

Color Video Camera

Operation Instructions

Before operating the unit, please read these instructions thoroughly and retain them 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 consérvelas para su consulta en el futuro.

ExwaveHAD™ SSC-DC330/334 SSC-DC330P/334P/338P

Sony Corporation © 1999 Printed in Japan

Owner's Record

The model and serial numbers are located on the bottom.

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.



NOTICE FOR THE SSC-DC330/334
The graphical symbol is on the unit.
This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For the customers in the U.S.A. (SSC-DC330/334 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.

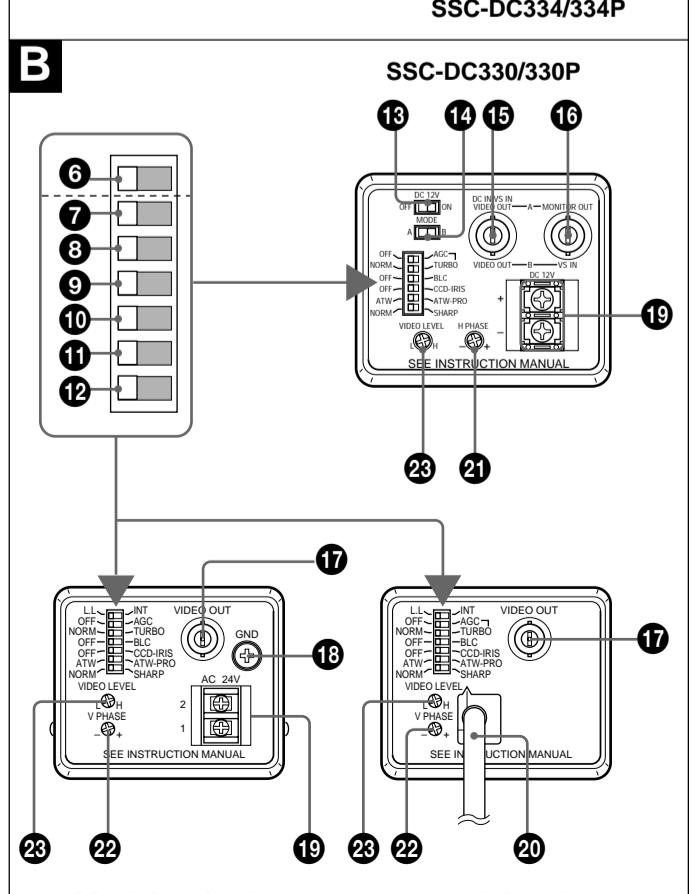
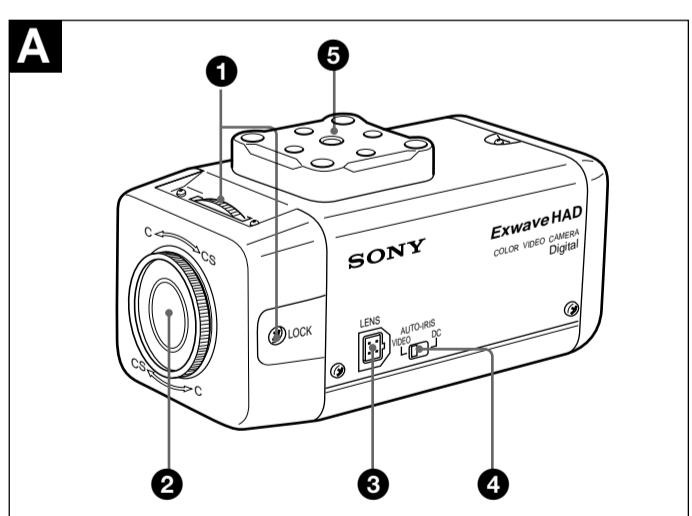
This device requires shielded interface cable to comply with FCC emission limits.

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.

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.



English

Features

This SSC-DC330/334/330P/334P/338P color video camera is equipped with a 1/3-type Exwave HAD™ (Exwave Hole-Accumulated Diode) CCD (Charge Coupled Device), and also has the following features:

- High sensitivity (Minimum illumination: 0.8 lx, F1.2)
- CCD-IRIS function
- Automatic white balance tracking and adjustment (normal/PRO)
- Compatible with DC controlled or video signal controlled auto iris lenses
- Automatic backlight compensation and automatic flicker reduction through Smart Control™ (operates when AGC switch is in the "ON" position)
- External synchronization (SSC-DC330/330P: automatically switches between VS/INT)
- Line lock function for synchronizing through AC power source (SSC-DC334/334P/338P)
- Exwave HAD™ and Smart Control™ are registered trademarks of Sony Corporation.

