Nikon 200mm f/4 AI-s

Micro-NIKKOR (1978-2005)

How to Shoot Macro **Best Macro Lenses**

Intro **Specs** **Performance** **Usage** **Compared** **Recommendations**

Nikon 200mm f/4 Micro-NIKKOR AI-s (metal 52mm filter thread, FX, DX and 35mm coverage, 29.1 oz./824g with collar but without caps, about $200 used). enlarge. I got this one from this direct link to it at eBay (see How to Win at eBay).

This all-content, junk-free website's biggest source of support is when you use those or any of these links to approved sources when you get *anything,* regardless of the country in which you live. Thanks for helping me help you! Ken.

April 2020 Better Pictures Nikon Reviews Nikon Lenses Nikon Flash All Reviews

Nikon 200mm Lens Center Sharpness Compared

Nikon 200mm Corner Sharpness Compared

Why fixed lenses take better pictures

Other Nikon 200mm f/4 lenses:

200mm Micro-NIKKOR AF-D (1993-today, AF)

200mm f/4 AI-s (1981-1996)

200mm f/4 AI (1977-1981)

200mm f/4 Q (1961-1976)

Ideal Uses

Perfect general-purpose close-focusing tele for film and FX, not much bigger or more expensive today than the regular 200mm f/4 AI-s.

Superb as a low-cost FX macro lens, too.

Not for

Not the best lens for macro product shots due to lateral color fringing at close distances. The current 200mm f/4 AF-D is far superior, and oddly, this AI-s lens has no problems at normal non-macro distances.

Optics:	
Ergonomics:	(manual focus)
Usefulness:	
Availability:	
Overall:	

Introduction top

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Compatibility History Production

The Nikon 200mm f/4 Micro-NIKKOR AI-s is precision incarnate. It is the world's first 200mm micro lens.

Everything about it says precise. The focus is out-of-this-world: one finger is enough to flick the focus ring, which feels as if it's floating on air, from infinity to 1:2.

This 200mm f/4 Micro-NIKKOR uses internal focusing, so nothing moves externally as focused.

It's a great lens for anything, however if you're shooting products with black-and-white graphics in the closest macro range and looking closely, you'll see some red-blue color fringing on sharp outlines at the sides.

Optics are excellent otherwise, and the mechanical quality of this piece is fantastic.

Compatibility intro top

This manual-focus Nikon 200mm f/4 Micro-NIKKOR AI-s works great with most Nikon cameras, film and digital.

It works flawlessly with every manual focus Nikon ever made, from the F of 1959 through the FM3a and today's FM-10.

On the D3X, D3s, D3, D700, D300, D200, D2 and F6, use the "Non-CPU Lens Data" menu option to set 200mm and f/4 to get full color matrix metering, EXIF data and finder read-out of set aperture. It works great in aperture-preferred as well as manual modes on these cameras.

It works perfectly on every professional film camera (F, F2, F3, F4, F5, F6), and adds Matrix metering on the FA, F4 and F6.

The meters of cheaper digital (D90, D5000 and below) and cheaper film cameras (N80 and below) will not couple (or work at all) with this lens, so you'll be on your own guessing exposure using the rear LCD or an external meter, or get a tiny Gossen Digisix meter and adapter to meter manually.

See Nikon Lens Compatibility for details on your camera. Read down the "AI, AI-s" column for this lens.

History intro top

1978-1982

This 200mm Micro-NIKKOR was available in its first AI version.

It has a thinner tripod collar and a wider aperture ring than the AI-s version shown here. It is identical optically.

1982-2005

The AI-s version shown here is a minor cosmetic update from the AI version, with the same optics.

The sample shown here is from the middle of 1990.

Production intro top

Nikon made about 40,000 of these 200mm f/4 Micro-NIKKOR lenses, 20,000 each of the AI and then the AI-s version.

