



Gear review: Pulsar Axion 2 XG35

By Marcelo Gavensky (gavensmar@gmail.com)

It's been a while since I decided to make this review, and I hope it is not too late for it: thermal imaging devices are evolving so fast that I am not even sure if Pulsar is still selling this model (I've checked their website right after I wrote this, and they luckily still do). But I personally think that a good review must be written after heavy use, and it shouldn't be about just the first impressions (or, if so, the title must mention it, like other reviews on this website do).

I got this Pulsar Axion 2 XG35 in December 2023, and I have used it everywhere I've been ever since. I am mainly a birding guide, but I also started guiding mammal watching tours a few years ago, so I travel a lot and I've taken my thermal scope in my trips all around Argentina (where I'm from and live), in places as contrasting as the Patagonian steppe and the lush Atlantic Forest in Iguazu surroundings. I've used it in the Pampas, in Ibera Marsh, the Patagonian Forest, the Puna, Austral Yungas and the high Andes. From cold and temperate to subtropical and very hot climates. Outside Argentina, I've taken it to look for pumas in Torres del Paine National Park (Chile), and to the rainforests of Colombia and Costa Rica, and Uruguay's grasslands. I've used it to look for night monkeys, kinkajous, armadillos, monitos del monte, tapirs, all kinds of small rodents, and of course birds, among others. All this introduction is just to make clear that I have really used this device, and for a good reason: its **outstanding performance**.



World's most famous mammal watcher (to whom I thank bringing this device to Argentina) in plain daylight, in a summer day

The first thermal scope I looked through was Martin Royle's Pulsar Helion 2 XP50, so the standard was really high when I decided I wanted to buy one. For me it was an investment because I am a full-time guide, so I wanted something as good as I could afford. I tried getting the Helion 2 but it was discontinued, so I checked out other options and I came across this Axion 2 XG35, and I am glad I did. It is more compact than the Helion, and its sensor has the same resolution (640×480 pixels), so the quality of the image is very clear and detailed. I know that many of you think that the thermal scope is mainly for spotting, and not really to watch through, but let me tell you, when you have details, **you can identify things from afar** and see if it's the target that you are looking for, or not. The images provided by the XG35 (do not mistake it for the XQ35, which has a different sensor and it's of lower quality) allow you to see details such as the tail length proportion in small rodents. One of the targets in my Buenos Aires surroundings tours is the Screaming Hairy Armadillo, and this thermal scope allows me to check out the ears' length from tens of meters away, so I can see if it is that species or the locally more abundant (and short eared) Large Hairy Armadillos. And this buys me time, which is important because time in the field is limited, and we don't want to waste it chasing the wrong species. Another advantage of having a very detailed image is that you can also see everything around your target (plants, rocks, man-made structures and more) with extreme clarity, even if they are relatively cold, and that can help you estimate the distance without the use of a range finder. I did not buy the LRF version mainly because I need to lower the weight of my gear as much as I can, having to also carry with me binoculars,



One of the Kinkajous spotted and filmed in Costa Rica from about 40 meters away (the noticeable noise is because the scope was needing calibration)

camera, spotting scope, torches and more. With my Pulsar XG35 I only need to pay attention to the vegetation around the target and then find it with the binoculars and the use of a torch (if it's nighttime). It takes some practice, but it definitely works.

The reach of 1750 meters is more than enough for what most of us need, and I like having that power when I use it in open areas such as the Patagonian Steppe to look for pumas. The field of view is wider than Helion's and this makes it more comfortable for narrow trails across the forest, to scan for monito del monte or fat-tailed opossums. **It is very versatile**, and that's what makes it hard to beat.

The batteries are supposed to last up to 7 hours, and although that could be true at a particular temperature (22° Celsius is what Pulsar claims), in my personal experience I change them a bit before that happens, for fear it stops working right when I need it. But you are guaranteed at least 5 hours of continuous use. You can recharge the batteries in the device or buy a charger separately, which I did (and I bought a second battery). I like charging them in the device though, because I can just connect it to the car while I drive.

The app works well, although I hardly ever use it. You can transfer the videos and pictures to your phone through it or download them to a computer using the wire.

I am not (yet) a thermal scope expert, so I am accompanying this text with images to speak for this device. These are all captured from video recordings, so some might look a bit out of focus, but it is for the implied motion.



