

DOWN HOME gumbo astronomy
from Chaos Manor South!

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Uncle Rod Mollise's

Skywatch



The Dummy's Guide to Deepsky

A Deep Sky User's Guide for
the Rest of Us...

Rod Mollise

Note: This is Part I of the first of a series of user's guides for astronomy planning software. I hope to bring you similar "dummies guides" for SkyTools 2 and Astroplanner soon.

As most of y'all know, I've long since turned away from planetarium programs when it comes to astronomy software. Not that there aren't some good ones out there. *The Sky 6*, for example, is fantastic. For what it does. Which, mainly, is painting a hyper-realistic picture of the sky on your PC screen. Unfortunately, that is not very useful for me in this day of goto scopes. And it is the day of goto. Heck, even my 60mm wide field grab 'n go scope is computerized. Being able to go from object to object with a few pushes of a hand controller button means there's much less

need for star charts—real or virtual—now.

Star charts do still have their uses, of course. It *is* nice to be able to refer to a chart on the computer screen when my scope finishes gotoing its goto, so that I can see what other interesting objects might be in the area. Even so, seeing a beautiful and literal representation of the sky on a the monitor is much less important to me these days than having some help in *deciding what I oughta be looking at in the first place*. Enter planning software. And enter *Deepsky*.

Yeah, what us goto folks need is not a gorgeous expanse of silicon sky, ala *The Sky* or *Starry Night*. What we need is a computer program that tells us WHAT and WHEN. What do we look at, and when can we look at it? That's the jobs of astronomy planning software, including the subject of this little guide/review/overview, *Deepsky*. *Deepsky*, like its other planner brethren, is really nothing more than a gigantic database of deep sky objects that can be searched and sorted for DSOs and times of visibility. In addition to the databases, this and similar programs usually include logging facilities, goto telescope control, and at least rudimentary chart drawing abilities. While new amateurs naturally gravitate to something pretty like *Starry Night*, old hands are increasingly taking up the planners. There

are currently several major programs in this category, but, as you may have guessed, I'm going to focus on one of the pioneers in this field, a long time favorite, *Deepsky*, this time.

Deepsky has been around for the better part of a decade, and may be familiar to you in its earlier incarnations as *Deepsky 98*, *Deepsky 2000*, etc. Originally, the author, Stephen Tuma, appended the current year to the title of each new major upgrade/release. Recently, he has dropped this convention—wisely in my opinion. Just “*Deepsky*” is simpler and less confusing for new users. Technically, the program is actually called “*Deepsky Astronomy Software*” or “DAS,” but its users and its creator usually just refer to it as “*Deepsky*,” which I’ll do here.

What I propose to do here is a little different and a little more in-depth than what I usually do in software reviews. In part, that’s because I’ve previously reviewed at least a couple of *Deepsky*’s earlier versions, and partially because there seems to be some misunderstanding in the Internet astronomy community, especially, about what *Deepsky* does and how well it does it. Mostly, though, because this is a complex and deep program. A two page review or summary just won’t give you a good idea of both what the program is capable of and how easy it is to make it do these things.

Deepsky does take some explaining. It’s a big, sprawling program that can be a little intimidating. Open it for the first time, and you are greeted by

tons of menus, submenus, buttons and windows. The program is actually pretty logically laid out, and very easy to learn to use, but it sure doesn’t look that way at first glance. Unfortunately, at least a couple of folks I know have given up on the program after an attempt or two. They think it’s just too complicated. Luckily, that’s not the case, as just a little digging will show, and dig we shall. I’m going to take you through *Deepsky* from installation, to use in planning an observing session, to operation with a goto telescope, and, finally, to logging your observations.

Don’t get *that* look on your face. I know, I know; you’re interested in astronomy, *not* computer programming. Don’t worry; I’m going to do the above in the simplest possible terms. I’m not going to talk about *every* button and function. I’m not going to tell you *every single way* to do a task with *Deepsky*. My goal is to show you *a way*, a simple and easy to understand way, to use the program. Something to get you started, and something you can build on later by exploring the program’s myriad functions on your own, reading the manual a few times, and talking to other *Deepsky* users online. Please don’t be offended by the title of this piece, “*Deepsky for Dummies*,” either; when it comes to software I am the CHIEF and original dummy.

Keep in mind, as you read this little guide, that what I am telling you herein may *not* always be the best way or only way or the really CORRECT WAY to do things with the program. If you

do things my way, however, I assure you that you will be able to begin using *Deepsky* productively. “Better” can come later.

Before we can get started you’ll need a copy of the software, of course. That’s pretty easily accomplished, no matter how shallow your pockets are at the moment. If you need to lowball it, *Deepsky* is available as a download from the author’s website (<http://www.deepsky2000.net>) for a mere \$29.99. The limitations of this format are fewer stars on the built-in charts (it tops out at magnitude 11 rather than the 15.5 of the more expensive editions), and fewer images, 109 versus 400,000 (that’s right, 400,000) for the DVD version. A step up from digital download is the CD edition, which goes for the still surprisingly modest price of \$49.95. It is identical to the program’s top of the line DVD version in most respects, but has a reduced image set of “only” (!) 11,000 pictures. If your computer has a DVD drive, or you’re willing to upgrade to one (these devices are insanely cheap now), the top-of-the-line DVD is really the way to go. For only \$69.99, you get *everything*, including the aforementioned 400,000 pictures of deep sky objects. All three versions—including the el cheapo download--include all the “core” *Deepsky* features, including 60 astronomical catalogs full of 708,000 objects.

