

Color Video Camera

彩色摄像机

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.

使用手册

使用本机器前，请仔细阅读本实用手册并妥善保存以备日后参考。

Super HAD CCD II

SSC-E433P/E438P

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http://www.sony.net/

WARNING

To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

The apparatus shall not be exposed to dripping or splashing and no objects filled with liquid, such as vases, shall be placed on the apparatus.

WARNING (SSC-E438P only)

The mains plug must be used to disconnect mains power. Please ensure that the socket outlet is installed near the equipment and shall be easily accessible.

For the customers in Europe

The manufacturer of this product is Sony Corporation, 1-7-1 Konan, Minatoku, Tokyo, Japan.
The Authorized Representative for EMC and product safety is Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany.
For any service or guarantee matters please refer to the addresses given in separate service or guarantee documents.

ATTENTION

The electromagnetic fields at specific frequencies may influence the picture of this unit.

For the customers in Europe, Australia and New Zealand

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.
In the case that interference should occur, consult your nearest authorized Sony Service facility.

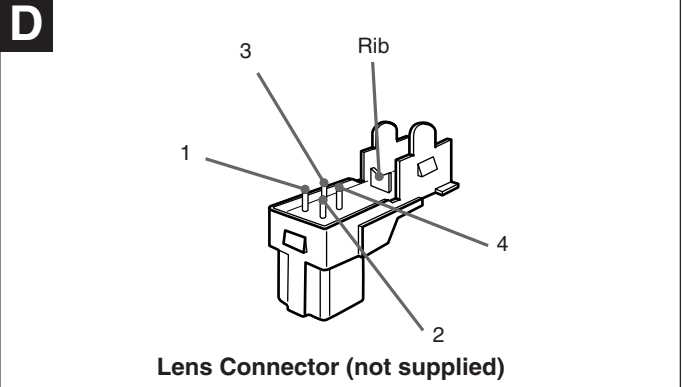
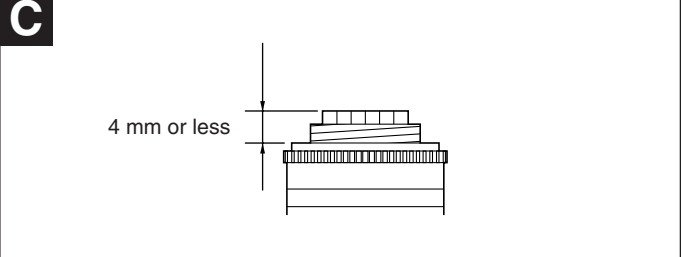
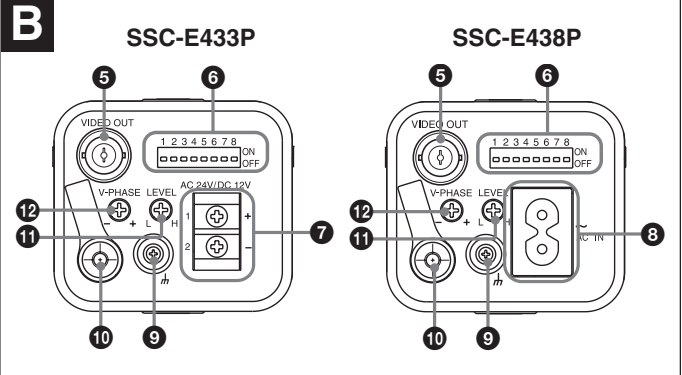
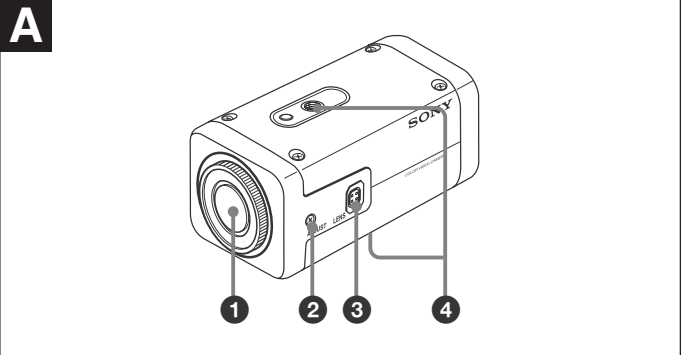
This apparatus shall not be used in the residential area.

