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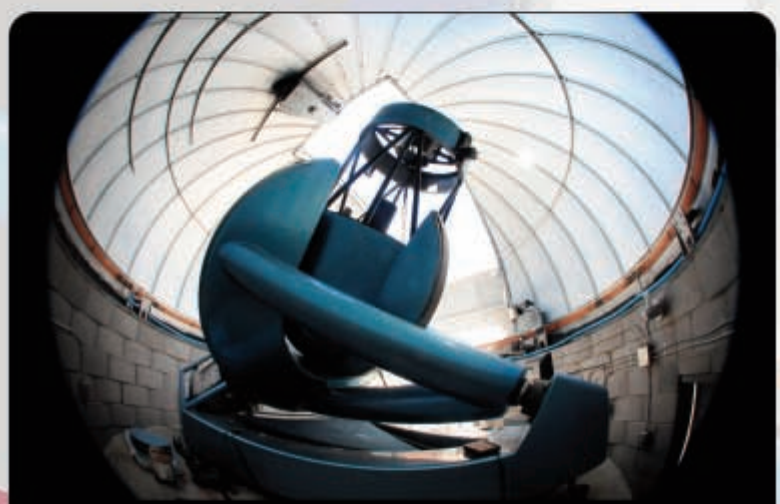
This is Tenagra Observatories' flagship telescope. It is a 32" f/7 Ritchey-Chretien. The science camera is a Grade 1 1001E based camera with 1024 X 1024 X 24μ pixels yielding ~0.87" per pixel. Field of view is ~14.8 X 14.8 arc minutes. Chip temperature is maintained at a constant –35° C. year round. A highly accurate automated refocus occurs with every telescope slew. The scope is located in S. Arizona and enjoys the exceptional number of clear nights of the Sonora Desert.

This telescope is 100% automated. You give it its marching instructions for the night and the system runs unattended including flats in all filters, darks, biases and raw science images. You may choose Custom Scientific Johnson-Cousin UBVRI, H-alpha, Sloan g' r' i' z', unfiltered and Astrodon 2nd Generation LRGB filters. You may download your images real-time or the next day.

There are way too many modes of operation of this exceptional telescope to describe here. For more information visit : www.tenagraobservatories.com.



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Contact Michael Schwartz with any questions at mbs@tenagraobservatories.com

Deep Sky Planner v6 and the DewBuster Controller

More Better Gooder

By "Uncle" Rod Mollise

Is the only enemy of Good Enough really More Better? I tend to think so. Whether it's astronomical software or hardware, there are products I depend on and use constantly. Then their makers just have to go and change 'em. Sometimes merely for the sake of change and a new batch of advertising hyperbole. I continue using the old stuff I know and love till the hardware breaks down or a new version of *Windows* or *OSX* breaks the software, and I am left muttering in my beard like a dadgum curmudgeon.

Luckily, it's not always that way, there have been a few times when my astro-stuff has been "improved" without being ruined. Not often, but sometimes. Usually I'm still put-out about the changes, but I learn to live with them. And once in a while, once in a very great while, I have to admit the "new and improved" really is new and improved and wonder how I got by with the old version. That's a rare occurrence, so I was gobsmacked when it happened to me twice recently. First with software, Phyllis Lang's *Deep Sky Planner 6*, and then with hardware, Ron Keating's DewBuster anti-dew controller.

