ENGLISH VERSION

FCC REGULATIONS

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

Do not make any changes or modifications to the equipment unless otherwise specified in the manual. If such changes or modifications should be made, you could be required to stop operation of the equipment.

Canon U.S.A.,Inc.
One Canon Park,Melville,NY 11747,USA
Tel No.1-800-OK-CANON(1-800-652-2666)

Canadian Radio Interference Regulations

CAN ICES-3(B)/NMB-3(B)

CE

We, Canon Inc., in Japan and Canon Europa N.V. in the Netherlands, confirm that the BCTV zoom lens is conformity with the essential requirements of EC Directive(s) by applying the following standards:

EN55032 and EN55103-2

Note:
a) Applicable Electromagnetic Environments:
E1 (residential), E2 (commercial and light industrial), E3 (urban outdoors) and E4 (controlled EMC environment, ex. TV studio).
b) Use of shielded cable is required to comply with limits specified by above standards.

Canon Europa N.V.
Bovenkerkerweg 59, 1185 XB Amstelveen, The Netherlands

Dieses Produkt ist zum Gebrauch im Wohnbereich, Geschäfts- und Gewerbebereich sowie in Kleinbetrieben vorgesehen.

Only for European Union and EEA (Norway, Iceland, and Liechtenstein)

This symbol indicates that this product is not to be disposed of with your household waste, according to the WEEE Directive (2012/19/EU) and national legislation. This product should be handed over to a designated collection point, e.g., on an authorized one-for-one basis when you buy a new similar product or to an authorized collection site for recycling waste electrical and electronic equipment (EEE). Improper handling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, waste authority, approved WEEE scheme or your household waste disposal service.
For more information regarding return and recycling of WEEE products, please visit
www.canon-europe.com/weee.

― FOREWORD ―

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

①Operation Manual "Lens"
②Operation Manual "Information Display CD-ROM"

CN7x17 KAS S/E1（EF Mount）
CN7x17 KAS S/P1（PL Mount）
CN10x25 IAS S/E1（EF Mount）
CN10x25 IAS S/P1（PL Mount）

STANDARD PRODUCT LIST

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

Accessories other than those mentioned above may be required depending on the specifications of your unit.
For details, contact your dealer or Canon Inc.
The illustrations in this book show CN7x17 KAS unless otherwise specified. Actual forms may vary depending on models and specifications.
Two types such as the EF mount and the PL mount are available for this product. Illustrations in this manual are for the EF mount lens unless otherwise mentioned.

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.
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.

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 malfuction 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 dismount the lens 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

⚠ CAUTION

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

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.

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. Canon shall make no guarantees about the results obtained using this product.
4. The product specifications, configuration, and appearance are subject to change without prior notice.
5. For further information on repairs, maintenance, or adjustments not mentioned in this operation manual, contact your Canon sales representative or dealer.
6 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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1 NOMENCLATURE

CN7x17

① Iris Gain Adjusting Trimmer
② Instant Auto-Iris Switch
③ Iris Operation Mode Change-over Switch
④ Zoom Rocker Seesaw
⑤ RET Switch (Video Return Switch)
⑥ MEMO Switch (Memory Switch)
⑦ AUX Switch
⑧ Flange Back Lock Screw
⑨ Flange Back Adjusting Ring
⑩ Macro Button
⑪ Macro Ring
⑫ Iris Ring
⑬ Zoom Ring
⑭ Focus Ring B
⑮ Zoom Lever
⑯ Focus Ring A
⑰ Focus Operation Change-over Knob
⑱ Zoom Operation Change-over Knob
⑲ Three Screw Holes for Storing the Drive Unit Fixing Screws
⑳ Max. Zoom Speed Volume
㉑ 12-pin Cable
㉒ VTR Switch
㉓ Remote Connectors (20-pin)

NOTE) Only Connector ★ can be used as the iris remote or virtual output port.

Use these connectors to connect the control accessory (equipped with a 20 pin connector) for zooming or focusing. Connector ★ has also a function to operate the iris through a focus control accessory and a dedicated cable and a function to interface with various virtual systems. It can output each positioning signal of zoom, focus, and iris.

㉔ Hood Lock Knob
㉕ Lens Holder
㉖ Lens Cable Connector (12-pins)

NOTE) PL mount lens only

Information Display (Common to CN7x17, CN10x25)

① Display Switch
Used to turn the display ON/OFF.

