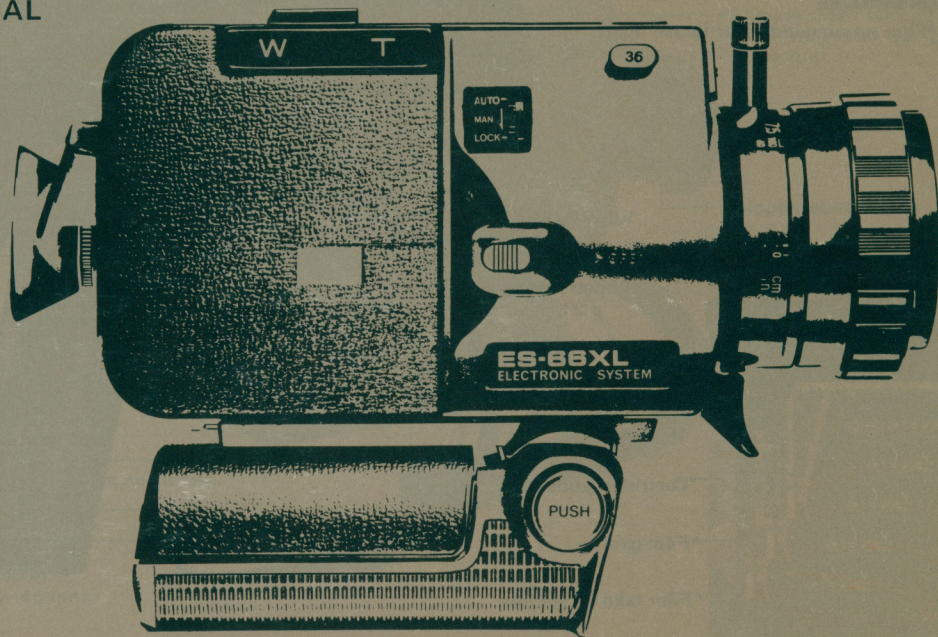


Sankyo

ES-66XL

ELECTRONIC SYSTEM SUPER 8

INSTRUCTION MANUAL



Thank you for buying a Sankyo Electronic System ES-66XL 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, Remote Control.
- Indoor filming is possible in normal lighting conditions without movie lights, you will still get clear and sharp pictures.

The ES-66XL offers another possibility; macrophotography.

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

These three 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 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.

Movie light socket

Also automatically releases the built-in filter.
p.12

Filter control

Moves the built-in filter in and out.
p.12

Macro switch

Switchable in 2 steps. P.19

Zoom lever

For manual zooming.
p.11

Zoom ring

Focusing ring

p.9, 10

Electromagnetic shutter release switch

Power ON-OFF switch

Switch to off position when not in use.

Battery check lamp

Battery check button

Zoom lens (with macro)

6X (F1.2, f=7.5-45mm)

System accessory shoe

For exclusive accessories, Interval Timer, Self-Timer and Radio Control.

Film footage counter

Indicates the amount of film used. P.4

Filming speed selector

1, 18 and 24 frames/second. p.7

Diopter control ring

P.8

Flash synchronization socket

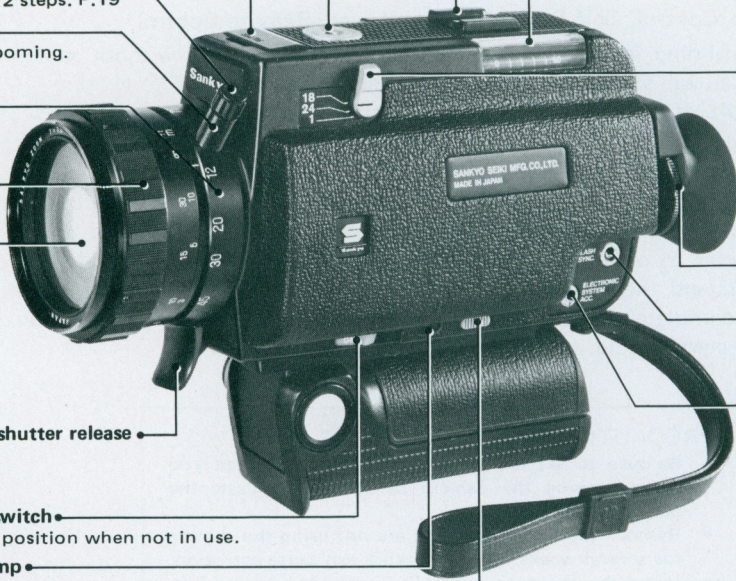
For the connection of an electronic flash. P.14

Electronic system accessory socket

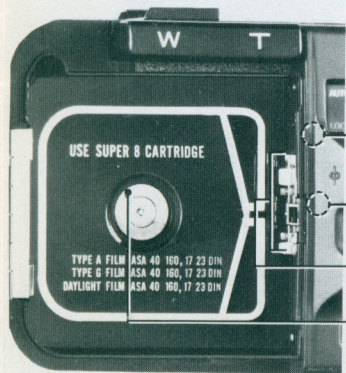
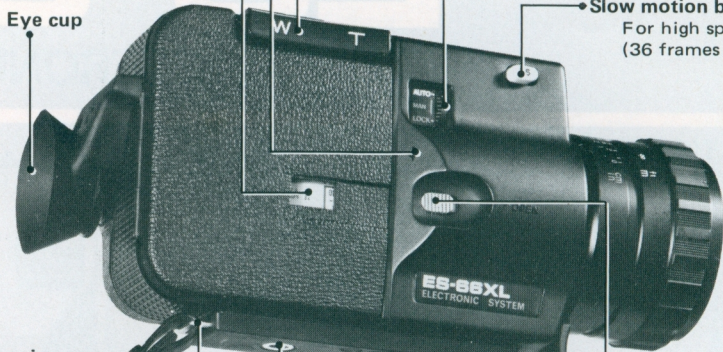
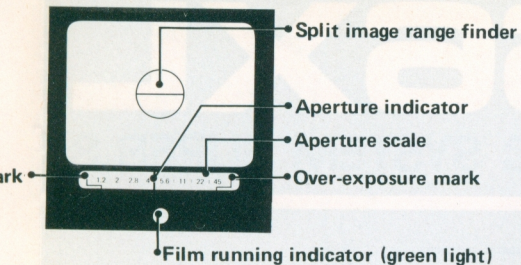
Plug Remote Control, Radio Control, Interval Timer and Self-Timer. P.17, 27.