Notes on Use

Power supply

The SSC-DC330/330P must always be operated with a 12 V DC power supply* or the YS-W150/150P/250/250P camera adaptor (not supplied).

- * In the U.S., use a UL-listed class 2 power supply. In Canada, use a CSA-certified Class 2 power supply.
- The SSC-DC334 must always be operated with a 24V AC class 2 power supply. In the U.S.A., use a Power supply which is UL Listed. In Canada, use a power supply which is CSA Certified.
- The SSC-DC334P must always be operated with a 24 volts AC (50 Hz) power supply. The SSC-DC338P must always be operated with a 230V AC (50 Hz) power supply.
- 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.

Handling

Be careful not to spill water or other liquids on the unit, or allow combustible or metallic objects to fall inside the body. If used with foreign matter inside, the camera is liable to fail, or be a cause of fire or electric shock.

Operation and storage locations

Avoid aiming the camera at very bright objects such as the sun or electric lights for extended 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))
- Damp or dusty places
- Where it is exposed to rain
- Where it is subject to strong vibration
- 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 on 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 using 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.

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

Location and Function of Parts

Top/Front/Side

Illustration A

① Focal length adjustment ring and locking screw

Use this ring to adjust the focal length (the distance between the lens mounting plane and the image plane).

Use the locking screw to lock the focal length.

② Lens mount

Use to mount an appropriate C-mount or a CS-mount lens. To attach a C-mount/CS-mount lens, turn the focal length adjustment ring to the appropriate position. The factory setting is C mount.

③ Lens connector (4 pin socket)

Supplies power and control signals to an auto iris lens.

④ Auto iris lens selection switch (DC/VIDEO)

Switch for selecting the control signal for the auto iris lens.

DC: For auto iris lenses controlled by DC signals

VIDEO: For auto iris lenses controlled by video signals

Notes

- When the DC/VIDEO switch is set to VIDEO, the backlight compensation function may not work properly.
- When the DC/VIDEO switch is set to VIDEO, "hunting" may occur. If this occurs, use the LEVEL L/H adjustment screw on the lens to change the incident light level. When adjusting the incident light level, set the ALC (Automatic Light Control) adjustment screw to Av.

⑤ Camera mounting bracket

The mounting bracket can be attached to either the top or bottom of the camera using the four attached screws (1/4" UNC-20). On the SSC-DC330/334, the camera mounting bracket is attached on top of the main body. On the SSC-DC330P/334P/338P, it is attached underneath the main body.

Rear

B

⑥ SYNC switch (SSC-DC334/334P/338P)

Use this switch to set the camera synchronization mode—line lock (L.L.) or internal (INT).

⑦ AGC (automatic gain control) ON/OFF switch

The automatic gain function automatically adjusts picture gain in accordance with the brightness of the subject.

⑧ Gain up switch

Switching the Gain up switch to the TURBO mode while the AGC switch ⑦ is on increases gain by up to 6 dB over the NORM (normal) mode.

⑨ BLC (back lighting compensation) ON/OFF switch

When switched on, this function adjusts exposure to compensate for situations where the subject is lit from behind.

⑩ CCD-IRIS ON/OFF switch

When using a manual iris lens, the CCD-IRIS function automatically adjusts the shutter speed to maintain a suitable exposure level.

⑪ White balance mode switch

When set in the ATW (auto tracing white balance) - PRO position, the camera automatically adjusts white balance to suit the color temperature of various lighting sources, including incandescent, fluorescent and natural lighting.

When set to the ATW position, the camera automatically adjusts white balance to suit special lighting sources such as sodium lamps.

⑫ Aperture switch

Set in the "SHARP" mode to sharpen the outline and produce a clearer picture.

⑬ DC 12V power supply (SSC-DC330/330P)

Use this switch to turn the power supply on and off. When using a DC 12 V power supply, set this switch to ON. This switch does not function when using YS-W150/150P/250/250P camera adapter (not supplied).

