

The High Desert Observer

The Bulletin of the Astronomical Society of Las Cruces

June, 2007

President's Message

If you attended our last meeting you know that Texas Star Party was almost completely clouded out with very little observing occurring. This unfortunately means that there are not many astrophotos coming out of this event nor is there likely to be much coverage in this newsletter. Perhaps next year will be better.

One of the major issues confronting the ASLC is whether or not to purchase a Coronado Personal Solar Telescope (PST). We have had great success with these in the past, and we have been lucky that Richard Jones has been able to bring one to many of our public observing events. Unfortunately, with his move to Colorado, we will no longer have access to this PST. It has been proposed by Janet Stevens to purchase a replacement PST that will belong to the society and be available for personal solar observing or, more importantly, for public events that occur during the day.

These would primarily be school events, which can often only happen during the day. However, that PST is rather expensive, on the high side of \$3,000. We had hoped that our members who went Texas Star Party would be able to test the PSTs that Coronado would have on display there. The poor weather kept Coronado from displaying their telescopes, but Dave Dockery has reviewed the offerings elsewhere in the newsletter. So with only the information available from ads and sales brochures, we must decide whether not to purchase one of these instruments. This will consume a substantial portion of our available funds. It is expected that this vote will be taken at the next regular membership meeting. If you have an interest in this issue, please attend the next regular meeting and cast your vote.

With school now over for the summer, there will not be any school events that we will have to support. So rest up and get yourself ready for August when school starts up again and we get a fresh spate of requests for school star parties. I would like to thank everybody who has supported the school star parties this past school year, and look forward to seeing some new people join the veterans in this wonderful learning activity. Clear skies! Bert

Report from the TCP (Yes, the TCP!)

By Kirbini

When I walked out my door on a cool morning in May to attend my first major star party I had no inkling of the magnitude and impact the experience would have on my life. By prior agreement I was to meet Doctor George and follow him down to Ft. Davis, Texas where the event is held. I waited patiently by the University

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Typical weather at the 2007 Texas Star Party (or was it the TCP?)

Next Meeting

The next meeting will be held on June 22 (fourth Friday of the month), 2007, at the usual place and time (DABCC, room 77, 7:30pm). Ashley Ruiter, Graduate Research Fellow, NMSU, will speak on White Dwarf Binaries: Supernovae Ia progenitors, LISA and X-ray sources.

The Astro Tidbits Group (Contact: Nils Allen) will meet prior to the monthly meeting at 7pm. The Imagers Group (contact: Rich Richins) will meet again in July prior to the monthly meeting. Anyone is welcome to attend these special interest groups.

Other events planned for June include:

Dark Sky Observing at the Upham dark sky site, Saturday, June 16, dusk

ASLC MoonGaze, International Delights Cafe, Saturday, June 23, dusk

Please see the ASLC website for further information (<http://www.aslc-nm.org>)

Installation of a ServoCAT Jr. on a 14" TScope

By Steve Smith

I purchased a 14" TScope Dobsonian telescope a couple of years ago and almost immediately began to look for ways to make the scope track. Back then, I explored several available alternatives and opted to build an equatorial platform. I chose that option because it was the cheapest alternative and I enjoy tinkering on projects. The details of that project can be found on my website at: <http://stevesastro.net/equipment/eqplatform.htm>. I've used the platform ever since and it has performed well. However, there are some issues with the platform. It adds about 6" to the height of the scope; it has to be reset every 45 minutes or so; it is another thing to haul around; and it requires additional setup. Of course, it also has no goto capability.

The "Cadillac" of motorized goto systems for Dobs is the ServoCAT (<http://www.stellarcat.biz/>). There are three components to the system. A control box, two servo motors, and a set of digital setting circles (DSCs). The system takes information from the DSCs and converts that into motion in the servo motors.

