

# Vivitar Series

# 11

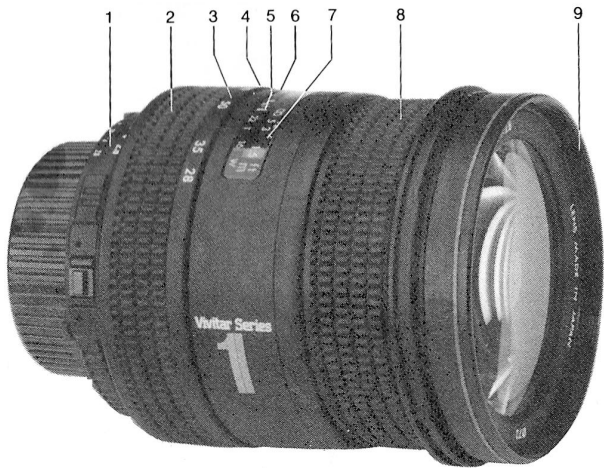
28-70mm f/2.8

28-105mm f/4-5.6

28-200mm f/3.8-5.6

70-210mm f/2.8

Owner's Manual



## Controls and Components

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1. Aperture Ring
2. Zoom Control
3. Focal Length Scale
4. Focus Mode Switch
5. Distance Index Line
6. Depth of Field Scale
7. Distance Scale
8. Manual Mode Focus Control
9. Accessory Thread

## Zoom Operation

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A zoom lens has a variety of focal lengths in one lens. These zoom lenses have separate control rings for zooming and for focusing in manual mode. You adjust the focal length by rotating the zoom control to the desired focal length setting.

## Mounting the Lens

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This lens is attached to your camera and will function automatically in the same manner as your normal lens. Please read the instruction booklet for your camera body.

## Taking Pictures

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### Auto focusing

In auto focus mode, your camera will set the focus automatically. Set the focus mode switch to AF. While the lens is focusing, please do not touch the focus control.

### Manual focusing

In manual mode, you set the focus by rotating the focus control until the subject is sharp in the viewfinder. Set the focus mode switch to M. With certain cameras, you may focus easily using the focus signals in the viewfinder. Turn the focus control in the direction of indicated by the viewfinder display. (See your camera manual for details.)

### NOTE:

When both focus signals blink, the subject must be focused visually using the focusing screen.

## Shutter release

In order to take sharp pictures without camera shake or reflex mirror vibration, please follow the instructions below.

1. Hold the camera steadily and touch the shutter release button very lightly.
2. When you press the shutter button, press softly.
3. If you take a picture using vertical composition, pay extra attention, because you may be more likely to move the camera.
4. To avoid camera shake or reflex mirror vibration with telephoto lenses longer than 200mm, use the fastest shutter speed that you can. Generally speaking, you may need a shutter speed equal to one second divided by the focal length of the lens. For example, if you use a 250mm telephoto lens, you need 1 / 250 sec. or faster shutter speed.
5. If you have to use a slow shutter speed for some reason, it is best to use a steady tripod and cable shutter release or self-timer, instead of the regular shutter release button.

## Depth of Field Scale

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The foreground and background area in the picture which is in focus in front of and behind the subject is referred to as the "depth of field". The depth of field becomes shallower at longer focal lengths and deeper at shorter focal lengths. At a given

focal length, the depth of field becomes deeper the more the lens is stopped down to a smaller lens aperture (higher f-number). Also, it becomes shallower as the focusing distance is made closer. For example, when focusing at three meters with a focal length of 35mm and using an aperture setting of f/5.6, the scale indicates that the depth of field will be from 2.2 meters to approximately 5 meters. On this type of zoom lens, the depth of field scale for the shortest focal length will generally be marked on both sides of the distance index line for a number of apertures, whereas for the longest focal length it may be marked only on one side with the smallest aperture value of the lens.

## **Macro Photography**

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With these zoom lenses, you will enjoy macro photography simply and easily. The indication of the lens as "MACRO 1:6" or "1:4.5" on the distance scale represents the maximum magnification (or "reproduction ratio") at the longest focal length. For example, when you are in focus at the "1:6" position on the scale, if the subject's actual size is 6 cm, the subject's image size on the film becomes 1 cm.

There are several types of macro system:

### **The Non-Stop Macro System**

You can go into the macro photography position without switching at any focal

length. All you have to do is turn the focus control to the close-up range as you normally focus.

### **The Tele Macro System**

If your lens has a macro button next to the distance scale window, proceed as follows:

1. Set the focus mode switch to M.
2. Set the zoom control to longest focal length position.
3. Set the manual mode focus control to the closest non-macro distance position.
4. Press the macro button and turn the focus control to the macro area.
5. Focus manually in viewfinder by turning the focus control.
6. Press the shutter release button to take the picture.

