

by Alan Dyer

Orion IntelliScope: a Dobsonian goes high-tech

A seamless blend of high- and low-tech yields a telescope that's a perfect choice for the serious beginner and avid observer

I'VE LONG MAINTAINED THAT A reflector on a low-cost Dobsonian mount provides the perfect entry-level telescope, without the flaws common to many starter scopes: shaky and confusing equatorial mounts, poor fittings and limited aperture. Despite their value, Dobs are a tough sell. They look homemade and plain—where are all the dials and control knobs? When asked to compete against similarly priced GoTo models that automatically whirr their way to thousands of targets, Dobs come off as homely scopes without the sex appeal of high-tech models. Never mind that Dobs offer far more of the most important characteristic of any telescope: aperture. For the price of a 70mm or 90mm GoTo scope, you can get a Dob with a generous 200mm of aperture, enough to show faint deep-sky objects—if you can find them. And there's the rub.

Here's where Orion's new line of SkyQuest IntelliScopes steps in. These upgraded versions of Orion's highly regarded XT Dobs offer the option of a computerized finder aid that can point the way to thousands of stars and deep-sky targets. Equipped with the handy control pad, an IntelliScope provides computerized finding without sacrificing

the aperture so necessary to see a celestial target once you get there.

THE BASICS

I tested the 10-inch (250mm) IntelliScope, but models are also available in 6- and 8-inch apertures. The f/4.7 optics of the 10-inch were superb, showing no obvious aberrations that would blur the image—no small accomplishment for such fast and affordable optics. This telescope shows crisp views of the planets and cleanly

resolves tight double stars while also providing the aperture to reveal structure in galaxies and nebulae and to turn globular clusters into brilliant spheres of countless stars. You may never need a bigger or better telescope.

The IntelliScope Dobsonian mount is an improvement over Orion's earlier XT models, with smoother motions in azimuth (side to side) and an adjustable friction control on the altitude (up-down) axis. Swinging the scope around the sky and nudging it

to keep objects centred soon becomes second nature, without any fuss over sticky or awkward motions. In keeping with what Dobs deliver so well, the mount is rock-solid. Many observers don't appreciate how important that is until they grad-

A SMART DOB Costing about 20 percent more than Orion's standard Dobsonians, the IntelliScope offers improved fittings, as well as optical encoders that work with the optional Computerized Object Locator (\$200), shown here on the metal holster bracket (\$30), another recommended option. The combination works accurately and reliably for locating thousands of deep-sky objects. However, like all Dobsonians, the IntelliScope does not automatically track objects—you must nudge the scope every minute or so to keep objects centred. As such, for photography, it is suited only for short snapshots of the Moon and Sun.



TOP-END FITTINGS

The IntelliScope's fittings are a cut above most beginner models: a smooth focuser that can take premium 2-inch eyepieces; a fine 9x50 finderscope with easy adjustments and a quick-release dovetail mount; and (not shown) an open design for the main mirror cell that allows quick cooling of the big mirror.

uate to a telescope in which the image isn't constantly shaking and bouncing.

In all, the IntelliScope is a terrific Dob, even without the Computerized Object Locator. If your budget is tight, you can buy an IntelliScope without the computer, then add it later. But it's the Locator that makes the IntelliScope stand out.

FINDING THINGS

Firing up the Locator couldn't be simpler. There is no need to input your location or select a site from a confusing set of menus. No training or calibration is required. The only stipulation is a onetime adjustment of a mechanical stop on the mount to ensure that the telescope truly sits at right angles to the base when aimed straight up. After that, you don't even need to level the telescope—I never did, and I had no problem finding targets.

When you turn on the Locator, it asks you to aim at and centre two stars from an alphabetical list. At each star, you simply hit Enter. The catch is, you must know which bright stars are up and are suitable for aligning on. Because the Locator does

ALTITUDE ADJUSTMENT

Orion's CorrectTension friction control (the knob at right) works well, even when loaded with the heaviest eyepiece made (a 31mm Nagler). The 10-inch telescope moves smoothly and securely without sinking off target from being out of balance.



DOBSONIAN CRADLE

The IntelliScope, like most commercial Dobs, requires some assembly to bolt together the wood stand (the tube and optics are preassembled) and to install and wire the encoders on each axis. These keep track of the mount's motions and are necessary to operate the Computerized Object Locator. The main caveat in using the telescope is the care needed when placing the tube in the mount so as not to hit the delicate encoder connectors.



