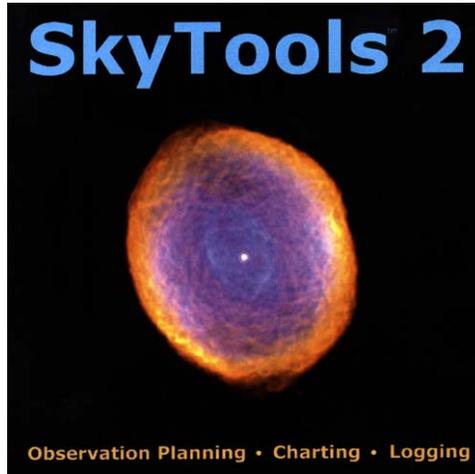


# Sky Tools 2

## Astronomical software from CapellaSoft

Software report by Peter Argenziano August 2004 [click to email author](#)



Greg Crinklaw and CapellaSoft released the second major version of Sky Tools in the fall of 2002. As of this writing, version 2.2 is currently shipping. The software is priced at \$99.<sup>95</sup>, with a substantial discount available for volume club purchases. The *Real Time* add-on is priced separately at \$39.<sup>95</sup>.

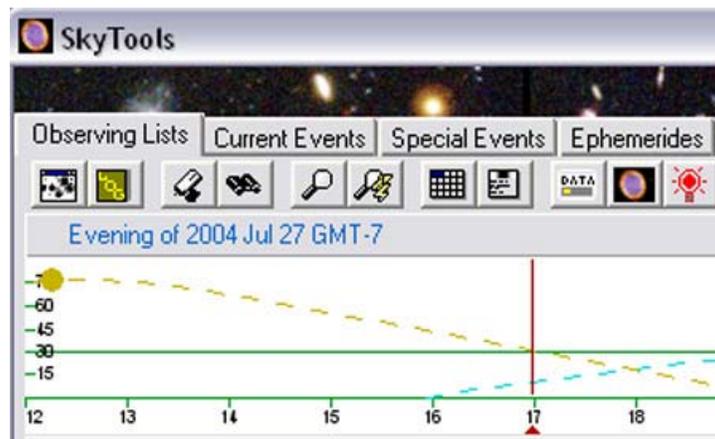
Sky Tools is billed as an innovative and integrated suite of software observing tools. It sounds interesting, and when a fellow club member organized a group order, I decided to give it a try. At the beginning of this year CapellaSoft introduced a club discount program with savings of up to 50% when multiple copies are purchased through an astronomy club. Being a member of one club and president of another, I applaud their decision to offer such incentives to the amateur astronomy community.

Our order was handled professionally and shipped promptly. Upon receiving my copy I decided to install it on a desktop PC. It was at this point that I discovered Sky Tool's liberal license agreement: the software can be used by any number of people, and can be moved from one computer to another. The only stipulation is that only one instance of it may be in use at any point in time. This addresses the fundamental need of many amateur astronomers to be able to run the software on a desktop PC at home and on a laptop taken into the field. So far I like the product, and I haven't even installed it yet.

The minimum system requirements for installation are a Pentium 100 MHz PC running Microsoft Windows 95 or later with at least 12 MB of free disk space. A Pentium III with 128 MB of RAM is the recommended platform. I installed it on two computers: an XP Pro desktop using a 2.8GHz Celeron processor with 512 MB of RAM, and an XP Pro laptop using a 2.0 GHz P4 with 512 MB of RAM. The installation on each was quick and uneventful, and the program runs fine on either one.

During the install routine, the user is asked to choose a level of installation: minimum requires 11 MB, medium 220 MB, and maximum 640 MB. I chose the maximum because I don't like accessing software applications from CD. If you chose differently, you can change your mind at any time from within the application without having to re-install the software.

Now it's time to check out what Sky Tools has to offer. Due to time and space constraints it would be impossible to detail all of the features of this powerful program, so this review will highlight selected features during simulated usage to provide the reader with insight into some of the functionality afforded by the application. Upon launching the program, the first thing I notice is that it doesn't look like every other Windows application. This is neither inherently good or bad, just an observation. Absent from view are the normal horizontal arrangement of menus. Instead the main screen is presented as a series of four tabs across the top: *Observing Lists*, *Current Events*, *Special Events*, and *Ephemerides*. Below the tabs is the familiar row of toolbar icons.



