

FOUR 70-200MM F/2.8 LENSES
If you want a fast aperture telephoto zoom, it's going to cost you and there's not a massive selection but here are four of the very best

KEY FEATURES | 70-200MM F/2.8, IMAGE STABILISATION, ULTRASONIC FOCUSING, WEATHER-SEALED, STREET PRICE £1855

Canon 70-200mm f/2.8 L IS MkII USM

For a hefty £1855, you would expect nothing but the best from Canon. And that's exactly what you get

WORDS & PICTURES RICHARD HOPKINS

SPECS

GUIDE PRICE £1855
CONTACT www.canon.co.uk
CAMERA FITTINGS Canon only
OPTICAL DESIGN 23 elements in 19 groups
GLASS TYPE 1 fluorite element, 5 UD (Ultra Low Dispersion)
APERTURE RANGE F/2.8 throughout zoom range, to f/32
DIAPHRAGM 8 rounded blades
ANGLE OF VIEW 34-12 degrees (diagonally)
CLOSEST FOCUS Checked at 1.15m
REPRODUCTION RATIO Checked at 1:4.6 max
AF TYPE Ultrasonic motor
MANUAL FOCUS Full-time manual override
FILTER SIZE 77mm
DIMENSIONS 200x88mm
WEIGHT Checked 1603g inc collar, hood 98g
IMAGE STABILISATION Four stops
WEATHER-SEALED Yes
ZOOM LOCK No
DEPTH-OF-FIELD SCALE No
LENS HOOD Included
TRIPOD COLLAR Included
CASE SUPPLIED Yes

When Canon launched this MkII lens a couple of years ago, many users of the MkI IS model wondered why. The old version was a pretty decent performer, and maybe other lenses in the Canon range were in more urgent need of an upgrade to suit digital capture.

That was before they tried it though, and this is one of Canon's 'pro-trinity' range of workhorse f/2.8 zooms, alongside the 24-70mm L and 16-35mm L, that forms the backbone of many professional outfits.

Canon has gone to town here, fixing the slight softness at f/2.8 of the MkI with no fewer than 23 elements to make the MkII lens sharp at all apertures, right across the frame. Then Canon has gone a step further, giving it an extra resolution boost that not only gets the most out of cameras with high pixel density like the APS-C format Canon EOS 7D, but also ensures it maximises sharpness with teleconverters that really stretch performance of the lens.

Think of it this way, with a 2x extender you have a 70-400mm f/2.8-5.6 zoom combination that could replace the popular – and rather old in lens design terms – 100-400mm L, and with a considerable saving in weight and cost.

We did try all these lenses with a selection of teleconverters from the main brands and you can read that test in next month's issue of *Advanced Photographer*.

All performance aspects are just as you'd expect, with good control of flare, distortion and vignetting. Image stabilisation is updated to a 4EV gain with standard and panning modes, plus rounded aperture blades, and brilliantly fast AF down to 1.2m. There's not much focus breathing (the apparent loss of focal length with focusing), unlike the Nikon, so the maximum reproduction ratio measured a useful 1:4.6.

It's a hefty beast though, the heaviest here at 1603g, the result of packing all that glass inside a solid and weather-sealed barrel.

RIGHT Solidly engineered and weather-sealed, Canon's 70-200mm is the most expensive here but it's also the best.



Tested at 70mm

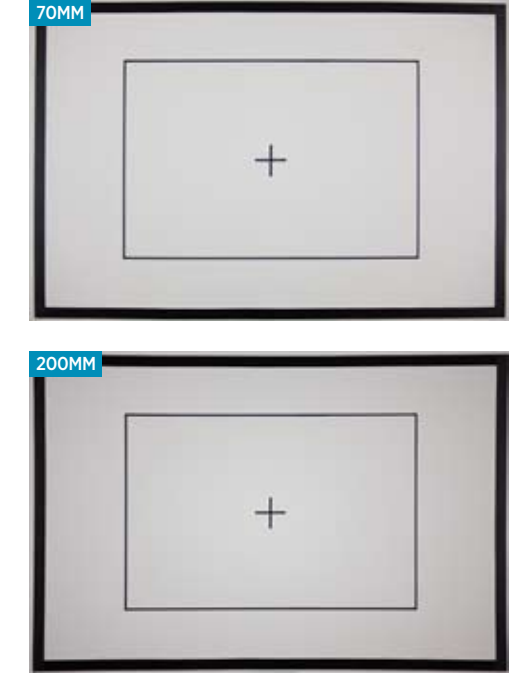
F/2.8	F/4	F/5.6	F/8	F/11	F/16
CENTRE EDGE	CENTRE EDGE	CENTRE EDGE	CENTRE EDGE	CENTRE EDGE	CENTRE EDGE

Tested at 120mm

F/2.8	F/4	F/5.6	F/8	F/11	F/16
CENTRE EDGE	CENTRE EDGE	CENTRE EDGE	CENTRE EDGE	CENTRE EDGE	CENTRE EDGE

Tested at 200mm

F/2.8	F/4	F/5.6	F/8	F/11	F/16
CENTRE EDGE	CENTRE EDGE	CENTRE EDGE	CENTRE EDGE	CENTRE EDGE	CENTRE EDGE



LEFT Full-frame images at f/2.8 show that the Canon has well-controlled distortion with only a touch of barrel at 70mm and slight pincushioning at 200mm. Vignetting is minor and gone at f/4 onwards.

