

# JUG

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Northern California  
Contest Club



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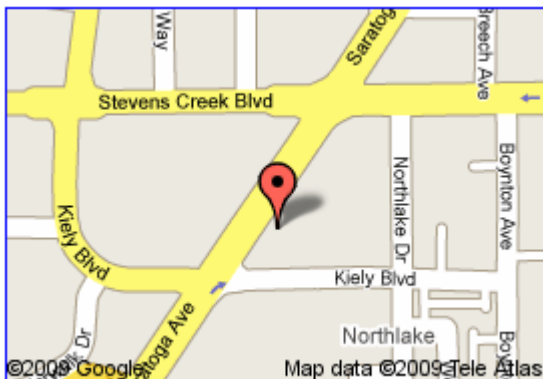
## NEXT MEETING

### "Recap CQP Plan" – Rick Eversole (N6RNO) "Final SS Plan"

**Date:** Monday, 12 October 2009

**Time:** 6pm schmooz, 6:30pm dinner, 7pm program

**Location:** Harry's Hofbrau, 390 Saratoga Ave, San Jose, CA



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## Inland View

By Jack Morgan, KF6T

## International Webinar Held

This past week we had had a joint PVRC/NCCC (imagine that!) event starring our own Dean Straw, N6BV. Dean covered antenna performance modeling using the HFTA tools that are part of the ARRL Antenna Handbook.

This webinar was truly international with over 50 participants from Hawaii to Europe attending. Thanks to Dean, N6DE for helping to organize this webinar. If you missed it, you can catch it by going to <http://bit.ly/n6bv-webinar>.

If you have not attended a webinar, you are missing out. All you need is a PC with an internet connection. The presenters put a lot of effort into putting together great information and deserve an audience.

## CQ WW DX RTTY 2009

There were RTTY signals everywhere this past weekend – deep into the normal CW

hangouts. NCCC members are posting some terrific scores. If you have not set up for RTTY yet, now is the time to get on and work out the bugs. We will be dedicating a meeting on RTTY in November to try and jump-start the January 2010 ARRL RTTY Round-Up competition.

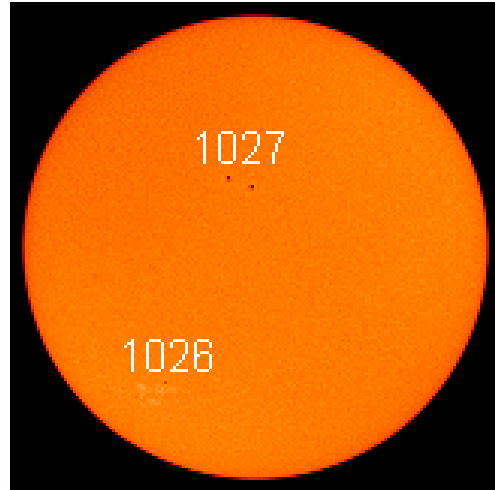
### The 44<sup>th</sup> CQP Is Here!

This coming weekend (Oct 3<sup>rd</sup>) is the California QSO Party. This contest is a great warm up for SS. Check out the new “CQP” section of our NCCC website for all the rules and strategy. The weather is going to be fantastic for all our CQP expeditions – no early snows! Remember to pledge your scores to MLDXCC (Mother Lode DX and Contest Club) - as sponsor, NCCC is not eligible. After all, MLDXCC has always supported the NCCC in our “Club” efforts.

### November ARRL Sweepstakes

If you entered the SS last year, get ready to do it again! Spend a few more hours “in the chair” this year or better yet, make a maximum effort for both modes. If you are new to the Club, plan to get on and help NCCC win the club competition gavel again. Look for more information to be coming your way from the reflector. Also, check out the “Members” section on the NCCC website for some great ideas and setup info. If you need help with N1MM or WriteLog, check out the NCCC support webinars at <http://bit.ly/n1mm-recording> (or writelog-recording).

