Canon

Zoom Lens

CN5x11
CN7x17

OPERATION MANUAL "LENS"

Read this operation manual before using the product.

ENG

— FOREWORD —

Thank you for purchasing the Canon zoom lens.
This product comes with the following documents for the models mentioned 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)
- Depth-of-field （Web）

Model	Mount
CN5x11 IAS T/R1	RF
CN5x11 IAS T/P1	PL
CN7x17 KAS T/R1	RF
CN7x17 KAS T/P1	PL

NOTE

This lens is a zoom lens for shooting movies.
Depending on the camera attached or the function used, the lens may not operate properly or the indications may not be correct.
In addition, do not operate the lens during initialization of the camera settings.
For other latest product information, please check our website.

Always use the latest version of the firmware for this lens and the camera.
When firmware updates are available, you can download the latest version of the firmware from the support page.

RF-mount model： To update the firmware, insert an SD card containing the update file in the camera and execute updating from the camera menu.

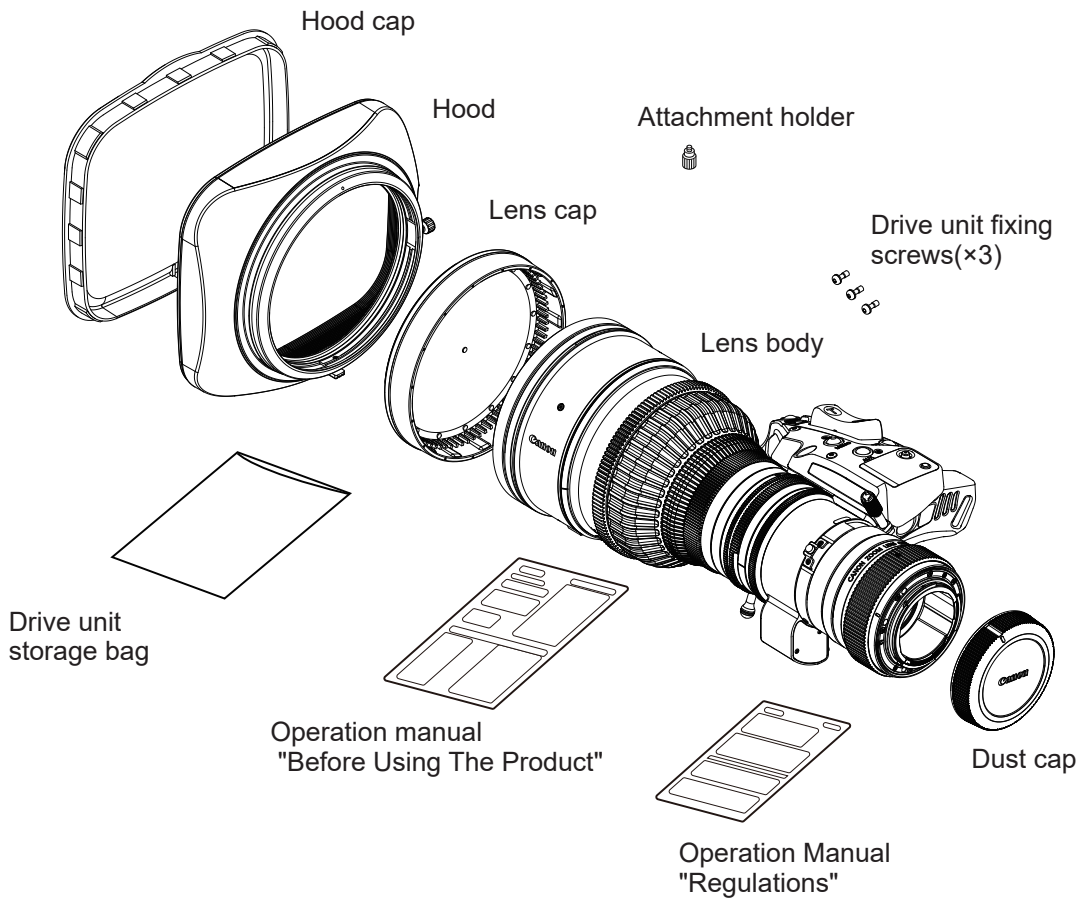
PL-mount model： To update the firmware, connect a USB device (USB flash drive) containing the update file in the drive unit USB port and execute updating from the drive unit display.

For the availability of the latest version of the firmware and how to update it, refer to Canon's website.

https://cam.start.canon/

PRODUCT LIST

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



Accessories other than those mentioned above may be required depending on the specifications of your unit.

For details, contact your Canon sales representative or dealer.

The illustrations in this manual are used as examples.

Actual forms may vary depending on models and specifications.

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 provided to guard against hazards 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.

This manual uses the following symbols and terms in the warning and caution notices for preventing accidents and protecting the safety of the customer and others.

⚠ 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 a 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.
5. This product emits low level magnetic flux. If you use a implantable cardiac pacemaker and feel abnormalities, please be away from this product and consult your doctor.

NOTE

1. Do not expose the product to strong impact. Striking or dropping the product 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. Using in particular environments may cause the malfunction of the product.

DEALING WITH ABNORMALITIES

⚠ WARNING

Should any of the abnormalities described below occur, immediately disconnect the cable, remove the product 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 product from the camera before cleaning outside of the product. 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 (or hood cap) and dust cap before storage. Storing the lens without the caps attached poses a risk of fire if the lens concentrates light in direct sunlight.

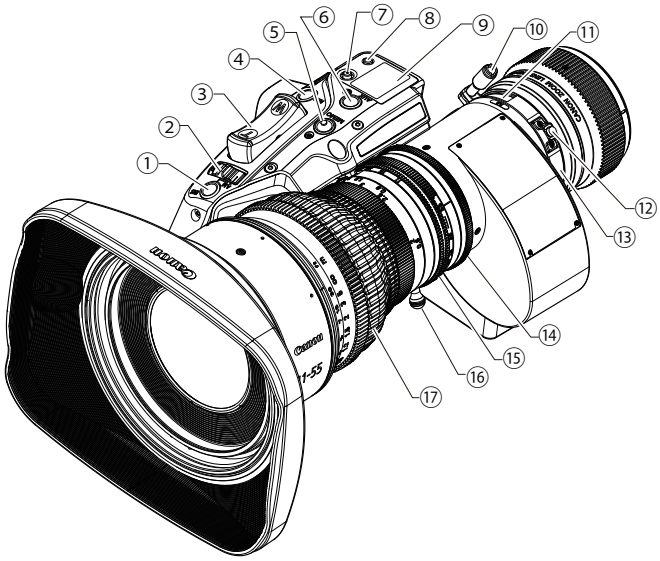
NOTE

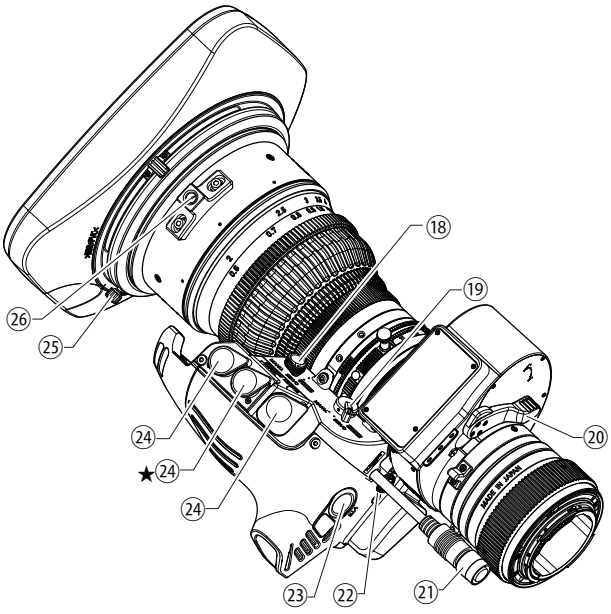
1. Immediately wipe off any moisture on the product from misty or foggy environments, using a dry cloth. Seal the product in a plastic bag with a desiccant (preferably new) to prevent moisture inside. Otherwise it may cause the mold or the malfunction of the product.
2. Before using the product with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

TO THE CUSTOMER

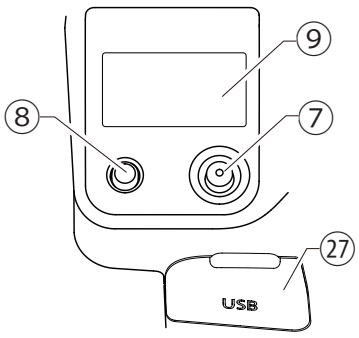
1. Canon shall bear no responsibility for damage resulting from improper operation of this product by the customer.
2. Canon shall make no guarantees about the product quality, functions, or operation manual and its marketability and suitability for the customer’s purpose. Moreover, Canon shall bear 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.

1 Part Names





Information display



For details, refer to the Information Display operation manual.

CN5x11

① Instant auto-iris switch
② Iris A/M switch
③ Zoom rocker seesaw
④ RET switch
⑤ MEMO switch
⑥ AUX switch
⑦ Display control key
⑧ Display switch
⑨ Display
⑩ Flange-back lock screw
⑪ Flange-back adjusting ring
⑫ Macro button
⑬ Macro ring
⑭ Iris ring
⑮ Zoom ring
⑯ Zoom lever
⑰ Focus ring
⑱ Focus operation change-over knob
⑲ Zoom operation change-over knob
⑳ Extender Lever
㉑ Power/iris control cable
㉒ Max. zoom speed adjustment volume
㉓ VTR switch
㉔ Remote connectors (20-pin)

Note: Virtual output only available from ★ connector

For connecting zoom or focus control accessories equipped with a 20-pin connector. The connector labeled ★ is also equipped with interface functionality for virtual systems and can output zoom, focus, and iris position signals.

㉕ Hood lock knob
㉖ Lens Holder

⑦ Display control key

Moves the cursor up/down/left/right (▲ ▼ ◀ ▶). Press straight in (Set) to confirm.

⑧ Display switch

Turns the display on/off.

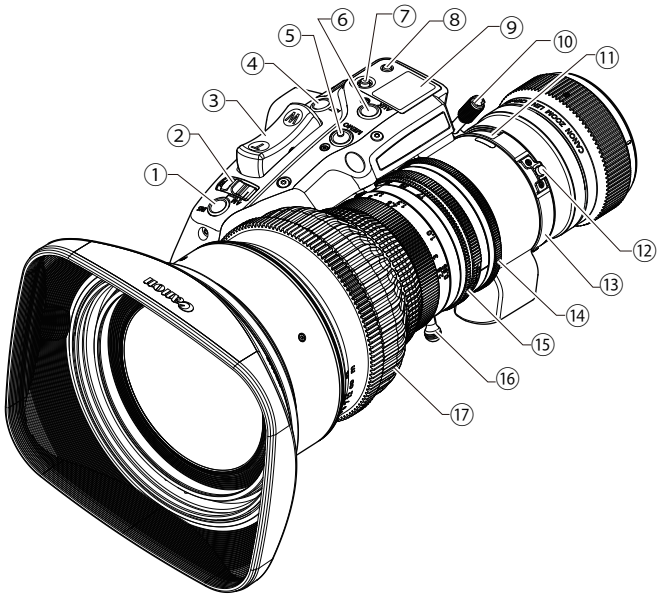
⑨ Display

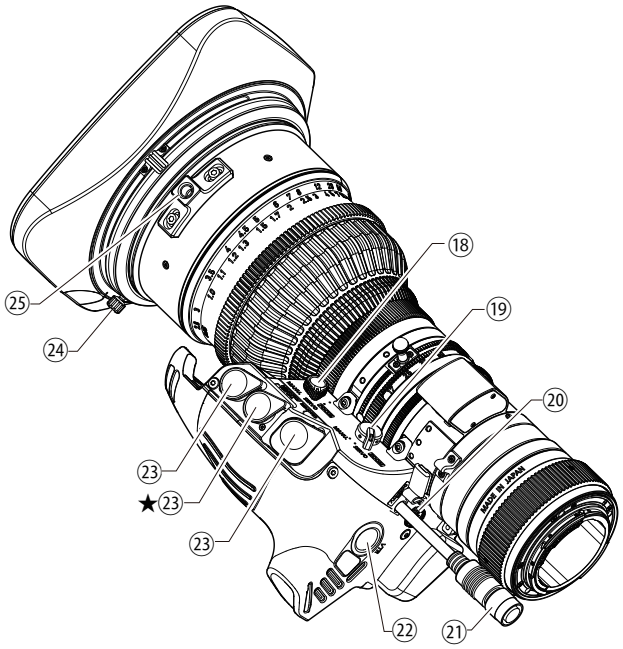
Turns off after 2 min. without any operations.

㉗ USB port (behind cover)

Enables exporting or importing of lens setting data by connecting a USB device (USB flash drive).
Also enables exporting of logs with data such as lens management information, or service logs that include a record of lens operations. For PL-mount models, lens equipment firmware can be updated by connecting a USB flash drive containing a firmware update file.

CN7x17





① Instant auto-iris switch
② Iris A/M switch
③ Zoom rocker seesaw
④ RET switch
⑤ MEMO switch
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⑦ Display control key
⑧ Display switch
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⑩ Flange-back lock screw
⑪ Flange-back adjusting ring
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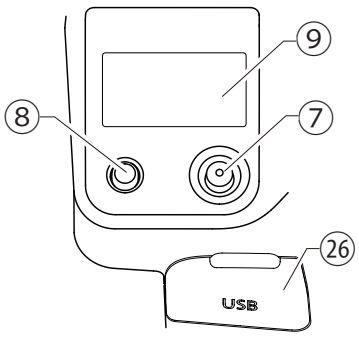
⑬ Macro ring
⑭ Iris ring
⑮ Zoom ring
⑯ Zoom lever
⑰ Focus ring
⑱ Focus operation change-over knob
⑲ Zoom operation change-over knob
⑳ Max. zoom speed adjustment volume
㉑ Power/iris control cable
㉒ VTR switch
㉓ Remote connectors (20-pin)

Note: Virtual output only available from ★ connector
For connecting zoom or focus control accessories equipped with a 20-pin connector. The connector labeled ★ is also equipped with interface functionality for virtual.

