# LAOWA 12mm F2.8 D-Dreamer Ultra Wide Angle Lens

(Canon EF / Nikon AI / Sony A & FE/ Pentax mounts available)

Instruction Manual

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Thank you very much for purchasing LAOWA 12mm F2.8 D-Dreamer Ultra Wide Angle Lens. Please read this manual thoroughly before use to familiarize yourself with the lens for creating the highest quality images possible.

## Features

1/ LAOWA 12mm F2.8 D-Dreamer Ultra Wide Angle Lens is an interchangeable lens specifically designed for Full Frame Sensor DSLRs.

2/ Two pieces of Aspherical Lenses contribute to correcting spherical aberration.

3/ Main and auxiliary focusing group for correcting distortion caused by changeable distances to subject.

4/ Three pieces of ED (Extra-low Dispersion) Glass Elements for removing chromatic aberration.

5/ All-metal construction ensures lens' high assembly precision and long-lasting durability.

6/ Multi-layer Low Reflective Coatings for every lens element to eliminate ghosting and flare.

7/ Though equipped with several pieces of large-diameter Aspherical Lenses and ED glass elements, LAOWA 12mm F2.8 D-Dreamer Ultra Wide Angle Lens keeps itself compact and portable with high optical performance.

## Precautions

### ⚠ Safety Precautions

- Don't look at the sun or intense light source directly through a camera with a lens attached in case it may cause damage to CCD/CMOS of the camera and one's eyesight.
- Don't leave the lens under the sun without the lens cap attached to prevent damage to CCD/CMOS of the camera and fire danger.

## Precautions

### ⚠ Handling Precautions

- When the lens is taken from a cold environment into a warm one, condensation may develop on the surface and internal parts of the lens. Do not leave the lens in conditions where drastic temperature changes can occur and keep it in a dry environment when it is not in use.
- Don't expose the lens to direct sunlight. High temperature caused by long time sunlight exposure can cause the lens to break down and deform the lens elements or other parts.

## Nomenclature of Lens Parts


## Direction for use

- 1/ Mounting And Removing The Lens

  Choose the corresponding lens mount, then refer to one's camera instructions for details on how to attach and remove the lens from a camera body.

- 2/ Focusing Mode

  Adjust the focus by turning the focusing ring as it is a manual focus only lens. Do not apply too much force when turning focus ring or move it too quickly in case of damage of the part.

- 3/ Usage of Entrance pupil

  Entrance pupil ,often called nodal point ,when making a panoramic image, rotate the cameral around this point to take several images with different directions ,the alignment between fore and the background in these images doesn't move at all , it can provide perfect stitchings to assemble these images into one single wide image.

## Direction for use

- 4/ Metering Method

  Nikon

  Select Non-CPU Lens Data, set the maximum aperture and focal length. (Note: On Nikon camera bodies, there is no exact match for 12mm focal length, use the closest one of 13mm.) Then set the aperture value as required by adjusting the aperture ring on the lens to automatically match the correct exposure.

  Pentax

  In Aperture Priority Mode, turn the aperture ring to a special "A" position which allows the camera to control the aperture setting without using the aperture ring on the lens to get automatic exposure. Or measuring the light by directly pressing the Green Button on a Pentax camera body to obtain accurate exposure.

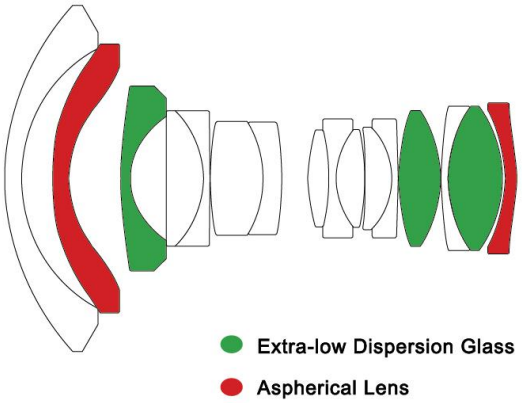
  Other Camera Systems

  In Aperture Priority Mode, set the aperture and let the camera automatically adjust shutter speed for optimal exposure. Note that there is no chip in the lens to communicate aperture information to the camera

## • 4/ Specifications

| | |
|---|---|
| Lens No. | LAOWA 12mm F2.8 D-Dreamer Ultra Wide Angle Lens |
| Focal Length | 12mm |
| Aperture Range | F2.8-F22 |
| Angle of View | 121.96° |
| Lens Construction (Elements/Groups) | 16/10 (Aspherical Lens x 2pcs, Extra-low Dispersion Glass Element x 3pcs) |
| Aperture Blades | 7 |
| Minimum Shooting Distance | 18cm |
| Maximum Magnification Ratio | 0.2X |
| Focusing Mode | Manual Focus (MF) |
| Filter Thread | No (Note that 100mm square filter with a filter holder can be attached to.) |
| Dimension (Diameter X Length) (Lens Hood Excluded) | 74.8 X 82.2mm |
| Weight (Lens Hood Excluded) | 609g |

## • 5/ Optical Formulas




## • 6/ MTF Chart