73, Jack – KF6T



### VP/CC

By: Fred Jensen, K6DGW

**Sunspots!!** I write this on Thursday, 24 Sep, and down in the bottom right corner of Firefox, Propfire tells me the SSN is ... brace yourselves ... 31! SFI=75, A=1, K=0.

Two large and growing Cycle 24 spots formed on the far side of the sun and have just slid into view (that’s “slid” since the sun doesn’t rotate as a solid body).

This is the first time I’ve seen the SSN come off of zero for at least a month and also the first SFI in the 70’s in a long time. Checking 10m yields no DX, however. it can’t do anything but help out the CQ WW RTTY this weekend, which will be history by the time you read this.

We will be in Reno with the kids and grandkids over the weekend but I hope to get a little time in on Friday evening.

### Upcoming Contests:

**CQP: 3 Oct 1600Z – 4 Oct 2159Z (Sat 0900 – Sun 1459 PDT)**

- NA Sprint RTTY: 11 Oct 0000Z – 0400Z
- Stew Perry: 17 Oct 1500Z – 18 Oct 1500Z
- CQ WW SSB: 24 Oct 0000Z – 25 Oct 2400Z

I'm looking for a flogger for the NA Sprint RTTY, if you are new to the club, I want you, and we'll provide mentoring.

**CQP:** Bob, N6TV, has been working hard to coordinate who's going to be on in what county. If you get this in time and haven't registered your operation yet, please hit [www.cqp.org](http://www.cqp.org) and do so, so Bob can keep current.

Even if you're operating from home and/or part-time, please register. It's sometimes surprising the counties that end up under-represented. As of today, Shasta, Yolo, San Joaquin, Madera, Monterey, and Ventura still have "limited coverage." We've got members in YOLO and SJOA, we need to get everyone on.

**Sweepstakes:** The CW SS is on 7 Nov, which is going to be upon us before we know it. I am going to put a short questionnaire somewhere on the web to get a snapshot of members' plans and to see where we can best focus our efforts to add to our log total (likely right after CQP).

At the joint NCCC-MLDXCC meeting, President Jack provided a very interesting analysis of past years efforts compared to PVRC, who won the gavel last year. We had roughly 20 fewer logs on each mode, but our mean QSO's/log exceeded theirs by close to 40 on CW (SSB was close to even, we managed 6 more). We also out-sat them by roughly an hour each contest. Had we equaled their log total, and using our mean points-per-log numbers, we'd have added over 3.1M to our Club total and blown our good comrades in the Colonies away.

He also identified six areas that we can improve on and, for each one, did an analysis of what we could expect in overall Club performance based on last year's log data and some pretty rational and conservative assumptions, and the results are somewhat surprising.

Over all, his analysis yields a 5.3M score increase if all six areas were exploited fully to his assumptions. However, 80% of the score increase comes from just three of his areas:

- more split-station operations,
- more stations reporting logs for NCCC, and
- more BIC time.

That's the goal right now -- concentrate on the high-value things we can all do. I was relieved to see that there were only three that, if we can achieve Jack's modest assumptions, we could get over 4M more points in our Club score.

John may be able to put Jack's presentation on the web site, otherwise email me and I'll send it to you, it's a PDF and is less than 700KB.

Everyone enjoy CQP, I know I will at N6A. We're watching the remote wx station there and so far it's looking good ... highs near 70, lows in the low 50's (we all have electric blankets ☺). My plan is to make the October meeting.

73,  
Fred K6DGW  
VP/CC

## Dues

**Have you paid your dues for the year? It's still just \$24 (cheap), with students just \$12 (even cheaper) and family members \$12 (what a deal).**

**Contact [Jack Brindle, W6FB](#)**

**We can get your dues via PayPal or snail mail or via cash at the next meeting.**

## October Webinar Recordings:

Did you miss Thursday's webinar by N6BV? There was a live demo, step by step, on how you can download terrain for your station location and analyze the takeoff angle response of your HF antennas. W6YI's station was used as an example.

