



Publication of the
Northern California
Contest Club



Issue 499

December 2013

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Guests are always welcome at the NCCC!
Please join us.

Monday, December 9th, 2013

Time:

6:00pm Schmooz, 6:30pm Dinner, 7:00pm Program

Location:

Harry's Hofbrau 390 Saratoga Ave, San Jose, CA

Directions: <http://goo.gl/maps/BsusZ>

URL: <http://nccc.cc/meetings.html>

phone: [650-965-2739](tel:650-965-2739)

Program:

Sweepstakes recap

- RTTY RU Our Next Focus Contest

- Ed WOYK presents :-

"Optimized RTTY decoding to Improve Your Contesting"

To register:

Please RSVP to Tom nccc.treasurer@gmail.com



President's Report for December.

First, my thanks to all of you who participated in the November Sweepstakes and who gave your points to the NCCC effort. There were some fine performances at all levels: from QRP through Unlimited HP and it seems likely the N6TV's CW effort will stand up as the best of all competitors. VP/CC AD6E's summary appears elsewhere in this issue of **The Jug**.

Unfortunately we did not achieve the level of participation we were aiming for and it is likely that PVRC will again retain the gavel. Still, the path to future victory is clear: we need to submit more logs and try to match or exceed the levels of participation we had in the past.

Do we have a morale problem? Has our collective advancing age and the inflexible ways of most major contests combined to create a case of burnout? As a practicing physician, I can assure you that burnout is a very real phenomenon.

If you follow the recent threads on the CQ-Contest reflector, you can see hints of a new zeitgeist. Lots of hams, including several of the big guns of contesting, are unhappy with the forms of many contests. The East Coast advantage is well known, but apparently there's also a Zone 16 vs. Zone 14 argument and accusations of a Europe-NA cabal that discriminates



Northern California Contest Club

Excellence In Amateur Radio Contesting

Officers:

President	Alan Eshleman	K6SRZ	doctore@well.com	Penngrove CA
Vice President /Contest Chair	Alan Maenchen	AD6E	ad6e@arrl.net	San Jose, CA
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Director	Steve Dyer	W1SRD	w1srd@arrl.net	Redwood City CA
Director	Jim Brown	K9YC	k9yc@arrl.net	Santa Cruz CA

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	Rebar Rebarchik	N6DB	rebar@hamilton.com
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K6CQP,N6CQP,W6CQP QSL Mgr	Ed Muns	W0YK	w0yk@arrl.net
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Webmaster	John Miller	K6MM	k6mm@arrl.net
JUG Editor	Ian Parker	W6TCP	w6tcpian@gmail.com

Thursday Night Contesting:

NCCC—Sprint	Ken Keeler	N6RO	kenkeeler@jazznut.com
NS Ladder	Bill Haddon	N6ZFO	haddon.bill@gmail.com
Slow NS (SNS)	Chris Tate	N6WM	ctate@ewnetinc.com

NCCC Net

Thursday 8 PM
Freq: 3.610 +/-

NCCC

Monthly meetings take place on the second Monday of each month !

NCCC Membership Information

If you wish to join NCCC, you must fill out an [application for membership](#), which will be read and voted upon at the next monthly meeting. ([PDF application form](#))

To join, you must reside within [club territory](#) which is defined as the maximum of:

- Northern California, anything north of the Tehachapi's up to the Oregon border, and
- A part of north-western Nevada (anything within our ARRL 175-mile radius circle centered at 10 miles North of Auburn on Highway 49).

against the Southern Hemisphere and Southeast Asia.

Is change in the air? Certainly many thoughtful amateurs are proposing changes to business as usual. Among the most frequent suggestions are (1) make contests shorter (2) change the multiplier schemes to reflect the distances involved [the continental USA encompasses three CQ zones and one (!) country multiplier. Europe spans three zones, but almost 60 country multipliers] (3) use the power of the Internet to design different collaborative strategies that transcend the traditional boundaries, including continental boundaries and club circles.



