Canon

BCTV Zoom Lens

UHDxs

CJ45ex9.7B
CJ45ex13.6B

HDXS

HJ40ex10B
HJ40ex14B

IFxs

J35ex15B4

OPERATION MANUAL " Lens "

Read this operation manual before using the product.

ENG

memo

GENERAL SAFETY INFORMATION

The safety warnings and cautions provided on the product or in this operation manual must be observed.
Failure to observe these warnings and cautions may result in injury or accident.
Read this operation manual carefully to familiarize yourself with its contents and ensure that you can operate the product properly.
Also, store this manual in a safe place where it can easily be referenced whenever necessary.

This operation manual uses the following symbols and terms to identify hazards in order to prevent accidents.

⚠ WARNING	This indicates a potentially hazardous situation which, if not heeded, may result in death or serious injury to you or others. Be sure to heed all warning notices to ensure safe operation at all times.
⚠ CAUTION	This indicates a potentially hazardous situation which, if not heeded, may result in a minor injury to you or others, or damage to property. Be sure to heed all caution notices to ensure safe operation at all times.
NOTE	This indicates cautions and recommendations for operation. It contains information which, if not heeded, may result in this product failing to function properly. These notices also contain useful information for operation.

HANDLING THE PRODUCT

⚠ WARNING

1. Do not get this product wet or allow liquid inside. If water gets inside, stop using the product immediately. Continuing to use the product under this condition may cause a fire or electric shocks.
2. Do not stare at the sun or other bright objects through the lens. It may injure your eyes.
3. Be sure to hold the connector when disconnecting the cable. Pulling on the cable may sever or damage it and pose a risk of a fire or electric shocks from a short circuit.

⚠ CAUTION

1. Be careful not to drop the product when carrying it. Dropping the product may cause injury.
2. Ensure that all mountings are securely tightened. If a mounting becomes loose, parts may fall off and cause injury.
3. Inspect mountings regularly (about every six months to one year) to ensure they are securely tightened. If a mounting becomes loose, parts may fall off and cause injury.
4. When this product is used under the blazing sun, the inside of the unit may be heated to high temperature. When it is expected that the unit is exposed to elevated temperature, take measures against heat as appropriate on the customer’s side.

NOTE

1. Striking or dropping the lens may cause the malfunction of the product.
2. This product is not waterproof. Take measures to avoid direct contact with rain, snow, or moisture. Otherwise it may cause the malfunction of the product.
3. In dusty environments, cover the lens mount when using, attaching or removing the lens. If dust enters inside, it may cause the malfunction of the product.
4. Take measures to avoid sudden changes in temperature where the lens is used, which may prevent operation temporarily if condensation forms in the lens.
5. Before use in particular environments, such as places where chemical products are used, contact your Canon sales representative or dealer.

DEALING WITH ABNORMALITIES

⚠ WARNING

Should any of the abnormalities described below occur, immediately disconnect the lens cable from the camera and contact your Canon sales representative or dealer.

- Smoke, fumes, or unusual noises
- Entry of foreign objects (such as liquid or metal objects) inside the product

MAINTENANCE AND INSPECTION

⚠ WARNING

Be sure to disconnect the cable and remove the lens from the camera before cleaning outside of the lens. Do not use benzene, thinner, or other flammable substances to clean the product. Otherwise it may cause a fire or electric shocks.

NOTE

1. Clean off any dust on the lens surface using a lens blower or a soft lens brush. In case of getting fingerprints or stains on the lens, use a clean cotton cloth moistened with commercial lens cleaning fluid, or use lens cleaning paper. Gently wipe in a spiral pattern from the center of the lens. Be careful not to rub dust across the lens, which may scratch the lens surface
2. Routine inspection about once a year is recommended, depending on the conditions and environment of use. Request overhaul, if needed.

STORAGE

⚠ WARNING

Always attach the lens cap, hood cap, dust cap or covers before storage. Storing the lens without the caps or covers attached poses a risk of fire if the lens concentrate light in direct sunlight.

NOTE

1. Immediately wipe off any moisture on the lens from misty or foggy environments, using a dry cloth. Seal the lens in a plastic bag with a desiccant (preferably new) to prevent moisture inside. Otherwise it may cause the mold or the malfunction of the product.
2. Before using the product with the separately available carrying case, contact your Canon sales representative or dealer. Components such as adhesives used in the carrying case may have an adverse effect on the product.

TO THE CUSTOMER

1. Canon shall bear no responsibility for damage resulting from improper operation of this product by the customer.
2. Canon shall make no guarantees about the product quality, functions, or operation manual and its marketability and suitability for the customer’s purpose.
   Moreover, Canon shall bear no responsibility for any damage, direct or incidental, that results from usage for the customer’s purpose.
3. The product specifications, configuration, and appearance are subject to change without prior notice.
4. For further information on repairs, maintenance, or adjustments not mentioned in this operation manual, contact your Canon sales representative or dealer.
5. Note that Canon may be unable to undertake servicing or repair of a product if it is modified without consulting Canon or your Canon sales representative.

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FOREWORD

Thank you for purchasing the Canon BCTV zoom lens.
This product comes with the following documents for the models below:

- Operation Manual "Before Using The Product" （Included with the product）
- Operation Manual "Regulations" （Included with the product）
- Operation Manual "Lens" （Web）
- Operation Manual "Information display" （Web）

UHD XS
CJ45ex9.7B IASE-V H
CJ45ex13.6B IASE-V H

HD XS
HJ40ex10B IASE-V H
HJ40ex14B IASE-V H

IF XS
J35ex15B4 IASE H SX12

The illustrations in this manual are used as examples. The shapes of product may vary depending on models and specifications.

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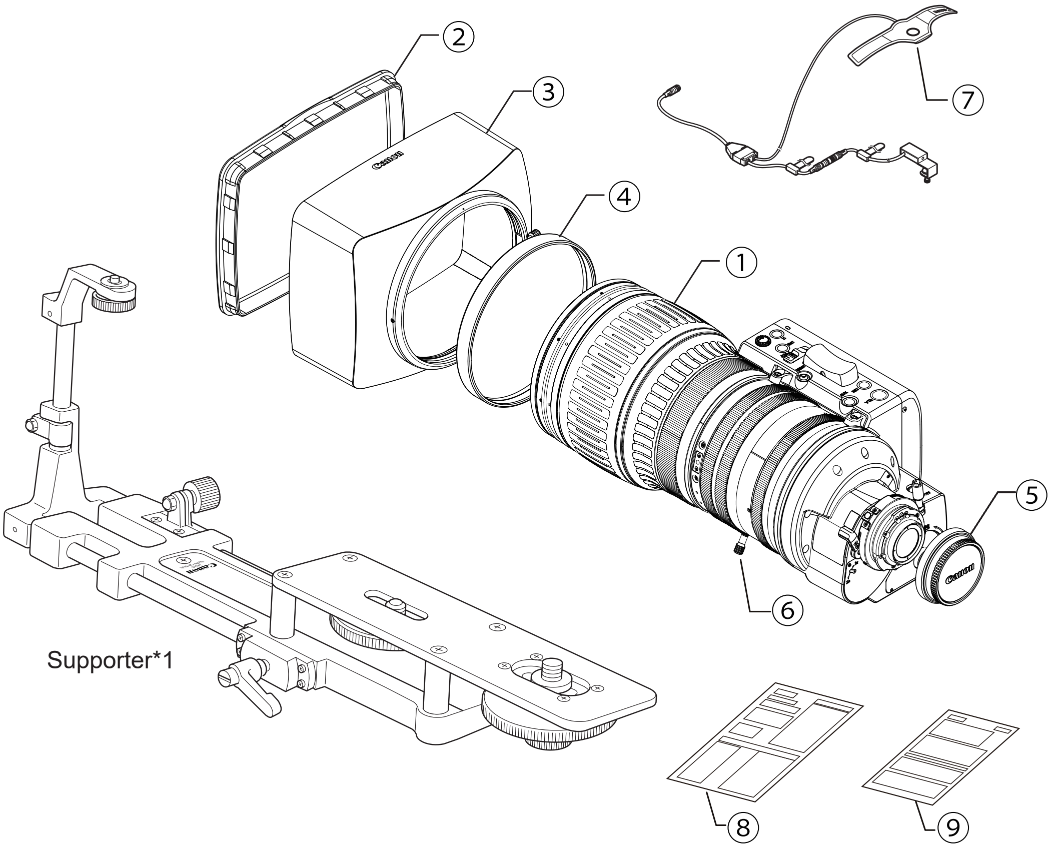
- TECHNICAL INFORMATION

1 PRODUCT LIST

Make sure all of the following items are included in the packing box before use. If you find any items missing, please contact your Canon sales representative or dealer.

①Lens body
②Hood cap (CJ45ex / HJ40ex only)
③Hood (CJ45ex / HJ40ex only)
④Lens cap
⑤Dust cap
⑥Zoom Lever
⑦IS Operation Unit (CJ45ex / HJ40ex only)
⑧Operation manual
"Before Using The Product"
⑨Operation manual
"Regulations"



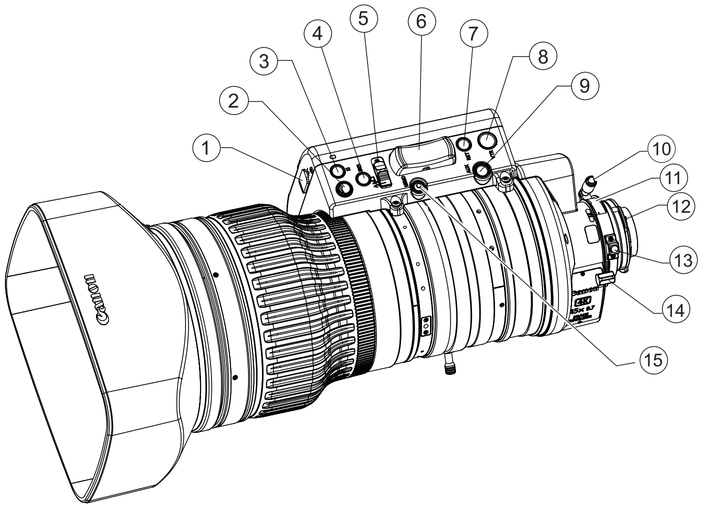
*1: Canon dedicated supporter SUP-300 is available as an option.

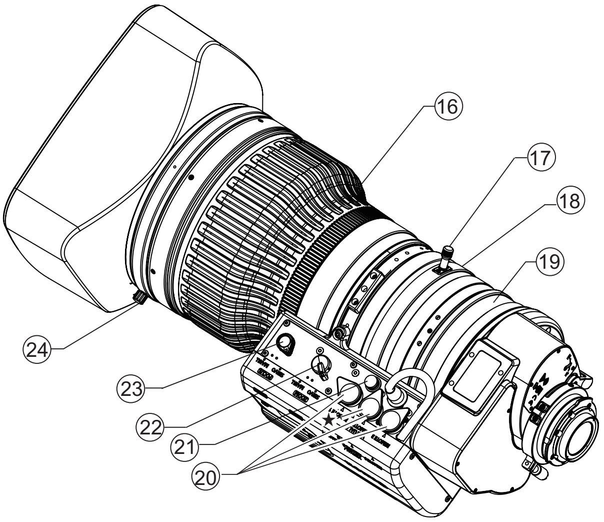
- Accessories other than those mentioned above may be required depending on the specifications. For details, contact your Canon sales representative or dealer.
- The illustrations in this manual are used as examples. The shapes of product may vary depending on models and specifications.
- This manual describes the product list and the handling when the lens is used with SUP-300.

NOTE
Depending on the camera, the dedicated supporter SUP-300 may not be able to be used. For details, contact your Canon sales representative or dealer. Also contact your Canon sales representative or dealer when you intend to use a supporter other than the SUP-300.

2 NOMENCLATURE

CJ45ex





① Iris Gain Adjusting Trimmer

② Max. Zoom Speed Adjusting Volume

③ IS ON/OFF Switch

④ Instant Auto-Iris Switch

⑤ Iris Operation Mode Change-over Switch

⑥ Zoom Rocker Seesaw

⑦ RET Switch

⑧ VTR Switch

⑨ AUX Switch

⑩ Flange Back Lock Screw/

⑪Flange Back Adjusting Ring

⑫ Locating Pin

⑬ Macro Button

⑭ Extender Lever

⑮ MEMO Switch (Memory Switch)

⑯ Focus Ring

⑰ Zoom Lever

⑱ Zoom Ring

⑲ Iris Ring

⑳ Remote Connectors (20 pin)

NOTE) Virtual output port is Connector ★ only.

Use these connectors to connect the control accessory (equipped with a 20 pin connector) for zooming or focusing. Connector ★ is also used to connect to the interface of such as virtual system. It can output each positioning signal of zoom, focus, and iris.

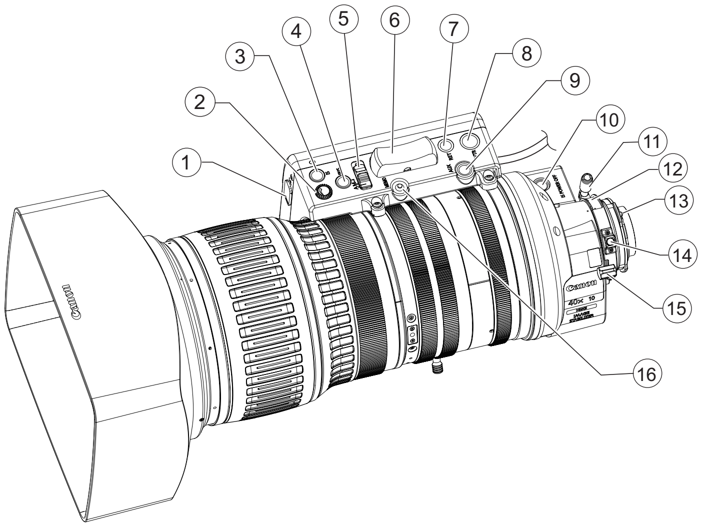
㉑ IS Remote Connector

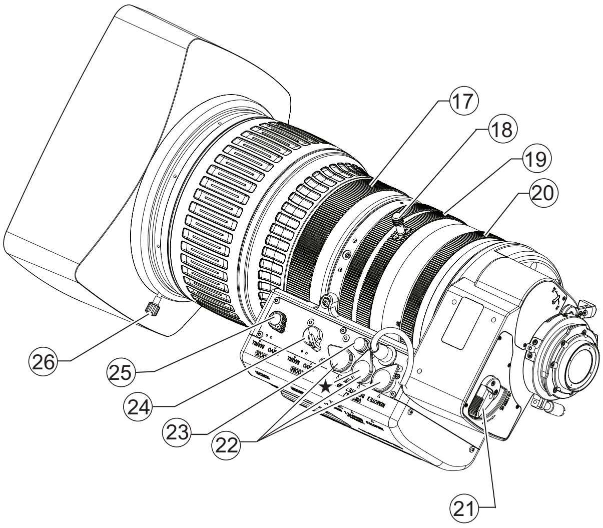
㉒ Zoom Operation Change-over Knob

㉓ Focus Operation Change-over Knob

㉔Hood Lock Knob

HJ40ex





① Iris Gain Adjusting Trimmer

② Max. Zoom Speed Adjusting Volume

③ IS ON/OFF Switch

④ Instant Auto-Iris Switch

⑤ Iris Operation Mode Change-over Switch

⑥ Zoom Rocker Seesaw

⑦ RET Switch

⑧ VTR Switch

⑨ AUX Switch

⑩ IS POWER OFF Switch

⑪ Flange Back Lock Screw

⑫ Flange Back Adjusting Ring

⑬ Locating Pin

⑭ Macro Button

⑮ Extender Lever

⑯ MEMO Switch (Memory Switch)

⑰ Focus Ring

⑱ Zoom Lever

⑲ Zoom Ring

⑳ Iris Ring

㉑ IS POWER ON Lever

㉒ Remote Connectors (20 pin)

NOTE) Virtual output port is Connector ★ only.

