

# Color Video Camera

## Operating Instructions

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

### Mode d'emploi

Avant de faire fonctionner cet appareil, lisez attentivement le présent mode d'emploi et conservez-le pour toute référence ultérieure.

### Manual de instrucciones

Antes de utilizar la unidad, lea las instrucciones con atención y conservelas para su consulta en el futuro.

## SuperExwave™ SSC-E473/E473P/E478P

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## Owner's Record

The model and serial numbers are located on the top. Record these numbers in the spaces provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

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

## WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

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

### For the customers in the U.S.A. (SSC-E473 only)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

This device requires shielded interface cable to comply with FCC emission limits.

### Caution

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

### ATTENTION

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

## AVERTISSEMENT

Afin d'éviter tout risque d'incendie ou d'électrocution, ne pas exposer cet appareil à la pluie ou à l'humidité.

Afin d'éviter tout risque d'électrocution, garder le coffret fermé. Ne confier l'entretien de l'appareil qu'à un personnel qualifié.

### ATTENTION

Il est possible que des champs électromagnétiques à des fréquences spécifiques influencent l'image de cet appareil.

## ADVERTENCIA

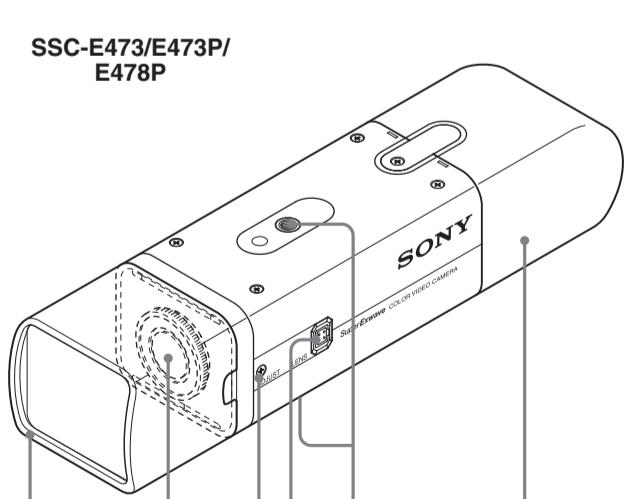
Para prevenir el riesgo de incendios o de electrocución, no exponga la unidad a la lluvia ni a la humedad.

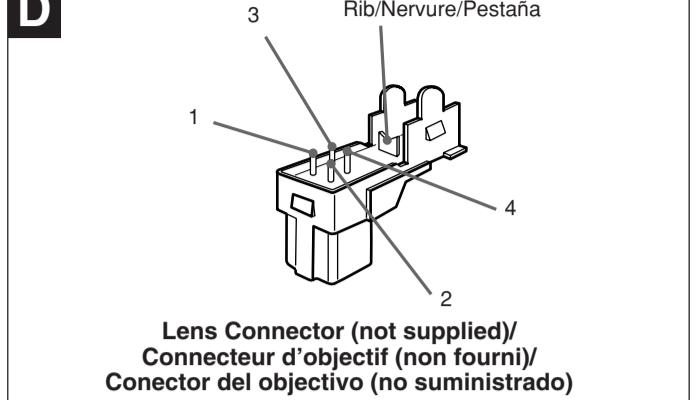
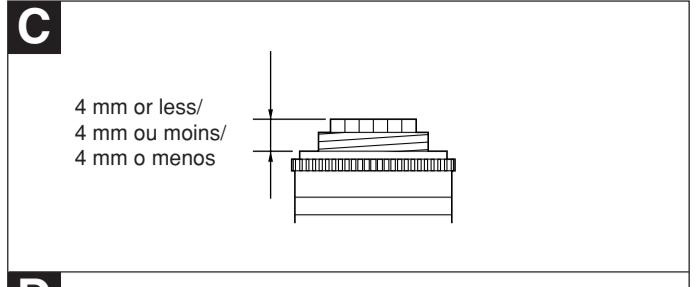
Para evitar descargas eléctricas, no abra la unidad. En caso de avería, solicite el servicio de personal cualificado únicamente.

### ATENCIÓN

Los campos electromagnéticos a frecuencias específicas pueden afectar a la imagen de esta unidad.