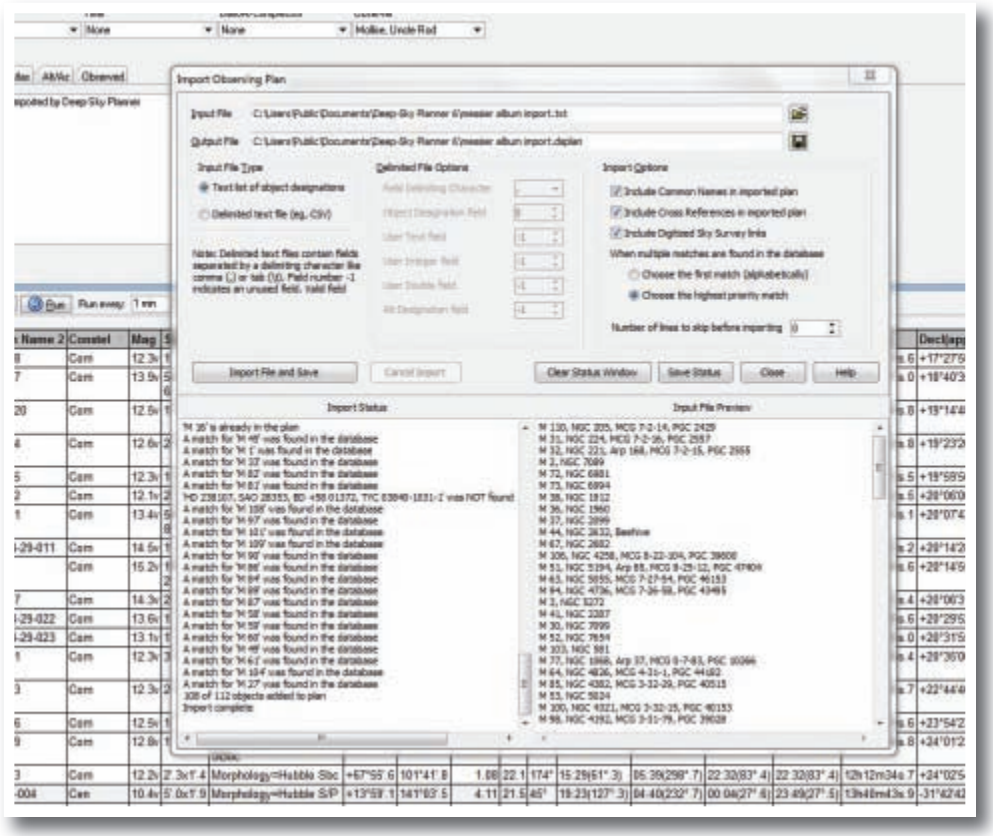

Image 1 - The new and improved DSP6 Import Utility

Deep Sky Planner 6

If you follow my blog, you know I recently completed a sizeable project, observing all the near-2500 objects discovered by Sir William Herschel and his sister Caroline. You also know observing planning programs like *Deep Sky Planner*, were integral to that project. Without their assistance, it would have taken a lot longer to see all those fuzzies. While there were a couple of things I would have liked to have seen added or changed, I was happy with *Deep Sky Planner 5* just the way it was.

I knew Phyllis was preparing to release a new version of her program, but I didn't pay much attention. What I had was more than good enough. Then I happened to get a chance to meet Ms. Lang in person and hear about her recent work on

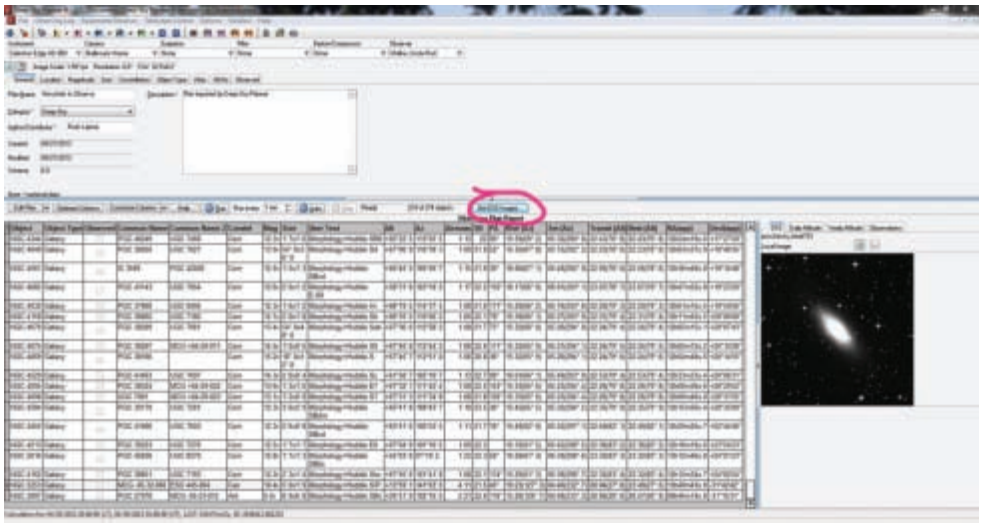

Image 2 - DSP6 Image Download Button

DSP. She was instrumental in having me up to give a talk for her club, the renowned Raleigh Astronomy Club way up in North Carolina, not long ago. I suppose she could see I was a little skittish about switching over to "6," and lured me in with the news that one of my feature requests had been fulfilled.

In DSP 5, you could download Digitized Sky Survey pictures (Palomar Observatory Sky Survey plates, that is), but you had to do 'em one at a time. Impatient old Unk naturally wasn't about to sit there and download 2500 freaking Herschel pictures individually, so I'd asked Phyllis to consider adding a batch download option for the next release. Lots of software authors will respond to such requests with "Yeah, that will happen Real Soon Now," which I take with a grain of salt. Knowing Phyllis' reputation and talent, though, I wasn't surprised to learn she'd got it done. I found myself agreeing to try *Deep Sky Planner 6* after only a few draft Blue Moons at the local watering hole following my talk.

Ms. Lang handed off a DVD when she and hubby Mark drove me to the airport when it was time for me to head home, and I gotta admit I was at least curious. Much as I hate changing my software tools, I have a hard time leaving a new DVD alone. Not long after I returned to Chaos Manor South, I had DSP 6 up and running on my Toshiba Satellite and was ready to see if my fears would be realized or if my hopes might triumph.