WARNING

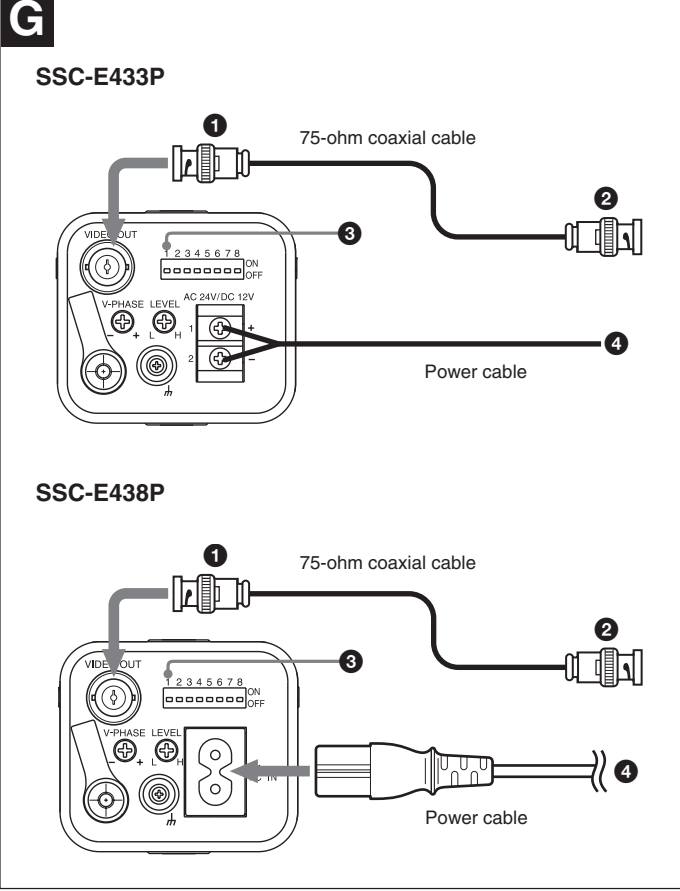
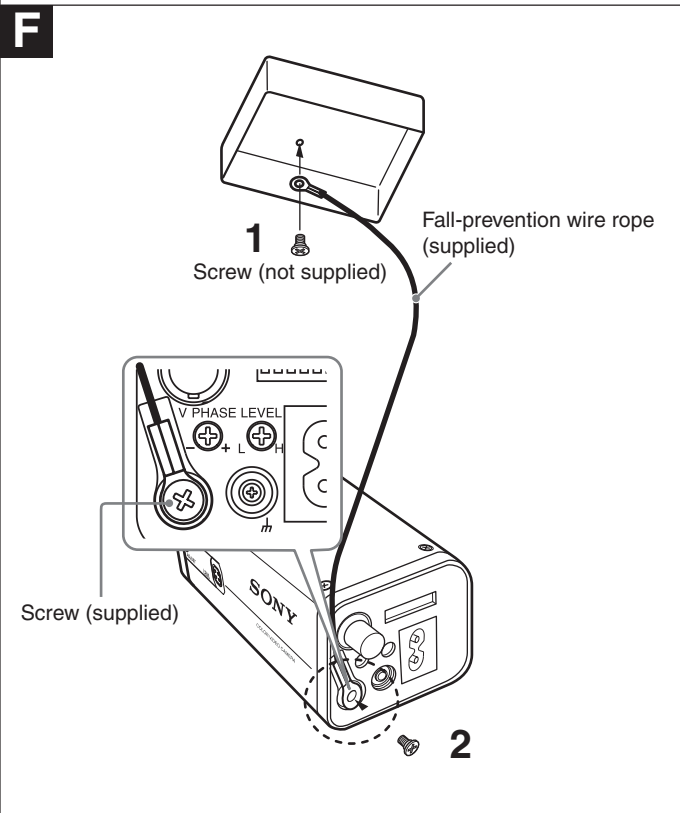
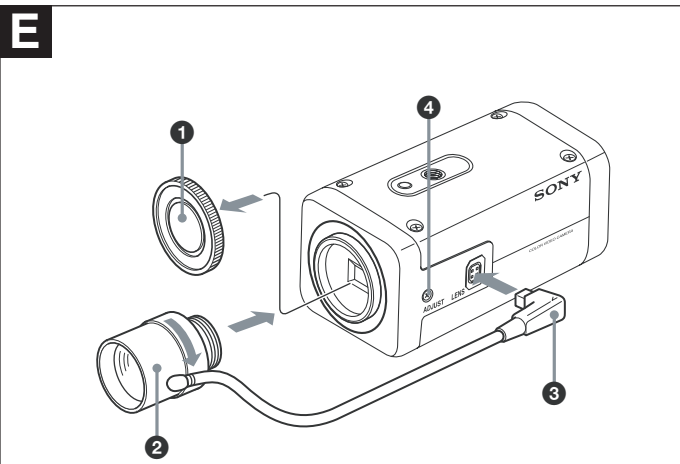
This installation should be made by a qualified service person and should conform to all local codes.