## A

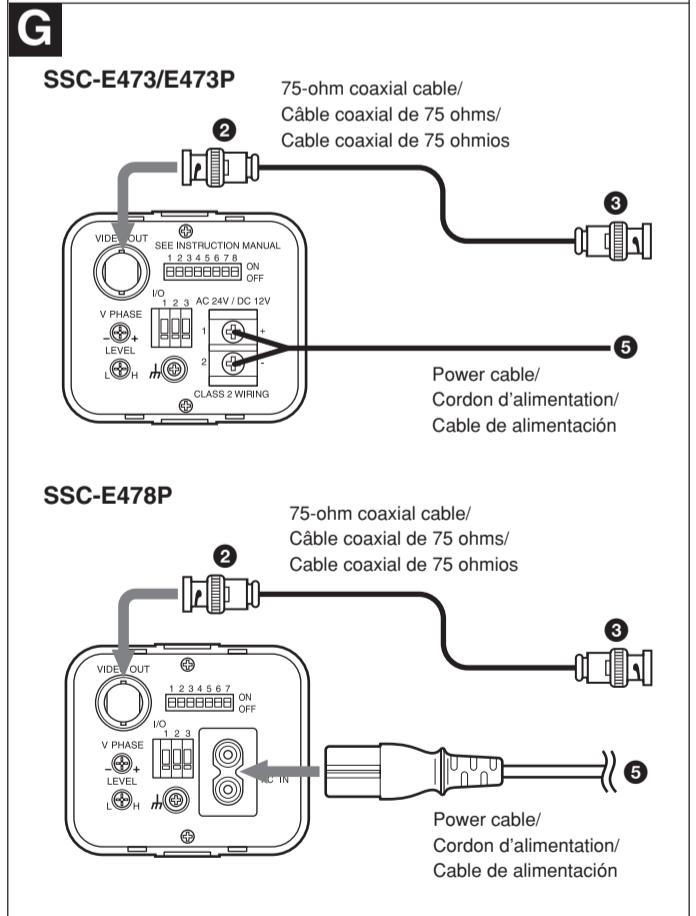
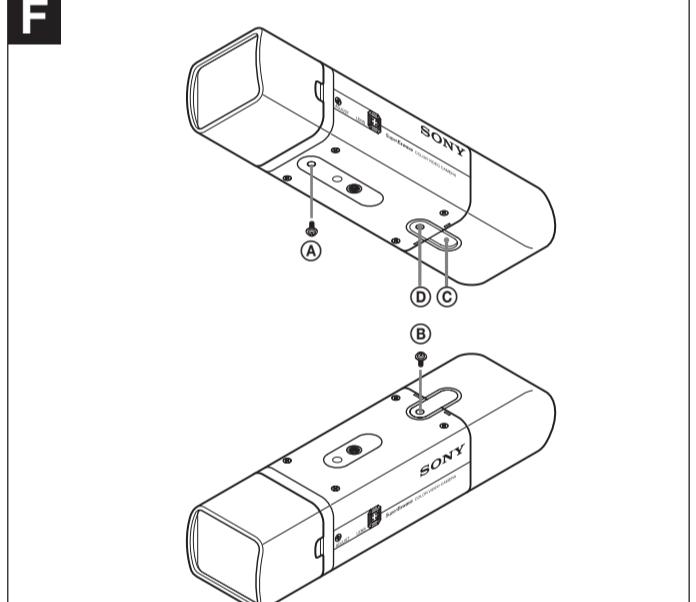
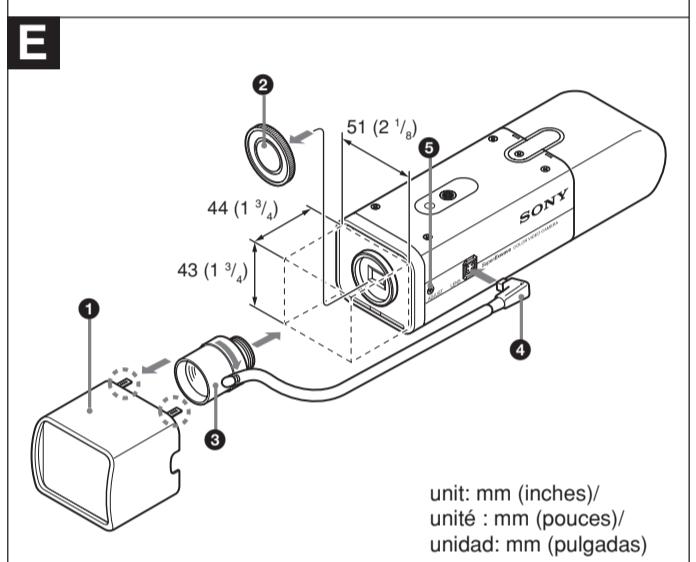




[English]		
Rib (If the cable is thick, cut this off.)		
Pin 4	DC control	Drive - (Ground)
Pin 2	DC control	Control +
Pin 1	DC control	Control -
Pin 3	DC control	Drive +

[Français]		
Nervure (découpez-la si le cordon est de forte section)		
Broche 4	Commande CC	Drive - (Masse)
Broche 2	Commande CC	Control +
Broche 1	Commande CC	Control -
Broche 3	Commande CC	Drive +

[Español]		
Pestaña (cortela si el cable es demasiado grueso).		
Terminal 4	Control CC	Drive - (Tierra)
Terminal 2	Control CC	Control +
Terminal 1	Control CC	Control -
Terminal 3	Control CC	Drive +



**① AC INLET (SSC-E478P)**  
Connect this to a 220 V to 240 V AC power supply.  
**② Ground terminal (screw type)**  
Connect this terminal to the ground, when noise occurs.  
**③ LEVEL adjustment screw**  
Use to adjust the iris level when you are using a DC controlled auto iris lens.  
**④ V PHASE adjustment screw**  
Use to adjust the vertical phase of cameras synchronized by Line lock.  
**⑤ I/O terminals**  
To switch Day/Night mode using external equipment, connect control lines to the appropriate terminals.