② Display
It 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 the digital drive unit, refer to "Information Display Manual" in the supplied CD-ROM.

CN10x25

① **Iris Gain Adjusting Trimmer**
② **Instant Auto-Iris Switch**
③ **Iris Operation Mode Change-over Switch**
④ **Zoom Rocker Seesaw**
⑤ **RET Switch (Video Return Switch)**
⑥ **MEMO Switch (Memory Switch)**
⑦ **AUX Switch**
⑧ **Flange Back Lock Screw**
⑨ **Flange Back Adjusting Ring**
⑩ **Macro Button**
⑪ **Macro Ring**
⑫ **Iris Ring**
⑬ **Zoom Lever**
⑭ **Zoom Ring**
⑮ **Focus Ring B**
⑯ **Focus Ring A**
⑰ **Focus Operation Change-over Knob**
⑱ **Zoom Operation Change-over Knob**
⑲ **Extender Lever**
⑳ **Three Screw Holes for Storing the Drive Unit Fixing Screws**
㉑ **Max. Zoom Speed Volume**
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㉕ **Hood Lock Knob**
㉖ **Lens Holder**
㉗ **Lens Cable Connector (12-pins)**

NOTE) PL mount lens only

2 HOW TO MOUNT

2-1. MOUNT THE LENS ON THE CAMERA

For PL mount, read the following instructions before mounting the lens.
The PL mount supports /i communication, so make sure that the camera is set to "/i". Do not mount the lens if the camera is set to a mount communication mode other than /i. Doing so could result in malfunction.
Before mounting the lens on the camera, make sure that the power of camera and the power of supply equipment are turned off.

Before mounting the lens on the camera, make sure that the power of camera and the power of supply equipment are turned off.

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

NOTE
The mounting method differs depending on the lens mounts. Refer to the operation manual for the respective camera for the detailed information.
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 ϕ 19 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 cable from the drive unit to a power supply equipment such as camera or external power supply.

Or if the camera can be powered from the PL mount, connect the cable from the drive unit to the connector below the lens mount

* Connect the cable so that the arrow on the connector of the cable aligns with the arrow of the connector of the lens.

NOTE
Rated voltage: 12 VDC
Normal operation range: 10 to 17 VDC
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.

2-2. MOUNT THE HOOD ON THE LENS

The lens cap is attached to the lens at the factory. Please remove the lens cap and attach the hood as instructed below.

1 Fit the hood on the front of the lens barrel.

2 Align the index on the hood and lens barrel.

3 Tighten the hood lock knob.

2-3. TURN IT ON

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

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/112mm clear filter (hereafter refered to as the CL/112mm).
   The CL/112mm can be used together with a 127 mm filter attached to the hood.
   Using a commercially available 112 mm filter other than the CL/112mm could interfere with the hood, making it impossible to mount the hood properly.

2-5. DIMENSIONS OF PARTS

(Unit : mm)

CN7x17 KAS S/E1 (EF mount)

CN7x17 KAS S/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 degrees	180 degrees	93.5 degrees	52.5 degrees

(Unit : mm)

CN10x25 IAS S/E1 (EF mount)

CN10x25 IAS S/P1 (PL mount)

Spur gear specifications

	Focus ring A	Focus ring B	Zoom ring	Iris ring
Number of teeth	136	140	140	175
Module	0.8	0.5	0.5	0.4
P.C.D.	108.8 mm	70 mm	70 mm	70 mm
Angular rotation	180 degrees	180 degrees	93.5 degrees	52.5 degrees

3 ADJUSTMENT

3-1. BACK FOCUS ADJUSTMENT OF THE LENS

If the relation between the image plane of the lens and the image plane of the camera is incorrect, the object goes out of focus at the time of zooming operation. Follow the procedure below to adjust the back focus of the lens.

1. Select an object at an appropriate distance (CN7x17 : approx. 1.5 to 3m, CN10x25 : approx. 2 to 5m recommended). Use any object with sharp contrast to facilitate the adjustment work.
2. Set the extender lever to 1x.
   (Only models with built-in extender)
3. Set the iris fully open.
4. Set the lens to the telephoto angle by turning the zoom ring.
5. Bring the object into focus by turning the focus ring.
6. Set the lens to the widest angle by turning the zoom ring.
7. Loosen the flange back lock screw, and turn the flange back adjusting ring to bring the object into focus.
8. Repeat steps 4 to 7 a few times until the object is brought into focus at both the widest angle and telephoto ends.
9. Tighten the flange back lock screw.

