

Binoculars 2000 C.E.

Patrick Ryan
Denver Astronomical Society Secretary/Newsletter Editor/Webmaster
April, 2000 C.E.

It had come upon me again. It was the time of The Fever. The Buying Fever was burning in me, sending me into a frenzy of frenetic web and catalog searching. My brain fried as I pored over statistics and characteristics. My heart soared at what I could acquire, and sank at what I could not. My fingers blistered at the calculator as I added, subtracted, figured trade-ins. My goal? To get my greedy claws on a general purpose binocular and a larger astronomical binocular.

This article concerns the first goal; obtaining a general purpose binocular.

I was reasonably sure that I wanted a waterproof roof prism binocular, of moderate power and size, with good eye relief. There were certainly plenty of makes and models to choose from. Ever since they were introduced in the 1960's, roof prism binoculars have really caught on, despite their higher cost and tendency toward greater light loss when compared to porro prism binoculars. It's easy to see why; roof prisms are usually smaller and lighter, and they're generally tougher to misalign.ⁱ

There was something that I had forgotten from my birdwatching days; birders know optics. Birders know binoculars, they test binoculars, they make recommendations to optics manufacturers. The manufacturers are listening. You can witness for yourself the huge crop of 8x42 binoculars that are out on the market now. The 8x42 seems to be replacing the 7x35 as the standard all purpose binocular, thanks in large measure to birdwatchers and other nature observers that optic companies have consulted. Some might think that a change from 7x35 to 8x42 means little to what would be seen in a binocular. But those people are not birders, who use binoculars *all the time*, and who know what they want and need. But things can get even more specific than that seemingly minor change to 8x42. Just look at the Swift Audubon; an 8.5x44 bino, available in three models, no less. Guess what? The Audubons are very successful, and have been for a number of years. It's nice to see companies catering to consumers.ⁱⁱ

It didn't take me long to find information and product reviews on the World Wide Web, mostly on birdwatching sites. These sites jarred loose knowledge and information that had become buried in my mind from my birdwatching days. I think that my involvement in amateur astronomy is the "blame" for this burial. It's just that astronomers don't seem to use binoculars very much, and when they do, the Celestron Ultima line seems to be the cream of the crop. Mind you, I'm not knocking the Ultimas. Reviews say that the Ultimas are good, ...for the price.

Isn't that strange? Here we are, as amateur astronomers, willing to drop thousands of dollars on telescopes, but giving "short shrift" to optical instruments that have a far greater number of potential applications than telescopes. Yet even the more expensive binoculars cost far less than a fully equipped 8" SCT, with all the eyepieces and filters and auto-butlers and beard trimmers and whatever else they have. But can you loop a strap around your neck and

carry that SCT on a hike, or meander through a forest, or sit in a stadium and watch a ball game? I didn't think so.

Yes, the Ultimas are good, for the price, but there are other porro prism binoculars out there. Take the Bausch & Lomb Custom line, costing about as much as the Ultimas. The Customs are rated as fantastic for the price. The same can be said for the Nikon E line, and their Superior E line. Boy howdy, are those Superior E binoculars loved; a flat out no two ways about it five star kind of love. The Swift Ultralites are very well appreciated, as are the Fujinon lines.

Then there are the big boys; the Bausch and Lomb Elites, the Nikon Venturers, Swarovski, Leica, Zeiss. These cats are the magna primo roof prisms, the Rolls Royce and Jaguar crowd of the binocular world. Yeah,...well,...they'll always be the dream!

