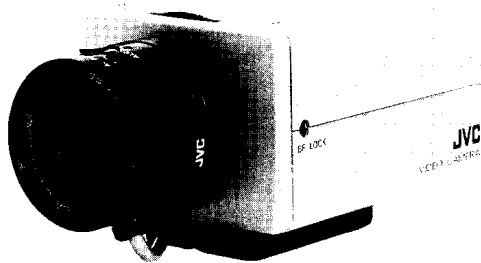


# INSTRUCTIONS (For U Version)

# JVC

## TK-S250 VIDEO CAMERA



The lens is optional

### For Customer Use:

Enter below the Serial No. which is located on the top of the body. Retain this information for future reference.

Model No. **TK-S250**

Serial No. \_\_\_\_\_



### CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,  
DO NOT REMOVE COVER (OR BACK).  
NO USER SERVICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

### WARNING:

TO PREVENT FIRE OR SHOCK HAZARD,  
DO NOT EXPOSE THIS UNIT TO RAIN OR  
MOISTURE.

### AVERTISSEMENT:

POUR EVITER LES RISQUES D'INCENDIE  
OU D'ELECTROCUTION, NE PAS EXPOSER  
L'APPAREIL A L'HUMIDITE OU A LA PLUIE.

### INFORMATION (FOR CANADA)

#### RENSEIGNEMENT (POUR CANADA)

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur : "Appareils Numériques", NMB-003 édictée par le ministre des Communications.



The lightning flash with arrowhead symbol, within an equi-lateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

### Information for USA

This device complies with Part 15 of the FCC Rules. Changes or modifications not approved by JVC could void the user's authority to operate the equipment.

Due to design modification, data given in this instruction book are subject to possible change without prior notice.

Thank you for purchasing the JVC TK-S250 video camera. To obtain the best results from your new camera, read this instructions carefully before use; retain the manual for future reference.

## CONTENTS

FEATURES .....	2
PRECAUTIONS .....	2
CONTROLS, CONNECTORS AND INDICATORS .....	3
CONNECTION METHOD .....	5
LENS .....	6
SPECIFICATIONS .....	9

## FEATURES

- High sensitivity; low residual image; low image distortion, resists electric and magnetic fields. The camera can be used in various fields.
- Since the camera uses 24V AC/12V DC, it can be installed and built into a system easily.
- Internal, external, and line lock synchronization (60-Hz regions only) can be selected by switch.
- The automatic electronic shutter adjusts its speed automatically to provide correct exposure even if a manual iris lens is used.

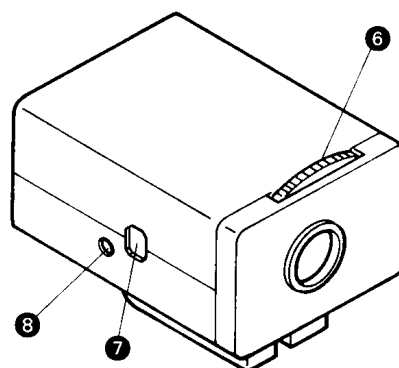
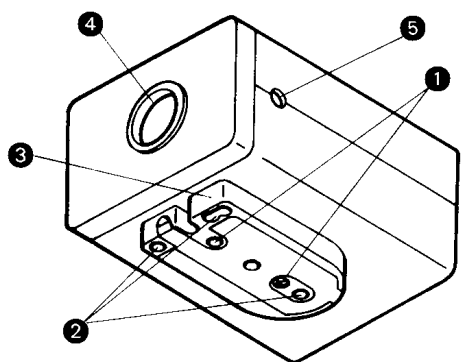
- The built-in backlight compensation function improves the image quality for backlit subjects.
- The back focus adjustment function allows easy adjustment and installation.
- C-mount or CS-mount lens can be attached to the camera with the lens mount change function.