3-2. IRIS GAIN ADJUSTMENT

An iris gain adjusting trimmer is located on the front of the lens drive unit. The iris gain is set appropriately at the factory. However, if you wish to change the iris gain, adjust the trimmer through the procedure described below.

1. Set the iris operation mode change-over switch to the "A" position.
2. Pull up the rubber cap on the iris gain adjusting trimmer.
3. Turn the iris gain adjusting trimmer, using a small screwdriver to set the level as desired.
   To determine the maximum gain, set the trimmer at a level where no hunting occurs.
4. Put back the rubber cap after adjustment completes.

The adjustment and the setting can also be made on the information display. Refer to "Information Display Manual" in the supplied CD-ROM.

4 MODE SETTING

4-1. OPERATION MODES

This product has an information display on which various settings can be customized. There are three operation modes below as a setting menu. One of the operation modes can be selected according to usage and preference.

1. Basic mode : Items that can be set and viewed are limited in this mode, and are recommended to users who do not require complex settings. This product is factory-set to basic mode.
2. Full mode : All items can be set and viewed in this mode.
3. Analog mode : It is the mode chosen when not using a digital function at all
   - Switches labeled VTR, RET, IRIS A/M, and IRIS INST control the respective functions. The rocker 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 “Information Display Manual” in the supplied CD-ROM.

4-2. SETTINGS IN BASIC MODE

The following nine settings can be made on the top screen in Basic Mode.

1. Go to MENU screen
2. Auto iris gain settings
3. AUX switch assignment
4. Automatic adjustment of mechanical end
5. AUX1 switch assignment
6. Zoom tracking ON/OFF
7. AUX2 switch assignment
8. Iris torque settings
9. Zoom curve mode settings

For details on how to set them, refer to “Information Display Manual” in the supplied CD-ROM.

4-3. SETTINGS IN FULL MODE

The following 15 settings can be made on the top screen in Full Mode.

1. Go to MENU screen
2. Switch users
3. Switch to Basic Mode
4. Automatic adjustment of mechanical end
5. Iris gain settings
6. Zoom tracking ON/OFF
7. AUX switch assignment
8. Iris torque settings
9. AUX1 switch assignment
10. VTR switch assignment
11. AUX2 switch assignment
12. RET switch assignment
13. Zoom curve mode settings
14. Seasaw switch assignment
15. Iris A/M switch setting

For details on how to set them, refer to “Information Display Manual” in the supplied CD-ROM.

4-4. SETTINGS IN ANALOG MODE

The following three settings can be made on the top screen in Analog Mode.

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

For details on how to set them, refer to “Information Display Manual” in the supplied CD-ROM.

5 OPERATION

5-1. ZOOM OPERATION

5-1-1. Manual Zoom Operation

1 Set the zoom operation change-over knob at the bottom of the lens drive unit to MANU. position.

2 Turn the zoom ring (or zoom lever) to perform zoom operation.

NOTE
The zoom operation change-over knob must be set to the MANU. position before performing manual zoom operations.

The lens may be damaged if manual zoom operations are forcibly performed with the knob at the SERVO position.

5-1-2. Servo Zoom Operation

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

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

2 Pressed the zoom rocker seesaw to perform zoom operation. Zoom speed changes by the depth of the switch being pressed. The deeper the switch is pressed the faster the zoom speed becomes.

5-1-3. Maximum Zoom Speed Adjustment

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

The adjustment and the setting can also be made on the information display. Refer to "Information Display Manual" in the supplied CD-ROM.

5-1-4. Zoom Track Function (only for servo zoom)

The zoom control range (zoom track) position can be set as desired to set the virtual zoom limit in the telephoto end and the widest end. To use the zoom track function, the function should be enabled in advance.

A：Setting ON or OFF on the information display (In case of basic mode)

1 Press the DISPLAY switch to turn on the display.

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

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

4 Press the Set key. This completes the setting.

For details on how to set each setting item, refer to “Information Display Manual” in the supplied CD-ROM.