One of the pumas spotted at daytime in Torres del Paine (Chile)

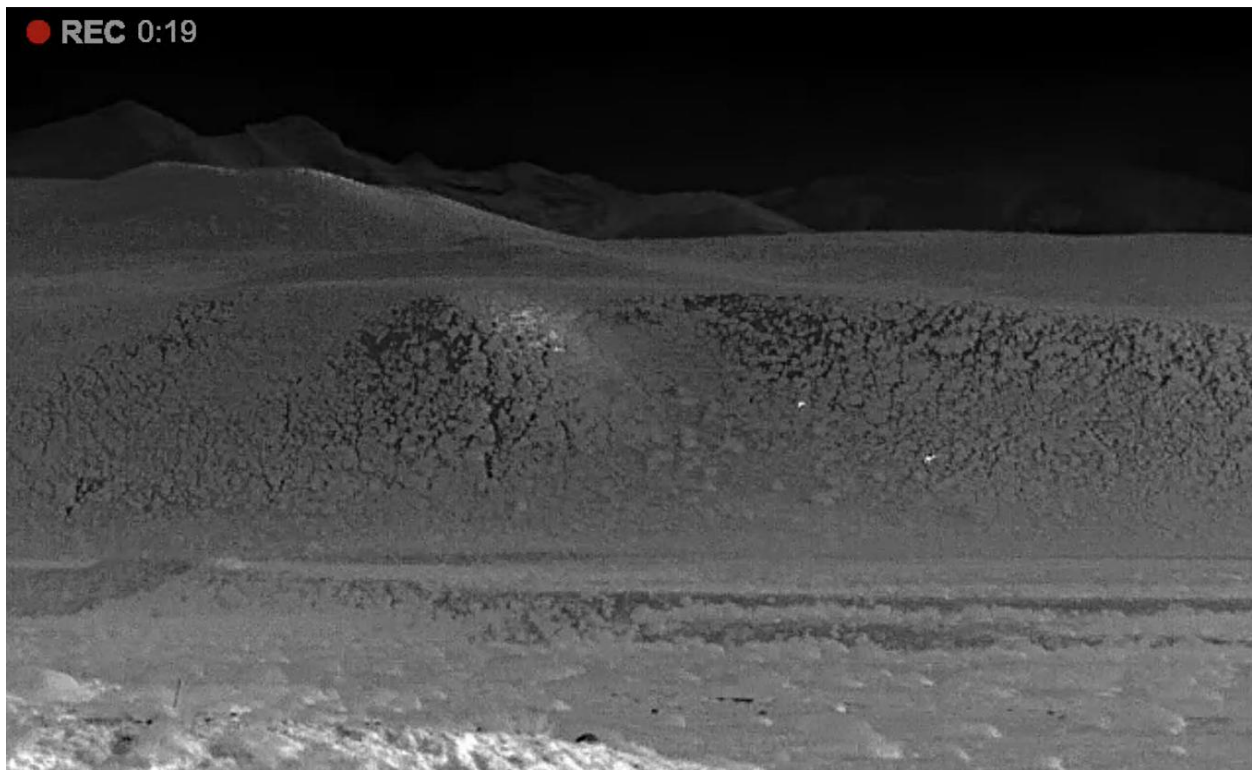
A few final words about pros and cons (and some tips):

Pros:

- . Compact, lightweight but also resistant because of its magnesium alloy components (weigh only 380 grams, with the battery inside) and waterproof.
- . Extremely detailed images.
- . Long reach (1750 meters) and very short minimum focusing distance, of less than 2,5 meters estimated at home, even though the website mentions 5 meters. This last specification should be highlighted for every thermal device that wants to sell to wildlife watchers, because it is important if you need to identify small mammals or birds at close range.
- . Relatively wide field of view (21.9 meters at 100 meters).

Cons:

- . Mine sometimes shows a "Memory Full" message on the screen, when there is still room for more videos and pictures (and I know that because I am still able to record when that message is showing). With a built-in memory of 16 GB, you really don't need to download your recordings too often to make more room.



The two little white dots in the central right area of the image where two guanacos, spotted from hundreds of meters away, in the daytime, in Patagonia (you could actually see the right shape on the screen)

. The plate mount screw hole is in the front, so it comes with a small adapter that works well but gets a little in the way when you need to use the frontal focusing ring (not a big problem, especially if you are not planning to use the hole). This leads to the third con, which is shared with most existing thermal monoculars:

. Having the focusing ring in the front forces users to use both hands at the same time, and this could be solved with a more ergonomic design. As someone who likes adjusting the focus all the time in order to take advantage of such high-quality images, it is quite tiring to need using both hands.

Some tips for users:

- Set the calibration mode in **Semi-Automatic**. This way, you will decide when to calibrate it. If you leave it in Automatic mode, the device will decide for you and it can do it in the most inconvenient moment (like, when you are chasing your most sought-after target). The calibration makes the image freeze for a short moment, that can be long enough to lose track of your dream species.
- **Be very careful with direct exposure to the sun...** Although this warning is very clear in the user manuals of every thermal imaging device, make the most you can to avoid accidentally pointing your thermal scope to the sun. On a guiding trip in the high Andes of Northwest Argentina I was scanning at daytime from a moving car at the



A Greater Capybara spotted from about 100 meters distance, across a river

passenger seat and I did not notice that the road was changing direction when I suddenly got my beloved (and at the time, brand new) Pulsar XG35 pointing directly to the sun for less than a second. That amount of time was enough to make an awful big stain on the screen, which I thought it would never leave. Luckily, after calibrating it a couple of times at least it faded away for the first few seconds every time I calibrated it. With more time and use the stain finally disappeared, or at least it is not obvious anymore to my sight. After that experience, I became much more careful and I put the lid on the front lens whenever I am not using the scope, in case I accidentally point it to the sun. And now that I said this, I realized I haven't mentioned that this thermal scope performs really well during the daytime, even in hot weather.