Well, the DVD includes *almost* everything. Steve also sells some ancillary items that may be of interest. If you bought the CD version, but find yourself wanting

more pictures, two additional CDs of images are available at \$20.00 each. The most important “add on” in the *Deepsky* store, though? A printed manual at \$15.00. Yeah, I know you say you’ll print out the manual included on the disk. But you *know* you never will. A printed manual is always handy to have, and is indispensable when you’re learning *Deepsky*.

At least as desirable as a printed manual—or maybe moreso—is the *Deepsky* “training disk.” This is a CD of instructional videos that is one of the best and most useful ideas I’ve yet seen in the world of astronomy software. While these lessons can be downloaded from the *Deepsky* website for free, unless you’ve got a broadband connection that’s not very practical. The training video disk is only \$9.99, anyway. Just buy it.

Once you have disks in hand or the downloaded file resident on your hard drive, it’s time to get the *Deepsky* going. The installation procedure is basically identical for all versions. If you did choose to go with the DVD, as most of you probably will, you’ll find yourself with three disks: a program CD and two additional DVD disks containing images. Set the DVDs aside for now, insert the CD program disk in your drive, and let’s get started.

I chose to install *Deepsky* on my laptop, a 3.4 GHz Toshiba Satellite (Windows XP) with a DVD r/w drive, a gigabyte or RAM, a large hard drive and a fairly powerful video/display system. Don’t panic! I know many amateurs will want to

install the program on the older PCs many of us use at the telescope. Rest assured it will work fine there. I previously installed the program on a system as puny as my ancient 333 MHz Compaq desktop, which is equipped with a mere 64mb of RAM, and it ran well. Naturally, doing computer intensive things like retrieving massive numbers of objects from the *Deepsky* database will be faster and more pleasant with a more modern computer.

Once you’re ready to start installing—don’t start. First of all, before you do anything else, read the printed pages included in the *Deepsky* package, those titled “Please Read All of This First.” That means just what it says, pardner. Make sure you read and *understand* everything in these pages before you start the installation; that’s the surest way to keep yourself out of trouble. Remember, *Deepsky* is, at heart, a database, and databases are one of those types of program where incorrect installation can cause a lot of problems. You might also want to open the *Deepsky* user manual .pdf, either from the CD or the website <http://www.deepsky2000.net>, and print the whole darned thing if you haven’t taken my advice and shelled out for the printed version. Yes, I *know* you hate to read manuals, but do it anyway.

One slight down-check for *Deepsky* is in getting the installation process going. Most recent programs will begin their installations automatically when a program CD is inserted into the drive. *Deepsky* did not. Instead, I had to select “run” from the

Windows Start button and browse to the setup program on the CD. Not a big deal, sure, and this procedure is clearly explained in the installation directions in the “Read All of This” pages, but for the computer-ignorant among us (which includes Old Uncle Rod), *the simpler the better*.

Despite that minor quibble, I was very pleased with the installation procedure on my machine. Once started, it ran without a hitch, and I was not asked to reboot the computer following the installation or do other weird or annoying things. Earlier versions of *Deepsky* sometimes proved troublesome to install, with hang-ups and multiple reboots being the order of the day. Not this time. The new *Deepsky* (Version 2005.6.28 is current) went onto my drive without complaint or hesitation, leaving me with an initial impression of “solid” and “professional.”

Just because you’ve got the main program installed, that doesn’t mean you’re done installing. If you want to control your goto telescope with *Deepsky*, you are required to also install the ASCOM program, as well as any drivers that ASCOM furnishes for your particular scope. A copy of ASCOM is included on the *Deepsky* CD, but you might want to check the ASCOM website at <http://ascom-standards.org/> to make sure you’ve got the latest version. Please do this, as, depending on your scope model, having the latest ASCOM can be very important for proper goto operation.

Also found on the *Deepsky* CD are *Cartes du Ciel*, *Virtual Moon Atlas*, *Pocket Deepsky*, and several other apps. If you're interested in any of these, go ahead and install them, too (if you need detailed instructions for *Cartes* and *Virtual Moon*, check the websites of these programs—instructions for *Pocket Deepsky* are found in the program manual). *Pocket Deepsky*, by the way, looks like a very nice program, but since I'm a Palm user I was, unfortunately, unable to evaluate it. The only one of these additional applications I feel is a must is *Cartes du Ciel*. If your tastes in astronomy charting programs are like mine, you'll probably find yourself using the *Cartes* charts with *Deepsky* instead of the built-in Dean Williams charting system. More on that later. For now, just trust me and go ahead and set up *Cartes du Ciel* if it's not already resident on your PC.

If you purchased the DVD version of *Deepsky*, you've got those two additional disks the, DVDs, hanging around. These are the image disks, and you can, as the manual indicates, either leave the data on the DVDs or copy their pictures and other materials onto your hard drive. Be aware, though, that copying this much data will take a long, long time even with fairly speedy equipment—hours in some cases. I chose to leave the data on the DVDs. If you change your mind later, you can always go back and copy the DVDs to a directory on your hard drive; just follow the instructions in the *Deepsky* installation instructions.