**1: EXTERNAL CTRL IN**  
In color mode, H (+5 V) is output between COM. In black & white mode, L (0 V) is output between COM. (Works independently of the setting made for Day/Night AUTO.)  
**2: COM**  
Used both with EXTERNAL CTRL IN and EXTERNAL CTRL OUT.  
**3: EXTERNAL CTRL OUT**  
When H (+5 V) is given between COM, changes to color mode. When L (0 V) is given, changes to black & white mode.

#### Installation

##### Suitable lenses

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

##### Installation of an Auto Iris Lens Connector

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.  
1 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.  
2 Solder the lens cable to the pins of the lens connector.

##### Fitting the lens

- Remove the tape and detach the front cover.
- 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, skip ④.
- According to the type of lens, adjust the focal length by turning the focal length adjustment screw.
- Attach the front cover and install a locking screw (supplied) in the screw hole ⑥.

##### Caution

- Put the lens cap back on after removing the lens.
- Be careful not to break the tabs when attaching or removing the front cover.
- Do not attach the front cover in any of the following case.
  - The lens and the lens connector (not supplied) do not fit in the dimensions of 51(w) x 43(h) x 44(d) mm (2 1/2" x 1 3/4" x 1 3/4").
  - The view of the wide-angle lens is partially blocked by the front cover.

##### 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 motorized swivel base (pan/tilt), do the following:  
• Use tripod screws and securely tighten them with a driver. Order the tripod screws (Sony Part No. 3-174-693-01) from your nearest Sony dealer.  
• Install the tripod screw on a flat surface.

##### Connecting the Camera

- Remove the tape and detach the rear cover.
- Connect the video cable to the VIDEO OUT connector.
- Connect the video cable to the VIDEO IN connector on a video monitor, etc.
- Select the synchronization system using the sync (LL/INT) switch. (SSC-E473/E473P)

##### Note

Use this switch to set the camera synchronization mode 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-E473/E473P: to AC 220 - 240 V power source  
SSC-E473/E473P: 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.
  - Connect a 3C-2V cable to the BNC terminal. If you must use a thicker cable, do not attach the rear cover.
- Attach the rear cover and install a locking screw in the screw hole ⑧.

##### Note

When drawing the cables from the bottom of the camera, attach the rear cover with the cable hole ⑨ facing down. When drawing the cables from the top of the camera, attach the cover with ⑩ facing up. In the latter case, install the screw in the screw hole ⑪.

##### 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 of high temperature.

**Jagged picture:** When viewing stripes, straight lines, or similar patterns, the image on the screen may appear jagged.

##### Specifications

Imaging device	1/3 type interline transfer CCD
Picture elements	SSC-E473: 768 (horizontal) x 494 (vertical) SSC-E473P/E478P: 752 (horizontal) x 582 (vertical)
Lens mount	CS-mount
Signal system	SSC-E473: NTSC color system SSC-E473P/E478P: PAL color system
Sync system	SSC-E473/E473P: Internal/AC line lock SSC-E478P: AC line lock
Horizontal resolution	540 lines
Minimum illumination	Color: 0.55 lx (F1.2) Black & White: 0.05 lx (F1.2)
S/N	50 dB (AGC OFF) ATW/ATW-PRO
White Balance	1 Vp-p, 75 ohm, negative sync SSC-E473: 1/60 to 1/100,000 sec SSC-E473P/E478P: 1/50 to 1/100,000 sec
Video output	Switchable: ON (Turbo mode)/OFF
CCD iris	SSC-E473: DO 12 V ±10%/AC 24 V ±10%, 60 Hz SSC-E473P: DO 12 V ±10%/AC 24 V ±10%, 50 Hz SSC-E478P: AC 220 - 240 V ±10%, 50 Hz
Automatic Gain Control	4.0 W
Power requirements	-10°C to +50°C (14°F to 122°F) 20 to 80% -40°C to +60°C (-40°F to 140°F) 20 to 95%
Power consumption	SSC-E473/E473P: Approx. 380 g (13 oz) (without the front/rear covers) Approx. 460 g (1 lb) (with the front/rear covers) SSC-E478P: Approx. 400 g (14 oz) (without the front/rear covers) Approx. 480 g (1 lb 1 oz) (with the front/rear covers)
Operating temperature	60 x 53 x 124 mm (2 1/2" x 2 1/4" x 4 7/8") (without the front/rear covers, protruding portions excluded)
Operating humidity	60 x 53 x 246 mm (2 1/2" x 2 1/4" x 9 3/4") (with the front/rear covers, protruding portions excluded)
Storage temperature	Approx. 380 g (13 oz) (sans les panneaux avant/arrière)
Storage humidity	Approx. 460 g (1 lb) (avec les panneaux avant/arrière)
Mass	SSC-E478P: Environ 400 g (14 oz) (sans les panneaux avant/arrière) Environ 480 g (1 lb 1 oz) (avec les panneaux avant/arrière)
Dimensions (w/h/d)	60 x 53 x 124 mm (2 1/2" x 2 1/4" x 4 7/8") (sans les panneaux avant/arrière) 60 x 53 x 246 mm (2 1/2" x 2 1/4" x 9 3/4") (avec les panneaux avant/arrière, parties saillantes non comprises)
Supplied accessories	Front cover (1) Rear cover (1) Locking screws (2) Lens mount cap (1) Operating Instructions (1) Power cable (1) (SSC-E478P only)

