

Swarovski launches X5 long-range scopes

by Steve Hurt



Steve Hurt takes some 'warm-ups' on the 350m range.

Throughout the world, European field optics are known as the benchmark for precision and quality. Although not necessarily affordable for all, most hunters will have come across high-class riflescopes, binoculars or spotting scopes from the likes of Hensoldt Zeiss, Leica, Schmidt & Bender and Swarovski Optik. Each of these tier-one suppliers has originally come to the market down different paths, specialising in one item such as binoculars (in Swarovski's case), and later expanding into other product groups over the decades as experience, expertise and capital accumulated to support this growth.

Given the presence of the Swarovski

name in the field optics market, and the seemingly relentless growth in interest in longer-range hunting, it might surprise many to learn that Swarovski has not had a dedicated 'long-range' riflescope to offer for many years. This is something that the likes of Schmidt & Bender (the market leader in high-end tactical scopes) and Hensoldt Zeiss have committed themselves to quite a while ago. As a relative latecomer, Swarovski knew that it had to come up with something special to gain a foothold in an area requiring the outer edge in performance.

Following several years of development, Swarovski has announced the new X5/X5i (illuminated with 10 brightness

settings) range of riflescopes, released 'in the flesh' at the Melbourne SSAA SHOT Expo. Swarovski received a lot of positive feedback, but it is only in the field that the value of any product of this type can be truly evaluated. To this end, Swarovski invited the media to put the X5 through its paces, not just on the range, but in a genuine hunting setting, in what most Australian hunters would see as the challenging conditions of the New Zealand Alps. This is a first for Swarovski and quite a courageous step, given the limitations for field testing in Europe prior to release.

Long-range shooting at the extremes demands a total package where absolutely everything needs to work. The essentials

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are specialist rifles made to exacting tolerances that would normally start with cartridges such as the 6.5-.284 at entry level, working all the way up to the .460 Steyr and .50 BMG at the extreme end of the scale. Appropriate component selection and load development for ammunition, including pressure testing and ballistic performance, are crucial. Training in the use of sophisticated and complex ballistic program hardware and software is also a basic requirement. The last vital necessity is, of course, the sighting system. If any one of these assets falls short, nothing in the qualities of the other elements can retrieve the situation. Swarovski has gone to extraordinary lengths to ensure that the new X5/X5i sighting system is the most reliable link in any long-range package.

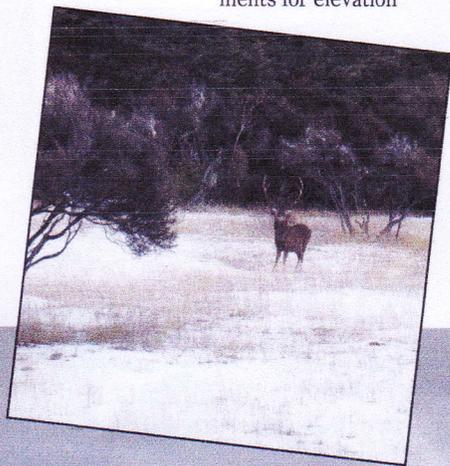
Now, when it comes to long-range optics, there are two schools of usage: those who depend entirely on the turret adjustments for elevation

and windage, and those who prefer to use the reticle ladders or grids in a variety of options. The Swarovski X5 and X5i scopes come in two primary configurations: the 3.5-18x50 and the 5-25x56. Both arrive with the option for illuminated reticles, offered in four uncluttered and refreshingly usable variants. These are essentially the conventional PLEX, a one-MOA (4WX) and two-MOA (BRM) rangefinding reticle, plus a hybrid target cross-hair version called the 4W. At this stage, the available product range is limited to MOA-based reticles (except the conventional PLEX) with quarter-MOA turret adjusters. And one-eighth-MOA turrets are an option for the top magnification unit.