THE VERDICT

This lens has the most of everything – size, weight, cost, 23 elements, a claimed 4EV image stabilisation, ultrasonic focusing, and of course top performance.

Other lenses can match it a lot of the time, but not at all apertures and focal lengths like Canon can. And none can take a 2x teleconverter quite so well and still deliver image quality to rival many longer zooms, making it almost two lenses in one.

The problem for Canon users is too much choice. There are three other L-grade 70-200mm zooms in the range, all with different strengths, plus the excellent new 70-300mm L, and not forgetting the Sigma and Tamron here. But if you want the best and can handle the price, there's only one.

HOW IT RATES

FEATURES 25/25
Image stabilisation, ultrasonic AF, weather-sealing – a full house

HANDLING 25/25
Nothing to say, other than it's just great to use

PERFORMANCE 25/25
Very sharp, always. Plus great AF and four stops of image stabilisation

VALUE FOR MONEY 20/25
If there's a problem here, it's the price. £1855 is a lot in any language

OVERALL 95/100

Possibly the best 70-200mm out there, certainly for Canon users, and it's good with an extender too

PROS Peerless performance. Not many primes can match this standard of sharpness

CONS Only price. And rivals costing half as much run it close

KEY FEATURES KEY FEATURES 70-200MM F/2.8, IMAGE STABILISATION, ULTRASONIC FOCUSING, WEATHER-SEALED, STREET PRICE £1620

Nikon AF-S 70-200mm f/2.8 G ED VR II

As you would expect, this is a premium grade lens at a premium price. But exemplary performance aside, the Nikon is not without its quirks

WORDS & PICTURES RICHARD HOPKINS



SPECS

- GUIDE PRICE** £1620
- CONTACT** www.nikon.co.uk
- CAMERA FITTINGS** Nikon only
- OPTICAL DESIGN** 21 elements in 16 groups
- GLASS TYPE** 7 ED elements
- APERTURE RANGE** F/2.8 throughout zoom range, to f/22
- DIAPHRAGM** 9 rounded blades
- ANGLE OF VIEW** 34-12 degrees (diagonally)
- CLOSEST FOCUS** Checked at 1.28m
- REPRODUCTION RATIO** Checked at 1:7.8 max
- AF TYPE** Ultrasonic motor
- MANUAL FOCUS** Full-time manual override
- FILTER SIZE** 77mm
- DIMENSIONS** 206x87mm
- WEIGHT** Checked at 1536g inc collar, hood 51g
- IMAGE STABILISATION** Four stops
- WEATHER-SEALED** Yes
- ZOOM LOCK** No
- DEPTH-OF-FIELD SCALE** No
- LENS HOOD** Included
- TRIPOD COLLAR** Included
- CASE SUPPLIED** Yes

This superb Nikkor may be of only academic interest to Canon users, and vice versa the Canon 70-200mm MkII to Nikon owners, but we all want to know just which one is best. To level the playing field in the sharpness comparisons, the Nikkor was mounted on our standard Canon EOS 5D Mark II review camera using a Novoflex EOS-Nik adapter.

It's a close run thing, and both lenses are clearly outstandingly good, with sharp edge-to-edge performance across the aperture range. It's a job to separate them, though the teleconverter check with a Kenko Pro 2x did give some insight. At an effective 400mm f/5.6, at first the Nikon looks sharper than Canon due to slightly higher contrast. But the same shot with the Canon actually has higher resolution, and when extra sharpening is applied in post-processing, the Canon edges ahead. Much more

on teleconverters in next month's issue.