When you're done loading everything you want to load up, take a look at your desktop, and you'll notice that *Deepsky* has placed an attractive program icon there. Moment of truth. Give 'er a click and see what happens. What *should* happen is that you're greeted with a window which calls itself a "set up wizard." Answering the questions this wizard asks will give the program the bare essentials of information it needs to start working for you. Mainly, it wants to know where on your computer it can find the astronomical catalog data and images the program uses. The manual and the Read Me guide outline what you should answer here, but it's pretty simple. The Tycho and Hubble Guidestar (GSC) catalogs are in the *Deepsky* directory on your hard drive (which, you'll find, the install process has placed in the "programs" subdirectory of your drive). Pictures, unless you've dumped the DVDs to your hard drive, will be in the "images" directory of the DVD drive (make sure an images DVD is in your drive as you're telling the setup wizard where to look for pictures if you use the window's browse button to furnish this information).

When you're done with this wizard, the program will run for the first time, and you'll be greeted by the main program screen. Actually, you'll first be greeted by the window in **Plate 1**. We'll talk about that some later. For now, just close it. Closing should reveal *Deepsky's* "home" screen, seen in **Plate 2**, but you're not close to being ready to explore its many features—not yet. You've got

some more setting up to do. Go straight to the Prefs menu (found after File, Database, and Apps at the top of the screen in typical Windows menu fashion). Once there, click "Date and Time," which will present you with the window seen in **Plate 3**.

As with most Astro programs, *Deepsky* can use the PC's time and date settings, which is what I initially told it to do, by checking the appropriate box in this window. This is the most convenient way to use *Deepsky*—by linking it to your PC's real time clock, you'll avoid the embarrassment of booting the program and being puzzled by winter objects in the heat of summer if you haven't used *Deepsky* in a while. You can always come back here, uncheck the box, and enter a desired time and date if need be. Which will be often, since you'll want to set the program for a particular date and time when you're planning an observing run.

Next up is setting your geographic location. You can select your site from an extensive list of world-wide cities, found under the "general locations" tab. Or if you're a stickler for precision like me, and/or travel to a lot of star parties, you can enter multiple "personal observing sites" by name (with their geographic positions expressed in degrees, minutes, and seconds of longitude) under the "personal observing location" tab of this window. One peculiarity I noted here was that I was not allowed to leave any of the fields blank to go back and correct errors in previous fields. The program



contrast to the eyepiece listings, the CCD models are extensive, with even the fairly new Meade DSI (but not the brand new DSI Pro) being present.

“Miscellaneous preferences,” the next menu item under Prefs, allows you to enter or change file locations (of images and catalogs) if you haven’t done that already in the Setup Wizard. This window also includes various other options, all of which can be left at their defaults, at least for now (the forbidding sounding “partition logbook,” for example).

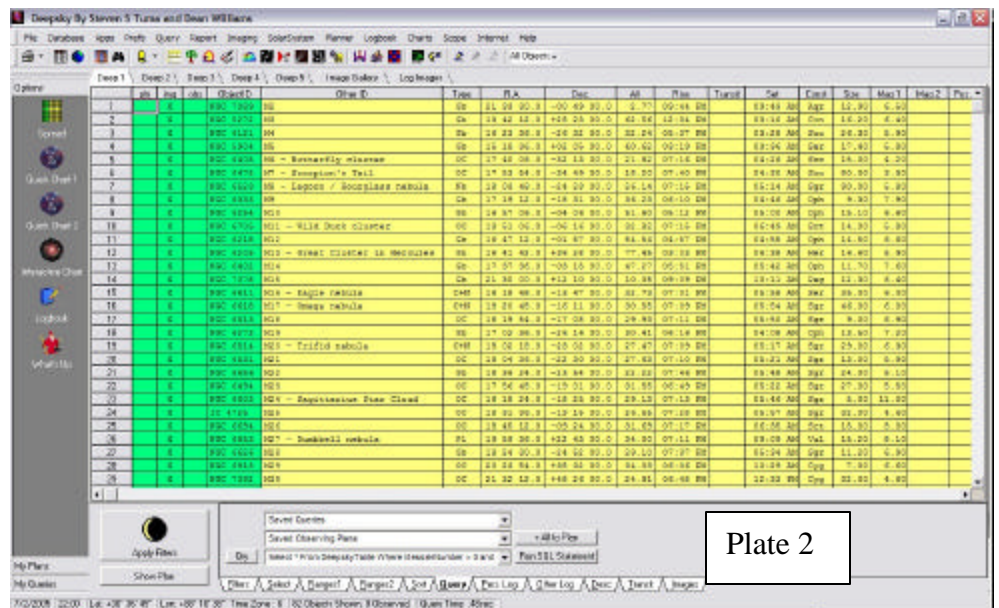
“External applications” allows you to set up other programs—*Cartes du Ciel*, for example, to run from the *Deepsky’s* Apps menu. To configure this, up, you enter each program into the table by means of browsing to its location on your hard drive from this window, and finding and clicking on the program’s executable file (usually identified by name and a program icon that looks like the one installed on your desktop). This sounds confusing, but is well-explained in the manual.

insisted I first fill in all the blanks for either lat or lon before I could go back and correct an error. Once position data is entered, the selected observing site’s latitude and longitude (but not name) will be displayed at the bottom of the main program screen. Oh, do be aware that the longitude and latitude values you enter in either “general” or “personal” are used *only* by the program for calculating object visibility. You will still need to enter latitude and longitude in the ASCOM program setup if you’re using a goto scope.

only for helping you do observing log entries and other program specific tasks.

