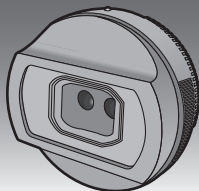


# Panasonic®

## Operating Instructions 3D INTERCHANGEABLE LENS FOR DIGITAL CAMERA

Model No. **H-FT012**

**LUMIX**



Before use, please read these instructions completely.



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## Information for Your Safety

**Keep the unit as far away as possible from electromagnetic equipment (such as microwave ovens, TVs, video games, radio transmitters, high-voltage lines etc.).**

- Do not use the camera near cell phones because doing so may result in noise adversely affecting the pictures and sound.
- If the camera is adversely affected by electromagnetic equipment and stops functioning properly, turn the camera off and remove the battery and/or the connected AC adaptor. Then reinsert the battery and/or reconnect the AC adaptor and turn the camera on.

- This lens is compatible with the lens mount standard for the Micro Four Thirds™ System. You can take impressive 3D pictures just by mounting it on a digital camera that supports 3D picture recording.
- It cannot be mounted on the Four Thirds™ mount specification camera.
- A TV compatible with 3D is required to playback pictures recorded in 3D.
- It does not support recording in vertical orientation.
- The digital camera illustrations in these operating instructions show DMC-GH2 as an example.

Refer to catalogues/Web pages for most current information regarding compatible digital camera bodies.

**<http://panasonic.jp/support/global/cs/dsc/>**

(This Site is English only.)

- The appearance and specifications of products described in this manual may differ from the actual products you have purchased due to later enhancements.
- Micro Four Thirds™ and Micro Four Thirds Logo marks are trademarks or registered trademarks of Olympus Imaging Corporation, in Japan, the United States, the European Union and other countries.
- Four Thirds™ and Four Thirds Logo marks are trademarks or registered trademarks of Olympus Imaging Corporation, in Japan, the United States, the European Union and other countries.
- G MICRO SYSTEM is a lens exchange type digital camera system of LUMIX based on a Micro Four Thirds System standard.
- Other names, company names, and product names printed in these instructions are trademarks or registered trademarks of the companies concerned.

-If you see this symbol-

**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.

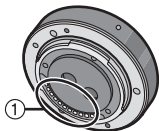
**Information on Disposal in other Countries outside the European Union**

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.

### ■ Lens Care

- **Sand and dust can damage the lens. Make sure that no sand or dust gets inside the lens or the terminals when using the lens on a beach, etc.**
- **This lens is not waterproof. If drops of water get onto the lens, wipe the lens with a dry cloth.**
- Do not press the protective glass with excessive force.
- When there is dirt (water, oil, and fingerprints, etc.) on the surface of the protective glass, the picture may be affected. Lightly wipe the surface of the protective glass with a soft, dry cloth before and after taking pictures.
- Do not place the lens mount facing downwards. Do not allow the lens contact points ① to become dirty.



### ■ About Condensation (Fogging of the Lens)

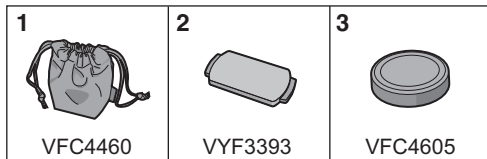
- Condensation occurs when there are differences in temperature and humidity as described below. Condensation can cause the lens to become dirty and lead to mold and malfunctioning, so exercise caution in the following situations:
  - When the camera is brought indoors from outside during cold weather
  - When the camera is brought into an air-conditioned car
  - When cold air from an air conditioner is directly blown onto the lens
  - In humid places
- Put the camera into a plastic bag to allow it to acclimatize to the surrounding temperature in order to prevent condensation. If condensation occurs, turn the power off and leave it for about two hours. Once the camera acclimatizes to the surrounding temperature the condensation will go away naturally.

# Supplied Accessories

## [Inspection to be performed when you unpack the unit]

When removing the unit from its packing box, check that the main unit and the supplied accessories are there and also check their external appearance and functions to verify that they have not sustained any damage during distribution and transportation. If you discover any trouble, contact your vendor before using the product.

