

BETA TEST AND RECOMMENDATIONS OF KENDRICK ASTRO INSTRUMENTS' NEW STARGATE II TENT BY KARL BALTZ



I have been Beta testing Kendrick's new "Stargate II Observing Tent" for about 6 weeks. Let me state that this is a prototype design and both Jim and I knew that there would be areas of the tent that would need improvement and/or modification. With that in mind, the areas that I feel needed improvements or modifications were not that many.

I liked the size, color and appearance of the tent from the start.



Side view of the Stargate II Tent showing length and height of tent and side dimension of portal window.



End view of Stargate II Tent showing the width of the tent and the width of the observing portal opening.

The doors are large enough to carry the Losmandy G-11 field tripod into the observing section with the 12 inch extension and the tripod legs mounted and extend to my observing height for all three of my OTA's (C-11, 150mm SkyWatcher f/8 refractor and Takahashi FC-100 f/8 refractor). Remember to place protective pads under tripod legs to protect tent floor material from abrasion.

The sidewalls of the observing section are high enough to protect the observer and scope yet low enough to allow for observing objects near the horizon except for the center pole which is the high point of the tent. But that can be managed by either using a weight to pull down on the center tent pole or splaying out the bottoms of the center pole to drop the height of the tent. Depending on how high you raise your mount will determine if you have to pull the center down to polar align. I prefer to setup the tent in a north south alignment to allow for horizon to horizon observing in the east, west and south directions. Setup is easy and straight forward. Takes less than 30 minutes (chatting with people and stopping for coffee) and less to take down. I lay down ground cloths to protect the tent floor. Stake out the tent on one side long axis and then stake the other

side. I then run all three poles through the long cloth loops and black web loops. Clip all clip connectors to the poles. Place the aluminum pole pins in the bottom of the poles on one side and then go to the other to actually raise the tent and secure poles with pins on that side. Then I run the rainfly up over the warm room section and stake it down on that end. Then I proceed to the center pole and tie the rainfly tie downs to the center pole and stake the rainfly down over the warm room section. At this point I roll the rest of the rainfly up (if I haven't already rolled it from a previous observing session) and tie the rolled rainfly to the center pole. Next, I moved my equipment and gear into the tent (I overstuffed on purpose, my wife will tell you I would do that anyway). I will describe what I placed into the tent later.

The 150mm refractor (f/8) has a long OTA over 52 inches and all that glass out in front is heavy...to counter balance this scope I have to pull the OTA back towards the eyepiece in the mount. This makes observing at or near the zenith a challenge unless the mount is raised higher. I plan of making a circular weight that I can add to the eyepiece side of the OTA. This will allow me to move the mount rings more to the middle of the OTA. The eyepiece height is a function of the mount height and OTA mounting position and has nothing to do with the observing portal. Currently there is more tube length on the eyepiece side of the mount, which is centered in the portal, placing my eyepiece closer the top of the tent wall in the portal opening. The observing portal easily handles the tube length of this OTA with room to accommodate longer OTA's.

Even though the OTA is over 52 inches, when I am viewing at or near the horizon and say 30 degrees above, I have plenty of room along in the observing portal to observe through the eyepiece. The observing portal more than accommodates this OTA length plus me inside the walls of the tent.



View of observing portal opened for viewing session...lots of room!

Obviously, I will have more room to view when I use the C-11 and FC-100 OTA's.



C-11 mounted up on Losmandy G-11 mount and ready to observe at a local County Park.

All you Dobsonian telescope owners out there who think that a tent won't work for them please consider the Stargate Tent. I feel that the Stargate II Tent will work well with moderate sized and smaller Dobs. The side walls of the tent will collapse down when you are wanting to

view an object low to the horizon. I don't want people to think that the scope is limited to OTA's mounted on GEM or Fork mounted equatorials.

I have had the tent setup for a week in a constant rain as it sat in standing (pooled) water with minimum water entry into the inside of the tent (less than an ounce). This is a prototype tent and the floor to tent wall seam had not been sealed. Sealing this seam will alleviate this concern as will raising the height of the waterproof floor. The rainfly did not leak and repelled all of the rain during that week of rain.

The tent has handled high winds, 27 degree nights, warm humid nights and 87 degree days (Houston norm for February, March and April....yeah I know all of you up north eat your hearts out! ☺). I have slept in the tent with the partition wall closed and open; with the temps warm and cold and have been comfortable. You can stand up to put your pants on. No sliding along the tent floor doing contortion exercises to get dressed. In all conditions that I have had the tent, it has surpassed my expectations.