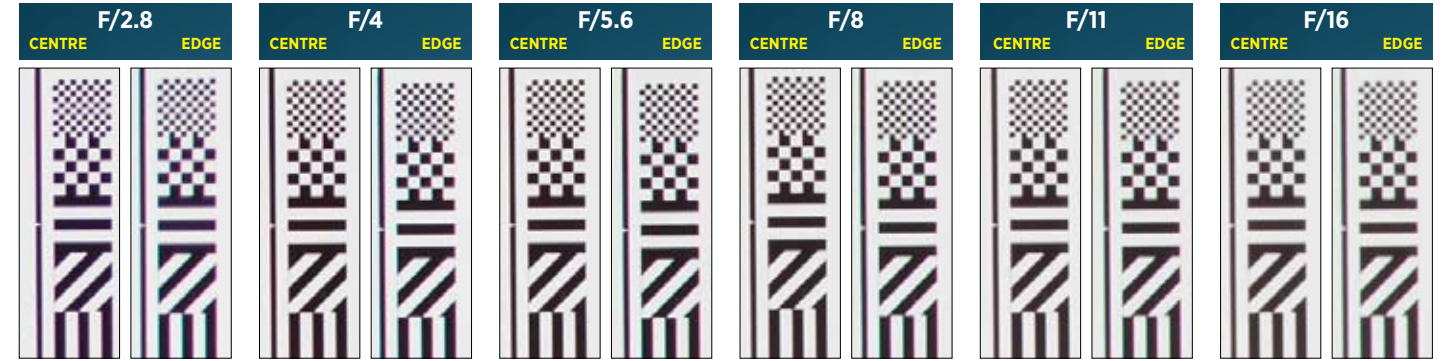
Back to the 70-200mm on its own, we also tested the lens on a Nikon D700 and it's brilliant to use. The weather-sealed magnesium body feels super-solid and the ultrasonic focus zips back and forth at lightning speed, while the four-stops VR system is very effective.

There is one problem though, and that's the focus breathing at close distance – a common feature of internal focus zooms. Basically focal length is effectively reduced and the Nikon suffers more than most – at a marked 200mm, it's down to about 180mm at 3m range, and estimated at less than 150mm at the minimum focus of 1.28m. The result is poor close-up performance with maximum magnification of only 1:7.8, meaning that you can fill the image with something the size of this A4 magazine (on full-frame) but nothing smaller.

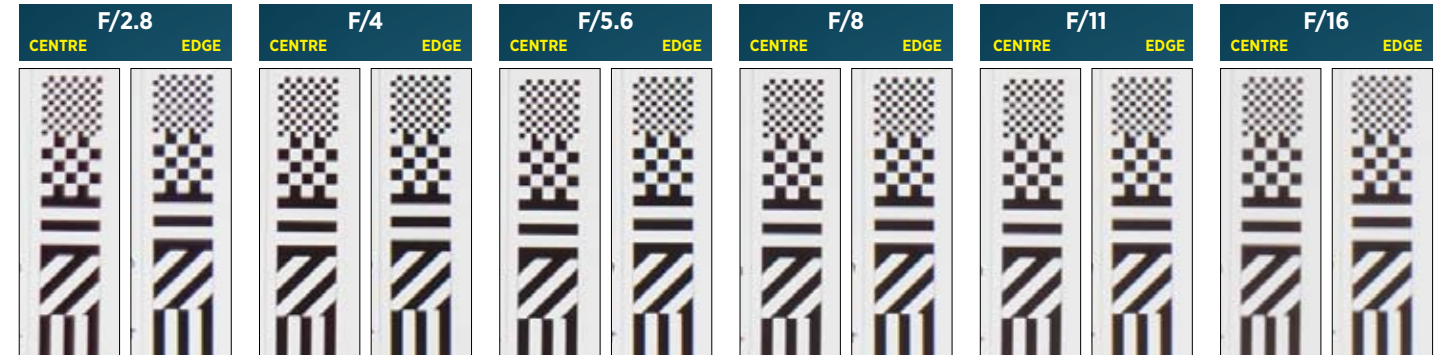
RIGHT Nikon's flagship 70-200mm is a class lens capable of very fast AF, has excellent optical credentials and features a very effective image stabilisation system.



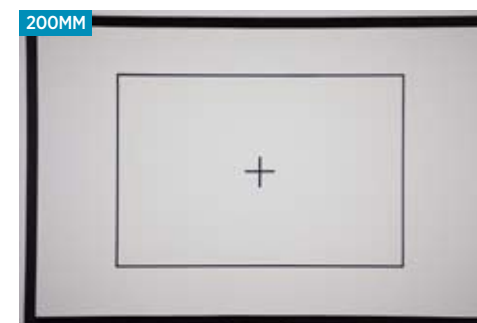
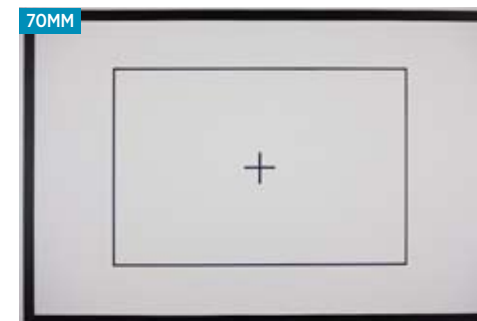
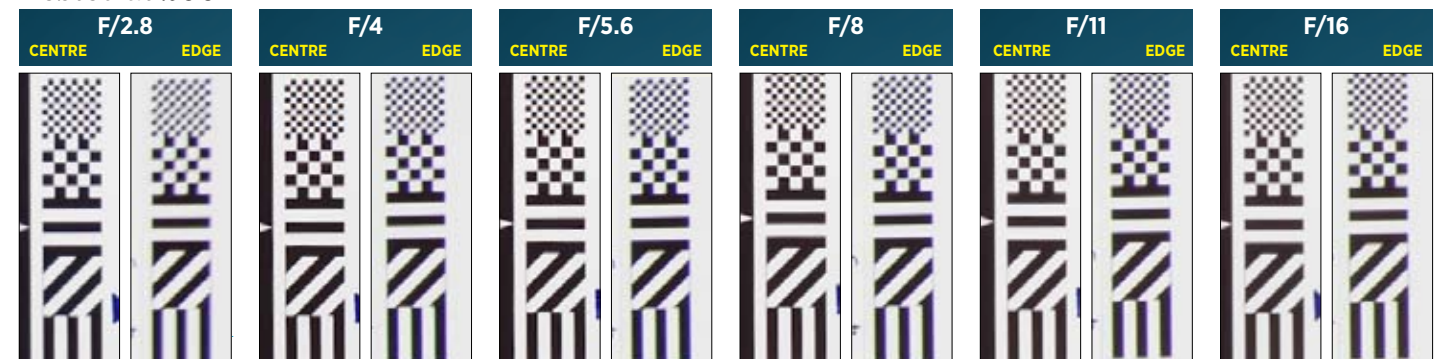
Tested at 70mm