K6SRZ as presently constituted

It is heartening to see that NCCC has been at the forefront of contesting innovation. Consider the following list:

CQP, our flagship contest, is the only state QSO party to truly go international

The Thursday evening NS contests attract hams from all over North America and the 30 minute format is definitely family friendly

CWOPS, largely an innovation pioneered by NCCC members, continues to grow. The frequent CWOPS tests are very popular and more and more DX participants are joining in.

N6DE's NAQP contest-within-a-contest scheme is an innovation that places a large emphasis on *participation* rather than just QSOs x mults. My guess is that as more of us abandon full time efforts in the longer 24 to 48 hour contests, the contest-within-a-contest scheme will gain even more traction.

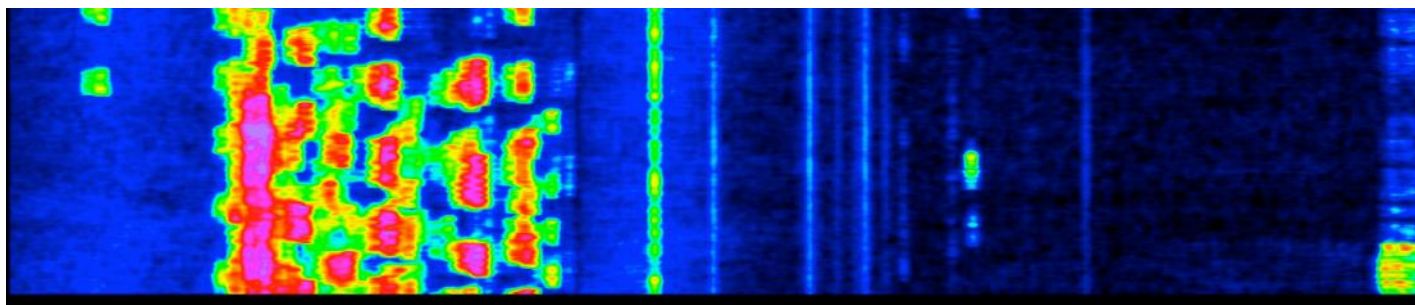
The Locust QSO Party—a joke to some—includes a serious effort to level the contesting playing field. And at least one of the LQP innovations—the secret swarmer—hints at ways that other contests might increase participation by including puzzles or problems to be solved over and above the usual QSO x multipliers format.

Your own NCCC BOD is thrashing out ideas for a new club award—tentatively called the “triple threat award”—that recognizes participation across all three major contesting modes—CW, SSB, and RTTY.

There is much more room for innovation. To quote Ward Silver’s (N0AX) recent post to the CQ-Contest reflector:

I mean, really, we've been playing essentially the same game for upwards of 80 years. Surely there are other useful ways of competing.

In other news, December’s presentation by Ed, W0YX, is a don’t-miss-it (in person or by WebX) presentation of cutting edge RTTY contesting innovations. Ed’s talk comes just a few weeks before NCCC’s next focus contest, the ARRL RTTY roundup.



A panadaptor view of K9W running a JA RTTY pileup. The two green dots on the left are K9W. Everything to the right represents hundreds of JA RTTY ops. Photo courtesy W6SFK

In January we will be meeting jointly with REDXA at the Boulevard Café in Petaluma on a **Wednesday** evening to hear John, K6MM, report on the recent Wake Island DXpedition.

In February, if all works out, Hank, W6SX, will introduce a forum on contesting techniques of the masters.

In March we have our traditional Awards Night at the Tied House in Mountain View.

April is election night. Since elections tend to be foregone conclusions (the serious arm-twisting has already occurred) we will also be having an interesting presentation from W6WO on non-standard propagation modes.

In May, I hope we can venture to the Mother Lode for another joint meeting, but this remains to be finalized.

Finally, here's the text of the note we received from the Foothill De Anza in recognition of our recent memorial contribution in the name of Robert Smithwick, W6CS.