B: Setting ON or OFF by operating the switches

	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 point.)	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.	The zoom range is set to the mechanical end.	Automatic zooming from current zoom position to the closer 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 the MEMO switch. If the zoom position is at the telephoto end, the position is stored as the zoom track position for the telephoto limit. If position is at the widest end, it is stored as the widest limit.

3 Repeat 1 and 2 to set both telephoto and widest limits. It is possible to set only one end. To change the setting, perform 1 to 3. (The position set last overwrites the setting in the memory.)

NOTE

1. If the zoom track position is to be set again, the zoom position cannot move beyond the end point setting toward the mechanical end by performing servo zoom operations. To move the zoom, set the zoom track function to OFF and take one of the steps below.
   - Proceed with the zooming operation at the setting established by operating the zoom rocker seesaw.
   - Perform the zooming operation manually.
2. Although up to two zoom track positions (telephoto end and widest end) can be set, two positions cannot be set that are on the same side of the center position of the zoom range of this lens. (In this case, the setting that was made last is stored as the zoom track position of this side.)

5-1-5. Shuttle-Shot Function

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

Before using shuttle-shot function, the shuttle function must be assigned to the VTR, RET, or AUX switch, or the AUX1 or AUX2 switch on the zoom demand. This manual describes the Shtl function assigned to the VTR switch. For details, refer to "5-6 Switch Operations".

Setting the shuttle memory position

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

NOTE
1. The position you stored here is different from the one you set in "Framing Preset" mentioned later. The stored position set here is retained even after the power is turned off.
2. The operation with the Shtl switch is given the priority over that with the zoom rocker seesaw. The operation with the zoom rocker seesaw is disabled while the Shtl switch is pressed.

5-1-6. Speed Preset

This function allows you to call the preset zoom speed any time you zoom. Assign the Sped function to the VTR, RET, or AUX switch, or AUX1 or AUX2 switch on the zoom demand. In this manual, operations are described on the assumption that Sped function was assigned to the VTR switch.

1. Setting the zoom speed and direction

Operate the zoom rocker seesaw to determine the zoom speed and direction (toward telephoto angle or widest angle) which you want to store, and press the MEMO switch.

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

2. How to operate the speed preset function

When the Sped switch is pressed, the zoom starts to move at the preset speed and to the determined direction (toward telephoto angle or widest angle) stored in section 1 until the zoom reaches its end.

3. How to cancel movement in Speed Preset

Movement in Speed Preset can be canceled by any of the following operations.

1) Press the "Sped" switch again.→ Zoom movement stops.

2) Perform zoom operation with the zoom rocker seasaw / the Shtl, Fr1P, Fr2P, Fr1F, Fr2F switch.

5-1-7. Framing Preset

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

[Zoom] : This enables a predetermined picture angle and movement speed (zoom speed) to be reproduced easily.

[Focus] : This enables a predetermined focus and movement speed (focus speed) to be reproduced easily.

[Z+F] : This enables the movement speed (focus speed, zoom speed) to a predetermined focus and picture angle to be reproduced easily. It must be set on the information display.

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 set in the memory. Only Frame1 is described in the description given on the following pages. Frame1 is indicated as Fr1P.

How to set the zoom speed to the framing memory position

Movement speed to the framing position is selected by assigning the Fr1P or Fr1F switch.

Fr1P----------For the preset speed setting (preset speed) (Assigned to the AUX switch at the factory.)

Fr1F----------For the maximum speed setting (fast speed)

For details on how to assign the switches, refer to "5-6. Switch Operations".

Setting combinations

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 the maximum speed.	The focus moves at the maximum speed.
Z+F	Zoom + focus operation control	The zoom and focus move at the preset speeds.*1	The zoom and focus move at the maximum speed.

*1 : The zoom and focus are controlled in such a way that they start and stop simultaneously.

Framing Preset [Zoom]/[Focus]]/[Z+F] Setting

NOTE
The figure below is shown as an example. Actual state of the switch may look different if the function is allocated to the different switch.

Fr1P function--------Assigned to the AUX switch by factory default.

1. Setting the framing memory position

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

NOTE
This framing memory position is different from the shuttle memory position (Refer to "5-1-5. Suttle-Shot Function").The stored zoom position remains in the memory, even after the power is turned off.

