

## Top-end telescopes

Buying any birding scope is something that a birdwatcher is always going to take a great deal of care and time over, but when you're talking about the really big boys, all retailing at more than £900 (with eyepiece), that goes double. This is the kind of decision you really have to get absolutely right.

We tested top-of-the-range scopes from six manufacturers, and offer a comprehensive guide to the performance of all, but there is never any substitute for trying them out thoroughly yourself before you buy. Every birder's preferences will be different, based on factors as diverse as the sort of birdwatching they do, their eyesight and physique, the scopes they have

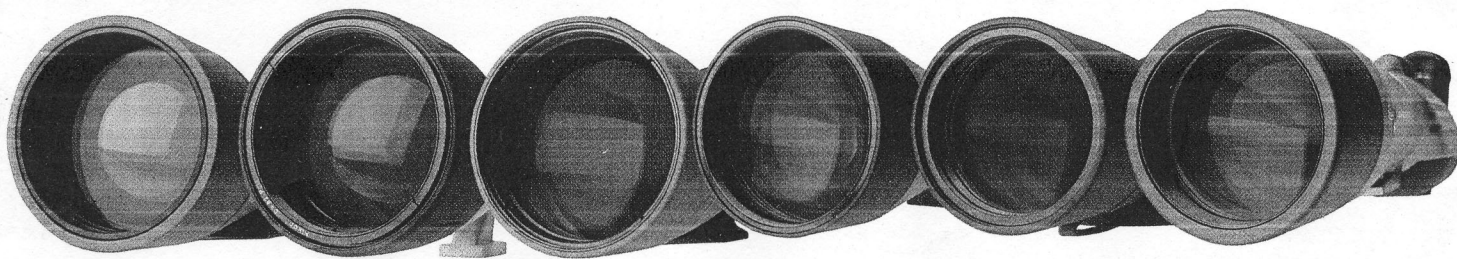
been used to in the past and, of course, their wallet.

With that in mind, we also offer a brief guide to the features we looked at and that you should also be testing, and a few tips for buying. One of the most important things to remember, however, is that in the end, it has to be the decision that suits you.

For our test, we asked the manufacturers for one example each of their highest-spec angled scope, plus a 30x (or equivalent) eyepiece. All were tested alongside each other at the Anglian Water Birdwatching Centre, Rutland Water, on a single day in February. A resolution chart provided by Minox was also employed.

### THE TESTERS

Matt Merritt, production editor,  
*Bird Watching* magazine  
David Chandler, author and optics expert



## How we did the test

Here are the optical criteria by which we tested each of the six scopes. While optical quality is likely to be highest on your list of priorities, always remember that you need to settle on a scope that is also easy and pleasurable to use.

**BRIGHTNESS:** All the scopes in this test scored highly for brightness, unsurprisingly given their large objective lenses and the high-quality glass used. Dull conditions are best for testing the benefits offered by these larger, more expensive models – lesser scopes might perform well in bright sunlight, but what about heavy overcast, or at dawn or dusk?

**RESOLUTION:** Focus each scope on the same object – a particular part of a plant, a spikey branch maybe – and look at the difference in detail. If at all possible, test this in low light and deep shade, to separate the very best from the rest of the field. On the day of our test, the light was dim throughout. We used a resolution chart as an aid to testing, but placed more emphasis on in-the-field observation.

**FIELD OF VIEW:** The wider the field of view, the easier you'll find it to observe flocks of birds, or birds in flight. It is best tested by focusing on a man-made object (we used a set of fenceposts), where the relative width of field of different scopes can be easily measured.



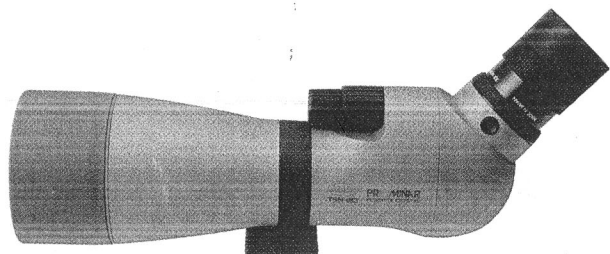
**COLOUR CAST:** Many models will have a slight blue or yellow tinge to the image. The former produces a brighter, cleaner image, with slightly reduced contrast, while the latter produces better contrast but slightly reduced colour.

**COLOUR FRINGING:** This is the appearance of a faint blue or yellow 'halo' around the object you are viewing. It is best tested by viewing an object against a pale background. All telescopes are likely to suffer from colour fringing, especially towards the edge of images, but it is generally far less pronounced on the more expensive models.