Scope or scopes selected? Ocular time. The eyepiece list, though it includes many oculars from numerous manufacturers, is not quite as up-to-date as the telescope list. Many popular imported eyepieces like the Orion Expanses aren’t there. It’s easy enough to add your own eyepieces, of course. Have a CCD cam? Select that, too. In

Your next task is to select the equipment—scopes and eyepieces--you’ll be using, as seen in **Plate 4**. You can choose your gear from lists displayed in this window or you can create your own entries. Chances are, you’ll find your scope in *Deepsky’s* long list of currently popular instruments. Note that, as with latitude and longitude, you’ll still need to enter your scope type in ASCOM. *Deepsky* uses equipment data



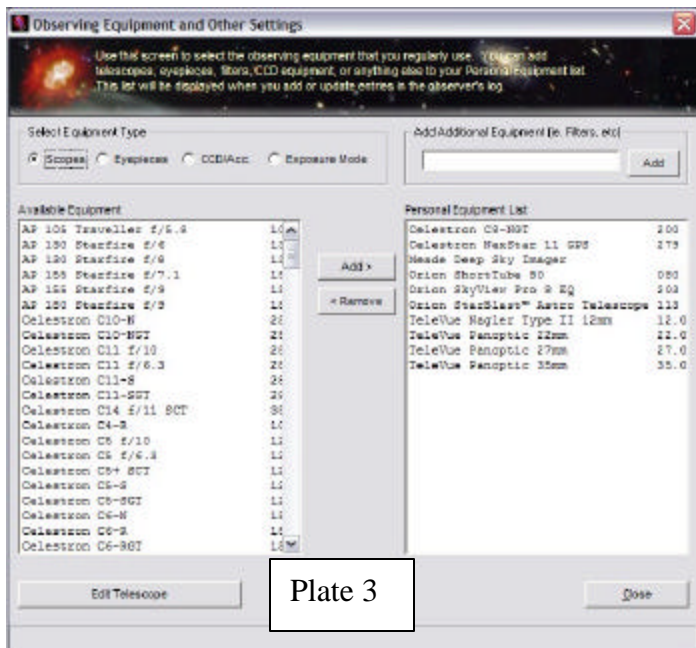


Plate 3

“Spreadsheet” (preferences), allows you to change the colors of the spreadsheet, among other things. I found the default yellow/green to be fine. The rest of the selections under this window’s tabs can be left at their defaults for the moment.

“Star Chart Preferences,” the next Prefs menu choice, concerns some minor configuration details of *Deepsky’s* included charting “module.” Like Miscellaneous Preferences, these can be left at their defaults.

Whoo-eee...done setting up for now—finally! What next? You can start working with the program immediately, but I STRONGLY suggest that you exit, insert the Training CD and view it’s instructional videos. Maybe view ‘em a couple of times. This will really help you get going without a lot of Uncle-Rod-style mucking around. Criticisms of this disk’s “production values?” Steve’s voice is easily understood (and

is much better than my Southern drawl, for sure), but it might be nice at some point to corral somebody with a good “announcer’s voice” to do the audio narration. Some occasional fluffs in the lessons—clicking wrong

items, etc. should be cleaned up as well.

The *content* of the training CD? These lessons are presented in the “animated screen”/audio narration format familiar to anybody who’s ever taken any kind of software training course. They are very helpful if you’ll just sit down and watch them, and I do not understand why nobody else in the astronomy software biz has thought to do this. Man alive, “videos” like this would be one heck of a life preserver for a big, complicated program like *The Sky 6*. There are 11 videos on the CD that will take you from Installation all the way to using SQL commands for database searches (if you want to).

Anything lacking? It might be nice to add a video-lesson that explains the most basic of *Deepsky* basics, one that defines a few terms. It may not be apparent to everybody, for example, what the

difference is between an “observing plan” and the onscreen spreadsheet list of objects that is displayed when you start the program. If you really want to maximize the value of these videos, it might be a good idea to run them while you follow along with the program itself—if your computer is up to running both videos and *Deepsky* at the same time or if you have a second computer available.

Now it’s finally time for the nitty-gritty. This is what you shelled out the bucks for. If you exited *Deepsky* to run the training disk, bring it back up. When you start the program, you’ll first be presented with the aforementioned introductory window that allows you to view the program’s online documentation, look at the training videos, contact the author by email, check into the *Deepsky* User’s Group, and check for program updates. To do these things, you’ll naturally need an Internet connection, and for everything except checking the User Group, you’ll want this to be a high-speed connection. There’s a check box that will prevent this window from being shown at subsequent start-ups if you get tired of seeing it.

Well, getting down the “nitty gritty” means actually starting to USE the program, which we’ll do in the next issue, in Part II.