㉔ Hood lock knob
㉕ Lens Holder

Information display



For details, refer to the Information Display operation manual.

⑦ Display control key
Moves the cursor up/down/left/right (▲ ▼ ◀ ▶). Press straight in (Set) to confirm.

⑧ Display switch
Turns the display on/off.

⑨ Display
Turns off after 2 min. without any operations.

㉖ USB port (behind cover)
Enables exporting or importing of lens setting data by connecting a USB device (USB flash drive).
Also enables exporting of logs with data such as lens management information, or service logs that include a record of lens operations. For PL-mount models, lens equipment firmware can be updated by connecting a USB flash drive containing a firmware update file.

2 Mounting and Connection

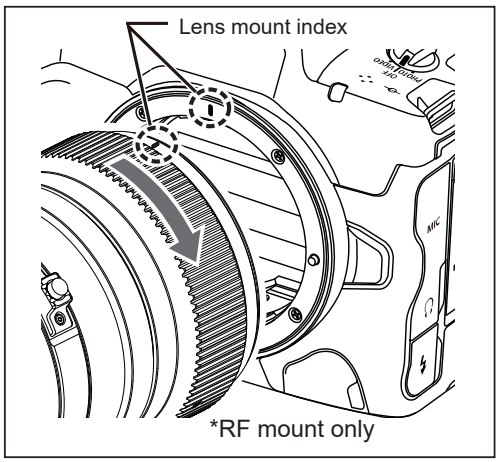
2-1. Mounting the lens on a camera

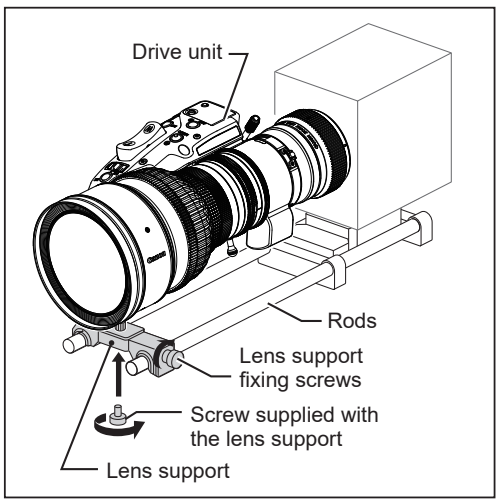
For PL mount, read the following instructions before mounting the lens.

1. The PL mount supports Cooke's /i Technology, so make sure that the camera is set to "/i".
2. Do not mount the lens if the camera is set to a mount communication mode other than "/i". Doing so could result in malfunction.

NOTE

1. Before mounting the lens on the camera or detaching the lens from the camera, make sure that the power of camera and the power of supply equipment are turned off.
2. The mounting method differs depending on the lens mounts. Refer to the operation manual for the respective camera for the detailed information.





1 Attach the lens to the camera tightly so that both mounting surfaces are in complete contact.

*RF mount only

Align the lens mount indexes of the lens and the camera, and turn the lens as shown by the arrows until you hear a click.

NOTE

If the rod interferes with the lens body or drive unit when mounting the lens, remove the rod and then mount the lens.

2 Secure the lens holder on the lens support using the clamping screw supplied with the lens support.

NOTE

When using a ϕ19 rod, attach the supplied attachment holder to the lens holder in advance.

3 Fix the lens support to the rods using lens support fixing screws.

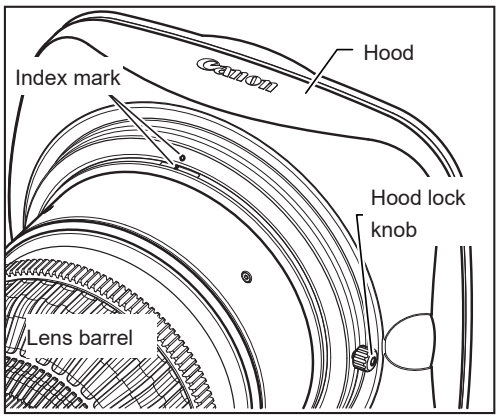
4 When the lens is mounted, connect the power/iris control cable to a power supply equipment such as camera or external power supply.

NOTE

1. Attach the lens cap before detaching the lens from the camera.
2. After detaching the lens, place the lens with the rear end up to prevent the lens surface and contacts from getting scratched. If the contacts get soiled, scratched, or have fingerprints on them, corrosion or faulty connections can result. The camera and lens may not operate properly. If the contacts get soiled or have fingerprints on them, clean them with a soft cloth.
3. Rated voltage of the drive unit : 12 V DC
   Input voltage range of the drive unit : 10 V 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 input voltage range is used, the drive unit may be damaged. And the drive unit 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.

2-2. Mounting the hood on the lens

The lens is shipped with the lens cap attached. Remove the lens cap before mounting the hood.



1 Attach the hood to the front of the lens barrel.

2 Align the index marks on the hood and lens barrel.

3 Tighten the hood lock knob.

2-3. Turning the lens on

Turn on the camera, which will supply power to the lens.

2-4. Available accessories

A variety of professional camera accessories are available using ϕ 15 mm and ϕ 19 mm rod adaptors. (When using a ϕ 19 rod, attach the supplied attachment holder to the lens holder.)

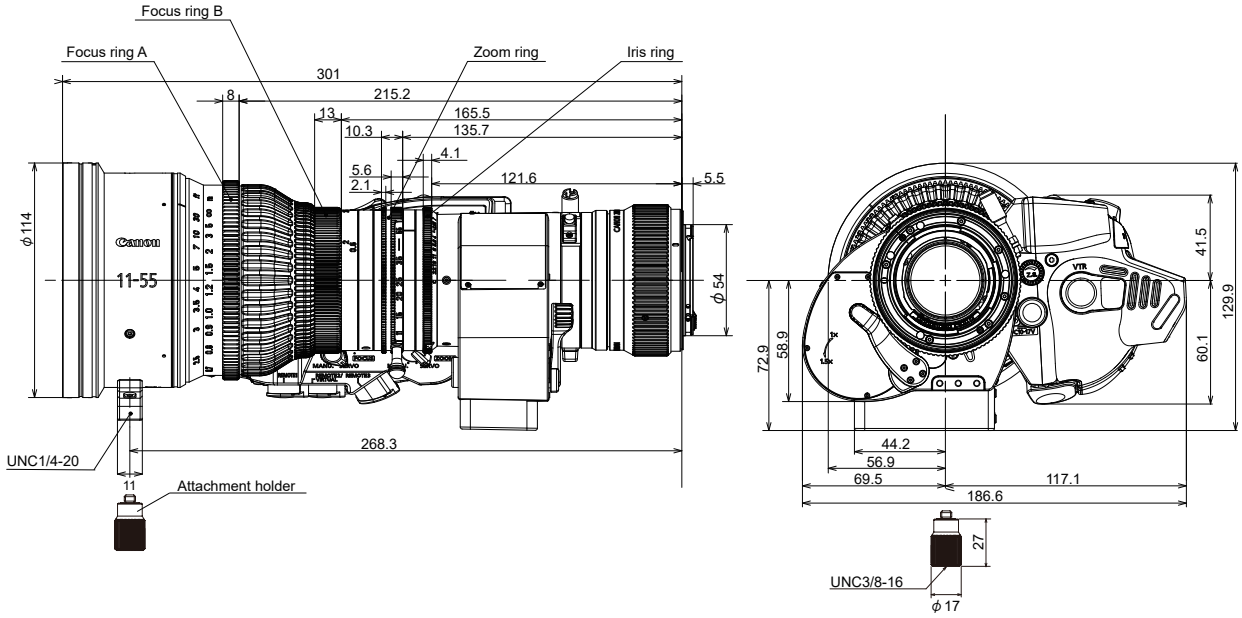
NOTE

1. Be sure to use the lens holder when mounting the lens on a camera. Be sure to avoid applying excessive weight to the lens mount when the lens is mounted on a lens support..
2. Attaching a filter
   A 127 mm filter can be attached to the hood.
   When attaching a filter to the lens body, use the Canon CL/112 mm clear filter (hereafter refered to as the CL/112 mm).
   The CL/112 mm can be used together with a 127 mm filter attached to the hood.
   Using a commercially available 112 mm filter other than the CL/112 mm could interfere with the hood, making it impossible to mount the hood properly.