## Your scope-buying checklist

- If you can, ask other birdwatchers if you can try their scopes, and take note of any features you particularly like or dislike.
- Before you go to buy, make a shortlist of models that you're interested in, and give your dealer a call to check that they're available.
- Make sure the shop you buy your scope from has good viewing facilities, so you can test the scopes yourself. Some retailers hold field days at reserves and birdwatching fairs.
- Have your own shortlist, and compare all the models on your shortlist thoroughly before trying any suggested by the shopkeeper.
- If the shopkeeper gets too technical for you, don't be afraid to ask for clarification. If he/she is particularly enthusiastic about a certain model, remember that profit margins vary, and that it might be one that earns him more money. Then again, they may be right!
- Compare only two models at a time, three at most.
- Take your time about comparing. Don't be hurried – good retailers will be happy to give you as long as you need – and make notes as you compare. These notes will be invaluable if you decide to come back later after thinking things over.
- Take all factors into account – a superb image is all very well, but the scope also needs to be one that you're comfortable using.
- Test the actual scope you decide to buy before taking it home.
- Check that the box carries an approved importers mark – buying a 'grey' import can cause problems if anything goes wrong.

## Kowa TSN-883



### Optics

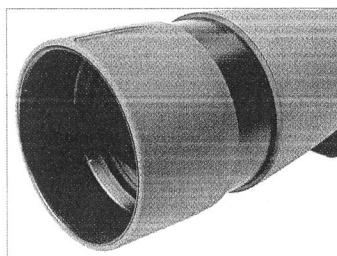
The massive 88mm objective lens, the biggest in the test, does everything you'd expect, producing an excellent image. It and the Nikon were the brightest in the test. The resolution was very good (a clear winner on our resolution chart) with next to no softness around the edges. The field of view was excellent – slightly wider than all in the test, apart from the Swarovski. The colour was very true, with no

notable cast, and there was negligible colour fringing.

### Ease of use

At 1,520g this has an average weight within the group, though its excellent balance helped make it feel lighter. It is quite compact, with styling resembling a green Zeiss Diascope, but with no rubber armouring.

The bayonet-fitted eyepiece features a secure fitting mechanism,



with a button to press to release it – very comforting.

The wide, bucket-like twist-up rubber eyecup scored highly for comfort and ease of use, with four click-stop positions to suit any user.

The ridged rubber focus wheel is centrally-placed at the top of the scope, in a comfortable position for either hand. It is divided into a forward, slimmer, one-finger-wide fine focus and a 1.5-finger wide 'coarse' focus. There is no gap



between them, but this was no problem. The focus was very precise, particularly with the fine focus, though there was a slight suggestion of roughness in the action. Close focus to infinity was in a little less than two turns.

The tripod attachment fits directly into Manfrotto heads, but of course can be used with a plate with other makes. The rotating collar has no click-stops, and has a rather fiddly screw.

### David's comments

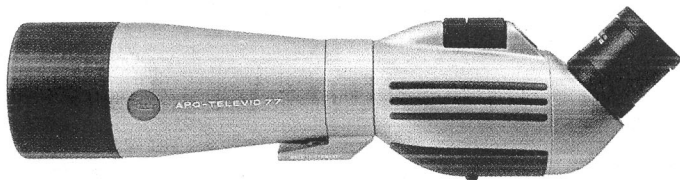
Kowa have made some great telescopes. This one is new, and is likely to cause a stir. A great performer, the best of the bunch optically and well designed, too, but it will cost you.

### Matt's comments

This is a scope likely to present you with a huge dilemma. It's quite superb and seemed to get better as the day went on. However, though it was my pick of the bunch, you might not feel it's far enough ahead of the rest to justify the chunky price tag.



# Leica APO Televid 77



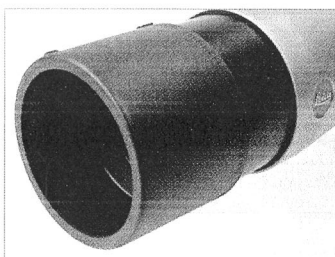
## Optics

It was impressively bright, given that the objective lens diameter (at 77mm) was the second smallest on test; though not as bright as wider models (especially the Kowa, Nikon and Zeiss). It performed very well on the resolution chart and in the field, but there was a little softness at the edges compared to the best performers here. Field of view was very good, though pipped by the

Kowa and Swarovski. There was no obvious colour cast. Colour-fringing was very little, though, again, more than the best on test.