Deep Sky Planner 6 allayed those fears from the get-go. Once I had it open on the Satellite, I was relieved to see it didn't look much different from 5. There might be changes and new features, but it was obvious I wouldn't have to re-learn the program from scratch. I was also relieved to see it loaded my DSP 5 observing plans without the need for conversion. Now to check out that new image download feature. Before I could do that, though, I had to have a sizeable observing list to play with in DSP 6.

I was also curious to see if Phyllis had improved DSP's OK, but just OK, import routine as she had planned. To find out, I exported a *SkyTools 3* list, "Best of the Herschel 2500," as a text file. Opened the import widget in *Deep Sky Planner 6*, told it the file name to import, what to call the output file, where to put it, and mashed the "go" button. In just a few seconds, I had a DSP 6 plan. Every one of the objects had been squirted into the program. It was so easy, I couldn't resist converting a longer list of 250 "H2500 Objects Left to Image" to DSP. Again, the import facility worked flawlessly.

OK, I was willing to concede DSP's import utility was now world-class. How about image retrieval? With just a little fumbling and bumbling (What? Me read a help file?) I found a button that would download images for all the list's objects at once. No fuss, no muss. In just a few minutes, 250 Herschel pictures were saved and ready for use. Not only did the batch image retrieval work, it worked fast.

What else? There is plenty more New Good Stuff in DSP 6, but, other than the above, what impressed me most was that the program's performance seemed noticeably better. Maybe it's just me, but everything seemed zippier in 6. Finally, one of the big draws of the new version according to Ms. Lang is that she has put a lot of work into correcting errors in the program's catalogs. Which is good to hear. Observing planners live or die by the accuracy of the data in their databases.

So the new *Deep Sky Planner* worked out. For once I wasn't left cussing or pining for the old one. In fact, I had to admit I liked *Deep Sky Planner 6* better, much better, than its predecessor. Then the second punch of an old one-two hit me. I heard from Ron Keating, inventor and manufacturer of the DewBuster dew heater controller, that he had a new and improved 'Buster on the street. Oh, for goodness sake…

The DewBuster

If y'all read my recent article on the subject in *Sky and Telescope* (July 2013), you know my thoughts on dew protection, especially for SCT owners: Of course you use a dew-shield, but unless you live in the desert, you'll have to supplement that with active measures, dew-heater strips and a heater controller like the Kendrick or the DewBuster.

When I finally figured out you need heaters on your corrector and finder and eyepieces if you are to have a prayer of keeping the dew off the scope in a humid locale, I got a Kendrick dew controller and some heater strips. The Kendrick System worked, but when Ron Keating came out with his DewBuster about a dozen years ago, it was obvious to me that it was

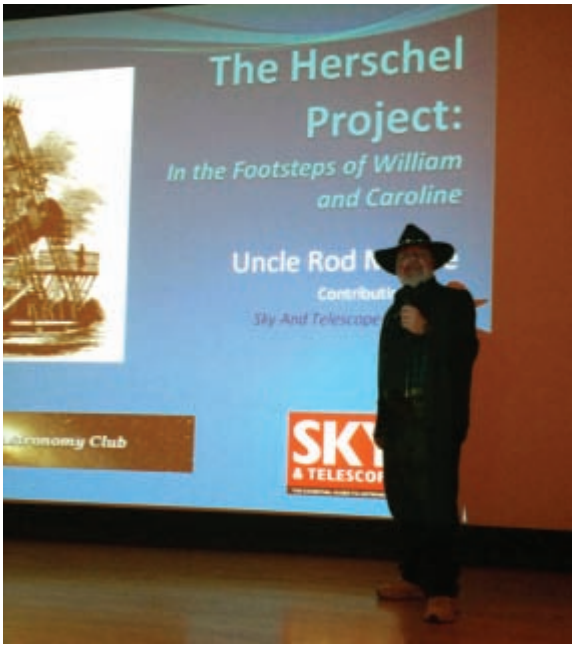

Image 3 - Uncle Rod presents The Hershel Project to the Raleigh Astronomy Club

Image 4 - The new DewBuster out of the box. The kit consists of the controller, power cord and two corded temperature sensors

the elusive More Better Gooder.

The DewBuster was better, because it didn't just allow you to control how long current flowed to the dewstrips before cycling off, like the Kendrick; it allowed you to specify a temperature. You set the 'Buster for maybe 5 or 10-degrees above ambient, and it kept your corrector (or objective or whatever) at that temperature. Unlike the original Kendrick, you didn't have to keep fiddling with the knob all night long to keep the dew off. Plug in its temperature sensor, "set and forget" the controller, and you were done with the 'Buster, which is just the sort of thing your old Uncle likes.

