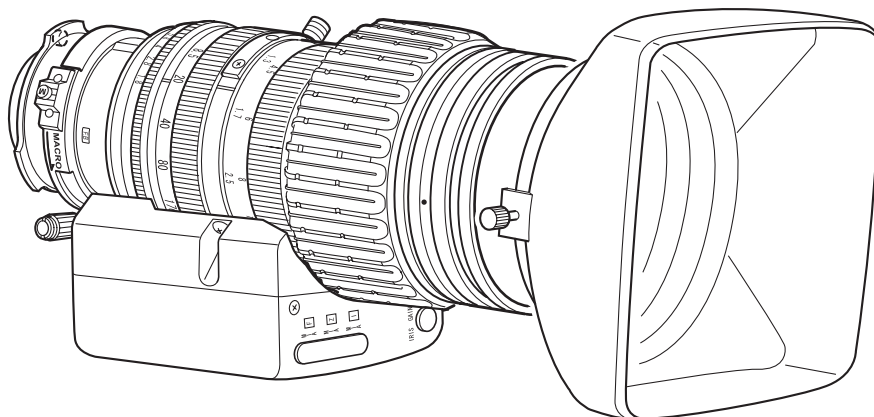


Panasonic

Operating Instructions

Broadcast Television Lens

Model No. **AK-LZ20M85G**



Before operating this product, please read the instructions carefully and save this manual for future use.

ENGLISH

DEUTSCH

FRANÇAIS

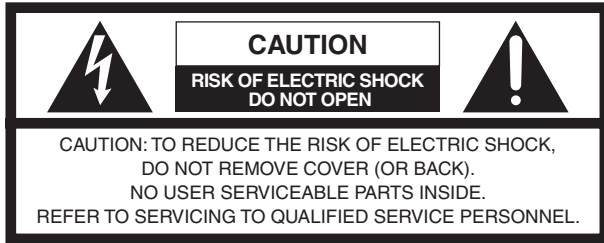
ITALIANO

ESPAÑOL

РУССКИЙ

日本語

For your safety



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (service) instructions in the literature accompanying the appliance.

WARNING:

- TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.
- TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, KEEP THIS EQUIPMENT AWAY FROM ALL LIQUIDS. USE AND STORE ONLY IN LOCATIONS WHICH ARE NOT EXPOSED TO THE RISK OF DRIPPING OR SPLASHING LIQUIDS, AND DO NOT PLACE ANY LIQUID CONTAINERS ON TOP OF THE EQUIPMENT.


CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

 indicates safety information.

IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit. Follow the safety instructions on the unit and the applicable safety instructions listed below. Keep these operating instructions handy for future reference.

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. 
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)



This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

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Configuration	3	General circuit diagram	15
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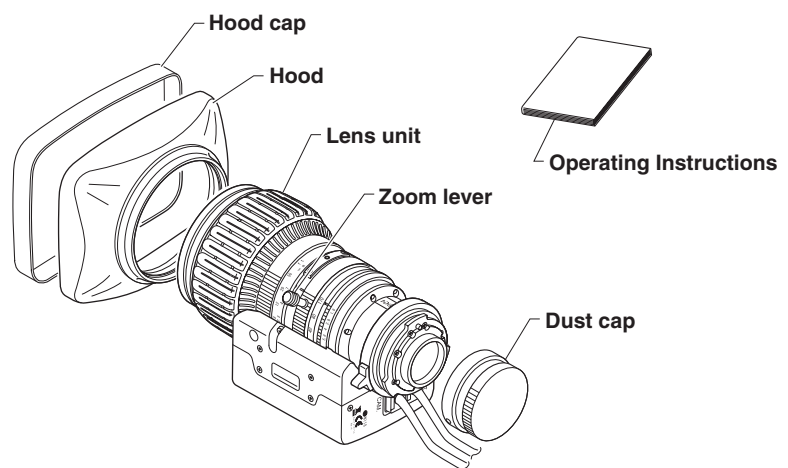
Overview

Thank you for purchasing this Panasonic 20× broadcast television lens.
The model AK-LZ20M85G is a 20× broadcast television lens designed to be used with 2/3" HDTV cameras.

Configuration

Make sure all of the following items are included in the packing box.
(If you find any item missing, please contact the dealer where you purchased this product.)

Operating Instructions	1
Lens unit	1
Hood cap	1
Hood	1
Dust cap	1
Zoom lever (mounted on the lens unit)	1



Notes

Check the following points, and make sure the place where the lens is stored satisfies the following conditions.

- Store the lens only under the following ambient conditions.
Ambient storage temperature: -22 °F to 140 °F (-30 °C to 60 °C)
Ambient storage humidity: up to 60 % RH (no condensation)
- Do not suddenly move the lens from storage at a very cold ambient temperature into a warm room.
Doing so may cause the lens to fog on the inside or may cause condensation.
- Do not subject the lens to strong physical shocks or vibration.

Precautions for use

Handling the product

- Never allow water to enter or be spilled on the product. Immediately stop using the product if water enters the product. Otherwise, a fire or electric shock hazard may result.
- Do not stare at the sun or other source of high-intensity light through the lens. Doing so may result in injury to your eyes.
- Do not drop the lens when transporting it or when attaching or detaching it to or from the camera head. The lens may fall, possibly causing injury.
- Make sure all mountings are tightened securely. If any of these mountings becomes loose, the lens may fall, possibly causing injury.
- Always grasp the connector itself when connecting or disconnecting the lens cable. Pulling on the cable portion may result in damage to the cable, such as exposure or breakage of the conductors. Power leaking from a damaged cable may present a fire or electric shock hazard.
- Inspect all mountings periodically (about every 6 months to 1 year) to make sure they are securely tightened, and tighten any loose portions. Otherwise, the lens may fall, possibly causing injury.
- If it becomes necessary to repair this product, or to perform any operations or adjustments not mentioned in this Operating Instructions, contact the dealer where you purchased this product.

