



# AF12-24XR EDO Enhanced Digital Optics f4.0

## Instruction Manual

The PROMASTER AF12-24XR EDO lens is designed for use with a digital single-lens reflex (SLR) camera of APS-C size. Do not use it with a digital SLR camera with a solid-state imaging device of a size larger than APS-C, nor with an SLR camera designed for silver halide film.

**PRO** PHOTOGRAPHIC RESEARCH ORGANIZATION, INC.  
FAIRFIELD, CT 06825  
www.promaster.com

PROMASTER is a supplier of premium quality lenses, digital camera memory, batteries and accessories, binoculars, filters, digital and conventional electronic flashes, camera cases and tripods.

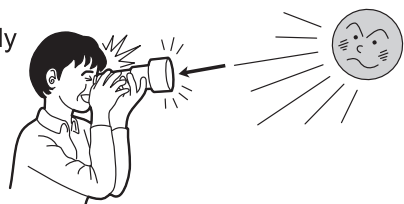
Made in Japan

### Safety Instructions for the Lens

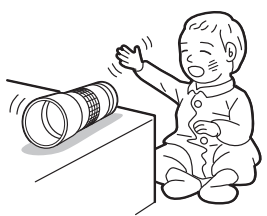
To ensure safety, carefully read the information provided under "■ Safety Instructions for the Lens" before using the product. Use the lens correctly according to the respective instructions.

#### Warning

- Do not look at the sun directly through the lens. Doing so may result in blindness.

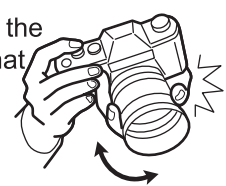


- Do not keep the lens within the reach of a small child. The fallen or toppled lens may injure the child. There is also a danger of the child being suffocated if the strap becomes wrapped around his or her neck.

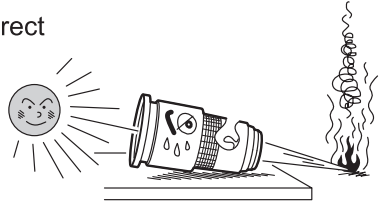


#### Caution

- When attaching the lens to the camera, set the lens correctly on the camera and confirm that the lens has been properly locked. If the lens is not attached correctly, it may not detach or may detach and fall.



- Do not place the lens under direct sunlight. The lens may collect light onto a nearby article and cause it to ignite.



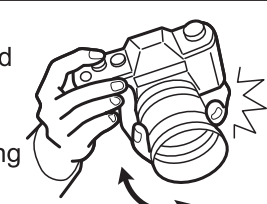
- Do not look at the sun or other strong light source directly through a camera to which the lens is attached. Doing so may result in visual impairment.



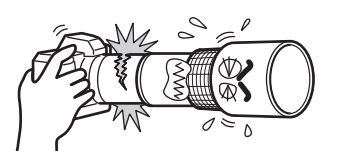
To prevent damage to the lens and/or your camera, be sure to read the information provided under "■ Lens Handling Instructions" before using the lens. Handle the lens correctly according to the respective instructions.

#### Caution

- When attaching the lens to the camera, set the lens correctly on the camera and confirm that the lens has been properly locked. If the lens is not attached correctly, it may detach and fall, resulting in injury. This lens is a precision instrument, so exercise due caution when handling the lens. Subjecting the lens to strong vibration, impact or pressure to the lens may damage its fine-adjusted mechanisms. Be careful not to drop the lens or hit it against an object.



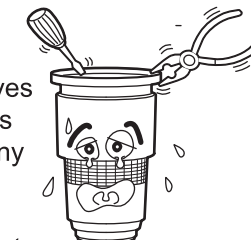
- Do not subject the lens to an unnecessary load while it is attached to the camera. Doing so may damage the lens and/or camera mount. A large lens easily exerts a damaging load on the mount, so always hold the lens when operating or moving the camera. If a tripod is used to support a camera fitted with a large lens, use the tripod socket provided on the lens.