Over the years since I got my first DewBuster, Kendrick has come out with some very sophisticated temperature-controlled heaters of their own, but I stuck with the 'Buster. Not only was Ron a homeboy, living practically next door in Louisiana, the DewBuster did the job for me year after year. I've used it from one end of this country to the other and it has never failed me. Can't improve on that, now can you?

Well, apparently you can. What struck me when the new DewBuster arrived at the Old Manse? It was even more solid feeling and professional looking than my old warhorse, which I thought was purty good in that regard. The big surprise, however, was that there were two temperature probes in the box

Image 5 - The DewBuster Controller Mounted on Uncle Rod's C8 Tripod

Image6 -The DewBuster Temperature Probe Installed on Uncle Rod's C8

and two receptacles for them on the controller.

Two temperature sensors means you can now use two independently regulated heater strips. One temp-regulated heater (on the corrector) was always enough for me, and I had no problem running the strips for finders and the eyepiece off the DewBuster's unregulated outputs, the "medium power" outputs, which just cycle power on and off not unlike the old Kendrick. HOWSOMEEVER… having a second sensor and a separate regulated output will be handy for piggybacked scopes and cameras. Remember, folks, we have a potentially good (if probably not Great) comet headed our way in December. We will only get a brief shot at ISON, and you will want to be certain your piggybacked telescope or telephoto lens is clear of dew when the chance comes for a once in a lifetime shot.

What else is new? Something that's gonna prove to be kinda handy, I think. There are two new connectors on the controller. These 12-volt outputs are neither temperature regulated nor are they cycled on and off. They provide a steady source of DC for accessories. Like the regulated and medium power outlets, they are RCA (aka "phono") style receptacles. Anything else? Yep, the DewBuster's power cord is even heavier duty than it was before, but is still flexible. Need/want an extra long cord like Unk did? Just tell Ron when you order and he will fix you right up.

Those are the obvious improvements to the 'Buster, but it doesn't stop there. According to Mr. K., some of the More Better Gooder is not so obvious, to wit: "Most of the advancements…aren't readily apparent. For example, it alternates output pulses between the Temp Controlled and Medium Power heaters so they take turns drawing current from the battery. This keeps the peak current lower, reducing voltage dips as the heaters cycle. You can observe this if you plug a sensor into just one of the inputs and adjust the control knob so the Temp Controlled LED blinks. So, the side with the sensor is operating in Temp Control mode and the one without a sensor is operating in Medium Power mode. You'll see that the left and right LEDs alternate their blinks." Translation for the non tech-nerds among us? The new 'Buster is less apt to cause electrical noise related problems with gear powered off the same battery. It is "cleaner."

The only true test of astro-stuff is on the good, old observing field, and that is where I took the new, improved Dew-

Buster as soon as I could. Unfortunately, my 4th of July trip to the Chiefland Astronomy Village coincided with some of the wettest weather to hit the Southeast in many a Moon. Thunder. Lightning. Wind. Torrents of rain. Luckily, Chiefland was just outside the envelope of a storm whose tendrils reached from Mobile to Panama City. That didn't mean we had much in the way of clear skies, though.

All told, we had maybe 1-hour of observing over the long weekend of the 4th, but that didn't stop me from giving the DewBuster a workout. Friday was the best evening of a poor lot, and while I didn't even manage to get the C8 go-to aligned, I did remove her aperture cover and fire up the 'Buster for a couple of hours in anticipation of the magical clearing that never came.

What did I find out about the new one? At first Unk's suspicious side asserted itself – in spades: "Why this dadgum thing don't work at all!" Conditions were not poor just because of clouds. It was damp, muchachos, so damp it was hard to tell where dew began and haze and occasional misting rain left off. Yet, the pilot light for the DewBuster's temperature controlled channel, which was all I used, only came on occasionally. Even with the thermostat cranked up to 10-degrees. In similar circumstances, the old controller's light would have been flashing like mad. And yet, and yet…the corrector plate remained bone dry for the next couple of hours, till I finally gave up in disgust at 11 p.m. and headed back to the Best Western for Rebel Yell and Cable TV.

What was the takeaway on the new DewBuster? Given its behavior, I can only conclude it is more efficient power-wise than the old one. Yes, the original DewBuster would go all night on one 17ah jump-start battery, but it might now be possible to share a battery between the DewBuster and the telescope. Since I believe the new 'Buster is less electrically noisy than the old one, I am inclined to give that a try; sure wouldn't mind leaving one battery at home.

Image 7 - A rainy night at Chiefland.

The new DewBuster is great. The new *Deep Sky Planner* is great. That is not the real bottom line, though. What is is that I need to keep the cynical, skeptical, and increasingly curmudgeonly side of my personality in check. I have learned my lesson, campers. Sometimes, there really is a More Better Gooder. ATT