The supplied tent stakes are adequate for conditions that do not involve high winds. I replaced the usual tent stakes with 10" timber nails and fender washers. Using larger diameter and longer tent stakes provide a better staking of the tent and rainfly to the ground and thereby stabilize the tent during possible high wind events. I have had the tent up and secure in 30mph gusting winds.

When I went out to the Houston Astronomical Observing Site, I was planning on staying a few nights (weather



Houston Astronomical Society Observing Site 80 miles west of Houston.

permitting (which it didn't) and I brought everything including the kitchen sink I thought I might need or use. All that stuff ended up in the tent. In the observing room, I had my Losmandy G-11 mount/field tripod/Gemini 1 Level 4 controller and the telescope that I planned on using (either a C-11, 150mm StarWatcher Refractor or my Takahashi FC-100 Refractor). Around the perimeter of the observing area of the tent, I had 4 plastic tool/fishing boxes that house my eyepieces, adapters, etc. a box of food, two boxes of electrical gear, two 12V power supplies, small camp stove, ice chest, camp potty (sometimes tough to walk 300 yards to the Latrine ☺) and pneumatic observing stool. In the warm room area (sleeping bay) I had, backpacking sleeping pads, sleeping bag, pillows, extra clothes bag, jackets, and camping table (5' by 2") that had 3 laptop computers and a storage box on the top of the table. Under the table I had three large backpack style camera bags with cameras and astronomical gear. To give you an idea of the volume of space this actually takes up, consider a full size Chevy Suburban with the center seat folded down flat and the third seat folded over forward. The volume from the third seat to the back door is 80 cubic feet. That 80 cubic feet contained all of my gear. I put all that volume in the Stargate II tent with lots of room left to walk around

the telescope and room for an additional person to sleep in the warm room.

As you can see in the image to the left, I have setup the 150mm f/8 SkyWatcher Refractor on top of the Losmandy G-11 mount and field tripod in the center of the observing portal. The observing section and portal will easily accommodate a Fork Mounted C-14 or larger SCT. The footprint of my Celestron C-14/C-11 Wedge is not that much larger than the Losmandy G-11 mount. A larger Newtonian OTA with a tube length 60 to 70 inches would also be at home in the Stargate II tent. I had no problem moving around the telescope to view objects at the horizon and/or zenith. While I was aware of what was at my feet, I had plenty of room to maneuver. I never felt cramped or closed in and I wasn't tripping over my gear and/or power cords. 2 to 3 people could be in the observing section and not trip over each other. In the sleeping/warm room area, I was more than comfortable. My wife, Vicky could have been in her sleeping bag next to me and we would still have had ample room to be comfortable.



150mm f/8 SkyWatcher on Losmandy G-11 mount and tripod at Houston Astronomical Observing Site 80 miles west of Houston, Texas.

There are some changes that I recommended to Jim and there are some changes that Jim decided on his own to include in the design of the tent. As a

prototype tent there are always issues that are discovered during field tests. From my Beta Testing of the tent....

My recommended improvements or modifications are:

- Seam seal the tent/floor seam.
- Extend the waterproof floor material about 4"-6" up the tent wall.
- Add more material to the room partition wall to relieve the tension on the material.
- Add two guy rope connect points to the tent pole fabric on yellow tent fabric (current door side) to secure the tent when observing in case a wind event occurs .
- Use a tent floor fabric with at least 2X's current specs to address the minor water entry I had during a week of rain.
- Shorten the center tent pole length to relieve tension stress on the tent fabric
- Increase the length of the stake loop web and stitch across more of the tent floor than the prototype stitching provides.
- Jim and I discussed his wanting to move the side door to the window side of the tent. I feel this is a good move that will facilitate better air flow to cool the tent down for observing and make the warm room entry more accessible.

- Rainfly tie down straps need to be added to the rainfly for both end poles.
- I would like the option of Aluminum poles instead of fiberglass poles

Observing pluses for the tent: Easy to setup. The side walls block wind from causing vibrations on the mount/OTA assembly, and reduce wind chill effect on you. While the sides and one end of the observing section are not as high as the center, the flow of air along and over the tent still protects the OTA from wind vibration. You will experience atmospheric turbulence at the eyepiece before you are bothered by wind induced vibrations on the OTA.