Under-exposure mark

INDIC



INDICATORS IN THE VIEWFINDER

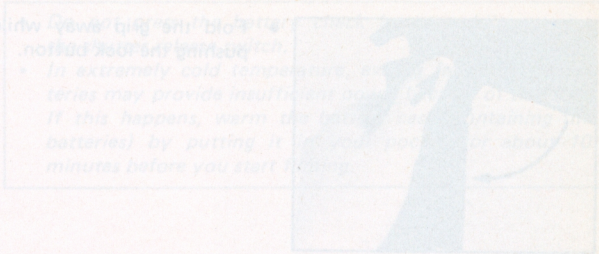


ES-86XL
ELECTRONIC SYSTEM

2 CHECKING THE BATTERY POWER



LOADING THE BATTERIES



CONTENTS

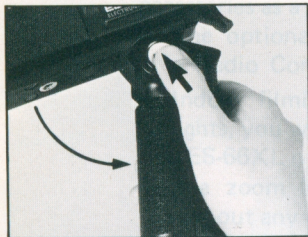
BASICS

1. Loading the batteries	2
2. Checking the battery power	3
3. Loading the film	4
4. Aperture control	5
5. Selecting the filming speed	7
6. Adjusting viewfinder to your eyesight	8

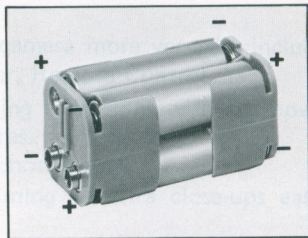
7. Focusing	9
8. Zooming	11
9. Filter control	12
10. Single frame exposure	13
11. Filming at 24 frames/second	15
12. Slow motion filming	16
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BASICS

1 LOADING THE BATTERIES



- Fold the grip away while pushing the lock button.



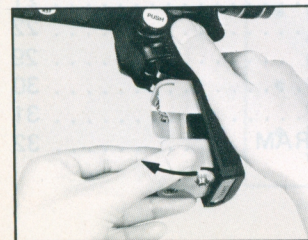
- Insert 4 "AA"-size dry batteries following the diagram inside the case.



- Remove the battery compartment cover.



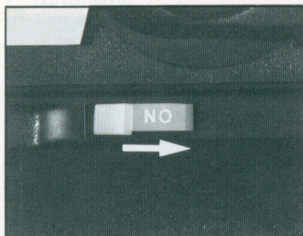
- Replace the case as shown inside the compartment.
- Replace the cover.



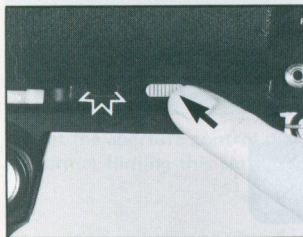
- Take out the battery case.

*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.

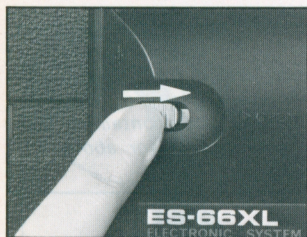


- Press the battery check button.

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.

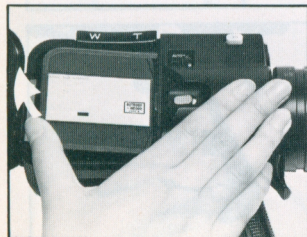
3 LOADING THE FILM



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



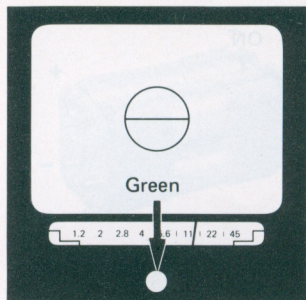
- Insert a Super-8 film cartridge.
- Close the cover.



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.

2. Manual



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

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. (58mm dia. screw-in type or 60mm dia. slip-on type.)</p>

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.

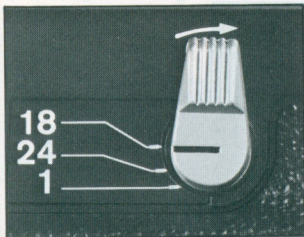
3. Lock



- Set the aperture control dial to "LOCK".

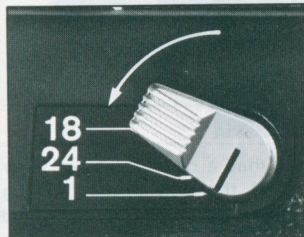
This protects the delicate EE mechanism from shocks and vibrations. Use this lock facility when you are transporting your camera.

5 SELECTING THE FILMING SPEED



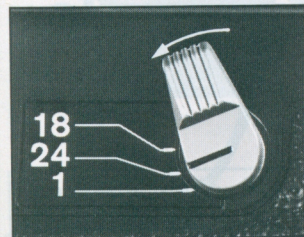
Normal filming

- Set the filming speed selector to "18".



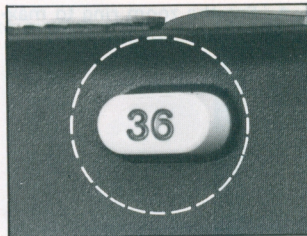
Single frame exposure (P. 13)

- Set the filming speed selector to "1".



Filming at 24 fps (p.15)

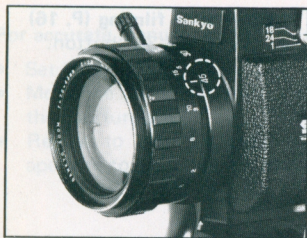
- Set the filming speed selector to "24".



Slow motion filming (P. 16)

- Press the "36" button.

6 ADJUSTING VIEWFINDER TO YOUR EYESIGHT



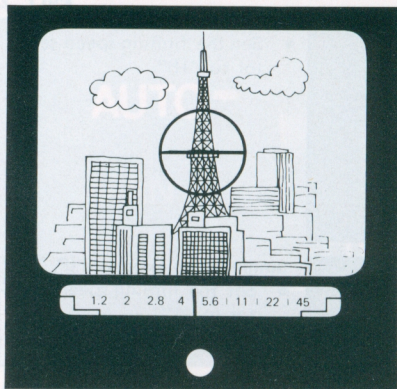
- Set the zoom ring to maximum telephoto "45".



- Set the focusing ring to infinity (∞).



- 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.