## PRECAUTIONS

- Since this camera contains an AGC circuit, the sensitivity increases automatically in dark places, and the image looks graying, but this is not a failure.
- If a zoom lens is used, mount it on the camera and check the back focus before mounting the camera. This also applies to lens ALC and LEVEL. (See the instructions for details.)
- If a high-intensity object (such as a lamp) is shot, the image on the screen may have vertical lines (smear) or blur (blooming) at its periphery (especially in AES mode). This is a characteristic of the CCD, and is not a defect.
- If an EE lens is used, set the electronic automatic shutter switch (AES) to OFF. If set to ON, flickering may occur. If a manual iris lens is used, set the AES to ON.

2

## CONTROLS, CONNECTORS AND INDICATORS



### 1 Camera mounting screw holes (1/4")

These screw holes are used to install the camera on a mount or PAN/TILT UNIT. Use either of the two holes according to the situation.

### 2 Camera mounting bracket fixing screws (three)

### 3 Camera mounting bracket

The camera mounting bracket is mounted on the bottom of the camera at the factory. It can be installed on the top of the camera if necessary. Fit the mounting bracket on the top of the camera head with the three screws 2

### 4 Lens mount

This mount is used to install a C-mount lens (1/3, 1/2, 2/3, 1 inch) or CS-mount lens (1/2, 1/3 inch)

### 5 [BF LOCK] Back focus locking screw

This screw locks the back focus adjustment mechanism.

### 6 Back focus adjustment ring

This ring is used to adjust the back focus and change the lens mount method. Loosen screw 5 to turn the ring, and tighten the screw after adjustment.

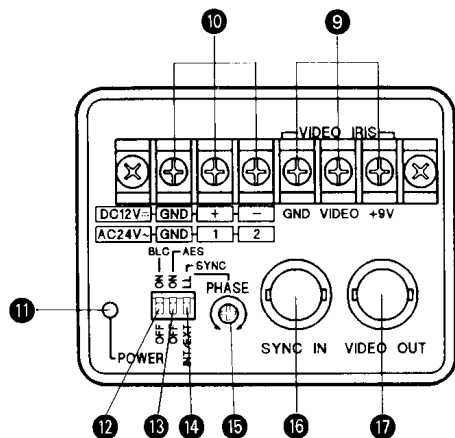
### 7 [DC IRIS] DC iris connector

Connect an auto-iris lens that does not contain an EE amplifier. If the lens cable has a different type of plug, use the 4-pin plug supplied.

### 8 [LEVEL] Sensitivity adjustment volume

Adjust the brightness of the image when the DC iris connector 7 is used.

Monitor screen	LEVEL turning direction
Too bright	Counterclockwise (Towards L)
Too dark	Clockwise (Towards H)



- 9 [VIDEO IRIS] Video iris terminal**  
Connected to an auto-iris lens containing an EE amplifier.
- 10 [12V DC/24V AC] Power input terminal**  
Connect the 12V DC or 24V AC power supply.
- 11 [POWER] Power lamp**  
Lights when the power is on.
- 12 [BLC] Backlight compensation switch**  
This switch improves an image that is darkened because of backlighting.  
Set this switch to ON for backlight subjects.
- 13 [AES] Automatic Electronic Shutter switch**  
If this switch is set to "ON" when the manual iris lens is used, the shutter speed varies according to the brightness of the object, and the brightness of the image is automatically adjusted.  
If the aperture is fixed or if an EE lens is used, set this switch to OFF.

#### NOTE

- Hunting may occur at a certain object brightness due to the mechanism of the AES circuit, but this is not a failure.