Use these connectors to connect the control accessory (equipped with a 20 pin connector) for zooming or focusing. Connector ★ is also used to connect to the interface of such as virtual system. It can output each positioning signal of zoom, focus, and iris.

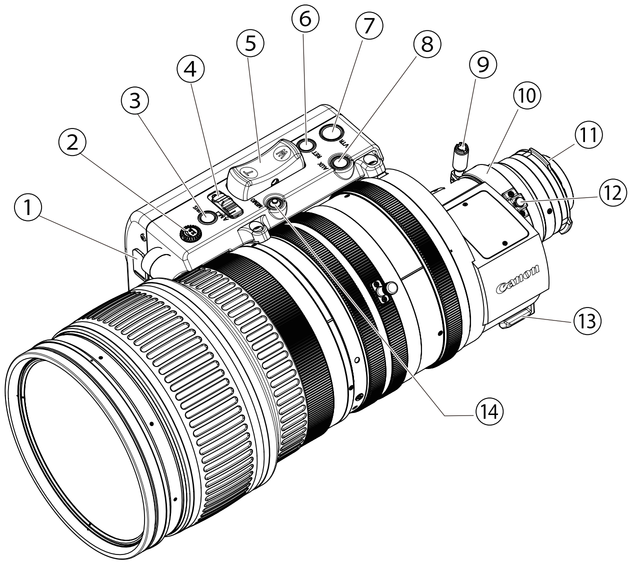
㉓ IS Remote Connector

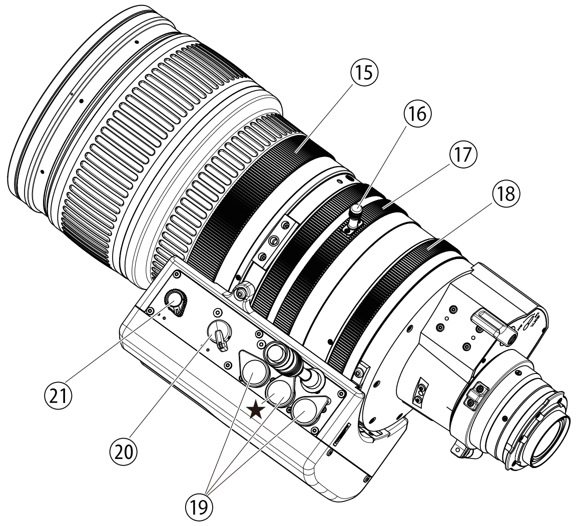
㉔ Zoom Operation Change-over Knob

㉕ Focus Operation Change-over Knob

㉖ Hood Lock Knob

J35ex





① Iris Gain Adjusting Trimmer

② Max. Zoom Speed Adjusting Volume

③ Instant Auto-Iris Switch

④ Iris Operation Mode Change-over Switch

⑤ Zoom Rocker Seesaw

⑥ RET Switch

⑦ VTR Switch

⑧ AUX Switch

⑨ Flange Back Lock Screw

⑩ Flange Back Adjusting Ring

⑪ Locating Pin

⑫ Macro Button

⑬ Extender Lever

⑭ MEMO Switch (Memory Switch)

⑮ Focus Ring

⑯ Zoom Lever

⑰ Zoom Ring

⑱ Iris Ring

⑲ Remote Connectors (20 pin)

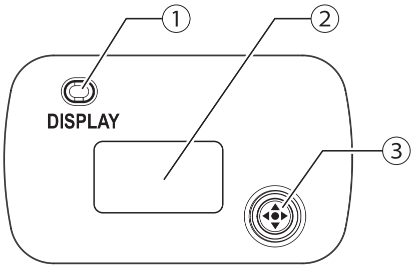
NOTE) Virtual output port is Connector ★ only.

Use these connectors to connect the control accessory (equipped with a 20 pin connector) for zooming or focusing. Connector ★ is also used to connect to the interface of such as virtual system. It can output each positioning signal of zoom, focus, and iris.

⑳ Zoom Operation Change-over Knob

㉑ Focus Operation Change-over Knob

Information Display (Common to CJ45ex/HJ40ex/J35ex)



① DISPLAY Switch

Used to turn the display ON/OFF.

② Display

The display turns off if left for 2 minutes without operation.

③ Control Key

Used to move the cursor up/down/left/right. Press the center to confirm.

For the operation of information display, refer to Operation Manual "Information Display ".

3 MOUNTING AND CONNECTIONS

3-1. MOUNTING THE SUPPORTER, CAMERA AND TRIPOD

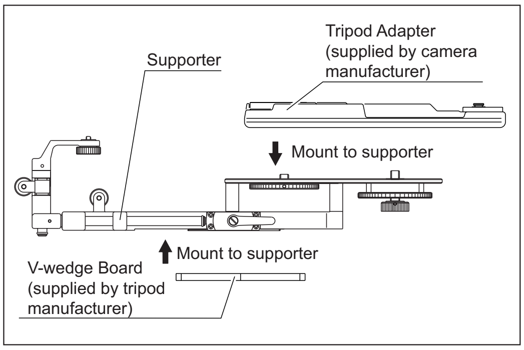
The dedicated supporter SUP-300 is available for this lens. To protect the lens and camera, use of the dedicated supporter is recommended. Follow the procedures below for mounting the lens, camera, supporter and tripod.

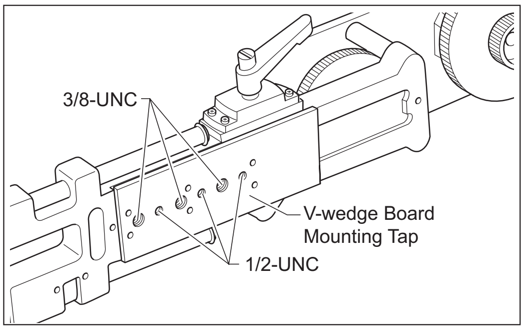
Mount the supporter on the tripod. (Section 3-1-1.)
↓
Mount the camera on the supporter. (Section 3-1-2.)
↓
Mount the lens on the camera. (Section 3-1-3.)
↓
Adjust the balance. (Section 3-1-4.)

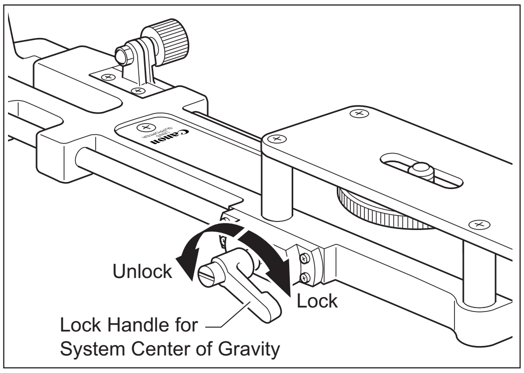
NOTE

Depending on the camera, the dedicated supporter SUP-300 may not be able to be used. For details, contact your dealer or Canon Inc. Also contact your dealer or Canon Inc. when you intend to use a supporter other than the SUP-300.

3-1-1. Mounting the Supporter on the Tripod


Tripod Adapter
(supplied by camera
manufacturer)
Supporter
Mount to supporter
Mount to supporter
V-wedge Board
(supplied by tripod
manufacturer)


3/8-UNC
V-wedge Board
Mounting Tap
1/2-UNC


Unlock
Lock
Lock Handle for
System Center of Gravity

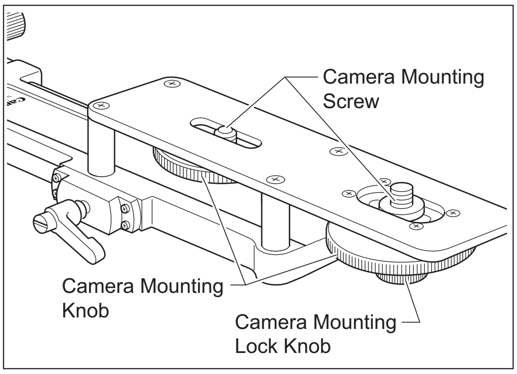
1 Mount the tripod's V-wedge board to the bottom of the supporter. The V-wedge board mounting tap has 3/8-UNC and 1/2-UNC mounting screw holes. The V-wedge board mounting tap can be moved forwards or backwards. The lock handle for system center of gravity can be locked or unlocked by turning it in the following directions.

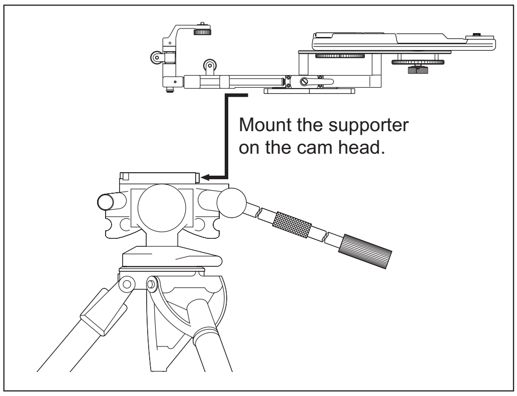
Clockwise direction : Lock
Counterclockwise direction : Unlock

CAUTION

The V-wedge board is available from the tripod manufacturer or pedestal manufacturer. For details on how to mount it, refer to the tripod or pedestal operation manual. If the pan and tilt mechanisms on the cam head are not locked, the camera, lens and supporter may fall and be damaged or cause an injury.

2 Turn the handle for system center of gravity to the lock direction to lock the V-wedge board once it has been mounted.


Camera Mounting Screw
Camera Mounting Knob
Camera Mounting Lock Knob


Mount the supporter on the cam head.

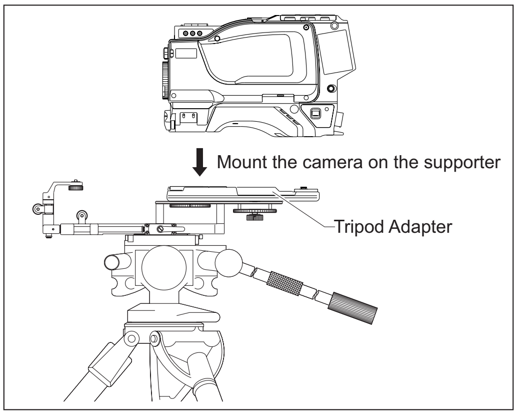
3 Insert the two camera mounting screws (3/8-UNC) into the tripod screw holes on the tripod adapter*. Then turn the camera mounting knobs to tighten the two screws.

*The tripod adapter is available from the camera manufacturer. For details on mounting of the camera, refer to the operation manual of the camera.

4 Turn the camera mounting lock knob to secure the tripod adapter in place.

5 After making sure that the pan and tilt mechanisms of the tripod and the lock handle for system center of gravity are locked, mount the supporter to the cam head of the tripod.

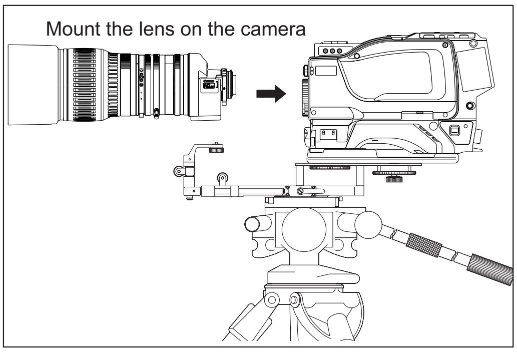
3-1-2. Mounting the Camera on the Supporter

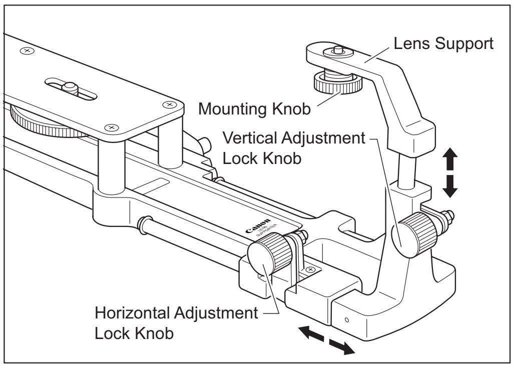

Mount the camera on the supporter
Tripod Adapter

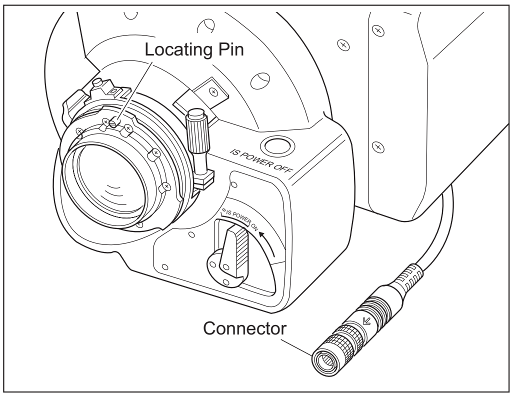
Mount the camera on the tripod adapter to which the supporter was mounted in Section 3-1-1. For details, refer to the operation manual of the camera.

3-1-3. Mounting the Lens on the Camera

Before mounting the lens on the camera, turn off the power of the camera. For details, refer to the operation manual of the camera




Lens Support
Mounting Knob
Vertical Adjustment Lock Knob
Horizontal Adjustment Lock Knob



1. Loosen the supporter vertical adjustment lock knob, and lower the lens support.
2. Turn the bayonet mount of the camera counterclockwise, then remove the protective cap.
3. Remove the dust cap from the lens.
4. Align the locating pin on the lens mount with the groove on the camera mount, then press the lens into the camera mount.
5. Turn the bayonet ring of the camera clockwise as viewed from the lens side to secure the lens in place.*1
6. Connect the connector at the end of the cable coming from the bottom of the lens drive unit to the camera.
7. Loosen the horizontal and vertical adjustment lock knobs so that the lens support can be moved forward, backward, upward and downward.
8. Move the lens support forward, backward, upward and downward to fit the mounting knob tip screw into the lens unit stand and insert it. Then turn the mounting knob to secure the lens to the lens support.*2
9. Tighten the horizontal and vertical adjustment lock knobs to secure the lens support in place.*3

NOTE

*1: In this state, the lens is supported only by the mount section, therefore the mount connection part may be damaged even by the slight pressure. Be careful not to apply the external pressure to the lens until the mounting procedure is completed. Otherwise the lens may be damaged.