Notes

- Protect the lens from strong impacts of shocks. Striking or dropping the lens may result in a malfunction.
- This lens is not completely waterproof, so avoid exposing it directly to rain or snow. When the lens must be used in rain or snow, provisions should be made to prevent the lens from getting wet.
- Under dusty conditions, the lens should be mounted or dismounted with a cover placed over the mount so as to prevent dust from entering into the interior.
- Do not bring the lens, kept in a very cold ambient temperature, into a warm room, because the lens may fog on the inside or condensation may occur. In these cases, the lens cannot be used until these problems clear. If the lens must be used under such conditions, countermeasures are recommended.
- If the lens is to be used in adverse environments, such as in a chemical laden atmosphere, consult with the dealer where you purchased this product.
- Please do not pull out the cable with the power supply of the camera turned on. It might cause the breakdown.
- For advice concerning such aspects as the UV filter, contact the dealer where you purchased the unit.

Dealing with abnormalities

- Should any of the abnormalities described below occur, immediately unplug the lens cable from the camera, and then contact the dealer where you purchased this product.
 - Smoke, abnormal smell, or abnormal noise
 - Entry of foreign objects (including metals and liquids) inside the lens

Maintenance and inspection

- Unplug the lens cable and remove the lens from the camera, before attempting to clean the lens. Never use flammable substances such as benzene or thinner for cleaning, as this may present a serious fire or electric shock hazard.

Notes

- Gently blow or brush away dust or dirt on the lens surface using a lens blower or a soft lens brush. Remove any fingerprints or other stains with a clean cotton cloth moistened with commercially available lens cleaning fluid or lens cleaning paper. Gently swirl the cloth or cleaning paper over the lens surface, starting at the center area of the lens, and then circling gradually outward until whole lens surface has been covered. Be careful not to rub dust across the lens, as the lens surface may be scratched.
- A periodic inspection about once a year is recommended. The inspection and maintenance interval depends on the operating conditions, the frequency of use, and the environment. If required, overhaul the lens.

Storage

- Always attach the hood cap and the dust cap before storing the lens. Storing the lens without these caps attached may present a fire hazard. (Very bright light, such as sunlight, may be focused by the lens and cause a fire.)

Note

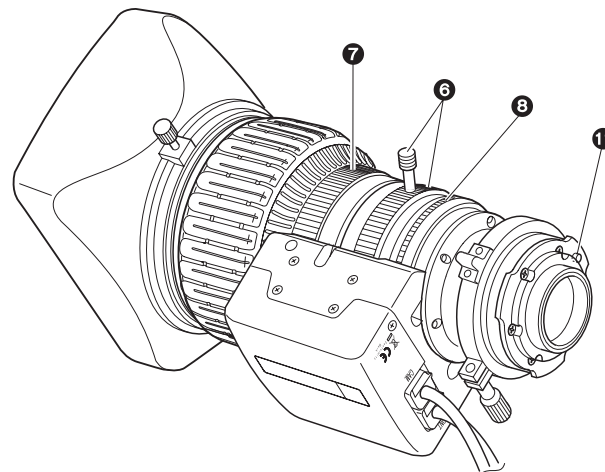
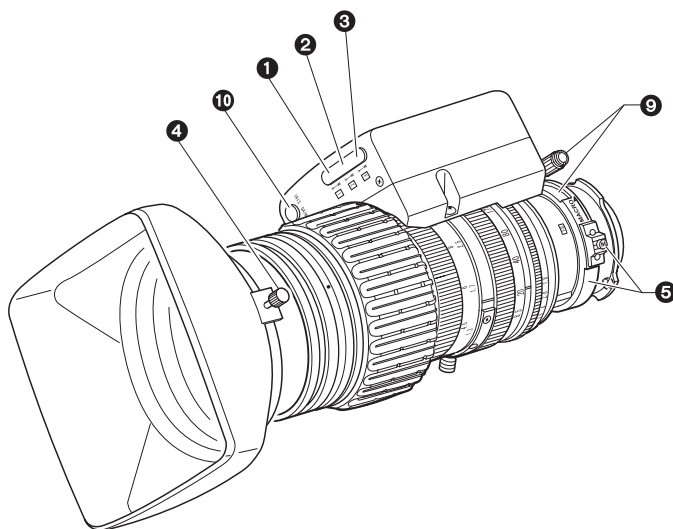
- If the lens becomes damp because of use in fog, mist or drizzle, wipe off the moisture with a soft dry cloth and seal the lens together with an efficient desiccant in a vinyl bag to remove moisture which has entered into the interior.

Precautions for use

To the customer

- Panasonic Corporation shall bear no responsibility for damage resulting from improper operation of this product by the customer.
- Panasonic Corporation shall make no guarantees about the product quality, functions, or Operating Instructions and its marketability and suitability for the customer's purpose.
Moreover, Panasonic Corporation shall bear no responsibility for any damage, direct or incidental, that results from usage for the customer's purpose.
- Panasonic Corporation shall make no guarantees about the results obtained using this product or the Operating Instructions.
- The product specifications, configuration and appearance are subject to change without prior notice.
- For further information on repairs, modifications of this product, adjustments not mentioned in this Operating Instructions, ordering maintenance check or inquiries for the circuit diagram, contact the dealer where you purchased this product.
- Note that Panasonic Corporation may be unable to undertake servicing or repair of a product if it is modified without consulting Panasonic Corporation or the dealer where you purchased this product.

Major operating controls and their functions



1 Auto/Manual iris selecting switch

Use the iris operation mode change-over switch to change from manual to automatic iris operation and back.

2 Auto/Manual zoom selecting switch

Use the zoom operation mode change-over switch to change from manual to automatic zoom operation and back.

3 Auto/Manual focus selecting switch

Use the focus operation mode change-over switch to change from manual to automatic focus operation and back.

4 Hood lock knob

Loosen or tighten this knob to remove or fix the lens hood on the lens.

5 Macro button/Macro ring

Use this button and ring to shoot an object which is closer than the M.O.D.

6 Zoom lever/Zoom ring

Use the zoom ring and zoom lever to operate the zoom manually.

7 Focus ring

Turn this ring to focus on the object.