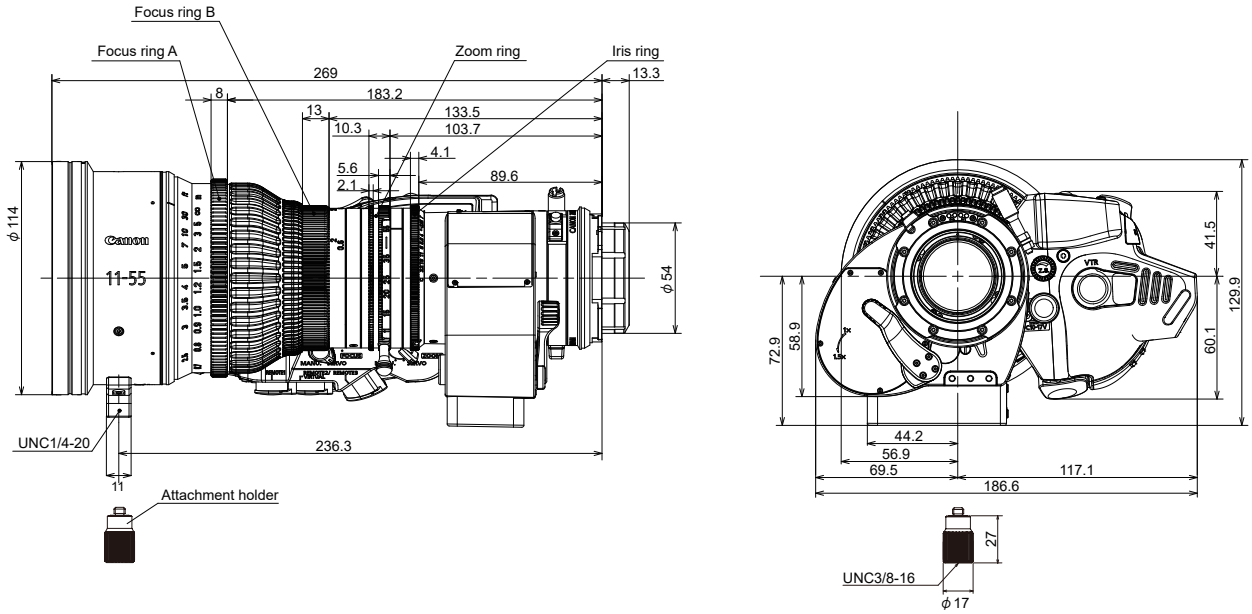
2-5. Dimensions of parts

（Unit : mm）

CN5x11 IAS T/R1（RF mount）



CN5x11 IAS T/P1（PL mount）

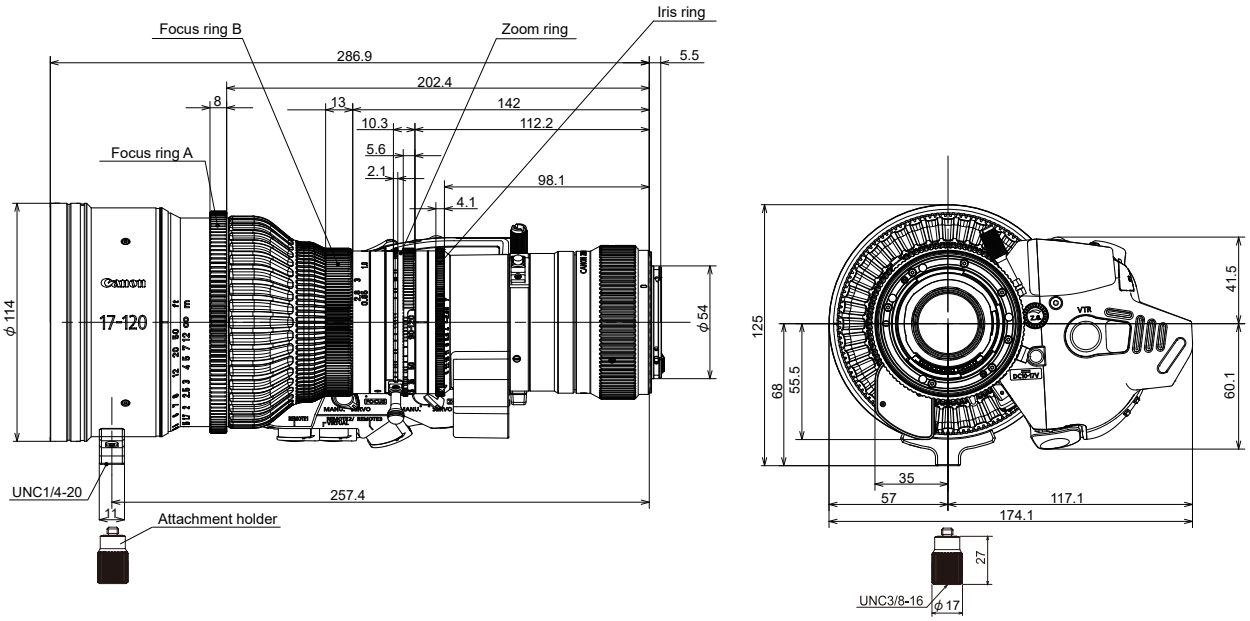


Spur gear specifications

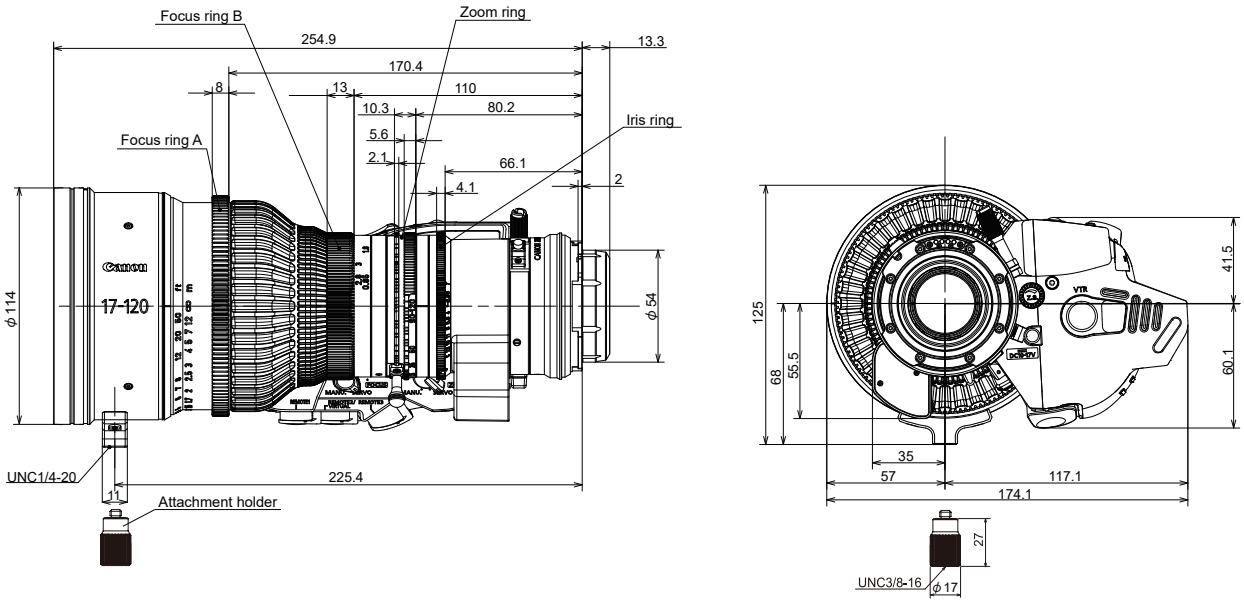
	Focus ring A	Focus ring B	Zoom ring	Iris ring
Number of teeth	119	140	140	175
Module	0.8	0.5	0.5	0.4
P.C.D.	95.2 mm	70 mm	70 mm	70 mm
Angular rotation	180°	180°	93.5°	52.5°

（Unit : mm）

CN7x17 KAS T/R1（RF mount）



CN7x17 KAS T/P1（PL mount）



Spur gear specifications

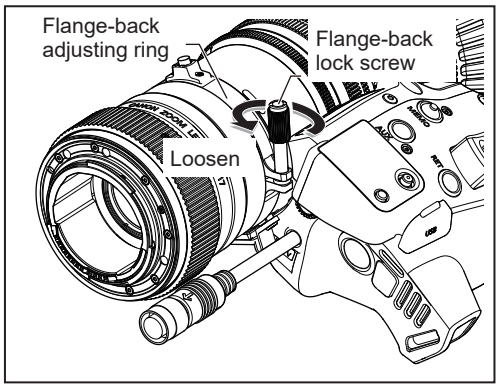
	Focus ring A	Focus ring B	Zoom ring	Iris ring
Number of teeth	131	140	140	175
Module	0.8	0.5	0.5	0.4
P.C.D.	104.8 mm	70 mm	70 mm	70 mm
Angular rotation	180°	180°	93.5°	52.5°

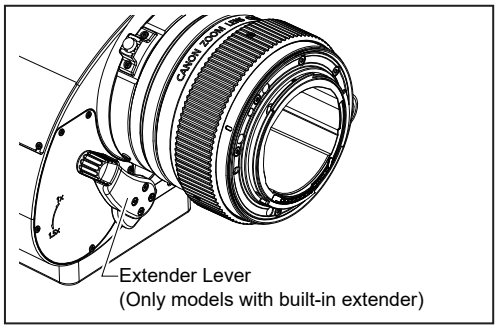
3 Adjustment

3-1. Adjusting back focus

If the relationship between the image plane of the lens and the image plane of the television camera is incorrect, the object goes out of focus when the lens is zoomed. Adjust lens back focus as follows.

NOTE
When adjusting back focus, turn the flange-back adjusting ring slowly as you check subject blurring.
Moving the ring greatly out of the range in focus poses a risk of scratching the drive unit surface if the flange-back lock screw comes into contact with it.





1. Choose a subject at a suitable distance (CN5x11, CN7x17 : Approx. 1.5–3 m) as the subject. For easier adjustment, choose a subject with sharp contrast.
2. Set the extender lever to 1x. (Only models with built-in extender)
3. Turn the iris ring to maximum aperture.
4. Turn the zoom ring to zoom in all the way to the telephoto end.
5. Turn the focus ring to bring the subject into focus.
6. Turn the zoom ring to zoom out all the way to the wide-angle end.
7. Loosen the flange-back lock screw, then turn the flange-back adjusting ring to bring the subject into focus.
8. Repeat steps 4–7 a few times until the subject is in focus at both extremes of zooming.
9. Tighten the flange-back lock screw.

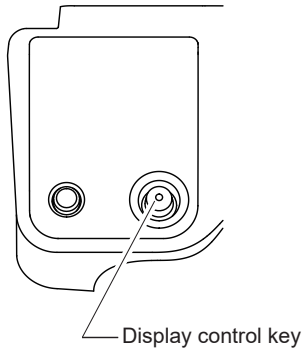
3-2. Adjusting auto iris gain

Auto iris gain is adjusted using the display. Although it is correctly calibrated at the time of delivery, it can be adjusted as needed. For instructions, see “4-3. Auto iris gain adjustment” in this manual and refer to the Information Display operation manual.

NOTE
Set the camera auto iris mode if you will adjust gain while checking iris operation. For camera setting instructions, refer to the camera manual.

4 Settings

A variety of lens settings can be configured using the information display.

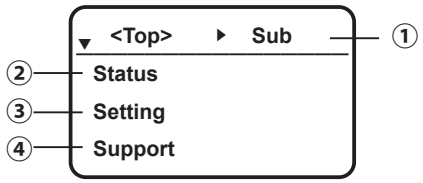


To configure settings, press the information display control key up, down, left, or right (▲ ▼ ◀ ▶). Press the key straight in (Set) to confirm.

4-1. Top and Sub screen

The Top screen is the first screen displayed after the display switch is pressed. From the Top screen, you can access other screens to configure or check lens settings. With the cursor on the first line of the Top screen, you can also press the display control key right (▶) to move it to the Sub screen position and access Sub screen.

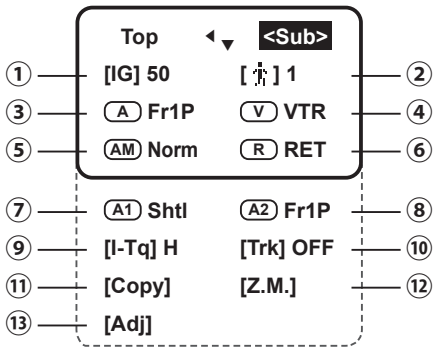
Top screen



① Sub	**Sub screen**
Lists 13 setting menus	
② Status	**Status screen**
Lens status menu (cannot be configured)	
③ Setting	**Setting screen**
Lens setting menu	
④ Support	**Support screen**
Lens support information menu	

From the Sub screen, you can set and adjust settings ①–⑬ below.

Sub screen

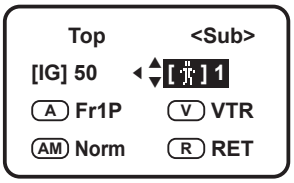


① [IG]	Auto iris gain setting
② [ ]	User switching
③ A	AUX switch function assignment
④ V	VTR switch function assignment
⑤ AM	Iris A/M switch operation setting
⑥ R	RET switch function assignment
⑦ A1	AUX1 switch function assignment
⑧ A2	AUX2 switch function assignment
⑨ [I-Tq]	Iris torque setting
⑩ [Trk]	Zoom track on/off switching
⑪ [Copy]	User setting copying
⑫ [Z.M.]	Zoom rocker seesaw responsiveness setting
⑬ [Adj]	Automatic adjustment of the mechanical end

4-2. User setting

For each user, specific functions can be assigned to switches. Switch to the user to use, then assign functions to switches.

Sub screen



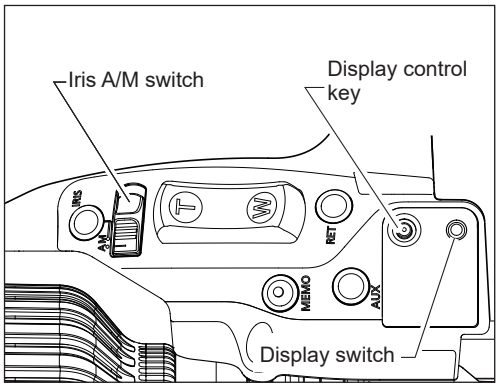
[ ] User switching

You can switch users on a Sub screen. In the screenshot at left, user 1 is the current user. The user options listed are TEMP, 1, 2, 3, and Lock. Settings can be saved when the user is 1, 2, or 3. Settings cannot be saved when the user is set to TEMP. Moreover, setting the user to Lock will restrict switching users or entering data for some settings. To switch users, you will need to cancel the Lock setting. For Lock setting and cancellation details, refer to the Information Display operation manual.

[ ]	User				Locked
Options	TEMP	1	2	3	Lock
Description	Settings can be changed temporarily	Settings can be saved	Settings can be saved	Settings can be saved	Prevents user switching

4-3. Auto iris gain adjustment

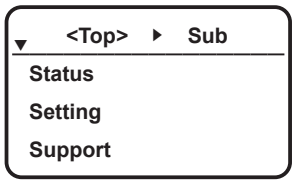
Although auto iris gain is correctly calibrated at the time of delivery, you can adjust the gain while checking iris operation as follows. The auto iris gain set applies to all users.



1 Set the iris A/M switch on the drive unit to A (auto).

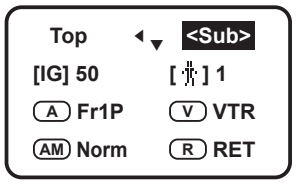
NOTE
Set the camera auto iris mode if you will adjust gain while checking iris operation. For camera setting instructions, refer to the camera manual.

Top screen



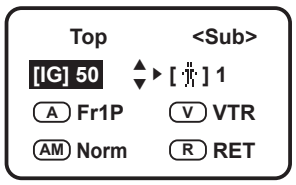
2 Press the display switch to activate the display. The Top screen is displayed.

Sub screen



3 Press the display control key right ( ) once. The cursor moves to the Sub display position and a Sub screen is displayed.

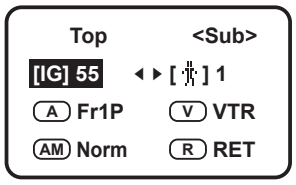
Sub screen



4 Press the display control key down ( ) once and then left ( ) once. The cursor moves to the [IG] display position. In this position, press the display control key straight in (Set). The cursor starts blinking at the [IG] display position.

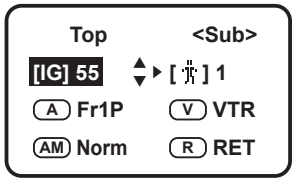
NOTE
RF-mount model: [---] is displayed and this function is disabled when the iris is controlled by a camera via RF communication.

Sub screen



5 Press the display control key right ( ) or left ( ) to adjust iris gain. You can check the current iris gain adjustment value, which is shown to the right of [IG]. In the screenshot at left, the iris gain adjustment value has been changed to 55. As you watch the lens iris ring, adjust to a suitable gain at which “focus hunting” does not occur.

Sub screen

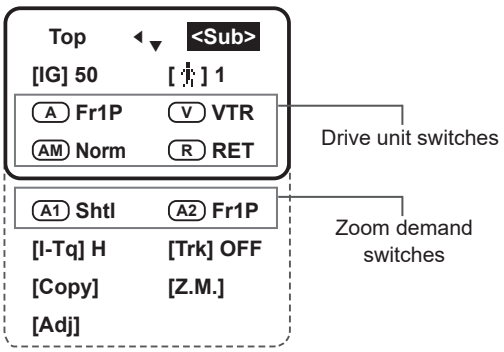


6 With a suitable value selected, press the display control key straight in (Set). The cursor changes from blinking to lit, and the iris gain value is set.

4-4. Switch function assignment

Drive unit or demand switches can be programmed to activate a function of your choice. Switch to the relevant user before assigning functions to switches.

Sub screen



On the initial Sub screen, you can assign functions to four drive unit switches. Scroll down by pressing the display control key down ( ), and you can assign functions to the two demand switches in the dotted outline at left, set iris ring torque, activate/deactivate the zoom track function, copy user settings, set zoom rocker seesaw responsiveness and adjust the mechanical end automatically.

A AUX switch

By default, the drive unit AUX switch is assigned to framing preset 1 (preset speed), but it can be assigned to functions in Table 4-4-1.

For details, refer to “2-3 AUX switch function assignment” in the Information Display operation manual.

