

# Automatic Wide Angle Lens

**Vivitar Series**



28mm f1.9

Owner's Manual



## Before you begin —

*carefully* study this Owner's Manual. Keep it with the lens for a guide when questions arise.

*practice* with your new Vivitar lens. *Dry runs* — taking pictures without film — will help you get the *feel* of it.

shoot a roll of film. After you see those first great pictures, you'll *know* that you and your new Vivitar lens are ready for an important occasion.

## Getting acquainted with your Lens

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- |                                |                          |
|--------------------------------|--------------------------|
| 1 Accessory Thread             | 7 Depth of Field Scale   |
| 2 Focusing Ring                | 8 Aperture Reference Dot |
| 3 Distance Scale Window        | 9 Aperture Scale Window  |
| 4 Distance Scales              | 10 Aperture Scale        |
| 5 Distance Index Line          | 11 Aperture Ring         |
| 6 Infrared Distance Index Line | 12 Lens Mount            |

## Mounting your Lens

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Your new Series 1 lens is designed to mount on your camera with the ease and simplicity of your normal lens.

*Remember* to keep the front lens cap in place during mounting to prevent accidentally touching the front glass element.

## Holding your Lens

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You'll usually find it best to support the camera/lens combination by placing your left hand under the lens (see photo "A"). This leaves your right hand free to operate the camera controls and assures good balance and stability when shooting.

## Exposure Control

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Turning the Aperture Ring ⑪ changes the size of the opening of the lens diaphragm to control the amount of light that can pass through the lens when an exposure is made. The size of this opening is indicated by the f-stop position on the Aperture scale ⑩ which aligns with the Aperture Reference Dot ⑧. The Aperture Ring has click-stops at each marked f-stop position and at each intermediate half-stop except between f11 and f16.

Your new Series 1 lens has Automatic Diaphragm Control. With the lens mounted on your camera, the diaphragm remains open to its maximum aperture regardless of the Aperture Ring setting. When you release the shutter, the diaphragm automatically stops down to your pre-selected f-stop and instantly reopens after the exposure is completed.

*NOTE:* Universal Thread Mount lenses have an AUTO/MANUAL Switch (see photo "B") which must be set in the "A" (Auto) position for Automatic Diaphragm Control. In the "M" (Manual) position, the diaphragm opens and closes as the Aperture Ring is turned.

Canon Mount lenses have an AUTO/MANUAL Lever (see photo "C") which must be set at the clockwise end of its slot for Automatic Diaphragm Control. With the lever in the counter-clockwise end of its slot, the lens diaphragm opens and closes as the Aperture Ring is turned.

## **Exposure Measurements**

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Exposure measurements obtained from "through-the-lens" metering systems may change significantly as you move the

camera to change your view of the subject — the proportions of light and dark areas in the total picture area may change as you change views.

To assure proper exposure, compose and focus your photograph *before* measuring exposure.

## **EE Coupled Lenses**

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The Aperture Ring on Konica Mount lenses locks with a positive click when placed in the “EE” position. To remove Konica Mount lenses from EE operation, press the EE Lock Button (see photo “D”) and turn the Aperture Ring to the specific f-stop position you want.

Canon Mount lenses have a click-stop at the EE position, indicated by the “O” marking. The Aperture Ring may be set at and removed from this position in the same manner as selecting a specifically marked f-stop.

## **Focusing**

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Simply turn the Focusing Ring ② until your subject appears sharpest in your camera viewfinder.

Focusing on nearby objects, within 30 cm (11 $\frac{3}{4}$ " ), requires extra caution to ensure good photos.

**1** — Use a *tripod* or other *firm support* — slight movements and loss of critical focusing can ruin a great photo. If, for some reason, a support can't be used, shoot the photo at the fastest possible shutter speed lighting conditions will allow, and check the focus just before the shutter is released.