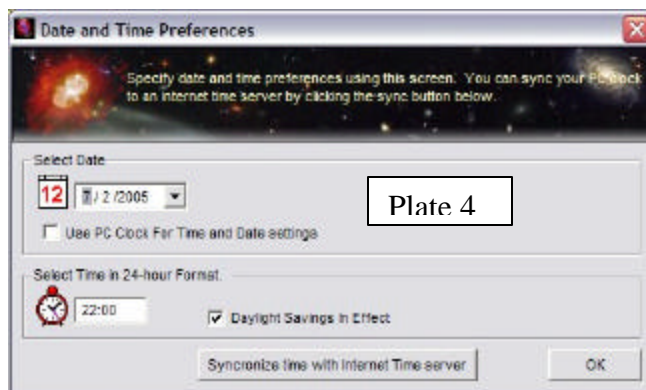


Plate 4

Celestron Touch-Up

Don Gallian

Although officially called 'brown' by Celestron, the fork/drive base and the cells of the orange-tube telescopes always looked *gray* to me.

I recently had the opportunity to re-purchase an 80's vintage C11 (the Stray CAT) that I owned many years ago. Considering it's about 25 years old, the scope is actually in remarkable shape. The orange looks almost like

new, but the gray paint shows some oxidation. So I decided to do some cosmetic touch ups on the fork and cells.

As it turns out, the 'brown' really isn't brown, but it's not exactly gray either. Using Testor's enamel model paints, I combined 1/4-oz. bottles of flat black, gloss black, and gloss white. This combination showed a distinctly blue cast when compared to the original. I added a 1/4-oz. bottle of gloss yellow (to tone down the blue) and about one-quarter bottle of gloss red. This produced an almost perfect match.

A couple of things should be noted: 1) this paint dries quite a bit darker than when it is first applied so test it *thoroughly* before you actually paint anything! And, 2) while this combination worked for my particular scope, each telescope 'ages' differently so you might need to experiment further. In fact, the gray on the cells is different than the gray on the forks in my case!

However, this combination of colors and

proportions will at least give a good starting point. Also, if you decide to mix your own touch up colors, don't forget to buy an extra jar to store your left over paint for future projects!

Since the C11 was in good shape to start and the surface of the mount and cells are textured, I was able to apply a very thin color coat using only a sponge applicator. The result? It looks almost like a brand new telescope! How well it will hold up remains to be seen, but it should be fairly durable.

Good luck if you try it!

The "Best" Finder Scope?

Joe Rome

New amateur astronomers quickly become acquainted with finder scopes. You know, the small refractors mounted on your Optical Tube Assembly to provide a larger field of view, to make targets easy to center in the main scope's limited field. Finder scopes have been around for many, many years now; increasingly with design variations and accessories intended to correct any number of problems. These "variations" usually require extra space, cost more than they are worth, and fail to resolve the root of the problem.

The first "problem" you have to address is alignment. The finder scope must be aligned with the larger scope, and mounting and alignment is where the problems begin. Aligning the finder scope must be done in steps. First,



you must find an object in the big scope, and then align the finder to that object without moving the larger scope off the same object. This does not appear to be that difficult, but consider that to adjust the finder, you must move something. This action normally moves the larger scope and renders efforts on the finder useless. Sometimes the object viewed moves and causes a misalignment of the finder. In the end, sometimes with a lot of effort, the finder scope gets adjusted enough to serve its purpose.

There are other issues with refractor-scope type finders, like eyepieces and the position of this eyepiece with regard to the main scope. Most are placed in an uncomfortable position at one time or another, depending where the main scope is pointing. This slows down the process and tires the observer.

Yet another problems that may arise is the confusing orientation of objects in the finder. They may be upside down or reversed right to left compared to what you see with your naked eye, making it very hard to get the finder lined up on dim objects. To overcome this problem, some observers use the “two eye method”, one eye looks through the finder and the other is kept open, looking at the sky location of the target. The user then attempts to “superimpose” the location seen in the finder with what’s seen in the unaided eye,

something that’s not always easy—to say the least.

If this seems like a very negative account, that’s because it is. Finders, finder telescopes, are simply not easy for beginners—or really anybody—to use. Finders are acceptable simply because everybody suffers through the same problems. Things are particularly bad and depressing for beginners, who usually think these finder-problems are the result of their own inadequacies, not the inherent difficulty in using these

problem in a nutshell. In order to find a deep sky object you must be able to scale your map to the sky, and the inverted images and magnification that is presented by the finder scope make that horribly difficult. Add to this problem of matching finder to sky, the fact that you’ll be in contorted positions to look through a finder scope much of the time, and even an experienced observer may easily miss her targets. Again, red dot finders are *somewhat* better but hardly the perfect solution.



Messier marathons are one of the occasions where the above problems become most apparent. A marathon is an undertaking where you are often pressed

little add-on scopes.

There have been attempts to correct these finder shortcomings in several ways. The HUD type finders (“Head’s Up Display”) like the TELRAD and the red dot finder help *some*, but I find that most of these devices dew over much too easily. Another drawback to the zero power finders is that the observer’s eye position tends to move the dot or reticle against the stars, making finding less accurate than it would otherwise be. These zero power finders were a valiant attempt to make finding easier, but they also fell short.

Confused? Yep, I meant to confuse you, and now that I have your attention. Here is the

for time and the annoyances of a finder scope become most obvious. Not only do these finders impede the observer. They wear you down eventually, and you become less efficient in accruing targets. And less able to make it to dawn and the end of the Messier list. This same sort of pressure often makes the finder scope’s shortcoming very apparent at public star parties.