V VTR switch

By default, the drive unit VTR switch is assigned to VTR, but it can be assigned to functions in Table 4-4-1.

For details, refer to “2-4 VTR switch function assignment” in the Information Display operation manual.

AM Iris A/M switch

Enables you to change drive unit iris A/M switch operation. By default, it is set to operate normally, but it can be assigned to functions in Table 4-4-2.

For details, refer to “2-5 Iris A/M switch operation setting” in the Information Display operation manual.

R RET switch

By default, the drive unit RET switch is assigned to RET, but it can be assigned to functions in Table 4-4-1.

For details, refer to “2-6 RET switch function assignment” in the Information Display operation manual.

A 1 AUX1 switch

By default, the AUX1 switch for ZSD series zoom demands is assigned to shuttle shot, but it can be assigned to functions in Table 4-4-1.

For details, refer to “2-7 AUX1 switch function assignment” in the Information Display operation manual.

A 2 AUX2 switch

By default, the AUX2 switch for ZSD series zoom demands is assigned to framing preset 1 (preset speed), but it can be assigned to functions in Table 4-4-1.

For details, refer to “2-8 AUX2 switch function assignment” in the Information Display operation manual.

4-4-1. Table of switch function assignment

Options	VTR	RET	RET2[*1]	RET3[*1]	RET4[*1]	RET5[*1]	RET6[*1]	RET7[*1]	RET8[*1]
Description	VTR	RET	RET2	RET3	RET4	RET5	RET6	RET7	RET8

Options	Fr1P	Fr1F	Fr2P	Fr2F	Sped	Shtl	AF[*2]	NON[*3]
Description	Framing preset 1 (preset speed)	Framing preset 1 (max. speed)	Framing preset 2 (preset speed)	Framing preset 2 (max. speed)	Speed preset	Shuttle shot	Auto focus	No function

*1: RET2–8 (RET2, RET3, RET4, RET5, RET6, RET7, and RET8) are listed and available when the setting described in “4-15 RET2–8 on/off switching” in the Information Display operation manual is set to on.

*2: RF-mount model: [AF] is displayed and this option can be selected.
AF functionality is only available with some cameras. For details, refer to the camera manual.

*3: Can be assigned to AUX, AUX1, or AUX2 switches.

4-4-2. Table of iris A/M switch operation settings

Options	Norm	Reve	Auto[*4]	Manu[*4]
Description	Normal operation A : Auto M : Manual	Reverse operation A : Manual M : Auto	Auto only A : Auto M : Auto	Manual only A : Manual M : Manual

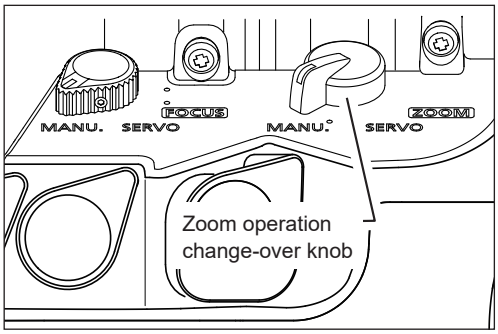
*4: Setting operation to Auto or Manu enables the same iris operation regardless of how the iris A/M switch is set.

For details, refer to the Information Display operation manual.

5 Control and Shooting

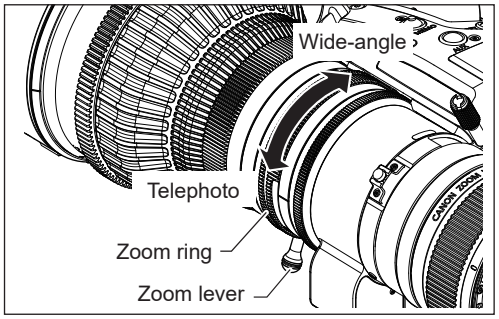
5-1. Zooming

5-1-1. Manual zooming



1 Set the zoom operation change-over knob to the MANU. position.

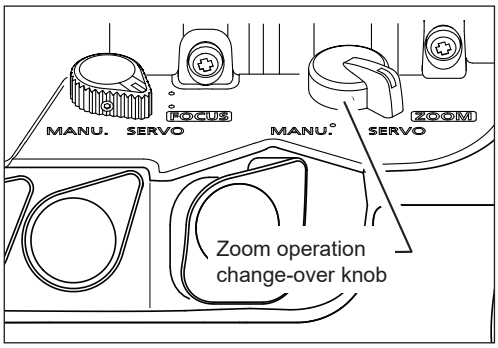
NOTE
The zoom operation change-over knob must be set to the MANU. position before manual zooming.
Forcing the lens to zoom manually with the knob set to SERVO may cause damage.



2 To zoom, turn the zoom ring or zoom lever.

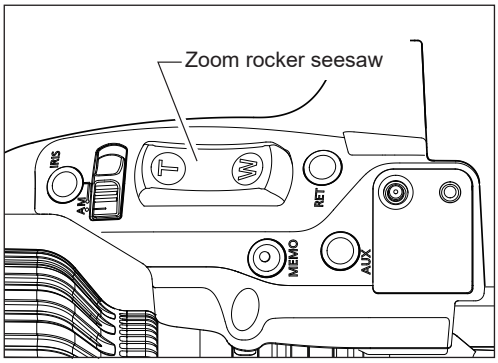
5-1-2. Servo zooming

The built-in motor in the drive unit can also be used to zoom.



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

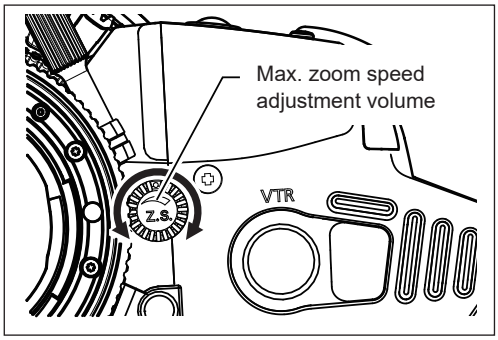
2 To zoom, press the zoom rocker seesaw. Zoom speed changes in response to how far down you press the switch. The further you press the switch, the faster the lens zooms.



NOTE
Only manual zooming or focusing is available while the lens is reading from or writing to a USB device (USB flash drive).

5-1-3. Adjusting maximum zoom speed

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



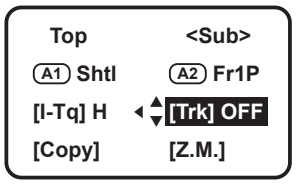
1 To increase the maximum speed, turn the max. zoom speed adjustment volume clockwise, and to decrease it, turn the volume counterclockwise.

This setting can also be set from the information display. For details, refer to the Information Display operation manual.

5-1-4. Zoom track function (servo only)

By defining your preferred zoom control range (zoom track), you can set virtual limits at the telephoto and wide-angle ends. The zoom track function must be activated before you can use it.

A：Switching ON/OFF from the information display



1. Press the display switch to activate the display.
2. Use the display control key to move the cursor to [Trk], then press the key straight in (Set). [Trk] and the current setting now blink on the display.
3. Press the display control key right or left (▶ / ◀) to switch between on and off.
4. Press the display control key straight in (Set) to confirm.

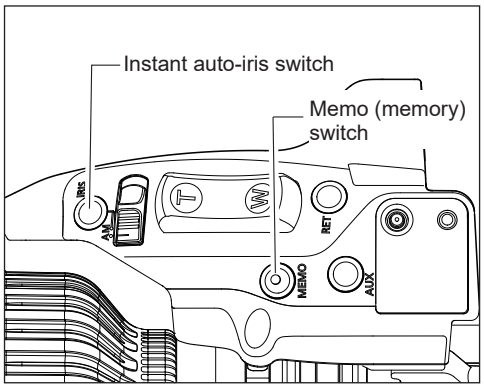
For detailed instructions, refer to the Information Display operation manual.

B：Switching ON/OFF with switch operations

	Selection method	Operation	How to ascertain the selection
To set the function to ON	Hold down the 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 end.)	Automatic zooming from current zoom position to the closer of the two set positions.
To set the function to OFF		The zoom range is set to the mechanical end.	Automatic zooming from current zoom position to the closer of the two mechanical ends.

Setting zoom track positions

Activate the zoom track function before setting the positions.



1. Zoom in or out to a position at one end of the zoom track you will set.
2. With the zoom still at this position, press and hold the Memo switch, then press the instant auto-iris switch. Zoom positions at the telephoto side are stored as the telephoto end of the zoom track, and positions at the wide-angle side are stored as the wide-angle end.
3. Repeat steps 1–2 to set both the telephoto and wide-angle end. Otherwise, you can set only one end, if you prefer. To change the setting, follow steps 1–3. (Newly set positions overwrite any stored settings.)

NOTE

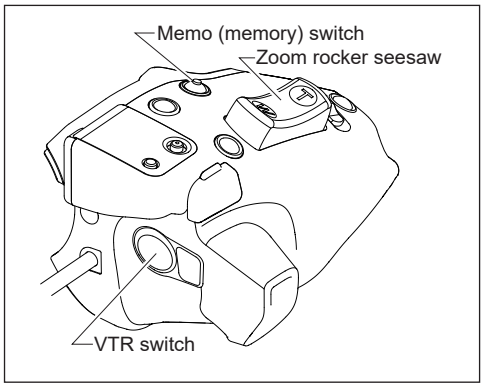
1. If you will set different zoom track positions, servo zooming cannot be used to move current zooming end points closer to the mechanical limit. In this case, deactivate the zoom track function and do one of the following.
   - Use the zoom rocker seesaw to zoom.
   - Zoom manually.
2. Up to two zoom track positions can be set (for the telephoto and wide-angle ends), but both positions cannot be set on the same side of the center of the lens zoom range.
   (In this case, the position set most recently is stored as the zoom track position for that end.)

5-1-5. Shuttle shot (servo only)

Using this function, you can switch between the current zoom position and a preset position at the maximum speed.

Shuttle shot must be assigned to the drive unit VTR, RET, or AUX switch or the zoom demand AUX1 or AUX2 switch. Descriptions in this manual are based on shuttle shot (Shtl) being assigned to the VTR switch.

Storing a shuttle shot position



1 Zoom in or out to a position to set. With the zoom still at this position, press and hold the Memo (memory) switch, then press the VTR switch (as assigned to Shtl).

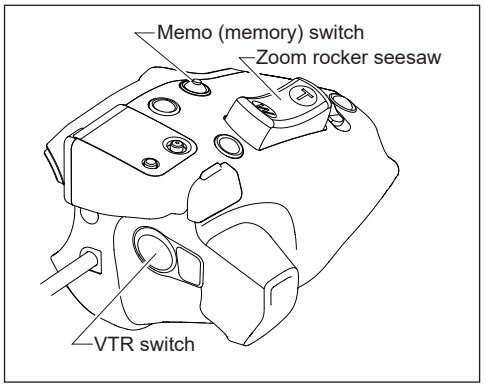
NOTE

1. Positions set for this function are stored separately from positions set as framing presets (described later). Positions you specify are also retained even after the power is turned off.
2. Shtl switch operations take precedence over zoom rocker seesaw operations, which have no effect while the Shtl switch is pressed.

5-1-6. Speed preset (servo only)

Using this function, you can zoom at your preset zoom speed at any time. Speed preset (Sped) must be assigned to the drive unit VTR, RET, or AUX switch or the zoom demand AUX1 or AUX2 switch. Descriptions in this manual are based on the speed preset (Sped) being assigned to the VTR switch.

Storing a zoom speed and direction

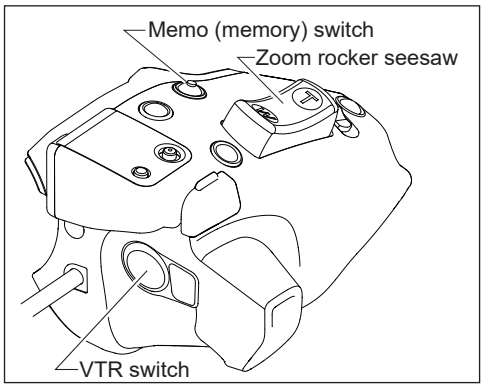


1 Press and hold the Memo (memory) switch while using the zoom rocker seesaw to zoom at the speed and in the direction (toward the telephoto or wide-angle end) to store.

NOTE

Stored zoom speed also applies to framing presets.

Using speed presets



1 Press the VTR switch (assigned to Sped) to start zooming at the stored speed and in that direction (toward the telephoto or wide-angle end). Zooming stops at the end of the range.

Canceling speed preset movement

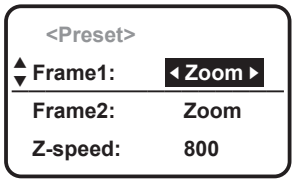
Speed preset movement can be canceled in any of the following ways.

1) Once again, press the switch assigned to Sped.
2) Use either the zoom rocker seesaw or the switch assigned to speed (Shtl) or framing presets (Fr1P/Fr2P/Fr1F/Fr2F).

5-1-7. Framing preset (servo only)

Three types of framing presets are available, as follows.

［Zoom］：Conveniently reproduces a predetermined angle of view and speed of movement (zooming speed).
［Focus］：Conveniently reproduces predetermined focusing.
［Z + F］：Conveniently reproduces the speed of movement (focusing and zooming speed) for predetermined focusing and angle of view.



To switch between framing preset settings, use the Preset screen of the information display. The Frame1 setting can be changed to Zoom, Focus, or Z+F.

NOTE
You can store up to two framing presets, identified as Frame1 and Frame2. Descriptions on the following pages only discuss Frame1. Also note that the Frame1 preset is abbreviated as Fr1P.