When I saw a posting on the TScope Yahoo group that there was a sale going on, I took the bait and contacted Gary Myers, owner of StellarCAT. After discussing some installation issues specific to my model of TScope, I placed my order. Since I already had the Argo Navis DSC installed on my scope, I only needed the ServoCAT, motors and mounting hardware. There are two versions of the ServoCAT – standard and Jr. Since my scope is considered a small Dob (ouch!), the ServoCAT Jr. was suggested. There is no difference in capability between the two units other than the Jr. motors are

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*Dobsonian mount before
ServoCAT installation*

ASLC SolarMax Telescope Considerations

By Dave Dockery

This year's ASLC Texas Star Party contingent was asked to spend some time at the Coronado Solar Telescope display and "test drive" the SolarMax line of H-Alpha solar observing telescopes. The plan was that we would report back with a recommendation to the club on which scope we should purchase to replace the solar telescope our good friend Richard Jones is taking with him when he leaves us for Colorado. Richard's telescope was put to good use during numerous public outreach events over the past few years and it was proposed by the Board in March that we purchase a replacement with ASLC funds. The new scope would be used primarily for education and outreach at such events as school star parties, Astronomy Day, the Ren Faire, X-Prize, and sidewalk astronomy.

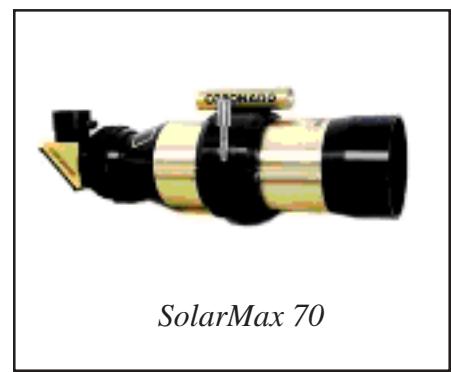
Unfortunately the weather did not cooperate at this year's TSP and there wasn't an opportunity to do comparison observing using the SolarMax telescopes. Since we can't make a recommendation based on observation and discussion with the Coronado folks, I was asked to include information and specs in this month's newsletter so that we might have a discussion and possibly come to an agreement on this at the next meeting.

Though Coronado makes a number of solar telescopes with different aperture and filter bandpass configurations, the most interest, gathered from the initial discussions, seems to be in the 60-70mm telescopes. I'll limit the information to those models. Note that all included information is from the OPT website.

Other considerations:

1. We'll need a mount. We can purchase a medium-duty tracking EQ mount with RA drive from Orion for roughly \$300 as an option. I'm sure there are other options including used equipment, but I think we should baseline a tracking mount to minimize the need for constant repointing.
2. The telescope will come with a 25mm eyepiece, but Coronado offers additional eyepieces that are optimized for H-alpha viewing for \$129. There is currently a special offer of \$99 for one additional optimized eyepiece or 2x Barlow lens when you buy the telescope.

Coronado - SolarMax 70 - 70mm f/5.7 <0.8A H-Alpha Telescope: The SolarMax 70 is a 70mm dedicated solar telescope with a bandwidth of <0.8A. It is very easy to use, and great for educational purposes and easily attaches to a camera tripod. It includes clamshell mounting rings, Sun finder, case, and eyepiece. An astronomy teacher's best friend, the SolarMax 70 has been designed as a sealed unit with no removable parts other than the eyepiece. Combine this with its 70mm aperture and you have a dedicated and portable H-Alpha telescope that is ideal for use by both the experienced observer and the most novice. As the SolarMax 70 is sealed, no critical parts can be removed and set up is a breeze. The SolarMax 70 is in use at universities, high schools, middle schools, and their equivalents around the world. It is actually a version of our first dedicated H-Alpha telescope, Helios I, with technological improvements. All of the telescopes in this line (Helios I, NearStar, SolarMax 70) feature a unique design with an etalon smaller than the actual aperture and positioned towards the rear of the OTA. This enables us to price the 70mm telescope less than the SolarMax 60. This design creates a bandpass of <0.8 angstroms which is slightly higher than the standard for other SolarMax series telescopes. Specifications: Aperture 70mm Focal Length 400mm; Focal Ratio f/5.7; Bandwidth <0.8Å; Thermal Stability 0.005 Å/C; Blocking



SolarMax 70

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SolarMax, continued from page 3

Full blocking >105 from EUV to far IR Wavelength 656.28nm (Ha) Filter Type AS-1 Series; Length 16.5" Weight 6.5 lbs; Coronado - SolarMax 70 - 70mm f/5.7 <0.8A H-Alpha Telescope Price: **\$2,999.**

