

A Telescope With Your Name On It

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I'm often asked, "I want to get a telescope; which one is the best?" My reply is always the same: *The one you're going to use often after you buy it.*

My listeners' blank stares deepen as I go on to explain that Telescopes are like hammers...

There are many different kinds of hammers; each is designed for use in certain kinds of tasks. The telescope that's right for you depends on what you plan to do with it. A variety of telescopes are available (e.g., reflectors, refractors, Schmidt-Cassegrains, and off-axis reflectors, to name a few). Each type collects and focuses light in its own special way. Each has its own strong points and limitations for different kinds of astronomical viewing.

Mountings. Telescope mountings are many and varied, but basically boil down to two types, *equatorial* and *alt-azimuth*.

With equatorial mounts, a slow-motion control knob or motorized drive is used to track objects across the sky. Equatorial mounts can be a headache for beginning observers because they must be polar aligned and set up properly before objects can be observed. They are also difficult for a beginner to operate in the dark due to the confusing array of friction knobs, handles, counterweight arms, and height adjusters present.

Alt-azimuth mounts simplify the task of locating objects, but they do not track: you must move the telescope tube vertically and horizontally to keep the object in your field of view. This can be rather confusing at first, since most astronomical telescopes (including those on equatorial mounts) invert and/or reverse the image. You can't use motorized drive with an altazimuth mounting.

Other Problems. Mountings aside, most beginners' problems with their telescopes can be traced back to flimsy or unstable tripods, or to cheaply made friction locks (the devices that enable you to move and point the telescope on its mountings but keep it from drooping or swinging away from its target). A quality

mount and tripod costs more than a cheaply made “beginner’s telescope” (including mount and tripod) sells for!

Another troublesome feature – and usually an identifying characteristic of unreliable, “el cheapo” telescopes – concerns focusers and eyepieces. Most el cheapos use .965” eyepieces, which are available only with simple lens designs and an adapter for standard 1.25” eyepieces, but don’t be fooled: most .965” focusers are cheaply made. You’re better off with a telescope that takes 1.25” eyepieces.

Dobsonians: Alt-Azimuths With an Attitude. In what direction should beginners go in looking for a high-quality telescope at a reasonable price? Well, more than 30 years ago John Dobson, a Californian, had a similar problem. A monk, he had no money or personal possessions but he wanted to see what the universe was all about. So he built his own telescope, a Newtonian reflector, out of used scraps and parts. What made Dobson’s telescope truly special, though, was its mounting: a brilliantly simple kind of alt-azimuth mounting that is stable, highly maneuverable, and doesn’t add the equivalent of open-heart surgery fees to the price of the telescope. A Dobsonian reflector can be built with basic hand tools, or you can purchase one from any of several reputable manufacturers at a very reasonable price. Aperture (mirror) sizes from 3” and up are available.

For most other people (including women and older children), a 4-1/2” or 6” Dobsonian is light enough to be carried and set up with ease, and will gather enough light to fully acquaint you with a wide range of wonderful objects in the night sky. Prices range from \$200-\$250 for a 4-1/2” Dobsonian to about \$350 for a 6” Dob, depending on the manufacturer. Major manufacturers of Dobsonians under 18” include Celestron, Meade and Orion. If you’re interested, you can write to them for free information about their telescopes – and you should talk to some Dob owners as well. Most of them will probably tell you that they plan to keep their Dobs even if they buy another ‘scope for other purposes (e.g., astrophotography). . .

John Dobson never patented his design, nor has he sought money from the companies that have copied it. He contends that telescopes should not be named after people, so he refers to his creation as a “Sidewalk Telescope.”

Personally, I feel that Dobsonian owners *should* use names – their own – for their telescopes. In my own case, I like to think of my telescope as a 10”

Smithsonian! It gets me where I'm going whenever I feel like taking a leisurely, 30 million light-year stroll through the night sky.