8 Iris ring

Turn the iris ring to operate the iris manually.

**9 Flange back lock screw/
Flange back adjustment ring**

Loosen this screw and turn this ring to adjust the flange back.

10 Iris gain adjustment trimmer

Adjusts the iris gain.

11 Positioning pin

Determines the mounting position of the lens.

Installation

■ Mounting the lens on the camera

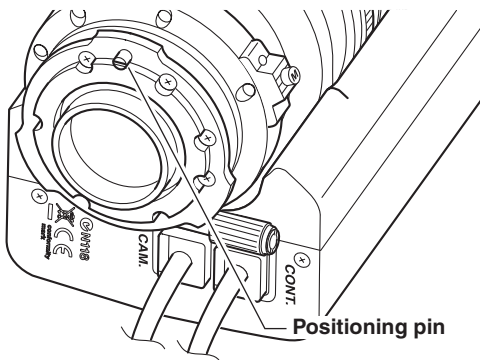
- Before mounting the lens on the camera, make sure that the camera's power is turned off.

- 1 Position the camera horizontally or tilt it up slightly.
- 2 Turn the bayonet ring of the camera counterclockwise.
- 3 Remove the dust cap from the lens.

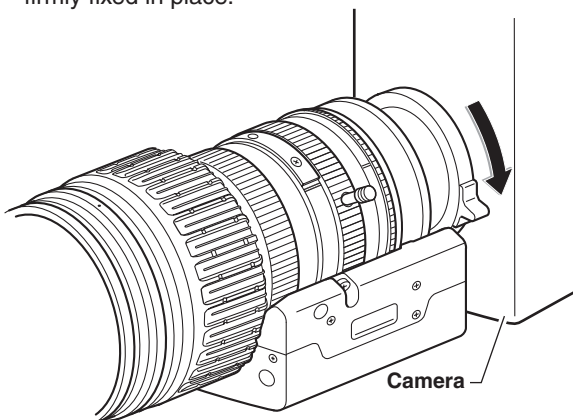
Note

Be sure to keep the removed dust cap in a safe place so as not to lose it.

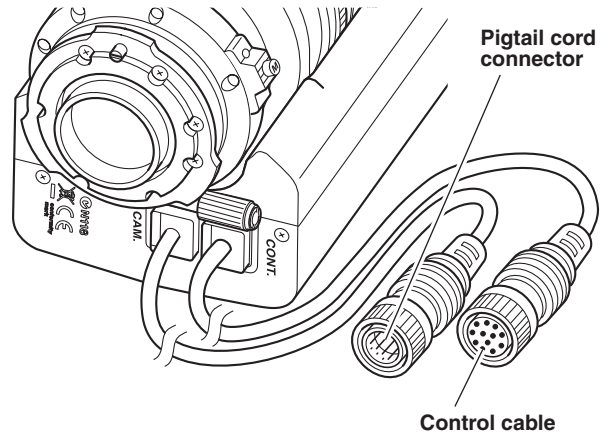
- 4 Align the positioning pin on the lens mount with the slot on the camera mount and press the lens into the camera mount surface.



- 5 Turn the bayonet ring clockwise until the lens mount is firmly fixed in place.



- 6 Connect the pigtail cord connector on the back of the drive unit to the iris connector on the camera head.



Caution

Never hold the lens, lens housing and band portion to support the entire weight of the camera. Excessive force to the mount portion and housing of the lens may result in damage to the lens mechanism.

Note

A master key mark is provided on the pigtail cord connector. Connection can be performed smoothly by aligning the master key mark on the camera connector with this mark. For details on installation, refer to the camera's Operating Instructions as well.

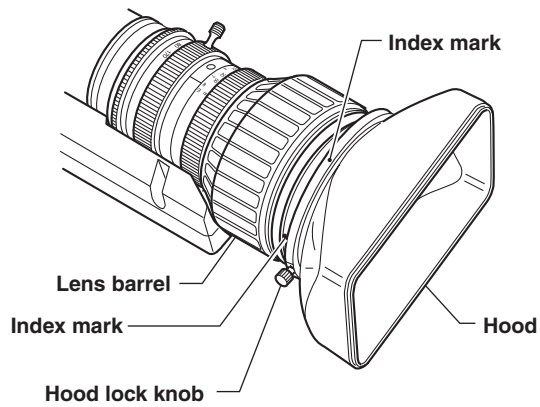
- 7 Connect a control cable from the rear of the lens drive unit to the zoom/focus connector on the camera head. When the pan-tilt head is used, connect it to the pan-tilt head.

Installation

■ Mounting the hood on the lens

Usually, when the lens is shipped from the factory, the hood is put on the lens. If you remove the hood in some reason, please attach it as instructed below.

- 1 Snap the hood on the front barrel of the lens.
- 2 Snap the hood on the front barrel of the lens, and shift the mark on the front barrel of the lens 90 degrees from the index mark on the hood.
Then, tighten the hood securely by turning the hood lock knob clockwise.



Note

Be sure to keep the removed hood cap in a safe place so as not to lose it.

Adjustment

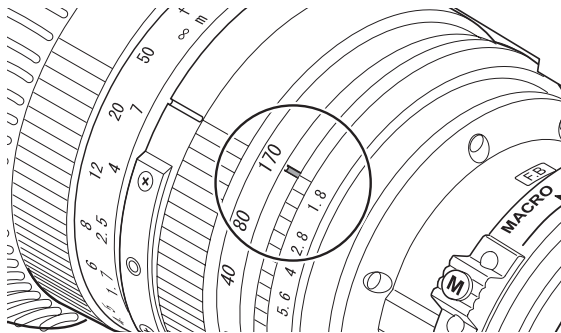
■ Flange back adjustment of the lens

Adjust the flange back of the lens as follows:

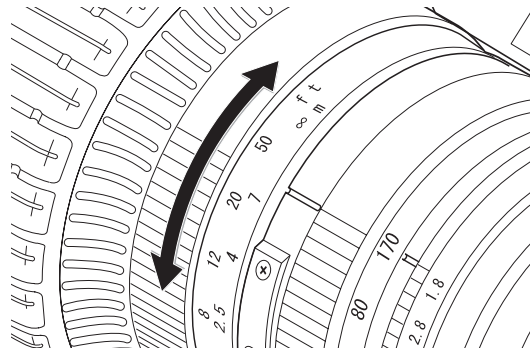
Note

Refer to the “Operating procedure” on the page 13 as for details on zooming, focusing and iris operation performed with the flange back adjustment.