Snippet of main screen showing tabs

The *Observing Lists* screen is the default for good reason, as this is where users will spend the majority of their time. The author's presumed intent is that the user will be able to plan an observing session from here using a subset of the program's entire database. Seems like a good approach. It is starting to become obvious to me that this program is designed for observers, as opposed to those seeking a planetarium program.

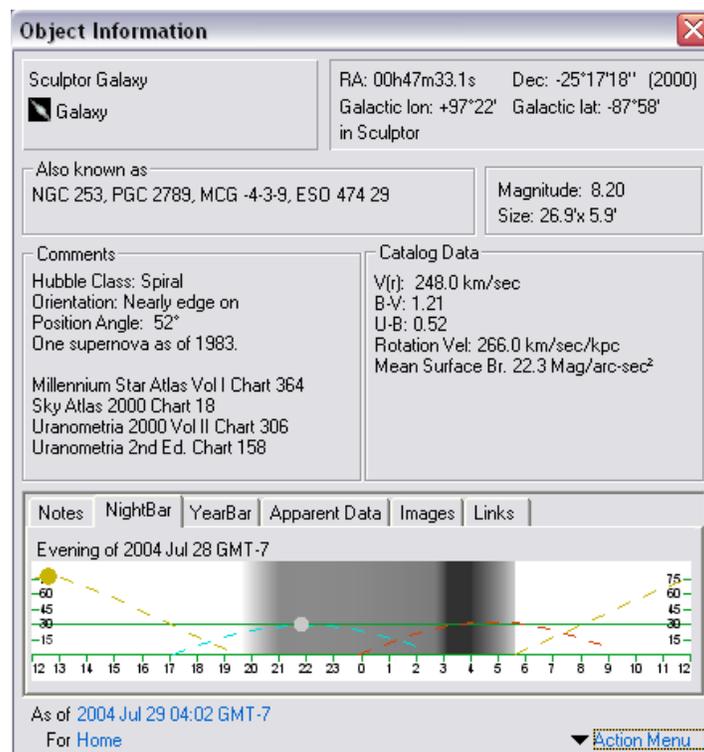
The components of the *Observing Lists* screen include:

- A toolbar specific to this tab
- A series of three hypertext settings, one for the date of the observing session, another for the observing location, and one for the observer. Clicking the link (displayed in a familiar and customizable underlined blue font,) allows the user to customize that setting and build a list of selectable settings.
- An innovative feature called the NightBar which displays detailed information about the current night and the selected object.

- The observing list being displayed is selected from a drop-down menu. Additional menu items can be added from the Skyhound website – from within the application.
- Another hyperlink for controlling the observing list contains entries for refresh parameters, printing, copying, editing and generally configuring how the observing list is displayed. There are entries that will upload selected objects to a Sky Commander and download current lists of comets, minor planets and novae.
- The observing list itself is the heart of this screen. The objects listed can be filtered and sorted in a variety of ways.

At first I was a little intimidated by the layout of the Observing List screen. After all, it is not the familiar Windows layout most users have grown to expect. But once I started using it, I really liked it. The flexibility in sorting and filtering are extremely beneficial in planning an observing session. Add in the interaction of the observing list and the NightBar, and you have a powerful tool at your fingertips.

