

TK-S241

VIDEO CAMERA



Instructions

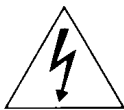
Thank you for purchasing the JVC TK-S241 video camera. To obtain the best results from your new camera, read this instructions carefully before use; retain the manual for future reference.

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

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

For USA and CANADA

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>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.</p>		



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 CANADA)

RENSEIGNEMENT (POUR CANADA)

This Class [B] digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la class [B] respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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.

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-S241**

Serial No. _____

FEATURES

- High sensitivity; low residual image; low image distortion, resists electric and magnetic fields and vibration. The camera can be used in various fields.
- Since the camera uses AC 24V~/DC12V \equiv , it can be installed and built into system easily.
- Internal, external, and line lock synchronization (U type is 60Hz, E type is 50Hz 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 grainy, but this is not a fault.
- 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. (For more details, see the instructions for the lens.)
- 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 automatic electronic shutter switch (AES) to OFF. If set to ON, flickering may occur. If a manual iris lens is used, set the AES to ON.
- Where there are strong electromagnetic waves or magnetism, for example near a radio or TV transmitter, transformer, motor, etc., the picture may contain noise.

CONTROLS, CONNECTORS AND INDICATORS

■ Front/Right/Bottom

See → **A**

① Camera mounting screw holes (1/4-inch)

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 (×3 : M2.6×5mm)

Do not use any screw longer than 5mm.

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 (1/2, 2/3 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.

■ Left

→ **B**

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 dark	Counterclockwise (Towards L)
Too bright	Clockwise (Towards H)

■ Rear

→ **C**

⑨ [DC12V≒/ AC 24V~] Power input terminal

Connect the DC 12V ≒ or AC 24V ~ power supply.

⑩ [VIDEO IRIS] Video iris terminal

Connected to an auto-iris lens containing an EE amplifier.

⑪ [POWER] Power lamp

Lights when the power is on.

⑫ [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 ⑰ is set to INT/EXT, the camera synchronizes with the external sync signal.

⑬ [VIDEO OUT] Video signal output connector

Outputs the video signal from the camera. Connect to a video monitor, etc. (75Ω)

⑭ [LL COARSE] Phase coarse select

Select COARSE when phase adjustment is not enough with ⑱ PHASE.

⑮ [BLC] Backlight compensation switch

This switch improves an image that is darkened because of backlighting.

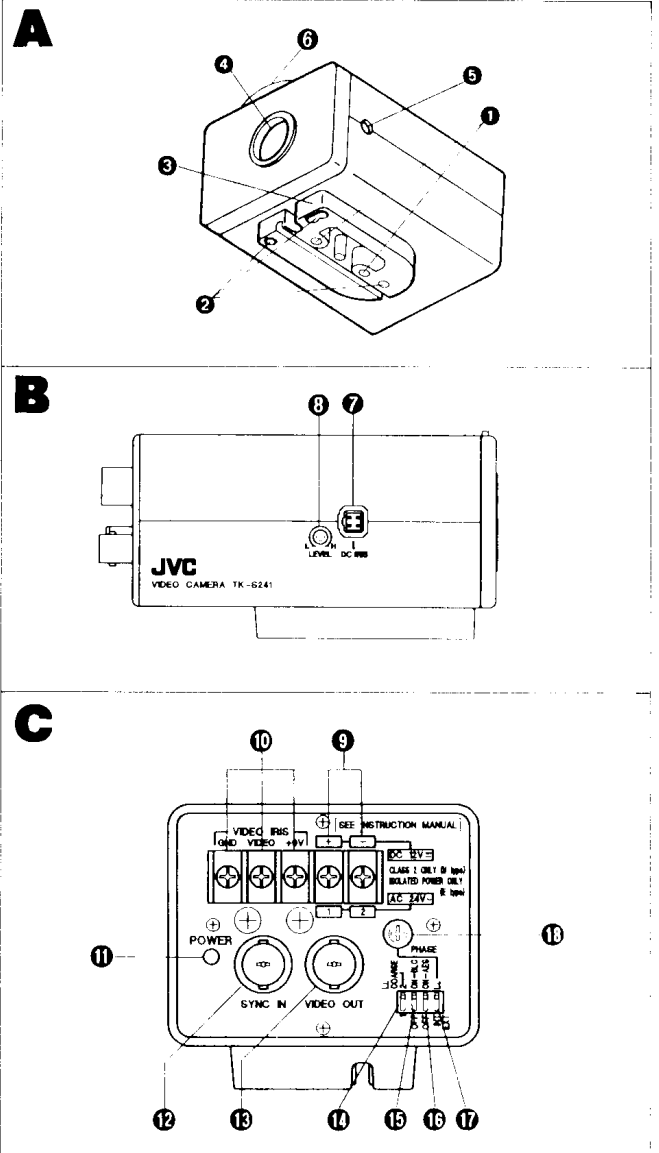
Set this switch to ON for backlit subjects.