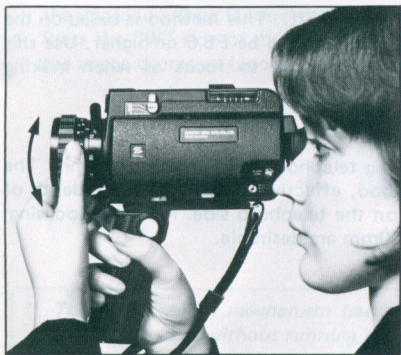
This adjustment should be accurate as it has an effect on the split image focusing accuracy.

7 FOCUSING

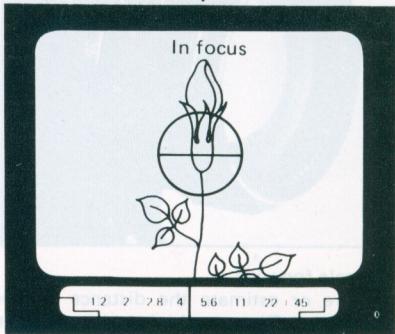
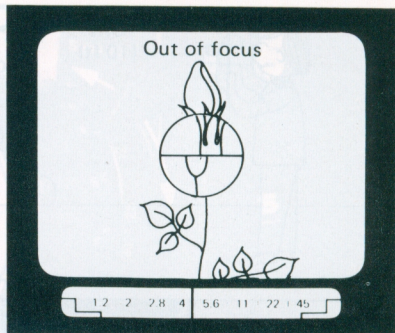
Split image focusing



- Set the zoom ring to maximum telephoto "45".

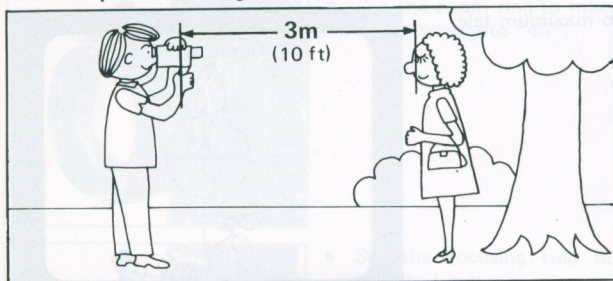


- Turn the focusing ring so that the upper and lower halves of the subject in the split image focusing circle align with each other.



6 ADJUSTING VIEWFINDER TO YOUR EYESIGHT

Other simplified focusing techniques



- 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.

This ES-66XL has a long telephoto focal length of 45mm. The universal focusing method, effective due to the wide depth of field, cannot be used on the telephoto side. For clear focusing, focal lengths of up to 30mm are desirable.



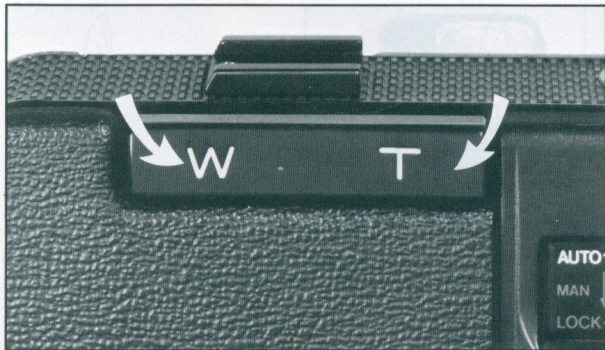
- Scale focusing

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

This adjustment should be accurate as the split image focusing accuracy.

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).

* The power zoom mechanism has an independent motor and can be used without running the camera.

2. Manual





- Turn the zoom ring by the zoom lever.

9 FILTER CONTROL

Other simplified focusing techniques

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">• Sunshine• Fluorescent light• Blue light
	<ul style="list-style-type: none">• Tungsten light• Movie light

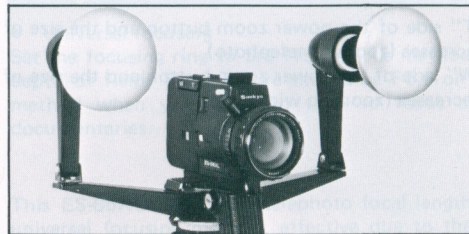
Type-G film

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



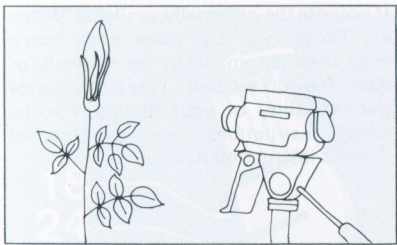
1. With the movie light screwed into the movie light socket, the filter is automatically removed. There is no need to operate the filter control.



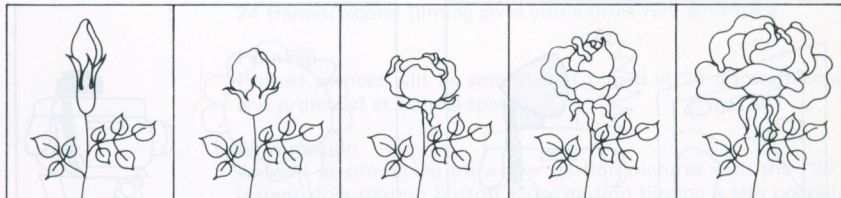
2. When the movie light is mounted on a bracket screwed into the tripod socket, raise the filter control.

*Movie lights get very hot. Be careful not to allow the camera body to be damaged by heat.
Do not mount the movie light in the accessory shoe.*

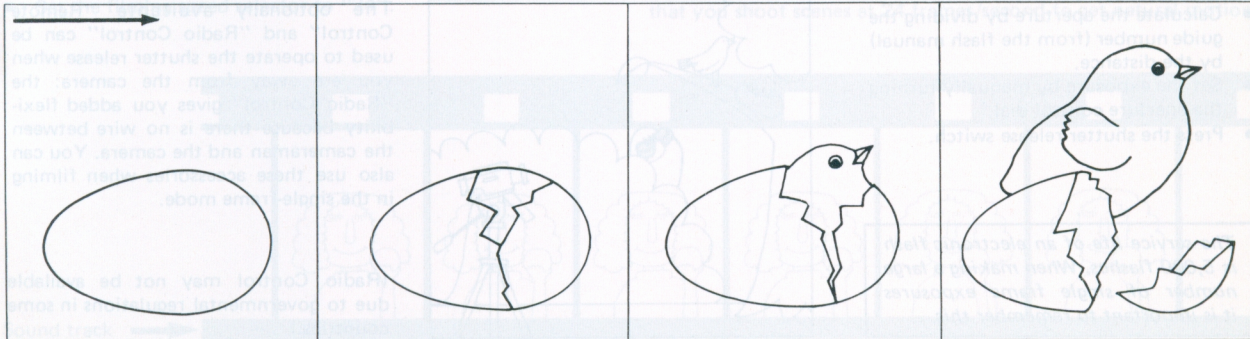
10 SINGLE FRAME EXPOSURE



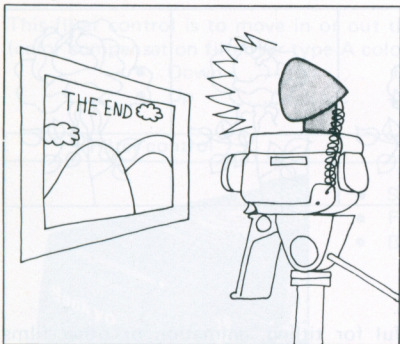
- Set the filming speed selector to "1".
- Set the aperture control dial to "AUTO".
- Press the shutter release switch.