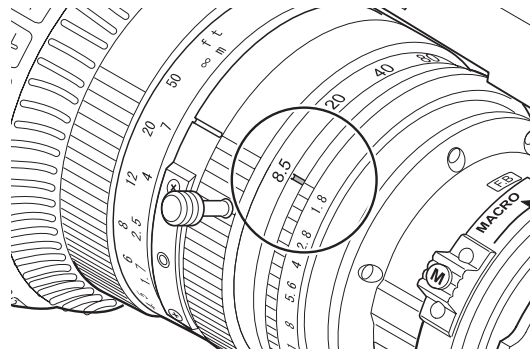
- 1** Select an object at an appropriate distance (6.6 ft. to 9.9 ft. [2 to 3 meters] recommended). A Siemens star chart is perfect for this adjustment. If no such chart is available, use any object that offers sharp contrast to facilitate the adjustment work. A Siemens star chart is a kind of pie chart consisting of “slices” which narrow down toward the center, as shown in the figure on page 12, and used to facilitate focusing.
- 2** Open the iris of the lens fully.
- 3** Set the lens to the telephoto end by turning the zoom ring.



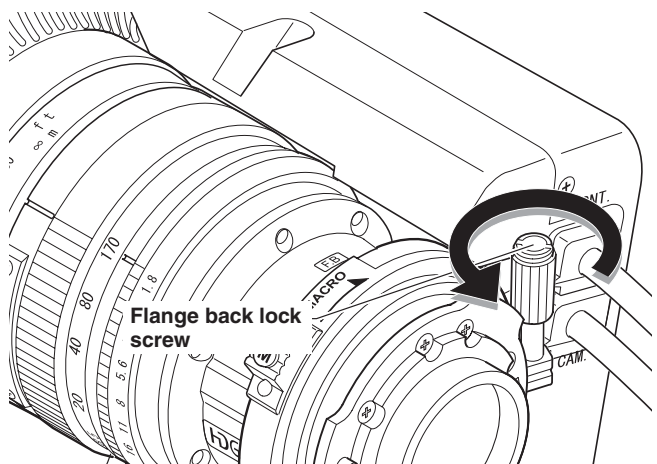
- 4** Bring the object into focus by turning the focus ring.



- 5** Set the lens to the wide end by turning the zoom ring.

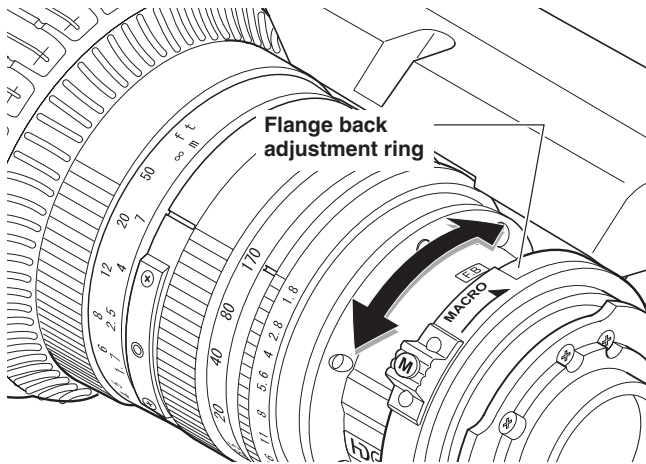


- 6** Loosen the flange back lock screw.



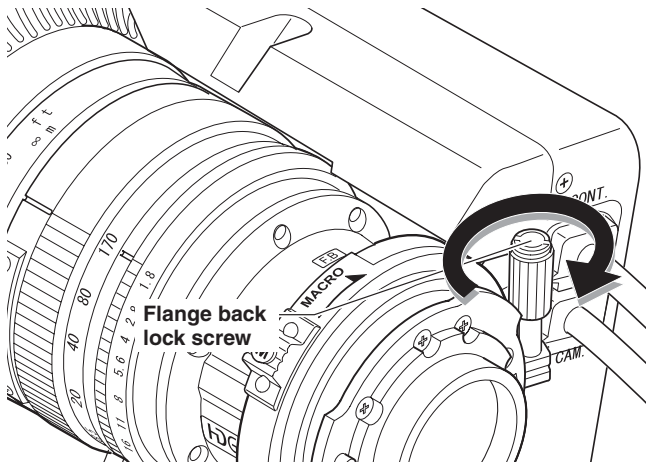
Adjustment

- 7 Turn the flange back adjustment ring to bring the object into focus.



- 8 Repeat steps 3 to 7 several times until the objects is brought into focus at both the wide and telephoto ends.

- 9 After making sure that the object is in sharp focus, tighten the flange back lock screw.



The adjustment procedure is now completed.

Note

Use the Siemens star chart on the page 12.

Adjustment

■ Iris gain adjustment

Note

Before adjusting the IRIS GAIN, be absolutely sure to check that the control by lens has been selected as the AUTO IRIS mode setting of the camera side.