Tested at 120mm



Tested at 200mm



LEFT While barrel distortion is well handled by the Nikon, pincushioning is quite pronounced at 200mm – it's more obvious on this lens than its three rivals. Not an issue for most purposes and correctable in software.

THE VERDICT

This is a fabulous zoom from Nikon. Optical performance is top drawer, it feels great and works superbly well with fast and responsive AF and VR image stabilisation. The test sample was editor Will Cheung's personal copy, and has clearly taken a few knocks; the rugged weather-sealed build being part of the cost.

The focus breathing issue is disappointing, limiting close focus potential. It may never be a problem for some, and can be mostly worked around with a short extension tube, but it rather lets the side down.

Another quirk is the lens hood, that is much smaller than it needs to be, for no apparent reason – the hood for the MkI version was bigger and deeper. The ends are rounded too, so you can't stand the lens down.

HOW IT RATES

- FEATURES** 25/25
Everything – image stabilisation, ultrasonic AF and weather-sealing
- HANDLING** 25/25
Smooth, fast, accurate, with rugged Nikon build quality
- PERFORMANCE** 23/25
Sharp as a tack, only let down by disappointing close focusing ability
- VALUE FOR MONEY** 20/25
Like the Canon, that little bit extra always costs a lot more
- OVERALL** 93/100

A great lens from Nikon, with brilliant all-round performance (apart from close focusing) but it comes at a cost

PROS Image quality, excellent features, build quality

CONS Price. And poor close focusing

KEY FEATURES 70-200MM F/2.8, IMAGE STABILISATION, ULTRASONIC FOCUSING, CANON NIKON SIGMA SONY PENTAX FITTINGS, STREET PRICE £900



Sigma 70-200mm f/2.8 DG USM OS

The specification promises everything that the big boys have to offer, but at half the price. It sounds (almost) too good to be true

WORDS & PICTURES RICHARD HOPKINS



SPECS

- GUIDE PRICE** £900
- CONTACT** www.sigma-imaging-uk.com
- CAMERA FITTINGS** Canon, Nikon, Sigma, Sony, Pentax
- OPTICAL DESIGN** 22 elements in 17 groups
- GLASS TYPE** 2 FLD, 3 SLD
- APERTURE RANGE** f/2.8 throughout zoom range, to f/22
- DIAPHRAGM** 9 rounded blades
- ANGLE OF VIEW** 34-12 degrees (diagonally)
- CLOSEST FOCUS** Checked at 1.2m
- REPRODUCTION RATIO** Checked at 1:6.8 max
- AF TYPE** Ultrasonic motor
- MANUAL FOCUS** Full-time manual override
- FILTER SIZE** 77mm
- DIMENSIONS** 197x86mm
- WEIGHT** Checked at 1437g inc collar, hood 76g
- IMAGE STABILISATION** Four stops
- WEATHER-SEALED** No
- ZOOM LOCK** No
- DEPTH-OF-FIELD SCALE** Yes (limited)
- LENS HOOD** Included
- TRIPOD COLLAR** Included
- CASE SUPPLIED** Yes

This lens is the first attempt by a third-party manufacturer to challenge the camera makers head-on with a fast, fully specified telezoom – but at a much lower price.

At around £900, it is roughly half the cost of similar lenses from Canon and Nikon, but Sigma has made very few compromises. It's f/2.8 throughout, has excellent ultrasonic focusing with full-time manual override, and the big plus is Sigma's OS image stabilisation that pretty much lives up to its claimed improvement of four stops in shake-free hand-holding.

Just about the only thing missing is weather-sealing, but the big question is of course image quality. Sigma has tried hard here, incorporating three SLD and two FLD elements (with fluorite-like characteristics) amongst a total of 22.