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



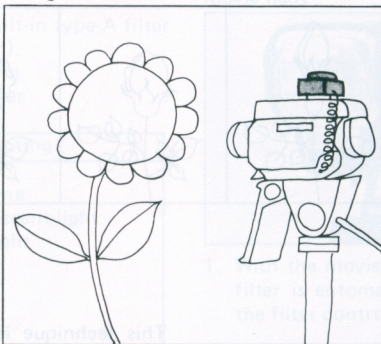
Using an electronic flash



- 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.

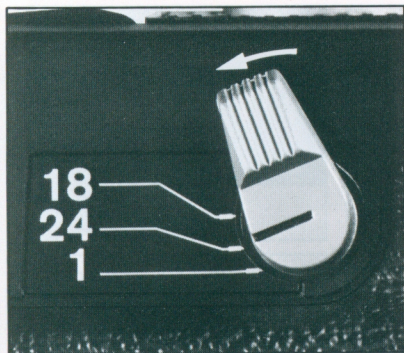
Using with Remote Control and Radio Control



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.

(Radio Control may not be available due to governmental regulations in some countries.)

11 FILMING AT 24 FRAMES/SECOND



- Set the filming speed selector to "24".

24 frames/second filming gives you a three-way advantage.

Panning

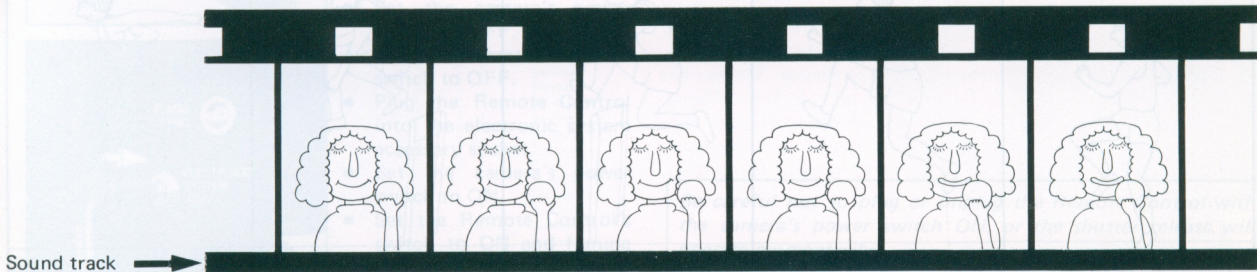
Panned scenes will be smoother if filmed at 24 frames/second and projected at normal speed.

Slow motion

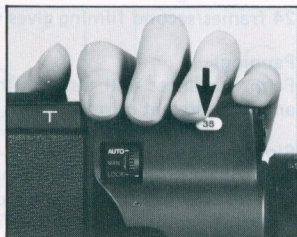
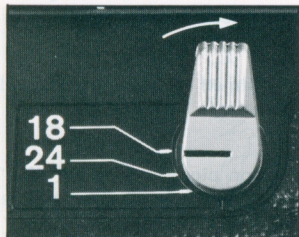
As well as producing ultra-slow motion pictures with the "36" instant slow motion button, slow motion filming is also possible using the filming speed of 24 frames/second.

Sound recording

It is possible to record sound on the pre-exposed film using a sound projector with a recording facility — such as Sankyo Sound-600. In such cases the sound quality will be improved if you use the filming speed of 24 frames/second. If you are going to have a sound track on your film, it is recommended that you shoot scenes at 24 frames/second to get natural motion.

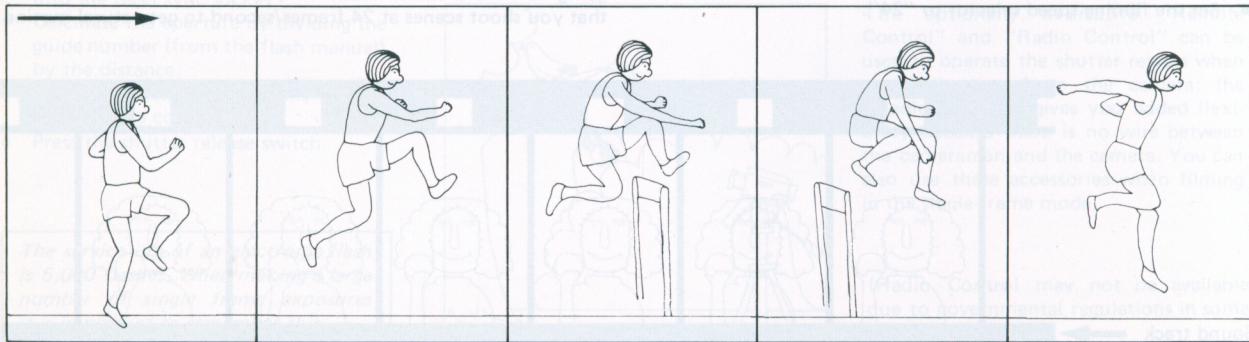


12 SLOW MOTION FILMING

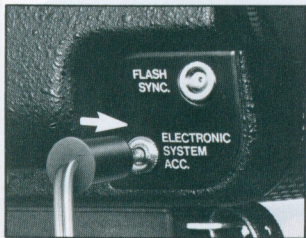
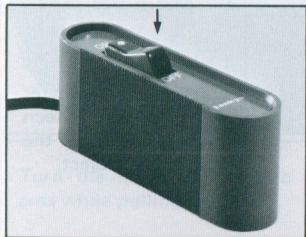
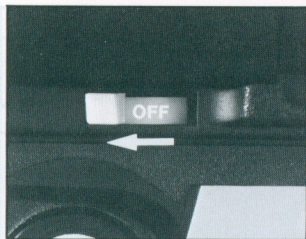


- Set the filming speed selector to "18".
- Press the slow motion "36" button while pressing the shutter release switch.