*2: If the positions of the mounting knob and the lens unit stand are not aligned within the lens support forward or backward adjustment range, the camera position is either too far forward or backward. In this case, refer to “3-1-1. Mounting the Supporter to the Tripod”, loosen the two camera mounting screws and the camera mounting lock knob, adjust the camera position, and then retighten the screws and knob to secure the camera in place.

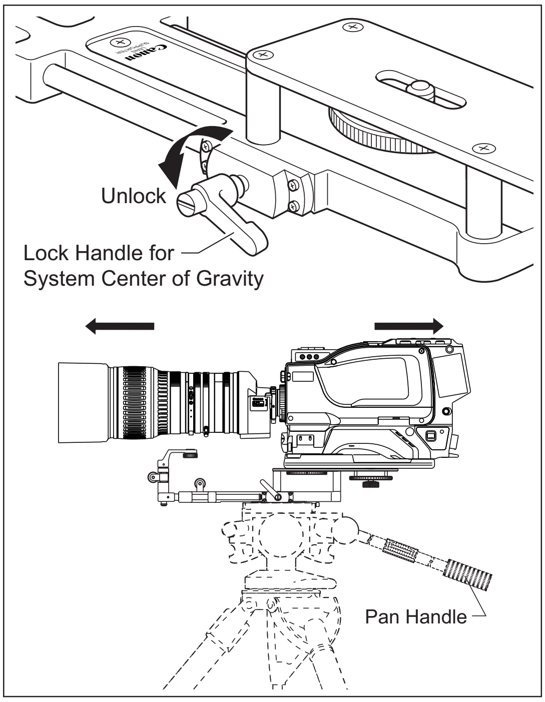
*3: When tightening the lock knobs, be careful not to raise or pull the lens or forcibly move the lens position. Otherwise the lens may be damaged.

NOTE
Rated voltage: 12 V DC

Normal operation range: 10 to 17 V DC

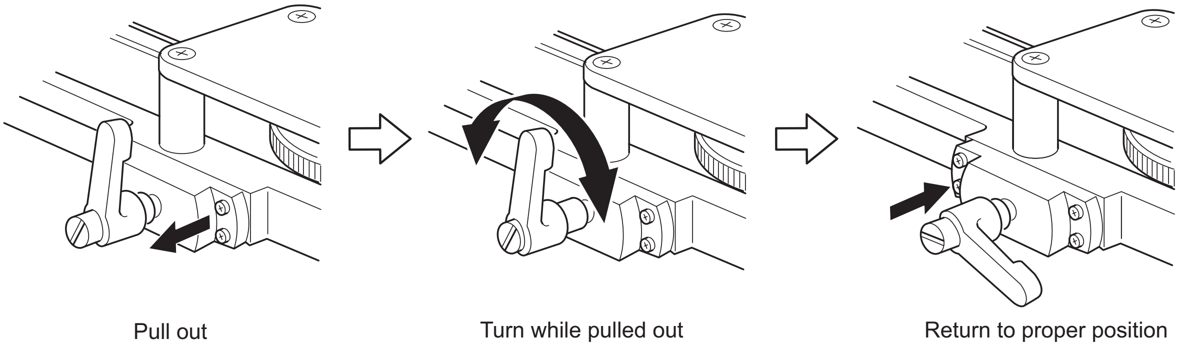
If a battery or adapter is used, the output voltage may be higher than the rated voltage depending on the manufacturers and therefore the above voltages must be observed strictly. If a voltage outside the normal operation range is used, the drive unit may be damaged. And the lens power input has the positive and negative polarities. Make sure to connect the power cable to the correct polarity when connecting the batteries or the adaptors. Connecting the cable to the incorrect polarity may cause the damage to the product.

3-1-4. Adjusting the Balance



1. Loosen the pan and tilt mechanisms of the cam head, then check the center of gravity and other balance such as by holding the pan handle of the tripod.
2. Unlock the lock handle for system center of gravity so that the lens, camera and supporter can be moved forwards or backwards as a single unit while mounted to the tripod. Adjust the center of gravity position if it is misaligned.
3. After adjusting the center of gravity position, lock the lock handle for system center of gravity. Also, when the lock handle for system center of gravity is pulled out, the handle can be changed to any direction over the full 360° range while keeping it locked. Set the handle to a position that will not be accidentally touched during other operations such as subsequent shooting, and then press the handle back in.
4. Finally, tighten all knobs and screws, and check that they are secured in place.

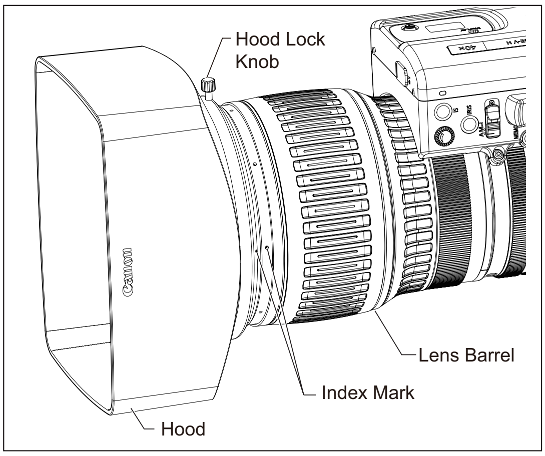
Adjusting the Handle Position



NOTE (For CJ45ex and HJ40ex only)
In order to make the best use of the IS function of the lens, use a tripod with sufficient strength. The IS function may not work sufficiently (or properly) depending on the set-up condition of the tripod and supporter. In this case, adjust the balance or change the mounting or other set-up conditions.

3-2. MOUNTING THE HOOD (CJ45ex and HJ40ex only)

The lens cap is attached to the lens when shipped from the factory. First, remove the lens cap before mounting the hood.

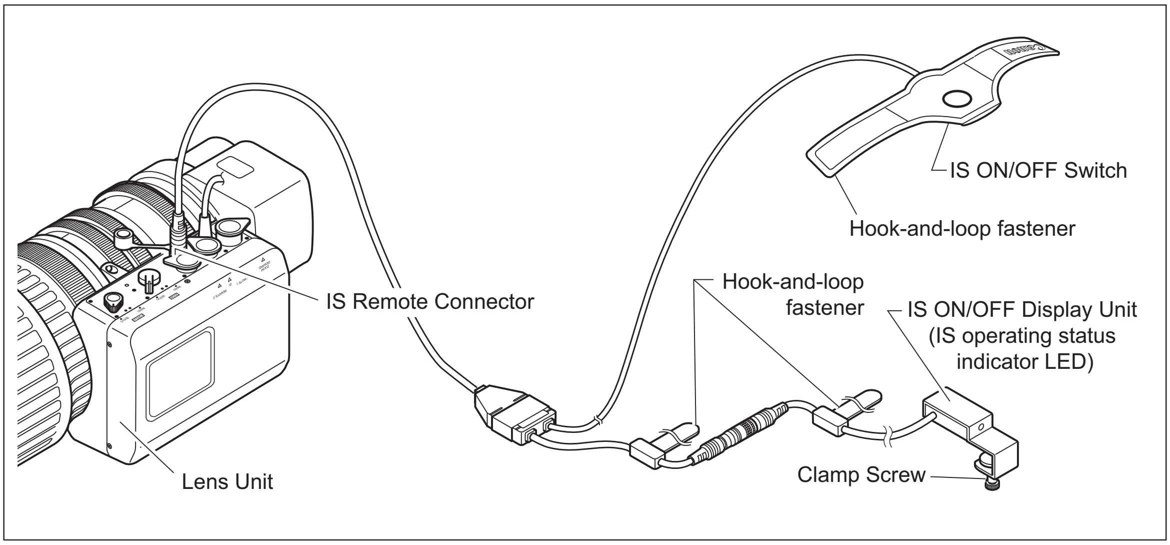

Hood Lock Knob
Lens Barrel
Index Mark
Hood

1. Fit the hood onto the front of the lens barrel.
2. Align the index marks on the hood and the lens barrel.
3. Tighten the hood lock knob.

3-3. MOUNTING THE IS OPERATION UNIT(CJ45ex and HJ40ex only)

The IS operation unit is an accessory consisting of a switch unit for turning the image stabilizer (IS) on and off and a display unit that indicates the operating status. It can be mounted in an arbitrary location for easy operation, and enables remote control of the image stabilizer.

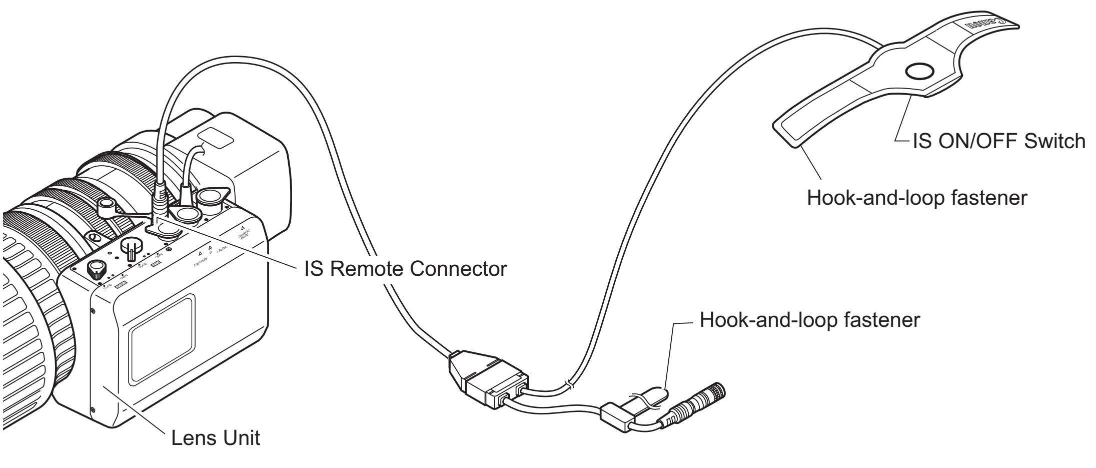
1. Connect the connector of the IS operation unit to the IS remote connector on the bottom of the lens drive unit. (Normally, the IS remote connector is covered with a protective cap. Remove this cap before connecting to the connector.)
2. Use the hook-and-loop fastener on IS ON/OFF switch belt and attach it to an arbitrary location that allows easy operation.
3. Use the clamp screw of the IS ON/OFF display unit (IS operating status indicator LED) and attach the unit to the edge of the viewfinder or other location where the LED status (ON/OFF) can be checked easily.


IS ON/OFF Switch
Hook-and-loop fastener
Hook-and-loop fastener
IS Remote Connector
IS ON/OFF Display Unit (IS operating status indicator LED)
Lens Unit
Clamp Screw

Refer to “6-6. IMAGE STABILIZER OPERATION” for the image stabilizer operating procedure.

NOTE

1. IS ON/OFF switch and IS operating status display LED are also provided on the lens drive unit, so these can be used together with the IS operation unit.
2. If the IS operating status does not need to be displayed, the display unit can be removed from the IS operation unit, and the IS operation unit can be used with only the switch unit connected. (See the figure below.)


IS ON/OFF Switch
Hook-and-loop fastener
IS Remote Connector
Hook-and-loop fastener
Lens Unit

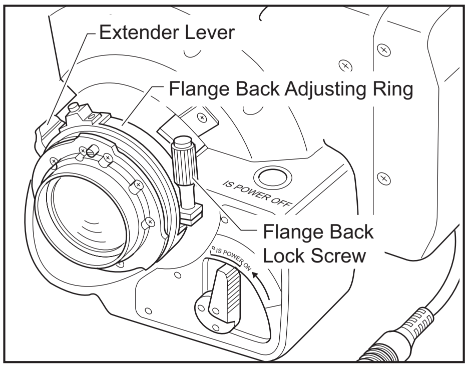
3-4. TURN ON THE POWER

Turn on the camera, and the power of the lens will be supplied.

4 ADJUSTMENT

4-1. FLANGE BACK ADJUSTMENT

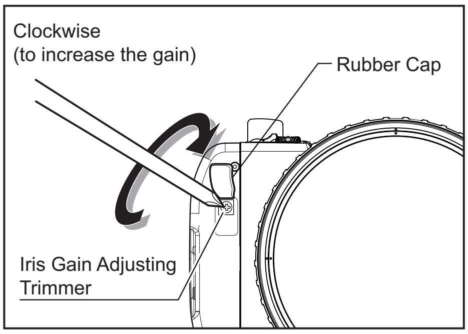
If the relation between the image plane of the zoom lens and the image plane of the TV camera is incorrect, the object goes out of focus during the zooming operation. Follow the procedures below to adjust the flange back of the lens.

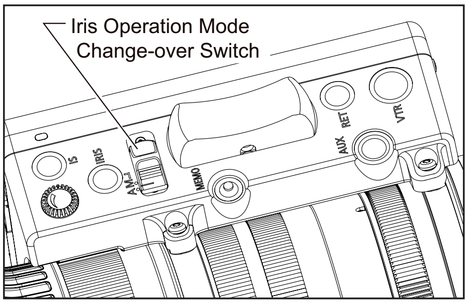

Extender Lever
Flange Back Adjusting Ring
IS POWER OFF
Flange Back Lock Screw
IS POWER ON

1. Select an object at an appropriate distance (approx. 5 to 7 m). Use an object with sharp contrast to facilitate the adjustment work.
2. Set the extender lever to 1×.
3. Set the iris to fully open.
4. Turn the zoom ring to set the lens to the telephoto end.
5. Turn the focus ring to bring the object into focus.
6. Turn the zoom ring to set the lens to the widest angle end.
7. Loosen the flange back lock screw, and then turn the flange back adjusting ring to bring the object into focus.
8. Repeat procedures 4 to 7 a few times until the object is brought into focus at both the widest end and telephoto ends.
9. Tighten the flange back lock screw.

4-2. IRIS GAIN ADJUSTMENT

Iris gain adjusting trimmer is located on the front of the lens drive unit. The iris gain is set appropriately at the factory. However, when you change the iris gain, adjust the trimmer using a small screwdriver or other tools.


Clockwise
(to increase the gain)
Rubber Cap
Iris Gain Adjusting Trimmer


Iris Operation Mode Change-over Switch
IS
IRIS
AM
MEMO
AUX
RET
VTR

1. Pull up the rubber cap covering the iris gain adjusting trimmer.
2. Set the iris operation mode change-over switch to the “A” (Auto) position.
3. Turn the iris gain adjusting trimmer using a small screwdriver or other tool. Observe the lens iris ring, and set it to the position of the maximum gain at which no iris hunting occurs.
4. Close the rubber cap after the adjustment is completed.

The adjustment and the setting can also be made on the information display. Refer to Operation Manual "Information Display ".

5 MODE SETTING

5-1. OPERATION MODES

There are three operation modes as listed below. These operation modes can be selected on the information display of the lens according to usage and preference.

