



NEW NIKON AF LENSES

Testing the 50, 28, 28-85, and 35-105mm lenses
 for the N200 camera ■ By Jack and Sue Drafahl

Throughout 1987 Nikon will be introducing a variety of new lenses for the new N200 autofocus camera system. We had the pleasure of testing four of these new lenses—the 50mm f/1.4, 28mm f/2.8, 28mm-85mm zoom, and the 35mm-105mm zoom. These new additions to the vast Nikon camera system retain the same smooth operation, sharpness, and basic size of the older, manual-focus lenses, yet they offer autofocus capability. These lenses also feature a variety of special functions for the amateur as well as the professional photographer.

When first glancing at the new lenses, the most obvious change is the focus scale located on the top of the lens. A window displays the approximate depth of field at any selected focus point instead of displaying the entire focus scale. The focus scale is sealed behind this window to protect the gear system and electronics from dust and moisture.

Another welcome change is the fact that all the serial numbers and inscriptions normally found on the front of the zoom lenses have been moved. This is extremely valuable when photographing reflective surfaces or with very bright light sources. By the way, in case you have difficulty locating just where Nikon hid those serial numbers, they are etched on the side of the lenses, just

above the bayonet mount.

All the lenses have the minimum-aperture lock button on the side of the lens. This is for photographers using the camera and lens in the dual program mode. For programmed or shutter-priority auto shooting, this button is used to lock the lens aperture to f/22. The camera will then select the best aperture and shutter speed for a correct exposure. If the photographer wants an out-of-focus background, the minimum-aperture lock can be reset to a desired f-stop almost wide open. The camera then will not close down smaller than the aperture selected when using a programmed mode.

Because data on the focal length and actual lens aperture should always be monitored, a zoom encoder reads the focal lengths and actual aperture set on the lens and transfers the information to the camera via the five autofocus signal contacts on the back of the lens. These contacts allow the camera's CPU (Central Processing Unit) to communicate with the lens's CPU in order for the lens to focus properly. The CPU's built into the lens have a 1K byte memory capability. Opposite these signal contacts is a small slotted drive shaft that hooks up with the drive mechanism inside the camera body. When the lens is in the manual focusing position, this coupling drive axis is disconnected.

28mm f/2.8

This lens has the same optical qualities as the manual version, is approximately the same size, yet weighs only 195 grams. Since the autofocus system works best with vertical lines, we chose to test this lens on architectural photos that were primarily vertical. The focus travel of the lens through its range of one foot to infinity is so short, the time for maximum focus change was less than a ¼ second. The maximum depth of field obtainable is at f/22 at four feet, allowing sharp focus from two feet to infinity. When the camera is set for manual focus, the small focusing ring on the front of the lens moves more smoothly than that of any lens we have ever seen. The actual image viewed through the lens was very bright and had excellent resolution at both the center and edges.

50mm f/1.4

Like the 28mm, this lens has the same basic optical design as its manual counterpart. Viewing through this lens in low light is a real joy, as the image in the finder is extremely bright and easy to see. Because of this lens's high speed, focus becomes very shallow, forcing the lens to be more sensitive to focus. Because of this, we found this lens the most difficult to use. Extra care had to be taken to ensure that the desired focus point was well centered in the viewfinder

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35-105mm



28mm

focus area. With practice, however, focusing became much easier than using manual focus. We tested this lens while attending a national convention. Even though people constantly moved from trade booth to booth, the camera and lens were able to hold focus. There were times when the subject and background blended together, so then we would change to the smooth manual focus. Closest lens focus is at about 1.5 feet and, as typical with most fast lenses, there is a slight change in focus plane from the center to the edge of the frame.

28-85mm ZOOM f/3.5-4.5

For the photographer who enjoys using only one lens, this one fits the bill. At 28mm the lens was sharp at both center and edge, and worked as well as the prime 28mm lens. When the lens was zoomed out to 85mm the focus was perfect and required no change. As the focal length is changed, a zoom encoder located on the inside of the lens monitors which aperture and focal length are selected and relays that information through the lens CPU to the camera CPU. Manual focus must be used when using the macro function of this lens.