Caution

The rating label is located on the bottom.



[English]		
Rib (If the cable is thick, cut this off.)		
Pin 4	DC control	Drive – (Ground)
Pin 2	DC control	Control +
Pin 1	DC control	Control –
Pin 3	DC control	Drive +



English		
This manual applies to the SSC-E433P and SSC-E438P. The operating instructions apply to these cameras, but their signal systems and power requirements are different.		
	Signal system	Power requirements
SSC-E433P	PAL color system	DC 12 V/AC 24 V, 50 Hz
SSC-E438P	PAL color system	AC 220-240 V, 50 Hz

Features

- The color video camera is designed for use in a monitoring system.
- High resolution and high sensitivity with a 1/3 type Super HAD CCD II as the imaging device
- CCD-IRIS function
- Automatic white balance tracking and adjustment (PRO/ATW)
- Compatible with DC controlled auto iris lenses
- BLC (Backlight Compensation) through the center measurement
- LEVEL adjustment for various lighting conditions
- Power supply: Automatically switched between DC 12 V and AC 24 V (SSC-E433P)
- AC line lock and INT
- The built-in tripod screws are located on both the top and bottom of the camera
- Day/Night mode: When it grows dark, automatically switches to black & white mode to heighten the sensitivity of the camera.
- * Super HAD CCD II is a trademark of Sony Corporation.

Notes on Use

- Power supply**
 - The SSC-E433P operates on either DC 12 V or AC 24 V (50 Hz) power. The SSC-E433P automatically detects the power.
 - When connecting the transformer, be sure to connect each lead to the appropriate terminal. Wrong connection may cause malfunction and/or damage to the video camera.
 - Ground the unit or an irregular voltage may be generated in the AC power cord and may cause malfunction and/or damage to the video camera.
 - The SSC-E438P must always be operated with an AC 220 - 240 V (50 Hz) power supply.

Handling of the unit

Be careful not to spill water or other liquids on the unit, or to get combustible or metallic material inside the body. If used with foreign matter inside, the camera is liable to fail, or to cause fire or electric shock.

Operating and storage locations

Avoid aiming the camera at very bright objects such as the sun or electric lights for an expanded period. Avoid operating or storing the unit in the following locations.

- Extremely hot or cold places (operating temperature –10°C to +50°C; 14°F to 122°F, however, we recommend that the unit be used within a temperature range of 0°C to +35°C; 32°F to 95°F.)
- Damp or dusty places
- Where it is exposed to rain
- Where it is subject to strong vibration and shock
- Close to generators of powerful electromagnetic radiation such as radio or TV transmitters
- Where it is subject to fluorescent light reflections
- Where it is subject to unstable (flickering, etc.) lighting conditions

Care of the unit

- Remove dust or dirt from the surface of the lens or CCD with a blower.
- Use a dry soft cloth to clean the body. If it is very dirty, use a cloth dampened with a small quantity of neutral detergent, then wipe dry.
- Avoid the use of volatile solvents such as thinners, alcohol, benzene, and insecticides. They may damage the surface finish and/or impair the operation of the camera.

Other

- When BLC is in the "ON" position, "hunting" may occur, that is, the image may get darker and lighter as the camera "hunts" for the best exposure level. If hunting occurs, set the BLC switch to "OFF."
- If you use the CCD-IRIS function in locations where the camera is exposed to fluorescent light, a slow color change may occur.
- Optimal camera performance may not be obtained when exposed to infrared light due to the lens coating.
- If the camera is used under lighting that is near the infrared region, optimal color reproduction may not be obtained.

In the event of any problems with the operation of the camera, contact your Sony service representative.

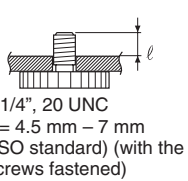
Note on laser beams
Laser beams may damage the CCDs. If you shoot a scene that includes a laser beam, be careful not to let a laser beam become directed into the lens of the camera.

Location and Function of Parts

Top/Bottom/Front/Rear/Side

A

- 1 Lens mount**
Use to mount an appropriate CS-mount lens.
- 2 Focal length adjustment**
Use this screw to adjust the focal length (the distance between the lens mounting plane and the image plane).
- 3 LENS connector (4 pin socket)**
Supplies power and control signals to an auto iris lens.
- 4 Tripod screws**
The screw holes for attaching the tripod are located on both the top and bottom of the camera. Use a 1/4" UNC-20 screw to attach a tripod to the camera. The tripod must be set up on a flat surface and tightened firmly by hand.