Specifications top

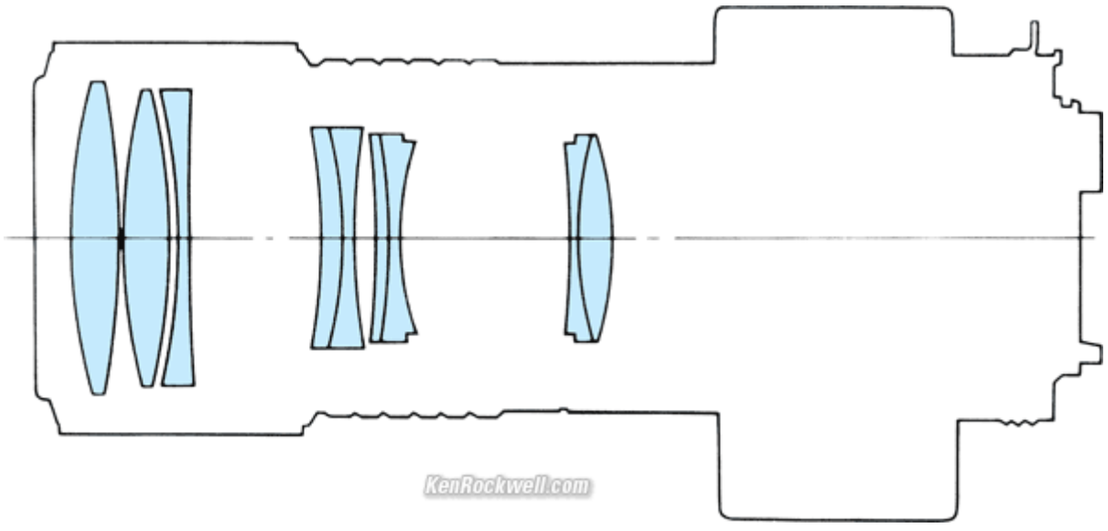
Intro Specs Performance Usage Compared Recommendations

Name

Nikon calls this the Nikon Micro-NIKKOR 200mm f/4 AI-s IF.

IF means internal focusing; nothing moves externally as focused.

Optics top



Nikon 200mm f/4 Micro-NIKKOR AI-s. enlarge.

9 elements in 6 groups.

IF: Internal Focusing.

Multicoated, called Nikon Integrated Coating (NIC).

Diaphragm top

Nikon 200mm f/4 Micro-NIKKOR AI-s. enlarge.

9 straight blades.

Stops down to f/32.

Aperture Ring top

Yes.

Metal.

Full-stop clicks.

Close Focus top

2.34 feet.

0.71 meters.

Working Distance top

19.5" (500mm), hood retracted, at 1:2.

Maximum Reproduction Ratio

top

1:2

Hard Infinity Focus Stop?

top

Yes.

This is great for astronomy; just turn to the stop and you have fixed laboratory-perfect focus all night.

Focus Scale

top

Yes.

Depth-of-Field Scale

top

Nikon 200mm f/4 Micro-NIKKOR AI-s. enlarge.

Yes, but only two little ticks for f/32.

Infra-Red Focus Index

top

Yes: red dot in depth-of-field scale.

Filter Thread

top

52mm, metal.

Does not rotate or move, ever.

Tripod Collar top

Removable tripod collar:

Nikon 200mm f/4 Micro-NIKKOR AI-s Tripod Collar. enlarge.

Nikon 200mm f/4 Micro-NIKKOR AI-s Tripod Collar. enlarge.

Nikon 200mm f/4 Micro-NIKKOR AI-s without Tripod Collar. enlarge.

Size top

Nikon specifies 172mm extension from flange (180mm overall) by 66mm (AI-s) or 67mm (AI) diameter.

Weight top

AI-s version (1978-1982)

29.060 oz. (823.9g), with collar but without caps.

Lens alone: 22.382 oz. (634.6g).

Tripod Collar: 6.680 oz. (189.35g).

Nikon specifies 28.2 oz. (800g).

AI-s version (1982-2005)

Nikon specifies 26.1 oz. (740g).

Hood top

Built-in short telescoping hood.

Case top

CL-36.

Made in top

Japan.

Teleconverters top

TC-301 and TC-14B.

Nikon warns of potential vignetting with the TC-14A, and says to forget it with others.

Packaging top

Gold-foil box, foam innards.

Nikon Product Number top

1468.

Price top

This 200mm Macro was always a $1,000 lens when new.

