

# A shot in the dark

**Bruce Potts** is hard to please when it comes to night-vision kit, but when he tests the Pulsar N550 Digisight out rabbit shooting one evening he gets a pleasant surprise

**I**t may seem a strange time to be reviewing night-vision equipment seeing as my last outing fell on the summer solstice and the night skies barely darkened. But please read on, as night-vision equipment has just become a lot more interesting and a great deal cheaper.

To-date, nearly all night-vision scopes have relied on an intensifier tube to boost the available light so that an image can be clearly recognised. This has taken the form of a green image in the viewfinder with clarity reliant on the intensifier's quality and grade — Generation (Gen) 1 is the lowest and Gen 3 the highest, though this distinction has become blurred with some excellent Gen 2+ tubes outperforming some Gen 3 tubes. As the Generation increases so does the price. You get what you pay for and £2,000 is likely to be your minimum for a decent night-vision sight.

The new Pulsar N550 Digisight from Thomas  
Jacks Ltd that I used on this outing is  
different in that the imagery is processed  
digitally without the aid of an intensifier

tube, as a Charged Couple Device (CCD) is used instead. This is similar to that used in cameras and video but with the wavelength optimised for night-vision work. In essence, you are boosting the available light digitally via a complex computer program.

## *Gadgetry galore*

Considering its brick-like shape, the Pulsar N550 Digisight is light at only 35oz, and when fitted to a rifle does not alter its handling a great deal. There are two Weaver-type mounting clamps spaced 3.5in apart, which is a bit short, so the use of a one-piece Weaver rail will provide the best mounting solution for correct eye relief.

Being digital, the possibilities for a lot of gadgetry and functions have manifested themselves with almost all of the sides of the sight having rubber push-button functions. The sight operates on four AA batteries, though there is an external plug for an ancillary battery if you desire.

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▼ The digital technology of the Pulsar N550 Digisight has greatly improved night-vision image quality



The cover for the battery compartment is a fiddle, with a powerful spring and little space to tighten it, so I recommend you power-up before it gets dark. To switch on there are two options: use the toggle switch sited on top of the sight or plug in the remote switch that I used to operate the sight with your rifle's supporting hand. These both can also operate the built-in infrared illuminator for an additional light source.