Caution

Use the mounting screw whose length is 4.5 mm – 7 mm only. Use of other screws may cause improper mounting and damage parts inside the camera.

Switch/Terminal area

B

- 5 VIDEO OUT connector (BNC-type)**
- 6 Mode switches**
 - 1: SYNC (INT/LL) switch**
Use to select the synchronization system from INT (Internal) or LL (Line Lock).
 - 2: AGC ON/OFF switch**
Use to increase the gain of the video amplifier when dark.
 - 3: BLC ON/OFF switch**
When set to ON, adjusts exposure to compensate for situations where the subject is lit from behind.
 - 4: CCD-IRIS ON/OFF switch**
When using a manual iris lens, set this to "ON" to automatically adjust the sensitivity according to the incidental light conditions. When using an auto iris lens, set this to "OFF."
 - 5: WHT PRO/ATW switch**
White balance is automatically adjusted according to the color temperature of the specific light source. When shooting with a special light source such as a sodium vapor lamp, set this to "ATW." When shooting with other light sources such as a fluorescent light, incandescent lamp or natural light, set this to "PRO."
 - 6: DAY/NIGHT AUTO/OFF switch**
When set to ON, automatically toggles between color and black & white mode. ("AGC" should also be set to ON.)
 - 7: DAY/NIGHT TIME SHORT/LONG switch**
Use to determine the detection time for the mode change. Set either to S (Short) (about 2 seconds or more) or L (Long) (about 30 seconds or more).
 - 8: DAY/NIGHT LEVEL HIGH/LOW switch**
The mode toggles between color and black & white at a predetermined level of brightness. Set the level either to LOW (approx. 1 lx) or HIGH (approx. 5 lx).

- 7 AC 24 V/DC 12 V screw terminals (SSC-E433P)**
Connect to an external power supply of AC 24 V or DC 12 V.
- 8 AC INLET (SSC-E438P)**
Connect this to a 220 V to 240 V AC power supply.
- 9 Ground terminal (screw type)**
- 10 Fall-prevention wire rope mounting screw hole**
When installing the camera to a ceiling or wall, secure the supplied fall-prevention wire rope to this hole using the supplied screw.
- 11 LEVEL adjustment screw**
Use to adjust the iris level when you are using a DC controlled auto iris lens.
- 12 V PHASE adjustment screw**
Use to adjust the vertical phase of cameras synchronized by Line lock.

Installation

WARNING

- If you attach the camera in the height such as the wall or the ceiling, etc., entrust the installation to an experienced contractor or installer.
- If you install the camera on the ceiling, ensure that the ceiling is strong enough to withstand the weight (20 Kg) of the camera plus the bracket and then install the camera securely. If the ceiling is not strong enough, the camera may fall and cause serious injury.
- To prevent the camera from falling, make sure to attach the supplied wire rope.
- If you attach the camera to the ceiling, check periodically, at least once a year, to ensure that the connection has not loosened. If conditions warrant, make this periodic check more frequently.

Suitable lenses

C

The lens must be a CS-mount type lens weighing less than 1 kg. The protrusion behind the mounting surface must be 4 mm or less.

Installation of an Auto Iris Lens Connector

D

- Install the lens connector (not supplied) when using an Auto Iris Lens. This installation should be done only by qualified service personnel or system installers. A lens connector is not included with this camera package.
- Cut the iris control cable at the edge of the lens connector to remove the existing lens connector and then remove the outer cable cover as shown in the diagram on the left.
 - Solder the lens cable to the pins of the lens connector.

Fitting the lens

E

- Unscrew the lens mount cap.
- Screw in the lens, and turn it until it is secured.
- Insert the lens plug in the LENS connector.
When fitting a manual-iris lens, omit step 3.
- According to the type of lens, adjust the focal length by turning the focal length adjustment screw.

Caution

- Keep the lens mount cap on the camera when it is not attached the lens.
- Check the lens mount**
Check the lens mount at least once a year to ensure it has not become loose. If conditions warrant, make this periodic check more frequently.

Installing the camera

ATTENTION

- If installing the camera on the ceiling, be sure it is secure. If not securely installed, the camera may fall and injury may occur.
If the camera is installed on the ceiling using equipment such as a bracket, housing and motored swivel base (pan/tilt), do the following:
- Use tripod screws and securely tighten them with a driver. Order the tripod screws (Sony Part No. 3-174-693-02) from your nearest Sony dealer.
 - Install the tripod screw on a flat surface.