Being inside the observing portal also allowed me to be more comfortable with less layers of clothes for a longer period of time. Dewing of my optics was also delayed for my OTA in the observing portal versus the OTA that was outside. I had setup my Takahashi FC-100 on its EM-100 mount outside the Stargate II tent to be able to compare observing in the tent versus being outside the tent. Definitely more comfortable inside the tent! I feel that having the waterproof floor prevents or delays the rise of moisture from the ground that contributes to the dewing problem. I had dew issues with the FC-100 much earlier in the night than the OTA in the tent. At the end of the observing session, you can zip up the observing portal and go to bed. If you need additional heat retention or a waterproof barrier over your equipment, you can pull the rainfly back over the center and end poles by untying the rainfly tie downs and re-staking 5 rainfly ground loops and the two end guy ropes.

With the rainfly up over the observing portal, your scope, equipment and you are protected from the Sun, dust, wind curious critters (2, 4 legged and those that crawl) and rain. The perimeter of the tent will help to prevent someone from bumping into your setup telescope and accidentally knocking your polar alignment off.

Another option that Jim will make available for the Stargate Tent are Glo-Rope guy ropes. The Glo-Ropes glow in the dark a fluorescent green color to help you see the guy ropes and not trip over

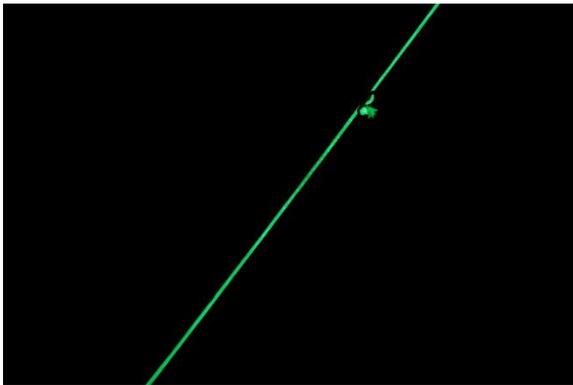


Image capture of the glo-rope that I used. Nikon D3S, 4 seconds at f/4 and 800 ISO.

them. The ropes can be charged from sun light or just about any light source you have. Charged by the Sun, the set that I used were still glowing at 3:30 am when I went to sleep.

How about justifying the cost of an observing tent? Those of you who use your telescopes at observing fields and/or star parties purchase expensive covers to protect your telescopes. Some of these covers and bags are very expensive depending on the size of your telescope and mount. If you have a large scope, for about 2-3 times the price you would pay for the various environmental protection covers, you can purchase a Stargate II tent and protect all your

observing gear (not just the telescope OTA and mount. You than have a place to set up your warm room for your computer equipment, eyepieces, star charts, books and sleeping gear protected from humidity, cold and/or heat of the Sun. You are also bothered less by other observers' stray light. You can block stray light that you can't turn off based on how you setup your Stargate II Tent.

All in all, I feel that the build quality of the prototype met and/or exceeded my expectations. The production model of the new version of the Stargate II tent will be even better and will provide many seasons of use. This is a multipurpose tent. It is not only an observing tent, but also a camping tent. As a camping tent, you could put two people comfortably in the warm room/sleeping area and twice that in the observing area plus gear (without telescope ☺) I feel that the tent is a four season tent observing tent and at least a 3+ season tent camping tent (ability to handle 3-4 inches of snow would determine if the tent could be a 4 season camping tent). I feel that the anticipated pricing being in the \$550-600 range is affordable to the majority of observers that would consider paying for an observing tent. With the tent being a multipurpose use tent - observing and camping - the \$\$ investment makes the Stargate II Tent purchase an even better value. It is in the price range I paid for a similarly designed tent for motorcycle touring and camping (same size and design without an observing portal). I can drive my motorcycle into and out of that tent. Bottom line: If the production version of the Stargate II tent was produced identical to the prototype, I would buy it. Knowing that there will be modifications to improve on the prototype

design makes me impatient for the production model to come out.

While out at the Houston Astronomical Society Observing site during our 30th anniversary of founding the site and our Marathon Messier Weekend Event, numerous people came by to look at and inquire about the Stargate II tent. All were impressed and wanted to know where they could buy one. My recommendation is to place your order to reserve your Stargate II tent today! You will be glad you did and wonder why you waited so long to add an observing tent in with your observing equipment. With the Stargate II tent, you protect your equipment and yourself, and are able to enjoy longer observing sessions more comfortably. While we all can be Iron Men and Woman astronomers enduring the stress observing causes, we do not have to when we can buy a Stargate II tent and have the comfort Kendrick's Stargate II Tent provides. Get yourself a Kendrick's Stargate II Tent, your personal observing window to the Cosmos! Order yours today.

Thank you Jim for giving me the opportunity to Beta test your new Stargate II Tent. I wish for all of you clear skies and the opportunity to observe the many wonders of the universe.

Regards,
Karl S. Baltz, Sr.
Spring, Texas