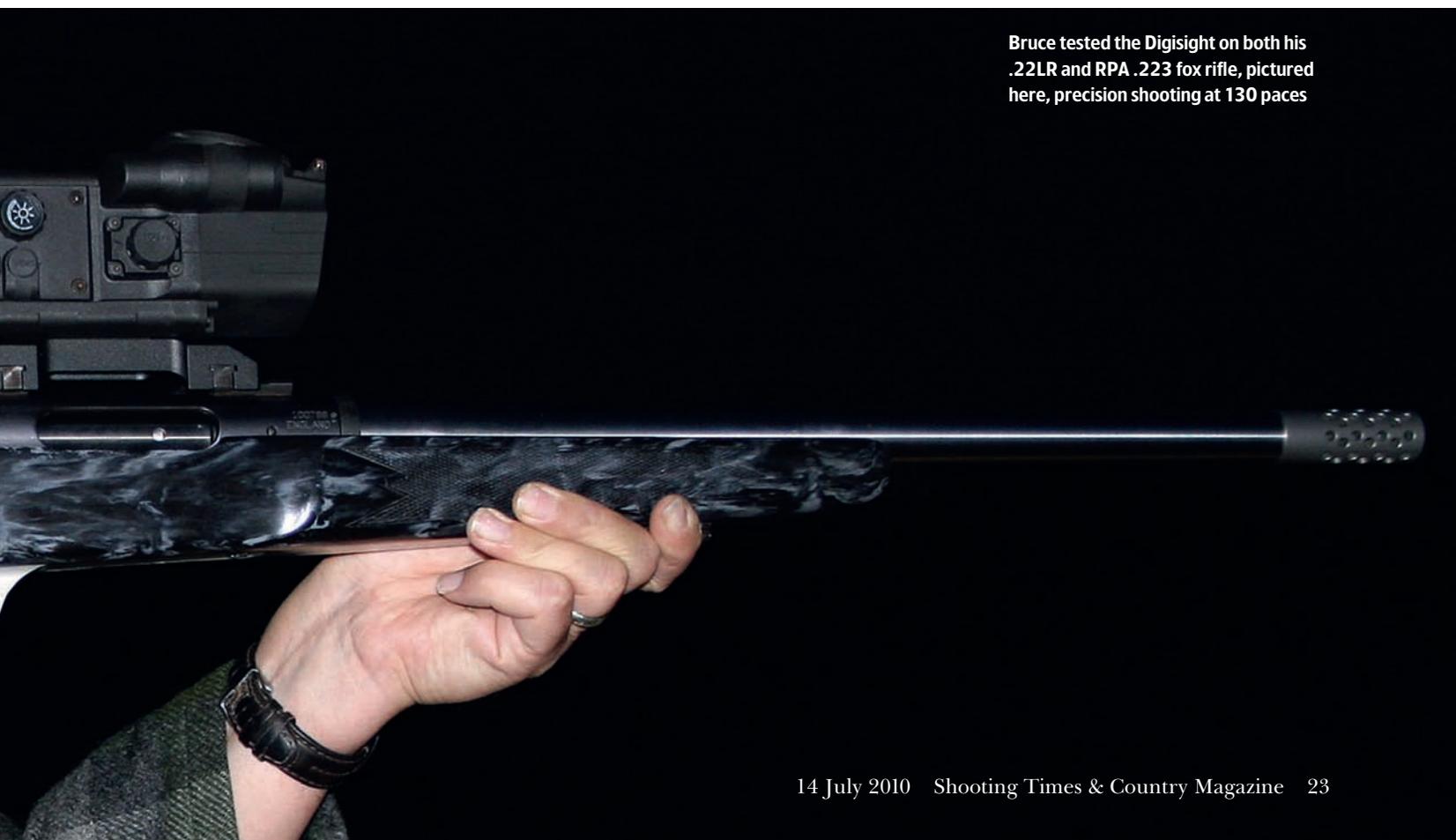
Once on, buttons to the left face of the sight operate the main menu, which includes reticule brightness and allows you to change the reticule choice (of which there are six). There is a USB port also so you can add your own specialised reticule from the [www.pulsar-nv.com](http://www.pulsar-nv.com) website if desired. Directly behind this the elevation and windage changes operate from a single stem and have a cover to prevent ingress of water and alteration of your zero. On top of the sight are two further buttons that allow three different screen settings showing a

blank screen, reticule only or all the functions such as battery condition and time, while the other inverts the reticule colour from black to white or vice versa.

The most important controls are those that focus the eyepiece and which you set up to define a clear reticule prior to anything else. When the sight is switched on, you focus with a large knob to the front and on the right of the sight's main body. The brightness adjustment wheels are 2in behind this.

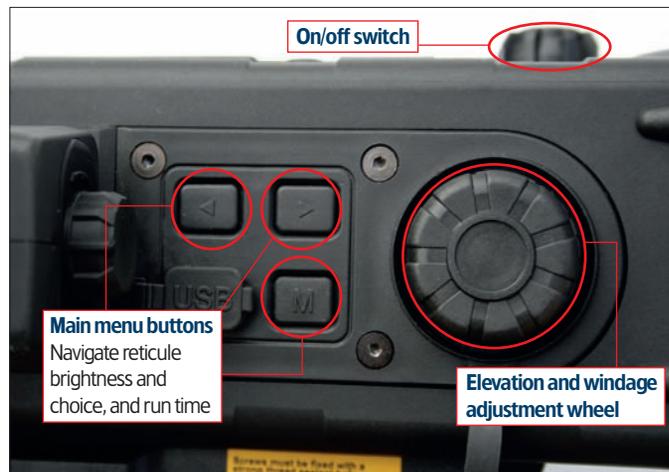
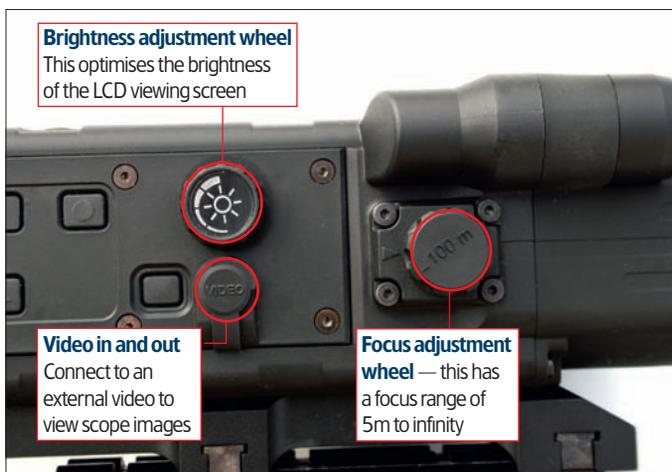
### *Sighting-in with the Digisight*