2. Moving to the framing memory position

Once the Fr1P switch is pressed, the zoom starts to move toward the framing memory position at the preset speed. When the zoom reaches to the framing memory position, it stops and stays there.

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

During movement to the framing memory position, the movement can be canceled and/or switched to other zoom operation by any of the following operations.

[Zoom Framing Preset]
- Pressing the Fr1P switch again.
- Zoom operation with the zoom rocker seesaw can immediately take over.
- Zoom operation with the Shtl switch can immediately take over.

[Zoom, Focus Framing Preset]
- While is RET switch is held down, the on-air picture (returned picture) can be viewed in the viewfinder.

5-2. FOCUS OPERATION

5-2-1. Manual Focus Operation

1 If the manual focus operation is performed, set the focus operation change-over knob to MANU. position.

NOTE
The lens may be damaged if the focus ring is turned forcibly with the knob at the SERVO position.

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

5-2-2. Servo Focus Operation

1 When the manual focus operation is performed, set the zoom operation change-over knob to SERVO position.

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

5-3. IRIS OPERATION

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

5-3-1. Automatic Iris Operation

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

The iris operation is performed automatically by the instruction from the camera, to keep the video signal level constant.

NOTE

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

5-3-2. Manual Iris Operation

Slide the iris operation mode change-over switch to the "M" position. The iris operation is performed by turning the iris ring on the lens body.

NOTE

The iris operation mode change-over switch must be set to the "M" position before performing manual iris operations. The lens may be damaged if manual iris operations are forcibly performed with the knob at the "A" position.

When the instant auto-iris switch is pressed during manual iris operation, the iris changes to automatic operation mode while the switch is held down.

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

The adjustment and the setting can also be made on the information display. Refer to "Information Display Manual" in the supplied CD-ROM.

5-4. EXTENDER OPERATION (Only models with built-in extender)

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

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

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 OPERATION

In macro shooting, the object distance becomes shorter than the normal minimum object distance (M.O.D.). The minimum object distance by macro operation for this lens is CN7x17:10cm, CN10x25:25cm from tip of the lens at the widest angle.

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

1. Set the lens to the widest angle by manual or servo zoom operation.
2. Bring the object into focus by turning the macro ring.

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

Multi-point Focus Shooting

In macro shooting, when zooming to change the focal length, the focal point varies.
The multi-point focus shooting technique uses this characteristic. The focal point is shifted by the zoom operation. Follow the steps bellow :

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 into focus by macro operation.
3. Zoom in to the far object again while not touching the macro button set by above step 2, and bring into focus again by normal focus operation.

5-6. SWITCH OPERATIONS

Functions can be assigned to the five switches: the VTR, RET, AUX switches of the drive unit, or AUX1 and AUX2 switches of the zoom demand on the information display. VTR, RET, Shtl, and Fr1P functions are assigned respectively by default.
The following steps explain how to assign the functions to the switches in basic mode.

For details, refer to "Information Display Manual" in the supplied CD-ROM.

1 Press the DISPLAY switch to turn on the display.

2 After using the control key to select the name of the switch key to which the function is to be allocated, press the Set key. The name of the switch and the default or last setting now blink on the display.

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

4 Press the Set key. This completes the setting.

Switch	Default value	Functions								
		Fr1P	FRM2	Sped	Shtl	Sped	Shtl	NON	RET	VTR
① V	VTR	●	●	●	●	●	●		●	●
② R	RET	●	●	●	●	●	●		●	●
③ A	Fr1P	●	●	●	●	●	●	●	●	●
④ A1	Shtl	●	●	●	●	●	●	●	●	●
⑤ A2	Fr1P	●	●	●	●	●	●	●	●	●

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

Switch name	Description
VTR	Starts/stops VTR operation.
RET	Hold down to view the main-line video on the view finder.
Fr1P, Fr2P Fr1F, Fr2F	Press to move to the stored zoom/focus position. One position can be stored/called per each switch for Fr1P, Fr1F and Fr2P, Fr2F.
Sped	Press to move in the stored zoom direction (toward telephoto or widest end) at the preset zoom speed.
Shtl	Press to move to the stored zoom position at the maximum speed. Release to return to the previous zoom position at the maximum speed.
NON	No function

6 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 6-1. If the drive unit is mounted again, mount it while referring to Section 6-2.