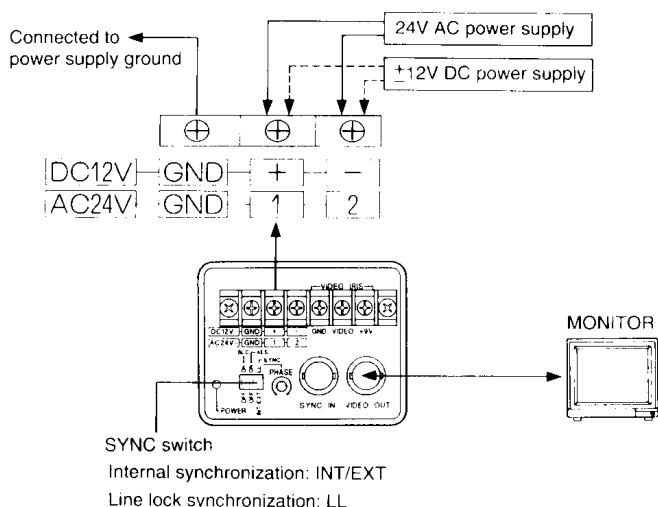
- 14 [SYNC] Synchronization select switch**  
INT/EXT: Set the switch to this position to use the internal or external sync signal (SYNC or VS). When an external sync signal is input to the sync signal input connector **16**, the camera operates in synchronization with the external sync signal. When no external sync signal is input, the camera operates in synchronization with the internal sync signal.  
LL: Set the switch to this position to use the frequency of the 24V AC power supply for synchronization (in 60-Hz regions only).
- 15 [PHASE] Line lock synchronization phase adjustment**  
Used to adjust the phase when the synchronization select switch **14** is set to "LL".  
Adjust this volume so that the vertical phase of the camera matches the vertical phase of another camera (or system) with a multi-channel oscilloscope. (If the phases do not match using this method, reverse the polarities of the 24V AC power to the camera, then adjust again.)
- 16 [SYNC IN] Sync signal input connector**  
Connector for external sync signal input. Input SYNC (composite sync signal) or VS (video signal with sync signal). If the sync mode select switch **14** is set to INT/EXT, the camera synchronizes with the external sync signal.
- 17 [VIDEO OUT] Video signal output connector**  
Outputs the video signal from the camera.  
Connect to a video monitor, etc. (75Ω)

4

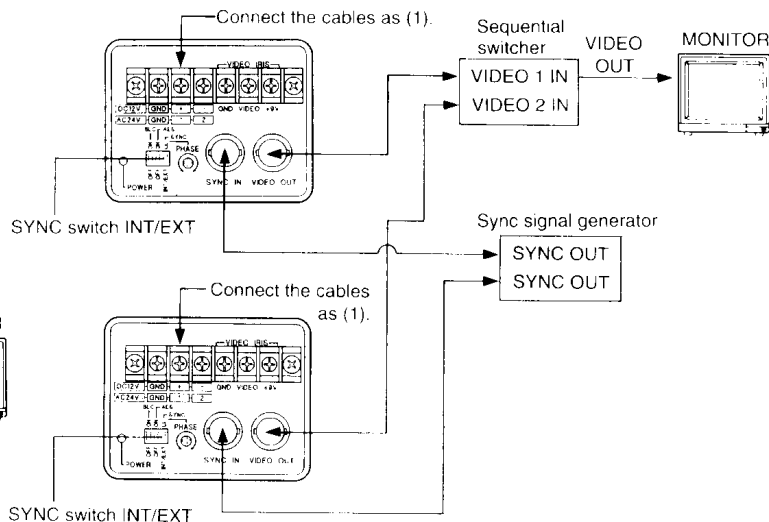
## CONNECTION METHOD

### • Connection examples

#### (1) Connection for internal or line lock synchronization mode



#### (2) Connection for external synchronization mode (when two cameras are used)



#### NOTES

- When line lock synchronization is used, connect the 24V AC power supply. (in 60 Hz regions only)
- Never input 12V DC and 24V AC at the same time.

# LENS

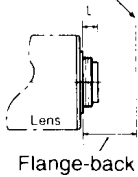
## Mounting a lens

- Before mounting a lens, check whether it is a C-mount or CS-mount one. This camera has a CS-mount. (Fig. 1-1) If a C-mount lens is used, loosen back focus locking screw (Page 3 5), then turn the back focus adjustment ring (Page 3 6) in the direction of the arrow in the Fig. 1-1 to change the mounting method. (Fig. 1-2 shows the state for the C-mount.)