Here are the details on how to view the recording of this collaborative webinar from PVRC and NCCC:

Topic: *Hints and Kinks for Using HFTA*

Presenter: Dean Straw, N6BV

Recording:

<http://bit.ly/n6bv-webinar>

This file size is 137MB.

NCCC members: if you have a slow Internet connection and this file size is too large to download, you can write an e-mail to me requesting a DVD, and I'll mail it to you.

The recording is in .WMV format. This should make it easy to view, as most of you already have a .WMV player on your computer (i.e. Windows Media Player). The file should automatically start to play while still downloading. After the file has finished downloading, if you want to save it on your computer for future viewing, just go to the top of the Windows Media Player window, right click, select File, Save As, and type a filename with a .WMV extension (such as n6bv.wmv).

73...

-Dean - N6DE

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## To Beverage or Not to Beverage...That is the Question

By: Rob Brownstein, K6RB

On "top band" and 80 meters we are often confronted with signal-to-noise levels that make it difficult to impossible to copy relatively weak signals. For most of us, the situation is worse on 160 than on 80. This is

due in part to the nature of those two bands, and also because nearly all of us use some vertical TX antenna for 160, which gives us better low angle, but also much higher ambient noise.

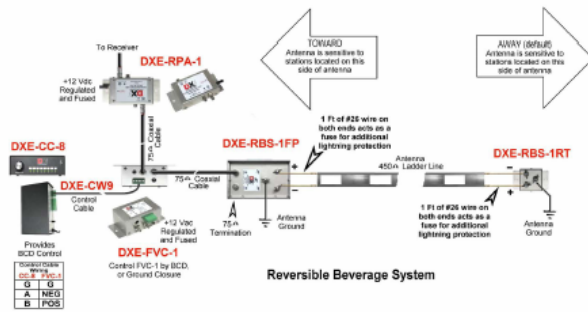
The remedy, of course, is an antenna which increases the signal-to-noise ratio. Back in the early 1920s, Mr. Harold Beverage found that a very long wire strong close to the ground, and fed with an impedance-transforming device at one end, and terminated in a characteristic impedance at the other end will produce better S/N, and will have gain in one direction along its length.

On 160 meters, according to Frank, W3LPL, it takes at least 200 feet of length before one obtains any benefit from a beverage antenna. For many of us, that fact alone takes a beverage off the table.

Fortunately, Gary, K9AY, and others have come up with a loop antenna that while less effective than a beverage requires far less space to implement. Some of us will even connect, say, a 40 meter dipole to our RX ANT input and use it as the RX antenna. Of course, the signals strength goes down, but if the noise level goes down even further, the net effect is a higher S/N.

But, if we're being honest, everything being equal, a beverage antenna is the preferred RX antenna solution for 160 meters. And, if you have the room for one or more, the cost of rolling your own can be kept reasonably low.

One possibility is the so-called bi-directional beverage, where you run a pair of wires from a head-end adjunct to a termination adjunct and use voltages fed over the coax to control which of the two directions will be favored. The advantage, of course, is that a single run gives you a choice of two directions. The downside is that the antenna becomes more complicated. This, by the way, is the design offered by DX Engineering.



It uses ladder line for the run, and control voltages over the coax, and by the time you factor in the cost of the two adjuncts (\$199), the ladder line, the RG-6 coax, the control subsystem, and miscellaneous costs, you're looking at somewhere in the neighborhood of \$500 per bi-directional beverage set up.

If you want to have, say, four directions at hand, you're looking at a kilobuck price tag. Now, if you are an avid DXer, pursuing a 5-to-9-band DXCC, you will have a better shot at getting your 100+ on 160 than you will on 15, 12 or 10 meters for the next few years. So, a beverage system for NE, SW, NW, SE that costs \$1,000 may not seem like a budget-buster. If you're like me, though, a contester/rag-chewer who avoids DX pileups like the plague, and only operates 160 maybe four or so times per year (ARRL 160, CQ WW 160, Stew Perry, CQP), then there may be a whole lot of other things you could buy for \$1,000 that would be more in line with your operating preferences.