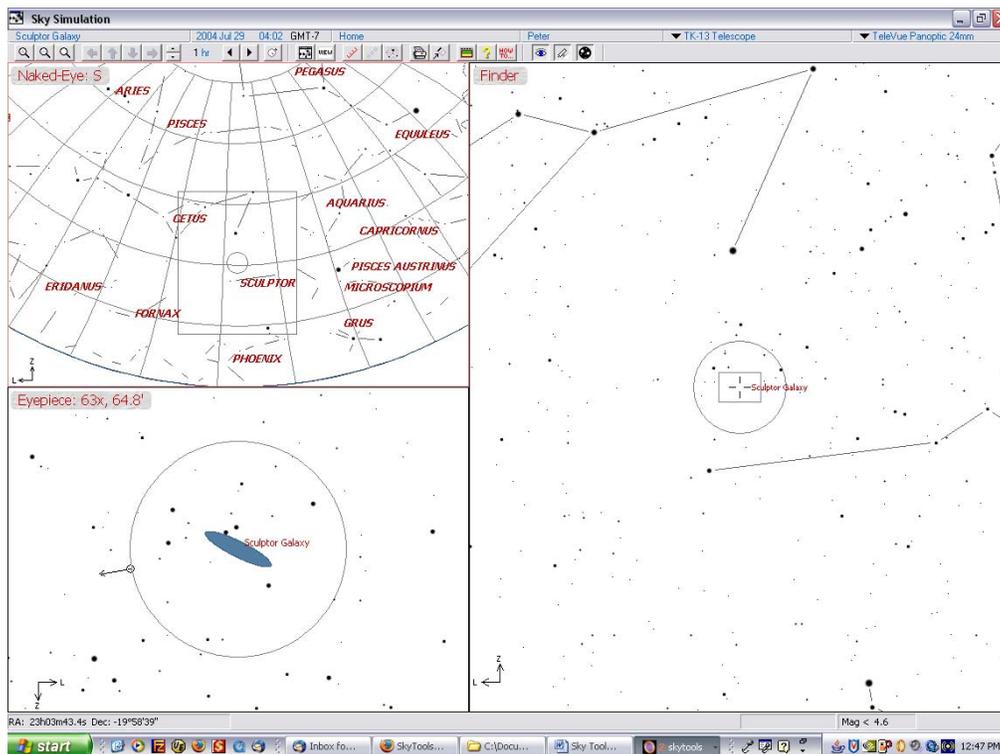
For example, I selected the Deep Map 600 list from the drop-down menu. Incidentally, I have downloaded all available lists - a total of 49 entries (some are just a single item, such as McNeil's Nebula). I am configured for this evening at my home observing location. All 600 objects are displayed in the observing list. I applied filtering to display only galaxies in all constellations that are above 2x airmass (roughly 30° altitude) and in complete darkness. My list now contains 15 objects. I can establish arbitrary time limits (mine is set from 20:30 to 05:30). I configured my limiting magnitude to 11.0 and my list still contains 15 objects. From the new observing list a wealth of functionality is obtained by right-clicking on any object.



*Object info dialog for NGC 253*

From the object listing, I can easily see that the optimum viewing time for NGC 253 on this night from this location is at 04:02. This is graphically confirmed by looking at the NightBar display.

I can also view an interactive atlas, a naked-eye view of the sky, download an image or create custom charts. Since I've already configured the application with data on my telescopes and eyepieces, I select the entry for *View Scopes / Binocs* and choose the entry for my 33 cm Dob. A new window launches – the Sky Simulation. Here I am presented with three views: naked-eye, finder, and eyepiece. I can change telescope and eyepiece combinations from within this screen. I can further configure precisely how I want these charts displayed. And naturally, all of these charts can be printed. Normally I would print charts for the objects I plan to observe, but given the wealth of charting options and the flexibility within each chart I find it much easier and more efficient to use the charts displayed on the screen.



*Custom chart for NGC 253 using 33 cm Dob and 24mm Panoptic eyepiece*

The chart above demonstrates the flexibility in Sky Tools' charting by displaying a naked-eye view in the upper left portion of the screen, a finder scope view on the right side, and an eyepiece view at the lower left. I can modify the chart instantly by using the hypertext links at the top of the screen – quickly changing eyepieces, observer, telescope, observing location, date or object.