- If you haven't used the lens for a long time or before an important occasion like a wedding or overseas trip, be sure to check the lens and take test photos to confirm that the lens is functioning properly. The lens is a precision instrument. We recommend that you inspect the lens regularly (every one or two years) or overhaul the lens at longer intervals (once every three to five years). For a regular inspection or overhaul of the lens, please contact our service center or the store where you purchased it.



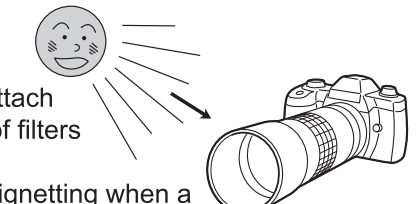
- Do not modify or alter the lens. Doing so may result in a breakdown of the lens and/or camera. Our service center reserves the right to refuse repair of a lens that has been modified by the user or altered in any way. Be careful not to let dust, mud, sand, particles, water, toxic gases or salt content enter the lens, as it may cause a breakdown of the lens. Generally, many electrical problems are caused by dirt and/or the attachment of dust, etc., in the contact part. If the lens shows an undesirable symptom that you suspect is the result of an electrical problem, check the contacts on the camera and lens sides for skin oil or other soil, corrosion due to salt content or particular gases, attachment of dust, etc. If the problem persists after removing the soil or dust, please bring your camera to our service center for inspection. \* Never use any organic solvent such as thinner or benzene on the lens.



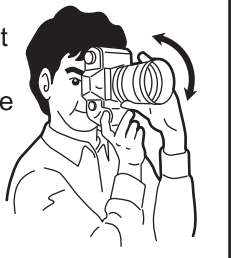
- This lens is not waterproof, so be careful not to immerse it in water. A lens that has been immersed in water is almost always irreparable, so be extremely careful when handling the lens near water. To remove water droplets, mud or sand from the lens body or lens surface, thoroughly wipe off the water droplets or blow away the sand first. Then, carefully detach the lens from the camera and thoroughly wipe off any droplets or blow away mud or sand that is adhering to the mount. Especially after use on the beach or near seawater, wipe the lens thoroughly to ensure there is no salt remaining on the lens. If water droplets are allowed to remain on the lens, the water will enter its interior due to the capillary effect, which may eventually cause a breakdown. Exercise due caution.



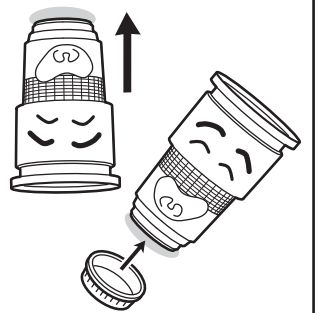
- When photographing, attach a lens hood to limit harmful sunrays. \* The lens hood may not attach properly if certain types of filters are used. \* If the lens hood causes vignetting when a flash is used, remove the hood. If the lens is moved from a cold place to a warm place, such as from a ski slope to a lodge, bedewing may occur. When this occurs, the resulting dew condensation water can cause irreparable damage to the lens, or even when the damage is repairable, the repair may be very expensive. Exercise caution when moving the lens from a cold place to a warm place. Place the lens in a bag or similar container in order to allow the temperature of the lens to increase gradually, and then take out the lens when it has fully acclimated to the environmental temperature. Keeping the lens at high temperatures of 40°C or above or low temperatures of -10°C or below may prevent the proper functioning of the lens due to deformation of the lens body or malfunctioning of the IC. Please exercise due caution.



- Do not interfere with the movement of the focus ring during auto-focusing. Also, do not forcibly turn the focus ring in the auto-focus mode. Doing so will exert an excessive force on the lens and/or camera's internal mechanisms. Since this can ultimately damage the lens and/or camera, refrain from these actions at all times.