**2** — Use a *cable release* — the slight movement of your finger pressing the shutter release can cause movement of your camera (even when your camera is mounted on a tripod). After you arrange the photo, make all camera adjustments, and advance the film, wait a moment — then shoot. If your camera has a *self-timer*, use it for movement-free camera operation when a cable release is not available.

## **Infrared Photography**

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Infrared radiation does not focus at the same point as visible light. Approximate focusing is achieved by aligning the Infrared Distance Index Line ⑥ with the Distance Scale marking for the actual subject-to-film distance.

Focus the lens on the subject in the normal manner. Then turn the Focusing Ring until the exact point which was aligned with the Distance Index Line ⑤ (see photo "E"), aligns with the Infrared Index Line ⑥. (See photo "F")

Since infrared radiation is variable by nature, the Infrared Index Line should be used only as an approximation for focusing.

## Estimating Distance

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Your new Series 1 lens has two numbered Distance Scales ④ which appear in the Distance Scale Window ③. The *white numbers* indicate distance in feet and the *green numbers* indicate distance in *meters*.

The *approximate* distance to an *object-in-focus* is indicated on these scales at the Distance Index Line ⑤.

## Depth of Field

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Depth of field is the capability of a lens to produce acceptably sharp pictures of objects which are located in an area in front of and behind a subject in focus.






You can creatively control the size of this area, making it small to emphasize a single object or making it large to accurately record every detail of a scene by doing the following.

**1 — Focus** Depth of field becomes smaller as you focus on nearby objects and becomes larger as you focus on those that are farther away. For example, the depth of field when focused at infinity (see photo "G") is much greater than the depth of field when focused at 60 cm (2'). (See photo "H")

**2 — Aperture** Depth of field becomes larger as you reduce the size of the diaphragm opening. For example, the depth of field at f16 (see photo "I") is much greater than the depth of field at f1.9. (See photo "J")

## Computing Depth of Field

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The numbers on the Depth of Field Scale  correspond to f-stops on the Aperture Scale . The approximate depth of field for any combination of lens settings is indicated on the Distance Scales  between the two Depth of Field Scale markings which correspond to the f-stop set on the Aperture Ring.

For example, with your lens focused at approximately 1.5 m (5')

and the Aperture Ring set at f16, the Depth of Field Scale and the Distance Scales, read together, indicate that the lens will produce acceptably sharp pictures of objects located between approximately 0.9 m (3') and 9 m (30'). (See photo "K")

Using this information, you may focus on a point behind your principle subject to eliminate an unwanted foreground or focus on a point in front of your principle subject to eliminate an unwanted background, while keeping your principle subject inside the limits of depth of field.

The Depth of Field Tables located in the back of this Owner's Manual provide more precise depth of field information for selected aperture/focus combinations.

## **Previewing Depth of Field**

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Pressing your camera's Depth of Field Preview Button stops down the lens diaphragm to your pre-selected aperture allowing you to see the depth of field in the viewfinder prior to taking the picture.

**NOTE:** The AUTO/MANUAL Switch on Universal Thread Mount

lenses may be used for previewing depth of field by moving the switch to the "M" (Manual) position.

## **Taking Care of your Lens**

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**1** — It's a good idea to keep a filter (such as a Vivitar Series 1 VMC Skylight 1A Filter) on your lens at all times. This not only improves some photographs, but also protects the front lens element from scratches.

**2** — When attaching threaded accessories (filters, etc.) to your lens, carefully align the accessory with the Accessory Thread ① to prevent damage.

**3** — Keep your lens dust free by making sure both front and rear lens caps are in place when it's not in use.

**4** — Clean your lens with an air brush, anti-static brush, or wipe it lightly with a camel-hair brush or lens tissue. In **EXTREME** cases, use a clean, soft cotton cloth moistened with denatured alcohol. *Never rub the lens surface with your fingers, clothing, or any other abrasive material.* Cleaning your lens in this way may scratch the lens coating and can cause damage to the

element surface.