Product numbers correct as of October 2010. These may be subject to change.



- 1 Lens Storage Bag
- 2 Lens Cap
- 3 Lens Rear Cap  
(The lens rear cap and lens cap are attached to the interchangeable lens at the time of purchase.)

# Attaching/Detaching the Lens

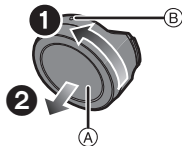
- Refer also to the camera's operating instructions for attaching and detaching the lens.

## ■ Attaching the Lens

- Check that the camera is turned off.

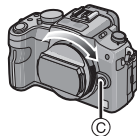
### 1 Turn the lens rear cap to detach it.

Ⓐ: Lens Rear Cap




### 2 Align the lens fitting marks Ⓑ (red marks) on the camera body and the lens and then rotate the lens in the direction of the arrow until it clicks.

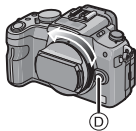
- Do not press the lens release button Ⓒ when you attach a lens.
- Do not try to attach the lens when holding it at an angle to the camera body as the lens mount may get scratched.
- Check that the lens is attached correctly.



## ■ Detaching the Lens

- Check that the camera is turned off.

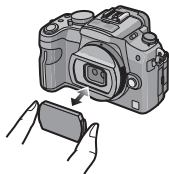
**Press the lens release button  while turning the lens as far as possible in the direction of the arrow to detach it.**



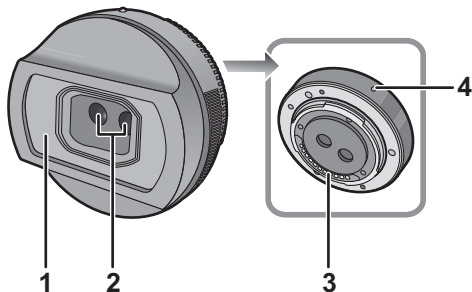
- Attach the lens rear cap so that the lens contact point does not get scratched.
- Attach the body cap to the camera so no dirt or dust will get inside the main unit.

## ■ Attaching and Detaching the Lens Cap

- Be careful not to lose the lens cap.



# Names and Functions of Components



- 1 Protective glass
- 2 Lens
- 3 Contact points
- 4 Lens fitting mark

## Note

- Zoom operation is not supported.
- It is recommended to use a tripod or a flash to record steady pictures.
- When a distance to the subject is 0.6 m to approximately 1 m, horizontal disparity becomes too great, and you may not see the 3D effect at the edges of the image.
- Functions that can be used depend on the digital camera you are using. Please refer to the operating instructions of the digital camera for details.

**To ensure that the 3D pictures can be safely viewed, pay attention to the following points when recording.**

- Where possible, record with the digital camera in a horizontal state.
- Do not get too close to the subject (record from a distance of at least 0.6 m).
- Be careful not to shake the camera while in a vehicle or walking.



# Cautions for Use

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**Take care not to drop or knock the lens. Also take care not to put a lot of pressure on the lens.**

- Take care not to drop the bag that you inserted the lens in as it may strongly shock the lens. The camera may stop operating normally and pictures may no longer be recorded. Also, the lens may be damaged.

**When using pesticides and other volatile substances around the camera make sure that they do not get onto the lens.**

- If such substances get onto the lens they can damage the exterior case or cause the paint to peel.

**Do not carry the unit when it is still attached to the camera body.**

- Under no circumstances should the unit be stored in any of the following locations since doing so may cause problems in operation or malfunctioning.
  - In direct sunlight or on a beach in summer
  - In locations with high temperatures and humidity levels or where the changes in temperature and humidity are acute
  - In locations with high concentrations of sand, dust or dirt
  - Where there is fire
  - Near heaters, air conditioners or humidifiers

- Where water may make the unit wet
- Where there is vibration
- Inside a vehicle

- Refer also to the operating instructions of the digital camera.
- When the unit is not going to be used for a prolonged period, we recommend storing with a desiccant (silica gel). Failure to do so may result in performance failure caused by mold, etc. It is recommended that you check the unit's operation prior to use.
- Do not leave the lens in contact with rubber or plastic products for extended periods of time.
- Do not touch the lens contact point. Doing so can cause failure of the unit.
- Do not disassemble or alter the unit.