- After removing the lens from the camera, place the lens with the mounting surface facing up in order to prevent the electronic contacts and lens surface from being scratched. When the lens is not in use, be sure to place caps on the front and rear. Failure to do so may result in a scratched lens surface, corroded electronic contacts or bent interlocking pin, eventually causing the lens to malfunction. Do not touch the surface of the lens with your fingers. Remove any skin oil or other soil from the surface of the lens using a commercial lens cleaner. Apply the cleaner to a cloth, and then wipe the lens surface in a swirling motion, moving from the center toward the rim.



#### Caution

- We reserve the right to charge repair fees for damages resulting from an unauthorized disassembly or modification, improper storage or misuse, impact from dropping, water entry/immersion, or intrusion of sand. This shall apply even during the warranty period. Additionally, note that we may declare the lens irreparable if its original performance can't be recovered due to severe damage.

- In the event of a breakdown, etc., do not attempt to repair the lens by yourself. Always bring the lens and warranty card to our service center or the store where you purchased the lens. It is also advisable to bring the film you were using when the problem occurred. The condition of the film sometimes reveals useful information, depending on the nature of the breakdown.

- Once the warranty period expires, all repairs become chargeable. All shipping charges associated with repairs will be borne by the user.

- We reserve the right to charge repair fees for damages arising from careless handling (e.g. misoperation against the instructions provided herein, dropping, impact, contact with water, attachment of sand/mud, or entry of water, sand or mud into the lens interior) or inappropriate care (e.g. mold). Also, note that such types of damage are sometimes irreparable.

- We maintain spare parts for seven years after the discontinuation of a lens model, so we should be able to repair your lens during the warranty period. Even after such seven-year period, we may be able to repair certain kinds of damage. Therefore, if you should encounter a problem, please contact our service center or the store where you purchased your lens.

- We are not liable for any secondary losses arising from a breakdown of the lens (e.g. the cost of photography or lost profit from photographs).

- This lens is designed for use in photography. We shall not be liable for any breakdown resulting from the use of the lens for any other purpose, nor for secondary losses arising from such a breakdown.

■ The lens mount specification cannot be changed.

■ The drawings, specifications and accessories provided/stated in this manual are subject to change without prior notice.

#### Warning

Handling the lens incorrectly without following this instruction may result in death or serious injury.

#### Caution

Handling the lens incorrectly without following this instruction may result in minor injury or damage to the lens or camera.

These symbols are used in this manual:

⚠ indicates a matter requiring caution. The picture in the triangle describes the specific precaution. (The symbol on the left means "fire hazard")

⊘ indicates a prohibited action. The picture in the circle describes the specific action being prohibited. (The symbol on the left means, "Do not disassemble".)

● indicates an instruction. The picture in the circle describes the specific instruction. (The symbol on the left is a precautionary instruction.)

● Descriptions of Parts

- ① Manual Focus Ring
- ② Focus Distance Scale
- ③ Focus Distance Index
- ④ Zoom Ring
- ⑤ Focal Length Scale
- ⑥ Center Index
- ⑦ Auto-Focus (AF) Position
- ⑧ Manual Focus (MF) Position
- ⑨ Hood Attachment Index



● How to Attach / Detach the Lens

Attach/detach the lens to/from your camera according to the instructions provided in the manual provided with your camera.

- When attaching/detaching the lens, be careful not to touch the electronic contacts on the lens mounting surface nor crush these contacts due to strong impact.

● Focusing

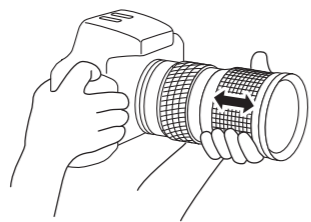
The lens is normally focused automatically when the focus mode switch is set to the Auto focus position. If the camera is in the manual-focus mode, adjust the focus by looking into the finder and turning the manual focus ring. This lens also supports focusing through the use of a focusing aid.