Attaching the fall-prevention wire rope

F

When you install the camera on a ceiling or a high position, be sure to attach the supplied fall-prevention wire rope to prevent the camera from falling. Attach the fall-prevention wire rope to the screw hole on the rear of the camera, as in the illustration.

Note

Take care not to short-circuit the power terminal or the cable with the wire rope when you attach it.

- Secure the wire rope to the junction box on the ceiling.
Use a screw to match the screw hole of your junction box (not supplied).
- Secure the wire rope to the wire rope mounting screw hole on the rear of the camera using the supplied screw.

Caution

Use the supplied screws for installation. If not, the wire rope may not function properly.

Connecting the Camera

G

- Connect the video cable to the VIDEO OUT connector.
- Connect the video cable to the VIDEO IN connector of a video monitor, etc.
- Select the synchronization system using the sync (INT/LL) switch.
 - Note**
Use this switch to set the camera synchronization mode to internal or line lock. The line lock is available only for AC 24 V. When the camera power is DC 12 V, be sure to select the internal mode.
- Connect to the appropriate power source using a power cord.
SSC-E438P: to AC 220 - 240 V power source
SSC-E433P: to a DC 12 V, or an AC 24 V power source
 - Notes**
 - Be sure to input only the proper voltage to the power terminal of the camera.
 - Be sure to push the power cord all the way in.

Phase Adjustment

Vertical phase (Line lock mode)

The picture may roll vertically if the vertical phase is not set. Use the V PHASE adjustment screw to adjust the vertical phase.

Adjusting the Incident Light Level

Since the incidental light level has been preset at the factory, usually no further adjustment is required. If the picture is too dark, however, or if the picture's highlights are extremely overexposed, adjust the LEVEL adjustment screw with a screwdriver. Turn toward L (low) to make the picture darker. Turn toward H (high) to make the picture brighter.

CCD Characteristics

The following conditions may be observed when using a CCD camera, but are not due to any fault with the camera.

- Vertical smear:** This phenomenon occurs when viewing a very bright object.
- Patterned noise:** This is a fixed pattern which may appear over the entire monitor screen when the camera is operated at high temperature.
- Jagged picture:** When viewing stripes, straight lines, or similar patterns, the image on the screen may appear jagged.

Specifications

Imaging device	1/3type interline transfer CCD
Picture elements	752 (horizontal) × 582 (vertical)
Lens mount	CS-mount
Signal system	PAL color system
Sync system	Internal/AC line lock
Horizontal resolution	540 lines
Minimum illumination	0.4lx (F1.2, 50IRE, AGC ON, color mode) 0.05lx (F1.2, 50IRE, AGC ON, B/W mode)
S/N	50 dB (AGC OFF)
White Balance	PRO/ATW
Video output	1 Vp-p, 75 ohm, negative sync
CCD iris	1/50 to 1/100,000 sec
Automatic Gain Control	Switchable: ON (Turbo mode)/OFF
Power requirements	SSC-E433P: DC 12 V ±10%/AC 24 V ±10%, 50 Hz SSC-E438P: AC 220 - 240 V ±10%, 50 Hz
Power consumption	4.0 W
Operating temperature	–10°C to +50°C (14°F to 122°F)
Operating humidity	20 to 80%
Storage temperature	–40°C to +60°C (–40°F to 140°F)
Storage humidity	20 to 95%
Mass	SSC-E433P: Approx. 390 g (14 oz) SSC-E438P: Approx. 410 g (14 oz)
Dimensions (w/h/d)	60 × 54 × 126.5 mm (2 3/8 × 2 1/8 × 5 inches)
Supplied accessories	Lens mount cap (1) Operating Instructions (1) Fall-prevention wire rope (1) Screw ⌀ M4 × 8 (1) Power cable (1) (SSC-E438P only)

Design and specifications are subject to change without notice.

Note
Always verify that the unit is operating properly before use. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS DUE TO FAILURE OF THIS UNIT, EITHER DURING THE WARRANTY PERIOD OR AFTER EXPIRATION OF THE WARRANTY, OR FOR ANY OTHER REASON WHATSOEVER.

Regular parts replacement

Some of the parts that make up this product (electrolytic condenser, for example) need replacing regularly depending on their life expectancies. The lives of parts differ according to the environment or condition in which this product is used and the length of time it is used, so we recommend regular checks.
Consult the dealer from whom you bought it for details.