Coronado - SolarMax 60 - 60mm f/6.6 <0.7A H-Alpha Telescope with BF10: The SolarMax 60 is a 60mm dedicated solar telescope with a bandwidth of <0.7 Angstroms. Twice the surface area of the SolarMax 40 equals increased resolution and detail. Very easy to use, and great for educational purposes. While almost all refractors and most reflecting telescopes can be used with a Coronado filter, no other telescope has been designed with all its optical aberrations and coatings optimized at H-Alpha. Most nighttime telescopes, when used at H-alpha, will not have the image contrast exhibited by a SolarMax nor the image quality. Most broadband coatings, used on such telescopes, will have reduced effectiveness at this wavelength and telescopes (particularly reflectors) not specifically designed for Solar viewing, will exhibit unnecessary scattering and spurious light transmission. All of the Coronado scopes, even the PST, have been designed with this one wavelength of light in mind and will increase contrast and give you a darker background for viewing and imaging. For those looking for more aperture, we proudly present the SolarMax 60 dedicated H-alpha telescope. The SolarMax 60s provides the user a telescope with the same lightweight portability of our SolarMax 40 but the extra aperture greatly increases the resolution of detail on the surface and on the limb. With over twice the surface area of the SolarMax 40 the difference is obvious. The SolarMax 60 comes standard at <0.7 Angstroms with a BF10 and is available with an internal module to lower that to <0.5 Angstroms. A T-Max attached directly behind the etalon gives you the ability to adjust for Doppler shifted light. Binoviewers and most imaging equipment will come to focus, sometimes with the use of a Barlow or OCS. The advantage of the extra aperture becomes clear each time you view. Specifications: Aperture 60mm; Focal Length 400mm; Focal Ratio f/6.6; Bandwidth <0.7 Angstroms; Thermal Stability 0.005 Å/C; Blocking Full blocking >105 from EUV to far IR Wavelength 6562.8A (H alpha); Length 16.75" ; Weight 6 lbs; Coronado - SolarMax 60 - 60mm f/6.6 <0.7A H-Alpha Price: **\$3,685.**



SolarMax 60 <0.7A

Coronado - SolarMax 60 - 60mm f/6.6 <0.5A H-Alpha Telescope: This "Double-Stack" SolarMax 60 is a 60mm dedicated solar telescope with a bandwidth of <0.5 Angstroms. The lower bandwidth equals greatly increased resolution and detail and it comes with one internal etalon filter and one external etalon filter. Both filters must be in place to use this telescope safely. Very easy to use, and great for educational purposes. Specifications :Aperture 60mm Focal Length 400mm; Focal Ratio f/6.6; Bandwidth <0.5 Angstroms; Thermal Stability 0.005 Å/C; Blocking Full blocking >105 from EUV to far IR Filter Type BF10; Length 16.75"; Weight 6 lbs; Coronado - SolarMax 60 - 60mm f/6.6 <0.5A H-Alpha Telescope [CI-MS60/5] Price: **\$4,999.**

Letter from the 2007 Texas Star Party

By Chuck Sterling

Dear Jennifer: Well, as promised, I and several others from the Astronomical Society are finally, after weeks of planning, at the 2007 Texas Star Party. We left in a caravan from the McDonalds on University at 5am Sunday morning. It was unfortunate that the restaurant was not yet open; all of us could have used a cup of coffee. Or two. The caravan consisted of myself, Steve Barkes, Dave Dockery, and Jerry Gaber, with plans to pick up Bob Long and Steve Smith along the way. We stopped at Horizon City to join with Steve and get that cup of coffee missed in Las Cruces, then got back on the highway.

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ServoCat, continued from page 2

smaller and have less torque available. Because some items had to be manufactured, Gary quoted me a ship date about two weeks from the order date. In the meantime, he agreed to send me an installation video so I could review it before the system arrived. I also needed the time to "correct" an issue on the altitude bearing on my TScope. The ServoCAT uses a cable drive system on the altitude bearing and the motor needs about 2" of bearing surface on either side of the motor spool. As you can see in the picture above, the trailing end of the TScope altitude bearing is even with the edge of the rocker box when the scope is pointed at the zenith. This wouldn't work for the ServoCAT, so I chose to add a piece of wood to the altitude bearing as shown on the right. This would give the cable some additional surface to ride on.



Mount with added alt piece

The unit arrived exactly when Gary said it would. A quick check of the 60 some odd pieces showed that there were no missing parts. While there are a lot of pieces, they were all packed separately by function and clearly labeled. For example all of the azimuth drive assembly parts are in a separate plastic bag. This means that you only have a small number of parts that you are working with at any one time.

The first step is to install the azimuth drive. The ServoCAT azimuth drive has a knurled knob that runs against a round ground board. Since many Dobs, including mine, do not have round ground boards, I had to order one. On the left is my original ground board and on the right is the new one.