6-1. HOW TO DETACH THE DRIVE UNIT

1 Turn the camera and the lens power off.

2 Disconnect the 12-pin cable.

3 Detach the lens body from the camera.

4 Remove the three drive unit fixing screws.

5 Insert the removed screws (3) into the specified screw holes (3) shown on the following seal in the lens body.

Docking screw caution seal

6 Cap the contact on the lens body.

If power is supplied from the camera when the PL mount lens is used, remove the 12-pin cable and then cap the connector.

7 Place the detached drive unit in the supplied storage bag.

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 4mm or less to remove the drive unit fixing screws.
- Never insert the removed screws into the screw holes in which the drive unit was fixed.
- 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 Canon Inc. or Canon distributers & sales representatives.

6-2. HOW TO ATTACH THE DRIVE UNIT

1 Detach the cap from the contact on the lens body, fix the cap on the projection on the main body and remove the drive unit fixing screws (3) mounted on the lens body.

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

NOTE
1. If the lens and drive unit are used when the serial numbers do not match, the error message appears on the display.
2. 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 Fit the connector of the drive unit into the connector of the lens using the positioning pin of the drive unit as a guide, and while pushing the drive unit to the lens body, fix them temporarily by lightly tightening the three fixing screws that were inserted into the lens body.

NOTE
Use the 6mm-long drive unit fixing screws that were inserted into the lens body and do not use unspecified screws.

5 Set the zoom/focus operation change-over knobs of the drive unit to MANU. side, set the iris operation mode change-over switch to "M" side, turn each iris ring manually and check gear engagement.

6 Verify that the gear of the drive unit is engaged with the gear of the lens and tighten the three fixing screws to the specified torque to fix the drive unit.

* Tightening torque: 63 - 80 N•cm (6.4 - 8.2 kg•cm)

7 Mount the lens on the camera, connect the 12-pin cable, switch the power on and adjust the mechanical end automatically on the display.

* For details on how to adjust the mechanical end automatically, refer to "6-3 AUTOMATIC ADJUSTMENT OF THE MECHANICAL END" on the next page.

NOTE
If a drive unit fixing screw is damaged or lost, use a spare one.
If all spare screws are used and additional ones are required, contact Canon Inc. or Canon distributers & sales representatives.

6-3. AUTOMATIC ADJUSTMENT OF THE MECHANICAL END

Automatically adjust the mechanical end of the zoom, focus and iris of the lens body and drive unit.

Perform this adjustment if the drive unit is detached and reattached on the lens body again.

Set the zoom/focus operation change-over knob on the bottom of the drive unit to SERVO position before starting the automatic adjustment of the mechanical end.

Perform the following operation on the display and perform the automatic adjustment of the mechanical end. Do not touch operation rings, such as focus drive gear and drive gear during the automatic adjustment.

Initial top screen

```
MENU   IG: 50
A  Fr1P   [Adj]
A1 Shtl   [Trk]OFF
A2 Fr1P   [I-Tq]H
```

1 Press the ▼ key and then press the ▶ key.

[Adj] is highlighted.

Screen A

```
MENU   IG: 50
A  Fr1P   [Adj]
A1 Shtl   [Trk]OFF
A2 Fr1P   [I-Tq]H
```

2 Press the Set key.

The screen changes to **the mechanical end adjustment screen**.

```
Lens
AutoAdjust
      OK? y/n
```

3 Press the ◀ key and press the Set key.

Adjustment begins.

The screen flashes during adjustment.

```
Auto-Adjustment:
   Succeeded
Lens Interface:
   Connected
```

The adjustment is completed.

When Set is pressed after the adjustment ends, the screen A returns.

NOTE

If "Auto-Adjustment: Error/Lens Interface: Non-Connected" appears when the mechanical end adjustment is completed, contact Canon Inc. or Canon distributers & sales representatives.

