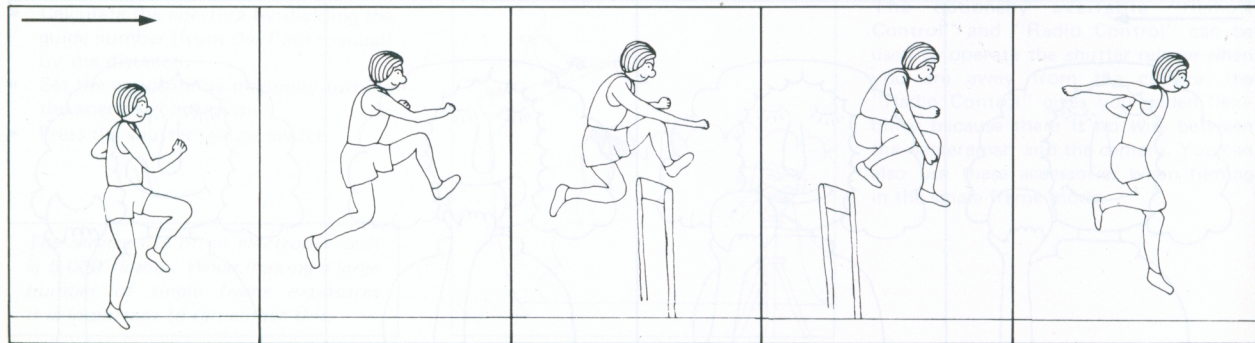
Using with Interval Timer



- Set the filming speed selector to "18".
- Press the slow motion "36" button while pressing the shutter release switch.

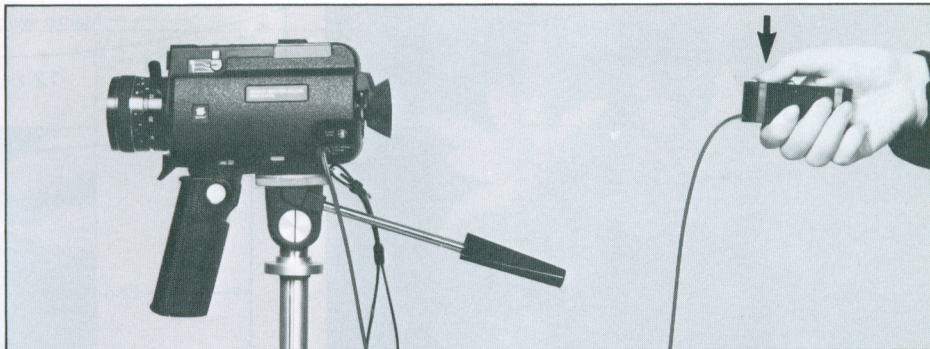
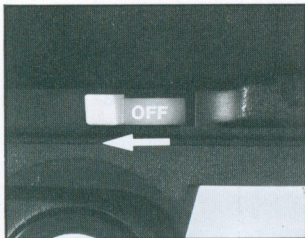


The built-in instant slow motion system lets you change continuously from normal to slow motion filming or vice versa. When you release slow motion button, the camera will continue to film at 18 frames/second. Use to film and analyze sports actions, etc.



# 13

## REMOTE CONTROL FILMING



### When you finish filming with the Remote Control

- Set the Remote Control's switch to OFF.
  - Set the camera's power switch to OFF.
  - Unplug the Remote Control.
- Set the camera's power switch to OFF.
  - Set the Remote Control's switch to OFF.
  - Plug the Remote Control into the electronic system accessory socket.
  - Set the camera's power switch to ON.
  - Set the Remote Control's switch to ON and filming will start.

*Be careful not to plug or unplug the Remote Control with the camera's power switch ON, or the shutter release will operate momentarily.*

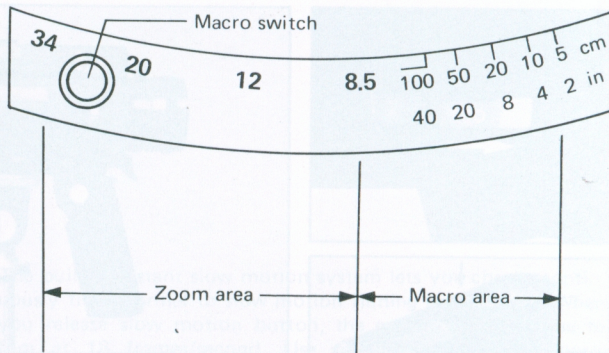


# 14 MACROPHOTOGRAPHY (ES-44XL only)



Macro shots mean close-ups of small subjects taken from very short distances. With the built-in macro zoom lens, the ES-44XL allows, in addition to zooming, close-up shooting from distances between 5cm to 150cm (2" to 60"). Continuous filming from zoom to macro or from macro to zoom is also possible.