Original ground board



Powered ground board

In addition to the ServoCAT, I opted to purchase a powered ground board. This allows you to plug in a 12-volt power source to one foot of the ground board and through a set of contacts in the center of the board routes power into the rocker box. This keeps cables from wrapping around the scope as it is rotated in azimuth. The picture on the above was taken after the entire installation was complete and shows the azimuth drive wheel already installed.

To install the powered ground board (PGB) and the azimuth motor, I had to drill 4 holes in the bottom of my rocker box. Two holes are for the electrical contacts for the PGB and two are for the azimuth motor. In addition, the central hole on which the rocker box pivots had to be expanded in order to fit a new precision bushing for the scope to turn on. There is also a hole that needs to be drilled in the front of the rocker in

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ServoCat, continued from page 5

order to install the lever that engages/disengages the azimuth motor. While this sounds a little daunting, templates are provided that help ensure the holes are drilled correctly. The pictures below show the template



Azimuth motor template



Azimuth motor installed

for the azimuth motor holes on the left and the motor installed on the right.

The picture above on the right also shows the tensioning spring that holds the motor against the ground board and the rod going through the front of the rocker that goes to the engage/disengage lever.

The picture below on the left shows the knurled drive knob on the bottom of the motor. When engaged, this knob presses against the edge of the ground board moving the scope in azimuth. The picture on the right shows the engage/disengage lever on the front of the rocker box.



Azimuth roller disengaged



Azimuth engage lever

After the azimuth motor and ground board have been installed, comes the installation of the altitude drive. As mentioned previously, the altitude motion is driven via a cable that runs against the altitude bearing. To allow this cable to pass through the Teflon pads between the bearing and the rocker, I had to cut small grooves in the Teflon on the drive side of the scope. Gary can provide pre-grooved Teflon pads for an additional charge, but I chose to do this myself. This was easily done with a dremel tool and a small cut off wheel. The altitude drive motor must be installed so the capstan on the motor is very close to the altitude bearing. This measurement is different on each scope, so no template is provided. However, the installation video covers this well and it is a simple matter of holding the motor against the scope, taking some easy measurements and then marking the 4 needed holes to mount the motor. Once the motor has been mounted, the cable drive and the altitude engage/disengage lever are installed. The pictures below show the altitude motor installed (on the left) and the engage/disengage lever (on the right).

The altitude drive cable is fixed to the front of the altitude bearing, runs along the bottom of the alt bearing through grooves cut in the Teflon, around the capstan on the motor (twice) and then to the engage/disengage lever. Here are two more pictures showing various angles.

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The Astronomical Society of Las Cruces (ASLC) is dedicated to expanding members and public awareness and understanding of the wonders of the universe. ASLC holds frequent observing sessions and star parties, and provides opportunities to work on club and public educational projects. Members receive *The High Desert Observer*, our monthly newsletter, membership in the Astronomical League, including AL's quarterly *A.L. Reflector*. Club dues are \$35 per year. Those opting to receive the ASLC newsletter electronically, receive a \$5 membership discount. Send dues, payable to A.S.L.C. with an application form or a note to: Treasurer ASLC, PO Box 921, Las Cruces, NM 88004

ASLC members are entitled to a \$10 discount on subscriptions to *Sky and Telescope* magazine. S&T subscribers MUST subscribe and renew through the Society Treasurer for the special club rate. To avoid a lapse in delivery, this must be done when S&T sends their reminder, 4 months in advance.

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Minutes, May 2007 Meeting

Call to Order:

Bert Stevens, Astronomical Society of Las Cruces (ASLC) President, called the meeting to order at 7:35pm., May 25, 2007, Rm. 77, Dona Ana Community College.

Secretary's Report: The minutes of the April general meeting were presented as published in the High Desert Observer (HDO), the ASLC newsletter. The minutes were accepted by those present by voice vote. Several members that receive a hardcopy of the newsletter via US mail reported that there have been problems receiving their issues. In particular, two members received the last page of the newsletter with the postage and address label but not the previous 10 pages of text and images. The secretary will attempt to resolve this prior to mailing the next (June) issue. There was not an additional secretary's report.

