

## **The Pea-Shooter Chronicles: Sitting In the Big Boy's Chair**

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Last month, I wrote about contesting from my very limited pea-shooter station. Just after finishing that article, to my great surprise, Ken, N6RO, invited me to join his crew at his Radio Oakley superstation for a multi-multi operation in ARRL DX CW. He especially needed a night shift operator for 80 and 160. It was a big step for me so I thought I might try to describe how my existing operating skills and expectations mapped into the land of the big guns.

The team consisted of:

Ken, N6RO

Chris, N6WM

Bob, K3EST

Mike, WA6O

Matt, WX5S

Dean, N6BV (operating remotely)

Andreas, N6NU (also new to this station)

Holy cow! No less than two CQ Contest hall of fame members, DXpedition experts, a famous author, all winners of so many contests of all kinds. And then there's little old me. Should I be worried?



Figure 1. Welcome to Radio Oakley. I had never seen such a station; let me count the towers... And there are even more!

## **Worry, Worry**

Not everyone is cut out to be a great contesteer. As for me, I'm really not a very competitive person and I tend to worry too much (just ask my XYL). Getting ready for this big show, I had many concerns. Most of all, I didn't want to let down the team. Thankfully that didn't happen. In fact, it went incredibly well, thanks to the encouragement I received from all the team members. The way that I eliminate my worries is to address each one like a good engineer, and make sure that I'm well-prepared. That definitely paid off.

Wouldn't you know, I sat at the main SO2R position, but I'm nearly deaf in one ear (the bad one is more of a QRM generator than a listening device.) So Ken set the two rigs up where I could switch between them, working both 80 and 160 when nobody else was available. So there you go, another worry vanishes. That's the way it went, hour after hour, getting better and better.

## **Surprises (Pleasant and Otherwise)**

Having a loud voice is fabulous. Regularly winning shootouts is truly a joy. I even beat K6XX once! That alone made my weekend. Related to being loud, I now understand the concept of *beaconing*, where we run continuously, proudly announcing that this band is open for business.

Working weak CW signals is something I'm pretty good at due to my limited station. With bigger/better antennas, you simply rescale the problem: My challenge became trying to work the very low-power JAs on 80, something I could never hear at home.

Having a station operating every band means you can just keep calling CQ (beaconing) even when the band appears to be dead, and sometimes you find out it's *not* dead.

Using N1MM in a networked environment was very useful. I could see everyone else's logging activity, as well as what frequency they were on and their run/S&P status. That gave me some intel on their operating practices. The multi-operator chat ("gab") feature was also available but we didn't use it much.

Interference between bands in a MM stations is a constant concern. For instance, the second harmonic of my 80 m transmitter could obliterate Mike's 40 m receiver, within a certain bandwidth. Sometimes Mike would wave his hand at me, signaling "Shut up for a second... I'm working a mult here!" I quickly learned to regularly check his QRG. Then there were various clicks and pops from the 160 m transmitter, and a few other unexplained events. Chris said, "That's multi-multi for you. Deal with it."

RF interference can be just as much of a problem as at my pea-shooter station. There was some nasty PG&E line noise on the low bands (and the 160 m Beverages were out of commission, too). We quickly become alligators in this situation. Still, being out in the country meant that the noise floor on most bands was dramatically lower than at my house. I... want... that...

## Teamwork

The best thing about my MM experience was the teamwork and camaraderie. I wondered if I could remain BIC for all those hours—longer than I had ever operated before. Well, it was no problem because, like being in a war, you do it for your buddies. They work hard, so I work hard. It's energizing and exciting. Having company in the middle of the night sure was nice.

Mentoring was continuous. Everyone had advice for me on operating procedures. All night long I had WA6O and WX5S there to help keep me focused, but also letting me know it's ok to take a break when you need it. We would step outside for a few minutes for fresh air and take a stretch. It's a hobby, last I checked, and it was nice to know that even the world's best operators take a break now and then. It was also great to talk with Mike about his many DXpedition experiences.

Later in the contest, I got to honk the horn whenever I worked a new mult. Everyone would cheer! I hear that this is common at multi-operator stations, and it gives you a needed boost.



Figure 2. Mike, WA6O, sat next to me running 40 meters darned near around the clock. Mike is hilarious: “Five watts! He’s running FIVE WATTS! Why is he doing this to me?”