⑭ Mode change switch (SSC-DC330/330P)

Power source changes as follows.

MODE ⑮	Connector ⑯	Connector ⑰	Power source
A	DC IN/VIS IN/ VIDEO OUT	MONITOR OUT	YS-W150/150P/ 250/250P
B	VIDEO OUT	VS IN	DC 12 V

⑮ DC IN (power input)/VS IN (external synchronization signal input)/VIDEO OUT (composite video signal output) or VIDEO OUT connector (BNC type) (SSC-DC330/330P)

Utilizez ce commutateur pour sélectionner le mode de synchronisation de la caméra - verrouillage de ligne (L.L.) ou interne (INT).

⑯ Commutateur AGC (réglage automatique du gain) ON/OFF

La fonction de gain automatique régle automatiquement le gain de l'image en fonction de la luminosité du sujet.

⑰ Commutateur d'augmentation du gain

Si vous actionnez le commutateur d'augmentation du gain en mode TURBO avec l'AGC ⑦ active, le gain augmente de 6 dB par rapport au mode NORM (normal).

⑱ Commutateur BLC (compensation de contre-jour) ON/OFF

Activée, cette fonction règle l'exposition de manière à compenser l'éclairage en contre-jour du sujet.

⑲ Commutateur CCD-IRIS ON/OFF

Lorsque vous utilisez un objectif à diaphragme manuel, la fonction CCD-IRIS règle automatiquement la vitesse d'obturation de façon à maintenir un niveau d'exposition suffisant.

⑳ Sélecteur de mode de balance des blancs

Lorsque ce sélecteur est réglé sur la position ATW, la caméra règle automatiquement la balance des blancs en fonction de la température de couleur des différentes sources d'éclairage telles que les lampes à incandescence, fluorescentes et lumière naturelle.

Lorsque ce sélecteur est réglé sur la position ATW, la caméra règle automatiquement la balance des blancs pour s'adapter à des sources d'éclairage spéciales telles que des lampes au sodium.

㉑ Commutateur d'ouverture

Réglez-le en mode "SHARP" pour rendre plus nets les contours du sujet et produire une image plus claire.

㉒ Alimentation 12 V CC (SSC-DC330/330P)

Utilisez ce commutateur pour mettre la caméra sous et hors tension.

Lorsque vous utilisez une source d'alimentation 12 V CC, réglez ce commutateur sur ON. Ce commutateur est inopérant lorsque vous utilisez un adaptateur de caméra YS-W150/150P/250/250P (non fourni).

㉓ Commutateur changement de mode (mode d'alimentation) (SSC-DC330/330P)

Le mode d'alimentation change comme suit:

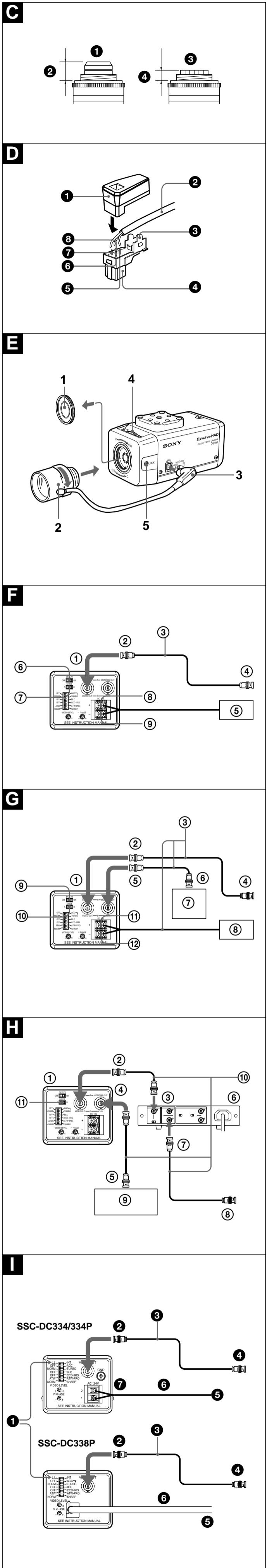
MODE ㉔	Connexion ㉕	Connexion ㉖	Source d'alimentation
A	DC IN/VIS IN/ VIDEO OUT	MONITOR OUT	YS-W150/150P/ 250/250P
B	VIDEO OUT	VS IN	DC 12 V

㉔ Connexion DC IN (entrée d'alimentation)/VS IN (entrée du signal de synchronisation externe)/VIDEO OUT (sortie du signal vidéo composite) ou VIDEO OUT (type BNC) (SSC-DC330/330P)

Utilisez ce commutateur pour mettre en service le signal de synchronisation externe (type BNC) (SSC-DC330/330P).