Selecting the speed for moving to stored framing positions

To select the speed of movement to the framing position, use the switch assigned to Fr1P or Fr1F. For instructions on assigning switches, see “4-4 Switch function assignment” or refer to the Information Display operation manual.

- Fr1P: Option for moving at the preset speed (default for AUX switch)
- Fr1F: Option for moving at maximum speed (fast)

Frame preset control	Control content	Movement speed setting	
		Fr1P, Fr2P (speed settable)	Fr1F, Fr2F (maximum speed)
Zoom	Zoom operation control	The zoom moves at the preset speed.	The zoom moves at the maximum speed.
Focus	Focus operation control	The focus moves at maximum speed.*1	The focus moves at maximum speed.
Z+F	Zoom + focus operation control	The zoom and focus moveat the preset speeds.*2	The zoom and focus moveat the maximum speed.

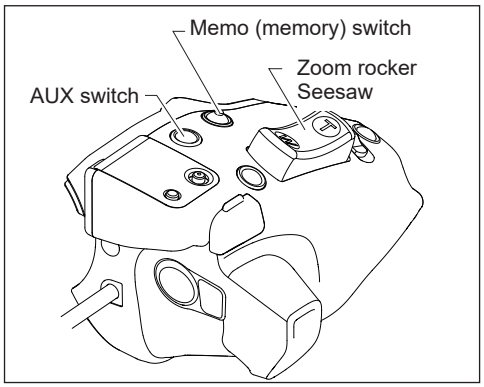
*1: Focus speed is fixed at maximum speed.
2: The zoom and focus are controlled in such a way that they start and stop simultaneously.

[Zoom], [Focus], and [Z+F] framing preset settings

NOTE

Descriptions in this manual are based on Fr1P being assigned to the AUX switch. Note that if this function is assigned to a different switch, actual switch conditions will differ from the figures.

Storing framing positions



1 Zoom in or out to a position to set, and focus as needed. At this position, press and hold the Memo (memory) switch, then press the AUX switch (as assigned to Fr1P).

NOTE

Framing positions are stored separately from shuttle shot positions. Positions you specify are also retained even after the power is turned off.

Moving to stored framing positions

Press the AUX switch (assigned to Fr1P) to start moving to the stored framing position at your selected speed. Movement stops at the stored framing position.

Canceling movement to stored framing positions, or switching to other operations

Do any of the following to cancel movement to stored framing positions.

Canceling zoom framing preset operations in progress, or switching to other operations

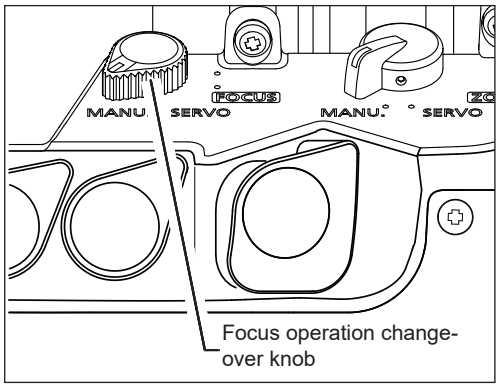
- Once again, press the switch assigned to Fr1P.
- Use the zoom rocker seesaw.
- Use the switch assigned to Shtl.

Canceling focus framing preset or zooming and focusing preset operations in progress, or switching to other operations

- Use a connected focus demand.
  (Movement to stored positions stops, and the lens moves as directed by the focus demand.)

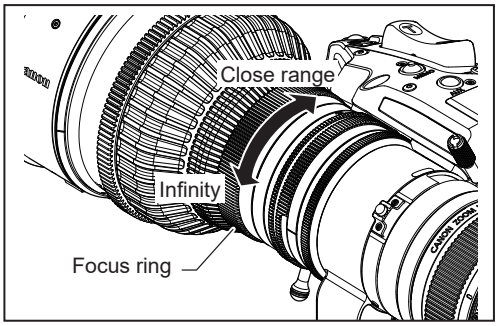
5-2. Focusing

5-2-1. Manual focusing



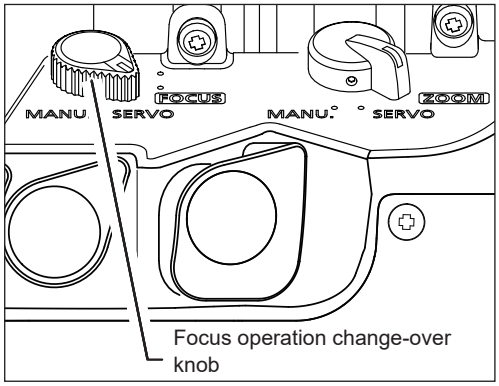
1 Set the focus operation change-over knob to the MANU. position.

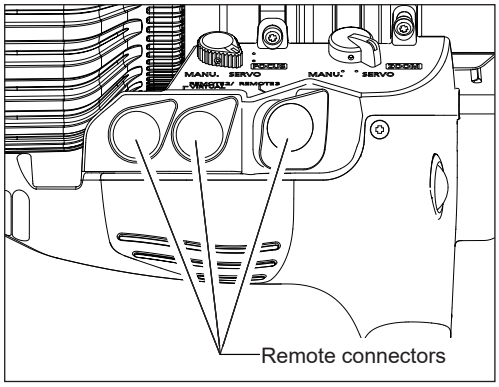
NOTE
The focus operation change-over knob must be set to the MANU. position before manual focusing.
Turning the focus ring by force with the knob set to SERVO may cause damage.



2 Turn the focus ring to bring a subject that is near or far into focus.

5-2-2. Servo focusing





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

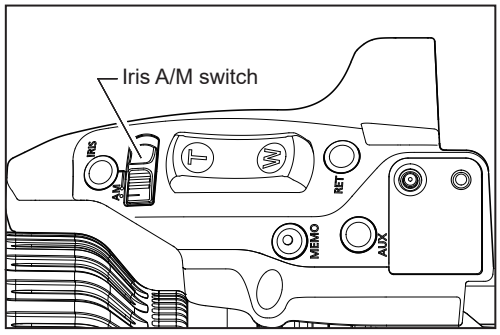
2 Connect a focus demand or other accessory to the remote connectors. For instructions on connection, refer to the accessory manual.

NOTE
Only manual zooming or focusing is available while the lens is reading from or writing to a USB device (USB flash drive).

5-3. Iris operations

You can switch between auto and manual mode with the iris A/M switch. Operation of the iris A/M switch can be configured on the display. Descriptions in this manual are based on operation with the iris A/M switch set to [Norm].

5-3-1. Automatic iris operation

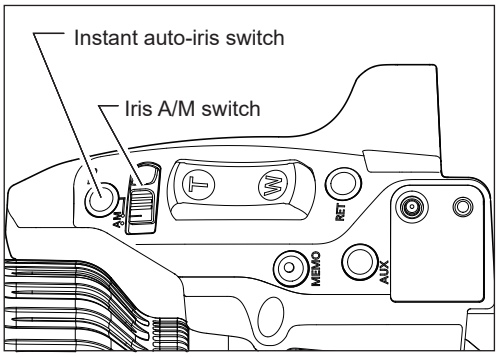


1 Set the iris A/M switch to A (auto). Iris operations are performed automatically, as controlled by the camera, to keep the video signal level constant.

NOTE

1. The automatic iris operation may not be performed depending on the types of cameras.
2. This setting can be configured and adjusted from the information display. For details, see “4-3. Auto iris gain adjustment” in this manual and refer to the Information Display operation manual.

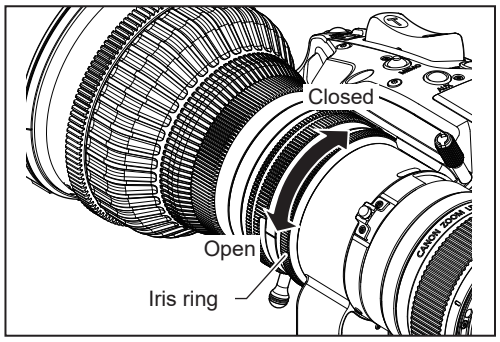
5-3-2. Manual iris operation



1 Set the iris A/M switch to M (manual).

NOTE
The iris A/M switch must be set to M before you operate iris manually. Forcing the lens to perform manual iris operations when it is set to automatic mode may damage it.

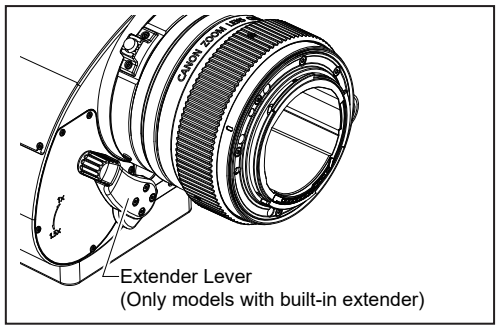
2 Turn the lens iris ring to perform iris operations.



3 For as long as you hold down the instant auto-iris switch in manual iris mode, the mode changes to automatic.

NOTE
The automatic iris operation may not be performed depending on the types of cameras.

5-4. Extender operations (Only models with built-in extender)



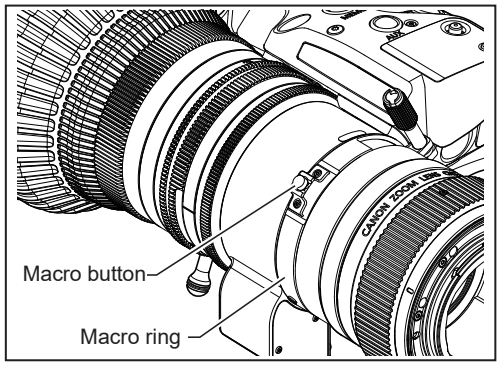
The lens with built-in extender has the built-in 1.5× extender.

Use the extender lever to switch between 1× and 1.5×.

NOTE
When the extender is used, note that the light quantity may decrease by the zoom ratio depending on the iris correction setting.

5-5. Macro operations

This mode is used for shooting small subjects at closer range than the normal minimum object distance. At the macro position and the wide-angle end, close-ups can be as close as CN5x11:4 cm, CN7x17:10 cm from subjects.



1. Manually or with servo, zoom to the wide-angle end.
2. Press the macro button to unlock it, then turn the macro ring to bring the subject into focus.

NOTE

Macro operations are also possible when zoomed to a position other than the wide-angle end, but this will increase the subject distance.

Multi-point focus shooting

As a technique that relies solely on zooming to shift the focal point within the same scene, multi-point focus shooting employs a characteristic of macro shooting – specifically, zooming changes both the focal length and the focal point. To use this technique, shoot as follows.

1. Zoom in to a distant subject and bring it into focus by focusing as usual.
2. Zoom out to a near subject and bring it into focus with the macro ring.
3. Leaving the macro button unchanged from step 2, zoom in to the distant subject again and bring it into focus again by focusing as usual.

6 USB Operations

6-1. USB Using the USB port

6-1-1. USB USB port specifications

The following functions are available when a USB device (USB flash drive) is in the drive unit USB port. Prepare a USB flash drive to use in advance.

1. **Updating lens firmware (PL-mount model*)**
   You can update the firmware as needed. When firmware updates are available, you can download the latest version from the following Canon's website.
   *RF-mount model firmware updates are performed from the camera using an SD card. For details, visit the following support page.

   https://cam.start.canon/

2. **Exporting and importing user settings**
   Settings for each user can be exported to a USB flash drive and imported on other equipment to use the same settings on that equipment.

3. **Exporting lens management information or service logs**
   Also using a USB flash drive, you can export logs with the model name, serial number, and other lens management information, as well as service logs that include a record of lens operations. Use this information to manage your equipment or when requesting service.

For details, refer to the Information Display operation manual.

6-1-2. Connecting to a USB host

The following functions are available when a USB host (computer) is connected to the drive unit USB port. Prepare a computer to use as a USB host in advance.

1. **Browsing lens management information**

   When the lens is connected to a computer via USB, the computer recognizes it as a USB mass storage device where multiple text files are stored. The text files contain management information such as the lens model name and serial number. Use the information in the text files to manage your equipment or when requesting service. For text file details, refer to the readme.txt file stored on the lens.

6-1-3. USB port specifications

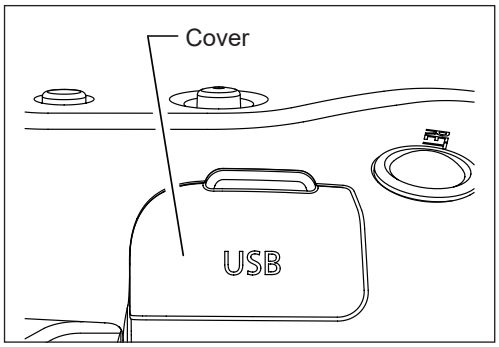
Specifications of the drive unit USB port are as follows.

Port format: USB Type-C® [Data rate: Full-Speed (12 Mbps)]

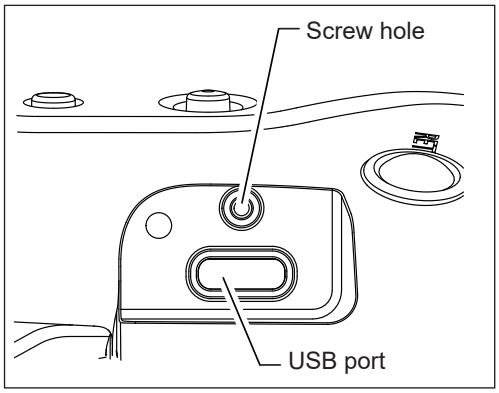
NOTE
Only manual zooming or focusing is available while the lens is reading from or writing to a USB flash drive. Reading or writing via USB should be done when the lens is not servo zooming or focusing.

6-1-4. Preventing cable disconnection

You can use a single screw USB Type-C locking cable to prevent disconnection.