The design is different from most rivals in that the focusing group is behind the zoom section, resulting in a slim manual focus ring positioned behind the zoom control rather than

in front of it. Both turn in the same direction as Canon, the reverse of Nikon.

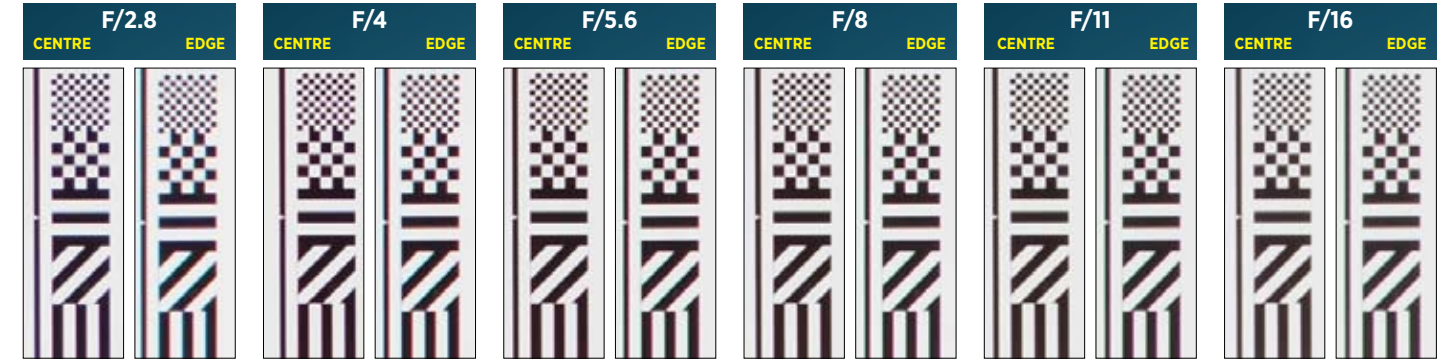
Judge the sharpness for yourself, but it certainly runs the marque lenses close. It misses out slightly on full aperture performance and towards the edges of the frame, but bearing in mind the likely uses of lenses like this where off-centre subjects are less common, and quite likely to be out of focus anyway at lower f/numbers, the Sigma makes a compelling case.

Other areas where optical corners can be cut like vignetting and distortion control are as good as any, and the only criticism is the modest close focusing ability. The lens breathes at closer distances, which is a polite way of saying it loses focal length, and from about 3m and under it is down from a marked 200mm to nearer 180mm equivalent, with the result that at 1.2m minimum focus the reproduction ratio tested at only 1:6.8. That's disappointing, but actually the Nikon is worse in this regard.

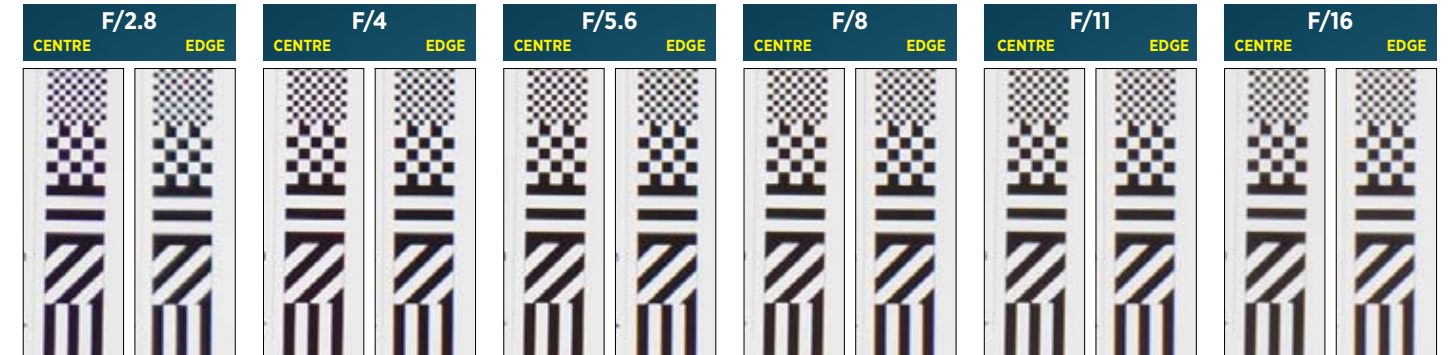
RIGHT Sigma's 70-200mm is a class act and given that it's so much cheaper than those optics from the marque brands, it's a great buy and is the winner of our test here.



