



Publication of the  
Northern California  
Contest Club



August  
2008  
Issue 435

NCCC Net  
Thursday 8 PM  
3610+/-

## CHECK Website

No August meeting posted as of publication date.

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## Zero Beat

By John Miller, K6MM

### Field Day

The big event for many Club members this past month was ARRL Field Day on Saturday/Sunday, June 26 & 27. Field Day is part camping trip, part contesting, part public relations, and part emergency preparation – all rolled up in a weekend of Fun, Friendship, and Fresh Air. Well, mostly fresh air. ☺

Many K6ers migrated to the hills, the salt marshes, the woods, the meadows, the ocean, or their backyards, to set up temporary stations and get on the air for the weekend. Some used gas-driven generators, some used battery power. Some ran 500 watts, others ran 5 watts. Some ran HF and VHF, others sent SSTV signals. All had a great time.

Last year I spent the whole day handing out Qs from my home QTH. Boring. This year, the pendulum swung the other way, as I accepted invitations to operate at 3 different stations during the 24-hour “contest”. I say contest, because there is definitely a competitive aspect to this national operating event, where more than 1M QSOs are made from over 2,000 stations.

I started and finished the weekend at W6ARA, the impressive FD station set up by Palo Alto ARA (PAARA) in Menlo Park, putting in 7 hours in two shifts. In between, I operated CW for 9 hours at K6SA, the

excellent FD station set up by the Saratoga ARA (SARA) at Castle Rock State Park. Topping it off was an invitation to operate for 3 hours at the famous Stanford ARC station, W6YX, on the beautiful Stanford campus. Was I a bit tired after 19 hours in the chair? Sure. But did I meet some great new ham friends? Did I put my operating skills to the test under non-ideal conditions? Did I learn some new techniques? Did I come away with some great memories? And would I do it all again? Yes, indeed.

Here's a sampling of other NCCC Kbers in action, listed by FD callsign used and (the reporting NCCC member):

**K6NV** – Mother Lode DXCC; Fire Lookout Station at Martis Peak; Tahoe National Forest; (Jim, **WX6V**)

**K6KP** – Cupertino ARES; City Hall Parking Lot; HF + SSTV Demo (Kevin, **K6TD**)

**K6SA** – Saratoga ARA; Castle Rock State Park – Saratoga; Class 2A; (Dave, **W6DR**)

**K6WC** – Santa Cruz FD; Cal Fire Ben Lomond Training Center (Donald, **AE6RF**)

**KU6S** – South Bay ARA; Lake Elizabeth, Fremont (Al, **WT6K**)

**N6N** – West Valley ARA; Moral Hill; Class 8A; 5 watts on batteries; CW, SSB, FM, PSK-31 (Marc, **W6ZZZ**; Phil, **W6TQG**)

**N7PR** – Nevada County, Sierra Foothills; mostly battery/solar power (Ted, **K6XN**)

**NN6MI** – North Bay ARA; Vallejo, CA; Powered from all-electric car + solar (Gary, **KE6QR**)

**W3FF** – Recumbent Tricycle Mobile; Redding, CA (Budd, **W3FF**)

**W6CUS** – East Bay ARC; Berkeley Marina (Alan, **K6SRZ**)

**W6SG** – Marin ARS + REDXA; Marin Rod and Gun Club – San Rafael, CA; (Bruce, **W6OSP**)

**W6V** – QRP Operation; Varga Ranch, Fremont (Bob, **N6WG**)

**W6VVR** – Vaca Valley RC; Vacaville; (Jerry, **KD6WKY**; Jerry, **KG6TT**)

**W6YX** – Stanford ARA; Class 4F; 40 participants; (Mark, **K6OWL**)



KBer Jerry, **K6III**, above was interviewed by the local Grass Valley newspaper. Very cool FD article: <http://tinyurl.com/5po7rq>

I hope you had a chance to get “Hooked Up” and enjoy the Field Day experience this year.