1 Open the cover.



2 Connect the cable to the USB port.

3 Insert the screw for the connected cable in the screw hole and tighten it.

NOTE
To protect contacts in the port from dust and water, keep the cover closed when the USB port is not in use.

6-2. USB device specifications

Specifications of USB flash drives used with the drive unit USB port are as follows.

Port format: USB Type-C® [Data rate: Full-Speed (12 Mbps)]

Format: FAT16 or FAT32

Capacity: 32 GB recommended (formatted as FAT32)

USB Type-C® and USB-C® are registered trademarks of USB Implementers Forum.

NOTE
Some USB flash drives may not be recognized when connected to the USB port. Check before use.

6-3. USB host specifications

Specifications of computers connected to the drive unit USB port are as follows.

USB device class: Compatible with USB mass storage class

Format: Capable of reading FAT16 volumes

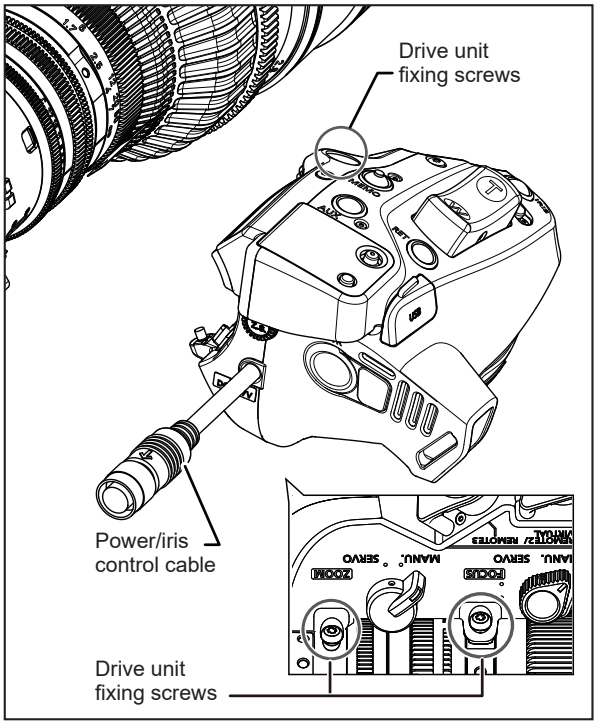
7 How to attach and detach the drive unit

This product is structured so that the drive unit can be separated from the lens body. If it is used as a manual lens, detach the drive unit while referring to Section 7-1. If the drive unit is mounted again, mount it while referring to Section 7-2.

7-1. How to detach the drive unit

NOTE

- Take care not to damage the drive unit cover when removing the drive unit fixing screws.
- Use a Phillips screwdriver with a shaft diameter of 4 mm or less to remove the drive unit fixing screws.
- When the lens is tilted, the zoom ring may turn and the zoom position may change. To retain the zoom position when the lens is tilted, mount a cinema operation accessory with adjustable torque and with a pitch of 0.5.
- If the drive unit is removed, the iris ring may turn and the iris position may change. To retain the iris position, mount a cinema operation accessory with adjustable torque and with a pitch of 0.4 on the iris ring. For details on the operation accessory with a pitch of 0.4, contact your Canon sales representative or dealer.

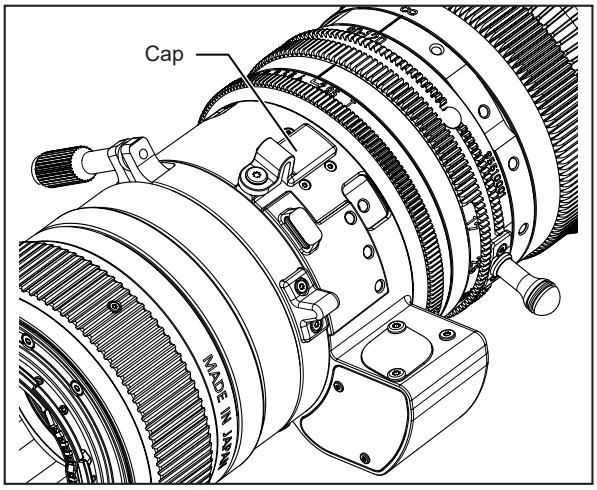


1 Turn the camera and the lens power off.

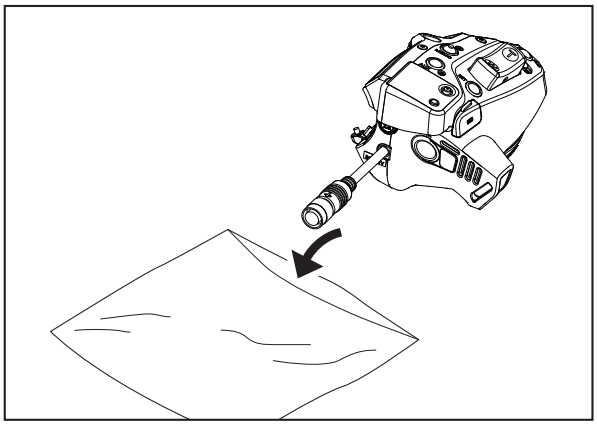
2 Disconnect the power/iris control cable.

3 Detach the lens body from the camera.

4 Remove the three drive unit fixing screws.



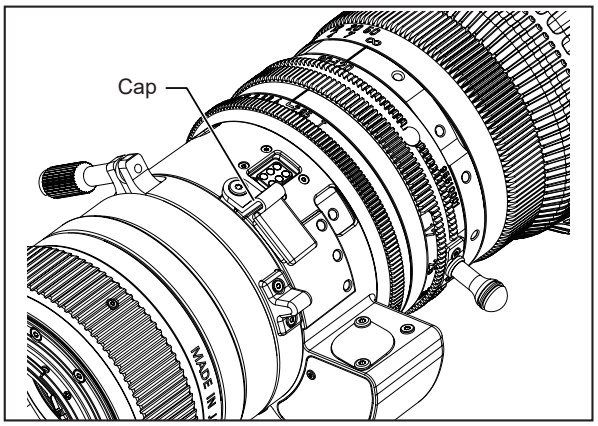
5 Place the cap on the contact of the lens body.



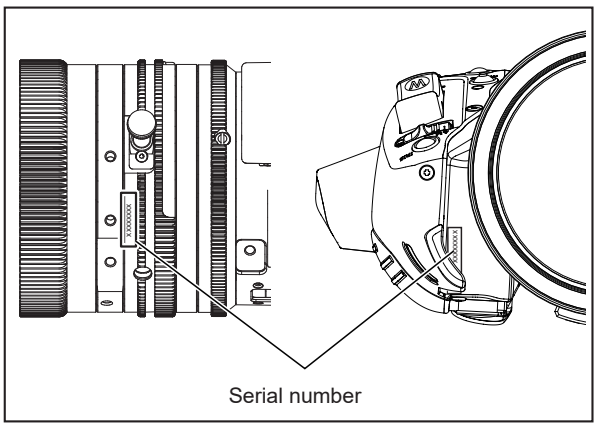
6 Place the detached drive unit into the included drive unit storage bag.

7-2. How to attach the drive unit

NOTE
If a drive unit fixing screw is damaged or lost, use a spare one.
For additional drive unit fixing screws, please contact your Canon sales representative or dealer.



1 Remove the lens contact cap and secure it on the protrusion on the lens.

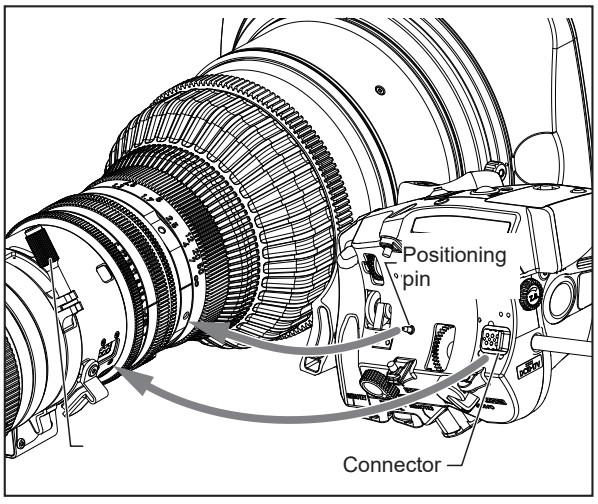


2 Check that the serial numbers of the lens body and the drive unit match.

NOTE
If the serial numbers do not match, malfunction may occur.

3 Check that there are no foreign matters in the three drive unit fixing screw holes in the lens body.

NOTE
If the drive unit is fixed when there is a foreign material in a screw hole, the lens body may be damaged.

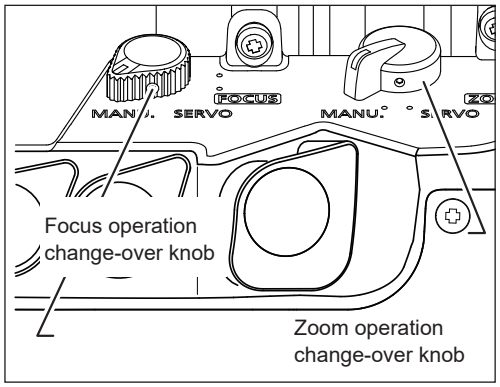


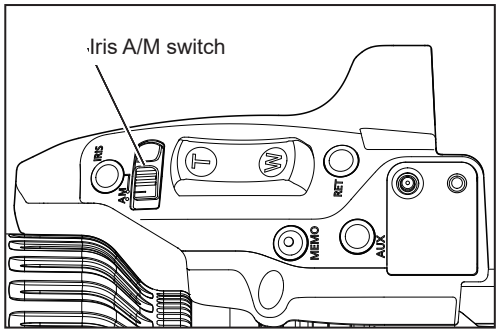
4 Make sure the flange-back lock screw is in a position out of contact with the drive unit.

NOTE
If the flange-back lock screw comes into contact with the drive unit, it may scratch the surface.

5 Using the drive unit positioning pin as a guide, insert the connector, and while holding the drive unit against the lens, lightly tighten the three drive unit fixing screws to temporarily fix the drive unit in place.

NOTE
Never use screws other than the drive unit fixing screws.





6 Set the zoom operation change-over knob and focus operation change-over knob to the MANU. position.

7 Set the iris A/M switch to manual.

8 Manually turn the focus, zoom, and iris rings to make sure the gears are engaged.

9 Tighten the three fixing screws to the specified torque.
* Tightening torque : 63 – 80N・cm（6.4 – 8.2 kg・cm）

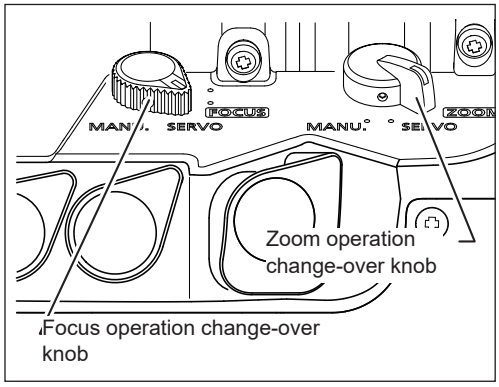
10 Mount the lens on the camera, connect the power/iris control cable, switch the power on.

11 From the display, perform auto mechanical end adjustment.
* For details on how to adjust the mechanical end automatically, refer to "7-3 Automatic adjustment of the mechanical end" on the next page.

NOTE
If an error message appears on the display when the power is turned on, contact your Canon sales representative or dealer.

7-3. Automatic adjustment of the mechanical end

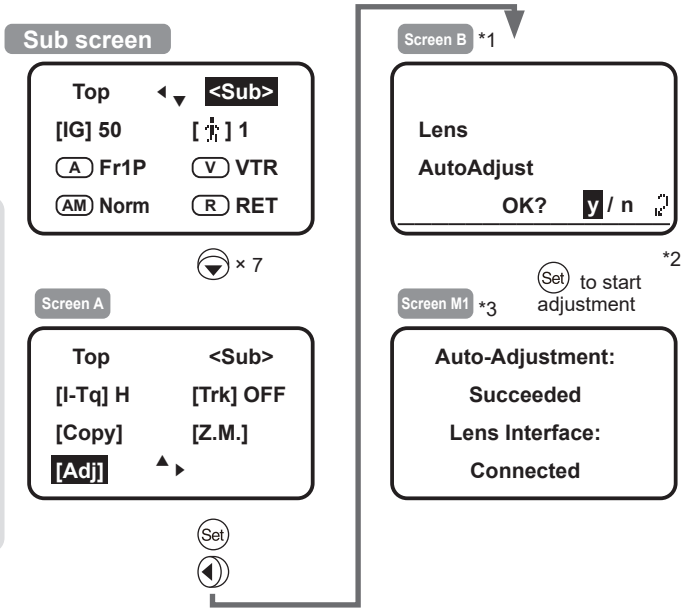
Automatically adjust the mechanical end of the zoom, focus and iris of the lens body and drive unit.
Always perform auto mechanical end adjustment when reattaching a drive unit to a lens.



NOTE
*1: To cancel automatic adjustment on screen B, select [n] and press the display control key straight in (Set). Display returns to screen A.
*2: Display blinks as the mechanical end is adjusted. During the blinking, do not touch the focus drive gear, zoom drive gear, or other control rings.
*3: In case of messages other than those shown on screen M1, see the following list of messages.