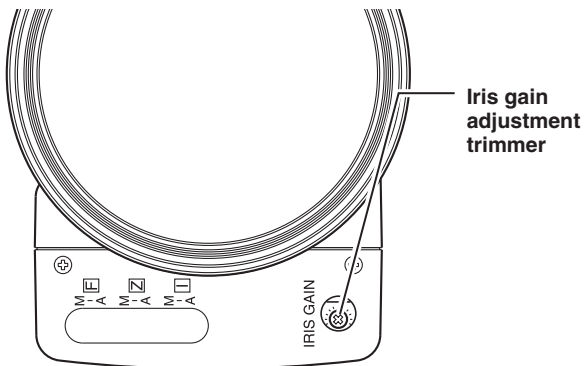
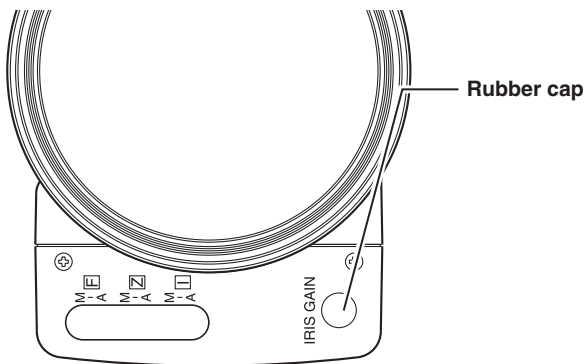
An iris gain adjustment trimmer is located on the front of the lens drive unit.

The iris gain is properly set at the factory. However, if you wish to change the iris gain, adjust the trimmer through the procedure described below.

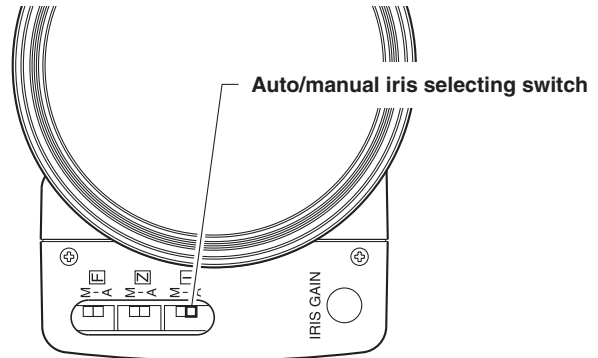
- 1 Normally, the trimmer is covered with a rubber cap. Before start of adjustment, remove the cap.

Note

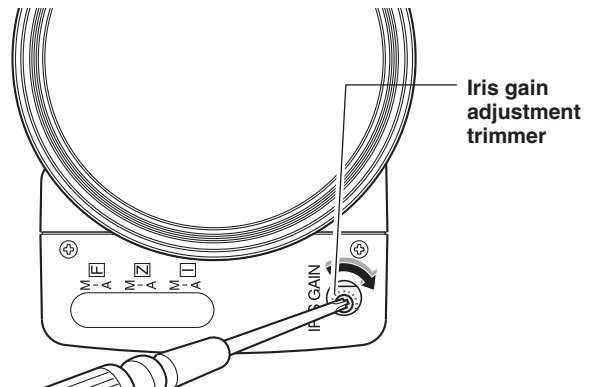
Be sure to keep the rubber cap in a safe place so as not to lose it.



- 2 Set iris of the camera to AUTO mode and the auto/manual iris selecting switch to "A". See Operating Instructions as for the operation of the camera.



- 3 Turn the iris gain adjustment trimmer, using a small screwdriver to set the level as desired. To increase the gain, turn the trimmer clockwise. To decrease the gain, turn the trimmer counterclockwise.

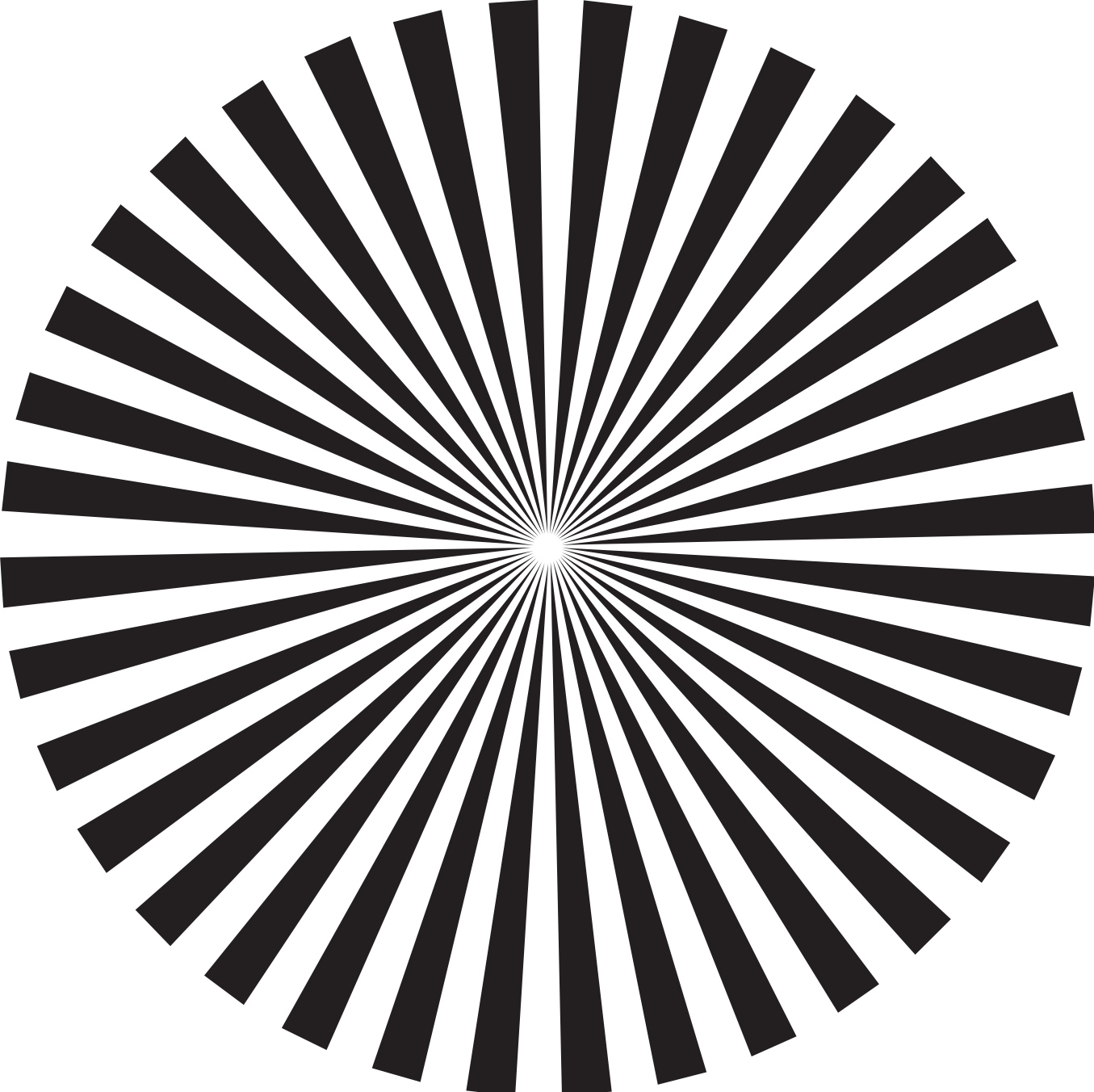


Note

To determine the maximum gain, set the trimmer at a level where no hunting occurs while the iris is controlled from the camera by the automatic control mode.