To sum up, all the previously-mentioned finders are passive devices. Finders do not introduce anything to the environment to help them perform their function. Until now. Now there is a new type of finder that is an *active* device, and which can really help in a marathon, a public star party, or

just the backyard. I'm talking about the sometimes-maligned green laser. Several vendors are now offering green pointer-type lasers with finder mountings that allow you to attach them to your scope and use them to locate objects by projecting their "Star Wars light saber" beam against the stars.

The laser's first advantage is that you don't have to be a yoga expert to use it. You can stand upright, use

both eyes to view the target area of the sky, *and just place the laser's green beam on that target*. There is no inverted image to disorient you, and with an equatorial scope, you can unlock, move, and relock RA/Dec clutches without fumbling around. The relationship of the finder beam to your atlas is easy to see, with no worries about upside down/mirror reversed finder scope views. Another huge benefit is that this finder will not succumb to dew—it's completely impervious to the nasty wet stuff.

How accurate is a green laser finder? We pitted one against a go-to equipped scope, but I must admit it was not really a fair test. The individual who selected the targets happened to pick objects

for which I knew the locations pretty well, so it was 10 – 3 *in favor of the laser*. Onlookers were amazed that only two of the targets were not in my field of view on the first attempt. I was



using a 19mm Panoptic initially, but switching to a 24mm Panoptic put *all* targets in the field of view.

In addition to providing quick target locating for Dobs, SCT's, or any type of scope, green lasers are also very easy to align. You don't need a target to accomplish this task. You just pick a dark spot in the sky, use a low power eyepiece, and align the laser beam "end" to the center of the main scope's field of view

But that's not all this amazing device can do; it may be used in several ways impossible for "normal" finders. One thing it can do is help other observers on the field locate their targets. It can be used by other scope, even further than 100' away, by just

centering the beam in their finders/main eyepieces. For example the finder's beam is pointing at Rigel. If you were over 100' away it would *still* terminate at Rigel. If someone at a star party can't find, lets say, M27, you just place the laser on M27, and they place their finder or their main scope's field of view on the laser termination in the sky. M27 would then be in their eyepiece.

This past Friday was a bad night for DSO's. M51

was very hard to acquire in the scope, but could be seen in a pair of 25 X 100's. I easily found M51 by using the laser to cross the field of view of the binoculars. When the laser crossed M51 in the binocs, I stopped, and then moved the beam until the laser "beam end" was on the target. Like magic, the elusive galaxy was then in the field of the scope.

As a pointer, this is a very useful tool at public star parties. If you want to point-out constellations, or show folks exactly where the object they're viewing in the telescope is located in the sky, nothing—nothing—beats a green laser.

Dark Side to a Bright Product?

This product is not for children, to say the least, and some

caution must be exercised in its use. Nevertheless, this is such a wonderful tool that it's more than worthwhile to have to be a little careful while using it. In America we have *Homeland Security*, An Agency of well-intentioned, dedicated people, trying to their best to do an impossible task. I would certainly not suggest any actions that would get their attention, however. Like pointing a green laser—either a finder or a pointer—anywhere near an aircraft. This is not a showstopper, though. I live near the Austin Airport, use this finder often, and have had no problems. It's really not that difficult to keep the beam away from airplanes. Just pay attention to what you are doing. The greenie is "safe," and there will be no problems with proper discretion.

Astrophotography? Many potential users worry about ruining a fellow observer's pictures with a green beam. This is not a problem at a public star party, but some private or club star parties may restrict green laser use because of this *potential* problem. I would check the rules of the club or star party in question before using a green laser finder or pointer at a group event. File this under the "keep the friend you have" policy.

While there are a number of these devices on the market, I'm using the one from Scopestuff (<http://www.scopestuff.com>). It is well built and thought-out in its design. Easy to install with the provided hardware. Simply the most functional finder scope on the market today. And it's *not* a finder scope. Thank goodness.

Utterly Alien

Dr. Tony Phillips

There's a planet in our solar system so cold that in winter its nitrogen atmosphere freezes and falls to the ground. The empty sky becomes perfectly clear, jet-black even at noontime. You can see thousands of stars. Not one twinkles.

The brightest star in the sky is the Sun, so distant and tiny you could eclipse it with the head of a pin. There's a moon, too, so *big* you couldn't blot it out with your entire hand. Together, moonlight and sunshine cast a twilight glow across the icy landscape revealing . . . what? twisted spires, craggy mountains, frozen volcanoes?

No one knows, because no one has ever been to Pluto.

"Pluto is an alien world," says Alan Stern of the Southwest Research Institute in Colorado. "It's the only planet never visited or photographed by NASA space probes."

That's about to change. A robot-ship called New Horizons is scheduled to blast off for Pluto in January 2006. It's a long journey: More than 6 billion kilometers (about 3.7 billion miles). New Horizons won't arrive until 2015.

"I hope we get there before the atmosphere collapses," says Stern, the mission's principal

investigator. Winter is coming, and while it's warm enough now for Pluto's air to float, it won't be for long. Imagine seeing a planet's atmosphere collapse. New Horizons might!

"This is a flyby mission," notes Stern. "Slowing the spacecraft down to *orbit* Pluto would burn more fuel than we can carry." New Horizons will glide past the planet furiously snapping pictures. "Our best images will resolve features the size of a house," Stern says.

The cameras will also target Pluto's moon, Charon. Charon is more than half the size of Pluto, and the two circle one another only 19,200 kilometers (12,000 miles) apart. (For comparison, the Moon is 382,400 kilometers [239,000 miles] from Earth.) No wonder some astronomers call the pair a "double planet."