The manual focus on the zoom lens is not quite as smooth as on the prime lenses, but it is considerably better than the manually focused lenses. Minimum focus is slightly less than two feet when



28-85mm

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used in the normal mode. If the macro button on the side of the lens is depressed, you can focus down to three inches. The lack of distortion found with the macro function at this close distance was remarkable.

35mm-105mm f/3.5-4.5

For the photographer who enjoys tak-

ing scenics one minute and portraits or telephotos the next, this lens just might be the ticket. The autofocus in this lens is very accurate and, like the previous zoom lens, focus remained perfect when changing from 35 to 105mm and back again. Images taken with this lens were very sharp at center and edges, includ-



50mm

ing those taken in the macro mode. In the normal position the lens can focus down to just under five feet, but when in macro position it can focus down to nine inches.

While completing our field tests, several professional and advanced amateurs commented that they felt the new autofocus systems would take the creative edge out of photography. After testing the N2020 camera and four of its lenses, we feel the opposite is true. Lenses do not select the subject to be photographed. The photographer still has to decide where he wants the focus point. While watching other photographers focus cameras manually, we found that most focus several times across the desired focus point until they are satisfied they have critical focus. With Nikon's N2020 and the autofocus lenses, depressing the shutter release

SPECIFICATIONS

LENS: AF Nikkor 28mm f/2.8
 CONSTRUCTION: 5 elements in 5 groups
 APERTURE RANGE: f/2.8-22
 ANGLE OF VIEW: 74°
 MIN. FOCUSING DISTANCE: 1 ft. (0.3m)
 EXPOSURE MEASUREMENT: Full-aperture with AI cameras; stop-down with non-AI cameras
 ACCESSORY SIZE: 52mm
 OVERALL LENGTH: 1.9 in. (48.7mm)
 DIAMETER: 2.56 in. (65mm)
 WEIGHT: 6.87 oz. (195g)
 LIST PRICE: \$255

LENS: AF Nikkor 50mm f/1.4
 CONSTRUCTION: 7 elements in 6 groups
 APERTURE RANGE: f/1.4-16
 ANGLE OF VIEW: 46°
 MIN. FOCUSING DISTANCE: 1.5 ft. (0.45m)
 EXPOSURE MEASUREMENT: Full-aperture with AI cameras; stop-down with non-AI cameras
 ACCESSORY SIZE: 52mm
 OVERALL LENGTH: 2.07 in. (52.5mm)
 DIAMETER: 2.56 in. (65mm)
 WEIGHT: 9 oz. (255g)
 LIST PRICE: \$267.50


LENS: AF Nikkor 28-85mm f/3.5-4.5
 CONSTRUCTION: 15 elements in 11 groups
 APERTURE RANGE: f/3.5-22
 ANGLE OF VIEW: 74° to 28.5°
 MIN. FOCUSING DISTANCE: 3 ft. (0.8m)
 EXPOSURE MEASUREMENT: Full-aperture with AI cameras; stop-down with non-AI cameras
 ACCESSORY SIZE: 62mm
 OVERALL LENGTH: 3.84 in. (97.5mm)
 DIAMETER: 2.8 in. (71mm)
 WEIGHT: 19 oz. (540g)
 LIST PRICE: \$550

LENS: AF Nikkor 35-105mm f/3.5-4.5
 CONSTRUCTION: 16 elements in 12 groups
 APERTURE RANGE: f/3.5-22
 ANGLE OF VIEW: 62° to 23.3°
 MIN. FOCUSING DISTANCE: 5 ft. (1.1m) normal; 9 in. (0.23m) macro
 EXPOSURE MEASUREMENT: Full-aperture with AI cameras; stop-down with non-AI cameras
 ACCESSORY SIZE: 52mm
 OVERALL LENGTH: 3.76 in. (95.5mm)
 DIAMETER: 2.72 in. (69mm)
 WEIGHT: 17.5 oz. (497g)
 LIST PRICE: \$475

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halfway will move the lens focus to the desired point and then stop: the autofocus system actually saves time and uncertainty when focus is critical. ■

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