Zoom ring



Zoom scale indicates the focal length of the zoom lens.

Macro scale indicates the distance between the front surface of the lens and the subject.

## Macro switch

The macro switch has two positions:

Pull the macro switch until it locks.



The zoom ring can be turned from the macro area to the zoom area or vice versa.

To release the switch, press it gently and turn it into the zoom area.



Turn the macro switch into the macro area while pulling it slightly.

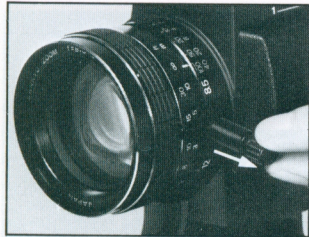


When turned to the zoom area, the switch is automatically released.





## Operation

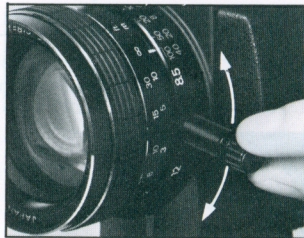


- Pull the macro switch and turn the zoom ring into the macro area.



- Set the focusing ring to infinity (  $\infty$  ).

This is only to get the best condition in macrophotography. If you want to film continuously from macro to zoom, adjust the focusing ring at this stage to the distance at which the subject you are going to film in normal filming is located.



- Focus the lens by turning the zoom ring.

Use the split image focusing system or measure the distance. To use scale focusing, the distance between the red "●" mark on the focusing ring (this indicates the position of the front surface of the lens) and the subject should be measured. Set this value on the green macro scale on the zoom ring.

- \* The closer the camera is to the subject, the less the depth of field (see p.28, 29). Be most careful to focus accurately for macro shots.
- \* The power zoom also works in the macro area.

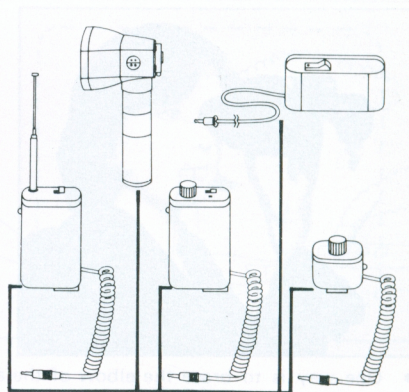
# 15 TRIPOD MOUNTING



- Fold away the pistol grip while pushing the lock button.



- Fit a tripod into the hole in the bottom of the camera body.



Be sure to use a tripod for telephoto and close-up shooting, single frame exposures or when you use an electronic flash, Remote Control, Radio Control, Interval Timer and Self-timer.





# FILMING TECHNIQUES

## 1 HOLD THE CAMERA STEADY



- One way is to brace the elbow of the arm which is holding the camera against the chest.
- Put the wrist strap round your wrist.
- Use a tripod.

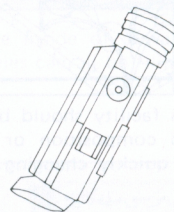
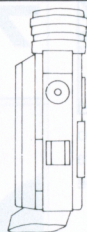
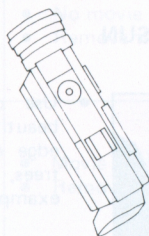
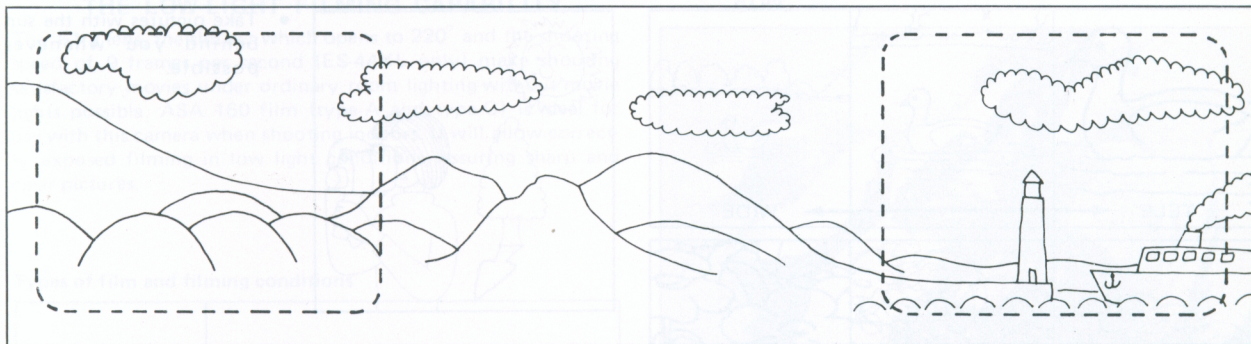
## 2 TIME YOUR SHOTS TO BE 5 OR 6 SECONDS AT LEAST

- Short scenes will make your movies jumpy.
- Shooting longer scenes will make editing easier and the movies more pleasing.