Treasurer's Report: The treasurer reported a bill of \$400.00 for the Club's membership in the Astronomical League (AL) is due next month. The treasurer also reported receiving a letter from a former member reporting the declining health of her husband, also a former member. They have a number of back issues of *Sky & Telescope* magazine, telescope building materials including various diameter mirror blanks and polishing compounds, and reference materials they would like to donate to the Club or an individual member for educational purposes. The treasurer will post the content of the letter to the web site. There was not an additional treasurer's report.

Committee Reports:

Observatory Committee: Vince Dovydaitis gave a status on the committee's efforts to date. There has been no additional discussion with the New Mexico State University Astronomy Department regarding a 16" telescope being made available to the Club. Bill Stein has not set up a meeting between the involved parties in the Astronomy Dept. and the Observatory Committee, possibly because of hiatus between school terms. Vince will contact Bill via email to get an update.

There were no additional standing committee reports.

Old Business:

1. **Coronado PST:** A report from Texas Star Party (TSP) attendees on Personal Solar Telescopes (PST) was received. Possibly because of bad weather including heavy cloud cover during the week of the event, Coronado did not have a display of its products at this year's TSP. Dave Dockery has downloaded information and specifications on several vendors' brands and models for comparison. Although he hasn't completed the comparison, Dave estimates the price (without discounts)

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May minutes, continued from page 7

for a Club-purchased PST will be in the \$3000 to \$4000 range. Dave will submit the pricing information and a rationale for the Club purchasing a PST for publication in the HDO. It was suggested by the president, and accepted by those present, that the purchase issue be tabled for the time being.

2. X-Prize Cup Expo: to date, an ASLC member has not volunteered to coordinate the Club's participation in this year's event at Holloman Air force Base (HAFB) near Alamogordo.

3. Renaissance Art Faire: a volunteer to coordinate the Club's participation in this year's event is needed.

New Business: Janet Stevens recommended conferring an honorary Club membership on Richard Jones in recognition of his many contributions to the Club. This would enable him to remain in contact with the Club after his relocation to Colorado, including receipt of the HDO newsletter via email. She submitted this recommendation as a motion, Vince Dovydaitis seconded it. The motion was approved by voice vote.

Announcements:

NASA has published a booklet of information on the total solar eclipse occurring in August. It was available for review on the information table in the back of the meeting room. Additional data from the Goddard Space Flight Center on solar eclipse paths of totality for an extended time span (5000+ years) was also available. This month's MoonGaze will take place at International Delights Café on May 25 beginning at dusk, weather permitting.

A motion to adjourn the business portion of the meeting was offered by Janet Stevens, seconded by Dave Dockery, and passed by voice vote. The business meeting was adjourned at 7:50 pm.

General Announcements:

Observations: There were no observational reports.

Presentation: The program for this month's meeting was a collection of images provided by TSP 2007 attendees. Dave Dockery initiated the presentation by announcing he had earned his SAP Galaxy Observing pin at this year's TSP. Because of lots of wind and rain beginning Monday night, observing and imaging was very limited this year, primarily to Sunday night. Many attendees visited the vendor's area to purchase telescope covers. Kirby Benson presented images of his new Vixen America setup that he only got to use one night. Steve Barkes set up the 12" Orion Dobsonian scope donated to the Club by Jed Durenberger. The swap meet got drowned out and very few astro images obtained during TSP were presented. However, several post-TSP images were offered.

Vince Dovydaitis gave a summary of the presentations he attended during TSP and may present a summary of the information he obtained as a future monthly program. He also announced he purchased a "used" 12" LX200 as an early 73rd birthday present. This presentation was not recorded for playback via the Internet. Other meeting presentations can be seen on the web at <http://www.aics-research.com/lectures/aslcnm/>.

Respectfully submitted by John McCullough, Secretary

Report from the TCP, continued from page 1

Golf Course on that fateful morning and just as my eyes were beginning to close for a tiny nap I felt the impact of air as a silver trailer went flying by.

Suddenly my cell phone squeaked to life. "Hey, good buddy, I got your twenty. Let's put the pedal to metal and get moving. We got miles to go before we rest."

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Report from the TCP, continued from page 1

It was Doctor George urging me on.

“Ten four.” I timidly replied.

I was hard pressed to keep up, but fortified with coffee, jelly beans and Julie Andrews on my CD player I managed somehow to stay the course. It was not until several hours later when Doctor George dropped me off at the entrance to the star party that I was able to finally relax and wonder just what I had gotten myself into. I pulled into the gate and immediately saw the sign:

STOP HERE. DO NOT MAKE ANY SUDDEN MOVES. EXIT YOUR VEHICLE AND KEEP YOUR HANDS WHERE THEY CAN BE SEEN.