Used today, it's a screaming bargain.

	Corrected for inflation, 2010	Price, new*
1982	$885	$392
1983	$745	$339
1986	$735	$369
1987	$880	$459
1988	$985	$534
1991	$915	$570

1992	$930	$600
1994	$1,135	$770
1995	$1,200	$840
1996	$1,055	$760
1997	$1,210/1,060**	$890/780**
1998	$935/1,150**	$700/860**
1999	$850/1,100**	$650/840**
2000	$960/1,190**	$760/940**
2005	$?/980*	$?/880*
8/2010	$300 used	-
2013	$325 used	-
4/2020	$200 used	-

* At full NYC discount. Very few people bought their lenses this inexpensively back then.

** USA/gray.

Performance top

Intro **Specs** **Performance** **Usage** **Compared** **Recommendations**

Overall Focus Bokeh Color Distortion Ergonomics Falloff Filters

Color Fringes Mechanics Sharpness Sunstars

Overall performance top

The 200mm f/4 Micro-NIKKOR AI-s is optically and mechanically superb, except for lateral color fringes at macro distances — whoops!

Focus performance top

Manual focus is a dream. It's as smooth as silk, perfectly damped and has no play.

It flicks from infinity to 1:2 in 300º of rotation with one finger.

It's perfectly geared for macro use, but for normal distances, I find the focus too fast. The non-macro 200mm lenses are geared much more slowly for more precise focus over a more restricted range.

The D3, D3X, D3s, D700, F4, F5, F6 and most professional AF cameras have three very precise electronic manual focus indicators, with which this lens works perfectly.

Lesser digital cameras, like the D300s and down, usually have just one "OK" focus dot, which is not as precise as two arrows and a dot.

Bokeh performance top

Bokeh, the character of out of focus areas, not simply how far out of focus they are, is excellent. Backgrounds never distract.

Here are complete full-frame images with the lens focused at 3 meters (10 feet) with vegetation at 10 meters (30 feet):


200mm f/4 Micro-NIKKOR AI-s at f/4 © KenRockwell.com


200mm f/4 Micro-NIKKOR AI-s at f/5.6 © KenRockwell.com


200mm f/4 Micro-NIKKOR AI-s at f/8 © KenRockwell.com

Color Rendition

performance top

The color rendition seems the same as all my other modern NIKKORs.

Distortion

performance top

The Nikon 200mm f/4 Micro-NIKKOR has minor pincushion distortion.

It can be corrected by plugging these figures into Photoshop CS2's lens distortion filter. These aren't facts or specifications, they are the results of my research that requires hours of photography and calculations on the resulting data.

	FX and Film
Infinity	-0.5
15m (50 ft)	-1.0
3m (10 ft)	-0.5
1m (3 ft)	-1.3

Ergonomics

performance top

Nikon 200mm f/4 Micro-NIKKOR AI-s. enlarge.

The Nikon 200mm f/4 Micro-NIKKOR's ergonomics are perfect.

The tripod collar comes off for normal shooting.

If you use a pro camera like the D3S or F5, you'll probably need an AH-5 tripod adapter to attach your tripod to the collar itself in order for the battery compartment of your camera to clear your tripod. Don't worry if you can't score an AH-5; this lens is so light that you can bolt the camera directly to the tripod safely.

Falloff (darkened corners)

