2017-09-02 DSES Plishner Work Trip Report

Location and Time: The DSES Plishner site work trip occurred on Saturday, September 2nd. After meeting at the Ellicott Fire Station at 7:30AM, the crew caravanned out to Haswell talking on 2 meter simplex and arrival at the site around 10:00AM and worked till after 6:00PM.

Attendance: Gary Agranat, Ed Corn, Ed Johnson, Bill Miller, Dave Molter, Steve Plock, Rich Russell, Ray Uberecken

All contributed photos and content but as usual if I have omitted anyone or miss represented anyone or anything here please feel free to correct me.

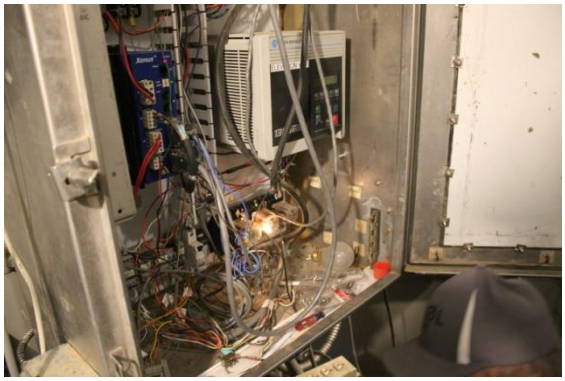
Site Activities:

Gary made some Colorado QSO party contacts at first in his car, until the generator was ready. He then set up a station in the Comm. Trailer on the IC746MKII with the all band folded dipole and started logging contacts using the N3FJP logging program on his laptop. Steve and Ed brought additional equipment in case Gary wanted to operate from the bunker. Steve Plock brought an IC-706mkIIg with an IT-100 auto tuner for use in the bunker and Ed Corn brought a HF amplifier. Steve also brought a LDG 1000AT, a 1KW HF auto tuner in case we had difficulty with Ed's HP HF tuner. Gary opted to operate from the comm. trailer considering the late start and not wanting to disrupt the work on the ramp wall. On the next visit he will most likely use the added equipment and operate from the bunker.

See Gary's detailed report on the QSO Party added at the end of this report.

Bill shared time between HAM contest training with Gary who was making QSO party contacts and working with Ed Johnson and Ray Uberecken on resolving issues with the dish movement control system.

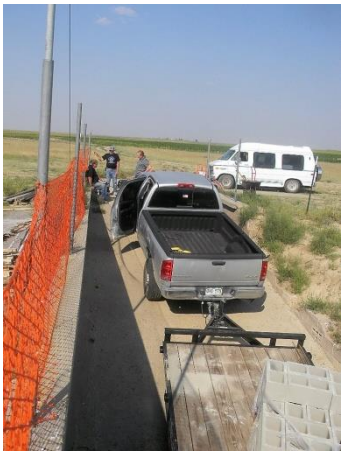
Ray and Ed Johnson hooked up the control box to the small control computer that Ed had set in the comm. Trailer, and started checking the watch dog timer and several other changes that Ed had made since the last test. Once tested on the bench the control box was remoted on Ethernet to the dish pedestal control deck. It was operated remotely from Ed's control computer in the comm. trailer while Ray and Bill communicated with FRS radios from the pedestal as the dish was driven with the SW. There were still some logical corrections to make in the software to make the controller properly communicate with the dish inverter drives and most of these were resolved.



This left one final issue in the control chain, involving the op amp offset voltage, which would cause the elevation drive to continue to drift without movement command from the SW program. We took the control box down at the end of the day and Ed took it back to his lab to add a correction to mitigate the op amp offset voltage. The last task to make the controller fully functional is to calibrate the dish position encoders with the actual disk elevation and azimuth by adding an offset value in the position and readout SW. Glenn Davis and Dave Molter had done this once before with the Raspberry Pi position system and we need to get the encoder value or count vs. position table from Glenn and then make any unique adjustments for Ed's position system SW.

Ray is going to take a hiatus to work on some personal projects and asked Bill to oversee and finish installing the positioning control and feed utilizing everyone's additional technical expertise.

While the technical work was progressing in the comm. Trailer, the second crew consisting of Ed Corn, Dave Molter, Steve Plock and Rich Russell were working in the stifling heat on the bunker ramp wall replacement. This is needed to stop the flow of mud and water from the eroding hillside into the ramp and into the sump and bunker door.



While the solar powered sump pumps have been keeping the bunker relatively dry, heavy rains make keeping the bunker free of mud and water a difficult challenge.

Steve brought down a trailer load of concrete blocks, rebar, cement mix, sand and tools. Ed brought down a concrete mixer, tools and large plastic barrel for the septic and Dave provided a large quantity of water.

They worked all day digging out mud at the end of the bunker ramp and sump, getting down to the base footer or ramp concrete, drilling in rebar and starting the concrete block placement to build the new wall. The majority of the really difficult work was completed and now the wall can be added to on each subsequent trip to about a 6 tier level. This will hold back the flow of mud and water off the hillside for some time and then can be extended in height over time.

Dr. Rich Russel came down to the comm. trailer late in the afternoon. He did some maintenance and calibration on the Radio Jove and the total power measurement instrument, and he modified the startup sequence of the system computer. He also restarted Team Viewer so we can log in remotely again. The dish was positioned at 2.5 degrees north of zenith to capture Cygnus A crossing in drift scan on the total power instrument remotely.

The Spectra Cyber receiver has been acting up and drifting. Ray removed it and will work on it on the bench to fix the problem.