● One-Touch Controllable Focus-Clutch Mechanism

<How to switch from the Auto focus position to manual focus position>

The lens focus mode can be switched between the Auto focus and manual focus positions at any time by moving the manual focus ring forward and backward.

- \* For lenses using either the Nikon or Canon mounting system, it is possible to use manual focus without switching the focus mode switch on either the camera body or the lens to the manual position.



In the Auto focus position the manual focus ring turns freely.

● Exposure Modes

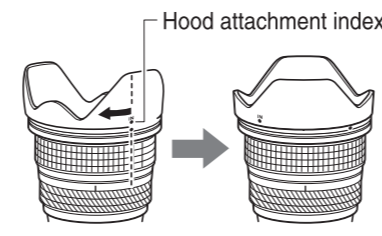
For the exposure mode settings, follow the applicable instructions provided in the manual provided with your camera.

● Lens Hood

A lens hood is designed to prevent the flares and ghost images that are caused by strong diagonal or side rays striking the front of the lens. We recommend that you use a lens hood to ensure clear, problem-free photographs and protect the lens.

- \* The lens hood can be attached in the reverse direction on the tip of the lens for storage.

<How to attach the lens hood>



Place the lens hood on the lens by aligning the IN index on the hood with the hood attachment index (●) on the lens. Secure the hood in place by turning the hood clockwise (when viewed from the front) until a "click" sound is heard.

Grabbing the tip of the lens hood with a strong force will make it difficult to attach/detach the hood. When attaching/detaching the lens hood, do so by holding the base of the hood (the part attached to the lens).

● Depth of Field

The term "depth of field" refers to the range of distance in which the subject appears acceptably in focus. The depth of field changes as the lens aperture is adjusted. Refer to "Depth of Field Table" for the depths of field corresponding to particular aperture settings.

● Filters

Use threaded filters with this lens. Perfect photographs cannot be taken if the filter is dirty or when water droplets or other foreign particulates are attached to the filter. Clean the filter thoroughly before taking photographs.

- \* Always use one filter at a time. If two or more filters are used together, or when a thick filter such as a polarized filter is used, vignetting (darkening at the corners of the exposed image) may occur.

● Caution Regarding Use of a Built-in Flash

If the camera's built-in flash is used, the light of the built-in flash will be partially obstructed by the lens, so that the film shows a large shaded area. Therefore, use an external flash when this lens is attached.

● Flash Photography (Red-eye phenomenon)

When people are photographed with the aid of a flash, their eyes sometimes become red. This is called the "red-eye phenomenon." Follow the manual of your camera for information on how to remove red eye.

- \* Depending on the lens model, you may hear a sound from inside the lens when the lens is shaken lightly. This is the sound of the ball bearings that are designed to smooth the action of the focus ring. It does not indicate a problem with the general functioning of the lens.

■ Performance Table

Item	Focus distance/ brightness	Optical structure elements/groups	Angle of view	Minimum focus distance (mm)	Minimum aperture	Number of aperture diaphragms	Filter size (mm)	Overall length (mm)	Maximum diameter (mm)	Weight (g)	Lens hood
Model											
AF12-24XR EDO	12-24mm F4	13-11	99°-61°	0.3	22	9	77	89.5	84	570	BH777

The specification data is based on the use of the lens with a Nikon camera.  
※ The CE Mark (certification mark for conformance with the European export inspection requirements) is shown on lenses containing electronic parts.

■ Precautions for Use

● Attaching a lens hood

Unlike a SLR camera using a silver halide film, a digital SLR camera produces a large measure of reflection due to its solid-state imaging device. It is therefore recommended that a lens hood be attached when you're taking photographs with a digital SLR camera. Especially when a wide lens is used, a lens hood should be attached even indoors.

● The PROMASTER AF12-24XR EDO lens is designed exclusively for a digital SLR Camera of APS-C size.

The PROMASTER AF12-24XR EDO lens is designed exclusively for use with a digital SLR camera of APS-C size. Using the lens with a digital SLR camera with a solid-state imaging device of a size larger than APS-C, or with an SLR camera designed for silver-halide film, will cause vignetting.