## Ease of use

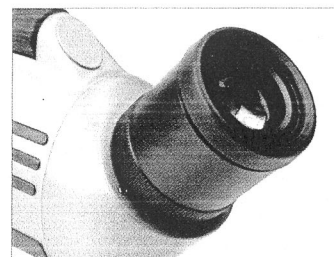
At 1,695g, it was noticeably heavier than the rest. It is a long and large scope, with unique silver styling, with a low-slung rear (rubberised at the base) beneath the level of the tripod attachment. The eyepieces



are bayonet fitted, with no button to release. The comfortable, wide eyecups pull out to one position, and have quite a stiff rubber cup.

The ridged-rubber focus wheel is centrally placed on top of the scope, near the eyepiece, within easy comfortable reach of either hand. It is split into finer and coarser gearings.

The main (1.5 finger width) focus wheel is at the back, and the fine



(1 finger) wheel is at the front, with no real gap between them. The focusing mechanism is very smooth and very precise. About five revolutions of the main focusing wheel are possible. There is a conventional screw-on plate for tripod attachment.

The rotating collar has four click-stops, and in common with most of the other scopes tested here, its screw was a bit fiddly.

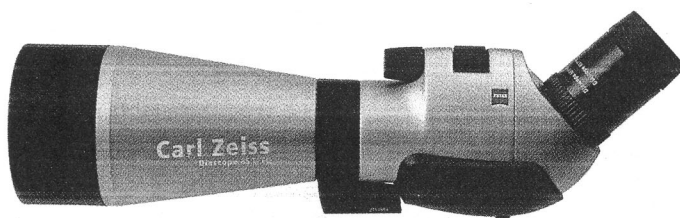
## David's comments

The 77mm Televid has been around for a while now and is still an impressive performer. This is a tried-and-tested scope and definitely a quality bit of kit. For me, it's a bit too heavy and a bit too bulky.

## Matt's comments

You'd be hard-pressed to come up with any real negatives about this very solid performer. It's a very impressive scope, with no idiosyncracies. Its bulk might put some off, but wouldn't deter me, particularly.

# Zeiss 85T FL Diascope



## Optics

The image was very bright, thanks to an 85mm objective lens. It was impressively sharp, too, as demonstrated by its comfortable handling of the resolution chart. There was some softness around the edge – only really notable when compared directly with the best here.

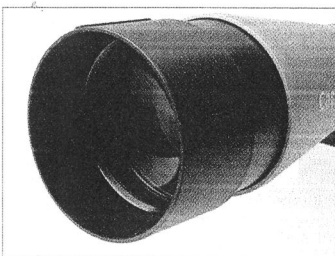
Curiously, the field of view appeared in use, at first, to be a little claustrophobic, but when

tested was at least the equal of all but the Kowa and Swarovski.

Compared to other scopes in the test, there was a yellow cast to the image, but only a hint of colour fringing.

## Ease of use

At 1,450g, this scope fell into the middle of the weight range and was well balanced. This is another silver scope, more compact than the Leica and closer in styling to the Kowa,

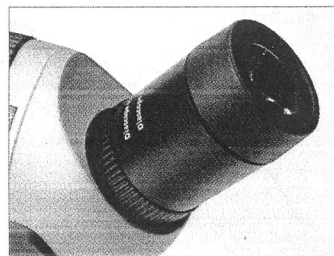


with a rubberised base at the rear.

The eyepiece is bayonet fitting, without a locking mechanism, though stiff enough to hold in place without any worries.

The plastic eyecups pull out to one lockable position. They are wide and bucket-style and very comfortable to use.

The focus wheel is split into two well-separated wheels, well placed at the centre at the top of the body, near the eyepiece.



The very precise focus mechanism stood out, with the front fine focus wheel (1.5 fingers wide) being larger than the rear main (1 finger) – particularly useful for gloved or numbed fingers.

Though smooth, the focusing mechanism was also slightly stiff, and took three turns from close focus to infinity.

The tripod attachment plate is of the standard style. The rotating collar has six click-stops.