- **Buy a spare battery**, so you will never worry about running out of power on a day of use, and then you will make the most of it because you will be able to use it all the time. If you are investing in this quality device, you better use it!

Last but not least: for if there is a birder in the room, I had great results with this scope for owling, looking for crakes, painted snipes, seedsnipes and tinamous (these last ones stand out as if they were burning). Also, its performance with small rodents could make the use of traps almost unnecessary.



Brazilian Guinea Pigs at daytime

If you are a researcher or a mammal (or bird) watcher who likes contemplating the animal's behavior, I highly recommend this thermal scope and although I know there will be better models coming up soon, I really hope Pulsar does not discontinue this model for at least a couple of years more. I mean, they can come up with better stuff and I look forward to it, but they should keep this one as a lower price range model if they can. The wildlife watching community will be grateful for it.

I hope you found this review helpful, and I leave you with some more pictures:



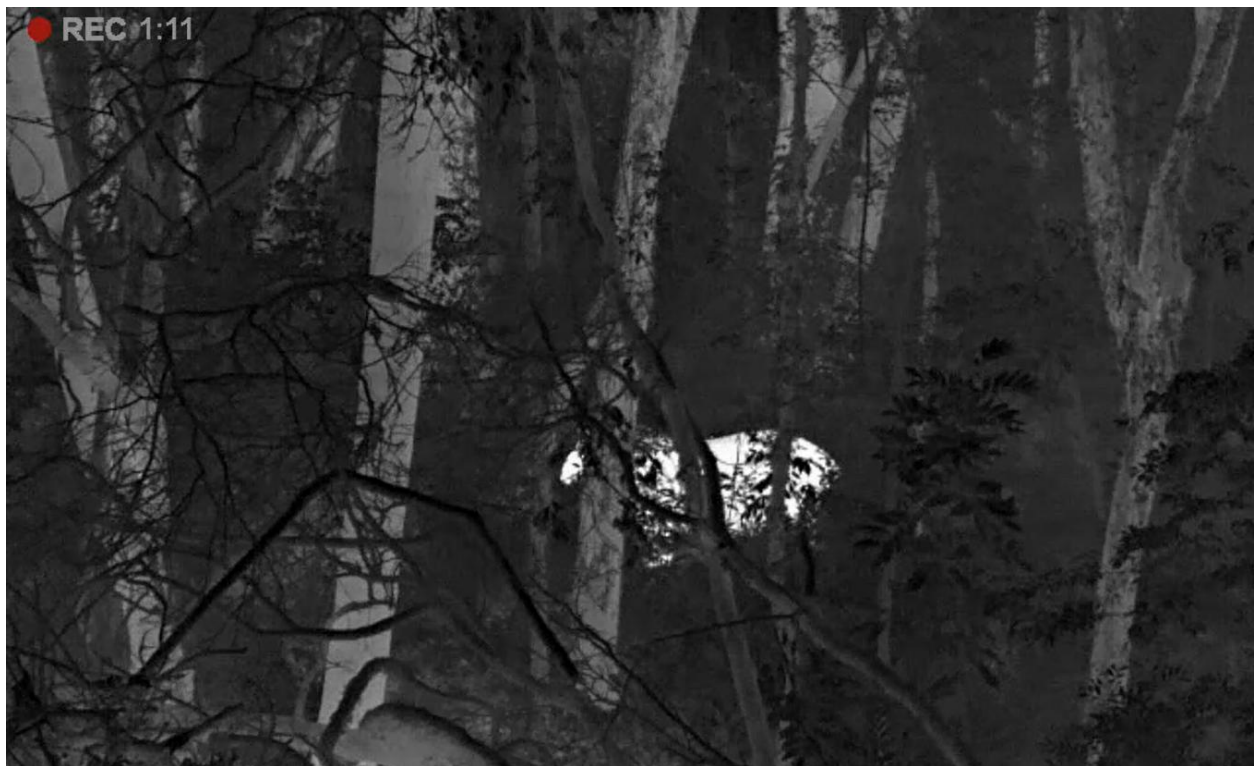
Ocelot in the Atlantic Forest of Argentina. Note the details of its surrounding vegetation



Same Ocelot at closer range



Still the Ocelot, but now with a Lowland Tapir behind (notice that the focus is on the Tapir, but the Ocelot remains relatively sharp)



Lowland Tapir in the Argentine Atlantic Forest



Young juvenile (very small) Brazilian White-eared Opossum on a fence wire



Chasing a Screaming Hairy Armadillo in the Argentine Pampas (notice the long ears)



Closer view of the armadillo with its long ears (it looks blurred because it was running fast)