### July 14 Meeting Highlights

55 Kbers attended the July NCCC meeting in Mountain View. We had a full agenda for the evening:

- **Field Day** - Stories were shared. See examples in this issue.
- **IARU Contest** – Bob, **N6TV** shared his experience using Skimming technology; Win-Test continues to receive good reviews
- **Regional Volunteer Coordinators** – the list of 13 Regional Volunteer Coordinators was reviewed (also mentioned in the July JUG). If you need help, contact your local RVC.
- **Computer-Radio Interfacing:** Jim, **K9YC**, gave an informative presentation on how to improve S/N in your shack. We learned a new term in the process: “Bah Hum/Buzz” is now forbidden. We’re very lucky to have Jim’s expertise in the club.

- Three new Club awards were received:  
**2007 CQWW RTTY - 1<sup>st</sup> Place NA Plaque**  
**2006 ARRL 10M Contest Gavel**  
**2007 ARRL Sweepstakes Gavel**
- We have 2 meetings in August – our regularly scheduled meeting Monday, August 11, and a “Bonus” social gathering hosted by Rick Tavan, N6XI, at his QTH in Truckee, CA on Saturday, August 23 (see “**August Meetings**”)
- Several excellent contests coming up in August – a great opportunity to check out your equipment, experiment with the digital modes, and improve your CW copying accuracy (see “**Contests For August**”). Go For It!!
- All PowerPoint presentations from the meeting can be found in the Members section of the NCCC website.

### Summary

We had great participation during Field Day. Our monthly meeting was another great learning opportunity. We added 3 new Club Contest awards to our collection. KBer attendance remains at 50+ each meeting. I worked CY0X on 6M.

Life is good. CU in the next contest!

73, John K6MM

### VP/CC Corner: Anatomy of an RFI Fix

By: Jim Brown K9YC

3 Jul08 ND2T asks K9YC for help with a neighbor’s complaint. Schedules of the neighbor, K9YC, and ND2T are coordinated and 14 Jul 08 at 2pm works all around.

14 Jul 08 12:30 pm. K9YC arrives for lunch, and a plan of attack is formulated. Tom will introduce Jim to the neighbor, then Jim will stay and observe while Tom transmits. At 2 pm, we knock on the door. The wife answers, he called from work and

will be home in a few minutes. By 2:30, he’s home, and we get started as planned.

We begin by asking for a detailed description of the problem. “It doesn’t even have to be on, and I hear you!” “Is the interference sound, picture, or both?” we ask. “Sound only!” Jim’s eyes light up, and he pulls out his 2M talkie and probes around the 6-channel stereo rig, keying on and off at 5 Watts. Sure enough, all the wiring lights up, but especially the loudspeaker wiring.

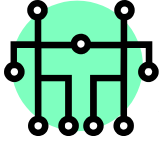
Tom heads for the shack and we run through the bands. The most recent complaint has been 2M FM, so we try that first, 25W into a gain vertical about 20 ft from the stereo rig. It’s not loud, but it’s there. Next we fire up the HF rig and start running through the bands. Nothing when running barefoot, but firing up the amp on 20M and 10M lights things up pretty good, and one of the surround loudspeaker channels has most of it.

Jim’s eyes light up again as he pulls out a bag of “big clamp-ons” and quickly fashions a 4-turn choke on the loudspeaker wiring next to the amp. Tom transmits again, and it’s gone in that channel, still slightly audible in two others. Two more chokes, and it’s quiet! “Is there a sub-woofer?” Yes. “Is it turned on?” No. “Let’s fire it up, and run through the bands again.” We do, hear something, and add a choke. Now everything is quiet again! Elapsed time just over an hour.

Jubilant, Tom returns to find the neighbor writing a check to Jim for the chokes. Good sport that he is, Tom buys the chokes. Might he be eying the redwood in the neighbor’s yard as a support for a 160 vertical?

Morals of the story: 1) Contact the NCCC team for help! 2) Start by finding out EXACTLY what the symptoms are. 3) Ask another ham to observe while you transmit. 4) When diagnosing, remember that “It’s the antennas, stupid!” 5) Don’t leave home without your ferrites!

Jim K9YC



## Welcome Aboard!

Two new members have joined our Club.  
Let's all welcome:

Tyler Froeming, KG6OJB, from Alturas,  
CA. Tyler was nominated by Al, NT6K.

Tom Lewis, K6IUZ, from Penn Valley, CA.  
Tom nominated by Jerry, K6III.