⑯ [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.

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



⑰ [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 ⑫, 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.

⑱ [PHASE] Line lock synchronization phase adjustment

Used to adjust the phase when the synchronization select switch ⑰ 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, change ⑭ [LL COARSE].)

CONNECTION METHOD

Connection examples

(1) Connection for internal or line lock synchronization mode

→ **D**

CAUTIONS

- When line lock synchronization is used, connect the AC 24V power supply (U type : 60 Hz, E type : 50 Hz regions only)
- Never input DC 12V and AC 24V at the same time

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

→ E
→ F

LENS

CAUTIONS

- From a certain point the ring cannot be turned with fingers. Use a screwdriver or any other tool with a thin tip to turn it further. (G-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 lens or correct mounting may be impossible; never use such lenses. Do not attach the C-mount lens when using a CS-mount.

Mounting a lens

→ G

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

→ H

- (A) 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.

→ I

- (B) If the lens contains an EE amplifier, connect the cable to the VIDEO IRIS terminal on the rear.

→ J

→ K

Video Adjustment

- 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:

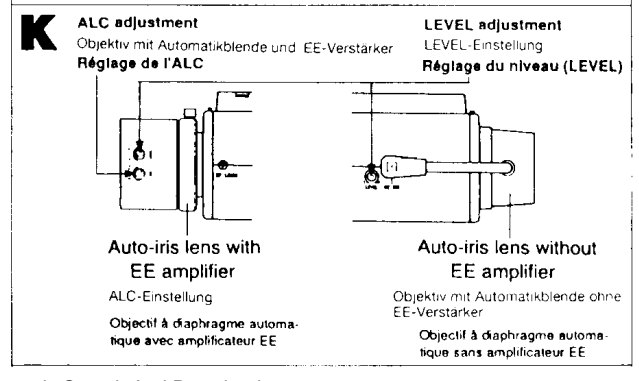
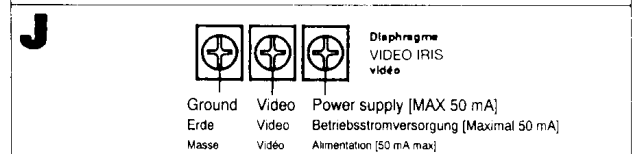
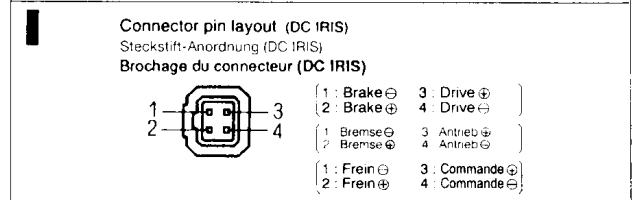
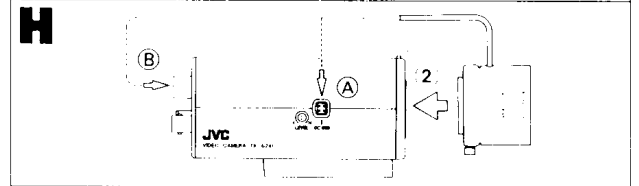
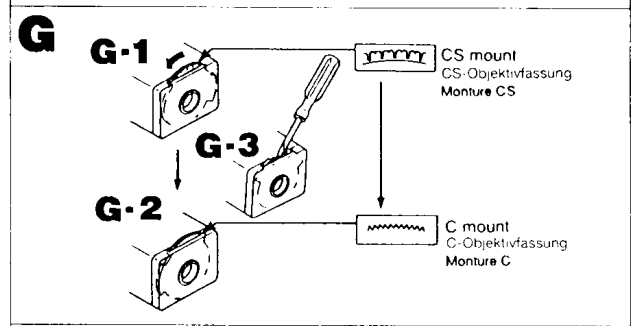
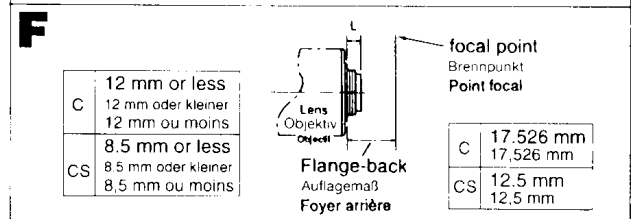
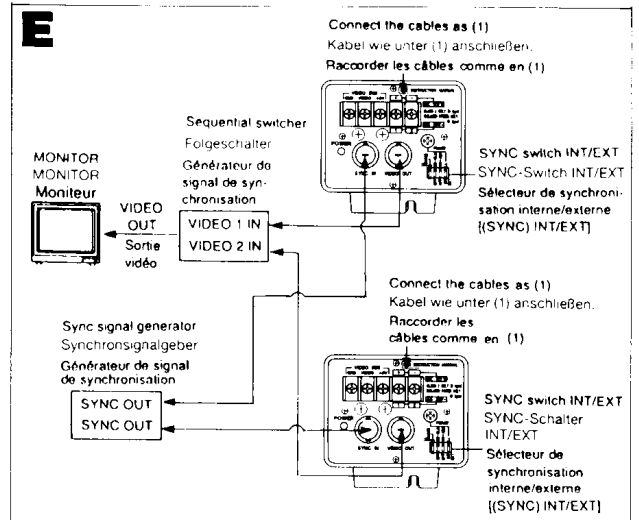
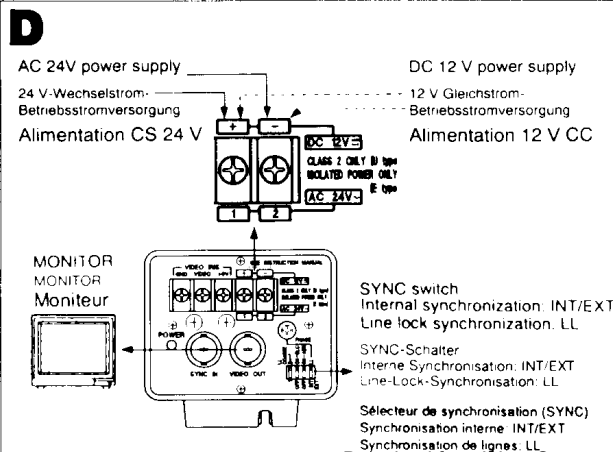
LEVEL adjustment

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

CAUTION: 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 (↻).

<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 back 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.

Installing the EE cable

If the cable is too long, arrange it in the camera mounting basket.

INSTALLATION OF CAMERA

Special precautions must be taken for ganging the camera on a wall or a ceiling.

We are by no means liable for any dropping or other accident due to improper installation.

• Mounting from the bottom

This camera is originally designed to be mounted from the bottom, as shown 1. The hole is standard photographic pan-head screw size (1/4 inch-20). Example the Fixing unit or Pan/Tilt unit.