## Things to Learn

If you have never operated at a complex station such as N6RO, it pays to visit well before the planned operation. Ken walked me through the entire station: Antenna complement, switching, rotators, rigs, amplifiers, and so forth, as well as the creature comforts. Being of feeble mind, I furiously took notes, which I organized later into cheat-sheets in a small notebook.

Practice with the rigs, amplifiers, and logging software is important, especially if you have limited (or no) experience with the products they use. In my case, I had never used a K3, but that didn't take long to figure out; I even read the manual. I already knew the N1MM logger very well, thankfully. This is another of those places where my peashooter station served as an excellent classroom.

## Planning

All contest operations—even our little solo activities—require planning if you want to achieve a high score. When you're trying to fill several chairs for 48 hours, it can get complicated. Chris, N6WM, was in charge of most of the scheduling this time. He and the others clearly had the necessary experience, and all the senior operators knew each other's habits and preferences well. So I pretty much went along for the ride, and did as I was told: "We need someone to do the all-nighters on 80 and 160." I'm good with that; that's the job of an entered apprentice.

Since the operating sessions were longer than I was used to, as well as keeping me up all night, I planned ahead and brought some creature comforts. A favorite chair, comfy clothes (ready in case the room got too hot or cold), snacks, some quick and easy food, and my sleeping bag in case the sleeping rooms overflowed. If you need to drive home after an all-nighter, like I did, please assess your state of alertness. I took a short nap on Saturday morning, then got in the car. No need to die on the highway home. I also brought my paddle and headphones. Overall, it felt a lot like home.



Figure 3. Here I am in the middle of the night, right at home at N6RO.

### **When to Search and Pounce?**

This is one area that differs when you're the loudest thing on the band. I definitely called CQ a lot more than I would at home, and actually got results. But I was also given guidance, based on expected band activity, that S&P was common during certain hours, at least in this contest. I tried using the second receiver while running, but my one-ear situation made that more confusing than useful. Most of the time I would run, quickly work new skimmer spots, and get back to running. Still, I can really see the utility of SO2R and SO2V.

When I arrived for my shift Saturday afternoon, Mike needed a break and he appointed me to take over for him on 40 m for an hour. (Wow, sitting in Mike's chair; awesome!) Europe was just getting going, and I did a furious S&P the whole hour with a good rate and got a bunch of mults. I even scored Ethiopia, which was an ATNO for Chris (he gets credit since we used his call). Having stacked Yagis on 40 is something else...

### **Which Way do I Point My Antennas?**

Never having used a directional antenna before, this was something I really had to get used to. I printed an azimuthal equidistant projection map [1] centered on our QTH, and marked several of the prime targets such as EU, JA, and BY. Then at least the angles made some sense. Next, I figured out which orientations of the four-squares and wire quads for the low bands aligned with those targets. Ken also gave me some guidance on typical azimuths versus time of day.

During the couple of hours I ran 10 m, the big stack of Yagis was at my disposal. (Yo! We got us a death ray!) Now I had even more degrees of freedom: Two independently-rotatable antennas (plus one fixed on the East coast), as well as a selector for which ones are active. Ken told me about the skew path to JA (point it at VK) that sometimes happens. By switching between two antennas, you can figure out which is optimum, and decide if you want everything pointed in that direction. I can see how all this becomes second-nature with time in the chair, but it's initially a distraction to the novice.

### **Antenna Switching**

Multi-multi stations must contend with complex antenna switching. I've heard that some are more automated than others; the N6RO system only has a couple of manual transfer switches to worry about. You're not just trying to connect yourself to the right antenna, but you also have to avoid connection *two* rigs to the same antenna. In any case, my cheat sheet was very useful until I had gone through the motions a number of times. One thing that felt like home was an occasional situation where the best receive SNR was obtained on one antenna, while the highest signal strength was on another, and the only way to T/R switch between the two was manual. Now that's something I'm used to.





Figure 4. Left to right, NA6O, WA6O, K3EST, and N6WM.

### **Conclusion**

N6WM @ N6RO claimed a score of 4,282,680, to which I contributed about 6% mostly from my 80 m operation. That's certainly the highest score on the West coast. It's amazing to watch the QSO and point counts go flying up. What a great experience. Thanks to all the guys for your advice and for having faith in the new guys. Ken has asked me to help out with station maintenance and upgrades, which sounds like fun. I'll definitely be back.

### **References**

1. An online azimuthal equidistant projection map utility is available at [http://www.wm7d.net/az\\_proj/az\\_html/azproj.shtml](http://www.wm7d.net/az_proj/az_html/azproj.shtml)