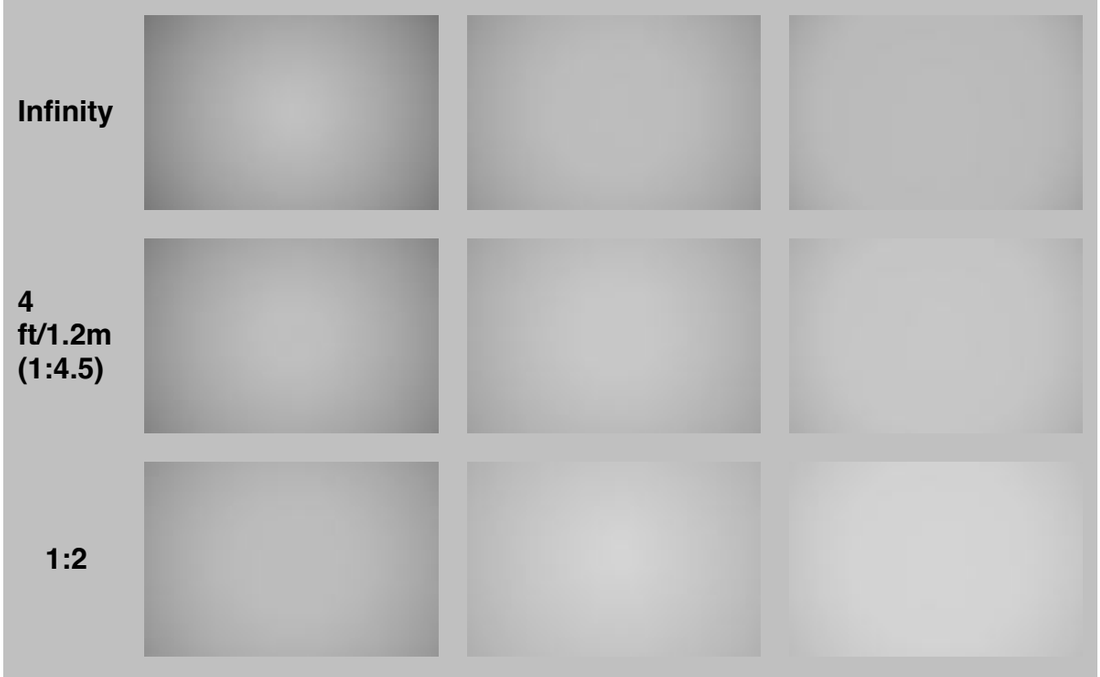
performance top

In actual photography, falloff on FX is just about invisible at f/4, and gone by f/5.6.

It won't be an issue at all on DX (see crop factor).

I've exaggerated this by shooting a gray field and placing these on a gray background.

Nikon 200mm f/4 Micro-NIKKOR AI-s falloff on FX and film at infinity.



Filters, Use with

performance top

There is no problem with vignetting, even with combinations of thick filters.

Lateral Color Fringes

performance top

On a D3, there are visible lateral color fringes on the sides at macro distances.

At normal distances, there are none, and I doubt any of these would be visible at all on film.

This is too bad, since it makes this lens much less useful to me as a macro lens, since for my product shots, color fringes become obvious.

Here's a complete FX image:

LEICA SUMMARON 3.5cm f/3.5 (1958).

And here's the lower side enlarged:

LEICA SUMMARON 3.5cm f/3.5 (1958).

Oddly, these go away at normal non-macro distances.

Mechanics performance top

Nikon 200mm f/4 Micro-NIKKOR AI-s. enlarge.

Like all Nikkor manual focus AI-s lenses, the Nikon NIKKOR 200mm f/4 Micro-NIKKOR AI-s is built to the highest mechanical standards of any lens ever made.

Barrel Exterior

Anodized and enameled aluminum.

Filter Threads

Anodized aluminum.

Hood

Threaded anodized aluminum, internal flocking.

Focus Ring

Metal, rubber covered.

Focus Helicoids

I'm unsure if this IF Micro-NIKKOR uses helicoids, or more likely, cams.

The focus is like melted butter: smooth and silky with no play or need for damping grease.

Depth-of-Field Scale

Engraved into barrel and filled with orange paint for f/32 (AI-s version).

Engraved into barrel and filled with green paint for f/32 (AI-s version).

Internals

All metal.

Aperture Ring

Cast aluminum, anodized and enameled.

Engraved markings filled with paint coded to the depth-of-field scale.

Mount

Dull-chromed brass.

Markings

Engraved into the metal and filled with paint.

Identity and Serial Number

On front of lens outside the filter ring.

Engraved into the metal and filled with paint.

Ass-Gasket (dust seal at mount)

No.

Noises When Shaken

Mild clicking from the diaphragm blades and actuation system.

Made in

Japan.

Sharpness performance top

Warning 1: Image sharpness depends more on you than your lens.

Warning 2: Lens sharpness doesn't mean much to good photographers.