All the current models operate on the second focal plane, meaning that the size of the reticle remains fixed at all times, with only the image changing in proportion when the magnification is adjusted up and down. This system requires the understanding that the range estimation and point of impact correction functions (subtension) has to be set during the production process. The result is that the MOA assumptions as viewed on rangefinding reticle options are only accurate at the specified magnification as manufactured. It is possible to recalculate these ratios, but how easily this is done is largely dependent on the original setting.

Swarovski has chosen to set the subtension at the maximum magnification in both models. If lower magnification is required, the only other setting where the reticle will regain easily calculated ratio accuracy is 9 for the 3.5-18x50 and 12.5 for the 5-25x56 models. This situation is absolutely fine for target shooting, but introduces challenges for those shooting on the edges of light conditions, such as deer hunters.

For maximum light transfer on the edge of legal daylight, the 3.5-18x50 would have to be set at 7x, and the 5-25x56 put on 8x. The exit pupil diameter formula is the objective lens diameter, divided by the magnification power to give the exit pupil or beam of light received at the eye at the specified focal length - 95mm from the ocular lens in the case of the Swarovski. The pupil of young, healthy eyes can open up to 7mm, with ageing eyes headed to a maximum of around 5.6mm. More light cannot be used, with smaller exit beams discounting maximum light transfer. A 56mm/8x gives an exit pupil of 7mm.



There were some magnificent animals in a wonderful example of herd management. This fine sika was one of many seen over three days.



The Swarovski X5i 5-25x56 in profile.

On the dark, distant ridge is a tan-colored patch. Above this and invisible to the naked eye is the 1576m (1723-yard) target. The exact range was verified through the Swarovski EL binoculars. Three separate readings were taken by Steve, within 1m in variance.

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To my way of thinking, a dedicated hunting scope would have a subtension that was applicable to optimal light transfer, set say at 16x on the 5-25x56. This would allow easy mental recalculation at 8 and 24x settings, providing the greatest range of flexibility and application usage.

Swarovski does provide a phone-based app for precise subtension calculation and this would be fine for target work, but for field application, it unnecessarily complicates matters. Of course, this is not an issue to those using the PLEX reticle, whose users are solely depending

on turret adjustment. A first focal plane model option, where the image and reticle magnification ratio remains constant, would be another way to address the issue. This is something for consideration as the range expands, as no doubt it will.

Optically, the lenses used in the X5 are as good as glass can be. Image clarity has been achieved through constant state-of-the-art research, with Swarovski investing heavily in both glass quality and coatings. While Swarovski's lenses are in the top rank performance-wise, they are also expensive to produce, so it comes back to the old adage 'you get what you pay for'.

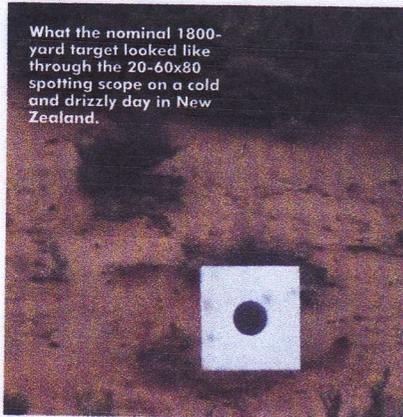
The turret adjustments in the X5 have also set new benchmarks. While other scopes offer a similar range of adjustment for windage and elevation as the X5, the amazing thing is that this has been achieved in a 30mm tube scope, as opposed to the 34mm maintube approach used by market rivals. This has been achieved through developments in the cantilevered spring retention system. While this set-up is complex, it is undoubtedly robust, clinically precise and ultimately repeatable. All these features were tested in some of the harshest field conditions imaginable, on some serious recoil rifle platforms, all the way out to a mile on the day.



Swarovski Australia manager Hannes Nothdurfter calls the fall of shot through his scope, background, while Swarovski international regional manager Richard Kramer records the shooting results on his iPhone through his scope.