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.

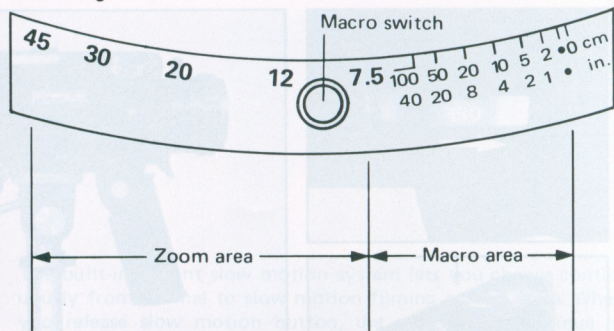
14 MACROPHOTOGRAPHY (P. 25)



Macro shots mean close-ups of small subjects taken from very short distances. With the built-in zoom lens with macro, the ES-66XL allows, in addition to zooming, close-up shooting from distances between 0cm to 150cm (60"). Continuous filming from zoom to macro or from macro to zoom is also possible.

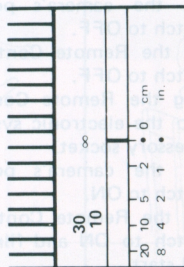
The ES-66XL comes complete with a ten-piece Titling Kit including a Macro Titler, 5 Title Masks and 4 Trick Masks. With or without these the macro facility will add immeasurable interest to your projected show. For details on titling, superimposition and other advanced macrophotography techniques, see page 25.

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.

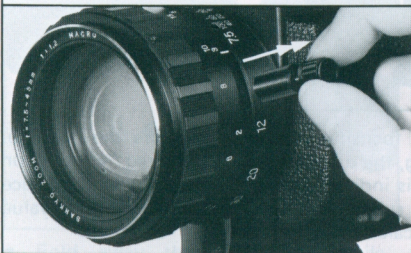


The mark "•" on the macro scale indicates the position to which the distance should be set when using the Macro Titler.

Macro switch

The macro switch has two positions:

Pull the macro switch until it locks.

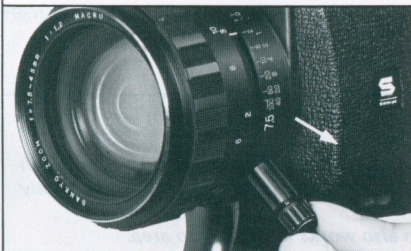


The zoom ring can be turned from the macro area to the zoom area or vice versa.

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



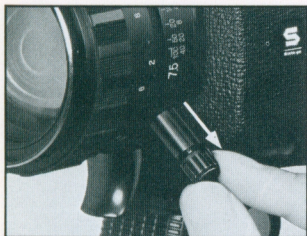
Turn the macro switch into the macro area while pulling it slightly.



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 (∞).

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 distance figures on this macro scale are to be used when the focusing ring is set to infinity. Be careful to make sure that the focusing ring is properly set for macro scale focusing.

- * After filming with the macro switch locked, do not forget to unlock it.
- * The closer the camera is to the subject, the less the depth of field (see p.29). Be most careful to focus accurately for macro shots.
- * The power zoom also works in the macro area.

15 TRIPOD MOUNTING

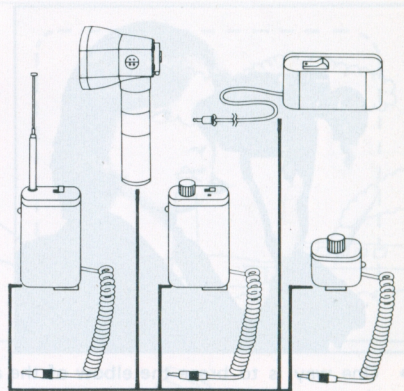


- Fold away the pistol grip while pushing the lock button.



- 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

Operation



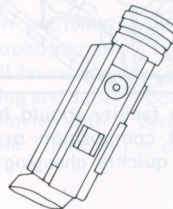
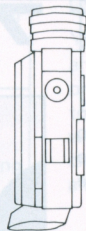
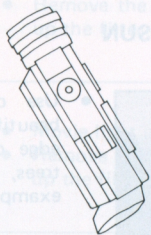
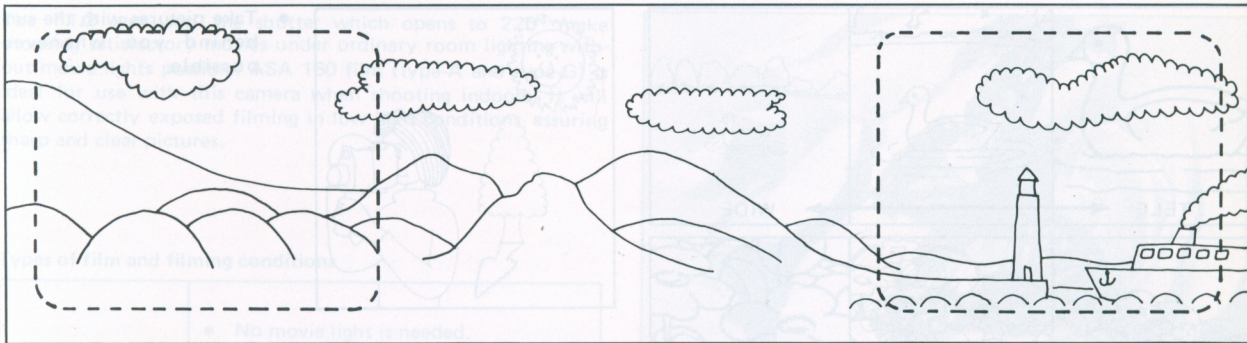
- One way is to brace the elbow of the arm which is holding the camera against the chest.
- Put the wrist strap round your wrist.
- Use a tripod.