**5** — Always store your lens in a cool, dry place.

## Specifications

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*Focal Length:* 28mm

*Angle of Acceptance:* 75°

*Optical Construction:*

9 elements in 8 groups

*Aperture Range:* f1.9 to f16

*Minimum Focusing Distance —*

*Subject to Front Element:* 19.5 cm (7.7")

*Subject to Film Plane:* 30 cm (11.8")

*Length at ∞:* 61 mm (2.4")

*Maximum Barrel Diameter:* 66 mm (2.6")

*Weight:* 340 g (12 oz.)

*Accessory Size:* 58mm

*Front Lens Cap Size:* 65mm

*Accessories Included:* Front Lens Cap, Rear Lens Cap

Specifications subject to change without notice.

Lengths and weights may vary slightly depending on lens mount.



## Depth of Field Tables

$\frac{m}{\lambda}$	1.0	2.0	4	8.0	8	11	18
1	11% - 15%	11% - 15%	11% - 15%	11% - 15%	18% - 15%	18% - 15%	18% - 15%
1.25	12% - 17%	12% - 17%	12% - 17%	11% - 14%	11% - 13%	15% - 15%	15% - 17%
1.5	13% - 18%	13% - 18%	14% - 17%	14% - 17%	13% - 18%	13% - 18%	12% - 25%
2	11% - 21%	11% - 21%	19% - 22%	19% - 23%	18% - 23%	17% - 21%	19% - 27%
3	24% - 32%	24% - 32%	27% - 35%	28% - 38%	24% - 42%	22% - 43%	131% - 63%
5	48 - 67%	43% - 51%	4% - 6%	3% - 7%	34% - 94%	3% - 121%	27% - 247%
10	83% - 121%	73% - 101%	6% - 10%	6% - 20%	52% - 149%	44% - ∞	33% - ∞
∞	62% - ∞	30% - ∞	21% - ∞	10% - ∞	12% - ∞	7% - ∞	34% - ∞

$\frac{m}{\lambda}$	1.0	2.0	4	8.0	8	11	18
0.3	0.28 - 0.31	0.29 - 0.31	0.29 - 0.31	0.29 - 0.31	0.27 - 0.33	0.27 - 0.34	0.28 - 0.37
0.35	0.34 - 0.36	0.34 - 0.36	0.33 - 0.37	0.33 - 0.38	0.31 - 0.38	0.31 - 0.41	0.29 - 0.46
0.4	0.39 - 0.41	0.38 - 0.42	0.38 - 0.43	0.37 - 0.44	0.36 - 0.46	0.34 - 0.46	0.32 - 0.53
0.5	0.46 - 0.50	0.47 - 0.53	0.46 - 0.54	0.45 - 0.56	0.43 - 0.58	0.41 - 0.61	0.38 - 0.72
0.7	0.57 - 0.74	0.65 - 0.78	0.63 - 0.78	0.61 - 0.82	0.58 - 0.89	0.54 - 0.99	0.49 - 1.22
1.0	0.93 - 1.08	0.96 - 1.12	0.87 - 1.18	0.82 - 1.27	0.77 - 1.44	0.70 - 1.72	0.62 - 2.58
2.0	1.75 - 2.34	1.65 - 2.65	1.53 - 2.88	1.46 - 3.50	1.34 - 5.16	1.20 - 12.85	0.90 - ∞
3.0	2.46 - 2.84	2.27 - 4.42	2.06 - 5.55	1.83 - 8.40	1.56 - 36.75	1.33 - ∞	1.06 - ∞
∞	1.75 - ∞	0.33 - ∞	0.53 - ∞	4.67 - ∞	3.27 - ∞	2.38 - ∞	1.63 - ∞



**A**



**B**



**C**



**G**



**H**



**I**



D



E



F



J



K

Vivitar Series

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# Vivitar

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