Design and specifications are subject to change without notice.

**① AC INLET (SSC-E478P)**  
Raccordez-la à une prise secteur de 220 V - 240 V CA.

**② Borne de masse (type à vis)**  
Raccordez cette borne à la masse en cas de parasites.

**③ Vis de réglage LEVEL**  
A utiliser pour ajuster le diaphragme lorsque vous utilisez un objectif à diaphragme automatique DC.

**④ Vis de réglage V PHASE**  
Sert au réglage de la phase verticale des caméras synchronisées par le verrouillage de ligne.

**⑤ Bornes I/O**  
Pour passer en mode Day/Night à l'aide d'un équipement externe, connectez les lignes de service aux bornes appropriées.

**1: EXTERNAL CTRL IN**  
En mode couleur, H (+5 V) est émis entre COM. En mode noir et blanc, L (0 V) est émis entre COM. (Fonctionne indépendamment du réglage de Day/Night AUTO.)

**2: COM**  
Utilisé pour EXTERNAL CTRL IN et EXTERNAL CTRL OUT.

**3: EXTERNAL CTRL OUT**  
Lorsque H (+5 V) est émis entre COM, passe en mode couleur. Lorsque L (0 V) est émis, passe en mode noir et blanc.

#### Installation

##### Object compatibles

L'objectif doit être à montre CS et peser moins de 1 kg. La saillie à l'arrière de la surface de montage doit être inférieure ou égale à 4 mm.

##### Montage d'un connecteur d'objectif à diaphragme automatique

Installez un connecteur d'objectif (non fourni) lors de l'utilisation d'un objectif à diaphragme automatique. Cette installation ne doit être effectuée que par un technicien qualifié ou par les installateurs.

Aucun connecteur d'objectif n'est fourni avec cette caméra.

- Coupez le câble de commande du diaphragme au bord du connecteur d'objectif afin de retirer le connecteur d'objectif existant, puis retirez le capuchon de câble externe, comme indiqué dans l'illustration de gauche.
- Soudez le câble de l'objectif aux broches du connecteur d'objectif.

##### Montage de l'objectif

1 Retirez la bande et le panneau avant.

2 Dévissez le bouchon de monture d'objectif.

3 Vissez l'objectif et tournez jusqu'à ce qu'il soit verrouillé.

4 Branchez la fiche d'objectif sur le connecteur LENS.

Si vous utilisez un objectif à diaphragme manuel, passez l'étape ④.

5 Selon le type d'objectif, réglez la distance focale en tournant la vis de mise au point.

6 Fixez le panneau avant et installez une vis de blocage (fournie) dans l'orifice pour vis ⑥.

##### Attention

• Utilisez de nouveau le bouchon de monture d'objectif après avoir retiré l'objectif.

• Veillez à ne pas rompre les languettes au moment de fixer ou de retirer le panneau avant.

• Ne fixez pas le panneau avant dans l'un des cas suivants.

- L'objectif et le connecteur d'objectif (non fourni) ne correspondent pas aux dimensions 51 (l) x 43 (h) x 44 (p) (2 1/4" x 1 3/4" x 1 3/4" po).

- La vue de l'objectif grand angle est partiellement bloquée par le panneau avant.

- Installez les vis de trépied et serrez-les bien avec un tournevis. Commandez les vis de trépied (N° de pièce Sony 3-174-693-01) chez votre revendeur Sony le plus proche.
- Installez la vis du trépied sur une surface plane.