

Checking Out 'The Cube'

Finally, a low-cost portable mount to give small scopes GoTo pointing and motorized tracking

TODAY'S ASTRONOMY MARKETPLACE is more à la carte than ever before. And that's a good thing. It provides the option of buying a complete telescope or assembling a personal observing setup from a variety of available components, just as you might a home stereo system. This is exactly what I did when I decided to put together a compact grab-and-go scope based on my William Optics 66mm refractor. My timing was good, because a new mount had just arrived on the scene: iOptron's SmartStar Cube. It appeared to be the ideal match for my refractor, so I ordered one and put it through its paces.

INSTANT STARGAZING

The Cube is an altazimuth mount with motorized GoTo pointing and tracking, which means it can point the telescope at your selected celestial target, then automatically track the object. The basic package includes the mount, a one-metre-tall tripod with collapsible stainless-steel legs, an eyepiece tray, standard AC connection (a 12-volt DC power adapter is available) and a computerized hand unit. Remarkably, all this can be had for less than \$300.

In spite of the low price, the unit is ruggedly built and packed with useful features.

Over the course of many nights'

observing, my small refractor and The Cube have proved to be a wonderfully portable setup that makes quick-look sessions very rewarding. Typically, I leave the scope attached to The Cube, and when ready to observe, I simply carry the whole works outside in one trip. To maximize portability and convenience, I power The Cube with eight AA batteries, installed in the mount's internal battery compartment, leaving no cords to trip over in the dark.

GETTING ALIGNED

Initial alignment is the first step toward using any GoTo mount. In the case of The Cube, you can set up the mount by using either a one- or a two-star alignment procedure. The one-star alignment requires that the mount be level (something that's easy to check thanks to the built-in bubble level) and that you have a good enough grasp of the sky to find the alignment star on your own. With the two-star alignment, the mount slews to the section of the sky that contains your alignment stars and waits for you to centre them in the tele-

A MATCH MADE FOR THE HEAVENS

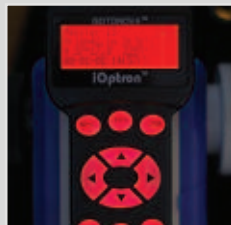
The iOptron Cube GoTo mount combined with the author's 66mm refractor proved to be a winning combination for grab-and-go observing sessions.



COLOURFUL CHARACTER

Plastic faceplates (available in a range of colours) adorn the sturdy all-metal Cube. The large black knob seen here locks the mount's altitude axis.

PHOTOS: GARY SERONIK (ALL)



COMPACT APO REFRACTOR The Cube's hand unit glows a dim red to help preserve the user's night vision. (After two minutes of inactivity, the backlighting shuts off.) Thanks to the large four-line display, navigating The Cube's menu system is relatively simple.



CARRY THAT WEIGHT The Cube can be used with any telescope equipped with standard Vixen-style dovetail brackets and weighing less than 11 pounds. However, weight isn't the only consideration. If the rear of the scope extends more than about 10 inches beyond the dovetail socket, it will collide with the mount's tripod legs. Still, that's enough room to accommodate small Maksutov-Cassegrain and Schmidt-Cassegrain telescopes and many small refractors.



SCOPE STANDBY Particularly useful is The Cube's "Park" feature. This command positions the scope so that it's aimed at the zenith, with the mount facing south, as shown above. You can then turn off the power and, provided you don't move the scope in the meantime, return hours (or even days) later and resume observing without having to realign the mount.

scope eyepiece. Two-star alignment provides more accurate slewing, but one-star alignment is fine if you plan to view objects near your alignment star. (On one occasion, I was able to find Venus in daylight after using the nearby last-quarter Moon as my alignment “star.”)

A NIGHT WITH THE CUBE

So what’s a typical observing session with The Cube like? In a word, fun. After you’ve aligned the mount, you select your desired target using the hand control. There are several categories from which to choose, including deep-sky objects (Messier and “named” objects), stars, comets and asteroids. Everything works according to plan so long as you’re hunting Messiers or the Sun, Moon and planets. Unfortunately, most of the rest of the 5,000 items in the database are stars, which are identified only with unique iOptron numbers, essentially rendering them anonymous. Stars with proper names are numbered alphabetically, though, so you can at least scroll through the listing and find the star you’re after.

That complaint aside, I did find The Cube’s menu setup intuitive and easy to

navigate, and there are several truly useful features. Using the built-in database, for example, you can assemble your own “hit list” for a night’s observing. You can also add objects to the hand unit’s memory, which somewhat alleviates the star-identification shortcoming mentioned earlier. The hand unit even has a built-in red LED flashlight, which has proved handy for those occasions when I misplace my regular flashlight.

STRENGTHS AND WEAKNESSES

Overall, The Cube’s GoTo performance is acceptable, if a little underwhelming. Most of the time, the mount can place the target within my scope’s low-power field, which spans about two degrees. Users with scopes limited to smaller fields of view will probably find this accuracy insufficient. On the other hand, the mount’s tracking capabilities are very good. Once centred, an object will remain in the eyepiece for an hour or more, which is long enough for most people. Because this is an altazimuth mount, however, long-exposure photog-

raphy isn’t feasible. (An equatorial version of The Cube is available for US\$425.)

So is The Cube worth the money? In my opinion, the answer is a definite yes. Although I wish its GoTo pointing was better and its database more useful, it’s hard to complain given the unit’s many handy features and basic functionality. For my purposes, computerized GoTo is a bonus—all I wanted was a highly portable tracking mount so that I could look without having to constantly push the scope along in tiny increments to compensate for the Earth’s rotation. Even if it didn’t have automated pointing, The Cube would still represent good value for the money. Thanks to this nifty mount, I now have my ultimate grab-and-go system. ■

Astronomy writer and editor Gary Seronik explores the universe from his home near Victoria, British Columbia.

The SmartStar Cube is available directly from iOptron (toll-free 866-399-4587; www.ioptron.com) for US\$243 and from select Canadian dealers.