■ Depth of Field Table

PROMASTER AF12-24XR EDO

Focal length	F-value	4	5.6	8	11	16	22
12 mm	0.30	0.240-0.400	0.222-0.462	0.200-0.600	0.178-0.960	0.150-	0.128-
	0.35	0.271-0.494	0.254-0.552	0.231-0.640	0.194-1.108	0.162-	0.134-
	0.40	0.300-0.600	0.273-0.750	0.240-1.200	0.209-4.800	0.171-	0.141-
	0.50	0.353-0.857	0.318-1.200	0.273-3.000	0.233-	0.188-	0.152-
	0.70	0.442-1.690	0.368-3.818	0.320-	0.269-	0.210-	0.166-
	1.00	0.545-6.000	0.462-	0.375-	0.304-	0.231-	0.179-
15 mm	0.30	0.195-	0.160-	0.145-	0.136-	0.130-	0.121-
	0.35	0.220-0.357	0.245-0.387	0.227-0.441	0.208-0.536	0.183-0.833	0.160-2.800
	0.40	0.245-0.430	0.277-0.474	0.255-0.550	0.231-0.719	0.200-1.382	0.173-
	0.50	0.300-0.508	0.308-0.570	0.280-0.698	0.252-0.968	0.216-2.727	0.184-
	0.70	0.395-0.682	0.364-0.798	0.326-1.071	0.288-1.875	0.242-	0.203-
	1.00	0.510-1.117	0.460-1.466	0.401-2.763	0.345-	0.281-	0.229-
18 mm	0.30	0.165-2.143	0.573-3.847	0.484-	0.405-	0.319-	0.254-
	0.35	0.186-	0.600-	0.498-	0.398-	0.300-	0.241-
	0.40	0.200-	0.657-	0.538-	0.428-	0.326-	0.259-
	0.50	0.250-	0.825-	0.698-	0.545-	0.414-	0.314-
	0.70	0.330-	1.117-	0.938-	0.745-	0.555-	0.394-
	1.00	0.430-	1.500-	1.250-	0.982-	0.675-	0.491-
20 mm	0.30	0.130-0.338	0.260-0.355	0.245-0.388	0.230-0.432	0.208-0.540	0.186-0.771
	0.35	0.140-0.402	0.286-0.428	0.278-0.473	0.258-0.544	0.230-0.727	0.204-1.219
	0.40	0.148-0.470	0.301-0.505	0.293-0.568	0.284-0.675	0.251-0.982	0.220-2.160
	0.50	0.182-0.614	0.367-0.676	0.365-0.794	0.331-1.019	0.287-1.629	0.248-
	0.70	0.235-0.888	0.413-0.933	0.385-0.714	0.354-0.851	0.313-1.250	0.274-2.857
	1.00	0.310-1.168	0.541-1.292	0.493-1.207	0.444-1.657	0.389-4.375	0.326-
24 mm	0.30	0.098-0.300	0.276-0.329	0.267-0.343	0.256-0.362	0.240-0.400	0.223-0.457
	0.35	0.108-0.378	0.318-0.390	0.305-0.410	0.292-0.438	0.271-0.494	0.250-0.584
	0.40	0.116-0.436	0.358-0.453	0.343-0.480	0.329-0.519	0.300-0.600	0.274-0.798
	0.50	0.153-0.558	0.438-0.585	0.414-0.632	0.389-0.701	0.353-0.857	0.318-1.171
	0.70	0.211-0.800	0.511-0.880	0.542-0.988	0.500-1.169	0.444-1.580	0.388-3.537
	1.00	0.288-1.263	0.774-1.412	0.706-1.714	0.636-2.341	0.545-6.000	0.466-
2.00	0.412-3.429	1.263-4.800	1.091-12.000	0.932-	0.750-	0.608-	