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

2 From the display, perform auto mechanical end adjustment as follows.



Message list		
Screen M1	**Auto-Adjustment:** **Succeeded** **Lens Interface:** **Connected**	Displayed after successful auto mechanical end adjustment. Press the display control key straight in (Set) to return to screen A.
Screen M2	**Please Check** **Servo / Manu** **OK?**	Displayed when the zoom or focus operation change-over knob or both knobs are in the MANU. position. Set both knobs to the SERVO position and press the display control key straight in (Set) to return to screen A.
Screen M3	**Auto-Adjustment:** **Succeeded** **Lens Interface:** **Non-Connected**	Displayed after auto mechanical end adjustment when communication between the drive unit and lens has not been established. Press the display control key straight in (Set) to return to screen A.
Screen M4	**Auto-Adjustment:** **Error** **Lens Interface:** **Non-Connected**	Displayed if auto mechanical end adjustment fails. If the message on screen M4 appears, please contact your Canon sales representative or dealer. Press the display control key straight in (Set) to return to screen A.
Screen M5	**Auto-Adjustment:** **Error** **Lens Interface:** **Connected**	Displayed after unsuccessful auto mechanical end adjustment when communication between the drive unit and lens has been established. If the message on screen M5 appears, please contact your Canon sales representative or dealer. Press the display control key straight in (Set) to return to screen A.

8 Specifications

		CN5x11 IAS T/R1 (RF mount) CN5x11 IAS T/P1 (PL mount)					
Extender		1.0×		1.5×			
Focal Length		11-55 mm		16.5-82.5 mm			
Zoom Ratio		5×					
Maximum Relative Aperture (T-Number)		T2.95 (at 11-41 mm) T3.95 (at 55 mm)		T4.4 (at 16.5-61.5 mm) T5.9 (at 82.5 mm)			
Iris Blades		11					
Image Circle		ϕ 29.6 mm		ϕ 43.3 mm			
Aspect Ratio		1.78:1	1.9:1	1.9:1	1.5:1	1.78:1	1.9:1
Dimensions (H × V)		24.6 × 13.8 mm	26.2 × 13.8 mm	38.1 × 20.1 mm	36 × 24 mm	24.6 × 13.8 mm	26.2 × 13.8 mm
Angle of View (H × V)	Wide	96.4° × 64.2°	100.0° × 64.2°	98.2° × 62.7°	95.0° × 72.1°	73.4° × 45.4°	76.9° × 45.4°
	Tele	25.2° × 14.3°	26.8° × 14.3°	26.0° × 13.9°	24.6° × 16.6°	17.0° × 9.6°	18.0° × 9.6°
Minimum Object Distance (M.O.D.) [from the image sensor]		0.6 m (2.0')					
Object Dimensions at M.O.D. (H × V)	Wide	69.7 × 39.1 cm	74.2 × 39.1 cm	72.0 × 38.0 cm	68.0 × 45.3 cm	46.5 × 26.1 cm	49.5 × 26.1 cm
	Tele	13.3 × 7.5 cm	14.2 × 7.5 cm	13.8 × 7.3 cm	13.1 × 8.7 cm	8.9 × 5.0 cm	9.5 × 5.0 cm
Front Diameter		ϕ 114 mm					
Filter Thread Size		ϕ 112 mm P1 (lens barrel) ϕ 127 mm P0.75 (hood)					
Zoom Speed for Full Range		Approx. 0.5 s max. (at room temp.)					
Focus Speed for Full Range		Approx. 1.4 s (at room temp.)					
Power Source		DC 12 V（DC 10 V to 17 V）					
Current Consumption		Max. 1.5 A					
Operating Environment Conditions		Temperature : -20˚C to +45˚C Humidity: 5%RH to 95%RH (no condensation)					
Size (W × H × L)		Approx. 186.6 × 129.9 × 301.0 mm（RF mount） Approx. 186.6 × 129.9 × 269.0 mm（PL mount）					
Weight		Approx. 3.01 kg（RF mount） Approx. 2.92 kg（PL mount）					

NOTE

A variety of professional camera accessories compatible with the ϕ15 mm and ϕ19 mm rod system can be used with this lens.

For the target accessories, please contact your Canon sales representative or dealer.

8 Specifications

		CN7x17 KAS T/R1 (RF mount) CN7x17 KAS T/P1 (PL mount)	
Focal Length		17–120 mm	
Zoom Ratio		7×	
Maximum Relative Aperture (T-Number)		T2.95 (at 17–91 mm) T3.9 (at 120 mm)	
Iris Blades		11	
Image Circle		ϕ 31.4 mm	
Aspect Ratio		1.78 : 1	1.9 : 1
Dimensions (H × V)		24.6 × 13.8 mm	26.2 × 13.8 mm
Angle of View (H × V)	Wide	71.8° × 44.2°	75.2° × 44.2°
	Tele	11.7° × 6.6°	12.5° × 6.6°
Minimum Object Distance (M.O.D) [from the image sensor]		0.85 m (2.8')	
Object Dimensions at M.O.D (H × V)	Wide	86.6 × 48.6 cm	92.2 × 48.6 cm
	Tele	12.0 × 6.7 cm	12.8 × 6.7 cm
Front Diameter		ϕ 114 mm	
Filter Thread Size		ϕ 112 mm P1 (lens barrel) ϕ 127 mm P0.75 (hood)	
Zoom Speed for Full Range		Approx. 0.5 s max. (at room temp.)	
Focus Speed for Full Range		Approx. 1.4 s (at room temp.)	
Power Source		DC 12 V (DC 10 V to 17 V)	
Current Consumption		Max. 1.5 A	
Operating Environment Conditions		Temperature : -20˚C to +45˚C Humidity: 5%RH to 95%RH (no condensation)	
Size (W × H × L)		Approx. 174.1 × 125.0 × 286.9 mm (RF mount) Approx. 174.1 × 125.0 × 254.9 mm (PL mount)	
Weight		Approx. 3.11 kg (RF mount) Approx. 3.04 kg (PL mount)	

NOTE

A variety of professional camera accessories compatible with the ϕ15 mm and ϕ19 mm rod system can be used with this lens.

For the target accessories, please contact your Canon sales representative or dealer.

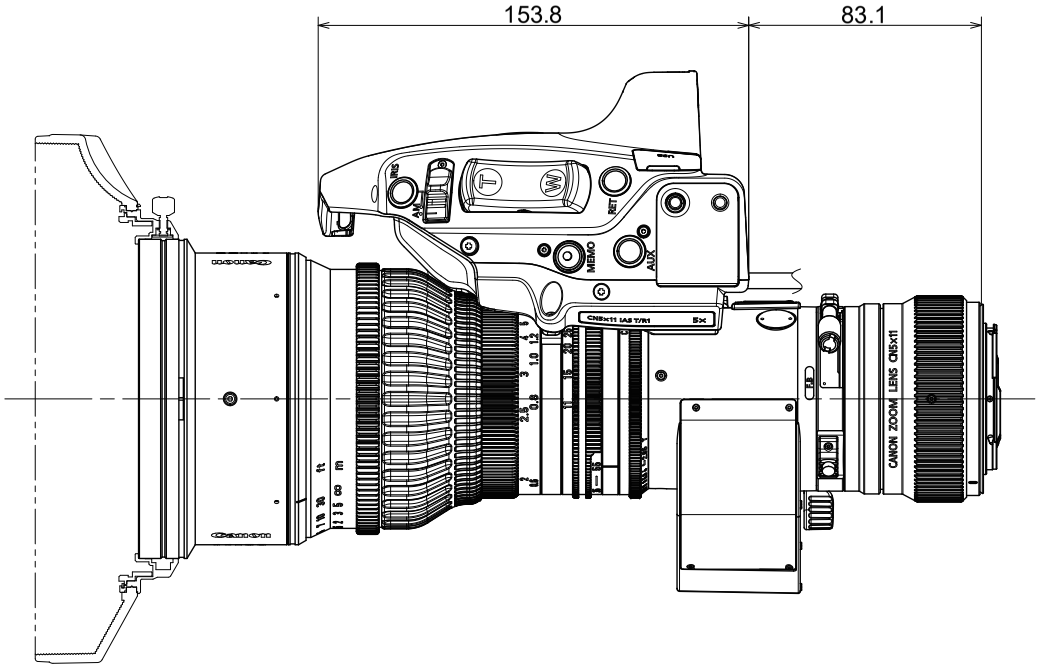
Reference Information

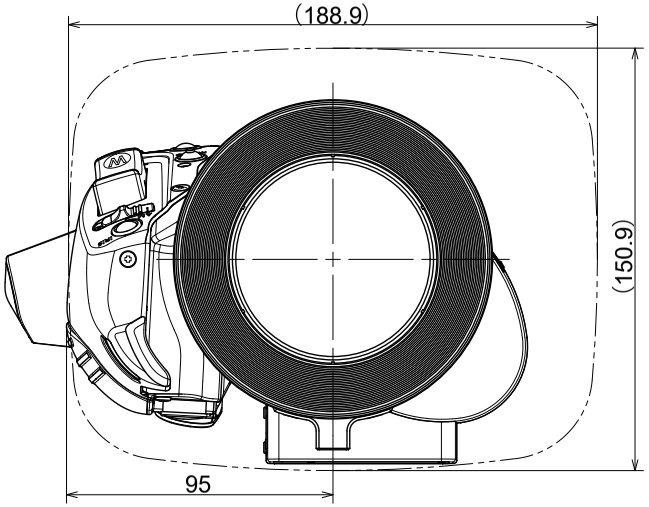
This lens is a zoom lens for shooting movies.

- RF Cinema lenses were developed primarily for movie production, and have a color balance typical for movies. When using this lens together with EF/RF lenses which are basically used to shoot still images, adjust the color balance (redo the white balance etc.) as necessary.
- In general, the depth of field becomes shallow and the focusing range becomes extremely narrow near the widest aperture and when shooting a subject at close range. In addition, this tendency increases for lenses with longer focal lengths. When shooting images, carefully check the focusing condition using the zoom mode of the finder or other means, and shoot a sufficient number of test images before performing focus operations.