**Do not use benzine, thinner, alcohol or other similar cleaning agents to clean the lens glass or exterior cabinet.**

- Using solvents can damage the lens or cause the paint to peel.
- Wipe off any dust or fingerprints with a soft, dry cloth.
- Do not use a household detergent or a chemically treated cloth.

## ■ About 3D recording

**With the 3D interchangeable lens attached, do not record a subject at less than the minimum focus distance.**

- The 3D effects may be more pronounced, and therefore cause tiredness or discomfort.
- The minimum focus distance is 0.6 m.

**When the recording with the 3D interchangeable lens attached, be careful not to shake the digital camera.**

- Tiredness or discomfort may result if the shake is pronounced, due to riding in a vehicle or walking etc.
- We recommend using a tripod.

## ■ About 3D viewing

**Anyone who is hyper sensitive to light, suffers from heart disease or is otherwise unwell should avoid viewing 3D pictures.**

- Doing may have an adverse affect on such medical conditions.

**If you feel tired, uncomfortable or otherwise strange when watching 3D pictures, stop viewing at once.**

- Continuing to view may cause illness.
- Please rest appropriately after stopping the viewing.

**When viewing 3D pictures, we recommend taking a break every 30 to 60 minutes.**

- Viewing for extended periods may cause eye-fatigue.

**Short-sighted or long-sighted persons, those with differences in the sight of their right and left eyes, and those with astigmatism are advised to correct their vision by wearing glasses etc. Stop viewing if you can clearly see a double image while viewing 3D pictures.**

- There are differences in the way that different people experience 3D pictures. Please correct your sight appropriately before viewing 3D pictures.
- You can change the 3D setting of your television or 3D output setting of the digital camera to 2D.

**When viewing 3D pictures on a 3D-compatible television, position yourself a distance away that is least 3 times the effective height of the television.**

- (Recommended distance): For 42 inch; approx. 1.6 m, for 46 inch; approx. 1.7 m, for 50 inch; approx. 1.9 m, for 54 inch; approx. 2.0 m.
- Viewing from a distance closer than the recommended distance may lead to eye-fatigue.

**Viewing of 3D pictures is not recommended for children under 5 to 6 years.**

- It is difficult to know how children will react to tiredness or discomfort, and they may become ill suddenly.
- When children are viewing, have a responsible adult ensure that eye-fatigue does not occur.

# Specifications

## 3D INTERCHANGEABLE LENS FOR DIGITAL CAMERA

### “LUMIX G 12.5 mm/F12”

<b>Focal length</b>	f=12.5 mm [35 mm film camera equivalent: 65 mm (When the DMC-GH2 is used and the aspect ratio is set to [16:9])]* <sup>1</sup>
<b>Aperture type</b>	Fixed
<b>Aperture</b>	F12 (Fixed)
<b>Lens construction</b>	4 elements in 3 groups ×2
<b>In focus distance</b>	0.6 m to ∞ (from the focus distance reference line)
<b>Maximum image magnification</b>	0.02× [35 mm film camera equivalent: 0.1× (When the DMC-GH2 is used and the aspect ratio is set to [16:9])]* <sup>1</sup>
<b>Optical image stabilizer</b>	Not available
<b>Mount</b>	“Micro Four Thirds Mount”
<b>Angle of view</b>	37° (When the DMC-GH2 is used and the aspect ratio is set to [16:9])]* <sup>1</sup>
<b>Stereo Base</b>	10 mm
<b>Max. diameter</b>	Approx. 57 mm
<b>Overall length</b>	Approx. 20.5 mm (from the tip of the lens to the base side of the lens mount)
<b>Mass</b>	Approx. 45 g

\*1 When using a digital camera other than the DMC-GH2, check details via the following support site.

<http://panasonic.jp/support/global/cs/dsc/> (This Site is English only.)



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**Panasonic Corporation**

Web Site: <http://panasonic.net>

**EU**

Pursuant to at the directive 2004/108/EC, article 9(2)

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