

HD PENTAX-DA 16-85mmF3.5-5.6ED DC WR OPERATING MANUAL

Thank you for purchasing the HD PENTAX-DA 16-85mm F3.5-5.6ED DC WR lens. This lens is an interchangeable lens specifically designed for digital cameras. Its optical system is optimized for the characteristics of digital images.

Please read this operating manual carefully before using the lens to ensure that it is used properly. In addition, also refer to your camera operating manual.

To use this lens, please keep the firmware of the camera up to date.

• Illustrations shown herein may differ from the actual appearance.

Specifications and external dimensions are subject to change without notice.

Refer to your camera operating manual for details about mounting and removing the lens.



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FOM 01.05.2015 Printed in Europe

DA1685EN

FOR SAFE USE OF YOUR LENS

Although we have carefully designed this lens for safe operation, please pay special attention to items marked with the following symbols when using the lens.

- Warning** This symbol indicates precautions that if not followed, could result in serious injury to the user.
- Caution** This symbol indicates precautions that if not followed, could result in minor or medium injury to the user or damage to the equipment.

Warning

Never look at the sun through the lens mounted on the camera for a long time. Serious damage to your eyes or total loss of eyesight may occur, particularly when looking directly through the lens.

Caution

Do not leave the lens in direct sunlight without a lens cover or lens cap. Direct sunlight passing through the lens will be intensified, and should it focus on flammable materials, fire may occur.

Precautions When Using the Lens

Storage and mildew prevention

- Take the lens out of the protective case or camera bag, and store it in a dry, well-ventilated place.
- Avoid storing the lens in a poorly ventilated place such as a closet, wardrobe, drawer, vehicle, or where insect repellent or medicine is kept.
- Avoid storing the lens in areas of high temperature and humidity, where there is a risk of mildew growth. Store the lens with a desiccant (anti-mildew agent) in a dry cabinet, airtight container, or plastic bag.

Precautions and lens maintenance

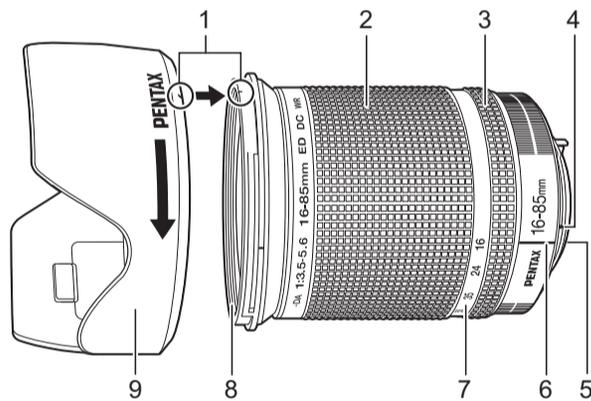
- Never use any organic solvent such as thinner, alcohol, or benzene, etc. to remove dust on the lens.
- The lens is a precise optical instrument. Be careful not to let it fall, or subject it to strong shocks or pressure. Use a cushion or similar pad to protect the lens from the vibrations of motorcycles, automobiles, boats, etc.
- Avoid subjecting the lens to rapid changes in temperature, otherwise condensation can occur both inside and outside of the lens. Put the lens in a plastic bag or camera bag, and take it out after the lens has reached ambient temperature.
- When the lens is not attached to the camera body, attach both the supplied lens cap and lens mount cap to protect it from dust.
- Do not leave the camera with the lens cap off attached to a tripod or other rigid camera support. The inner parts of the camera can be damaged by direct sunlight.

* Have the lens inspected by a dealer every one or two years to maintain its high performance.

Features of This Lens

- This lens uses our proprietary multi coating: "HD Coating (High Definition Coating)", which has higher transmission of light with less reflection than existing coatings. This coating prevents flare and realizes to achieve image quality with excellent contrast.
- You can focus manually without switching the focus mode after autofocus is performed by using the "Quick-shift Focus System".
- This lens has a water-resistant construction with each part individually sealed.
- SP (Super Protect) coating applied to the front surface of the lens to effectively repel water and grease and easily wipe off dust and stain.

Names of Parts



- | | |
|-----------------------------|----------------------|
| 1 Lens hood attaching index | 6 Zooming index |
| 2 Zoom ring | 7 Focal length scale |
| 3 Focusing ring | 8 Front-ring thread |
| 4 Mounting index | 9 Lens hood |
| 5 Lens mount | |

* This lens does not have an aperture ring. Aperture settings are controlled automatically as if set to the auto "A" position, so accessories without an auto "A" setting cannot be used with this lens.

About the Lens Hood

Using a lens hood is recommended to block stray light from entering the lens. The internal reflection of stray light degrades image quality.