It was then that Sheriff Rich came sauntering out from behind the Humvee with a possum on a long leash. As the possum began to sniff under my SUV I asked Sheriff Rich, “What is the possum doing under my car?”

“Look’in for contraband, Sonny. What did you think?” He hissed.

“Well, it seems kind of invasive – like, you know – violating my boundaries and not establishing a relationship of trust and respect.”

“Don’t use any of that high faulut’in psycho talk around here, Sonny. And just be durn glad I didn’t bring out the alligator this time.” He snapped.

“Yes, Sir.” I gulped.

“OK. You’re clean. Proceed to Checkpoint Charlie. Surrender all your money and any medication you have to the person in charge. We don’t allow any funny business around here. That’s all.” Sheriff Rich admonished.

While I was at Checkpoint Charlie I asked where the ASLC group was.

“Middle field. Go one sixteenth of a mile north, turn east, proceed for another thirty-second of a mile, then south for about thirty five seconds at five miles per hour should put you right there. And, oh yah, don’t go near the Upper field. That’s for the better folks. You don’t belong up there.”

By now I was feeling totally confused and somewhat intimidated but I gathered up the courage and asked, “Well, if the Upper field is for the upper people then what is the Lower field for?”

“Ah jeez, how dumb can you get? It’s for the untouchables - obviously. Use your brain boy, use your brain.”

I must have missed something he said because I came out about three arc degrees off my target and as I was driving I kept hearing the sound of glass and aluminum crunching. Oh well. I finally found the ASLC group under a large canopy eating Mars bars and watching “Lost in Space” videos. I heard a snicker and somebody whisper, “Here’s another newbie. Is the pit ready?” Well, I decided to ignore that or pretend I didn’t hear it because I was now in the presence of the Masters. At last I would find the meaning of “Imaging the Stars” and become one with the universe. Or, at the very least, become one with my telescope. And, if failing to



Master Dave and Kirbini

Report from the TCP, continued from page 9

do that, become one with my eye piece. Anyway, you get the gist. Becoming one with something, anything, seemed real important at the time.

As if reading my mind Mystic Bob pronounced, "Ya can sleep over there by the fire ants on that goat head patch and see if that don't make ya one with something, ha ha."

"Gulp, sure Mystic Bob, anything you say."

By the time I got my tent set up it was getting late. Everyone else was out in the field covering up their telescopes. This was kind of confusing since it was clear and the stars were starting to shine.

With courage and determination I walked right up to Master Dave and asked, "Why are you covering up your telescopes when it is nice and clear?"

Master Dave looked at me as if I were being impudent or just plain stupid, "Why do you think, Grasshopper? Is not the sky, as our minds, sometimes clear and sometimes cloudy?"

"Well.....I guess."

"Guessing not allowed. Two demerits. Four more hours in the pit with the armadillos."

"OK, OK," I replied, "But why are you covering up your telescopes?" I persisted.

"BECAUSE IT IS CLEAR!" THIS IS THE TEXAS CLOUD PARTY! WE CAME HERE TO WATCH THE CLOUDS! GET IT!"

At that moment if I could have found a hole to climb into and hide I would have done it, but realizing I already had to do eight hours in the pit (four hours for improperly installing red plastic on my computer and the four hours for guessing) I decided not to look too hard for a hole to crawl into.

"But, but," I stammered, "I thought this was the TSP."

"Well, well, ain't that just something. He came here to find the Texas Star Party. How cute. What do think boys, shall we tell him or let him wander around here all night trying to figure it out." Masters Steve & Steve crowed ominously.

Brother Chuck entered the conversation, "Come on guys, don't be so hard on the kid. He didn't know."

I was relieved to think I might get away with this one but those hopes were quickly dashed when I realized I was indeed at the wrong star party. In fact, I wasn't even at a star party. I was at a CLOUD party! Have you ever had a bad dream where you wanted to wake up but couldn't? Well, this was it - but it wasn't any dream. I had come to the wrong event, but I could not admit it and to save face I could not even ask where the star party was. I would have to pretend I knew what I was doing here.

"Oh, I think he knows all right. He's just trying to pull something. He's sandbagging. He probably is one of those super duper cloud imagers from the Pacific Northwest." Prompted Brother Jerry.