Les fonctions de ces connecteurs (㉕ et ㉖) changent de position suivant le sélecteur de mode ㉓.

㉕ Connexion VIDEO OUT (type BNC) (



Installation

Suitable lenses

The lens must be either a C- or a CS-mount type of less than 1 kg. The protrusion behind the mounting surface must be within the following limits:

①	C-mount lens	③	CS-mount lens
②	9 mm or less	④	4 mm or less

Changing the plug on an auto iris lens cable

The camera is supplied with a LENS connector for inserting the power/control cable of an auto iris lens. Before connecting an auto iris lens, however, you first have to replace the lens cable plug with the one supplied with this camera. Replace as follows:

1. Detach the old plug from the lens cable.
2. Solder the wires to the pins of the new plug. (For cable pin assignment, refer to the instruction manual for the lens.)

①	Cover
②	Lens cable
③	Rib (If the cable is thick, cut this off.)
④	Plug (unit accessory)
⑤	Pin 4 Video signal control Ground
⑥	DC control Drive - (Ground)
⑦	Pin 2 Video signal control Not used
⑧	DC control Control +
⑨	Pin 1 Video signal control Power supply (DC 9 V, 50 mA)
⑩	DC control Control -
⑪	Pin 3 Video signal control Video signal
⑫	DC control Drive +

Fitting the lens

1. Unscrew the lens mount cap.
2. Screw in the lens, and turn it until it is secured.
3. Insert the lens plug in the LENS connector.
4. When fitting a manual-iris lens, omit step 3.
5. Adjust the focal length by turning the C/CS adjustment ring.
6. Tighten the locking screw.

Caution

When mounting the lens, loosen the securing nut on the side and turn the focal length adjustment to the "C" position. Mounting a C-mount lens with the adjustment ring in the "CS" position may damage the optical filter. Keep the lens mount cap on the camera when not attaching a lens.

Installing the camera

When attaching the camera to a ceiling bracket or tripod, attach the supplied mounting bracket. The bracket may be attached to either the top or bottom of the camera. Use the supplied 1/4" UNC-20 screw to attach the camera to the tripod or ceiling bracket.

Connecting the SSC-DC330/330P

Using a DC 12V power supply

Set the MODE switch to B. When the connections have been made, set the DC 12V power supply switch to ON.

Note

To prevent short circuits, do not let the exposed ends of the mains lead wires touch each other when connecting to the mains lead terminals.

Using an internal synchronization signal

(1) SSC-DC330/330P (rear)
(2) VIDEO OUT connector
(3) 75 ohm coaxial cable
(4) VIDEO INPUT connector
(5) Power supply

Using an external synchronization signal

(1) SSC-DC330/330P (rear)
(2) VIDEO OUT connector
(3) 75 ohm coaxial cable
(4) VIDEO INPUT connector
(5) VS IN connector
(6) Synchronization output connector

Using a YS-W150/150P/250/250P camera adapter (not supplied) (Power multiplex)

Set the MODE switch to A. When the connections have been made, set the YS-W150/150P/250/250P power supply switch to ON.
(1) SSC-DC330/330P (rear)
(2) DC IN, VS IN/VIDEO OUT
(3) CAMERA IN connector
(4) MONITOR OUT connector
(5) VIDEO INPUT connector
(6) YS-W150/150P/250/250P camera adapter

Connecting the SSC-DC334/334P/338P

Using an internal synchronization signal.
1. Set the L/LINT switch to INT (internal synchronization).
2. Connect with VIDEO OUT connector.
3. 75-ohm coaxial cable.
4. Connect with VIDEO IN connector on a video monitor, etc.
5. to power supply (SSC-DC334/334P) / to a wall outlet (SSC-DC338P)
6. Power cord
7. to AC 24V terminals 1 and 2 (SSC-DC334/334P)

When using an external (L.L) synchronization signal, set the L.L/INT switch 1 to L.L and make connections as above.