- 4 After completing the iris gain adjustment, attach the cap removed in step 1.

Siemens Star



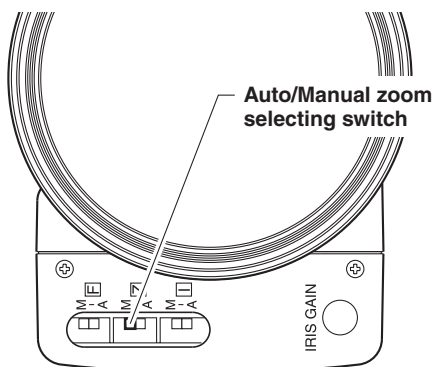
Operating procedure

The zoom, focus and iris of this lens are operated with the manual.

Manual operation

Zooming

- 1 Set the auto/manual zoom selecting switch at the front of the lens drive unit to "M" position.

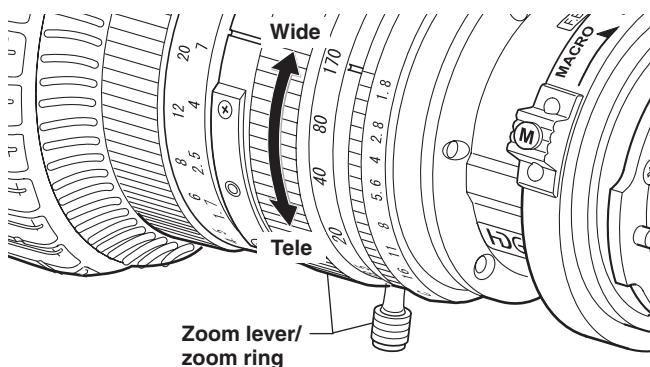


Caution

When the manual zoom operation is performed, be sure to set the auto/manual zoom selecting switch to "M" position before use.

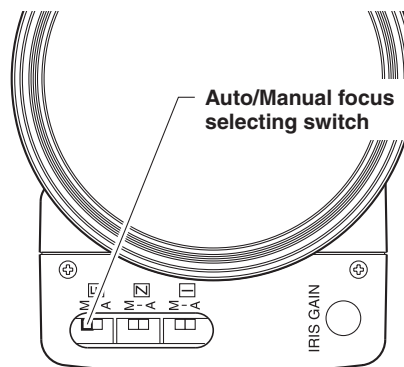
If the manual zoom operation is forcibly performed with "A" position, the lens may result in damages.

- 2 Turn the zoom ring (or the zoom lever) to operate the zoom.
Turn it clockwise, as viewed from camera, to zoom out (to Wide-end).
Turn it counterclockwise, as viewed from camera, to zoom in (to Telephoto-end).



Focus operation

- 1 Set the auto/manual focus selecting switch at the front of the lens drive unit to "M" position.

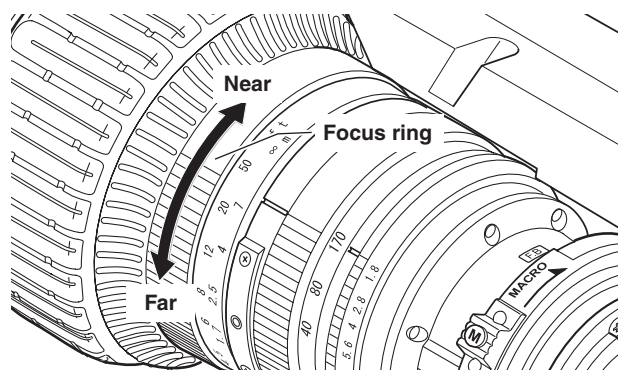


Caution

When the manual focus operation is performed, be sure to set the auto/manual focus selecting switch to "M" position before use.

If the manual focus operation is forcibly performed with "A" position, the lens may result in damages.

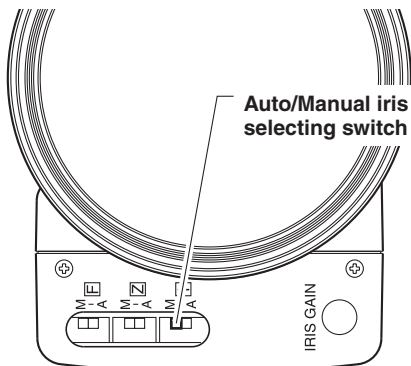
- 2 Turn the focus ring to operate the focus.
Turn the focus ring clockwise, as viewed from the camera, to focus the lens on a closer object.
Turn it counterclockwise, as viewed from the camera, to focus the lens on a farther object.



Operating procedure

Iris operation

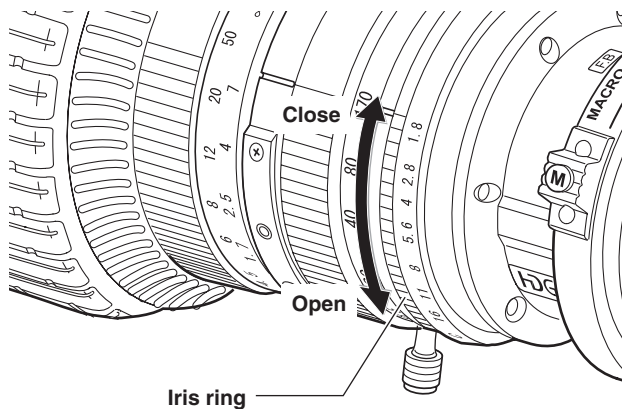
- 1 Set the auto/manual iris selecting switch at the front of the lens drive unit to "M" position.