So, that was me. I wished I had a four-direction, switchable beverage system, but I just could not justify spending \$1,000 or even \$500 on doing it. This, then, would be the end of my story. To beverage or not to beverage, that is the question, and the answer is "not to beverage" because it costs too much money.

For a while, too, I didn't think I had the space for it, but Jim, K9YC, came by, looked at my location, and said, "heck, it's just like my terrain; you could easily put two bi-directional beverages in that woods back

there." Jim was referring to the acres of woods behind my house that is county green space; loaded with oak trees, vines and poison oak; and which dips down steeply for about 250 feet, then rises up steeply for another 250 feet. A beverage in that woods could be hung to follow the terrain, but it sure wouldn't be horizontal!

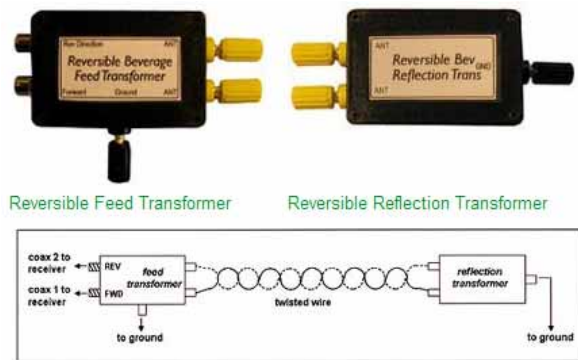
No problem, said Jim. It will work anyway. So, one of my objections was overcome. I did have the space for such a system. But, I was stilling facing the economic reality of having to spend \$1,000+ dollars for the subsystems, wires, etc. So, the answer was still "no."

Then, in August, I was down in Irvine for a gathering of FOCers over a weekend. We have these every year – in December in Orlando; in March in either Texas or Louisiana; in May in DC; and in August in California, Nevada or Washington. At these bashes we invariably put up a portable station at the hotel in which we're staying and operate with a special club callsign, in this case, W6FOC. But, I digress. The Sunday morning just before we all went our separate ways, I was operating W6FOC, and I worked a ham in Maryland. We've since become good CW buddies, and have had several QSOs and email exchanges. It turns out he was also a reviewer on eHam that gave the DX Engineering system a 5/5. So, I asked him if he thought, given my operating preferences, that that system at its present cost was still a good thing to do.

And...he wrote back and said, "Actually, I've gone to a different system, one that works even better, is easier to implement, and costs about half as much." I liked the sound of "half as much." And, he sent me links to a couple of pieces of gear.

One was the head-end/termination modules for each bi-directional beverage (\$99 for a set); and one was for a signal limiter that could be put in line to protect the RX ANT input system from being blown up by a

QRO signal where the TX and RX antennas are relatively close together.



And, here's the best part. He said he had two spare sets of head-end/termination gear, enough twisted-pair wire for two 500 foot beverages, and would be happy to ship them to me so I could give it a try. Oh, boy, the economics get better and better.

So, I told him to go ahead and ship it, and let me know how much it costs so I can reimburse him. Meanwhile, I order 1000 feet of RG-6 (about \$60), some good F-type connectors, four A/B switches (el cheapos that cost about \$3, each) and four copper-clad ground rods. So, I'm investing well under \$100 bucks, and I'm going to put in a switched, four-direction beverage system to evaluate how well it works compared to using my Double L antenna for both TX and RX. I could relate to that cost equation. So, the answer to the question is "maybe" instead of "no," as I proceed to gather all the parts I will need and plan the execution. In less than five days I have everything but the signal limiter (from ICE).

Using Velcro, I mount the two head-end modules on my house's southern fence, drive a pair of ground rods into the ground nearby, and wire each rod to one head-end's ground terminal.



That was the easy part. Then, with spool in hand, plus hammer and coax staples, I start routing the twisted-pair heading SW from the head-end location.