With those caveats, the 200mm f/4 Micro-NIKKOR AI-s is quite sharp.

See examples for yourself at

Nikon 200mm Lens Center Sharpness Compared

and

Nikon 200mm Corner Sharpness Compared

It's sharp even wide-open at f/4. It gets only slightly sharper as stopped-down to f/8, and then diffraction limits performance more than the optics themselves at the smaller apertures.

Sunstars performance top

With its straight 9-bladed diaphragm, the 200mm f/4 Micro-NIKKOR should make magnificent 18-pointed sunstars on bright points of light.

Usage top

Intro Specs Performance Usage Compared Recommendations

The effective f/number becomes slower as one focusses more closely.

Here is a table of the expsure corrections to make, but only make them if you are unsing an external exposure meter. For most people using modern cameras with built-in meters, these are all calculated automatically.

Reproduction ratio	Exposure factor	Exposure increase in f/stops
1/10	1.4	1/2
1/8	1.5	1/2
1/7	1.5	2/3
1/6	1.6	2/3
1/5	1.8	1
1/4	2.0	1
1/3	2.5	1-1/3
1/2	3.4	1-2/3
1/1.8	3.8	2
1/1.6	4.3	2
1/1.4	4.9	2-1/3
1/1.2	5.8	2-1/2
1/1	7.3	3
1.2	9.2	3-1/3
1.4	11.4	3-1/2
1.6	13.8	3-2/3
1.8	16.5	4
2	19.4	4-1/3

Nikon 200mm f/4 Micro Exposure Factors.

Compared top

Intro Specs Performance Usage Compared Recommendations

See also Best Macro Lenses Compared.

Sharpness

See sharpness comparisons for yourself at

Nikon 200mm Lens Center Sharpness Compared

and

Nikon 200mm Corner Sharpness Compared

Comparison Table

	200/4 Micro AI-s	200/4 Micro AF-D	200/4 AI-s
Anni	1978-2005	1993-today	1975-1996
Filter	52mm	62mm	52mm

Optics	Very Good	Spectacular	Very Good
Diaphragm	9 blades, f/32	9 blades, f/32	9 blades, f/32
Close Focus	0.71m	0.5m	2m
Repro Ratio	1:2	1:1	1:7.4
Weight	29.1 oz./824g	41.6 oz./1,180g	18.0 oz./510g
Price, 8/2010	$300 used	$1,650 new	$100 used
Price, 4/2020	$200 used	$1,792 new	$100 used

Recommendations top

Intro **Specs** **Performance** **Usage** **Compared** **Recommendations**

This Nikon 200mm f/4 Micro-NIKKOR AI-s was Nikon's most exotic macro lens for decades. It was the dream of every insect photographer.

Today it sells for a song. Pay five times as much for the hulking AF-D version if you need to split pixels at the sides in the macro range, otherwise for your FX or film camera, this exotic is available used today for less than the price of my last CF card.

Deployment top

I'd leave either a 52mm Nikon Clear (NC - UV) filter, or a 52mm Hoya Super HMC UV on the lens at all times.

I'd pitch the flat Nikon cap that came with this lens and get a new 52mm "pinch" type cap, too. I'm not kidding: the new fatter caps are much easier to use in the field.

If I was working in nasty, dirty areas, I'd forget the cap, and use an uncoated 52mm Tiffen UV filter instead. Uncoated filters are much easier to clean, but more prone to ghosting.

Help me help you top

I support my growing family through this website, as crazy as it might seem.

The biggest help is when you use any of these links when you get *anything,* regardless of the country in which you live. It costs you nothing, and is this site's, and thus my family's, biggest source of support. These places have the best prices and service, which is why I've used them since before this website existed. I recommend them all *personally*.

If you find this page as helpful as a book you might have had to buy or a workshop you may have had to take, feel free to help me continue helping everyone.

If you've gotten your gear through one of my links or helped otherwise, you're family. It's great people like you who allow me to keep adding to this site full-time. Thanks!

If you haven't helped yet, please do, and consider helping me with a gift of $5.00.

Thanks for reading!

Mr. & Mrs. Ken Rockwell, Ryan and Katie.

05 Apr 2020, 2013, August 2010