#### **NOTE:**

- When the macro button is pressed or the focus control stays in the macro range, you cannot zoom.
- If the focus control goes into the normal distance scale due to your releasing the focus control, the lock automatically functions and shots closer than the normal minimum distance cannot be taken.
- To return to normal autofocus operation, turn the focus control manually to the infinity setting and set the focus mode switch to AF.

## The Close-Up Lens System

Certain zoom lenses require the use of an optional close-up lens for macro photography. Simply screw the close-up lens into the accessory thread of the zoom lens. Set the focus mode switch to M. Manually focus the lens by moving the lens and camera forward or backward, rather than turning the focus control.

### NOTE:

When you take macro photographs, the depth of field is extremely shallow. Therefore, it is ideal to use a tripod and set the aperture as small as possible (highest f-number).

## Infrared Photography

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To take pictures using infrared film, proceed as follows:

1. Focus normally in auto mode.
2. Set the focus mode switch to M.
3. Turn the focus control manually so that the distance scale value aligned with the distance index mark is realigned with the infrared index mark "R".

For more detailed information, see the instructions packed with the infrared film or your camera instruction manual.



## Basic Care and Storage

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1. When you put the lens in a case, make sure to put on the front and rear lens protection caps.
2. Before putting the lens in a case, set the focus and zoom controls so that the lens length is at its shortest position.
3. Avoid any strong impacts to the lens body and do not use or store at extraordinarily high humidity or high/cold temperatures.
4. For long term storage, choose a cool and dry place, if possible with good air circulation. Keep away from mothballs or naphthaline gas to avoid damaging the lens coating.

## Specifications

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### **28-70mm f/2.8**

**Focal Length:** 28 — 70mm

**Aperture Range:** f/2.8 — f/22

**Optical Construction:** 13 elements in 10 groups, multicoated

**Angle of Acceptance:** 75° — 34°

**Minimum Focusing Distance:** 1.6 ft. (0.5 m)

**Maximum Reproduction Ratio:** 1:5.9

**Minimum Length:** 3.6 in. (92 mm)

**Weight:** 19.5 oz. (553 g)

**Maximum Barrel Diameter:** 2.9 in. (74 mm)

**Accessory Size:** 72mm

### **28-105mm f/4-5.6**

**Focal Length:** 28 — 105mm

**Aperture Range:** f/4-5.6 — f/22

**Optical Construction:** 15 elements in 12 groups, multicoated

**Angle of Acceptance:** 75° — 23°

**Minimum Focusing Distance:** 1.6 ft. (0.5 m)

**Maximum Reproduction Ratio:** 1:5.3

**Minimum Length:** 2.8 in. (71 mm)

**Weight:** 12.7 oz. (360 g)

**Maximum Barrel Diameter:** 2.8 in. (71 mm)

**Accessory Size:** 58mm

**28-200mm f/3.8-5.6**

**Focal Length:** 28 — 200mm

**Aperture Range:** f/3.8-5.6 — f/22

**Optical Construction:** 17 elements in 14 groups, multicoated

**Angle of Acceptance:** 75° — 12°

**Minimum Focusing Distance:** 5.9 ft. (1.8 m)

**Maximum Reproduction Ratio:** 1:8.3

**Minimum Length:** 3.4 in. (87 mm)

**Weight:** 16.9 oz. (480 g)

**Maximum Barrel Diameter:** 2.9 in. (74 mm)

**Accessory Size:** 72mm

**NOTES:**

For macro photos closer than 1.8 m, this lens requires an optional close-up lens, which will let you focus between 0.58 m and 0.78 m. You can get a maximum magnification of 1:2.2 by setting the zoom on the 200mm position and the focus control on the 1.8 m position at the subject distance of 0.58 m.

This lens has no accessory thread. When you wish to use optional filters or close-up lens, attach the lens hood on the lens, then screw filter or close-up lens into the thread inside the lens hood. The thread size is 72mm.

**70-210mm f/2.8**

**Focal Length:** 70 — 210mm

**Aperture Range:** f/2.8 — f/22

**Optical Construction:** 17 elements in 13 groups, multicoated

**Angle of Acceptance:** 34° — 11.5°

**Minimum Focusing Distance:** 5.9 ft. (1.8 m)

**Maximum Reproduction Ratio:** 1:7.2

**Minimum Length:** 7.6 in. (193 mm)

**Weight:** 45.9 oz. (1300 g)

**Maximum Barrel Diameter:** 3.5 in. (89 mm)

**Accessory Size:** 82mm

Specifications subject to change without notice. Length and weight may vary slightly depending on lens mount.

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