Before I could set forth into the twilight I had to sight-in the Sako with some Eley subsonic rounds. The first advantage of it being a digital system over one that uses intensifier tubes is ►



Bruce tested the Digisight on both his .22LR and RPA .223 fox rifle, pictured here, precision shooting at 130 paces

# RABBITING WITH NIGHT VISION



◀ that it can be operated in daylight without harming the CCD array. The adjustments move the reticule directly, so you need to make sure that the sight and mounts on your rifle are parallel or you may find after zeroing that the reticule resides in the top-left or bottom-right of the viewfinder. I used a one-piece Weaver height adjustable mount available from Deben. To adjust it, you push in the adjuster stem once to activate the elevation movement and then again to operate the reticule for windage adjustment. What I liked about this system is that when the reticule is moved you get a corresponding x and y axis co-ordinate in the screen to show the precise positioning of the reticule. By taking note of this, if the scope is re-zeroed or removed from the rifle for another gun it can be returned to zero by simply tapping in those co-ordinates. I tried this and as long as the sight went back on the mount the same way it was only 1in out at 100 yards, which is not bad.



The view through the Digisight at night, zeroed on a rabbit at 45 yards behind the pig sty

Reticule movement is reported to be one click per 20mm at 100m. My tests showed at 30 yards that eight clicks moved the shot 2in or 50mm (see the picture of the groups at 30 yards, left). There is a quick one-shot zero option but I stuck to what I know and was happy with the group size and non-shifting of the zero. I use 30 yards as a zero, as it is easier to judge this at night with a .22 rimfire.