"Heh, heh. Look fellows, I was just kidding. I knew all along this was the Texas Cloud Party. Why do you think I came? I came to watch the clouds just like you guys."

I was really sweating by now. Would they buy it?

"Oh yea. Then how come your telescope isn't covered on a clear night like this?" questioned Mystic Bob.

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Report from the TCP, continued from page 10

"Hey, I was going to cover it. Honest. Honest I was." I hurriedly countered and rushed out onto the field to cover my new Vixen 103 and get it out of the star light.

That seemed to calm things down a bit and anyway the Mars bars were starting to wear off and it was time to eat and watch more videos since no one could do any imaging with the stars being out and all.

After that first night things turned for the better with lots of clouds and even some rain, and everyone seemed to have forgotten those tense moments on that first day. I finished my pit time with the armadillos and made a whole-hearted effort to learn to watch the clouds go by.

The End

Letter from the 2007 TSP, continued from page 4

The next stop was Van Horn for gas and goodies. It does not take very long to get there at the west Texas speed limit of 80 miles per hour, but another cup of coffee was refreshing nonetheless. Our van did not need gas, so I mostly stretched my legs a bit and drank more coffee.

On the road again, we made the turnoff into the Davis Mountains at mid-morning Central time, with about 50 or 60 miles to go. The first half is pretty quick, with a 70 mph speed limit and almost no traffic, but then we headed up into the foothills and the two-lane road slows and twists. I was told that in years past there was a bicycle race in progress on this road, which makes you drive even slower, but this trip there were no bicycles to be seen and we drove most of the rest of the trip without much delay.

There was one minor problem when Steve Barkes' trailer blew off a chunk of tread with a sound like a foghorn, but about 12 octaves too high. I heard it and wondered what the heck kind of animal makes that sound, but then I clicked and was not surprised to find a bunch of geeks stopped on the narrow shoulder of the road. There was not much of a shoulder. A couple of feet to the right was a sharp slope into a canyon, a bad place to go without ropes and tackle. I was the geek with a handy scissors jack that would go under the trailer, so we used that and Steve got the spare on. I guess the whole thing took twenty minutes or so, and for some unknown reason none of us thought of taking any pictures until it was too late.

Just a bit later we arrived at the Prude Guest Ranch and got in a queue of cars, trucks, jeeps, whatever, about a mile long and getting longer. By 12 noon, an hour and a half later when the gate was opened, the line was pushing two miles. That's quite a few astronomers to get together in one place; I began to worry about security; they're such a rowdy bunch when they congregate... ;o]>



*ASLC members setting up equipment
at the 2007 TSP*

I regretted not using a rest room more recently than Van Horn. I suspect I was not the only one so afflicted, given the quantity of coffee consumed en route. There was a temptation to walk down the hill next to the road and find a handy bush, but I realized just how many digital cameras with telephoto lenses were available in the local population and thought better of it.

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After finally getting into the ranch, we drove to the center observing field and found our places. I was just a few parking slots from the rest of the Las Cruces contingent, and had for neighbors two gentlemen that had driven three days to get here from Pennsylvania. I applied sun screen then set up the small tent and got it ready to live in for a week, then got to work on the telescope. They told us the ground at TSP is hard and to bring good tent stakes; they should have also told us it was made of tightly assembled rocks covered with goatheads and to bring the armored knee pads and powder-driven hammer as well. I guess the whole thing was set up and ready to align by mid-afternoon. I was bushed. We had been up since 4am and had been going all day.

Several of us from Las Cruces set up on tarps laid out end-to-end, ostensibly to help prevent our tripping on the edges, but we later wondered what we were thinking. We were very close to getting in each other's way. I was on the end tarp and had my stuff overlapping the far end, which gave both me and Bob Long, my neighbor, a bit more elbow room.

After dark I invested quite a bit of time trying to set up autoguiding using a Meade LPI camera, but it was just not sensitive enough to pick out a star in the field I had available around M51, my target for the night. I finally decided to limit exposure times to two minutes, tops, and not bother autoguiding. I set up a series of twenty LRGB frames with automatic dark frames, pushed the "Go" button and set my tired butt down in a reclining camp chair and fell asleep. From time to time I woke up and noticed the red LED on the camera still flashing, which meant the sequence was not finished, then went back to sleep. At about 2am I saw the LED on steady and got up to finish up. Bob Long, on the next tarp, said he was just about to wake me up in case some of the electrical cords might be getting a bit tight after tracking for a few hours. He also commented on my snoring, which is apparently the stuff of which legends are made. He said that at first he did not realize it was me making all the noise; he thought the horses in the corral across the lane were getting rowdy. I'm sure I'm going to hear more about that in the weeks, maybe years, to come.