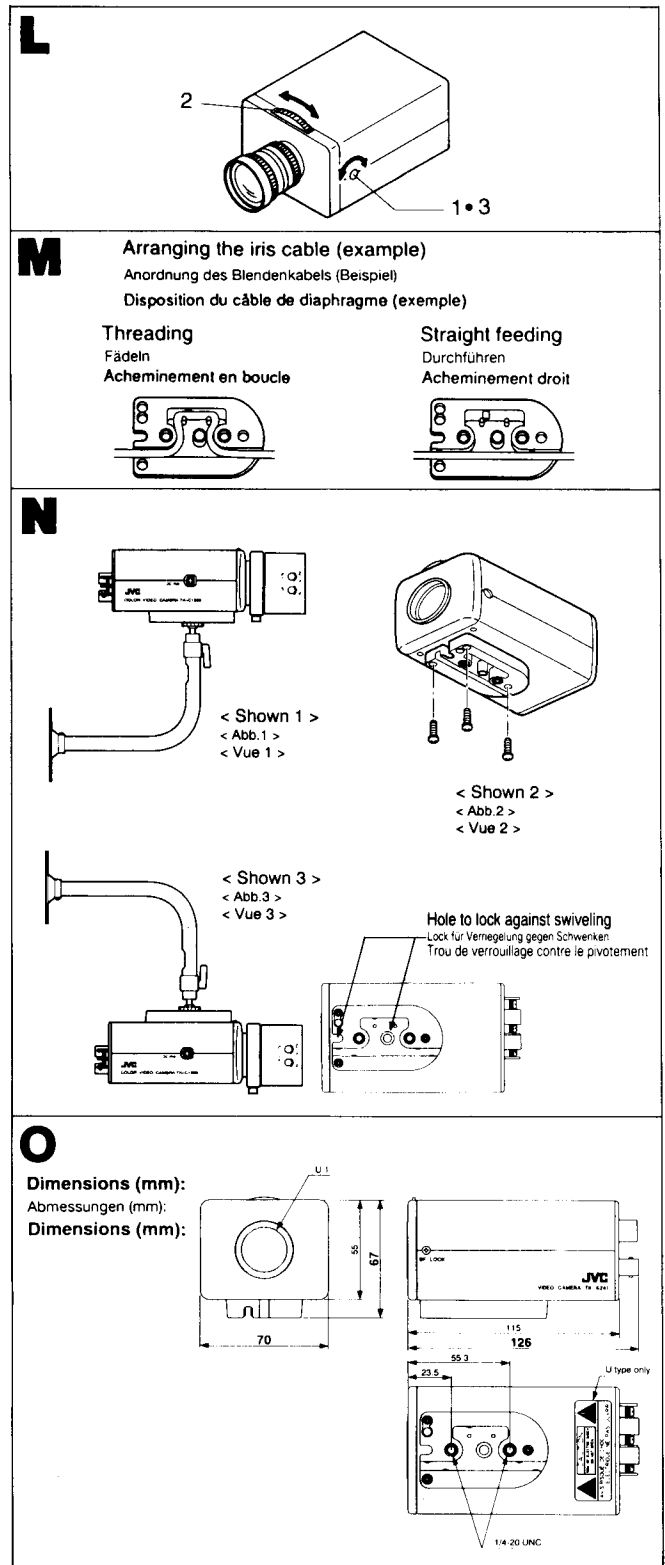
• Mounting from the top

Remove the CAMERA MOUNTING BRACKET from the bottom of the camera by removing three fixing screws as shown 2. Attach the CAMERA MOUNTING BRACKET to the top, then mount the camera on the Fixing Unit as shown 3. Make sure that three original screws are used when mounting the CAMERA MOUNT BRACKET; longer type screws (over 5mm) may damage inner components.


(This camera is used indoor and under similar conditions.)

SPECIFICATIONS

Image pickup device	: 1/3-inch interline-transfer CCD
Number of effective pixels	: U type : 250 000 (512(H) × 492(V)) E type : 300 000 (512(H) × 582(V))
Synchronization method	: External, internal, and line lock (U type is 60 Hz, E type is 50 Hz regions only.)
Scanning frequency	: U type : (H) 15.734 kHz (V) 59.94 Hz E type : (H) 15.625 kHz (V) 50 Hz
Resolution	: 380 TV lines (H)
Video S/N	: 50 dB
Minimum illumination	: 0.3 lx (F1.4)
Lens mount	: C/CS mount
Power supply	: AC 24 V ~ 60 Hz (U type) 50/60 Hz (E type) DC 12 V $\overline{\text{---}}$
Power consumption	: 3 W (type U), 250 mA (type E)
Ambient temperatures	: -10°C to 50°C (operation) 0°C to 40°C (recommended)
Weight	: 510 g (1.13 lbs)



JVC
VICTOR COMPANY OF JAPAN, LIMITED

 SC96777H

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