## CAUTIONS

- The ring cannot be turned with fingers from a certain point. Use a screwdriver or any other tool with a thin tip to turn it further. (Fig. 1-3)
- Dimension L of the lens shown in the illustration below must be as shown in the table below. If L exceeds the value in the table, it may damage the inside of the camera or correct mounting may be impossible; never use such lenses. Do not attach the C-mount lens when using a CS-mount.

focal point



Lens	Flange back	Dimension L
C mount lens	17.526 mm	12 mm or less
CS mount lens	12.5 mm	8.5 mm or less

- Mount the lens on the camera by turning the lens clockwise. Adjust its position.
- If the lens has an auto-iris mechanism, connect the lens cable.
  - If the lens does not contain an EE amplifier, connect the cable to the DC IRIS connector on the side. If the lens cable has a different type of plug, use the 4-pin plug supplied. (Fig. 2-1)
  - If the lens contains an EE amplifier, connect the cable to the VIDEO IRIS terminal on the rear. (Fig. 2-2)

Fig. 1

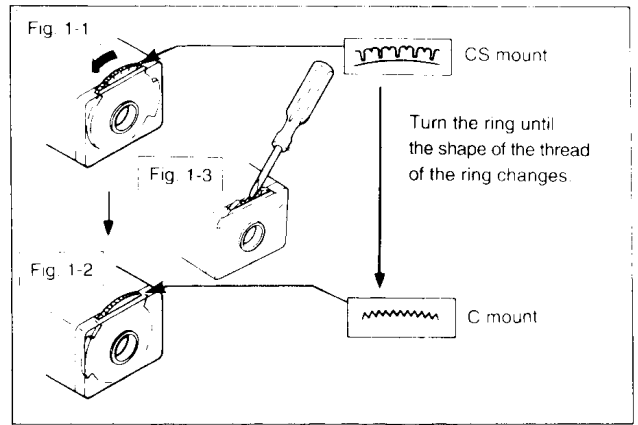


Fig. 2

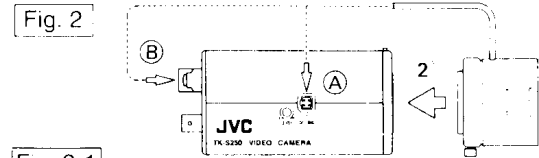


Fig. 2-1

Connector pin layout (DC IRIS)

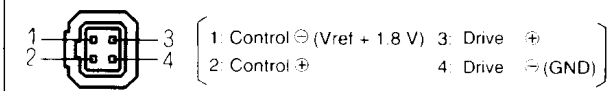
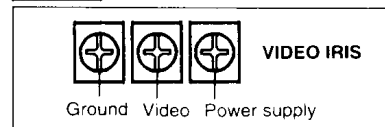


Fig. 2-2



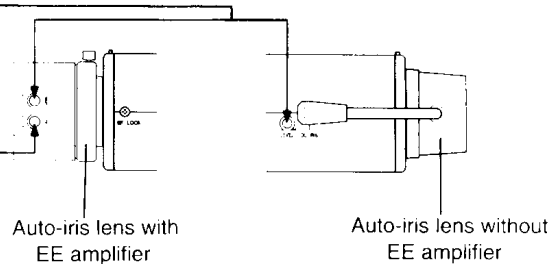
- Connect the camera according to the connection method, turn it on, display an image on the monitor, and check the image. The camera has been factory-adjusted to the widest range, but it may need to be adjusted according to the object conditions or combination of lenses. If the image is unnatural, adjust it as follows:

## LEVEL adjustment

Monitor screen	LEVEL turning direction
Too bright	Counterclockwise (Toward L)
Too dark	Clockwise (Toward H)

## ALC adjustment

Monitor screen	ALC turning direction
Part (high-intensity part) of the screen halates.	Clockwise (Toward Pk)
Other part of screen (except high-intensity part) darkens.	Counterclockwise (Toward Av)



**NOTE:** If the sensitivity adjustment [LEVEL] is turned excessively to L, the sensitivity increases because of the AGC function of the camera, and the image looks grainy.