Caution

When the manual iris operation is performed, be sure to set the auto/manual iris selecting switch to "M" position before use.
If the manual iris operation is forcibly performed with "A" position, the lens may result in damages.

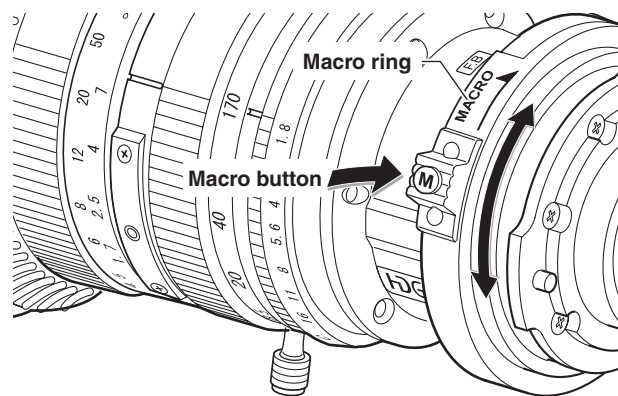
- 2 Adjust the iris by rotating the iris ring of the lens manually.
Turn the iris ring clockwise, viewed from the camera, to close the iris, and lower gain.
Turn it counterclockwise, viewed from the camera, to open the iris, and raise gain.



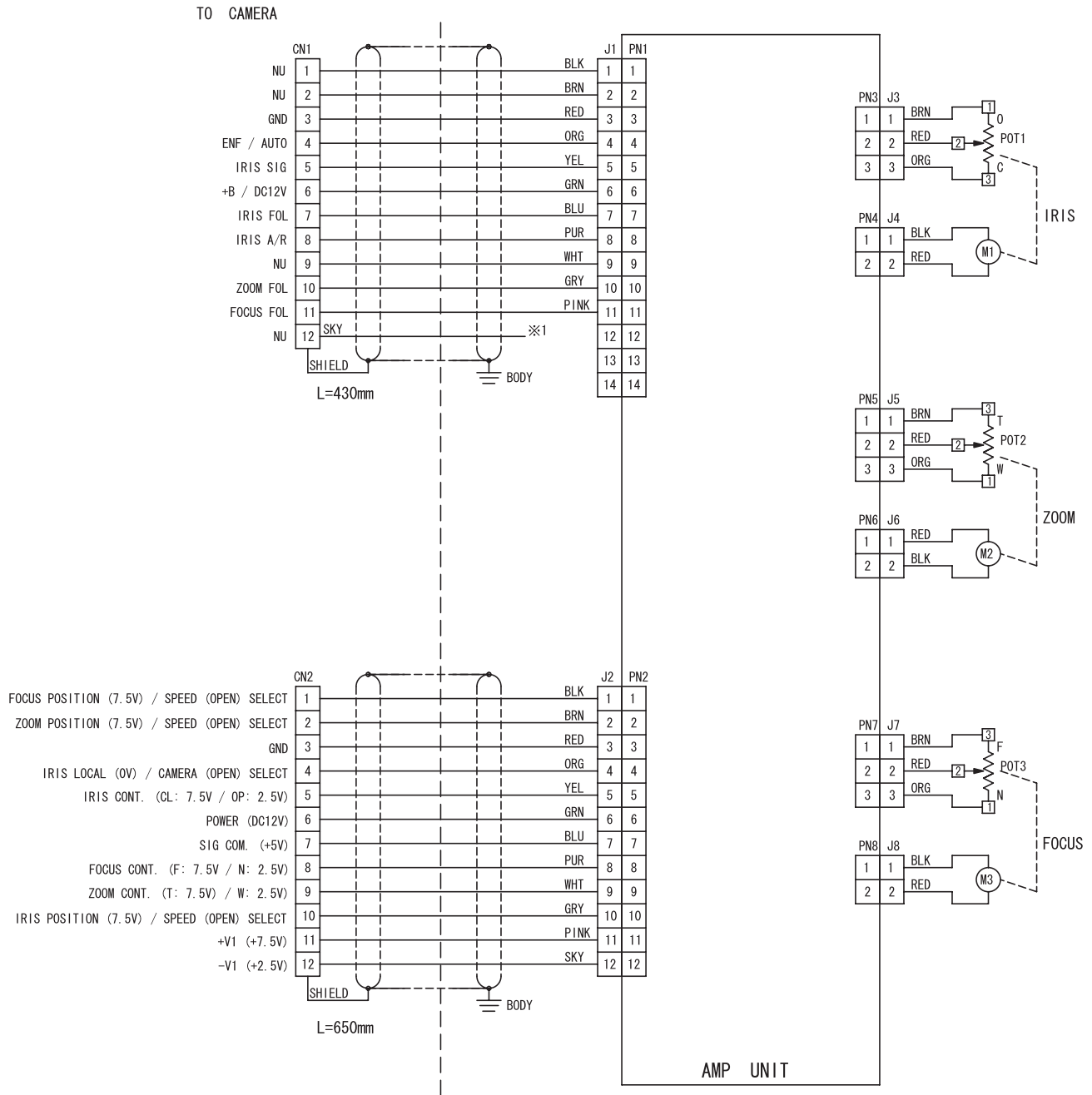
Macro operation

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

- 1 Set the lens to wide-end by manual.
- 2 Bring the object into focus by turning the macro button (macro ring).