# 3

## FOR EFFECTIVE PANNING



**START:** hold still for about 3 seconds

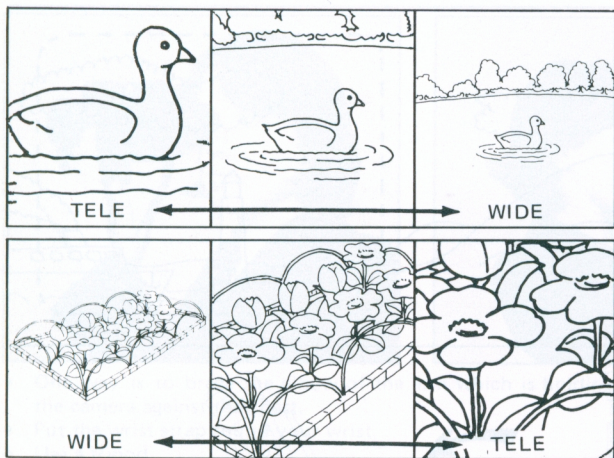
**PAN SLOWLY**

**STOP:** hold still for about 3 seconds

- Pan steadily from one side to the other.
- Hold the camera still for about 3 seconds when you reach a scene you want to emphasize.



## 4 POWER ZOOM FOR SMOOTH ZOOMING

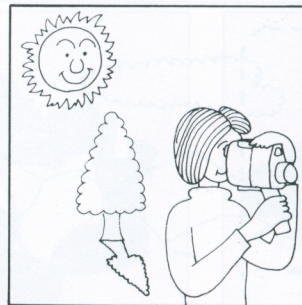


- The manual zoom facility should be used before filming to select the desired composition or during filming to give special effects by quickly changing from telephoto to wide angle or vice versa.

## 5 DO NOT CHANGE THE CAMERA ANGLE SO OFTEN

- Panning and zooming should only occasionally be used for special effects. Otherwise the movie will be unsteady.

## 6 WITH THE SUN BEHIND YOU



- Take pictures with the sun behind you whenever possible.

## 7 AGAINST THE SUN



- Use occasionally to get beautiful effects at the edge of the sea, through trees, for silhouettes, for example.

## 8

### FILM INDOORS MAKING FULLEST USE OF THE LOW-LIGHT FILMING CAPABILITY

The F1.2 lens, the shutter which opens to 220° and the shooting speed of 9 frames per second (ES-44XL only) make shooting satisfactory movies under ordinary room lighting without movie lights possible. ASA 160 film (type-A and type-G) is ideal for use with this camera when shooting indoors. It will allow correctly exposed filming in low light conditions, assuring sharp and clear pictures.

#### Types of film and filming conditions

A/ASA 160	<ul style="list-style-type: none"> <li>• No movie light is needed.</li> <li>• Remove the built-in filter.</li> </ul>
A/ASA 40	<ul style="list-style-type: none"> <li>• Movie light is sometimes needed.</li> <li>• Remove the built-in filter.</li> </ul>
G/ASA 160	<ul style="list-style-type: none"> <li>• No movie light is needed.</li> <li>• No filter is needed. (The filter is automatically removed.)</li> </ul>

## 9

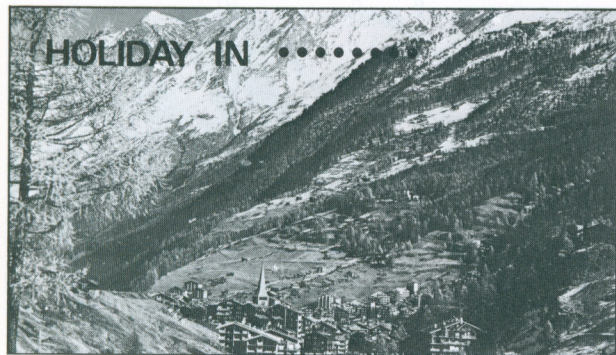
### MACROPHOTOGRAPHY — DO-IT-YOURSELF FUN



- Insects, flowers, the inside of a watch, stamps, maps and titling of your movies can all be filmed clearly without any distortion.