Well, by that time the dew was settling, and I decided to shut down and go to sleep in bed for a change. I got up the next, er, same day pretty early (having already slept while imaging), got cleaned up and went into Fort Davis to find breakfast and some supplies. I was especially interested in getting some larger trash bags with which to cover the scope since rain was in the forecast. And ice; I needed ice to keep the ice tea icy.

Clouds started gathering Monday afternoon, and culminated in one heck of a drenching thunderstorm about supper time, while we alternated between enjoying Dave's "Si Señor Chicken", which was extraordinarily good, and trying to stay out of the rain. About a half inch of rain fell overnight, as measured by the cup holders integrated into the case I use to hold my scope. Unfortunately, rain was predicted, correctly as it turns out, for almost the rest of the week, and by Tuesday evening the decision was made to bail out of TSP for this year and perhaps regroup at the City of Rocks north of Deming. The gentlemen from Pittsburg elected to visit Carlsbad Caverns in order to salvage at least part of their lengthy vacation trip. Alas, the weather back home in Las Cruces was not much better, and as I sit at the computer Thursday afternoon looking at the cloudy skies, I hope for better luck next year. Be sure to write if you have a chance. Love, Dad



Si Señor Chicken, complements of Master Dave, was a big hit.

ServoCat, continued from page 6



Altitude motor installed



Altitude lever

After the altitude drive assembly is installed, comes system testing and cable management. Initial testing can be done inside during daylight. Specific instructions are provided to test and troubleshoot the installation.



Altitude motor capstan



Altitude assembly

The DSC needs to be configured to talk to the ServoCAT and the encoders need to be checked to ensure that no slippage is occurring. The ServoCAT is highly configurable and needs to be set up for your specific scope. Configuration parameters include (among other things) gear ratios, slew/jog/guide speeds, and backlash compensation. To do this, several standard configurations are provided on a CD. According to Gary, most customers can load one of the standard configurations and be done with it. Optionally, Gary can provide an AutoCal cable that can be used to configure the ServoCAT to your specific scope. This cable, coupled with included software will test your system and run your azimuth and alt motors to determine the optimal settings for your scopes gearing ratio and backlash settings. It will also help diagnose any issues regarding encoder slippage. I chose the AutoCal option and fortunately my system passed all tests. The resulting configuration was indeed very close to one of the canned configuration files.

After testing, it was time to clean up the cable monster I had created. There are a LOT of cables with this system. There are two cables that go to each motor as well as power and communication cables for the DSC and the ServoCAT control box. There are also encoder cables running from the DSC to the encoders on each axis. As a result, cable management is an important part of finishing the installation. I chose to drill two more holes in the sides of my rocker box to make the installation cleaner. Gary actually plans for this in the kit and supplies hole liners to help make everything pretty. The picture below shows some of the cable routing done for the system. You can see the ServoCAT control box and its holding bracket at the top of the picture. In the upper left corner of the rocker you can see the power distribution rail (part of the powered ground board package) for controlling power to the ServoCAT, DSC, fans, dew heaters, etc.

All told, the installation took about 8 hours over 3 days. This was taking my time with everything. I've only had the scope out under the stars a few times since the installation. So far, the system has worked very well.

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ServoCat, continued from page 13

Goto is accurate and tracking is very smooth. High magnification views are a pleasure, with no bumping of the scope needed to keep objects in the eyepiece. The altitude and azimuth motors can be engaged and disengaged at will, so the scope can be used motorized or not. When disengaged, the axes maintain the smooth motion they had prior to the install. After I get some more experience with the system, I will write a follow up article providing an update on the system's performance and describe some of the features of the system.



Final wiring

July Issue of the HDO

Articles for the July issue should be sent to **Rich Richins** by Saturday, July 7. Rich is editing the newsletter in July and August since we will be traveling. Material should be sent as email (ririchin@nmsu.edu) or as an attached Microsoft Word document. If you have any questions about submitting something to the HDO, please don't hesitate to contact him (532-5365 or via email). Thanks in advance! George Hatfield, Editor, ASLC Newsletter.

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