Ed Johnson took the position controller for modification and left for Limon. Others stayed a little longer and continued to work on the systems.

The trip visit lasted until after 6 and all left the site about 6:30. Bill and Dave measured the shortest distance from the site gate to the nearest power pole to the north on the road at about 7/10 of a mile.

Gary's Colorado QSO Party Report (written September 9, 2017):

Last Monday I submitted our Colorado QSO Party logs to the Pikes Peak Radio Amateur Association (PPRAA), the event organizer.

We operated on 20 and 40 meters, on SSB voice and Morse Code CW. We also made one 2 meter band FM contact with AF0S, the PPRAA club station in Ellicott while we drove out to the site. That was while we were still in El Paso County. All of our other contacts were from our radio telescope site, in Kiowa County. We made 37 contacts total, to 21 states and 2 Canadian provinces. Our longest distance contact (1700 miles) was to K1IB in Vermont. 20 of the 37 contacts were CW.

Bill KC0FHN helped with some logging. And he tried contacting AF0S on 2 meters from Lincoln County (but didn't make contact). I operated the rest.

Here is how the rule details worked out: With two or more hams operating, we were classified as a Multi-Operator station. Since we made contacts from two counties, that also classified us as a Portable station. The scoring rules are complicated enough that I won't go into details. (You can check at ppraa.org. We had several types of point multipliers.) The rules did qualify us for some nice bonuses: Activating Kiowa County doubled our score. Plus contacting AF0S, one of the two PPRAA stations operating, gave us an additional 500 points. I checked the log submissions. To date we are the only station submitting in the Portable, Multi-Operator category, both in and out of state. The log submission deadline is still in October. However, from experience I suspect we

will remain the only station in this category. And so we might get a certificate. To date 10 Colorado stations and 80 out-of-state stations submitted logs. That's not bad participation.

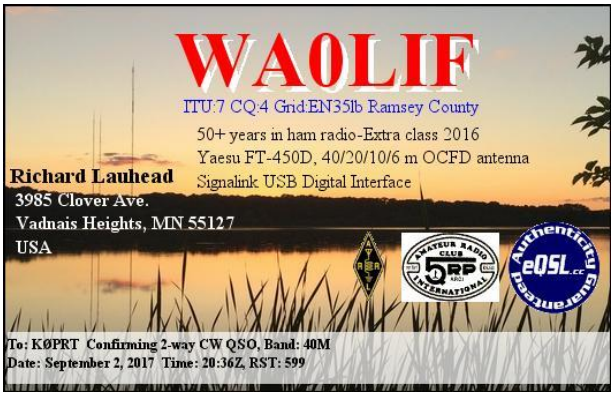
We just had two in-state Colorado contacts: One was to AF0S. The other was a 40 meter band CW contact with NX0U in La Plata County, in the southwest of the state. A few out-of-state stations were heard talking with Colorado ones, but most of those Colorado stations were not heard. I suspect that indicates the nature of the propagation and conditions on 20 and 40 meters during the day. And I suspect maybe also the mountains were a factor, and stations could have been using directional antennas. One exception was I heard K0IZ located in Custer County, on 20 meters. I tried contacting him a few times, but didn't get through his pile up. He did have quite a pile up. I tried as well calling CQ a few KHz from him, to see if I could benefit from the attention going to him, but got no takers. I listened to him again while driving home. When he finally pulled the plug around 8 pm, he said he had logged over 1100 QSOs!

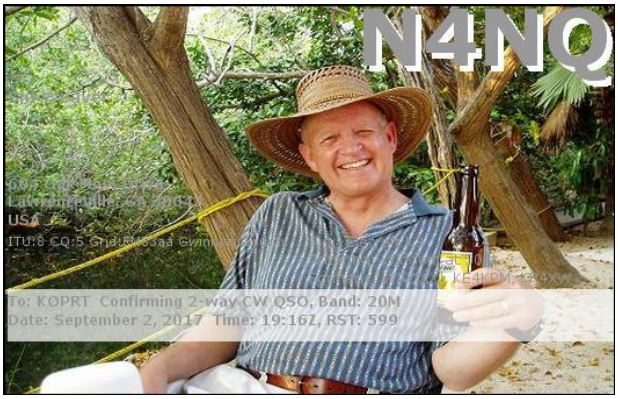
That suggests to me that the amplifiers from Steve and Ed and good antennas oriented in favorable directions could have made a significant difference. I have to admit it is a conceptual shift for me to think of us operating on that level. But we can do it. If we operate that way I believe many hams would find us and want to contact us. To operate that way means we have to be prepared for that tempo, and it would help to have a few of us operating. Next time if we wish we can be prepared.

Several other contests started up later during the day, including a large Asian contest and a CW one. I suspect those drew attention away from our Colorado QSO Party.

I copied below eQSLs we received online so far. Plus you can see what ours looks like.

WA0LIF – Richard in Vadnais Heights, MN
N8ZI – Tom in Armada, MI
N4NQ – Sid in Lawrenceville, GA
KK4AMR – Renn in Elizabethtown, NC
WX4G – Rob in Northport, FL
KE3ZT – Steve in Bedford, PA





Also to note, on ARRL Logbook of the World, we now have confirmed 25 of the 50 U.S. states. So already we are half way to a Worked All States qualification.

73,
Gary WA2JQZ

That concludes the minutes from the Plishner Site work trip of September 2nd, 2017

73, and keep looking up!
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