### August Meetings

August 11 - Next NCCC Meeting  
Check the website for details of our next  
meeting, Monday August 11 in Pleasanton.  
Program:

1. CQP Preliminary Plans (N6RNO)
2. Which Contests Are 4U? (W0YK).

August 23 – Saturday - Truckee, CA  
This is not so much a formal meeting but  
more of a social gathering, hosted by Rick,  
N6XI at his Truckee QTH. Those wishing  
to stay overnight in the area are welcome to  
visit super contest station, K5RC on Sunday,  
August 24. Open invitation.

### Contests for August

SSB, CW, UHF, Digital, QRP. It's all there  
for August. For a one-page summary of all  
major contests throughout the year, go to  
[www.nccc.cc](http://www.nccc.cc) and click on "Major Contest  
Calendar" at the top of the page.

### August 2008

European HF Championship - Aug 2  
10-10 Int. Summer Contest, SSB - Aug 2  
ARRL UHF Contest - Aug 2  
NAQP, CW - Aug 2  
SARL HF Phone Contest - Aug 3  
WAE DX Contest, CW - Aug 9  
SARTG WW RTTY Contest - Aug 16  
ARRL 10 GHz and Up Contest - Aug 16  
NAQP, SSB - Aug 16  
New Jersey QSO Party - Aug 16

Run for the Bacon QRP Contest - Aug  
18

Ohio QSO Party - Aug 23

YO DX HF Contest - Aug 30

SCC RTTY Championship - Aug 30

SARL HF CW Contest - Aug 31

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### Field Day 2008 Images

By John Miller, K6MM



Budd, W3FF and his Tricycle Mobile  
(FT-857 on handlebars)



**W6ARA** – Mobile Trailer & Antennas



**W6YX** - The Great Antenna Farm  
(Photos courtesy of Dean, **N6DE**)



**K6SA** – Top is HF#1; Bottom is HF#2  
Top: Dave, **W6DR**; Yin, **N9YS**  
Bottom: Kelly, **N6KJ**;

## **NCCC Needs A Club Shack!**

By John Miller, **K6MM**

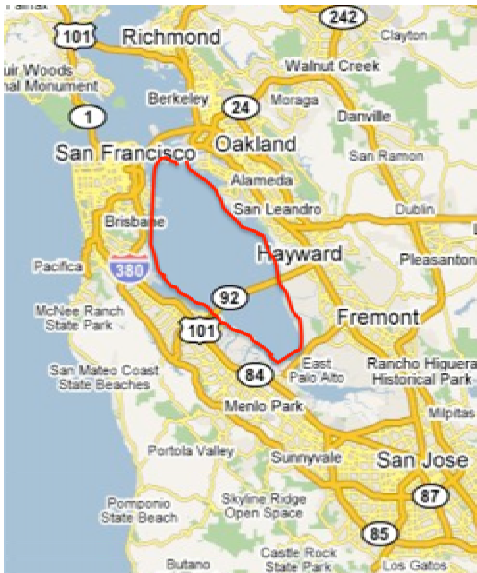
Why?

- A strong contesting center
- For members with no station
- Training center: for newbies and oldies
- Practicing SO2R and new operating techniques
- A testing center for new ideas (antennas, electronic projects, etc.)
- HMO contest activity
- Public Relations
- Possible Emergency Communication Center

**Where?**

1st choice = “up in the hills”

- 2<sup>nd</sup> choice = near the salt marsh
- 3<sup>rd</sup> choice = anywhere inside the “inner bay”



**Structure?** An unused trailer, barn, shed, hut, garage, shack -- with electricity

**Equipment?** Desks, shelving, radios, antennas, computer(s), monitor(s), cables, etc. KBers to the rescue.

**Manpower?** More KBers to the rescue.

**Potential Partners?** RACES/ARES, Red Cross, local business, colleges/universities, non-profits

Put on your thinking caps. Could be a cool project this year!

## Wire Antennas for Limited Space (Part Two)

**Build Your Score with a few dB Here and There Jim, K9YC**

I use copper split bolt connectors from McMaster Carr to hold the spacers in place on the antenna. Part number 6921K56 is the smallest one they sell, \$1.80 each in boxes of 25. I also use these connectors to tie the

elements together at the center insulator. I use eyelets sold by The Wireman on each wire where it mechanically lashes to the center insulator, then loop it back to the point where I connect it electrically.