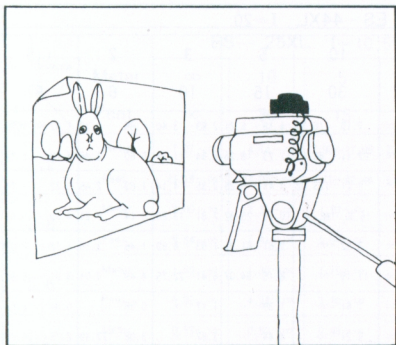
- You can film picture postcards that you bought on holiday, or drawings which you have done yourself, or still photographs (larger than 45 x 61mm). If you write a title on it and take a macrophotograph of it, you can create titles for your movies.

- Move the zoom ring continuously from the macro area to the zoom area or vice versa, and the focus will change, producing an interesting sequence of shots which contain a contrast between delicate out-of-focus objects and sharply focused objects.



# 10

## USING THE SPECIAL ACCESSORIES

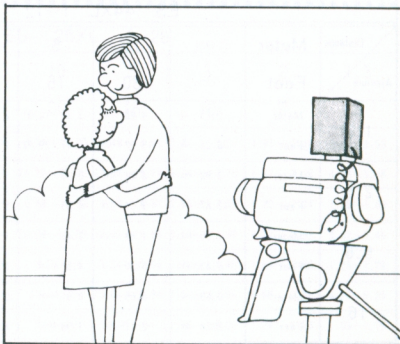
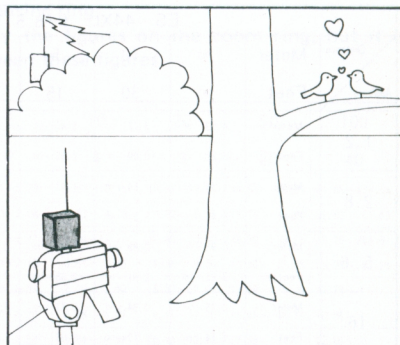


- Use the Interval Timer when making animated cartoons.

- Use the Radio Control when making wild life movies.

- Use the Self-Timer when filming yourself.

For details see the respective accessory instruction manuals.





# DEPTH-OF-FIELD TABLES

When a subject is in focus, objects nearer and farther from the camera will also be in focus. The distance between the nearest and farthest objects which are in focus is called the depth of

field. The distances shown are measured from the film plane mark (  $\phi$  ) of the camera.

ES-44XL f=8.5							
Distance	Meter	∞	10	5	3	2	1.5
Aperture	Feet	∞	30	15	10	6	5
1.2	Meter	4.63 ~ ∞	3.17 ~ ∞	2.40 ~ ∞	1.82 ~ 8.52	1.40 ~ 3.52	1.13 ~ 2.22
	Feet	15.20 ~ ∞	10.09 ~ ∞	7.55 ~ ∞	6.03 ~ 29.25	4.30 ~ 9.92	3.76 ~ 7.45
2.8	Meter	1.96 ~ ∞	1.64 ~ ∞	1.41 ~ ∞	1.19 ~ ∞	0.99 ~ ∞	0.85 ~ 6.34
	Feet	6.45 ~ ∞	5.31 ~ ∞	4.51 ~ ∞	3.92 ~ ∞	3.11 ~ 86.60	2.82 ~ 22.28
5.6	Meter	0.98 ~ ∞	0.89 ~ ∞	0.82 ~ ∞	0.74 ~ ∞	0.66 ~ ∞	0.59 ~ ∞
	Feet	3.22 ~ ∞	2.91 ~ ∞	2.65 ~ ∞	2.44 ~ ∞	2.10 ~ ∞	1.96 ~ ∞
16	Meter	0.35 ~ ∞	0.34 ~ ∞	0.32 ~ ∞	0.31 ~ ∞	0.30 ~ ∞	0.28 ~ ∞
	Feet	1.14 ~ ∞	1.10 ~ ∞	1.06 ~ ∞	1.02 ~ ∞	0.96 ~ ∞	0.93 ~ ∞