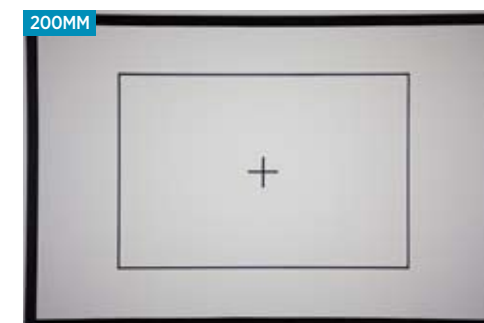
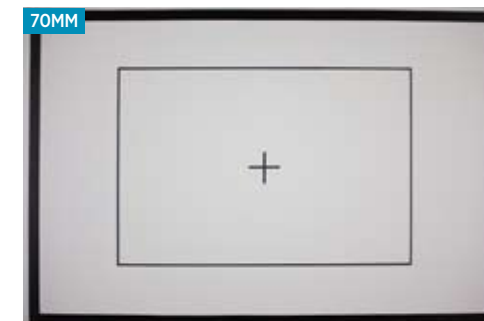
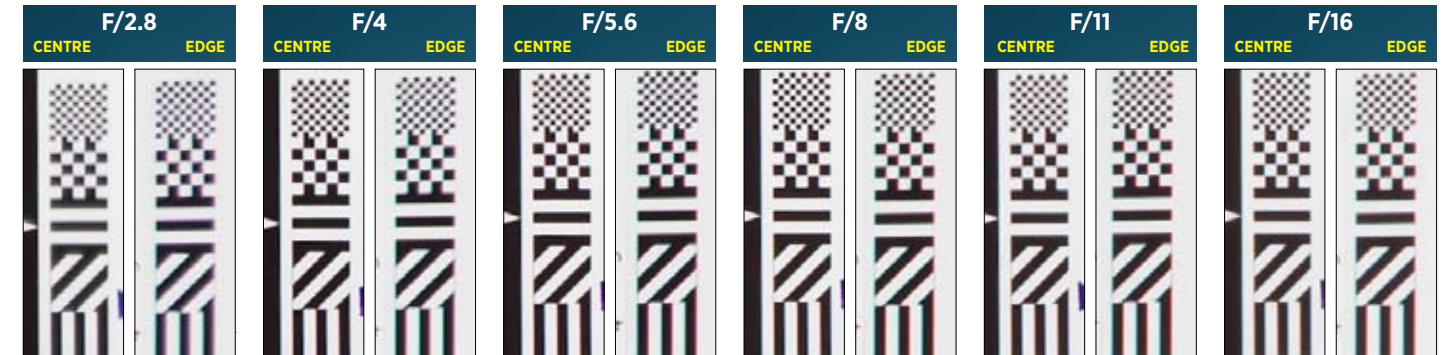
Tested at 70mm



Tested at 120mm



Tested at 200mm



LEFT Respectably tight control of distortion is shown by the Sigma and any produced is easily correctable in software. There is slightly more vignetting at 200mm but this has gone by f/4 – and again is easily corrected.

THE VERDICT

We knew this lens was good, but actually it's very good. It looks the part with Sigma's new harder-wearing finish, it operates smoothly and feels very solidly made.

Shooting side by side with Canon and Nikon rivals, the AF was swift, accurate and quiet. The image stabilisation lived up to its claims and we achieved a 60 per cent success rate at four stops under the normal hand-holding rule of thumb, and over 90 per cent at three stops under – same scores as both Canon and Nikon – which is great performance in such a wonderfully useful feature.

Best of all, this lens is sharp across the frame and at most apertures. Sure, there are sharper lenses out there, but not by much and they're way more expensive.

HOW IT RATES

- FEATURES** 23/25
Image stabilisation, ultrasonic AF, just weather-sealing missing
- HANDLING** 25/25
Tripod foot blocks AF and OS controls in vertical format, but that's just being picky
- PERFORMANCE** 23/25
You have to look closely at the edges and corners to find a weakness. AF and image stabilisation work very well
- VALUE FOR MONEY** 25/25
Compared to Canon and Nikon prices, £800 is a bargain
- OVERALL** 96/100
Performance that loses very little to the marque lenses, at a very substantial cost saving, makes it Best in Test
- PROS** Features, handling, performance, value for money
- CONS** Hard to think of any at this price

KEY FEATURES

KEY FEATURES 70-200MM F/2.8, FOCUSING DOWN TO 1:3, CANON, NIKON, SONY, PENTAX FITTINGS, STREET PRICE £600

Tamron SP 70-200mm f/2.8 Di LD IF Macro

Costing little more than a cooking-quality telezoom, this Tamron promises better sharpness and shallow depth-of-field effects, normally the preserve of professional grade lenses

WORDS & PICTURES RICHARD HOPKINS



SPECS

- GUIDE PRICE £600
- CONTACT www.intro2020.co.uk
- CAMERA FITTINGS Canon, Nikon, Sony, Pentax
- OPTICAL DESIGN 18 elements in 13 groups
- GLASS TYPE Includes LD elements
- APERTURE RANGE F/2.8 throughout zoom range, to f/32
- DIAPHRAGM 9 rounded blades
- ANGLE OF VIEW 34-12 degrees (diagonally)
- CLOSEST FOCUS Checked at 0.93m
- REPRODUCTION RATIO Checked at 1:3 max
- AF TYPE Micro-motor
- MANUAL FOCUS Yes
- FILTER SIZE 77mm
- DIMENSIONS 197x90mm
- WEIGHT Checked at 1326g inc collar, hood 79g
- IMAGE STABILISATION No
- WEATHER SEALED No
- ZOOM LOCK No
- DEPTH-OF-FIELD SCALE No
- LENS HOOD Included
- TRIPOD COLLAR Included
- CASE SUPPLIED Yes