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

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



3 FOR EFFECTIVE PANNING



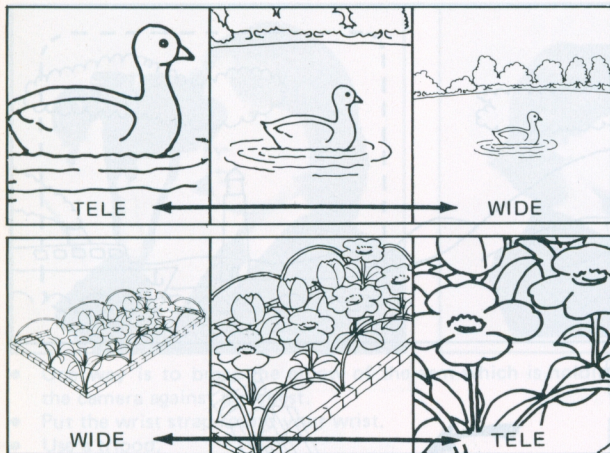
START: hold still for about 3 seconds

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

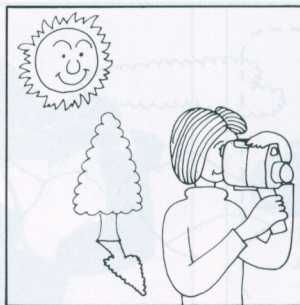


- The manual zoom facility should be used before filming to select the desired composition or during filming to give special effects by quickly changing from telephoto to wide angle or vice versa.

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 unstable.

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 and the shutter which opens to 220° 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

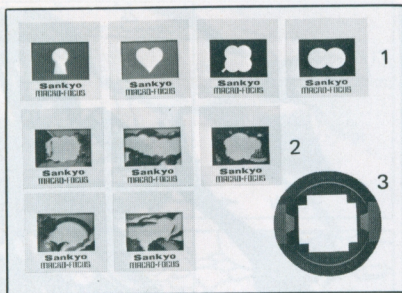
A/ASA 160	<ul style="list-style-type: none">• No movie light is needed.• Remove the built-in filter by flipping up the filter control.
A/ASA 40	<ul style="list-style-type: none">• Movie light is sometimes needed.• Remove the built-in filter by flipping up the filter control.
G/ASA 160	<ul style="list-style-type: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

9 MACROPHOTOGRAPHY – THE PERSONAL TOUCH



You can create your own excitement with the techniques that are possible using macrophotography. Insects, small flowers, prints, stamps, etc. can all be captured to add detail and interest to your movies. With titling and superimposition techniques you will make professional movies with a personal touch. The exclusive Sankyo extra – the Titling Kit – can help you produce a real show.

- 1 Trick masks
- 2 Title masks
- 3 Macro Titler



Macro Titler

This is the basic attachment. The following instructions are the basic steps you will use for titling, trick effects and superimposition.

1. Pull the macro switch and, turning the zoom ring into the macro area, align the index mark on the lens barrel to the "•" mark on the macro scale.
2. Set the focusing ring to infinity (∞).
3. Place the Macro Titler on the front end of the lens.



4. Insert one of the masks provided or any 35mm slide into the titler.
5. Be sure that it is squarely placed when seen through the viewfinder.
6. Shoot for 5 – 7 seconds at AUTO.

Titling

You can write your own titles on a title mask, a 35mm slide or on tracing paper. Outdoors, point the camera towards a bright sky — indoors, point the camera towards a white wall or sheet illuminated by two floodlights. An interesting technique is to write your title one letter at a time, shooting each letter for about 2 seconds and holding the final frame for about 7 seconds.

Macro Superimposition of the written title and the subject. →

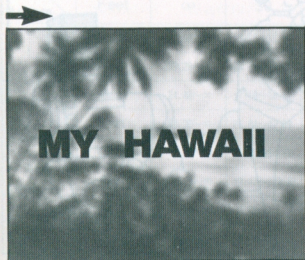


When a subject is in focus, objects nearer and farther from the camera will also be in focus. The distance between the nearest and farthest objects which are in focus is called the depth of field.

Macro Superimposition

Use the trick masks to set the scene for fun and fantasy in your movies. Follow the basic directions for the Macro Titler. However, with a few changes you can produce a wide range of special effects.

- Rather than focusing the lens at infinity, focus the lens in advance to the subject to be photographed.
- Take your shot with the zoom ring set to wide-angle. You'll see the sharply focused subject surrounded by the slightly shaded mask. Or you can shoot the first five seconds at the "●" position on the zoom ring and then turn the ring smoothly to the wide-angle position. Either technique will add a little magic to your movie.
- Turn the zoom ring all the way from wide-angle to telephoto and zoom in on your subject. The mask will blur into soft streaks of color, beautifully framing your subject.

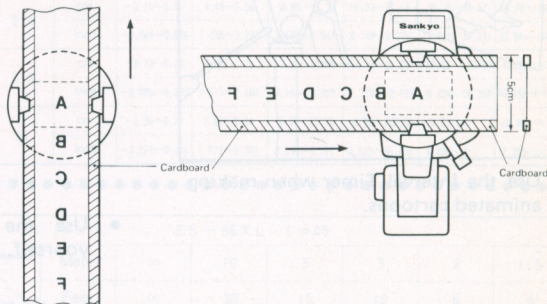


Depth-of-Field Tables for Macro Filming

The depth-of-field measurements are made with a 50mm lens. The tables are for a 35mm camera. The depth-of-field is measured in millimeters. The depth-of-field is measured in millimeters. The depth-of-field is measured in millimeters.

Moving Titles

Do you like action? Make it happen with moving titles! Write your titles on a strip of tracing paper about 2" wide or on a roll of unexposed, developed 35mm film. With narrow strips of cardboard folded in half and lightly glued to the paper to act as guides you can slowly move the titles vertically or horizontally as shown in the diagram.

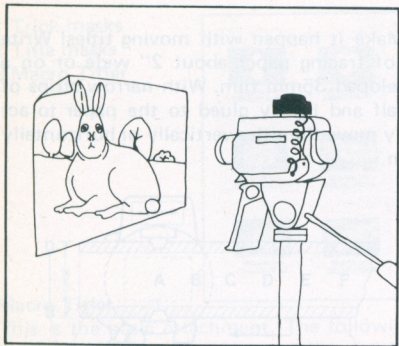


Titling without the Macro Titler

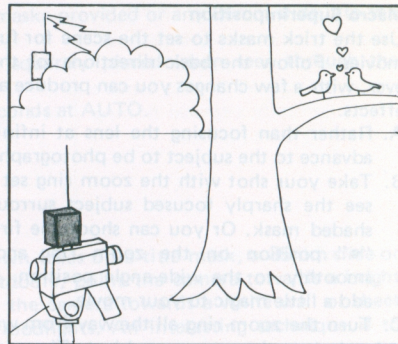
Use your imagination! Film picture postcards, maps or drawings you have done yourself. Be careful to illuminate your subject sufficiently.