On behalf of the faculty, staff, and students, thank you for your recent memorial gift. Memorial funds are a truly thoughtful way to preserve the vitality of someone special. Excellence, opportunity, and innovation are the hallmarks of Foothill and De Anza colleges and your gift plays an important role in making that possible.

*Robin Lyssenko
Associate Director*

[Below that in handwriting]

Thank you! Dr. Smithwick was a wonderful man—thank you for this lovely gift in his memory.

I hope to see many of you at the December 9 meeting at Harry's Hofbrau.

73,
Alan/K6SRZ

JUG December Deadline

The last date to submit articles for the January JUG is Monday 30th December.

We would welcome articles and information from other reader ! Please submit you material to Ian W6TCP, via email at w6tcpian@gmail.com

CQP—Expeditions

Where did you go? Send your report and pictures to Ian W6TCP @ w6tcpian@gmail.com



The Sweepstakes Experience by AD6E

After a two year hiatus, NCCC members decided to get back in the game this year. This was evident in the member survey done last year in which an amazing 80% of members who responded thought it was time to renew their passion and go after the SS gavel. The flip side of that coin was evident in the very next question in that survey which asked if YOU would help out in organizing an SS effort. There was only one positive response.

As that lone responder, I took the task seriously and tried to find a way for the club to climb back to the top of the SS heap. SS is unusual in contesting from the club perspective since it does NOT require super heros with super stations. What it requires is a massive turnout of member to get active. Our roster is quite bloated with about 550 members. This is the result of many years of zero dues required for continued membership. While that is a debatable question, the fact remains that many of our members joined and then effectively dropped out for one reason or another. Obviously, the key to winning SS is to re-invigorate those lost members and get them active again.

This past summer a gallant crew of volunteers began contacting everyone in the roster. What we found was that almost half the roster couldn't be contacted either by telephone or email. That was surprising and disappointing. Others responded by saying they're no longer interested in contests or out of the hobby all together. Then there were those who responded positively with comments like "thanks for calling, I wasn't going to get on but now I will."

How did all this pan out?

First, our super-heros turned out big time with some amazing scores:

CW S/O HP

* **N6TV** operating from W7RN is claiming #1 S/O HP CW with 1474 QSOs and a score of 244,684.

K6XX is holding on to #15 S/O with 1269 QSOs

WC6H is in 21st place with 1176 QSOs

N6PN is in 22nd place with 1159 QSOs

NU6S is in 26th place with 1119 QSOs

N6BV is in 27th place with 1115 QSOs

* **K7GK** operating from W6JZH is claiming #2 S/O LP CW with 1169 QSOs and a score of 194,054.

* NN7SS (K6UFO) is claiming #1 QRP CW with 787 QSOs and a score of 130,642.

* **N6XI** made the top ten (#9) in U class CW with 1184 QSOs.

K6SRZ is in 11th place with 1154 QSOs

W1SRD is in 15th place with 1116 QSOs

WA6O is in 17th place with 1093 QSOs

N6RO is in 21st place with 1039 QSOs

ND2T is in 25th place with 1010 QSOs

* W6YX is in a commanding lead for #1 school station with 1266 QSOs

* **K6SU** (K2TJ, K2YY, KZ2V) is in 6th place Multi CW with 1007 QSOs operating from W6YX

* KH7LC (AH6RE, KH6LC, NH6V) is in 3rd place Multi LP CW with 1122 QSOs.

On the SSB side:

* **N6BV** (K3EST, N6BV, N6RO) @ N6RO is holding on to 10th place Multi HP with 1670 QSOs.

* W6YX is in 2nd place as a school station with 1392 QSOs

* **WC6H** is in 7th place HP S/O with 1767 QSOs

NU6S (at N6TV) is in 15th place with 1550 QSOs

AE6Y is in 33rd place with 1011 QSOs

* **N6ZFO** is in 10th place for LP S/O with 1039 QSOs (missed one mult)

* NN7SS (K6UFO) has a commanding lead for 1st place QRP with 586 QSOs

* **WX5S** operating from W7RN is holding on to 3rd place U class with 1821 QSOs.