Phase Adjustment

Horizontal phase (VS lock mode) (SSC-DC330/330P)
The picture may shift horizontally when using an extended cable. Use the H-PHASE adjustment screw to adjust the horizontal phase.

Vertical phase (Line lock mode) (SSC-DC334/334P/338P)
The picture may roll vertically if the vertical phase is not set. Use the V-PHASE adjustment screw to adjust the vertical phase.

CCD Characteristics

The following conditions may be observed when using a CCD camera are not due to any fault within 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 a high temperature.

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

Specifications

Image device	1/3 type interline transfer CCD
Effective picture elements	SSC-DC330/334: 768 (horizontal) × 494 (vertical) SSC-DC330P/334P/338P: 752 (horizontal) × 582 (vertical)
Lens mount	C-mount/CS-mount adjustable
Signal system	NTSC color system (SSC-DC330/334); PAL color system (SSC-DC330P/334P/338P)
Synchronization system	SSC-DC330/330P: Internal/V lock SSC-DC334/334P/338P: Internal/line lock
Horizontal resolution	480 lines
Minimum illumination	0.8 lx, F1.2 (with AGC set to ON in TURBO mode)
Video output	1 Vp-p, 75 ohm, negative sync
Video S/N	50 dB (with AGC set to OFF)
White balance	ATW/ATW PRO (switchable)
Automatic gain control (AGC)	Switchable: ON (TURBO mode) ON (NORM)/OFF SSC-DC330/330P: DC 12 V ±10% DC 24 V ±5% (when YS-W150/150P/250P is in use) SSC-DC334: AC 24 V (60 Hz) SSC-DC334P: AC 24 V (50 Hz) SSC-DC338P: AC 220-240 V (50 Hz)
Power requirements	SSC-DC330/330P: DC 12 V ±10% DC 24 V ±5% (when YS-W150/150P/250P is in use) SSC-DC334: AC 24 V (60 Hz) SSC-DC334P: AC 24 V (50 Hz) SSC-DC338P: AC 220-240 V CA (50 Hz)
Power consumption	SSC-DC334/334P: Less than 4.5 W SSC-DC338P: 5.5 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%
Shock resistance	70 G
Mass	SSC-DC330/330P: 430g (15 oz) SSC-DC334/334P: 550g (1 lb 3 oz) SSC-DC338P: 780 g (1 lb 11 oz)
Dimensions (w/h/d)	SSC-DC330/330P: 70 × 57 × 110 mm (2 7/8 × 2 1/4 × 4 3/8 inches) SSC-DC334/334P/338P: 70 × 57 × 130 mm (2 7/8 × 2 1/4 × 5 1/8 inches)
Supplied accessories	Lens mount cap (1) Lens connector (1) Operating instruction (1)

Design and specifications are subject to change without notice.

Installation

Object compatibles

L'objectif doit être à montage C ou CS et peser moins de 1 kg. La saillie de l'objectif ne peut dépasser les limites suivantes :

①	Objectif à montage C	③	Objectif à montage CS
②	9 mm ou moins	④	4 mm ou moins

Remplacement de la fiche d'un câble d'objectif à diaphragme automatique

La caméra est dotée d'un connecteur LENS destiné à recevoir le câble de commande/alimentation d'un objectif à diaphragme automatique. Avant d'installer un objectif à diaphragme automatique, vous devez cependant remplacer la fiche du câble d'objectif par la fiche fournie avec la caméra.

1 Déposez la fiche d'origine du câble d'objectif.
2 Soudez les fils aux broches de la nouvelle fiche. (Pour l'attribution des broches, consultez le mode d'emploi de l'objectif.)

①	Bouchon
②	Câble d'objectif
③	Nervure (découpez-la si le cordon est de forte section)
④	Fiche (accessoire)
⑤	Broche 4 Signal de commande vidéo Masse
⑥	Commande CC Drive - (Masse)
⑦	Broche 2 Signal de commande vidéo Non utilisé
⑧	Commande CC Control +
⑨	Broche 1 Signal de commande vidéo Alimentation (9 V CC, 50 mA)
⑩	Commande CC Control -
⑪	Broche 3 Signal de commande vidéo Signal vidéo
⑫	Commande CC Drive +

Montage de l'objectif

- 1 Dévissez le bouchon d'objectif.
- 2 Vissez l'objectif et tournez jusqu'à ce qu'il se verrouille.
- 3 Branchez la fiche d'objectif sur le connecteur LENS.
- 4 Si vous utilisez un objectif à diaphragme manuel, passez l'étape 3.
- 5 Réglez la distance focale en tournant la bague de réglage C/CS.