General circuit diagram

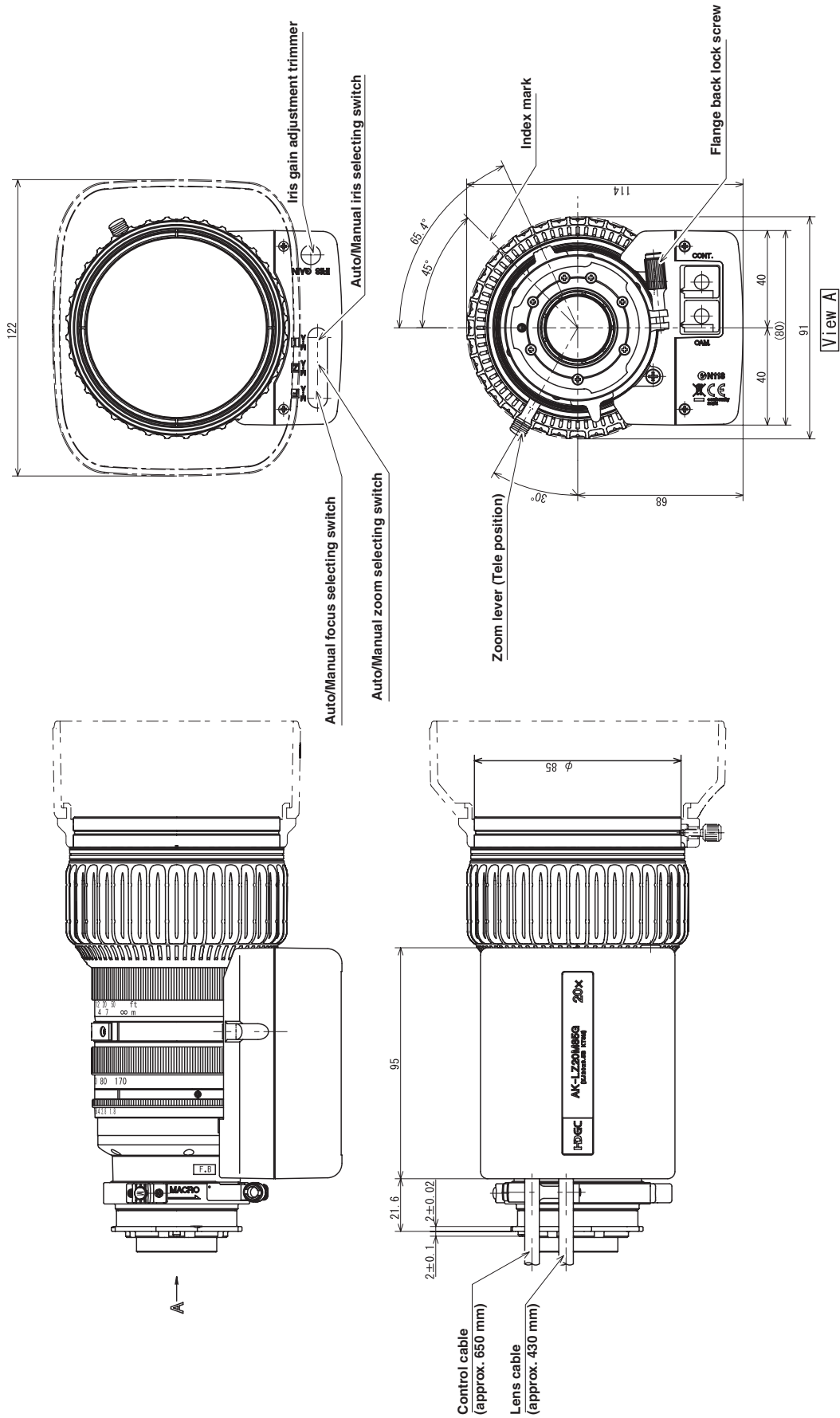


※1: This line is not connected.

BG2-4876-A501_02

Appearance

Unit: mm




ENGLISH

Troubleshooting

Symptom	Cause and remedial action
Focusing doesn't work on close objects.	Please engage the macro function.
Focusing doesn't work when zoomed in.	Please adjust the flange back.
Light hunting occurs.	Please adjust the iris gain.
Images are too bright (or too dark).	<p>Note</p> <p>Before adjusting the IRIS GAIN, be absolutely sure to check that the control by lens has been selected as the AUTO IRIS mode setting of the camera side.</p>

Specifications

Input voltage:	12 V DC (10 V to 17 V DC)
Power consumption:	5.2 W or less (at 12 V DC)

 indicates safety information.

Application:	2/3-inch HDTV cameras
Focal Length:	8.5 mm to 170 mm
Zoom ratio:	20×
Maximum relative aperture:	1 : 1.8 (f = 8.5 mm to 113.3 mm) 1 : 2.7 (f = 170 mm)
Image format:	9.6 × 5.4 ; ø11 mm (in 16:9 mode)
Angular field of view:	At wide end: 58.9° × 35.2° At tele end: 3.2° × 1.8°
Minimum object distance (M.O.D.):	0.9 m (In macro mode, 0.01 m from the front lens vertex)
Object area at M.O.D.:	At wide end: 925 × 520 mm At tele end: 48 × 27 mm
Flange back:	48 mm (in air)
Iris:	Camera-controlled or manual operation possible
Filter screw:	M82 × 0.75
Mount:	Special bayonet mount
Operating temperature:	14 °F to 113 °F (−10 °C to +45 °C)
Dimensions (W × H × D):	Approx. 4-1/2 × 3-9/16 × 6-11/16 inch (114 × 91 × 170 mm)
Weight:	Approx. 3.1 lbs (1.41 kg) (excluding hood)

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

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3330 Cahuenga Blvd. West, Los Angeles, CA 90068 (323) 438-3608

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(201) 348-7587

Broadcast PARTS INFORMATION & ORDERING:

9:00 a.m. – 5:00 p.m. (PST) (800) 334-4881/24 Hr. Fax (800) 334-4880

Emergency after hour parts orders (800) 334-4881

TECHNICAL SUPPORT:

Emergency 24 Hour Service (800) 222-0741

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Panasonic Corporation

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Panasonic Testing Centre

Panasonic Marketing Europe GmbH

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パナソニック株式会社

システムお客様ご相談センター

フリーダイヤル

パナハヨイワ



0120-878-410

受付：9時～18時（土・日・祝日除く）

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