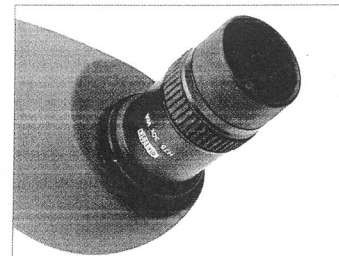
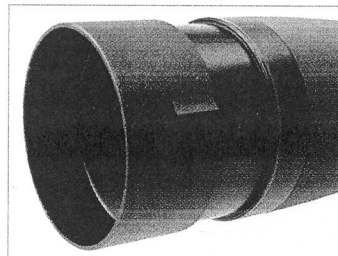
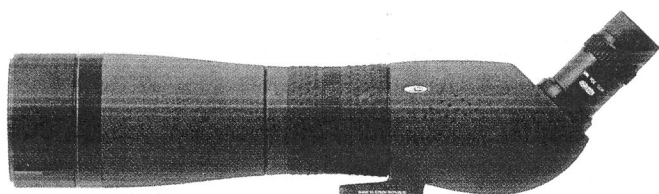
## David's comments

Zeiss have done well to keep its weight down. It's a good-looking bit of kit and excellently put together, perhaps let down by the yellow cast to the image, although the view was sharp and plenty bright enough.

## Matt's comments

The design is superb, being both stylish and immensely practical. I particularly liked the fact the fine focus wheel is larger than the main, which was very useful, in practice, although I did find the yellow cast rather distracting.

## Meopta Meostar S1-75 APO



### Optics

Though bright for a 75mm scope, this scope inevitably fell behind the other larger scopes in absolute brightness – it has the smallest objective lens of those tested. The resolution was good, meeting the challenge of the resolution chart without a struggle, and only slipping slightly behind the best performers. There was some softness around the edge of the image – not

a great problem, but not quite a match of the top performers.

The field of view, though good, was notably the narrowest of the six. There was no obvious colour cast and only low levels of fringing (again good but not a match for the best here).

### Ease of use

Weighing just 1,295g, this scope was the least heavy on test – and it

certainly felt it. It has a rather old-fashioned, front-heavy appearance, despite its textured coating.

The eyepieces screw in rather than have a bayonet fitting. Only the Nikon shares this feature with the Meopta.

They are the smallest and narrowest of all tested, and although by no means uncomfortable in absolute terms, suffered by comparison with the

others. Unlike the others on test, the eyecups are of the rather old-fashioned, fold-up/down, narrow-rubber style.

The four-finger-wide helical focus is well placed above the tripod attachment and the mechanism was smooth, easy and precise. It took one turn from close focus to infinity.

The tripod attachment is of the normal type, but there is no rotating collar.

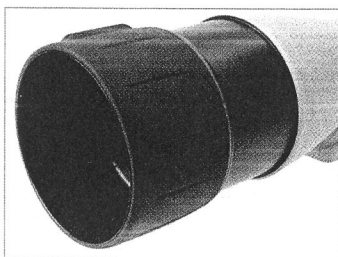
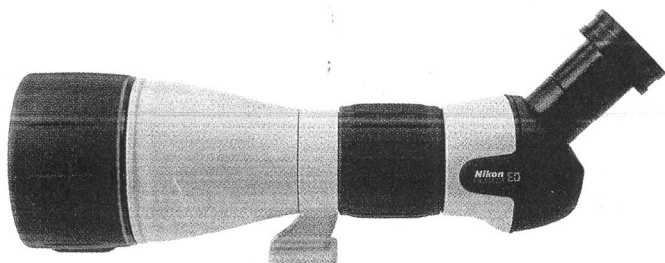
### David's comments

It may look a bit dated, but don't be hung up on the name and don't be a design victim – this is a great scope at a great price.

### Matt's comments

Some birdwatchers might have to swallow their pride before being seen with what is an admittedly old-fashioned looking scope, but if value is high on your list of criteria, it scores highly, being about half the price of the most expensive scope we tested.

## Nikon Fieldscope ED 82



### Optics

This 82mm scope has excellent brightness, right up there with the Kowa. The resolution was also excellent, passing the chart test with flying colours, and with very little softness at the edges. It fell behind the Kowa and Swarovski a little where field of view was concerned. Colours were very true, and any colour fringing was negligible.

### Ease of use

A medium to heavy scope weighing in at 1,575g.

The styling is typically Nikon – an acquired taste, with a rather bulbous rear end and flared pale green body, ending in a rubberised sunshade.

In common with the Meopta, the eyepiece is of the screw-in (rather than bayonet style). It has a

distinctive mushroom shape, with a broad eyecup and a narrower 'stem'.

There's a removable rubber eyecup to make digiscoping easier.

It was very quick to focus using the three-finger wide, easy-to-grip (with rubber ridges) helical focus wheel placed in a comfortable position being the rotating collar.

The focus Mechanism was smooth

and very precise.