Attention

Lorsque vous montez l'objectif, desserrez l'écrou de verrouillage situé sur le côté et tournez la bague de réglage de la distance focale sur la position "C". L'installation d'un objectif à montage C avec la bague de réglage sur la position "CS" risque d'endommager le filtre optique. Laissez le bouchon sur la caméra lorsque vous n'y montez pas d'objectif.

Installation de la caméra

Si vous installez la caméra sur un support de plafond ou sur un trépied, fixez le support de montage fourni. Le support de montage peut être fixé sur le dessus ou sur la base de la caméra. Utilisez les vis 1/4" UNC-20 fournies pour monter la caméra sur le support de plafond ou sur le trépied.

Raccordement de la SSC-DC330/330P

Avec une alimentation DC 12V

Réglez l'interrupteur sur B. Quand les raccordements sont faits, réglez l'interrupteur d'alimentation DC 12 V sur ON.

Remarque

Pour éviter un court-circuit, veillez à ce que les extrémités exposées des fils du câble d'alimentation ne se touchent pas lorsque vous raccordez les bornes du câble d'alimentation.

Utilisation du signal de synchronisation interne

- ① SSC-DC330/330P (à l'arrière)
- ② connecteur VIDEO OUT
- ③ câble coaxial de 75 ohms
- ④ connecteur VIDEO INPUT
- ⑤ alimentation électrique
- ⑥ interrupteur d'alimentation DC 12 V (réglé sur ON)
- ⑦ interrupteur MODE (réglé sur B)
- ⑧ +12 V
- ⑨ GND (masse)

Utilisation du signal de synchronisation externe

- ① SSC-DC330/330P (à l'arrière)
- ② connecteur VIDEO OUT
- ③ câble coaxial de 75 ohms
- ④ connecteur VIDEO INPUT
- ⑤ connecteur VS IN
- ⑥ signal de l'objectif
- ⑦ connecteur de sortie de synchronisation (ex. commutateur)
- ⑧ alimentation électrique
- ⑨ interrupteur d'alimentation DC 12 V (réglé sur ON)
- ⑩ interrupteur MODE (réglé sur B)
- ⑪ +12 V
- ⑫ GND (masse)

Avec un adaptateur de caméra YS-W150/150P/250/250P (non fourni) (Power multiplex)

Réglez l'interrupteur MODE sur A. Quand les raccordements sont faits, réglez l'interrupteur d'alimentation YS-W150/150P/250P sur ON.
① SSC-DC330/330P (à l'arrière)
② connecteur VIDEO OUT
③ câble coaxial de 75 ohms
④ connecteur VIDEO INPUT
⑤ connecteur VS IN
⑥ signal de l'objectif
⑦ connecteur VIDEO OUT (ex. commutateur)
⑧ alimentation électrique
⑨ interrupteur d'alimentation DC 12 V (réglé sur ON)
⑩ interrupteur MODE (réglé sur B)

Raccordement de la SSC-DC334/334P/338P

Utilisation d'un signal de synchronisation interne:

- 1 Réglez le sélecteur L/LINT sur INT (synchronisation interne).
- 2 Raccordez au connecteur VIDEO OUT.
- 3 Câble coaxial de 75 ohms
- 4 Raccordez au connecteur VIDEO IN d'un moniteur vidéo, etc.
- 5 vers l'alimentation (SSC-DC334/334P) / vers une prise murale (SSC-DC338P)
- 6 Cordon d'alimentation
- 7 vers les bornes 24 V CA 1 et 2 (SSC-DC334/334P)

Si vous utilisez un signal de synchronisation (L.L) externe, réglez le sélecteur L/LINT sur L.L et procédez au raccordement décrit ci-dessus.

Réglage de phase

Phase horizontale (mode VS LOCK) (SSC-DC330/330P)

L'image peut être décalée horizontalement lorsque vous utilisez une allonge de câble. Utilisez le vis de réglage H-PHASE pour régler la phase horizontale.

Phase verticale (mode L.L)