<How to attach>

Align the index on the lens hood with the attaching index on the lens, and push both parts straight toward each other. Attach the lens hood on the lens by turning the hood in the clockwise direction, as viewed from the front of the lens, to lock it until it clicks into position.

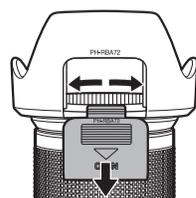
* When the lens hood is not in use, it can also be turned around and attached in the reversed position.

The included lens hood has a PL filter window which facilitates the manipulation of the circular polarizing filter when the lens hood is attached.

<How to use>

1. Remove the PL filter window cap by sliding it in the direction as shown in the illustration.
2. Turn the outer rim of the circular polarizing filter from the PL filter window as shown in the illustration.
3. Attach the PL filter window cap.

* When shooting, be sure the PL filter window cap is in place to achieve maximum effect of the lens hood.



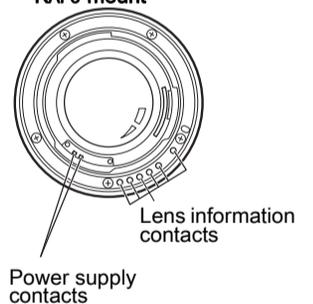
About the Lens Mount

This "KAF3-mount" enables autoexposure, and autofocus operated by a DC motor in the lens. When using the camera that does not support an internal motor, autofocus is not available.

CAUTION

Be careful not to damage or dirty the lens information contacts and the power supply contacts on the mount surface of the lens. Otherwise, failure or malfunction may result.

KAF3-mount



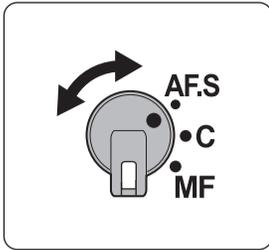
About Lens Filters (commercially available)

Screw a commercially available 72 mm diameter filter to the front of the lens.

CAUTION

- Since a filter becomes a part of the optical system when attached to the lens, handle it with due care to protect it from dust, dirt and scratches.
- Use a circular polarizing filter if you attach a filter to a PENTAX digital SLR camera. If you use a normal polarizing filter, exposure and autofocus are less-accurate.

Focusing



- Focus Mode Switching**
 Switch between the autofocus mode and manual focus mode on the camera. For details, refer to your camera operating manual.

* The forms of focus mode switch vary with the camera.

- Using Autofocus**

Set the camera's focus mode to AF, and press the shutter release button halfway to autofocus.

- With the cameras having the AF button, you can also press the button to autofocus.

- Using Manual Focus**

Set the camera's focus mode to MF, and turn the focusing ring to focus manually.

- Using the Quick-shift Focus System**

When using the lens with PENTAX digital SLR cameras, you can focus manually after autofocus is performed. Just turn the focusing ring to manually adjust the focus. You can do this without switching the focus mode to MF.

<How to use the Quick-shift focus system>

- Using the autofocus mode.
- Hold down the shutter release button halfway (or hold down the AF button), then turn the focusing ring to finely adjust the focus.
- Finally, press the shutter release button fully to take a picture.

CAUTION

- Keep pressing the shutter release button (or AF button) after you achieve proper focus and before taking a picture. If you let go of the shutter release button before taking the picture, autofocus will operate again when you press the shutter release button again.
- During autofocus, the focusing ring will rotate. Do not touch the focusing ring while autofocus is operating as it may cause a malfunction.

Precautions When Using a Flash

- When the built-in flash is used with a 24 mm or shorter focal length at a 0.8 m or shorter shooting distance, vignetting will occur. Use the built-in flash at a distance of 0.7 m or more even if the focal length is longer than 24 mm. When the distance is shorter, exposure control is incorrect and vignetting in the picture occurs.

Main Specifications

Focal Length (in 35 mm format equivalent)	16-85 mm (24.5-130 mm)
Lens Construction	16 elements in 12 groups
Angle of View	83-19°
Maximum Aperture	F3.5-5.6
Minimum Aperture	F22-38
Mount	KAF3
Minimum Focusing Distance	0.35 m/1.15 ft.
Maximum Magnification	0.26x
Filter Diameter	72 mm
Maximum Diameter x Length	Approx. 78 mm/3.1 in. x 94 mm/3.7 in.
Weight	Approx. 488 g/17.2 oz. (with hood approx. 517 g/18.2 oz.)
Package Contents	Lens hood PH-RBA72, Lens cap O-LC72, Lens mount cap K

For customers in USA

STATEMENT OF FCC COMPLIANCE

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.

Changes or modifications not approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

For customers in Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.



The CE Mark is a Directive conformity mark of the European Union.

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