Maybe, MAYBE I could have bought one of those fellas, if I wanted just one good bino. But to make use of an extraordinarily bad paraphrasing of Genesis; I wanted a lesser glass to rule the day, and a greater glass to rule the night.ⁱⁱⁱ Being the type who knows that there's more to see than just what's up at night, I wanted a nice and light bino to carry with me wherever I happened to go. But I also wanted a bigger bino for dark times and astronomical purposes. That meant no Bausch and Lomb Elite, no Nikon Venturer, no Swarovski, no Leica, no Zeiss. None of those are available in a general purpose size for \$300-400; my budget for this particular all purpose bino.^{iv}

I didn't have to worry. There are plenty of waterproof roof prisms with good eye relief on the market. As I've said earlier, these things have really caught on. Why waterproof? Because Binky, I didn't want to worry about the weather conditions. I didn't want a shower or sudden spritzing sending me into a panic about my binocular getting ruined. But let's get one thing straight here; rubber armor (fast becoming standard on most binos) does not equal waterproof. Make sure that the binocular you hanker after says that it is waterproof, and that it is also nitrogen purged. Purging and filling the interior with nitrogen will prevent inner fogging. You don't want that expensive piece of optics getting a case of the inner slimes because of dewing and temperature changes and whatnot. Many binoculars will say as a selling point that they are tested waterproof to a certain depth in water, for a certain length of time.

Why long eye relief? My glasses. I have astigmatism in addition to near sightedness. So just focusing my binocular without my glasses will not achieve a sharp image. But whether you are just near or far sighted shouldn't matter. How many times have I seen people who wear glasses remove said glasses and then use their binocular? Heck, Howie, you don't gotta do that! Just get a binocular with an eye relief of at least 15 mm, preferably more. All you'll need to do then is fold, push, or screw down the eyecup, and you're set. You should be able to see most of the field of view, without removing your glasses. Many binoculars with good eye relief are out there; so don't settle for the ol' take-off-glasses-put-glasses-back-on routine.

So I looked around, checked the manufacturers' web sites, and read reviews by birdwatchers. As I've said, there are plenty of 8x42 roof prisms out there. Another very popular configuration is 10x42. Many 8x32s can be seen, with some 10x50s. 8x32 binos had an objective that was too small for me. I wanted a glass with some light to spare. The ten-power models had a magnification that was too great. My hands aren't the steadiest. The higher power would have caused more shaking in the view than I would have wanted.

The Pentax DCF WP series looked good. They have received universal acclaim, plus the prisms are phase coated, all for a fantastic price. The phase coating eliminates a slight wave front error inherent in the roof prism design. In other words, the coating improves resolution and clarity. Don't worry about checking to see if the binocular you want has this coating. It's a

selling point, and will be very plain in the literature and advertisements for the binocular. Unfortunately, the DCF WP's pricing wasn't *quite* fantastic enough for my budget.

It came to a split decision; the 8x42 Celestron Regal or the Orion 8x42 Savannah. Both are waterproof, both are fully multicoated, both have good eye relief, plus their cost is similar; in the mid \$300s. I then did what anyone should do before buying binoculars; I tried them out. I can not stress that enough; *try the binocular out before you buy it!* So I packed up all my eyepieces and my O III filter (all to use as trade-ins), and trundled down to S&S Optika. The winner was the Regal. The colors seemed sharper and brighter to me, and the view crisper.^v

The Celestron 8x42 Regal; rubber armored, waterproof and fogproof, fully multicoated.



I have not regretted that decision. Every time I use that Regal, I am amazed. It is simply the best binocular that I have ever owned. That may not be saying much. I have owned several binoculars over the years, but none of them have ever been any of the full-sized big boys; Leica or Zeiss or whatever. But still...it's the best binocular I've ever owned. The eye relief is perfect, the views are crisp and bright, with the colors as sharp as they can be. The views from the two optical barrels blend together very well. This doesn't happen often for me, that I find a binocular that gives such effortless and wonderful views.

This Regal handles well. That is another very important point; how the instrument feels in your hand and in front of your face. Remember, a binocular is not a telescope; you don't just put it on the ground and look through the eyepiece. The Celestron Regals have great ergonomics, balance, and feel, and they are very light. I just love using them. Use them I do, wherever and whenever I can, and they're even great at night. Oh sure, the prisms are not phase coated. I don't care. My binoculars have always been a series of compromises before. Not this one. It's a keeper. It'll stay with me, even when I finally fulfill my years-long dream of owning a Leica or Zeiss.^{vi}

I should add here that the Celestron Regals now have slightly more upscale cousins; the Nobles. Gee, I bet you saw that particular name progression from a mile off, right? I don't know much about the Nobles, except that they are phase coated. I have not read any reviews of them yet. Perhaps Celestron has taken care of the slight curvature of field that reviewers have noticed in the Regals.^{vii}



Here the author demonstrates the Regal 8x42's close focus of 5-6 ft. Due to its wonderful optics, the author has no problem discerning the minute details of his subject, an example of the rare *drexlerus calculatus*; the Colorado Greater William Drexler Accountant.