This zoom is from Tamron's premium SP range, like the new SP 24-70mm f/2.8 VC USD lens that impressed in our July 2012 review, though the 70-200mm lacks image stabilisation and ultrasonic drive AF. They're both key features of rivals here, and a couple of good reasons why the Tamron costs very substantially less at around £600.

Instead of USD, the autofocus uses a conventional micro-motor that is noticeably slower and more noisy. It's accurate with static subjects, but can't keep up reliably with moving targets in servo-AF mode – an area of performance where ultrasonic excels. Manual focusing is slightly awkward, with a rather clunky clutch mechanism to the front ring and no full-time override, though manual focus is tricky with all of these lenses that are designed primarily for AF use.

The Tamron does have one very useful feature though. It focuses down to a close 93cm, and doesn't suffer from 'focus breathing'

RIGHT The Tamron is a great price but it's held back by its conventional AF motor and lack of shake reduction mode. Optically, it's a solid performer but not quite up to the levels produced here by pricier rivals.

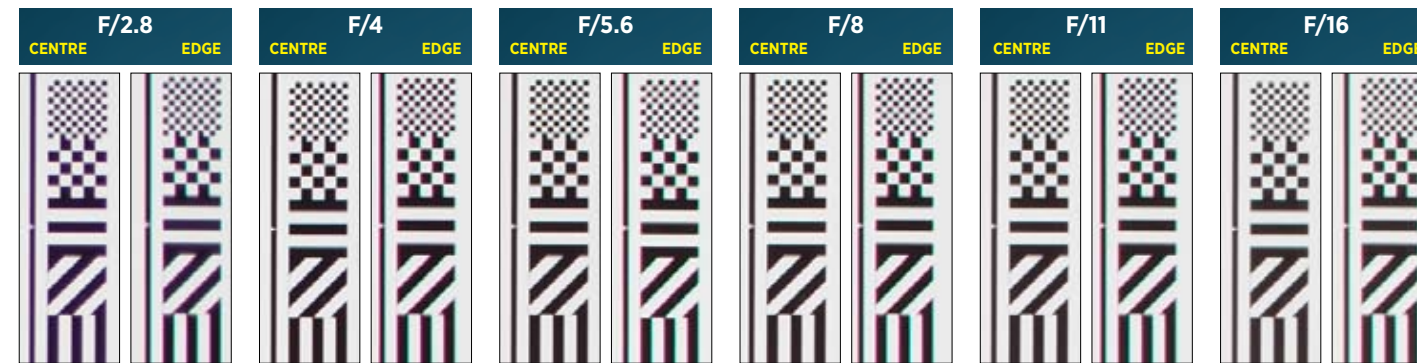


that effectively reduces focal length at close range. These two factors combine to deliver a maximum reproduction ratio of 1:3, filling the image with a subject only 10.8cm wide on full-frame (even smaller on APS-C format). While not exactly macro in the true sense, it's great for things like flower portraits. By comparison, the Nikon with 1:7.8 can only manage a smallest subject 28cm wide.

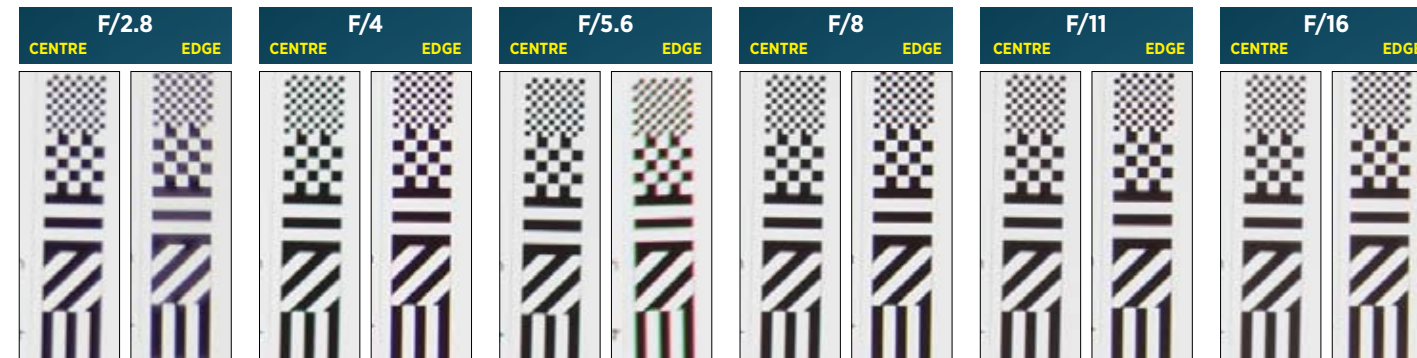
Sharpness is very good, if not quite to the same very high standard as the others. It lags behind particularly at wider apertures, with a weaker spot around the mid focal length range, but bearing in mind the comments made in the Sigma review, this may not be a deal breaker. It was also slightly more prone to flare, as is often an issue with longer lenses.