Researchers believe that Pluto and Charon were created billions of years ago by some terrific impact, which split a bigger planet into two smaller ones. This idea is supported by the fact that Pluto and Charon spin on their sides like sibling worlds knocked askew.

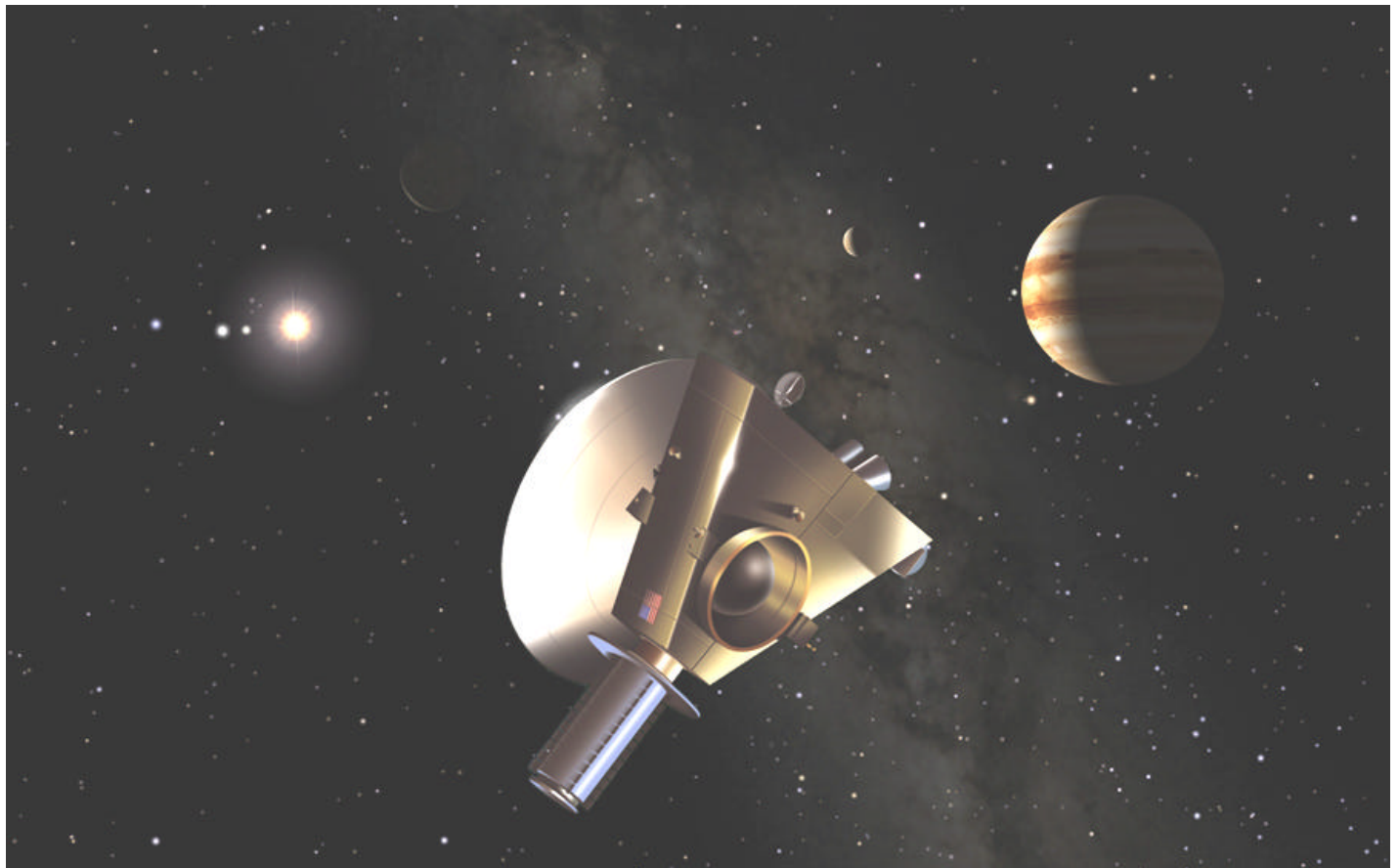
Yet there are some curious differences: Pluto is bright; Charon is darker. Pluto is covered with frozen nitrogen; Charon by frozen water. Pluto has an atmosphere; Charon might not. "These are things we plan to investigate," says Stern.

Two worlds. So alike, yet so different. So utterly alien. Stay tuned for New Horizons.

Skywatch

Find out more about the New Horizons mission at pluto.jhuapl.edu/. Kids can learn amazing facts about Pluto at spaceplace.nasa.gov/en/kids/pluto.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



My Back Pages

"Crimson flames tied through my ears
Rollin' high and mighty traps
Pounced with fire on flaming roads
Using ideas as my maps
"We'll meet on edges, soon," said I
Proud 'neath heated brow.
Ah, but I was so much older then,
I'm younger than that now."