Oh yeah... Bet you're wondering; what did I get for a big night binocular? I got an Orion 20x70. The eye relief was so short that I could not use my glasses. I didn't think that would matter, not for the stars, and not with such a high power. I was wrong. My astigmatism really came into play. The brighter stars practically developed faces, singing and dancing, making faces at me. I'm certain that some of them made dirty gestures my way. Nope, couldn't have that. I decided to get a refund and obtain a smaller "big binocular;" one that I could carry around my neck if I so chose. So what did I get? A Celestron 9x63 Ultima! Yes, I love it very much, thank you.^{viii}

Let me just say a few words about this Ultima 9x63... Its depth of field is tremendous. If you want a binocular with some power that can be used to sweep over broad vistas, without having to fiddle with the focus, then this is your instrument. At 35 ounces, it's quite hefty, however. You might want to consider putting it on a tripod and/or a parallelogram mount.^{ix}

Web Sites

1. Better View Desired: an excellent online magazine devoted to birdwatching and observational optics; at <http://www.lightshedder.com/BVD/>
2. Birdwatching.Com's optics section has a good binocular tutorial, plus they rate and review binoculars, at; <http://www.birdwatching.com/optics.html>
3. Birding.Com has a great introduction to binoculars section. It can be accessed at; <http://www.birding.com/>
4. Christopher's LTD is an online store that gives very useful and objective reviews of their equipment, instead of giving some spiel from the manufacturers; <http://www.birdbino.com/>
5. Eagle Optics can be counted on to give all the relevant characteristics of a binocular when other stores leave them out; <http://www.eagleoptics.com/>

ⁱ In this article I use the correct grammatical term to refer to binoculars. One binocular should NOT be called a “pair of binoculars.” One binocular is actually a pair of monoculars. That’s why the prefix “bi,” meaning “two,” was put in front of the “ocular” part, so you wouldn’t HAVE TO say “pair of.” So there.

Eye relief is the distance from the eyepiece that the image comes into focus at. Roof prism binoculars are characterized as having objectives inline with the eyepieces, as distinguished from bulkier and heavier porro prism binoculars, with objectives usually offset from the eyepieces.

ⁱⁱ When referring to a binocular configuration, such as 8x42, the “8” is the magnification, and the “42” is the size of each objective.

The Swift 8.5x44 Audubons are available in a normal porro prism model, a roof prism model, and a porro prism ED low dispersion model.

ⁱⁱⁱ I refer to Genesis 1:16; “God made the two great lights, the greater light to dominate the day and the lesser light to dominate the night, and the stars.” Tanakh; The Jewish Publication Society, 1985

^{iv} Yes, you CAN find Swarovski, Leica, and Zeiss *compacts* in the \$300-400 range.

^v Fully multicoated means that every air-to-glass surface on the optics are multicoated with anti-reflection material, improving light transmission and resolution and clarity.

The Celestron Regal full size binoculars come in 8x42 and 10x50 configurations.

^{vi} Hey, you have your ambitions, and I have mine!

It should also be noted that Zeiss now markets more economically priced binoculars, the Diafunns, available in 8x30 and 10x30 configurations. Prices start near \$400. Reviews of them have been good.

^{vii} The Celestron Nobles come in the following configurations; 8x32, 8x42, 10x42, 10x50.

^{viii} Even this decision was influenced by birdwatcher reviews. One reviewer remarked, for example, on the Ultima 9x63’s good resolution, and ability to reveal details from distant vantage points.

^{ix} “Depth of field” refers to the distance from “near to far” that is in focus at a certain setting of the focus adjustment or at a certain distance.