1. Basic mode : Items that can be set and viewed are limited in this mode. This mode is recommended for users who do not require sophisticated settings. The lens is factory-set to Basic mode.
2. Full mode : All items can be set and viewed in this mode.
3. Analog mode : This mode is selected when the digital functions are not used at all.
    - Switches labeled VTR, RET, IRIS A/M, and IRIS INST control the respective functions. The seesaw switch serves as a regular zoom switch.
    - AUX and MEMO switches are disabled.
    - To set auto iris gain adjustment, use either display or trimmer operations.
    - Shuttle shot, frame preset, speed preset, and zoom tracking are not available.

This manual describes only the items that can be set on the Top screen in each mode.

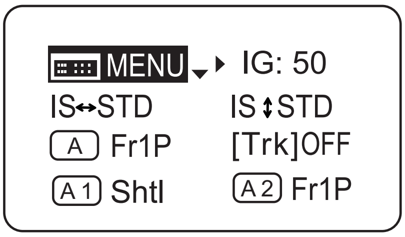
For details on how to set them, refer to Operation Manual “Information display”.

5-2. SETTING ITEMS IN BASIC MODE

The following items can be set on the top screen in Basic mode.

Initial Top Screen in Basic Mode

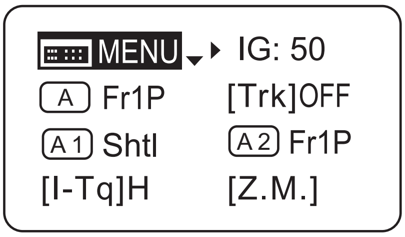
CJ45ex/HJ40ex



```
MENU▾ ▸ IG: 50
IS↔STD    IS↕STD
(A) Fr1P  [Trk]OFF
(A1) Shtl (A2) Fr1P
```

1. Go to MENU screen.
2. Auto iris gain settings
3. Switch horizontal IS mode
4. Switch vertical IS mode
5. AUX switch assignment
6. Zoom track function ON/OFF
7. AUX1 switch assignment
8. AUX2 switch assignment
9. Iris torque settings
10. Zoom curve mode settings

J35ex



```
MENU▾ ▸ IG: 50
(A) Fr1P  [Trk]OFF
(A1) Shtl (A2) Fr1P
[I-Tq]H   [Z.M.]
```

1. Go to MENU screen.
2. Auto iris gain settings
3. AUX switch assignment
4. Zoom track function ON/OFF
5. AUX1 switch assignment
6. AUX2 switch assignment
7. Iris torque settings
8. Zoom curve mode settings

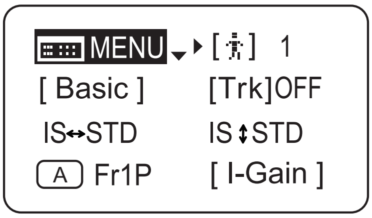
For details on how to set them, refer to Operation Manual “Information display”.

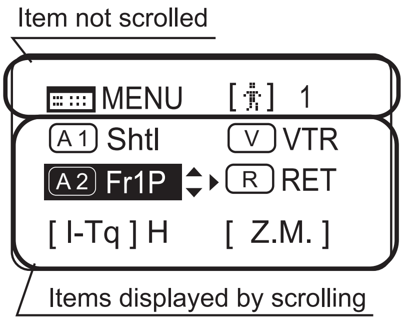
5-3. SETTING ITEMS IN FULL MODE

The following items can be set on the top screen in Full Mode.

Initial Top Screen in Full Mode

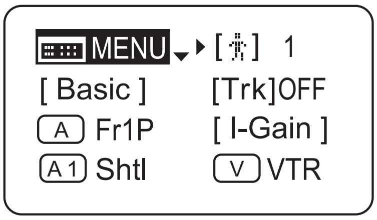
CJ45ex/HJ40ex

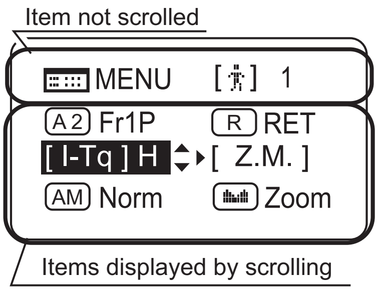

MENU
[1
[Basic]
[Trk]OFF
IS↔STD
IS↕STD
A Fr1P
[I-Gain]


Item not scrolled
MENU
[1
A1 Shtl
V VTR
A2 Fr1P
R RET
[I-Tq] H
[Z.M.]
Items displayed by scrolling

1. Go to MENU screen
2. Switch users
3. Switch to Basic mode
4. Zoom track function ON/OFF
5. Switch horizontal IS mode
6. Switch vertical IS mode
7. AUX switch assignment
8. Iris gain settings
9. AUX1 switch assignment
10. VTR switch assignment
11. AUX2 switch assignment
12. RET switch assignment
13. Iris torque settings
14. Zoom curve mode settings
15. Iris A/M switch setting
16. Seesaw switch assignment

J35ex


MENU
[1
[Basic]
[Trk]OFF
A Fr1P
[I-Gain]
A1 Shtl
V VTR


Item not scrolled
MENU
[1
A2 Fr1P
R RET
[I-Tq] H
[Z.M.]
AM Norm
Zoom
Items displayed by scrolling

1. Go to Menu screen
2. Switch users
3. Switch to Basic mode
4. Zoom tracking ON/OFF
5. AUX switch assignment
6. Iris gain settings
7. AUX1 switch assignment
8. VTR switch assignment
9. AUX2 switch assignment
10. RET switch assignment
11. Iris torque settings
12. Zoom curve mode settings
13. Iris A/M switch setting
14. Seesaw switch assignment

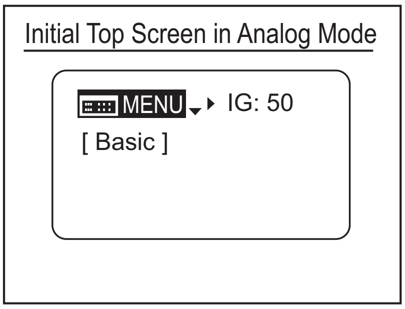
For details on how to set them, refer to Operation Manual “Information display”.

5-4. SETTING ITEMS IN ANALOG MODE

The following items can be set on the top screen in Analog Mode.

Initial Top Screen in Analog Mode

CJ45ex/HJ40ex/J35ex



Initial Top Screen in Analog Mode

MENU IG: 50

[Basic]

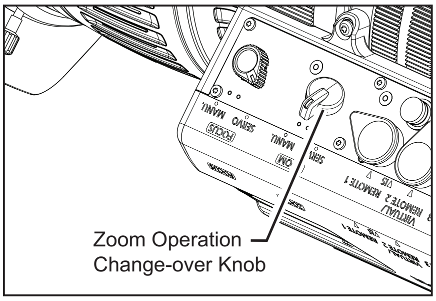
1. Go to MENU screen.
2. Auto iris gain settings
3. Switch to Basic mode

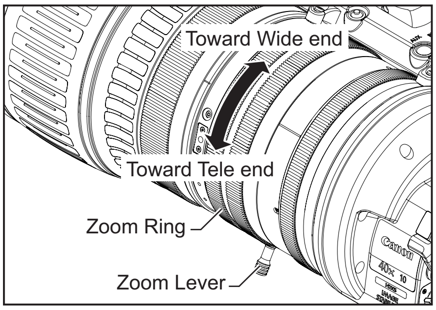
For details on how to set them, refer to Operation Manual “Information display”.

6 OPERATION

6-1. ZOOM OPERATION

6-1-1. Manual Zoom Operation


Zoom Operation
Change-over Knob

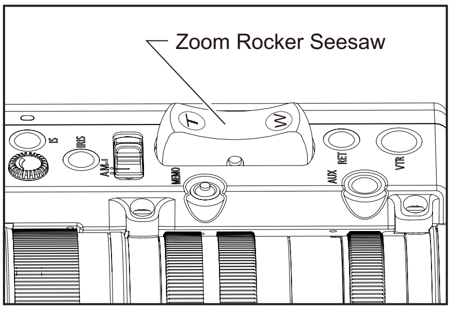

Toward Wide end
Toward Tele end
Zoom Ring
Zoom Lever

1. Set the zoom operation change-over knob at the bottom of the drive unit to the MANU. position.
2. Turn the zoom ring (or the zoom lever) to perform zoom operation.

NOTE
Be sure to set the zoom operation change-over knob to the MANU. position before performing manual zoom operation.
The lens may be damaged if manual zoom operation is forcibly performed with the knob at the SERVO position.

6-1-2. Servo Zoom Operation

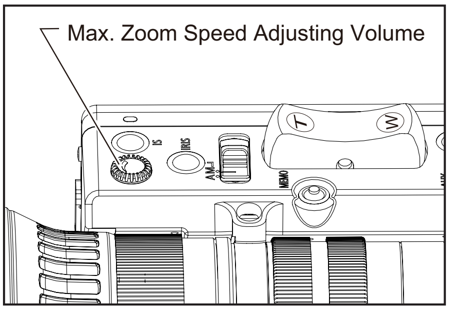
Zoom operation can be performed by driving the built-in motor in the lens.


Zoom Rocker Seesaw

1. Set the zoom operation change-over knob to the SERVO position.
2. Press the zoom rocker seesaw to perform zoom operation. The zoom speed changes according to how deep the switch is pressed. Press the switch deeper to zoom faster.

6-1-3. Adjusting the Maximum Zoom Speed

The maximum zoom speed when the zoom rocker seesaw is pressed can be adjusted with the adjusting volume.


Max. Zoom Speed Adjusting Volume

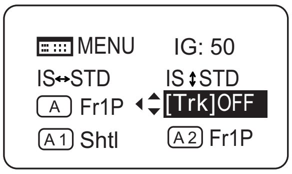
The adjustment and the setting can also be made on the information display. Refer to Operation Manual “Information display”.

6-1-4. Zoom Track Function (only for servo zoom)

The zoom control range (zoom track) can be limited by setting virtual telephoto and widest angle ends. To use the zoom track function, the function must be enabled (ON) in advance.

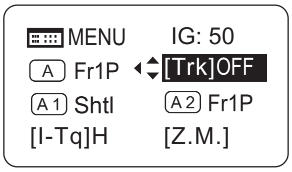
A: Setting ON or OFF on the information display (in Basic mode)

CJ45ex/HJ40ex



MENU IG: 50
IS↔STD IS↕STD
A Fr1P ◂⇕[Trk]OFF
A1 Shtl A2 Fr1P

J35ex



MENU IG: 50
A Fr1P ◂⇕[Trk]OFF
A1 Shtl A2 Fr1P
[I-Tq]H [Z.M.]

1 Press the DISPLAY switch to turn on the display.

2 Select [Trk] using the control key, then press the Set key. [Trk] and the previous setting blink on the display. (See the figure on the left.)

3 Press the left or right key to select ON or OFF.

4 Press the Set key. This completes the setting.

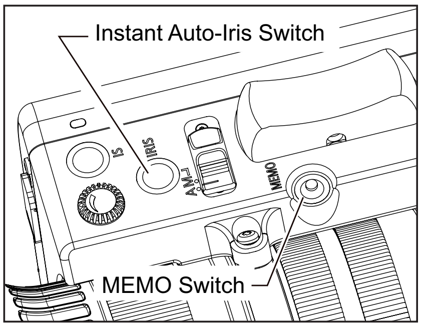
For details, refer to Operation Manual “Information display”.

B: Setting ON or OFF by operating the switches

	Operation for switching	Action	Response
To set to “ON”	Hold down MEMO switch and instant auto-iris switch simultaneously for at least 3 seconds	The zoom control range is fixed to the zoom range set last (If there is no previous setting, it is set to the mechanical ends)	Automatic zooming from the current zoom position to the closer position of the two set positions
To set to “OFF”		The zoom range is set to the mechanical ends	Automatic zooming from the current zoom position to the closer position of the two mechanical ends

Setting the zoom track positions

Set the zoom track function to ON before setting the zoom track position.



1 Zoom to the zoom track position that you want to set.

2 Keeping this zoom position, press the instant auto-iris switch while holding down MEMO switch. If the zoom position is toward the telephoto side, the position is stored as the zoom track position for the telephoto limit. If the position is toward the widest angle side, it is stored as the zoom track position for the widest angle limit.

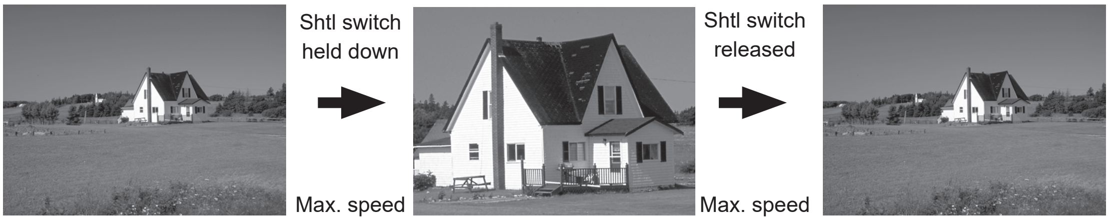
3 Repeat procedures 1 and 2 to set both the telephoto and widest angle ends. It is also possible to set only one limit. To change the setting, perform steps 1 to 3. (The latest set position overwrites the setting in the memory.)

NOTE

1. When changing the zoom track setting, the zoom position cannot be moved over the set zoom position limit toward the mechanical ends by servo zoom operation. To move over the set limit, set the zoom track function to OFF, then perform one of the operations below.
   - Operate the zoom rocker seesaw to zoom to the position to be set.
   - Perform the zoom operation manually.
2. Up to two zoom track positions (telephoto end side and widest angle side) can be set, but it is not possible to set two positions that are on the same side of the zoom range center position of this lens.
   (In this case, the latest set position is stored as the zoom track position on that side.)

6-1-5. Shuttle-shot Function

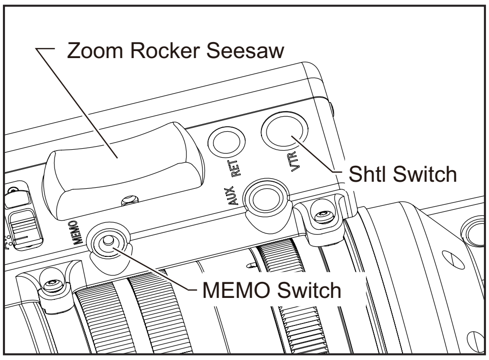
This function allows you to switch between the current zoom position and the preset zoom position at the maximum speed.


Shtl switch held down
Max. speed
Shtl switch released
Max. speed

Current zoom position Shuttle memory position Previous zoom position

Before using the shuttle-shot function, the shuttle function must be assigned to VTR, RET or AUX switch on the lens drive unit or AUX1 or AUX2 switch on the zoom demand. This manual describes the case when Shtl function is assigned to VTR switch. For details, refer to “6-7. SWITCH OPERATIONS”.

Setting the shuttle memory position


Zoom Rocker Seesaw
Shtl Switch
MEMO Switch
RET
VTR
AUX
MEMO

Zoom to the position that you want to store. Keeping this zoom position, press Shtl switch while holding down MEMO switch.