* *What is seen through the viewfinder is about 90% of what is being filmed. Be careful to frame your subject so that the entire image is included.*

10 USING THE SPECIAL ACCESSORIES



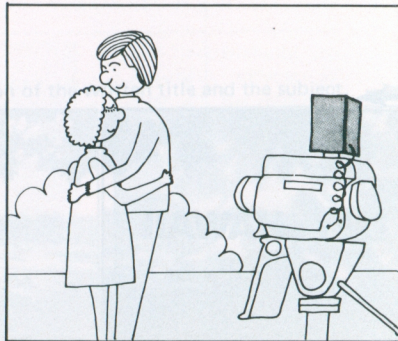
- Use the Radio Control when making wild life movies.



- Use the Interval Timer when making animated cartoons.

- 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 (ϕ) of the camera.

E S - 66 X L f = 7.5								
Distance	Meter	∞	10	5	3	2	1.5	
	Feet	∞	30	15	10	6	5	
Aperture	1.2	Meter	3.61~ ∞	2.65~ ∞	2.09~ ∞	1.64~17.86	1.29~4.49	1.06~2.57
		Feet	11.83~ ∞	8.48~ ∞	6.61~ ∞	5.42~64.65	3.98~12.18	3.51~8.66
Aperture	2.8	Meter	1.53~ ∞	1.33~ ∞	1.17~ ∞	1.01~ ∞	0.87~ ∞	0.76~77.01
		Feet	5.02~ ∞	4.30~ ∞	3.76~ ∞	3.34~ ∞	2.73~ ∞	2.50~ ∞
Aperture	5.6	Meter	0.76~ ∞	0.71~ ∞	0.66~ ∞	0.61~ ∞	0.55~ ∞	0.51~ ∞
		Feet	2.51~ ∞	2.32~ ∞	2.15~ ∞	2.01~ ∞	1.77~ ∞	1.67~ ∞
Aperture	16	Meter	0.27~ ∞	0.26~ ∞	0.26~ ∞	0.25~ ∞	0.24~ ∞	0.23~ ∞
		Feet	0.89~ ∞	0.86~ ∞	0.84~ ∞	0.81~ ∞	0.77~ ∞	0.75~ ∞

E S - 66 X L f = 30								
Distance	Meter	∞	10	5	3	2	1.5	
	Feet	∞	30	15	10	6	5	
Aperture	1.2	Meter	57.69~ ∞	8.52~12.10	4.60~5.47	2.85~3.16	1.93~2.07	1.46~1.54
		Feet	189.28~ ∞	25.90~35.65	13.90~16.29	9.00~10.56	5.82~6.20	4.87~5.14
Aperture	2.8	Meter	24.48~ ∞	7.10~16.91	4.15~6.28	2.67~3.42	1.85~2.18	1.41~1.60
		Feet	80.30~ ∞	21.84~47.89	12.64~18.45	8.89~11.42	5.58~6.48	4.71~5.33
Aperture	5.6	Meter	12.24~ ∞	5.50~54.68	3.55~8.45	2.41~3.97	1.72~2.39	1.34~1.71
		Feet	40.15~ ∞	17.17~118.65	10.92~23.95	8.01~13.32	5.22~7.05	4.45~5.71
Aperture	16	Meter	4.33~ ∞	3.02~ ∞	2.32~ ∞	1.77~9.78	1.37~2.72	1.11~2.30
		Feet	14.20~ ∞	9.64~ ∞	7.29~ ∞	5.87~33.83	4.22~10.39	3.70~7.72

Depth-of-Field Table for Macro Filming

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

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

Distance	cm	0	5	10	20	50	100	
	Inch	0	2	4	8	20	40	
Aperture	1.2	cm	-0.05~0.05	4.78~5.23	9.49~10.55	18.57~21.62	43.41~58.68	78.2~137.28
		Inch	-0.019~0.020	1.911~2.094	3.793~4.223	7.422~8.654	16.862~24.400	31.187~55.213
Aperture	2.8	cm	-0.11~0.11	4.49~5.56	8.85~11.36	16.90~24.14	36.75~75.67	60.20~265.45
		Inch	-0.044~0.046	1.798~2.226	3.539~4.547	6.749~9.675	13.855~34.033	23.941~108.812
Aperture	5.6	cm	-0.22~0.24	4.04~6.20	7.87~12.99	14.49~29.93	28.65~146.57	42.31~ ∞
		Inch	-0.086~0.095	1.615~2.480	3.144~5.207	5.779~12.032	10.406~98.356	16.782~ ∞
Aperture	16	cm	-0.58~0.77	2.68~9.44	5.20~23.70	8.85~130.62	14.61~ ∞	18.49~ ∞
		Inch	-0.227~0.301	1.072~3.783	2.076~9.572	3.523~55.476	4.896~ ∞	7.309~ ∞

E S - 66 X L f = 45								
Distance	Meter	∞	10	5	3	2	1.5	
	Feet	∞	30	15	10	6	5	
Aperture	1.2	Meter	129.81~ ∞	9.28~10.83	4.81~5.20	2.93~3.07	1.97~2.03	1.48~1.52
		Feet	425.88~ ∞	28.03~32.27	14.49~15.55	9.77~10.24	5.92~6.09	4.94~5.06
Aperture	2.8	Meter	55.07~ ∞	8.46~12.22	4.58~5.50	2.85~3.17	1.93~2.08	1.46~1.54
		Feet	180.68~ ∞	25.73~35.97	13.85~16.36	9.48~10.59	5.81~6.21	4.87~5.14
Aperture	5.6	Meter	27.54~ ∞	7.34~15.70	4.23~6.11	2.71~3.37	1.86~2.16	1.42~1.59
		Feet	90.34~ ∞	22.52~44.91	12.86~17.99	9.00~11.24	5.63~6.43	4.74~5.29
Aperture	16	Meter	9.74~ ∞	4.93~ ∞	3.30~10.28	2.29~4.34	1.66~2.52	1.30~1.77
		Feet	31.94~ ∞	15.47~493.71	10.21~28.28	7.62~14.56	5.05~7.39	4.32~5.93

SPECIFICATIONS

Film	Super 8 film cartridge.
Lens	(1) Sankyo zoom (with macro) F1.2, f=7.5-45mm. (2) Shortest focusing distance 1.5m. (3) Macro filming 0cm-150cm (from the lens front surface). (4) Filter size 58mm dia. (screw-in type), 60mm dia. (slip-on type).
Viewfinder	(1) Bright, extra-large reflex viewfinder. (2) Adjustable to individual eyesight over the range of +5 to -5 diopters.
Focusing	Split image focusing.
Zooming	(1) Push button automatic zooming with independent motor (approximately 5 sec. from wide-angle to telephoto or vice versa). (2) Manual zooming by the manual zoom ring.
Film driving	(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.
Battery checker	Push button and indicator lamp (LED - Light Emitting Diode).
Filming speed	18, 24 and 36 frames per second and single frame exposure.
Shutter opening	220°
Exposure meter	(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.