With only 0.75 turn of focus travel from close to infinity, this is a quick focussing scope.

The tripod attachment is forward of the focussing wheel and rotating collar, and is of the standard type.

Its rotating collar, with click-stops, had the best locking and unlocking mechanism – it was easier to use than any of the others.

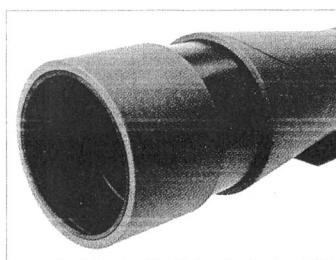
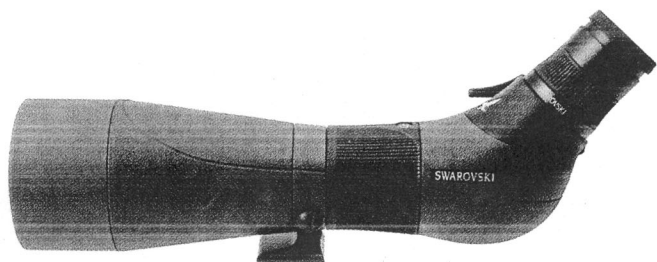
### David's comments

If you're talking value, this is hard to beat, challenging for the title with a price-tag that doesn't represent a huge jump up from the Meopta. The RRP is lower, but the performance isn't. In 'view per pound' terms, this is the one I'd go for.

### Matt's comments

This scope didn't quite match the Kowa for all-round excellence, but it gave it a good run for its money. And talking of money, it has an RRP £600 lower than the 88mm giant, making it all the more attractive.

# Swarovski ATS 80 HD



## Optics

This scope is very bright – only slightly bettered by the Nikon and the Kowa. In field tests, this scope's resolution is a match for the Kowa, but when tested against our resolution chart, it was slightly harder to resolve the finest horizontal lines than the vertical. Edge softness was slightly behind

the Kowa and Nikon. There was no notable colour cast, and fringing was all but absent.

## Ease of use

At just 1,350g this is a notably lightweight scope. The textured, rubberised green design is modern and elegant, being surprisingly compact.

The eyepieces have a bayonet attachment, and feature a release button for extra security.

The rubber eyecups are twist-up/twist-down and are wide and very comfortable to use.

The ridged rubber helical focus wheel is well-placed to the rear of the rotating collar and comfortably fits three fingers. The focus

mechanism is silky smooth, and accurate. It takes two turns from close focus to infinity.

The tripod attachment plate fits into Manfrotto (and Swarovski) heads as well as taking a plate for other tripods.

The rotating collar has a slightly fiddly knob, but a very useful eight click-stop positions.

## David's comments

Swarovski scopes might just be the classiest looking telescopes going! For an 80mm scope, it's light, too. A joy to look at and through, but the most expensive of the bunch.







## Matt's comments

You get an awful lot for your money (little extras such as a tethered eyepiece cap show great attention to detail), but the hefty price tag is way ahead of anything but the Kowa, so as with the Kowa, you have a big decision to make.

Ratings only apply to the models in the survey, independent of any other tests. All ratings apart from 'value for money' were given regardless of price.

## Comparison table

## Ratings

Name	RRP (body only)	Weight (g) (body only)	Length (mm)	Objective (mm)	Field of view (m@1km)	Close focus	Waterproof?	Nitrogen-filled?	Guarantee	Eyepiece power	Eyepiece RRP	Eyepiece Weight	Design/ ease of use	Mechanical	Optical	Value for money
Kowa TSN-883 	£1,521.69	1,520	343	88	41.9	5m	Yes	Yes	10 years	30x	£238.99	310g	9	9	9	9
Leica APO Televid 77 	£1,290	1,695	410	77	40	3.9m	Yes	Yes	10 years	32x	£227	285g	8	9	8	8
Zeiss 85T FL Diascope 	£1,200	1,450	345	85	40	5m	Yes	Yes	10 years	30x	£199	227g	9	8	7	7.5
Meopta Meostar S1-75 APO 	£729	1,295	350	75	38	4.2m	Yes	Yes	10 years	30x	£152	106g	7	8	8	9
Nikon Fieldscope ED 82 	£899.99	1,575	327	82	38	5m	Yes	Yes	10 years	30x	£230.99	165g	9.5	9	8.5	9.5
Swarovski ATS 80 HD 	£1,550	1,350	355	80	42	5m	Yes	Yes	10 years	30x	£280	258g	9.5	9	8	8.5