Beavis and Butthead...Beavis and Butthead. Despite their show's cancellation ("Huh-huh, I say we beat the CRAP out of that Hank Hill guy, Beavis, huh-huh, huh-huh!"), they appear to be soldiering on as before. I'll admit, though, that I was surprised that it only took these two numbskulls two months to hitch-hike back from the TSP with their much-loved 60mm 600X Tasco. Must be their charm. At any rate there they were at the front door of Chaos Manor South, beat-up, and, for once, too weary to launch that infamous mayo jar at my noggin. You know, THE mayo jar. The one kept on Funk and Wagnall's porch for a fortnight, the one with all those amazing....

corrector assembly and the tube tends to allow dust (or even bugs) to enter the OTA. Once in there, there's no easy or obvious way to remove dust--or Mr. Skeeter.

Execution-wise, some new owners of the 14 inch aperture scope are reporting fork misalignment. Seems that on some examples the fork arms are too far apart at the tube end, resulting in the declination setting circle binding, and, on one scope, the OTA "clunking" back and forth between the arms as the scope's attitude changes. All in all, though, this has been a successful and *mainly* problem free—if not perfect—product introduction.

Rumours

Is all well in RCX land? Yes and no. While most new users of Meade's latest line of SCTs (or Ritchey-Chrétiens, as the case may be), are very happy with their new scopes, some are discovering that being an early adopter is still fraught with peril despite the fact that the RCX400 scopes cost about twice what LX200 GPSes of the same aperture go for. Primary complaints thus far involve both design and execution. Design-wise, it appears that the gap between the

Celestron is now, apparently, able to carry on following the resolution of their recent bankruptcy with a lock, stock, and barrel buyout by the Chinese company Synta. That things are looking better is evidenced by the fact that scopes have begun flowing out of Torrence again. Some scopes, that is. The 8 inch CPC—the CPC is Celestron's lower cost replacement for the Nexstar GPS series—is the only aperture of these new scopes to be seen so far. We do hear that the 9.25 and 11 should be available "soon," and that these scopes will be *drop-shipped* from the Celestron factory to buyers.

In other Celestron news, software beta testers report they are being put to work again; another indication that the company is becoming more active.

Finally, it looks like the much-loved C5 is a goner—again. Celestron advertisements recently began displaying a new SCT, the C6 six inch. A close look at the Celestron website shows that the C5 configurations of both the Advanced Series and the Nexstar Series are GONE. It seems pretty obvious, then, that the C6 OTA will shortly appear in these roles. The C5? It's only available as a spotting scope now. But don't count the little silly out. The 5 has been discontinued at least three times at last count, but it's portability and its superb optics have always brought it back. The big question about the C6? Where is it—the first new SCT by Celestron since the 9.25 more than a decade ago—made? In Torrence by Celestron or in China by Synta?

Speaking of Synta, they are making a big splash in the astronomy mags these days with pretty, full-page ads (under the company's oft-used Skywatcher badge) for their 80mm and 100mm ED scopes and their 6 inch MCT. These scopes are perched on lovely-looking HEQ-5 mounts.

People are also excited about Synta's new version of its big EQ6 mount, the Skyscan (or "Synscan," depending on who you talk to). This is an EQ6 with a goto computer system (which, while not exactly functionally the same as the Celestron Nexstar system, looks a lot like the Nexstar computer). Synta has apparently finally gotten the bugs out of the EQ6 gears, too, making the mount much more useable for imaging than it once was. Synta is also offering a "Pro" version of this mount (and apparently the HEQ5, too). It's unclear what makes the Pro different from the standard mount other than a distinctive white paint job, but I'm told that these versions "receive more QA scrutiny."

--The Anonymous Astronomer

The Wrap-up...

Late AGAIN! At least *this time* we have an excuse. A pair of excuses. Two nasty storms, Cindy and Dennis, wreaked havoc at good, old Chaos Manor South. No, they didn't do much damage, but they were quite a distraction, with Rod and Dorothy being told to evacuate during Hurricane Dennis.

Be that as it may; I hope all this is over for now. I don't really think it

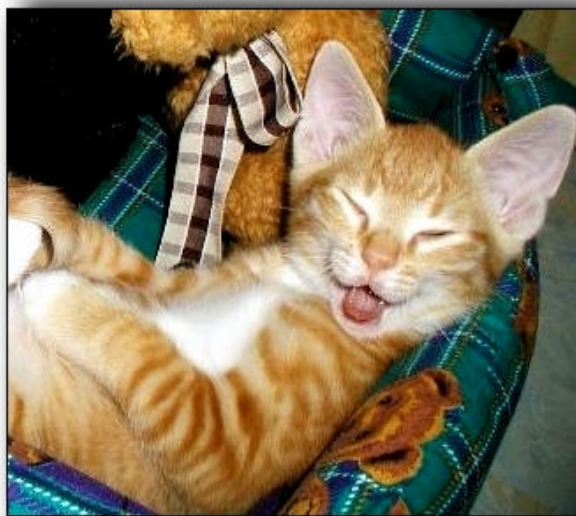
is--August and September are always the worst storm months--but hope springs eternal at the old manse.

As always, we need your contributions! More than ever now, as a matter of fact, since my keyboard time has been drastically curtailed by the need to run for higher ground (Possum Swamp ain't exactly below sea-level—just almost.).

What else? MAYBE a more modern, professional, better-looking format for Skywatch. Ain't promisin', but it's about time!

Anyhoo, if you have something for me, well, send it on to yer ol' Uncle Rod at RMOLLISE@hotmail.com

See y'all in October. In the meantime, the much put-upon residents of hallowed Chaos Manor South are gonna try to get some rest. "Nite-nite!"



--Rod Mollise