7 PRODUCT SPECIFICATIONS

		CN7x17 KAS S/E1 (EF Mount) CN7x17 KAS S/P1 (PL Mount)	
Focal Length		17-120 mm	
Zoom Ratio		7 x	
Maximum Relative Aperture（T-stop）		1:2.95 at 17-91 mm 1:3.9 at 120 mm	
Iris Blades		11 pieces	
Image Coverage（H / V）		24.6 × 13.8 mm	26.2 × 13.8 mm
Aspect Ratio		1.78 : 1	1.9 : 1
Angular Field of View（H / V）	Wide angle end	71.8° × 44.2°	75.2° × 44.2°
	Telephoto end	11.7° × 6.6°	12.5° × 6.6°
Minimum Object Distance (M.O.D)		0.85 m / 2.8’ (from the image sensor)	
Object Dimensions at M.O.D.（H / V）	Wide angle end	86.3 × 48.4 cm	92.1 × 48.5 cm
	Telephoto end	12.0 × 6.7 cm	12.7 × 6.7 cm
Front Diameter		ϕ 114 mm	
Thread for filters		ϕ 112 mm P1（Lens body） ϕ 127 mm P0.75（In the hood）	
Zoom speed for full range		Max.0.5s ± 0.2s	
Focus speed for full range		1.6s ± 0.3s	
Power source		DC12V（DC10 ～ 17V）	
Current consumption		Max. 500 mA	
Operating temperature		Temperature：－ 20℃～＋ 45℃ Humidity：5% RH to 95% RH（no condensation）	
Weight		Approx. 2.9 kg	

NOTE
A variety of professional camera accessories compatible with the ϕ15 mm and ϕ19 mm rod system can be used with this lens.
Contact Canon Inc. or Canon distributers & sales representatives for the target accessories.

		CN10x25 IAS S/E1 (EF Mount) CN10x25 IAS S/P1 (PL Mount)					
Extender		1×		1.5×			
Focal Length		25-250 mm		37.5-375 mm			
Zoom Ratio		10 x					
Maximum Relative Aperture（T-stop）		1:2.95 at 25-187 mm 1:3.95 at 250 mm		1:4.4 at 37.5-281 mm 1:5.9 at 375 mm			
Iris Blades		11 pieces					
Image Coverage（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
Aspect Ratio		1.78:1	1.9:1	1.9:1	1.5:1	1.78:1	1.9:1
Angular Field of View（H / V）	Wide angle end	52.4° × 30.9°	55.3° × 30.9°	53.9° × 30.0°	51.3° × 35.5°	36.3° × 20.9°	38.5°×20.9°
	Telephoto end	5.6° × 3.2°	6.0° × 3.2°	5.8° × 3.1°	5.5° × 3.7°	3.8° × 2.1°	4.0°×2.1°
Minimum Object Distance (M.O.D)		1.2 m / 4.0’ (from the image sensor)					
Object Dimensions at M.O.D.（H / V）	wide angle end	86.5 × 48.5 cm	92.1 × 48.5 cm	89.3 × 47.1 cm	84.4 × 56.2 cm	57.7 × 32.3 cm	61.4 × 32.3 cm
	telephoto end	8.7 × 4.9 cm	9.3 × 4.9 cm	9.0 × 4.8 cm	8.5 × 5.7 cm	5.8 × 3.3 cm	6.2 × 3.3 cm
Front Diameter		ϕ 114 mm					
Thread for filters		ϕ 112 mm P1（Lens body） ϕ 127 mm P0.75（In the hood）					
Focus speed for full range		Max.0.5s ± 0.2s					
Focus speed for full range		1.6s ± 0.3s					
Power source		DC12V（DC10 ～ 17V）					
Current consumption		Max 500 mA					
Operating temperature		Temperature：－ 20℃～＋ 45℃ Humidity：5% RH to 95% RH（no condensation）					
Weight		Approx. 3.06 kg					

NOTE
A variety of professional camera accessories compatible with the ϕ15 mm and ϕ19 mm rod system can be used with this lens.
Contact Canon Inc. or Canon distributers & sales representatives for the target accessories.

Reference Information

This lens is a lens for shooting movies.

- This lens is developed primarily for movie production, and have a color balance typical for movies. This means that the color reproduction is warmer than that of EF lenses which are basically used to shoot still images. Therefore, when using both types of lens together, 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.

(for EF mount Lens only)

- The T-numbers of this lens are indicated on the iris ring of the lens. On the other hand, the iris information from this lens to the camera uses the F-number in consideration of use together with conventional EF lenses. Therefore, the camera side may display a different value (F-number) from the indication on the iris ring of the lens.
- Information of the focal length displayed on the camera side omits the figures below the decimal point.