ES-44XL f=12							
Distance	Meter	∞	10	5	3	2	1.5
Aperture	Feet	∞	30	15	10	6	5
1.2	Meter	9.23 ~ ∞	4.80 ~ ∞	3.24 ~ 10.91	2.26 ~ 4.44	1.64 ~ 2.55	1.29 ~ 1.79
	Feet	30.28 ~ ∞	15.07 ~ ∞	10.03 ~ 29.72	7.52 ~ 14.93	5.01 ~ 7.48	4.29 ~ 5.99
2.8	Meter	3.92 ~ ∞	2.81 ~ ∞	2.20 ~ ∞	1.70 ~ 12.82	1.32 ~ 4.09	1.08 ~ 2.43
	Feet	12.87 ~ ∞	9.01 ~ ∞	6.93 ~ ∞	5.63 ~ 44.85	4.09 ~ 11.24	3.60 ~ 8.18
5.6	Meter	1.96 ~ ∞	1.64 ~ ∞	1.41 ~ ∞	1.18 ~ ∞	0.99 ~ ∞	0.85 ~ 6.41
	Feet	6.43 ~ ∞	5.30 ~ ∞	4.50 ~ ∞	3.92 ~ ∞	3.10 ~ 88.78	2.81 ~ 22.42
16	Meter	0.69 ~ ∞	0.65 ~ ∞	0.61 ~ ∞	0.56 ~ ∞	0.51 ~ ∞	0.47 ~ ∞
	Feet	2.28 ~ ∞	2.11 ~ ∞	1.98 ~ ∞	1.85 ~ ∞	1.65 ~ ∞	1.56 ~ ∞

ES-44XL f=20							
Distance	Meter	∞	10	5	3	2	1.5
Aperture	Feet	∞	30	15	10	6	5
1.2	Meter	25.64 ~ ∞	7.19 ~ 16.39	4.18 ~ 6.21	2.69 ~ 3.40	1.86 ~ 2.17	1.42 ~ 1.59
	Feet	84.12 ~ ∞	22.11 ~ 46.63	12.73 ~ 18.26	8.94 ~ 11.35	5.60 ~ 6.46	4.72 ~ 5.32
2.8	Meter	10.88 ~ ∞	5.21 ~ 123.82	3.43 ~ 9.25	2.35 ~ 4.14	1.69 ~ 2.45	1.32 ~ 1.74
	Feet	35.69 ~ ∞	16.30 ~ 188.15	10.56 ~ 25.87	7.81 ~ 13.89	5.14 ~ 7.21	4.39 ~ 5.81
5.6	Meter	5.44 ~ ∞	3.52 ~ ∞	2.61 ~ 61.91	1.93 ~ 6.69	1.46 ~ 3.16	1.18 ~ 2.07
	Feet	17.85 ~ ∞	11.19 ~ ∞	8.15 ~ 94.07	6.41 ~ 22.75	4.49 ~ 9.04	3.91 ~ 6.95
16	Meter	1.92 ~ ∞	1.61 ~ ∞	1.39 ~ ∞	1.17 ~ ∞	0.98 ~ ∞	0.84 ~ 6.82
	Feet	6.31 ~ ∞	5.21 ~ ∞	4.44 ~ ∞	3.87 ~ ∞	3.08 ~ 122.39	2.79 ~ 24.09

ES-44XL f=34							
Distance	Meter	∞	10	5	3	2	1.5
Aperture	Feet	∞	30	15	10	6	5
1.2	Meter	74.10 ~ ∞	8.81 ~ 11.56	4.68 ~ 5.36	2.88 ~ 3.13	1.95 ~ 2.06	1.47 ~ 1.53
	Feet	243.12 ~ ∞	26.70 ~ 34.22	14.13 ~ 15.99	9.60 ~ 10.43	5.86 ~ 6.15	4.90 ~ 5.10
2.8	Meter	31.44 ~ ∞	7.59 ~ 14.66	4.36 ~ 5.95	2.74 ~ 3.32	1.88 ~ 2.14	1.43 ~ 1.58
	Feet	103.15 ~ ∞	23.24 ~ 42.30	13.10 ~ 17.55	9.12 ~ 11.07	5.67 ~ 6.37	4.77 ~ 5.25
5.6	Meter	15.72 ~ ∞	6.11 ~ 27.48	3.79 ~ 7.33	2.52 ~ 3.71	1.77 ~ 2.29	1.37 ~ 1.66
	Feet	51.57 ~ ∞	18.97 ~ 71.72	11.62 ~ 21.15	8.38 ~ 12.41	5.37 ~ 6.79	4.56 ~ 5.54
16	Meter	5.56 ~ ∞	3.57 ~ ∞	2.63 ~ 49.83	1.95 ~ 6.52	1.47 ~ 3.12	1.18 ~ 2.05
	Feet	18.23 ~ ∞	11.34 ~ ∞	8.23 ~ 84.58	6.46 ~ 22.14	4.51 ~ 8.94	3.92 ~ 6.89