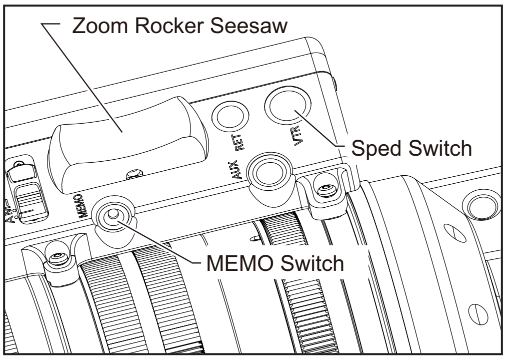
NOTE

1. The shuttle memory position stored here is different from the framing memory position. (Refer to “6-1-7. Framing Preset Function”.) Also, the position stored here is retained even after the power is turned off.
2. Operation using Shtl switch is given priority over the zoom seesaw switch function, therefore operation using the zoom seesaw switch is disabled while Shtl switch is pressed.

6-1-6. Speed Preset Function

This function allows you to call the preset zoom speed any time you zoom. Assign the Sped function to VTR, RET or AUX switch on the lens drive unit or AUX1 or AUX2 switch on the zoom demand. This manual describes the case when the “Sped” function is assigned to VTR switch.

1. Storing the zoom speed and direction



Operate the zoom rocker seesaw to determine the zoom speed and direction (toward the telephoto end or widest angle end) that you want to store, then press MEMO switch while keeping the condition.

The stored zoom speed is applied to the framing preset function.

2. How to operate the speed preset function

When Sped switch is pressed, the zoom starts to move at the preset speed in the preset direction (toward the telephoto end or widest angle end) stored in procedure 1. The zooming stops when the zoom reaches the zoom end.

3. Cancelling the movement during speed preset operation

Speed preset movement can be canceled partway by performing any of the following operations while the movement is in progress.

1) Press “Sped” switch again. → Zooming stops.

2) Perform the zoom operation with the zoom rocker seesaw switch, Shtl switch, Fr1p switch, Fr2P switch, Fr1F switch and Fr2F switch.

6-1-7. Framing Preset Function

There are three framing preset types based on how the settings are combined.

[Zoom]

This enables to reproduce a predetermined picture angle and movement speed (zoom speed) easily.

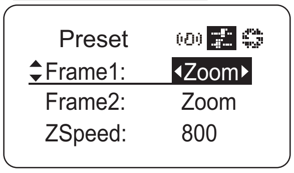
[Focus]

This enables to reproduce a predetermined focus easily.

[Z + F]

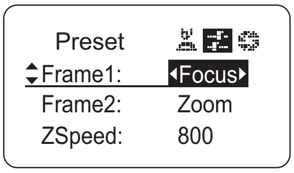
This enables to reproduce the moving speed (focus speed, zoom speed) to a predetermined focus and picture angle easily .

CJ45ex/HJ40ex



Preset
⬍Frame1: ◂Zoom▸
Frame2: Zoom
ZSpeed: 800

J35ex



Preset
⬍Frame1: ◂Focus▸
Frame2: Zoom
ZSpeed: 800

The framing preset setting is changed on the Preset screen on the information display. The Frame1 setting is changed to Zoom, Focus or Z+F.

NOTE
Up to two framing presets, Frame1 and Frame2, can be stored in the memory. The following pages describe only Frame1. Also Frame1 is indicated as Fr1P.

Selecting the moving speed to the framing memory position

The moving speed to the framing position is selected by assigning Fr1P and Fr1F switches.

- Fr1P: Set speed (Preset Speed) (This is assigned to AUX switch at the factory.)
- Fr1F: Maximum speed (Fast Speed)

For details on how to assign the switches, refer to “6-7. SWITCH OPERATIONS”.

Setting combinations

Frame preset control subject	Control contents	Moving speed setting	
		Fr1P, Fr2P (speed can be set)	Fr1F, Fr2F (maximum speed)
Zoom	Zoom operation control	Zoom moves at the preset speed	Zoom moves at the maximum speed
Focus	Focus operation control	Focus moves at the maximum speed *1	Focus moves at the maximum speed
Z+F	Zoom + focus operation control	Zoom and focus move at the preset speeds *2	Zoom and focus move at the maximum speeds

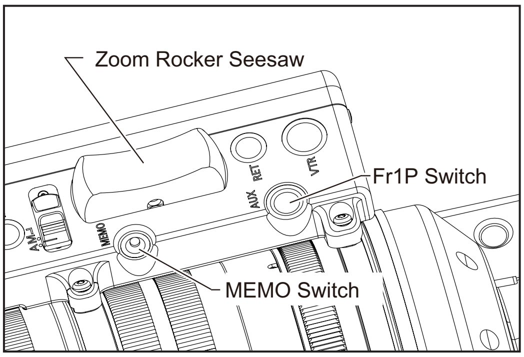
*1: The focus speed is fixed to the maximum speed.

*2: The zoom and focus are controlled so that they start and stop simultaneously.

Framing preset [Zoom]/[Focus]/[Z+F] setting

NOTE
The figure below is shown as an example. The actual switch status may differ from that shown in the figure when the function is assigned to a different switch.
Fr1P function: Assigned to AUX switch at the factory

1. Setting the framing memory position



Zoom (and focus) to the position that you want to store. Keeping the zoom (and focus) position, press Fr1P switch while holding down MEMO switch.

NOTE
The framing memory position stored here is different from the shuttle memory position. Also the position stored here is retained even after the power is turned off.

2. Moving to the framing memory position

When “Fr1P” switch is pressed, the zooming (and focusing) starts moving toward the framing memory position at the preset speed. When the the zooming (and focusing) operation reaches the framing memory position, it stops.

3. Cancelling the movement to the framing memory position or switching to other zoom or focus operation

Movement to the framing memory position can be canceled and/or switched to other zoom or focus operation by any of the following operations while the movement is in progress.

[Zoom framing preset]

- Pressing Fr1P switch again
- Operation by the zoom rocker seesaw
- Operation by Shtl switch

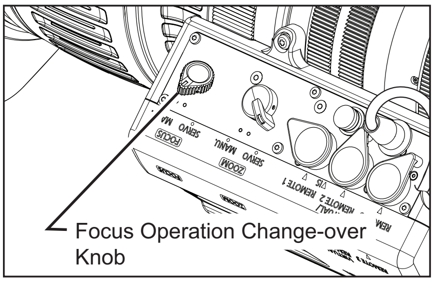
[Focus framing preset]

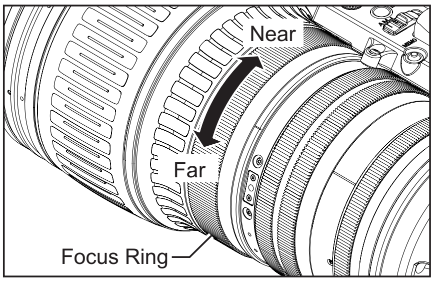
[Zoom + focus framing preset]

- Operate a connected focus demand. Movement to the memory position stops, and movement to the position determined by the focus demand operation takes place.

6-2. FOCUS OPERATION

6-2-1. Manual Focus Operation


Focus Operation Change-over Knob

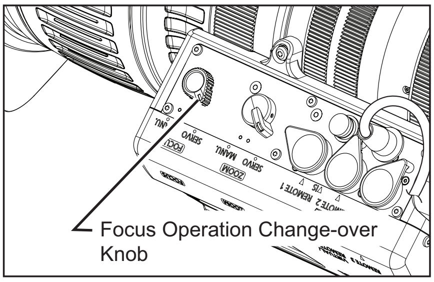

Near
Far
Focus Ring

1 Set the focus operation change-over knob on the bottom of the drive unit to the MANU. position.

NOTE
The lens may be damaged if manual focus operation is forcibly performed with the knob at the SERVO position.

2 Turn the focus ring to bring a near or far object into focus.

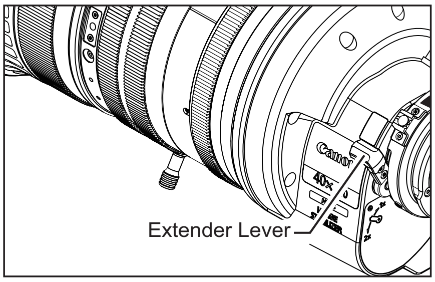
6-2-2. Servo Focus Operation


Focus Operation Change-over Knob

1 Set the focus operation change-over knob to the SERVO position.

2 Mount an accessory such as a focus demand. For details on the operation, refer to the operation manual of the accessory.

6-3. EXTENDER OPERATION


Extender Lever

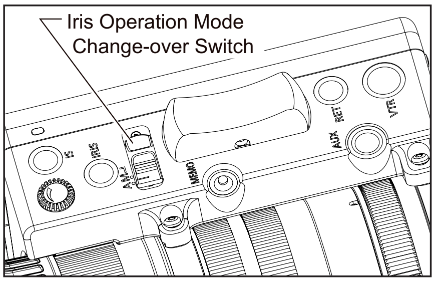
This lens has a built-in 2× extender.
Operate the extender lever to select 1× or 2×.

NOTE
When the extender is used, the light quantity may decrease in proportion to the change in the zoom ratio depending on the iris correction setting.

6-4. IRIS OPERATION

The iris operation mode can be switched between auto and manual with the iris operation mode change-over switch.

6-4-1. Auto Iris Operation

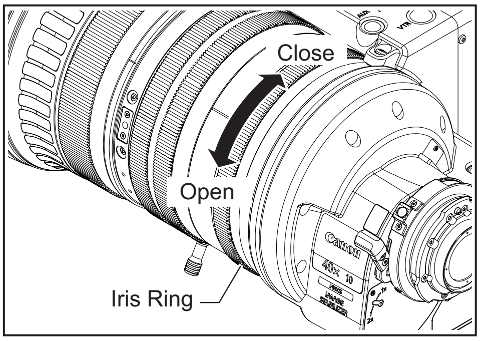

Iris Operation Mode Change-over Switch
IS
IRIS
A M
MEMO
AUX
RET
VTR

Slide the iris operation mode change-over switch to the “A” position.

Iris operation is performed automatically according to the command signals from the camera to keep the video signal level constant.

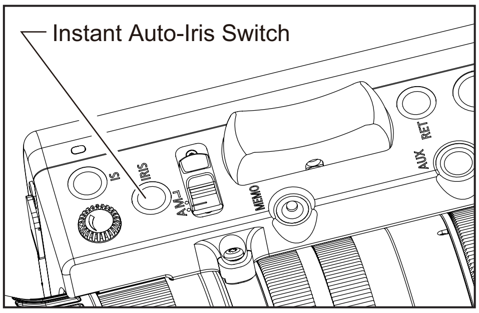
NOTE
Also set the camera side to the automatic iris operation mode.

6-4-2. Manual Iris Operation



Slide the iris operation mode change-over switch to the “M” position. Iris operation is performed by turning the iris ring of the lens manually.

NOTE
Be sure to set the iris operation mode change-over switch to the “M” position before performing manual iris operation. The lens may be damaged if manual iris operation is forcibly performed with the switch at the “A” position.

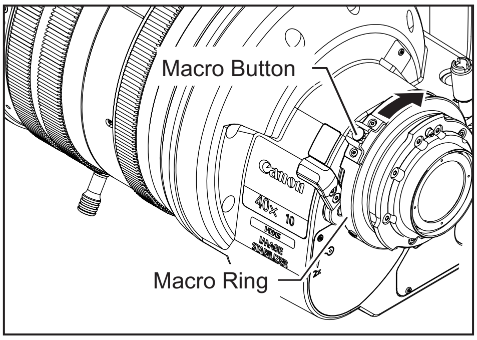


When the instant auto-iris switch is pressed during manual iris operation, the iris operation turns to the automatic iris operation mode while the switch is being pressed.

The adjustment and the setting can also be made on the information display. Refer to Operation Manual “Information display”.

6-5. MACRO OPERATION

This function is used to shoot small objects at a distance closer than the normal minimum object distance (M.O.D.). The minimum object distance for macro operation by CJ45ex and HJ40ex is 10 mm and by J35ex is 50 mm at the widest angle end.



To perform macro operation, press the macro button to unlock the macro ring. While holding down the button, turn the macro ring located at the rear of the lens clockwise as viewed from the camera side to allow macro shooting.

1. Zoom to the widest angle end by manual or servo zoom operation.
2. Hold down the macro button and turn the macro ring to bring the object into focus.

NOTE
Macro operation is also possible at zoom positions other than the widest angle end, but the object distance increases.

Multi-point Focus Shooting

When zoom operation is performed to change the focal length during macro shooting, the focal point also changes. Multi-point focus shooting is a special technique that makes use of this characteristic to shift the focal point within the same cut by using only zoom operation. Follow the procedures below.

1. Zoom in to a far object, and bring it into focus by normal focus operation.
2. Zoom out to a near object, and bring it into focus by macro operation.
3. Zoom in to the far object again without touching the macro button set in procedure 2 above, and bring it into focus again by normal focus operation.

6-6. IMAGE STABILIZER OPERATION (CJ45ex/HJ40ex only)

The image stabilizer in this lens has a mechanical lock mechanism for protecting the anti-vibration optical system from physical shocks.

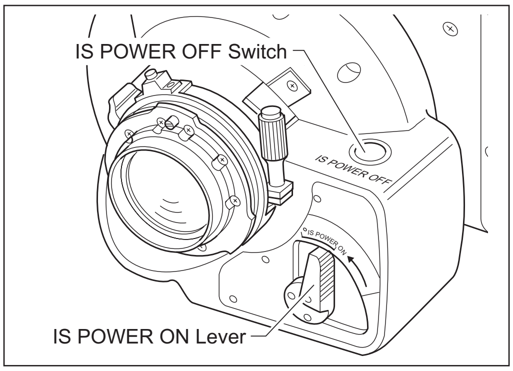
To activate the image stabilizer, this lock must be released first, then power must be supplied to the anti-vibration optical system driving circuits.

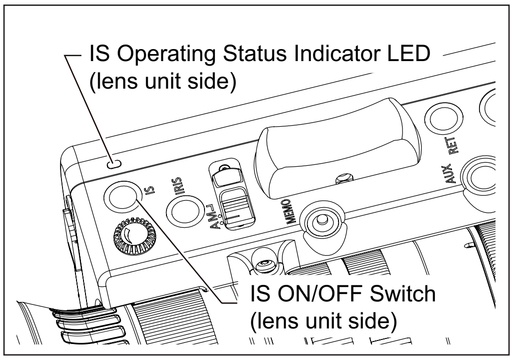
○ Releasing and applying the Mechanical Lock of CJ45ex can be operated on the information display. For details, refer to Operation Manual “Information display”.

○ Releasing and applying the Mechanical Lock of HJ40ex can be operated by IS POWER OFF switch and IS POWER ON lever on the lens. For details, refer to “6-6-1. Releasing the Mechanical Lock“ and “6-6-2. Applying the Mechanical Lock“ .

6-6-1. Releasing the Mechanical Lock (HJ40ex only)

The mechanical lock is applied to the image stabilizer immediately after the power is turned on from the camera. IS POWER ON lever located on the camera side next to the mount is used to release the mechanical lock and supply power to the anti-vibration optical system driving circuits.