Film sensitivity (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.

Filter

(1) Built-in Type 85 filter.

(2) Automatically controlled by the film cartridge or manually controlled through the movie light socket or filter control.

Flash synchronization Electronic flash can be used for single frame exposures.

Film footage counter Automatic resetting mechanical counter.

Film transport indicator (1) Green light flickers in the viewfinder.

(2) Also functions as a film end signal.

Grip

Foldaway pistol grip (contains battery case).

Electronic system accessory socket Accepts Interval Timer, Self-Timer, Radio Control and Remote Control.

Other features

(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).

Dimensions 196mm x 74mm x 143mm
(8" x 2-15/16" x 5-5/8")

Weight 1,190g (2.6 lbs.) with film and batteries.

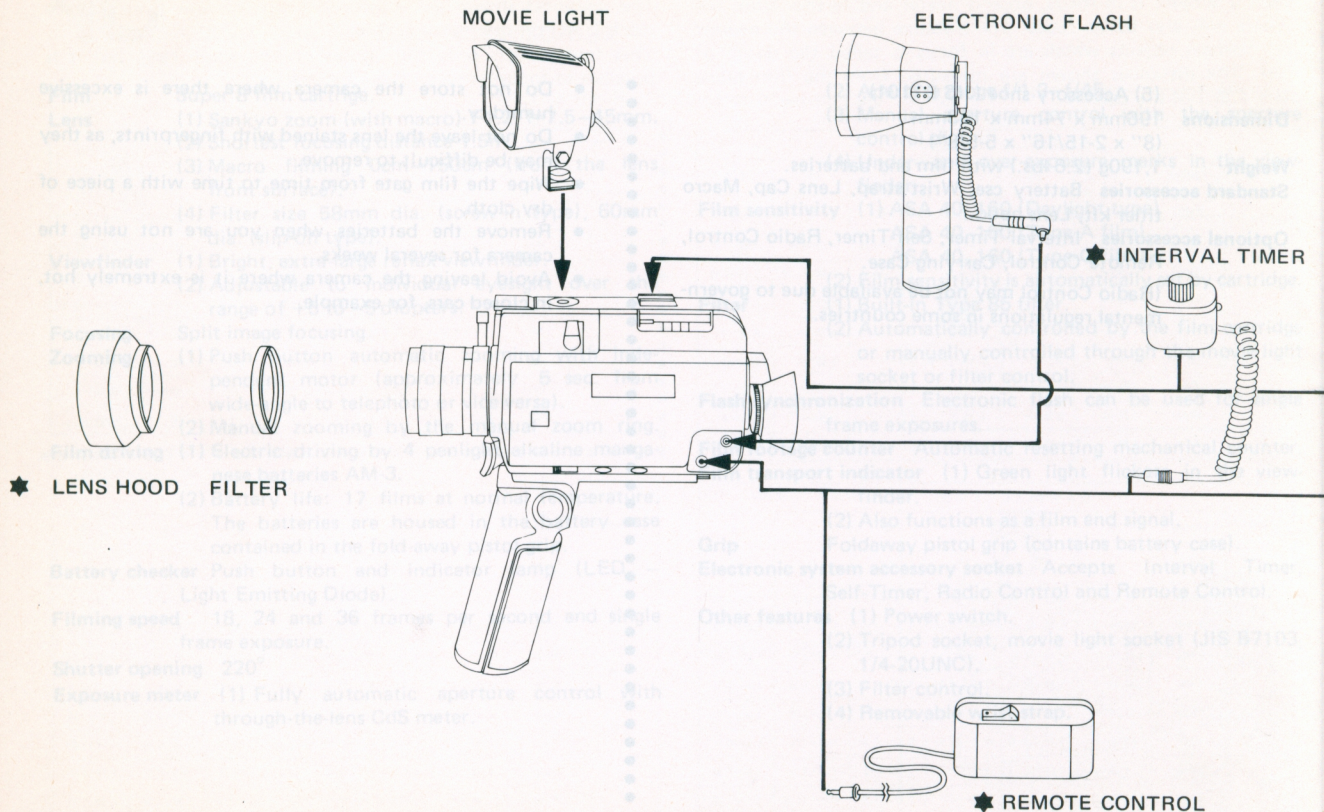
Standard accessories Battery case, Wrist strap, Lens Cap, Macro titler kit, Lens hood.

Optional accessories Interval Timer, Self-Timer, Radio Control, Remote Control, Carrying Case.

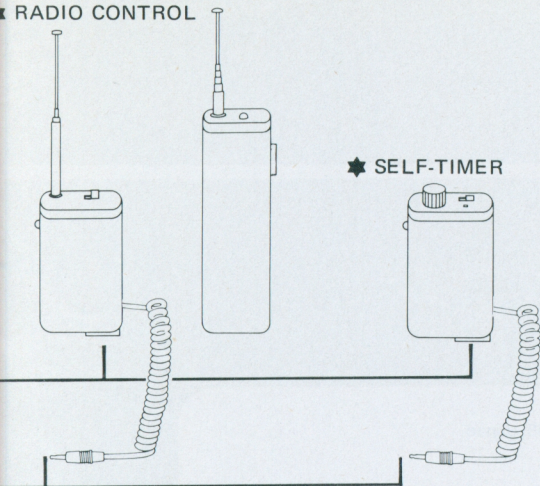
(Radio Control may not be available due to governmental regulations in some countries.)

- 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



RADIO CONTROL



★ SELF-TIMER

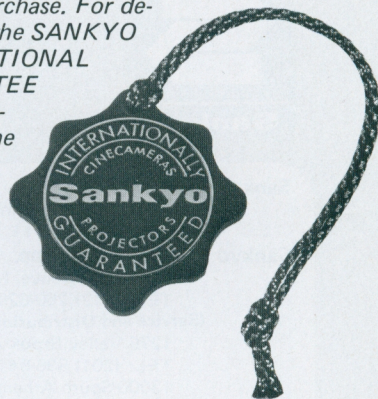
SANKYO ELECTRONIC SYSTEM

These accessories will make your Sankyo ES-66XL 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-66XL is 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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