ES-25XL f=10.5							
Aperture \ Distance	Meter	∞	10	5	3	2	1.5
	Feet	∞	30	15	10	7	5
1.2	Meter	7.07~∞	4.14~∞	2.93~17.09	2.11~5.21	1.56~2.79	1.24~1.90
	Feet	23.19~∞	13.08~∞	9.11~42.48	6.99~17.58	5.38~10.03	4.11~6.37
2.8	Meter	3.00~∞	2.31~∞	1.87~∞	1.50~∞	1.20~6.01	1.00~33.00
	Feet	9.84~∞	7.41~∞	5.94~∞	4.96~∞	4.09~24.27	3.32~10.17
5.6	Meter	1.50~∞	1.30~∞	1.15~∞	1.00~∞	0.86~∞	0.75~∞
	Feet	4.92~∞	4.23~∞	3.70~∞	3.30~∞	2.89~∞	2.48~∞
16	Meter	0.53~∞	0.50~∞	0.48~∞	0.45~∞	0.42~∞	0.39~∞
	Feet	1.74~∞	1.64~∞	1.56~∞	1.48~∞	1.39~∞	1.29~∞

ES-25XL f=15							
Aperture \ Distance	Meter	∞	10	5	3	2	1.5
	Feet	∞	30	15	10	7	5
1.2	Meter	14.42~∞	5.91~32.61	3.71~7.65	2.48~3.79	1.76~2.32	1.36~1.67
	Feet	47.32~∞	18.36~81.96	11.39~21.96	8.26~12.68	6.10~8.22	4.52~5.59
2.8	Meter	6.12~∞	3.80~∞	2.75~27.34	2.01~5.89	1.51~2.97	1.20~1.99
	Feet	20.08~∞	12.03~∞	8.59~59.33	6.68~19.92	5.19~10.75	4.00~6.66
5.6	Meter	3.06~∞	2.34~∞	1.90~∞	1.51~154.02	1.21~5.78	1.01~2.94
	Feet	10.04~∞	7.52~∞	6.01~∞	5.02~∞	4.12~23.13	3.34~9.96
16	Meter	1.08~∞	0.98~∞	0.89~∞	0.80~∞	0.70~∞	0.63~∞
	Feet	3.55~∞	3.17~∞	2.87~∞	2.62~∞	2.36~∞	2.08~∞

### Depth-of-Field Table for Macro Filming (ES-44XL only)

The distances shown are measured from the lens front surface mark (●) on the focusing ring.

This table covers only the figures on the zoom ring, but it is possible to focus between these figures.

Aperture \ Distance	cm	5	10	20	50	100
	Inch	2	4	8	20	40
1.2	cm	4.81~5.20	9.57~10.45	18.82~21.31	44.50~56.89	81.55~128.54
	Inch	1.93~2.08	3.83~4.18	7.52~8.53	17.78~22.80	32.53~51.63
2.8	cm	4.57~5.47	9.04~11.11	17.40~23.30	38.70~69.35	65.16~204.81
	Inch	1.83~2.19	3.61~4.45	6.95~9.34	15.43~27.88	25.93~83.20
5.6	cm	4.19~5.99	8.20~12.40	15.30~27.64	31.29~110.08	47.77~∞
	Inch	1.67~2.39	3.28~4.97	6.11~11.10	12.45~44.75	18.96~∞
16	cm	3.01~8.52	5.84~19.98	10.13~72.43	17.39~∞	22.66~∞
	Inch	1.20~3.42	2.33~8.05	4.04~29.78	6.90~∞	8.96~∞

ES-25XL f=26							
Aperture \ Distance	Meter	∞	10	5	3	2	1.5
	Feet	∞	30	15	10	7	5
1.2	Meter	43.33~∞	8.31~13.00	4.48~5.65	2.81~3.22	1.91~2.10	1.45~1.55
	Feet	142.17~∞	24.77~38.02	13.57~16.77	9.34~10.76	6.67~7.36	4.83~5.18
2.8	Meter	18.38~∞	6.48~21.93	3.93~6.87	2.58~3.58	1.80~2.24	1.39~1.63
	Feet	60.32~∞	20.04~59.69	12.01~19.96	8.58~11.99	6.27~7.92	4.62~5.45
5.6	Meter	9.19~∞	4.79~∞	3.24~10.96	2.26~4.45	1.64~2.56	1.29~1.79
	Feet	30.16~∞	15.04~∞	10.02~29.84	7.51~14.96	5.68~9.12	4.29~5.99
16	Meter	3.25~∞	2.45~∞	1.97~∞	1.56~39.00	1.24~5.20	1.03~2.79
	Feet	10.66~∞	7.87~∞	6.23~∞	5.16~160.89	4.23~20.38	3.40~9.41