Turn IS POWER ON lever counterclockwise from the horizontal position until it reaches nearly vertical. If the lever is released in this position, the lever will be locked and the image stabilizer can be used. (The IS status indicator LED on the lens drive unit lights up, enabling to check the power supply to the anti-vibration optical system driving circuits.)

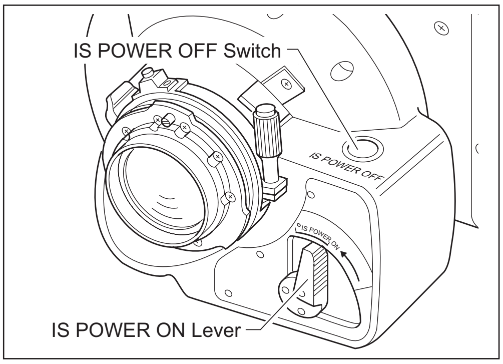
NOTE

1. If IS POWER ON lever does not lock and instead returns to the horizontal position, the mechanical lock is not released. In this case, turn the lever again until it locks in the vertical position.
2. When releasing the mechanical lock for the first time after turning on the power from the camera, the image stabilizer needs to warm up for some time in order to exhibit sufficient performance. The image stabilizer may not exhibit sufficient performance during this warm-up time.

6-6-2. Applying the Mechanical Lock (HJ40ex only)

The mechanical lock is automatically applied to the anti-vibration optical system of the image stabilizer when the power to the lens is cut off. Therefore, there is no need to apply the mechanical lock manually when shooting is finished.

Also the mechanical lock is applied so that the anti-vibration optical system is precisely at the optical axis center position, so shooting can be performed with the mechanical lock applied when the anti-vibration function is not needed. For this reason, IS POWER OFF switch is provided for cutting off power supply only to the anti-vibration optical system driving circuits. Press this switch to apply the mechanical lock when necessary.


IS POWER OFF Switch
IS POWER OFF
IS POWER ON
IS POWER ON Lever

The anti-vibration optical system driving circuits consume a slight amount of power even when the anti-vibration optical system is inactive (standby status), so power can be saved by applying the mechanical lock.
IS POWER ON lever automatically moves to the horizontal position when the power to the lens is cut off or when IS POWER OFF switch is pressed to apply the mechanical lock.

NOTE
Be sure to use IS POWER OFF switch when intentionally applying the mechanical lock to the anti-vibration optical system during shooting.
Never apply the mechanical lock by forcibly returning IS POWER ON lever to the horizontal position. Otherwise it may cause the damage to the product.

6-6-3. Image Stabilization by the Image Stabilizer (CJ45ex/HJ40ex only)

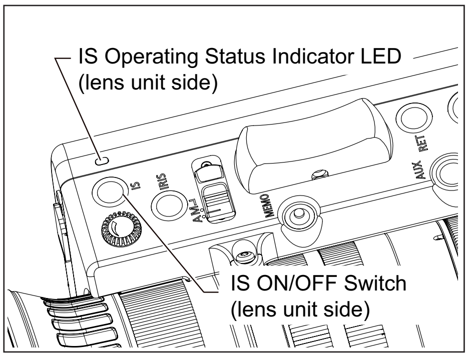
The image stabilizer can be used in one of the following two statuses when the mechanical lock is released. Switch the image stabilizer to the required status when use.

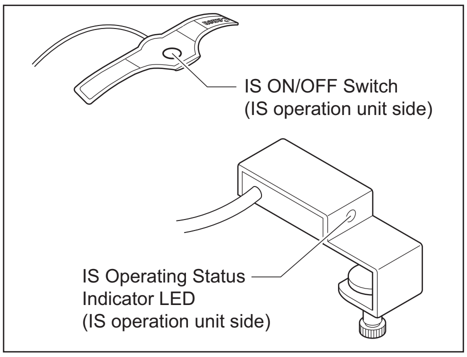
Operating status where the anti-vibration optical system performs image stabilization : IS ON
Standby status where the anti-vibration optical system is electrically held to the optical axis center : IS OFF

(1) Switching Between Operating and Standby

The operating and standby statuses are switched using IS ON/OFF switch on the IS operation unit or the lens drive unit. In the IS ON status, the IS operating status indicator LEDs light green. In the IS OFF status, the IS operating status indicator LEDs turn off.

	IS ON (Operating status)	IS OFF (Standby status)	Mechanical lock
IS operating status indicator LEDs (lens unit side and IS operation unit side)	Lights green	Off	


IS Operating Status Indicator LED
(lens unit side)
IS
IRIS
AM
MEMO
AUX
RET
IS ON/OFF Switch
(lens unit side)


IS ON/OFF Switch
(IS operation unit side)
IS Operating Status
Indicator LED
(IS operation unit side)

(2) Basic Image Stabilizer Operation

1. Determine the picture composition by pan-tilt operation.
2. If there is noticeable shaking, turn on the image stabilizer (operating status) to stabilize the image.
3. Turn off the image stabilizer (standby status) when performing the pan-tilt operation.

(3) Selecting the Image Stabilizer Operating Environment

The default settings for IS ON/OFF switch behavior (switch mode) and the image stabilization direction of the image stabilizer are shown below.

Switch mode : Alternate operation (ALT) where image stabilization switches between ON and OFF each time the switch is pressed.

Stabilization direction : Performed for both the horizontal (H) and vertical (V) directions.

However, the settings can also be changed as follows to suit the usage environment according to the combination with the mode setting on the information display.

For details, refer to Operation Manual “Information display”.

Anti-vibration direction (information display)	Switch mode (information display)	IS ON/OFF switch operation	IS operation
H: STD or HIGH V: STD or HIGH	ALT	Every time switch is pressed and released	Switches between image stabilization operation and standby for both the H and V directions each time the IS switch is pressed and released.
	MOM	While switch is held down	Image stabilization operates for both the H and V directions
		Switch released	Image stabilization function standby
H: STD or HIGH V: OFF	ALT	Every time switch is pressed and released	Switches between image stabilization operation and standby for the H direction each time the IS switch is pressed and released.
	MOM	While switch is held down	Image stabilization operates for the H direction
		Switch released	Image stabilization function standby
H: OFF V: STD or HIGH	ALT	Every time switch is pressed and released	Switches between image stabilization operation and standby for the V direction each time IS switch is pressed and released.
	MOM	While switch is held down	Image stabilization operates for the V direction
		Switch released	Image stabilization function standby

To activate the image stabilizer temporarily, set the switch mode to momentary (MOM) to allow quick switching.

The default setting for the IS mode is STD (mode that provides good panning operability) for both the horizontal (H) and vertical (V) directions. However, the following settings can also be used according to the usage environment.

For details, refer to Operation Manual “Information display”.

Horizontal (H) IS mode	Vertical (V) IS mode	IS characteristics
STD	STD	Good panning operability for both the H and V directions
	HIGH	H: Good panning operability V: High anti-vibration performance from low to high frequencies
	OFF	H: Good panning operability V: IS disabled
HIGH	STD	H: High anti-vibration performance from low to high frequencies V: Good panning operability
	HIGH	High anti-vibration performance from low to high frequencies for both the H and V directions
	OFF	H: High anti-vibration performance from low to high frequencies V: IS disabled
OFF	STD	H: IS disabled V: Good panning operability
	HIGH	H: IS disabled V: High anti-vibration performance from low to high frequencies
	OFF	IS disabled for both the H and V directions

NOTE

1. If pan-tilt operation is performed rapidly while the image stabilizer is active, the image may exhibit unintended, unnatural movement. This is because the image stabilizer is detecting the pan-tilt movement as image shaking and trying to make the appropriate corrections. Switch to operating characteristics (STD) that produce as little unnatural movement as possible before performing pan-tilt operation.
2. When only panning will be performed frequently, set the stabilization direction to vertical (V) only so that horizontal (H) image stabilization is not performed. This prevents panning from being detected as image shaking, which helps to eliminate unintended, unnatural movement.
3. If slow-moving, low frequency shaking is noticeable in still shots, set the stabilization characteristics to HIGH (set for the H and/or V direction according to the shaking direction). This helps to improve the anti-vibration effect.

6-7. SWITCH OPERATIONS

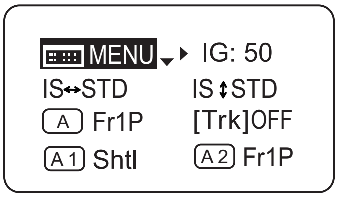
Each function can be assigned to five switches: VTR, RET and AUX switches on the lens drive unit, and AUX1 and AUX2 switches on the zoom demand. Functions can be assigned on the information display. In the default settings, VTR, RET, Fr1P, Shtl and Fr1P functions are assigned to the respective switches.

The following procedures explain how to assign the functions to the switches in Basic mode briefly.

For the detailed procedures, refer to Operation Manual "Information display".

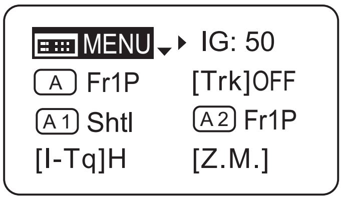
Initial Top Screen in Full Mode

CJ45ex/HJ40ex



MENU ▾ ▸ IG: 50
IS↔STD IS↕STD
A Fr1P [Trk]OFF
A1 Shtl A2 Fr1P

J35ex



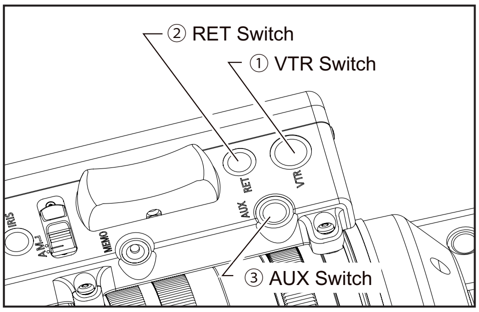
MENU ▾ ▸ IG: 50
A Fr1P [Trk]OFF
A1 Shtl A2 Fr1P
[I-Tq]H [Z.M.]

1 Press DISPLAY switch to turn on the display.

2 Use the control key to select the name of the switch to which the function is to be assigned, then press Set key. The name of the switch and the default or the previous setting blink on the display.

3 Press the left or right key until the function to be assigned appears on the display.

4 Press Set key. This completes the setting.



Switch	Default setting	Assignable functions									
		Fr1P	Fr1F	Fr2P	Fr2F	Sped	Shtl	NON	VTR	RET	IS*
① V	VTR	●	●	●	●	●	●		●	●	●
② R	RET	●	●	●	●	●	●		●	●	●
③ A	Fr1P	●	●	●	●	●	●	●	●	●	●
④ A1	Shtl	●	●	●	●	●	●	●	●	●	●
⑤ A2	Fr1P	●	●	●	●	●	●	●	●	●	●

*CJ45ex/HJ40ex only

"●" indicates a combination of an assignable function and a switch.

④ and ⑤ are AUX1 and AUX2 switches on the zoom demand.

Function	Description
VTR	Starts/stops VTR operation.
RET	Hold down to view the main-line video on the viewfinder.
Fr1P, Fr2P	Press to move to the stored zoom and focus position. One position can be stored/called for Fr1P and Fr1F, and another for Fr2P and Fr2F.
Fr1F, Fr2F	
Sped	Press to zoom in the stored zoom direction (toward the telephoto end or the widest angle end) at the stored zoom speed.
Shtl	Hold down to move to the stored zoom position at the maximum speed. Release to return to the original zoom position at the maximum speed.
IS (CJ45ex/HJ40ex only)	Press to switch IS operation ON and OFF.
NON	No function

7 PRODUCT SPECIFICATIONS

Model Name			CJ45ex9.7B	CJ45ex13.6B
			16:9 mode	
Focal Length		1x	9.7 - 437 mm	13.6 - 612 mm
		2x	19.4 - 874 mm	27.2 - 1224 mm
Zoom Ratio			45×	
Maximum Relative Aperture		1x	1:2.0 (at 9.7 - 224 mm) 1:3.9 (at 437 mm)	1:2.8 (at 13.6 - 312 mm) 1:5.5 (at 612 mm)
		2x	1:4.0 (at 19.4 - 448 mm) 1:7.8 (at 874 mm)	1:5.6 (at 27.2 - 624 mm) 1:11.0 (at 1224 mm)
Image Format			Dia.11mm (9.6 × 5.4 mm)	
Angular Field of View	Widest end	1x	52.7º × 31.1º (at 9.7 mm)	38.9º × 22.5º (at 13.6 mm)
		2x	27.8º × 15.8º (at 19.4 mm)	20.0º × 11.3º (at 27.2 mm)
	Telephoto end	1x	1.26º × 0.71º (at 437 mm)	0.90º × 0.51º (at 612 mm)
		2x	0.63º × 0.35º (at 874 mm)	0.45º × 0.25º (at 1224 mm)
Minimum Object Distance (M.O.D)			2.8 m (Macro: 10 mm from the lens vertex)	
Object Dimensions at M.O.D	Widest end	1x	254.3 × 143.0 cm (at 9.7 mm)	182.9 × 102.9 cm (at 13.6 mm)
		2x	127.2 × 71.5 cm (at 19.4 mm)	91.5 × 51.5 cm (at 27.2 mm)
	Telephoto end	1x	5.8 × 3.3 cm (at 437 mm)	4.2 × 2.4 cm (at 612 mm)
		2x	2.9 × 1.7 cm (at 874 mm)	2.1 × 1.2 cm (at 1224 mm)
Flange Back			48 mm（in air）	
Thread for Filters			127 mm P0.75 （Lens barrel thread size）	
Zoom speed for Full Range			Max. 1.2s ± 0.2 s	
Focus speed for Full Range			1.8 s ± 0.3 s	
Iris			Control from camera	
Mount			Bayonet mount	
Power Source			DC12 V（DC10 ～ 17V）	
Current Consumption			Max. 850 mA （DC12 V）	
Operating Environment Conditions			Temperature: - 20℃ ～ + 45℃ Humidity: 5%RH to 95%RH (no condensation)	
Weight			Approx. 5.60 kg	Approx. 5.64 kg

