

## Design



The Nikon 70-200mm F2.8 VR is built to withstand the rigours of daily professional use, and the quality of construction is impeccable. From the super-smooth zoom and focus rings to the finely designed and engineered tripod mounting foot, everything about this lens exudes quality. Construction appears to be primarily of metal, and the lens is environmentally sealed, including a rubber gasket around the mount to prevent dust and water ingress into the camera. As is standard for this class of lens, both zooming and focusing are internal, which leads to a distinct impression of solidity to the 'one-piece' construction, and maintains the balance of the lens on the camera regardless of focal length.

In comparison to other 70-200mm F2.8 zooms, the Nikon is unusually long and slim in design, indeed unexpectedly so for a full-frame lens (especially given the fact that Nikon's engineers have had to squeeze in an optical stabilization unit). Overall it rather gives the impression that the glass is concentrated towards the front of the barrel, indeed the narrow tubular section immediately adjacent to the lens mount is purely air space (and we'll see the likely consequences of this on its optical performance in due course). Aside from that, it's quite similar in size to other lenses of this type, and potential upgraders should be aware that it is significantly larger and heavier than consumer telezooms such as the 70-300mm F4-5.6 VR. It's a serious photographic tool, but quite possibly not one you'll want to carry around all day on vacation.

### On the camera



This is a relatively large and heavy lens, and therefore best matched to the more substantial bodies in Nikon's range such as the D300 and D3. In comparison to other 70-200mm zooms it feels slightly unbalanced and front-heavy, such that even D300 users will likely benefit from using a vertical grip. The zoom ring falls conveniently towards the centre of gravity of the system, with the focus ring in easy reach without requiring a change in grip.

## Autofocus

This lens features Nikon's silent-wave motor for autofocus, which performs extremely well; it's almost silent in operation, and we saw no evidence for any systematic focusing errors. We found focusing to be extremely fast and accurate in everyday use on both the D300 and D3 test bodies, however it must be noted that focus speed and accuracy is dependent upon a number of variables, including the camera body used, subject contrast, and light levels.

## Lens body elements

	<p>The lens uses Nikon's venerable F mount, and communicates with the body electronically via an array of contact pins, while control of the aperture is mechanical using a metal lever. The rear element is very deeply recessed in the barrel, and the lens is compatible with Nikon's range of teleconverters.</p> <p>A rubber seal around the outside of the mount protects against dust and water ingress into the camera.</p>
	<p>The filter thread is 77mm, which is the <i>de facto</i> standard for professional lenses, and common across much of Nikon's lineup. It does not rotate on autofocus, which should please filter users.</p> <p>A hard rubber ring surrounds the front of the filter thread, to provide some protection to the front of the lens against impact.</p>
	<p>The highly sculpted petal-type HB-29 lens hood is supplied as standard, and fits to the front of the lens <i>via</i> a bayonet mount. It's 84mm (3.3") deep, and the inner surfaces are painted matte black to minimize reflection of light into the lens; it also reverses for storage.</p> <p>A nice touch is the addition of a locking button, which must be depressed to remove the hood from the lens.</p>
	<p>The zoom ring rotates 80 degrees clockwise from 70mm to 200mm. The ribbed rubber grip is slightly narrow at 20mm in width, and the zoom action extremely smooth and precise.</p> <p>In common with other 70-200mm F2.8 lenses, the zoom action is entirely internal.</p>
	<p>The oddly-shaped focus ring is a generous 30mm wide, and rotates 120 degrees clockwise from infinity to 1.5m. It does not rotate during autofocus, and the full-time manual system allows tweaking of the focus when the lens is set to the M/A mode.</p> <p>Again focus is internal, and the action is extremely smooth, precise and well-damped.</p>

	<p>The (somewhat small) distance scale is positioned at the extreme front of the lens barrel, and incorporates markings in both feet and meters. The focus ring travels slightly past the infinity mark, apparently to allow for the effects of ambient temperature variations.</p>
	<p>The front of the lens barrel also includes three AF-stop buttons, which can be used to interrupt autofocus temporarily (for example when another object comes between the camera and the subject), useful for sports and wildlife photography. Slightly curiously, these are not arranged evenly around the lens barrel, and seem distinctly better placed for landscape format shooting as opposed to portrait.</p>
	<p>The side of the lens barrel is adorned with no fewer than four switches. At the top we have the autofocus/manual focus mode switch, and below that an AF range switch which can be used to limit closest focus to 2.5m (useful to minimize AF time and possible hunting problems). Both are positive in action, although the focus range limiter is somewhat small.</p>
	<p>The lower pair of switches control the image stabilization mechanism; the top one turns VR on and off, and the lower one selects between 'normal' mode (which includes automatic panning detection), and 'active' which is designed for shooting from a moving vehicle. Again the lower switch is distinctly small.</p>
	<p>The tripod mount is of a particularly clever design; only the 'foot' detaches, by releasing the locking knob and pressing a release button, and the rotating ring remains permanently attached to the lens. The foot can then be used like a quick release plate, and left attached to the tripod/monopod.</p> <p>The foot has two tripod attachment points (one not visible in this picture), plus there's one on the lens itself.</p>

### Reported aperture vs focal length

This lens allows an aperture range from F2.8 to F22 at all focal lengths.