# SPECIFICATIONS

<b>Film</b>	Super 8 film cartridge.	
<b>Lens</b>	(1) ES-44XL: Sankyo macro zoom F1.2, f=8.5—34mm. ES-25XL: Sankyo zoom F1.2, f=10.5—26mm. (2) Shortest focusing distance 1.5m. (3) Macro filming (ES-44XL) 5cm—150cm (from the lens front surface). (4) Filter size 55mm dia. (screw-in type), 57mm dia. (slip-on type).	(2) ES-25XL: 18 and 36 frames per second and single frame exposure.
<b>Viewfinder</b>	(1) Bright, extra-large reflex viewfinder. (2) Adjustable to individual eyesight over the range of +5 to -5 diopters.	<b>Shutter opening</b> 220°
<b>Focusing</b>	ES-44XL: Split image focusing. ES-25XL: Aerial image focusing.	<b>Exposure meter</b> (1) Fully automatic aperture control with through-the-lens CdS meter. (2) Aperture range f/1.2—f/45. (3) Manual aperture control with the aperture control dial. (4) Under- and over-exposure marks in the viewfinder.
<b>Zooming</b>	(1) ES-44XL: Push button automatic zooming with independent motor (approximately 5 sec. from wide-angle to telephoto or vice versa). ES-25XL: Push button automatic zooming (approximately 4 sec. from wide-angle to telephoto or vice versa). (2) Manual zooming by the manual zoom ring.	<b>Film sensitivity</b> (1) ASA 40, 160 (Daylight type) ASA 40, 160 (Type-A film) ASA 40, 160 (Type-G film) (2) Film sensitivity is automatically set by cartridge.
<b>Film driving</b>	(1) Electric driving by 4 penlight alkaline manganese batteries AM-3. (2) Battery life: 17 films at normal temperature. The batteries are housed in the battery case contained in the fold-away pistol grip.	<b>Filter</b> (1) Built-in Type 85 filter. (2) Automatically controlled by the film cartridge or manually controlled through the movie light socket or filter control.
<b>Battery checker</b>	Push button and indicator lamp (LED — Light Emitting Diode).	<b>Flash synchronization</b> Electronic flash can be used for single frame exposures.
<b>Filming speed</b>	(1) ES-44XL: 9, 18 and 36 frames per second and single frame exposure.	<b>Film footage counter</b> Automatic resetting mechanical counter. <b>Film transport indicator</b> (1) Green light flickers in the viewfinder. (2) Also functions as a film end signal.
		<b>Grip</b> Foldaway pistol grip (contains battery case). <b>Electronic system accessory socket</b> Accepts Interval Timer, Self-Timer, Radio Control and Remote Control.
		<b>Other features</b> (1) Power switch. (2) Tripod socket, movie light socket (JIS B7103, 1/4-20UNC).

- (3) Filter control.
- (4) Removable wrist strap.
- (5) Accessory shoe (JIS B7101).

<b>Dimensions</b>	ES-44XL: 190mm x 74mm x 143mm (8" x 2-15/16" x 5-5/8")
	ES-25XL: 185mm x 74mm x 143mm (7-1/4" x 2-15/16" x 5-5/8")
<b>Weight</b>	ES-44XL: 1,100g (2.4 lbs) with film and batteries.
	ES-25XL: 1,060g (2.3 lbs) with film and batteries.