Model Name			HJ40ex10B	HJ40ex14B
			16:9 mode	
Focal Length		1x	10 - 400 mm	14 - 560 mm
		2x	20 - 800 mm	28 - 1120 mm
Zoom Ratio			40×	
Maximum Relative Aperture		1x	1:2.0 (at 10 - 220 mm) 1:3.65 (at 400 mm)	1:2.8 (at 14 - 307 mm) 1:5.1 (at 560 mm)
		2x	1:4.0 (at 20 - 440 mm) 1:7.3 (at 800 mm)	1:5.6 (at 28 - 614 mm) 1:10.2 (at 1120 mm)
Image Format			Dia.11 mm (9.6 × 5.4 mm)	
Angular Field of View	Widest end	1x	51.3° × 30.2° (at 10 mm)	37.8° × 21.8° (at 14 mm)
		2x	27.0° × 15.4° (at 20 mm)	19.4° × 11.0° (at 28 mm)
	Telephoto end	1x	1.4° × 0.8° (at 400 mm)	1.0° × 0.6° (at 560 mm)
		2x	0.7° × 0.4° (at 800 mm)	0.5° × 0.3° (at 1120 mm)
Minimum Object Distance (M.O.D)			2.8 m (Macro: 10 mm from the lens vertex)	
Object Dimensions at M.O.D	Widest end	1x	248.4 × 139.7 cm (at 10 mm)	177.1 × 99.5 cm (at 14 mm)
		2x	124.2 × 69.9 cm (at 20 mm)	88.6 × 49.8 cm (at 28 mm)
	Telephoto end	1x	6.2 × 3.5 cm (at 400 mm)	4.5 × 2.5 cm (at 560 mm)
		2x	3.1 × 1.8 cm (at 800 mm)	2.3 × 1.3 cm (at 1120 mm)
Flange Back			48 mm（in air）	
Thread for Filters			127 mm P0.75 （Lens barrel thread size）	
Zoom speed for Full Range			Max. 1.2 s ± 0.2 s	
Focus speed for Full Range			1.5 s ± 0.3 s	
Iris			Control from camera	
Mount			Bayonet mount	
Power Source			DC12 V（DC10 ～ 17 V）	
Current Consumption			Max. 850 mA （DC12 V）	
Operating Environment Conditions			Temperature: - 20℃ ～ + 45℃ Humidity: 5%RH to 95%RH (no condensation)	
Weight			Approx. 5.5 kg	Approx. 5.55 kg

7 PRODUCT SPECIFICATIONS

Model Name			J35ex15B4	
			16:9 mode	4:3 mode
Focal Length		1x	15 - 525 mm	
		2x	30 - 1050 mm	
Zoom Ratio			35×	
Maximum Relative Aperture		1x	1: 2.7 (at 15 - 301.5 mm) 1:4.7 (at 525 mm)	
		2x	1:5.4 (at 30 - 602 mm) 1:9.4 (at 1050 mm)	
Image Format			Dia. 11mm (8.8 × 6.6 mm)	
Angular Field of View	Widest end	1x	35.5º × 20.4° (at 15 mm)	32.7º × 24.8° (at 15 mm)
		2x	18.2º × 10.3° (at 30 mm)	16.7º × 12.6° (at 30 mm)
	Telephoto end	1x	1.05º × 0.59° (at 525 mm)	0.96º × 0.72° (at 525 mm)
		2x	0.52º × 0.29° (at 1050 mm)	0.48º × 0.36° (at 1050 mm)
Minimum Object Distance (M.O.D)			2.2 m (Macro: 50mm from the lens vertex)	
Object Dimensions at M.O.D	Widest end	1x	129.2 × 72.7 cm (at 15 mm)	118.3 × 88.7 cm (at 15 mm)
		2x	64.6 × 36.4 cm (at 30 mm)	59.2 × 44.4 cm (at 30 mm)
	Telephoto end	1x	3.8 × 2.1 cm (at 525 mm)	3.5 × 2.6 cm (at 525 mm)
		2x	1.9 × 1.1 cm (at 1050 mm)	1.8 × 1.4 cm (at 1050 mm)
Flange Back			48 mm（in air）	
Thread for Filters			125 mm P1.0 （Lens barrel thread size）	
Zoom speed for Full Range			Max. 1.5 s ± 0.2 s	
Focus speed for Full Range			1.8 s ± 0.3 s	
Iris			Control from camera	
Mount			Bayonet mount	
Power Source			DC12 V（DC10 ～ 17 V）	
Current Consumption			Max. 700 mA （DC12 V）	
Operating Environment Conditions			Temperature: - 20℃ ～ + 45℃ Humidity: 5%RH to 95%RH (no condensation)	
Weight			Approx. 4.44 kg	

TECHNICAL INFORMATION

EXTERNAL VIEW

(1) CJ45ex9.7B IASE-V H

(2) CJ45ex13.6B IASE-V H

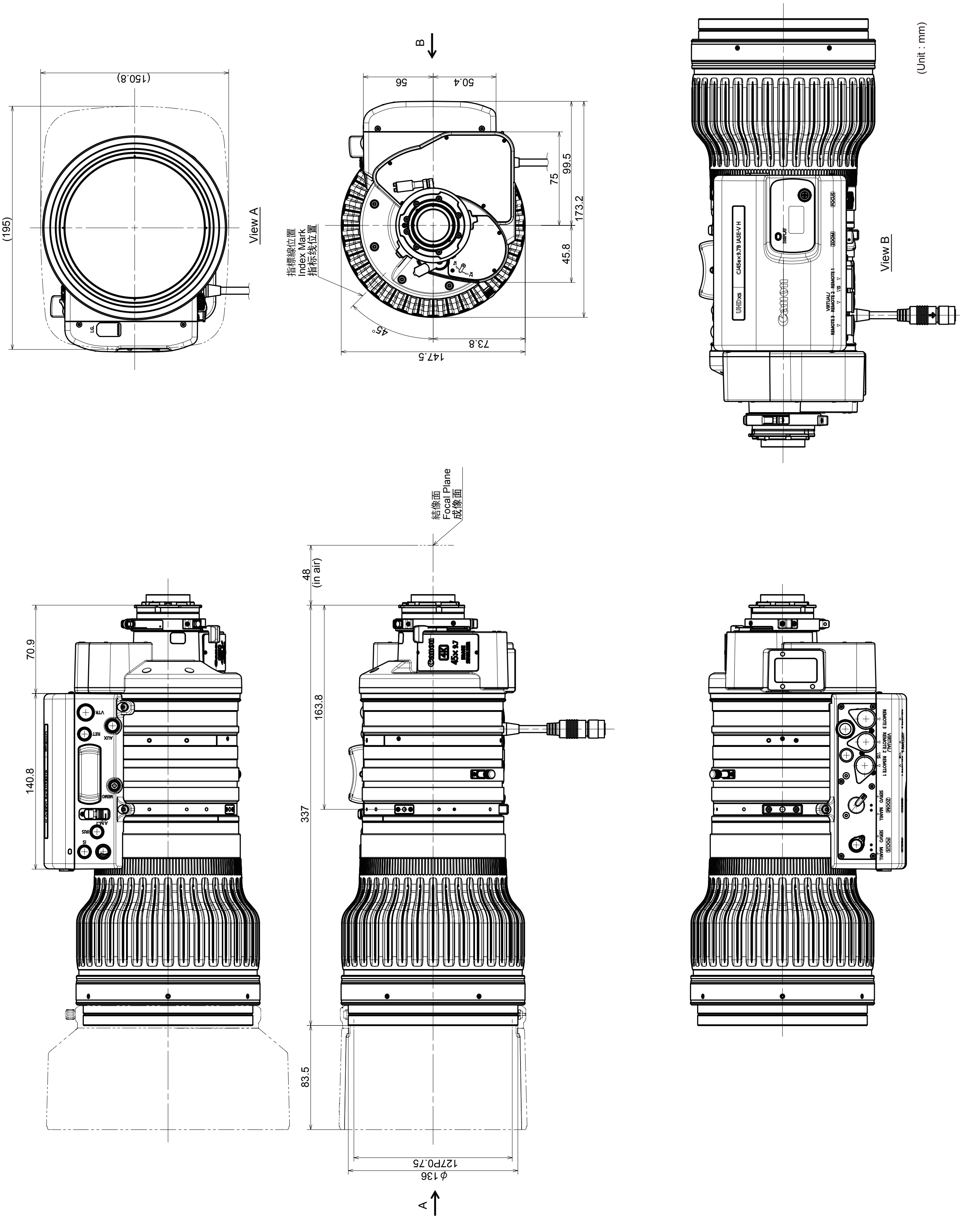
(3) HJ40ex10B IASE-V H

(4) HJ40ex14B IASE-V H

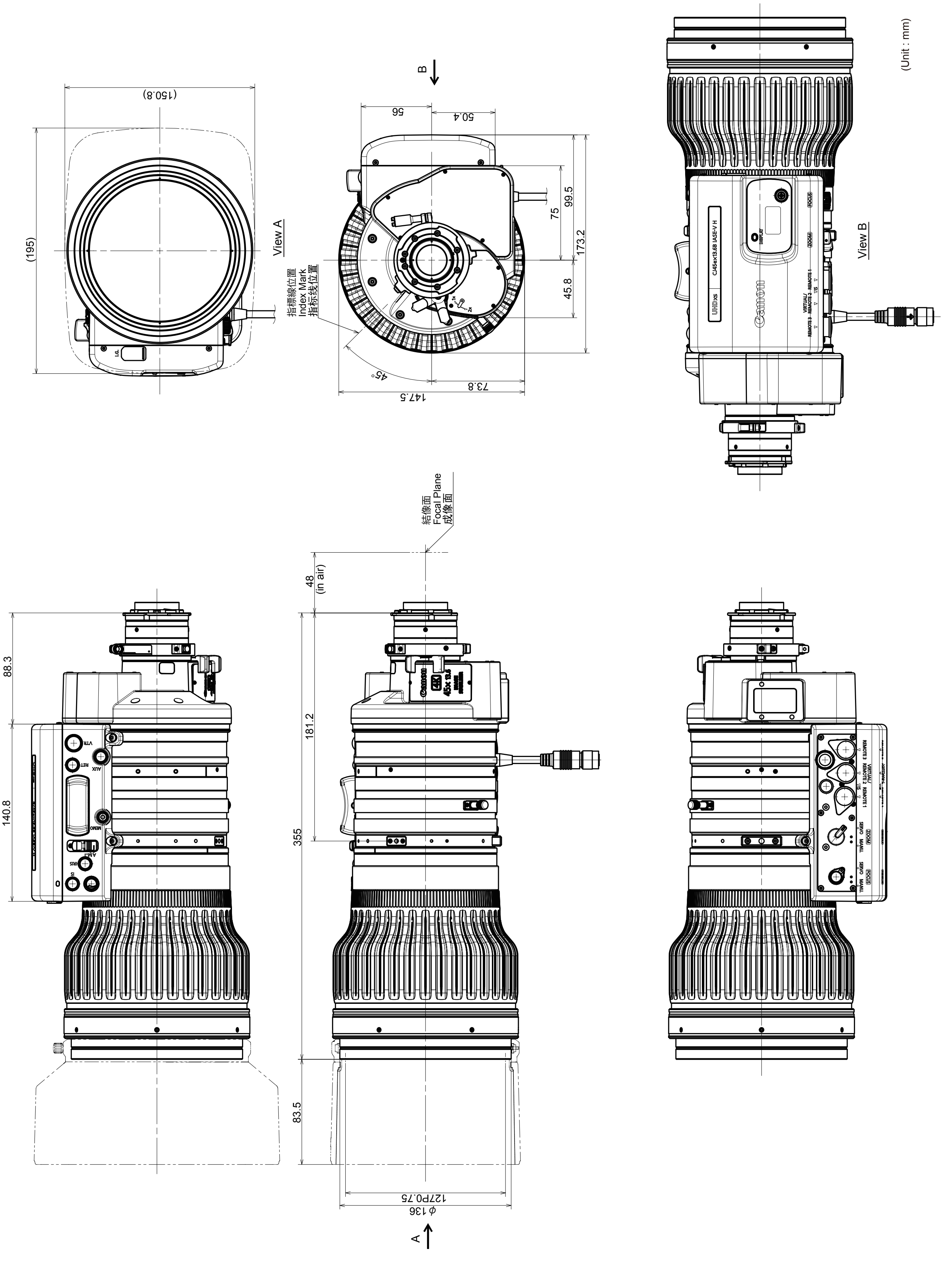
(5) J35ex15B4 IASE H SX12

(6) SUP-300

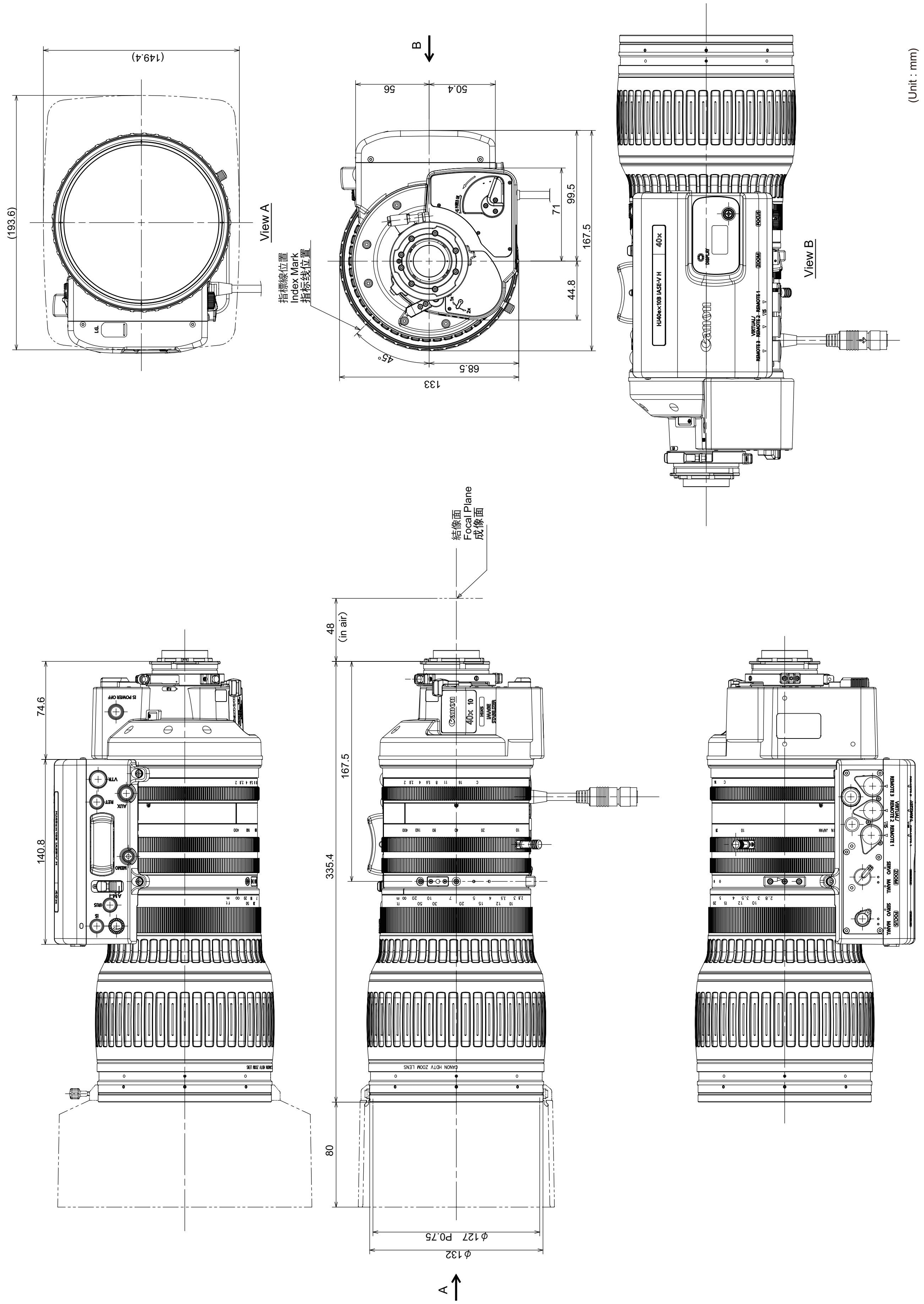
(1) CJ45ex9.7B IASE-V H


(Unit : mm)
(150.8)
(195)
View A
B
56
50.4
75
99.5
173.2
45.8
指標線位置
Index Mark
指标线位置
45°
73.8
147.5
View B
CJ45ex9.7B IASE-V H
Canon
結像面
Focal Plane
成像面
48
(in air)
70.9
140.8
163.8
337
83.5
127P0.75
φ136
A
VTR
RET
AUX
MEMO
IRIS
45x 9.7
REMOTE 1
REMOTE 2
REMOTE 3
VIRTUAL
ZOOM
FOCUS
SERVO
MANU.
OVER