One other feature of note is the relatively low weight. While it's much the same size, it has fewer glass elements and weighs 200g less than the Nikon, almost 300g less than the Canon.

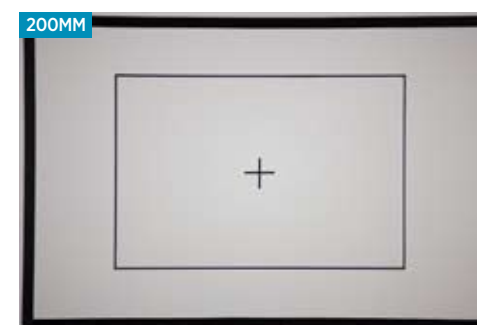
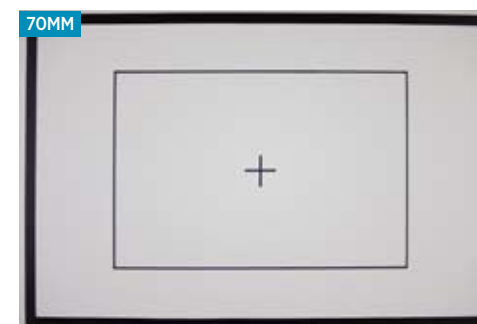
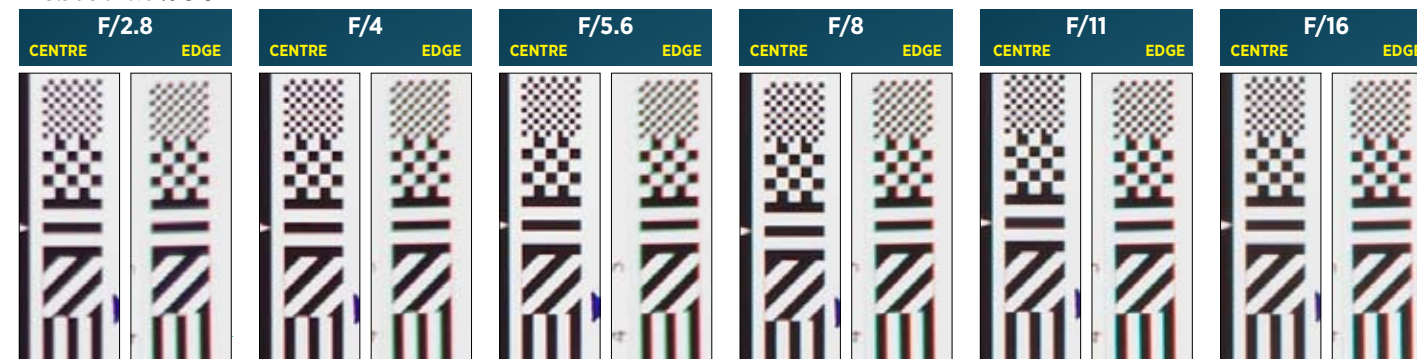
Tested at 70mm



Tested at 120mm



Tested at 200mm



LEFT Good control of distortion is shown by the Tamron with minimal barrel distortion at 70mm and slight pincushion at 200mm. Vignetting at 200mm is more evident but that goes with stopping down.

THE VERDICT

Make no mistake, this lens is capable of very sharp images if you stop it down a bit. It's just not quite as good as the others here, which is hardly surprising when it costs a third of the price. Compared with more consumer grade 70-300mm f/4-5.6 zooms, this Tamron wins hands down, especially at the long end, and of course they can't get near its f/2.8 maximum aperture. The AF system lags behind a little when tracking action subjects, lacking ultrasonic drive, but that is another cost-saving measure and as is often the case, you get what you pay for. Very much in the Tamron's favour though is the excellent close focusing capability that usefully extends versatility. Tamron is gradually upgrading its optics and its 70-200mm might be updated soon.

HOW IT RATES

- FEATURES** 18/25
Missing features like ultrasonic AF and image stabilisation mark it down
- HANDLING** 22/25
No complaints, apart from the clunky AF mechanism
- PERFORMANCE** 20/25
Beats most mid-priced telezooms, but it's up against the very best here
- VALUE FOR MONEY** 22/25
Good value. At £600 it's a third of the price of some alternatives
- OVERALL** 82/100
Most of the time, this lens will deliver results indistinguishable from much costlier rivals, at much lower cost
- PROS** Value for money, close focusing ability
- CONS** Lacks ultrasonic focusing, and no image stabilisation