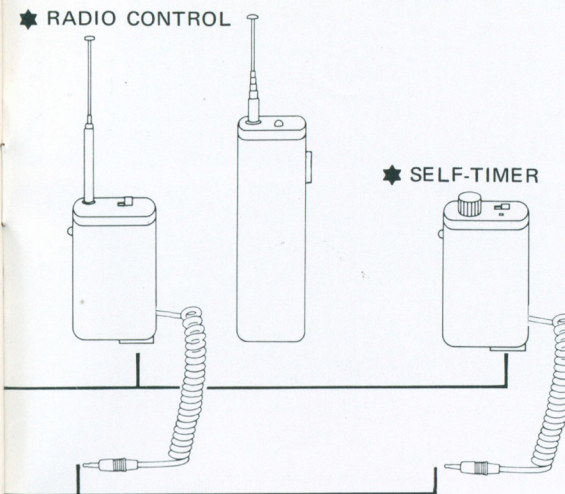
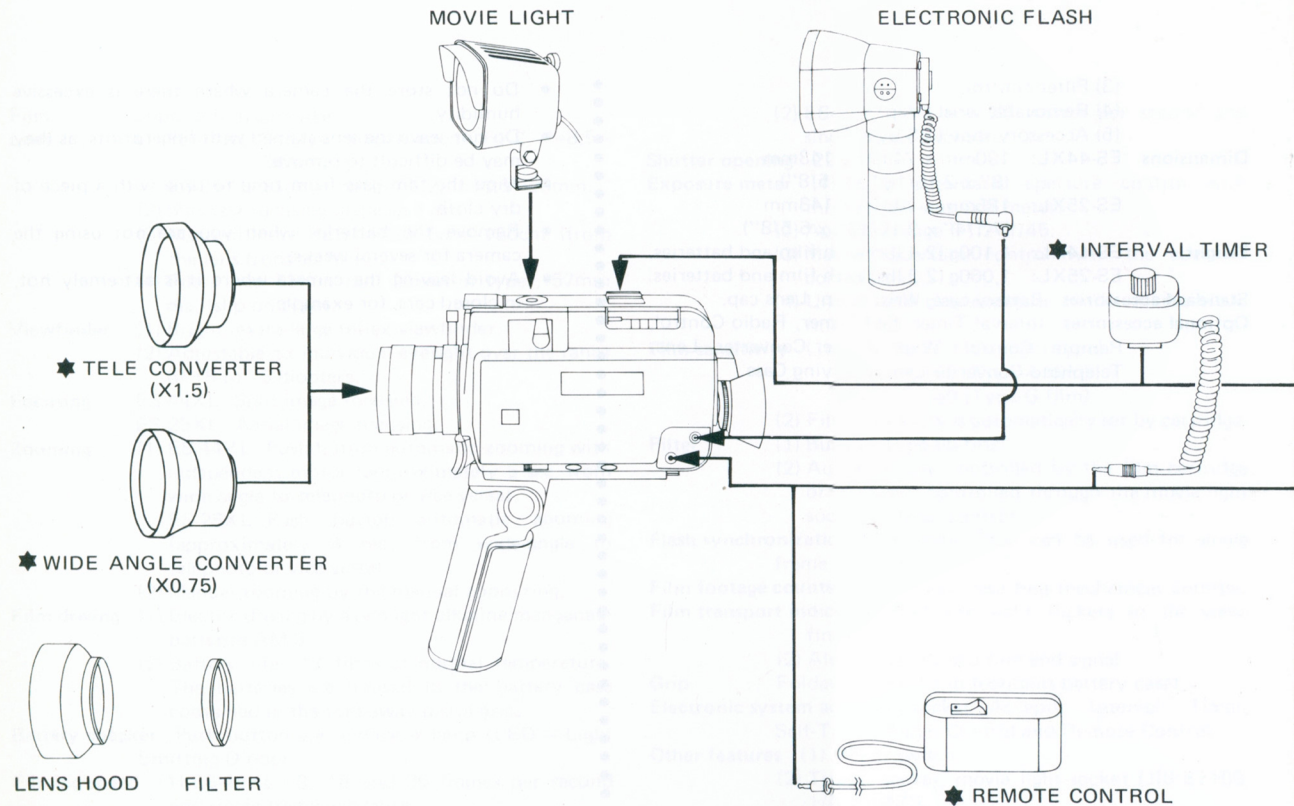
**Standard accessories** Battery case, Wrist strap, Lens cap.

**Optional accessories** Interval Timer, Self-Timer, Radio Control, Remote Control, Wide Angle Converter Lens, Telephoto Converter Lens, Carrying Case.

- Do not store the camera where there is excessive humidity.
- Do not leave the lens stained with fingerprints, as they may be difficult to remove.
- Wipe the film gate from time to time with a piece of dry cloth.
- Remove the batteries when you are not using the camera for several weeks.
- Avoid leaving the camera where it is extremely hot, in closed cars, for example.



# ES TOTAL SYSTEM DIAGRAM



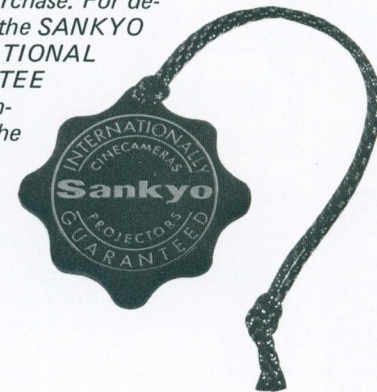
## SANKYO ELECTRONIC SYSTEM

These accessories will make your Sankyo ES-44XL/25XL more flexible. Use them for greater versatility and more filming pleasure.

The accessories marked ★ are Sankyo exclusive accessories. You can purchase them from your Sankyo dealer.

## GUARANTEE

*Your Sankyo ES-44XL/25XL are internationally guaranteed for any defect in material or workmanship for a full year from the date of original purchase. For details, read the SANKYO INTERNATIONAL GUARANTEE which is enclosed in the original camera package.*



Design and specifications subject to change without notice.



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