COMPUTER CLOSE-UP

A handheld computer, the Computerized Object Locator plugs into a telephone-style jack on the mount. Large illuminated buttons and an LCD display with adjustable brightness make it easy to use at night, though the display must be kept warm—it blanked out when subjected to subfreezing temperatures. Direct-access buttons allow quick entry to various databases without paging up and down through a complex hierarchy of menus. The numbers at top right count down to zero as you move the scope to centre targets.



not know where it is on Earth or the time at this point, it has no idea what stars to align on. You provide that selection. So you must know how to identify the brightest stars using the centre-spread *SkyNews* star chart (the printed manual also provides simple seasonal star charts).

The Locator provides a Warp Factor readout. Any factor below 1 is fine (0.3 to 0.6 is what I usually got). A factor much above 1 is an indication that you likely misidentified the alignment stars.

After alignment, you use the Locator to point the way to objects. This is not a GoTo scope—it's a "push-to" scope. The computer does not slew the telescope for you. You do the moving. A readout for each axis counts down to 0-0 to let you know that you are getting closer to the destination as you swing the scope. In my tests, target objects anywhere in the sky always ended up well within the 1.3-degree field of a moderate-power eyepiece. There was never a need to hunt for objects just outside the field. This is excellent pointing performance, certainly as good as most GoTo scopes.

The Locator contains all the Messier objects and the complete New General and Supplementary Index Catalogues, providing more than 13,000 potential targets. For a beginner, this would be overwhelming, so the Locator provides a Tour mode that selects a dozen of the best northern-hemisphere objects for each month. In addition, you can hit the Nebula, Cluster or Galaxy buttons to get a well-chosen selection of the best 500 or so of those objects, sorted by constellation. This is a great option, allowing you to explore all the best galaxies in Leo, the best nebulas in Sagittarius and many other choices. Similar buttons take you to

a fine selection of several hundred double and variable stars sorted by constellation.

The eight planets are included (but not the Sun or Moon), and finding them requires entering the date and time each night. My upgrade wish list would include the brightest asteroids and the ability to enter orbital elements for locating new comets. However, you can enter up to 99 of your own objects, which are listed simply as New01, 02, etc. An ID function correctly identifies objects placed in the field, handy for figuring out what that fuzzy spot is.

My main complaint is the Locator's programmed insistence on automatically switching off after 15 minutes (to save battery power) if the operator hasn't pressed any buttons. Come back from a coffee break, and you have to power up and realign on two stars from scratch to continue hunting objects. Instead, the Locator display should simply go to sleep, while the brain remains active.

A PERFECT TELESCOPE?

The Orion IntelliScope provides the main benefit of a GoTo scope (ease of finding objects) without the drawbacks. There is no complicated set-up procedure, no noisy, battery-draining motors and no worry about failure-prone electronics that leave you with a dead telescope. Should the Locator fail, you still have a perfectly functional telescope. For objects I could find unassisted, it was great to be able to swing the scope wherever I wanted and still have the computer keep track of where it was. (Try that with any GoTo scope!) Putting the Locator into ID mode tells you the identity and details (magnitude, size and a short description) of whatever object you've aimed at. The astonish-

ing bonus is that all this locating and data-accessing capability comes at only a modest premium in price over a standard Dob, with all the advantages of stability, aperture and high value.

My experience with the 10-inch IntelliScope reinforces my standard advice that an 8-inch is the largest telescope most beginners should consider. At 55 pounds, the 10-inch is a big, hefty instrument. It is not easy to carry around. I suggest the much lighter 6- or 8-inch models as ideal for starter scopes, with the 10-inch reserved for deep-sky enthusiasts with ready access to dark skies. That said, the Orion IntelliScope has moved to the top of my list to recommend to beginners ready to purchase their first serious telescope. I can think of no other telescope on the market that offers as much solid value: You get computerized finding without sacrificing aperture, optical quality or reliability. This is one terrific telescope. ■

Alan Dyer thanks the Lethbridge Astronomy Society for the generous loan of its IntelliScope for review.

ORION SKYQUEST INTELLISCOPE

Available directly from Orion Telescopes and Binoculars, Santa Cruz, California; (800) 447-1001; www.telescope.com. Also, check your nearest dealer; several Canadian dealers import the IntelliScope from Orion and can ship from stock from within Canada.

Overall rating ★★★★★^{1/2} (out of five)

Typical Canadian prices (shipping extra)

6-inch f/8	\$500
8-inch f/6	\$670
10-inch f/4.7	\$900
Computerized Object Locator	\$200
Locator Holster	\$30