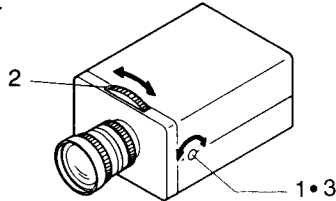
● **Back focus adjustment**

The back focus has been factory-adjusted to the best point for CS-mount lenses, but it may need to be adjusted if the mount is changed to the C-mount or if a lens is used. If required, adjust it as follows.

● **With a fixed-focus lens**

If the focus is not adjusted correctly by rotating the lens focus ring, adjust the back focus.

1. Loosen the back focus securing screw by turning it counterclockwise ( ↺ ) with a screwdriver.
2. Turn the back focus adjustment ring to focus the lens at the best point.
3. Tighten the back focus securing screw by turning it clockwise ( ↻ ).

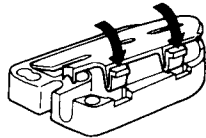
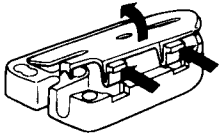


● **Installing the EE cable**

Opening/closing the cover

● Opening

● Closing



● **With a zoom lens**

If the image is out of focus when zooming (wide-angle - telephoto), adjust the camera as follows:

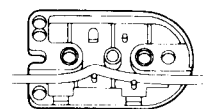
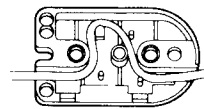
- ① Shoot a comparatively dark scene with thin lines about three meters away from the camera.
- ② Set the lens to the maximum telephoto position, and adjust the lens focus.
- ③ Set the lens to the maximum wide-angle position, and adjust the back focus.
- ④ Repeat steps ② and ③ two or three times.

If the cable is too long, arrange it in the camera mounting bracket as shown below.

Arranging the iris cable (example)

● Threading

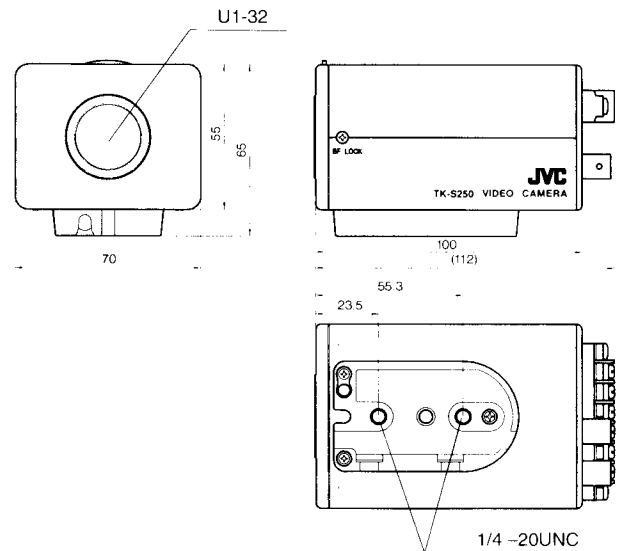
● Straight feeding



**SPECIFICATIONS**


<b>Image sensor</b>	: Interline-transfer CCD
<b>Number of effective pixels</b>	: 380,000 (771 (H) × 492 (V))
<b>Image size</b>	: 1/3 inch
<b>Synchronization method</b>	: External, internal, and line lock synchronization (60-Hz regions only)
<b>Scanning frequency</b>	: (H) 15.73 kHz (V) 59.94 Hz
<b>Resolution</b>	: 570 TV lines (horizontal)
<b>Video S/N ratio</b>	: 48 dB
<b>Minimum required illumination</b>	: 0.3 lx (F1.4)
<b>Lens mount</b>	: C/CS mount
<b>Power supply</b>	: 24V AC 50/60 Hz, 12V DC
<b>Power consumption</b>	: 3 W
<b>Operating temperature range</b>	: -10°C to +50°C (Recommended temperature range: 0°C to +40°C)
<b>Weight</b>	: 410 g
<b>Provided accessory</b>	: 4P Plug..... × 1

**Dimensions (mm):**



*Design and specifications are subject to change without notice.*



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