When building the antenna, I cut all the wires for the elements at least 24 inches long, using part of the extra length for mechanical termination at the center insulator and some to go through the end insulator and wrap back on itself. I trim each element for length to be about 5% long before raising it the first time, then again once I've had the rig up in the air and checked it (either with an analyzer or an SWR bridge). I determine element lengths based on modeling in W7EL's EZNEC.

## Assembling the fan

I build the longest element first, putting the needed spacers on each half of the antenna, connecting both elements at the center insulator, then I temporarily tie off each end through the egg insulator. After that, I temporarily hang the antenna between two supports about 5 ft or so off the ground where I can work on it, and build the other elements of the fan.

First I string all the elements through the spacers and temporarily tie the spacers in place with the split-bolt connectors. Next, I terminate all the elements at the center insulator, again using one or more split bolts. Then I add a piece of UV-resistant rope between the spacer at the end of the 15M element and the spacer at the end of the 10M element, and pull it tight. This tends to give the antenna better mechanical stability. At this point, the antenna should be pretty well put together, but I let it sit for a week or so under tension to settle in place mechanically.

After that settling period, I tighten up the rigging at the center insulator, the spacers, and the ends, trimming each element so that it's a few percent long. Then I screw the split-bolt connectors down nice and tight,

lash them to the spacers using UV-resistant tie-wraps, and tape that lashing with Scotch 88 (for more UV protection). Now the antenna is ready to fly.

### Trimming for length

Horizontal antennas interact with surrounding objects, including the earth. Before final trimming to length, any antenna should be rigged to its intended operating position and checked for resonance, then lowered and trimmed if needed. In general, proximity to ground lowers the resonant frequency by a few percent.

Rigging the Antenna:

- ◆ I use either marine pulleys (West Marine is a good source) or pulleys sold by a B&B Small Engine, a supply house in Capitola that caters to tree climbers.
- ◆ I use the 5/16-inch UV-resistant rope sold by DX Engineering (and others) to hang my wires high in trees that get a lot of wind and can sway a lot. The smaller 3/16-inch version is fine for smaller antennas strung between fixed supports. Be careful about this rope in conditions where it will rub and abraid – I've had expensive failures when this rope could rub against a limb or tower element.
- ◆ It's long been good practice to use a weight on one end of a rope or wire suspended between trees to allow the rig to adjust to wind whip (the word "sway" is far too mild mannered to describe what happens in a real storm). Some hams use old window weights, others use plastic bottles or buckets filled with sand. I use 6.5 gal drinking water containers from the local hardware store. Filled with water they're about 60#. I fill them with sand (about 95#).
- ◆ Within the limits of most city lots, and most terrain, higher is better. I fight for every foot of height I can get. On 80 and 40, every five feet or so of additional height, *especially*

*for the center of the antenna,* increases low angle radiation, making us a bit louder on the east coast or working DX.

- ◆ Avoid the Braided copper antenna wire. I've used a bunch of it, both bare and insulated, and regretted it each time (on at least three occasions, with considerable cost to re-rig the antennas that fell apart). It simply does not stand up to stress.

Electrical considerations:

- ◆ Insulated wire is electrically longer than bare copper – that is, an antenna made with insulated wire must be about 2% shorter than a bare copper wire to hit the same resonant frequency.
- ◆ Combining dipoles into a fan narrows the SWR bandwidth of the higher frequency dipoles by about 50%. There is no loss of bandwidth for the longest dipole.
- ◆ A low fan dipole for 80/40 meters is a good match to 50 ohms, but a high 80/40 fan is closer to 75 ohms. A fan dipole for 20/15/10 meters is a good match to 50 ohms whether its low or high.
- ◆ All of the above are predicted by NEC modeling and I have confirmed them with my real antennas.
- ◆ Don't play cheap with coax on a long feedline. The difference between 150 ft of RG59 and RG11 (or between RG58 and RG8) is 1-2 dB over the width of most ham bands, VSWR taken into account. My 80/40 fans both load well on 30M and 17M; and since I'm feeding them with RG11, they're pretty efficient on those bands too.