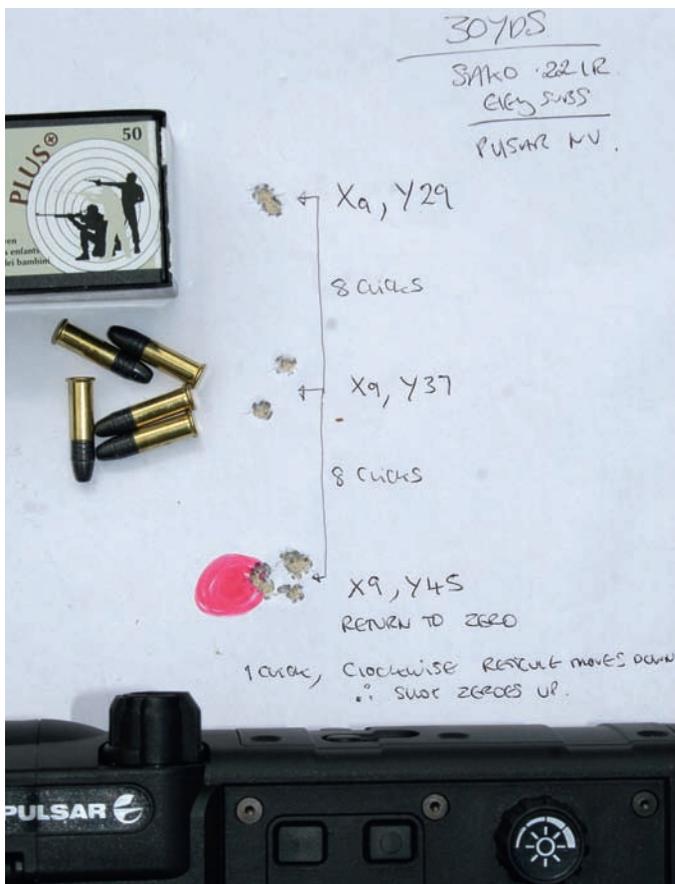
## Adding an infrared illuminator

On my many trips to the fields I tried the sight on my .22LR and on an RPA .223 fox rifle, but because the lighting conditions were variable — overcast, moonlight and drizzle — I opted to fit an additional infrared illuminator. The sight comes with a built-in infrared but it is only good to 50 yards. This model also comes with an additional infrared that fits to the left side accessory Weaver rail and is better for increasing the range to 100 yards. But with the RPA fox rifle and from previous experience, I fitted the excellent Laser Luchs IR eye safe illuminator.

It's important to get yourself into the mindset for night-vision work, and because it is always difficult to judge ranges I tend to prestalk an area with a laser rangefinder to set in my mind landmarks such as prominent trees, gates or tractor trailers so that I have an instant reference point when trudging about in the gloom. Safety, too, is paramount, and I always check the whereabouts of livestock — this became particularly relevant when a herd of cows resting behind a hedge that usually yields a good bag of rabbits came into view.

As night drew in, my first foray revealed that the sight's magnification of only 4.5x mag was more than ample for shooting rabbits at 50 yards and the resulting wide field of

◀ The Digisight provided good accuracy and return to zero. When the reticule is moved, a corresponding x and y axis shows its precise position



Bruce added a Laser Luchs IR illuminator to the set-up, which he mounted to the left side accessory Weaver rail



view made steady well-aimed shots easy. Covering ground downwind under the cover of darkness is satisfying as two or three rabbits can often be shot before they become suspicious. I shot off my twin shooting sticks over a hedge but this presented two problems: the focus and brightness wheels are sited to the right and are not easily accessible. However, the adjustments are precise, but as with all night-vision sights, digital or not, the depth of field is shallow. The black-and-white viewfinder at first seemed alien compared with the usual green. But, in fact, the 640 x 480 pixel resolution became more natural looking.

With no infrared illumination and with some moonlight, the sight was able to spot and shoot rabbits to 75 yards and foxes to about 100 yards. As soon as the moonlight faded so did the image, which became more grainy and indistinct. No matter, this is common, so on with the infrared. The external infrared (which is included) boosted the image in quality and clarity again, and increased the range by 35 per cent. What is also handy about infrared illumination is that rabbits' or foxes' eyes reflect the light back to you, so a small clump or dark shadow can be recognised instantly as an animal and not a clod of earth.

With the Laser Luchs infrared, the image is clear like that of a Gen 2 sight and the beam can be focused from spot to wide angle. This helps you to spot prey such as a fox out to 250-yards-plus for recognition so that you can stalk closer for the shot. It is also useful for checking behind the rabbit for a safe backdrop. Rabbits showed up black on newly cut hay fields and the inverted white reticule rather than the black worked best for me in all of the night's forays.

I also accounted for a lone fox with the RPA .223 rifle that I shot at 130 paces, which for me was a long shot at night, but I was confident the 40-grain V-Max shot flat to this yardage and dropped the fox with a head shot.



▲ The bag of rabbits harvested with the combination of the Digisight mounted to a Sako .22 rimfire, originally spotted using a Yukon Ranger Pro

## *Great performance for half the price*

Whenever I test night-vision equipment I am ready to be underwhelmed, but this digital technology has pushed the boundaries of image quality for the better. At little more than £1,000, including the additional side-mounted infrared illuminator, it gives near Gen 2 performance for half the price. Add to this the Laser Luchs IR illuminator, which is £500 more, and you have an effective 150-yard-plus night-shooting platform with enough digital features for all the techno nerds. The focusing and brightness buttons on the right are a pain, but overall I accounted for two full roe sacks of rabbits and a fox in a variety of lighting conditions. Digital seems to be the way forward in terms of entry-level night-vision sights. ■

*For information, contact Thomas Jack Ltd, tel 01789 264100.*