The ground just south of the fence slopes down at a ski-slope rate. So, I end up side-slipping for 250 feet while trying to find appropriately located trees from which to hang the wire. Needless to say, I'm not creating a straight-line run. But, even with a pronounced zig-zag, I manage to lay in 500 feet of wire in a primarily SW direction. This would become my NE/SW beverage.

This took all day Saturday to do. On Sunday morning, I slide down to the end of the line where I've mounted the termination module to a tree using a luggage-rack type strap, pound in a ground rod, wire the ground wire and the end of the twisted pair, then climb back out of the woods (no easy thing, by the way). I had intended laying in the NW/SE wire once I got back to the house, but I was so sweaty, scratched up, and tired, I decided to shower, change clothes, and work on just wiring in the two coax runs for NE and SW. I wanted to try it out on 160 that Sunday night, and decided to do the other beverage the following weekend – assuming everything went smoothly with Sunday night's test.

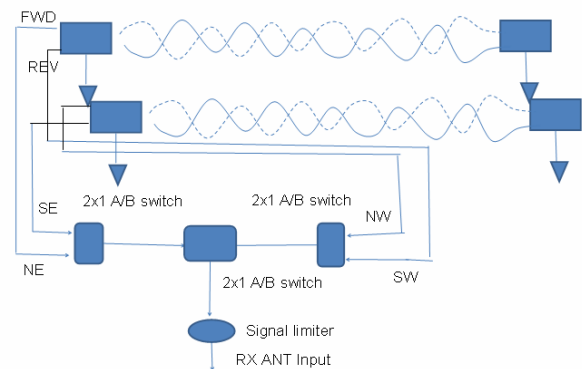
That night, around 9 PM, there was some activity from stations to the east and northeast. They were very audible but being pounded by QRN crashes using the Double L. When I switched in the SW run, the signals literally disappeared. And, when I switched in the NE run, they came back up but were no longer embedded in a sea of noise.

I could envision the ARRL 160 when stations near the right coast are still too weak to be heard well. Using this beverage, those stations would be Q5. As far as I was concerned, that was enough incentive for me to put in the next beverage the following weekend.

That one was the NW/SE. I could just imagine the benefit of hearing those JAs and other Asian stations on the NW leg then switching to the SW leg and listening for ZLs and VKs.



So, at this point, I've gotten both beverages in place. The following figure shows you how the whole system is configured.



Each head-end box implements a bi-directional beverage. The box in the upper left-hand of the figure is NE/SW; the other

one is NW/SE. When I brought the four runs of coax into the house, I arranged them so that one switch has NE/SE and the other has NW/SW. During a contest on 160, early on, signals from the gray line will be coming from the east, so I switch to the A/B switch with NE/SE. That allows me to shoot for New England states, EU on NE and Caribbean on SE.

Later, around 4 AM, the gray line is to the west, so I switch to the A/B switch with NW/SW on it. That allows me to shoot for Asia (NW) and Oceania (SW).

These beverages were built using the wire and subsystems sent to me by my friend. But, if I were to buy everything new, it would cost out as follows:

- 2 head-end/termination modules - \$200 - <http://www.radiobooks.com/products/sv2bevsys.htm>
- 1000 feet of twisted-pair wire (0.14) - \$140
- RG-6 cable (1000 feet) -\$40
- F-type connectors (water proof) - \$18 (18 connectors)
- A/B switches (3) at \$3 - \$9
- Limiter (ICE 196) - \$38 <http://www.iceradioproducts.com/reconly.html#rflimiter>
- Ground rods (4) - \$40
- Total cost approximately \$490

Some of the intangible benefits are simpler switching, no need to run DC control voltages over the coax; no need for an active subsystem to protect the RX ANT input from overload (about \$150).

Now comes the fun part. I'm going to try to gauge the F/B and gain for each direction. That will give me more information about how I might use the four to grab another

level down of signals that are usually lost in the noise.

I'm planning to try them during CQP; but the real tests will come in December when I plan to play in ARRL 160, CQ WW 160 and Stew Perry.

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