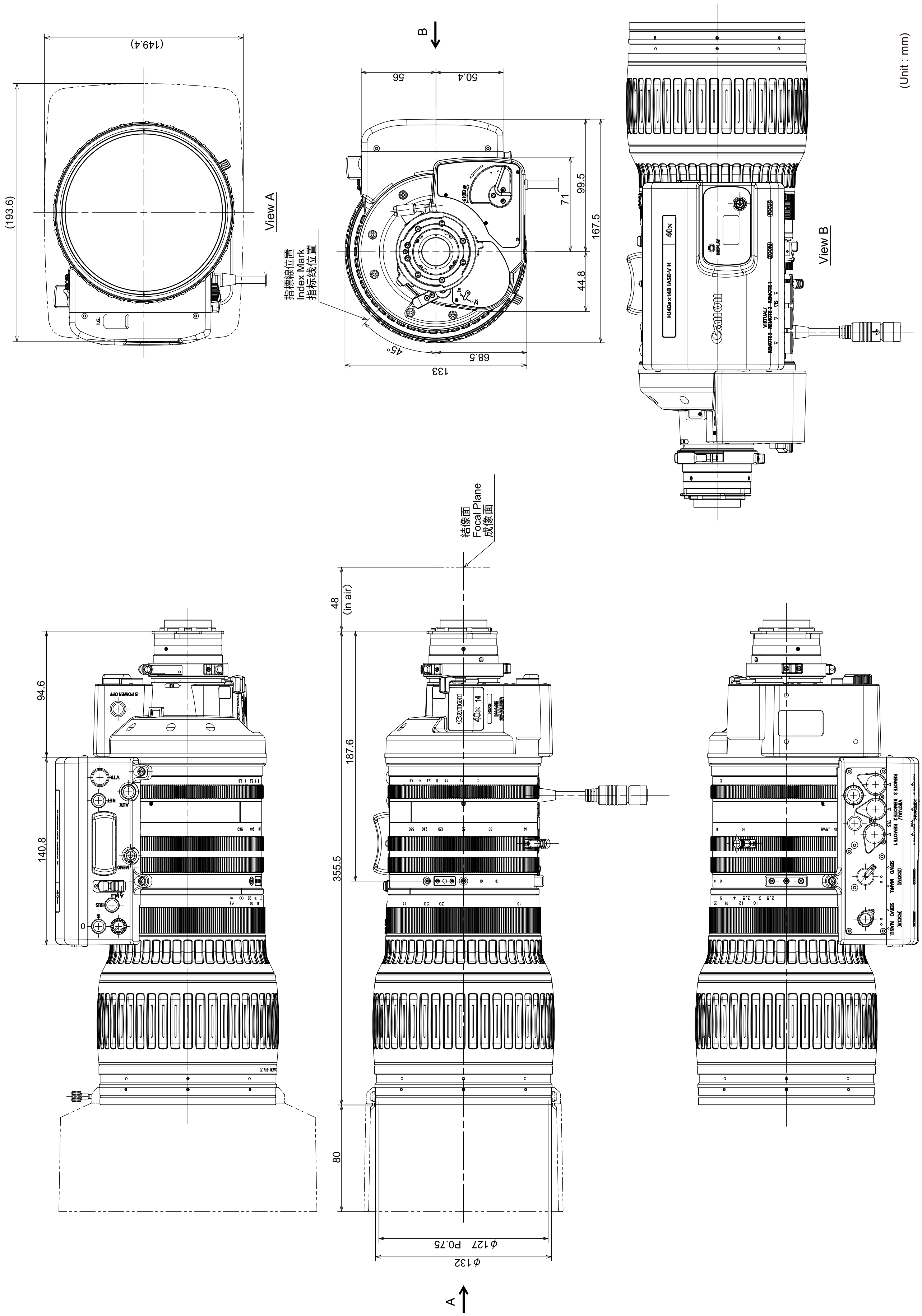
(2) CJ45ex13.6B IASE-V H


(Unit : mm)
(150.8)
(195)
View A
指標線位置
Index Mark
指标线位置
B
56
50.4
99.5
75
173.2
45.8
45°
73.8
147.5
View B
CJ45ex13.6B IASE-V H
UHDxs
Canon
結像面
Focal Plane
成像面
48
(in air)
88.3
140.8
181.2
355
83.5
φ136
127P0.75
A
VTR
RET
AUX
MEMO

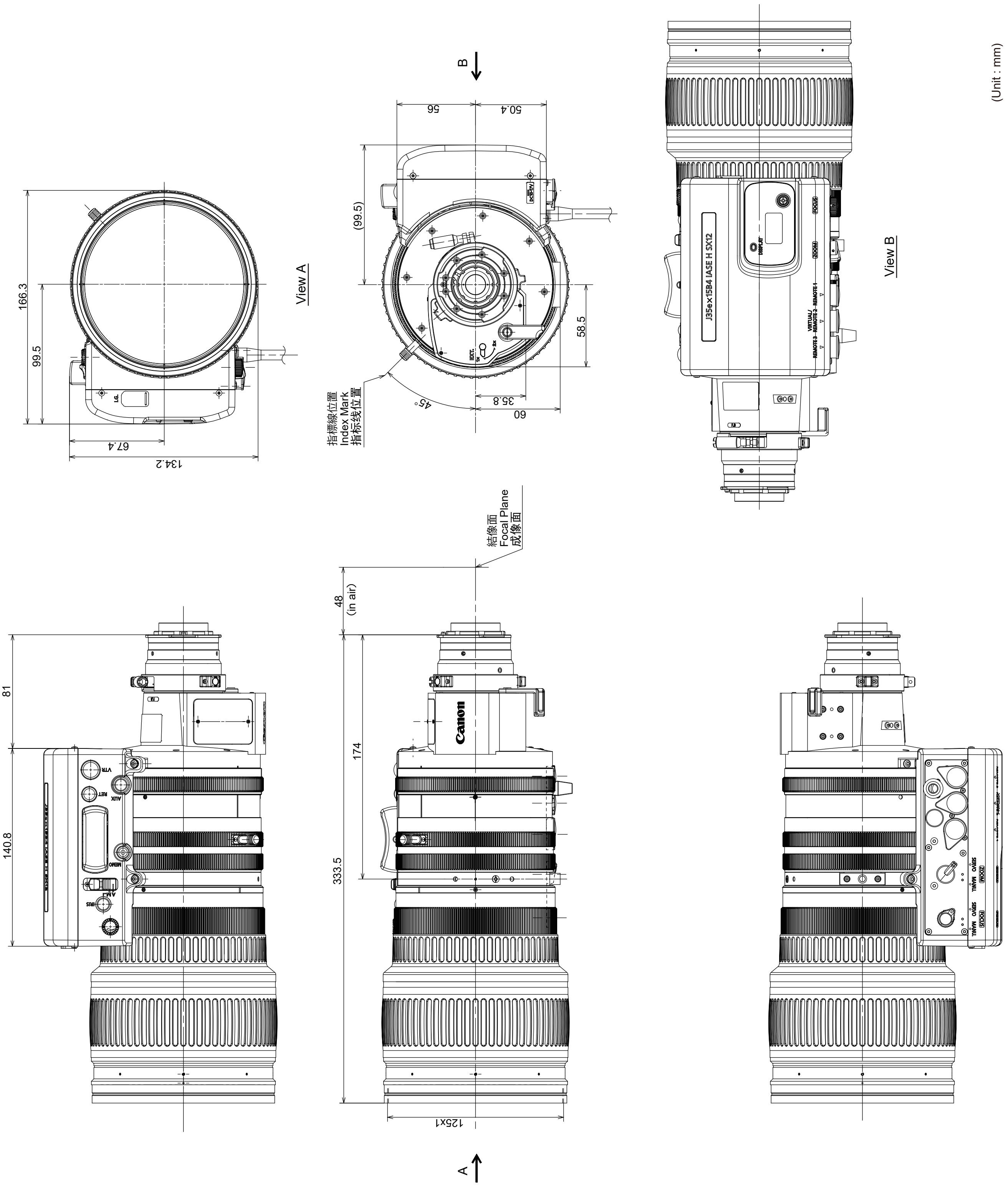
(3) HJ40ex10B IASE-V H


(Unit : mm)
(149.4)
(193.6)
View A
指標線位置
Index Mark
指标线位置
B
56
50.4
71
99.5
167.5
44.8
45°
68.5
133
View B
HJ40ex10B IASE-V H
40x
Canon
ZOOM
FOCUS
結像面
Focal Plane
成像面
48
(in air)
74.6
140.8
167.5
335.4
80
φ127 P0.75
φ132
A
CANON HDTV ZOOM LENS

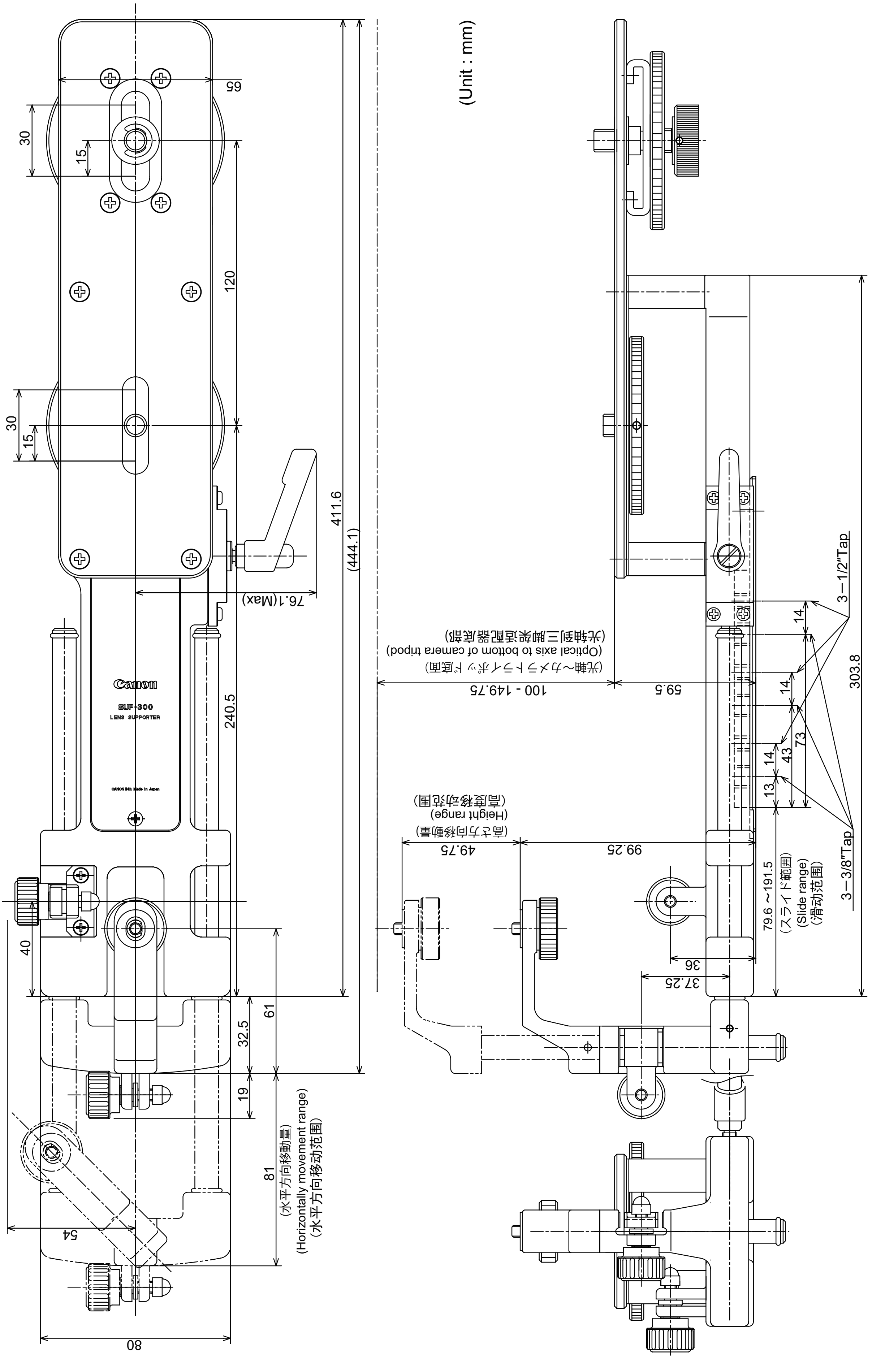
(4) HJ40ex14B IASE-V H


(149.4)
(193.6)
View A
B
56
50.4
99.5
71
167.5
44.8
指標線位置
Index Mark
指标线位置
45°
68.5
133
View B
(Unit : mm)
結像面
Focal Plane
成像面
48
(in air)
94.6
140.8
187.6
355.5
80
φ127 P0.75
φ132
A

(5) J35ex15B4 IASE H SX12


(Unit : mm)
B
56
50.4
(99.5)
58.5
35.8
60
45°
指標線位置
Index Mark
指标线位置
166.3
99.5
67.4
134.2
View A
View B
J35ex15B4 IASE H SX12
DISPLAY
FOCUS
ZOOM
VIRTUAL/
REMOTE 3
REMOTE 2
REMOTE 1
結像面
Focal Plane
成像面
48
(in air)
81
140.8
174
333.5
125x1
A
VTR
RET
AUX
MEMO
IRIS
Canon

(6) SUP-300


(Unit : mm)
65
30
15
120
30
15
411.6
(444.1)
76.1(Max)
240.5
Canon
SUP-300
LENS SUPPORTER
CANON INC. Made in Japan
40
61
32.5
19
81
(水平方向移動量)
(Horizontally movement range)
(水平方向移动范围)
54
80
59.5
100 - 149.75
(光軸～カメラトライポッド底面)
(Optical axis to bottom of camera tripod)
(光轴到三脚架适配器底部)
14
14
14
13
43
73
303.8
3−1/2"Tap
3−3/8"Tap
99.25
49.75
(高さ方向移動量)
(Height range)
(高度移动范围)
79.6 ~191.5
(スライド範囲)
(Slide range)
(滑动范围)
36
37.25

memo

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