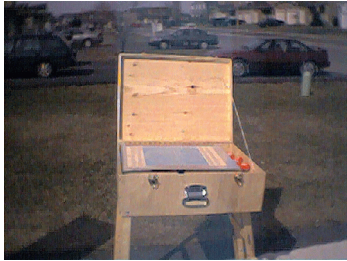


ATM Projects: The Observing Table
Article submitted to the RASC-KC newsletter Regulus
Published in 2000 September issue
Kevin Kell

ATM Projects: The Observing Table by Kevin Kell



Every year I and many other Astro-Dudes partake of the Star Party known as StarFest, held at Mount Forest Ontario. And every year we come back full of ideas and energy to do something about them. This observing table project came out of those ideas. Of our group of 8-12 transgressors, only 2 had observing tables and they weren't happy with them in any event. So about the beginning of March I started hunting the net for project ideas.

The Benefits of a Table

- It gives one a horizontal work space at a decent height for writing, reading and placing cups of hot coffee or cold Barbarian
- It allows ones to have a package of observing equipment all set up and ready to travel, instead of having to hunt around for various bits and pieces
- It is a nice size and weight for packing around other equipment
- Built in legs means you will never lose them
- The plexiglass allows the chart(s)in use to be self flattening and on easy display (prevents wind from blowing them around - but the case design doesn't hold up well in wind with the lid up)
- protects everything from DEW (when the lid is closed :)

The Design

The first step was to see what others thought of their tables. Too small and too low. OK, the internet table was 29 x 20 inches, but if we want to make a bunch of these the dimensions should fit better into standard pieces of wood (ie 4x8 or 4x4 or 2x4). So I picked 24" x 18" as a compromise.

6" deep looked good so I split it between 5" on the bottom and 1" for the lid to allow for a pouch in the lid. Having builtin legs was a convenient must so I added another 2" depth to the frame only of the box, leaving the bottom of the box 5" from the top. Looked at material and chose 3/8" plywood for the box sides and 1/4" plywood for the lid, base, internal partitions and leg braces. The leg design would not allow for a straight fold out leg of more than 22" or so, add another 6" to that for the box height and the lid was 28" above grade. Not enough. So we came up with a double folding leg design that would take the boxtop to approx 36".

Inside the box I wanted space for at least 4 eyepieces along one side, a large area big enough for the biggest charts I could find around here (14"x19") (Star Atlas 2000) with the Observers Handbook, magazines, binoculars and whatever else, and another spot for flashlights, pens, pencils, etc. A plexiglass cover plate would be neat to put charts under to protect from dew. Initially this was in the lid (with no pouch), but later was moved into the box itself over the 14"x19" chart area to allow for a pouch to be built into the lid. Built in Red LED's with variable lighting would also be nice, so as to avoid the whole problem of flashlight mouth..

The lid could be propped open (with an arm?) to allow access to the eyepieces and charts or closed to be used as a writing surface.

The Reality

The box was knocked together in a few hours. The leg design went through 3 or 4 major revisions as I was never satisfied with their stability. The current (and last) legs in use are a TV tray like scissor design (not shown here) that fit underneath the box. They are not attached and are one piece. The best solution for now as it has a good stance and resists wind.

The electrical system was finally added in and provides for 4 superbright red LEDs on a dimmer switch and a lid switch, so it turns on when the lid pops open. This is run from a 12vdc battery inside the case. I added a power jack to the outside of the box to make it easier to tap into the power for other devices (barn door tracker) or for recharging the onboard battery.

Parts lists, pictures and more gory construction details can be found on my web site:
<http://www.path.queensu.ca/~kell>

The cost of this initial prototype and its many revisions was well over C\$100. I suspect that the 2nd one built by Tom Dean should come in well under that price (and hopefully an article on it in the November Regulus).