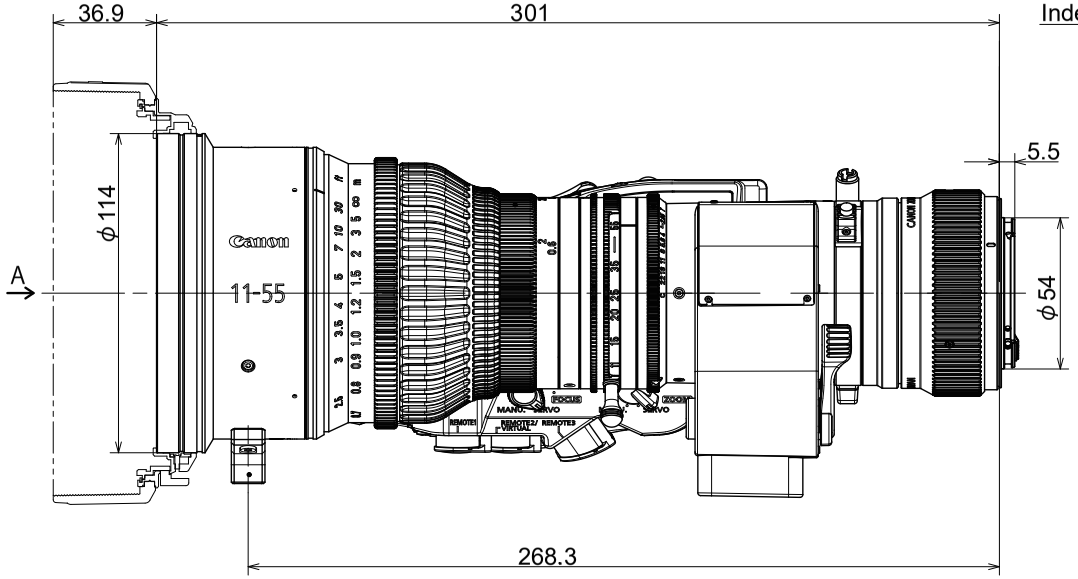
External views

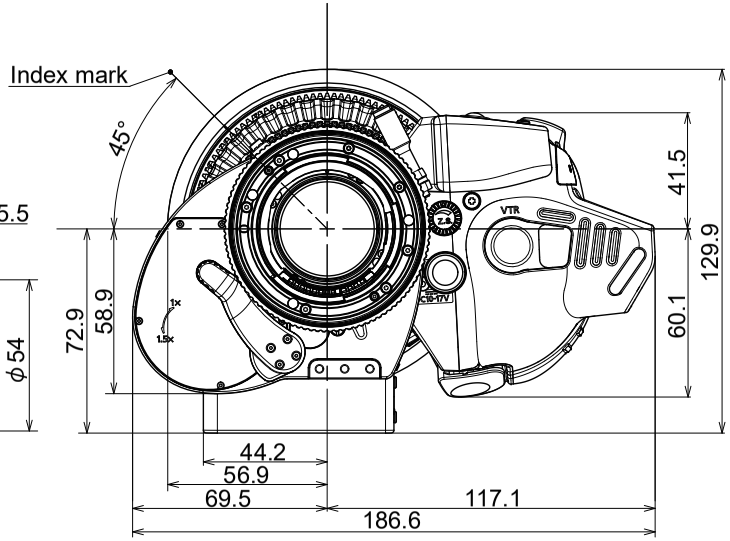
(1) CN5x11 IAS T/R1





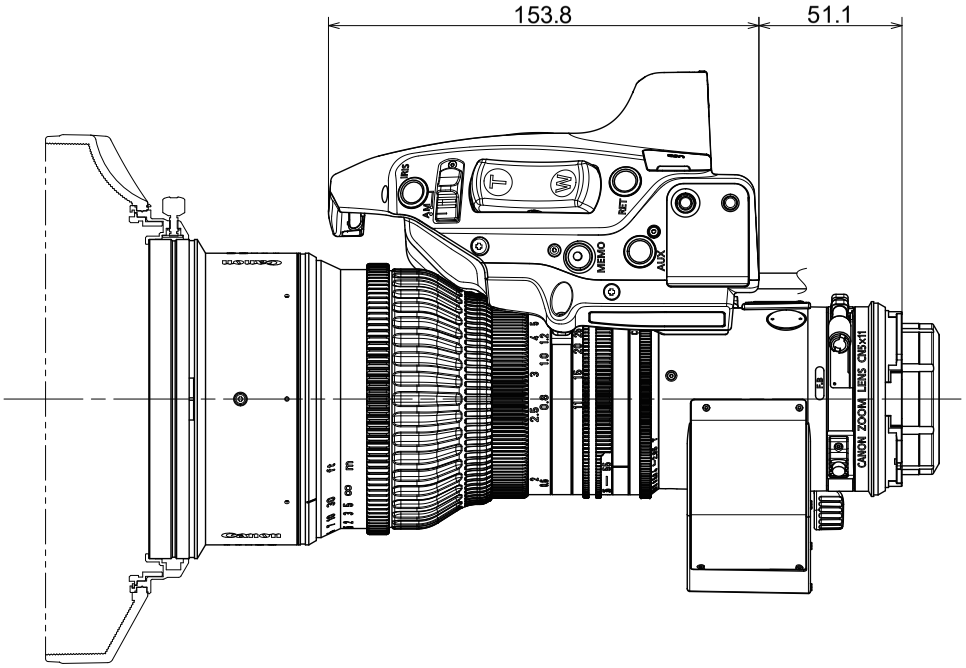
View A

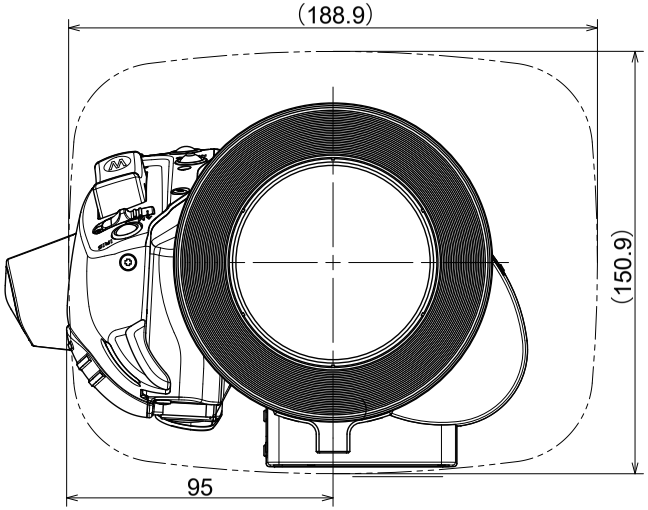




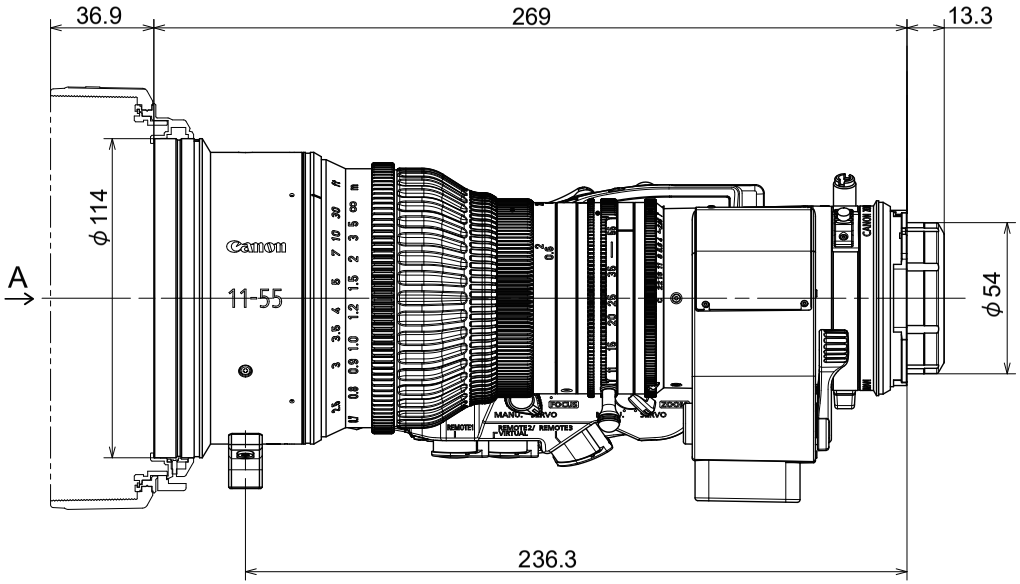
(Unit : mm)

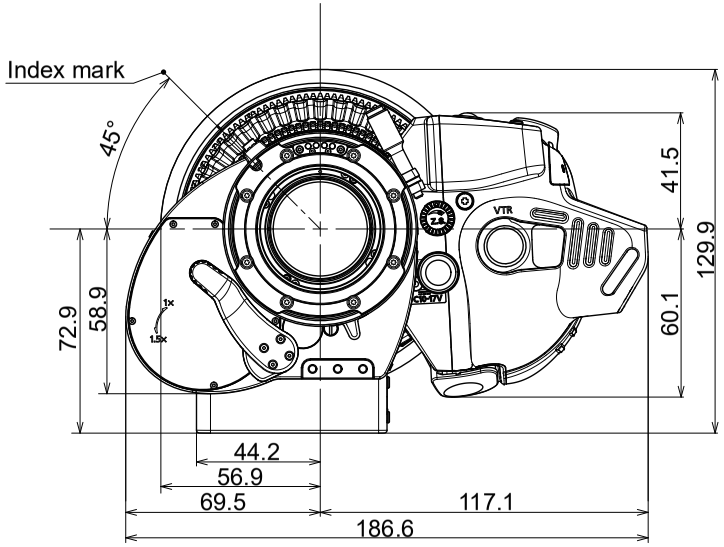
(2) CN5x11 IAS T/P1





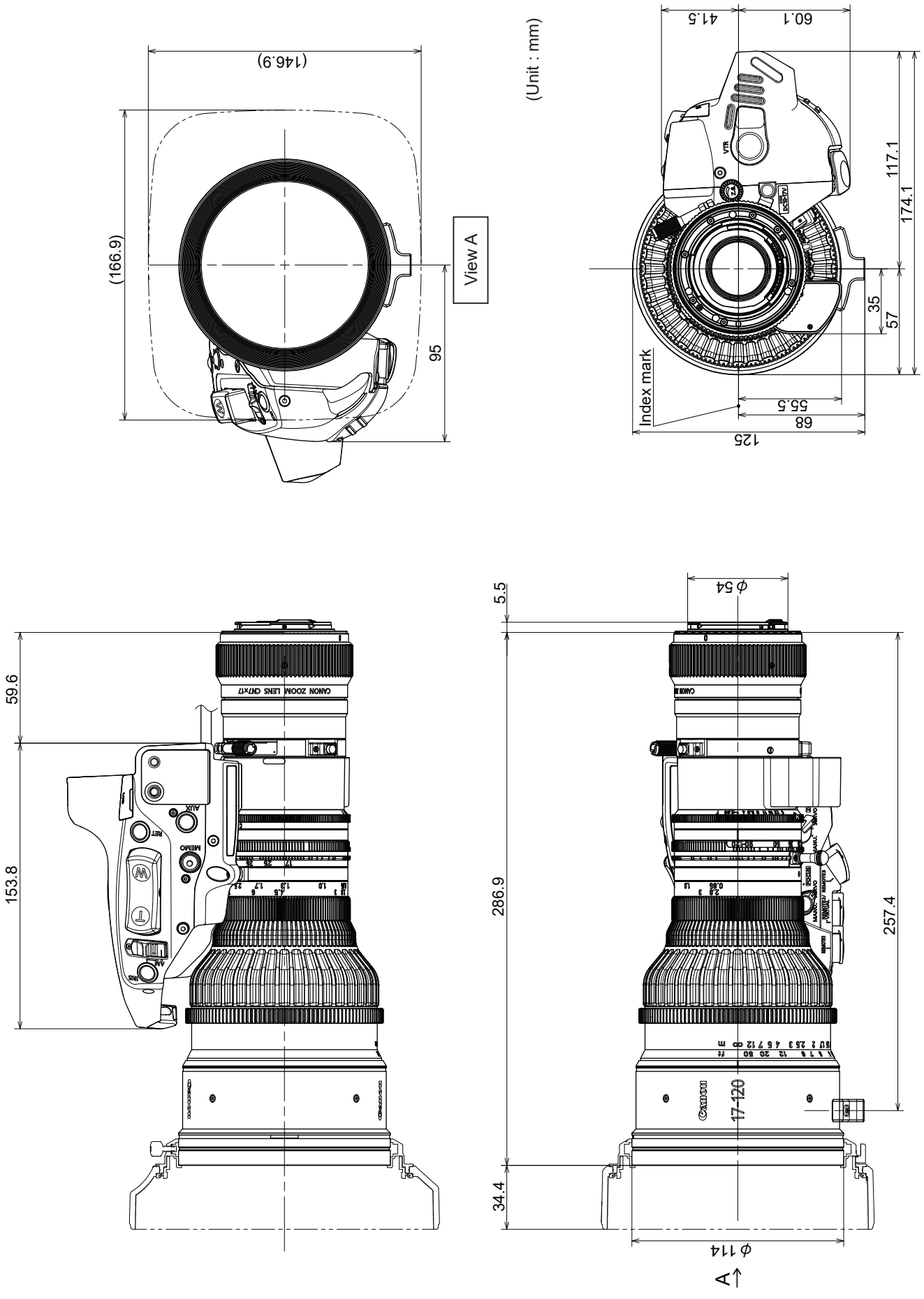
View A



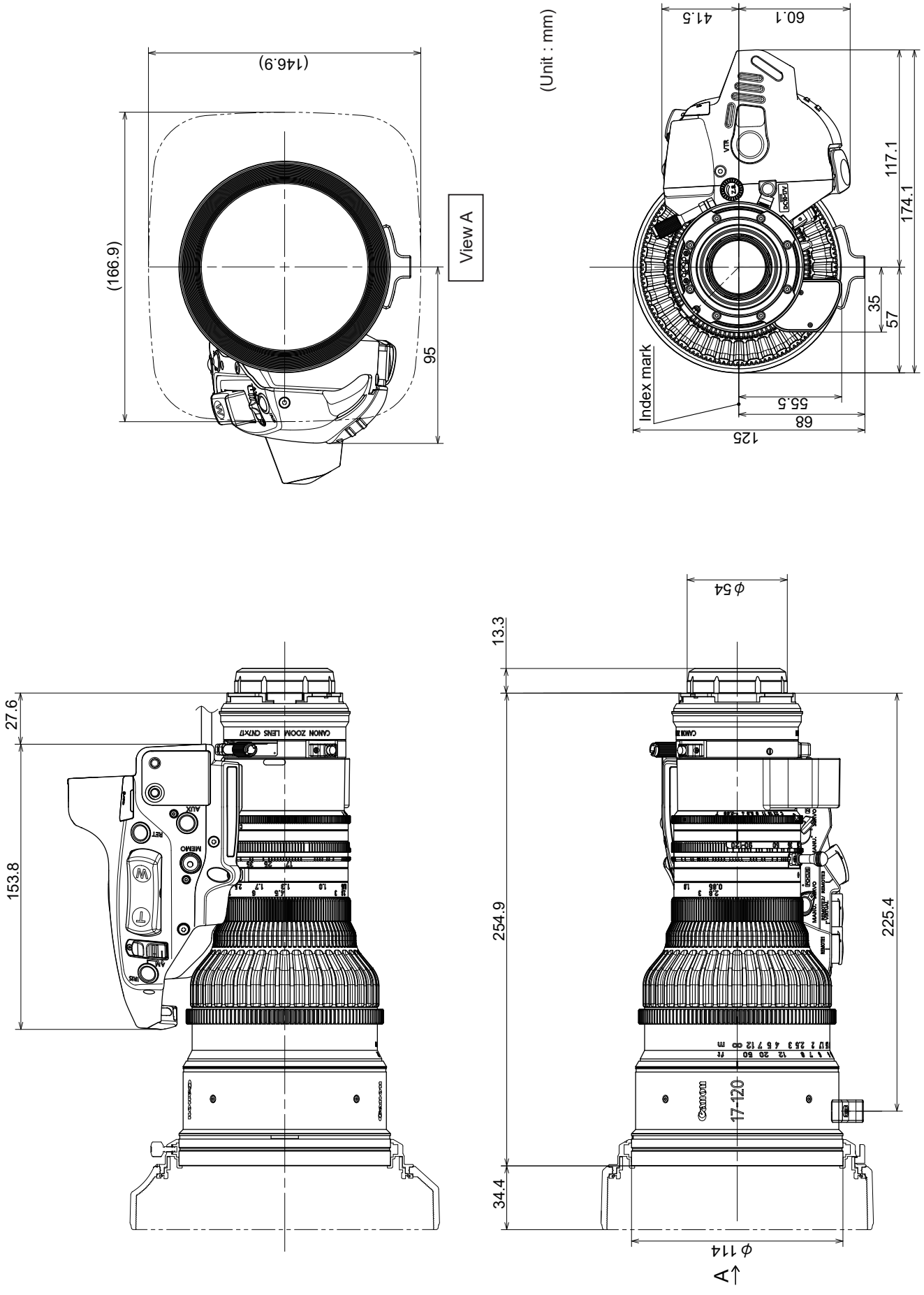


(Unit : mm)

(3) CN7x17 KAS T/R1



(4) CN7x17 KAS T/P1



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BT1-D047-C-ENG