The elevation adjustment range on the 3.5-18x50 is 116 MOA (windage 67 MOA), and 82 MOA (windage 50 MOA) for the 5-25x56 model. The elevation turret has an easy-to-read rotation count indicator, with 20 MOA, or 80 quarter-MOA clicks per rotation. Seated on a 20 or 30 MOA rail, this is way beyond the transonic or the sonic range of even the most extreme

What the nominal 1800-yard target looked like through the 20-60x80 spotting scope on a cold and drizzly day in New Zealand.



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cartridges, especially when the reticle ladder is added to the equation. It is overwhelmingly more than any bullet can be relied upon for hunting purposes. Some American and Japanese products have an even greater range of adjustment in their 34mm scopes. They are also substantially larger and heavier. However, how much more than enough can anyone use?

The X5 has the standard capacity for subzero targeting (allowing precise shot placement at shorter ranges than the zero setting) on the BRM and 4WX reticle options, making this sighting system both a flexible long-range and general-purpose product. These scopes also include the now-standard requirements for zero setting the turret caps, and limited for overtravel in each direction. Swarovski also offers a customised turret cam that enables elevation markers set for distance based on the specific ballistic performance of a customer's particular rifle/cartridge combination. This feature can be easily restored to the original standard factory settings by the owner, which only enhances its versatility and user-friendliness.

Given the potential applications for this scope, the requirement for a fast-focus diopter and parallax adjustment is



The rifle used on the longest targets is a Greg Duley custom project .338 derivative of the Cheytac family. It holds around 140 grains of powder behind a 300-grain VLD projectile. Recoil management through the outstanding muzzle brake was surprisingly light, about the equivalent of a .308 Winchester. Lugging a 32"-barrelled Barnard action, 16lb rifle in the New Zealand Alps is not for the faint-hearted, however.

automatic. These mechanisms were as smooth and precise as you would expect. Depending on the model and illumination options selected, the weight of the X5 is in the 850 to 910g range, which is close to the lightest in class, considerably lighter than the PMII and ATACR 5-25x56 by about 170g.

While the dimensions for length of the maintube were not provided or measured, by observation there is more than sufficient tube length to allow ideal placement on any likely rifle platform. With eye relief set at a class-leading 95mm, finding a suitable scope position is not going to be a problem.

Having used all the top-notch European scopes at some time or another, and a great many others as well, I have no qualms in stating that the Swarovski Optik X5s are among the finest. For the time being, the range is limited and the current offering

won't suit everyone in this specialist pursuit, but Swarovski's achievements in this first release are a serious market statement. I hope for further options in either second focal plane subtension for lowlight field application, or perhaps a first focal plane alternative in the not too distant future. The addition of 0.05 milrad reticle and turret options would simply cover all bases.

The optical clarity of these scopes and the turret adjustments are simply a joy to use. They are clear, precise, repeatable and robust. The seals on these scopes can only be tested over time, but none showed any hint of fogging or failure. Given the range of temperatures endured over the short testing period (low 30Cs inside to -7C outside) and Swarovski's product history, it's a reasonable expectation that there should not be any problems in that regard.

To cap it all off, these scopes were tested by many people at distances from 350m to 1586m. When it came down to the last stages, eight shooters were given three rounds each at the longest distance. The target was a 760mm square, with a 250mm round centre bull. All shooters hit the main target at least once, with multiple two- and three-round hits achieved. Two shots hit the centre bull. This was conducted in 4.5C temperatures with around 10 to 15kph and blustering winds across three wind zones at an elevation of 1000m. The time of flight to target was 2.2 seconds. What more can be said about the performance of a system producing results like that?

Swarovski X5 scopes have a recommended retail price of between \$3890 for the 3.5-18x50 non-illuminated model and \$4490 for the X5i 5-25x56 illuminated model. For more information about the Swarovski long-range X5 or the location of a dealer near you, visit www.swarovski-optik.com ●

Richard Kramer, with local guide Greg Duley, putting theory into practice by culling management animals from a sika herd.



One of many successful results. Shots were kept to a maximum of 700m, the limit of humane bullet performance in this particular package.