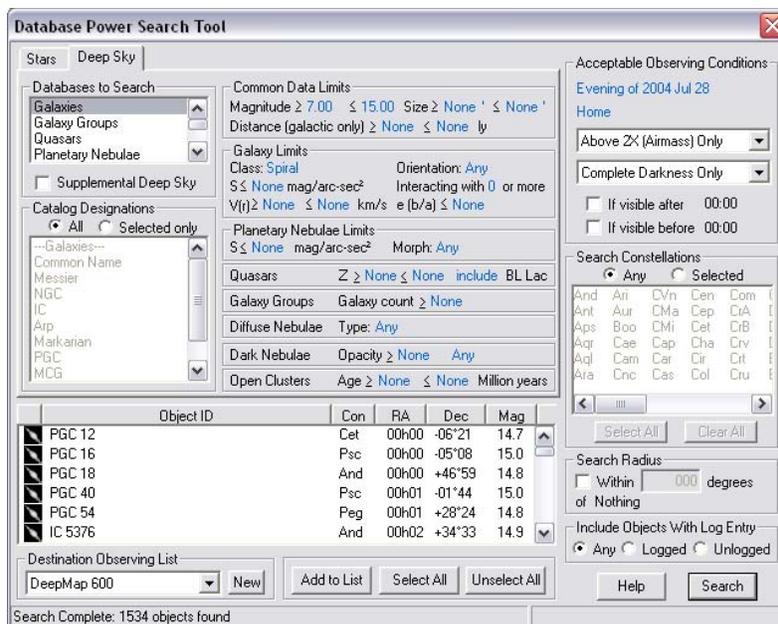
Another toolbar icon allows the user to configure their equipment, so that Sky Tools can integrate this data into its charting capabilities.



*Telescope configuration dialog box*

All of the information entered in the configuration dialog shown above is utilized by the program when creating custom charts.

Quick and detailed searches can also be launched from this screen. I find the *Database Power Search* feature particularly useful in compiling custom observing lists. Another icon invokes a *Night Vision Mode*.



*Database Power Search dialog box*

The results of a search are displayed in the previous image. I chose to search the galaxies database for all catalog designations in all constellations. I limited the results to spiral galaxies between 7.0 and 15.0 magnitudes. The acceptable viewing conditions were configured using my home location for objects situated above 2x airmass in total darkness. A few seconds later I was presented with a list containing 1,534 entries. Within a couple of mouse clicks I can obtain information and invoke the powerful charting capabilities for any object in the list. I also have the ability to create a new observing list based on my search results.

The *Sky Tools Configuration* icon invokes a utility that allows the user to quickly check for program updates (internet connectivity required); set the time display format; configure azimuth definition; set observing list default date; set hypertext color; adjust night vision brightness; change data installation level; configure add-ons and send feedback to the author. The configuration utility is available from any screen within the program. I really like the approach of integrating this functionality within the program, as opposed to having the user download files from a website and manually import or install them. I also applaud the author for his extensive use of hypertext links within the application.

The *Data Manager* allows for the configuration of backup and restore activities; importing of new observing lists; viewing of currently installed observing lists; and viewing and editing notes, images, web links and plottable images.

Moving on to the next tab, *Current Events*, allows the user to plan for upcoming astronomical events. Lunar phases, major meteor showers, eclipses, planetary phenomena, Jupiter satellite events, and satellite elongations are among the events to include. I have configured my display to compute new events for the next two months, and to delete them from the display as they occur. I have selected to display all events. A click of the *Update* button reveals 142 events.

The *Special Events* tab provides virtually the same functionality as the *Current Events*, with one major distinction: it can be set for a specific date at a specific location. This tool would be most useful to compute events historically or into the future.

The *Ephemerides* tool generates simple positions, nightly optimum viewing times, or binary star orbit positions. The user simply selects the desired ephemeris type, configures the selection and clicks the *Compute* button.

For my observational habits the Current Events, Special Events and Ephemerides tabs are quite useful, however not nearly to the level of the Observing List. I find the former quite useful at public events. Of course, your mileage may vary. I usually like to take full advantage of an observing session – especially one to a dark site – by creating an observing plan in advance. Sky Tools certainly allows me to do just that, and more. The program allows me to modify my plan *on the fly* while at the observing site, depending on circumstances that unexpectedly present themselves.

In all honesty, I wasn't looking for another piece of astro software when I came upon Sky Tools. I already own several such programs, including both shareware and commercial products. Some fill a niche category and others have a much broader scope. Some are better than others in accomplishing their goals.

All things considered, Sky Tools 2 is well worth the \$100 retail price. I find that it addresses all of my requirements for observational planning software wonderfully. It has already become my program of choice for this activity. And by taking advantage of the generous discounts made available to astronomy clubs, Sky Tools becomes an unbelievable bargain!

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