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How to Read Your NIKKOR Lens Barrel

By **BARRY TANENBAUM**

What I see through a NIKKOR lens is never an issue; it's whatever I choose. But what I see *on* a NIKKOR lens can be another matter, and that's what brought me not long ago to the office of Nikon senior technical manager Lindsay Silverman. As a writer and editor in the photo industry, I'm well aware of Lindsay's expertise.

My timing was perfect: on a side table were several NIKKORs. I picked up the AF-S NIKKOR 200mm f/2G ED VR II. "You know what confuses me?" I said.

"String theory?" he said.

"That, too," I said, "but in this case, it's the VR II designation. I see the Roman numeral II after VR in the written description of this lens, and after the G on the lens barrel, and I take it to mean that this lens offers the second generation of VR technology."

"Common misconception," Lindsay said. "There is a second generation of VR image stabilization technology that allows hand-holding the camera at up to four stops slower, but that designation appears in lens instruction booklets, on spec sheets and with lens information at NikonUSA. The Roman numeral you see in the printed name and on the lens barrel means the second generation of that particular lens."

"Like this one," I said, indicating the 200mm lens I was holding.



The [AF-S NIKKOR 200mm f/2G ED VR II](#). The Roman numeral indicates it's the second generation of the AF-S 200mm.

"Right," he said, "and it features VR II technology."

"But how would I know that?"

"From the product description at NikonUSA or the manual for the lens."

"Okay, so a Roman numeral II on a lens means second generation of that lens—and that's all it means."

"Right," he said. "Here, let me take you through the rest of what you're seeing on our lenses." He reached over and got the AF-S NIKKOR 24-120mm f/4G ED VR.



[The AF-S NIKKOR 24-120mm f/4G ED VR](#).

"Right above the focusing ring and next to the Nikon name is the distance indicator window, which tells you in feet and meters where the lens is focused at any given point. To the right of the distance indicator window is the letter N,

meaning the lens has Nikon's Nano Crystal Coat, an incredibly effective anti-reflective coating.

"There can be other notations, though." He picked up an AF-S DX NIKKOR 55-300mm f/4.5-5.6G ED VR.



Any Lens that features the letters DX, like the [AF-S DX NIKKOR 55-300mm f/4.5-5.6G ED VR](#),

is optimized for Nikon DX-format sensor cameras.

"Here there are the letters DX next to the Nikon name, which means this lens is optimized for cameras with a DX-format sensor—the [D300S](#) or [D7000](#), for instance. If you don't see DX, then the lens is optimized for FX-format cameras, like the [D3X](#), [D3S](#) or [D700](#).

"The other notation is an indicator of the type of specialized glass used in the lens," he added, showing me an AF-S NIKKOR 28-300mm f/3.5-5.6 ED VR.



The [AF-S NIKKOR 28-300mm f/3.5-5.6 ED VR](#) features ED glass and a variable aperture.

The f/stop changes from f/3.5 at the 28mm wide-angle focal length, eventually reaching f/5.6 at the 300mm telephoto end of the range.

"ED means extra-low dispersion glass—it's an optical glass Nikon developed for correction of chromatic aberrations. If the lens features both Nano and ED, the ED designation moves down to a part of the descriptor text—that's the line below the Nikon name and the indicator window."

Then he took me through that line for the 28-300mm lens.

"AF-S is for the silent wave motor used in NIKKOR lenses for fast, accurate and, as you'd expect, super quiet AF operation. Next, the word NIKKOR—no explanation necessary. Then comes the focal length of the lens. Here it's the range of this particular zoom—28-300mm. Then comes the maximum f/stop—the largest opening of the diaphragm of the lens. On this lens there are two numbers—3.5 and 5.6, which means it's a variable aperture lens: the f/stop varies as you zoom the lens. The f/stops are always indicated as fractions on the lens, by the way—that's why you always see them start with a 1, like 1:3.5-5.6.

"Finally, we end with the letter G, which indicates that the lens has an electronic diaphragm control, meaning that the f/stop is set from the camera. On older NIKKORS you may see the letter D, and that means distance information is factored into the metering process. These days all NIKKORS have distance encoders, so you won't see D on new NIKKOR lenses—only G.

"Now, if the lens happens to be a Micro-Nikkor—a lens designed for close-up photography—there will be an added indication: reproduction ratio.



The [AF-S DX Micro NIKKOR 85mm f/3.5G ED VR](#) is focused for life-size reproduction.

"You'll see a 1 and a colon and then another number. At life-size reproduction of your subject, you'll see 1:1, and as you turn the focusing ring, the ratio will change. You'll see 1:2, which means half life-size; 1:4 and 1:6 and so on. And underneath the ratio there's the distance scale that shows you how close you are in feet and meters to the subject at that reproduction ratio."

Lindsay finished up with a quick rundown on the switches I'd be likely to see on NIKKOR lenses.



The 200mm f/2G offers a quick switch from AF to manual, or vice versa, and a VR on/off.

"On the side of some lenses is a switch that offers an MA or M setting. It means the lens allows switching from autofocus to manual with virtually no time lag; you can switch without making any settings on the camera. MA means you just grab the focusing ring to switch. Certain new lenses—the bigger telephotos—have the labeling as AM; it's the same control, but there's more torque required on the focusing ring so you don't inadvertently change over as you're holding your hand near the ring.

"Every VR lens has a switch to turn VR on and off. Some VR lenses have a

secondary switch for setting Active mode. Normal mode means the VR interprets both slow and broad camera movements; it factors in a normal amount of camera shake for hand-held work. When you turn on Active mode, it factors in a more pronounced camera shake—say you're sitting on an idling bus in traffic and want to take a picture.

"Finally, both the 18-200mm and the 28-300mm VR II zoom lenses have a switch on the side that locks the lens at the wide angle position to prevent zoom creep when you've got the camera strap slung over your shoulder."



The focus lock switch on the AF-S NIKKOR 28-300mm f/3.5-5.6 ED VR.

"Zoom creep," I said. "Nice phrase."

"Gravity pulls the lens down," he said. "You remember gravity—from school?"

"Vaguely," I said. "But one thing at a time—at least now I know how to read my lens barrel."

Check out our online glossary [here](#) for even more terminology explanations.