K6SRZ is in 14th place with 1539 QSOs

NS6T is in 31st place with 1009 QSOs

W6OAT is in 32nd place with 1002 QSOs

A hearty congratulations to all for doing so well!

In addition, there were several members who went after even more points than they might have been able to do on their own by doing split operations (This may not be a complete list):

continued on next page

As a club, the SS competition still relies on ALL members showing up and contributing many many

individual logs. It's odd to say that scores don't matter, but it's really the number of logs that matters. This is because even a small log adds to the total – and so lots of small logs can add up to a huge total.

This year we were hoping for more than 200 members to get involved and get on the air. Actual results are disappointing. There were only 137 members who participated in SS this year for the club. On the bright side, 64 members entered a log in both modes.

The club aggregate claimed score stands at just over 16M.
That's 7.8M from SSB and 8.7M from CW

If you check the scores posted on 3830, We see:

Now, not everyone sends their scores to 3830. The NCCC scores from all sources is about 25% higher than reported on 3830. However, I assume PVRC has a similar issue. Therefore I would expect the PVRC total to be around 23M which is on par with what they have been doing for the past several years. Log checking will reduce both by a bit.

I was hoping NCCC could break the 20M threshold this year, but that doesn't appear to be in the cards. To achieve that goal, we would need about 250 logs. And that still would be shy of what PVRC achieved.

The last time NCCC seriously went after the SS gavel, we came up with 286 logs to achieve 20.1M points. In the last two years, that dropped to 198 logs for 14.7M in 2011, and 107 logs for 8.1M last year.

Given that our scores dropped off slowly after we gave up on SS, maybe it will take another year or two to re-gain the momentum we lost. Only time will tell. Look at it this way: We doubled our club score over last year just by saying “we want to do this”.

73,
Alan/AD6E

My Townhome Shack - Byron N6NUL
Two Steps Forward, One Step Back

Regular readers of this column will recall that I like to build as much of my own equipment as possible. There is considerable satisfaction to be had with this approach, and it provides me with a large part of my joy in this great hobby. But, sometimes, there are setbacks. This fall has been full of them, but nothing that cannot be overcome.

Of interest here may be progress on my Moxon Claw antenna. The plan for mounting it to the roof has changed from a movable to a fixed installation. The horizontal "mast" and appropriate mounting plates are being fabricated now. I will also change from my wooded element spreader to stainless steel versions.

There were 2 issues with my wooden structure (of which I was quite proud). Most importantly, once all four 15 foot elements were bolted on, the seemingly sturdy construction looked very fragile and I wasn't sure how I was going to install it all. Of equal importance, but reparable, I erred in the placement of the holes for the mounting brackets: the angle was off by quite a bit.

The angle could be repaired, but even so I think moving towards a metal mount will be better in the long run. While I wait, I can work on my vertical.

Jim K9YC's papers on verticals for Pacificon have been excellent motivation and I have decided to move from an inverted L for 40m and 80m to a 43 foot vertical. This will about double the vertical height of my low band antenna, which should improve its effectiveness. Also, I will replace my extremely poor radial system with a galvanized wire ground cloth setup, but instead of just replacing the vertical portion of my "L" with aluminum, I'll just keep going up.

Since I have vertical antennas on the brain thanks to Jim, I will also try a vertical beam during Decembers ARRL 10m contest expedition. When you can only count on 1 tree of any size, verticals are very easy to set up alone. I want to try a couple of different styles before Field Day and perhaps CQP next year but for the 10m contest, I'll give the antenna in figure 1 a go; I've left in Mr. Moxon's list of the disadvantages of this style beam just so you know I'm not expecting miracles.

But, hang on! An expedition in December? Well, yes. The State Parks are mostly deserted this time of year, and it's a wonderful time to try new things. You just need to prepare for the weather a bit more carefully!

Happy Contesting,

73, Byron N6NUL
byron@n6nul.org

VERTICAL BEAMS 227

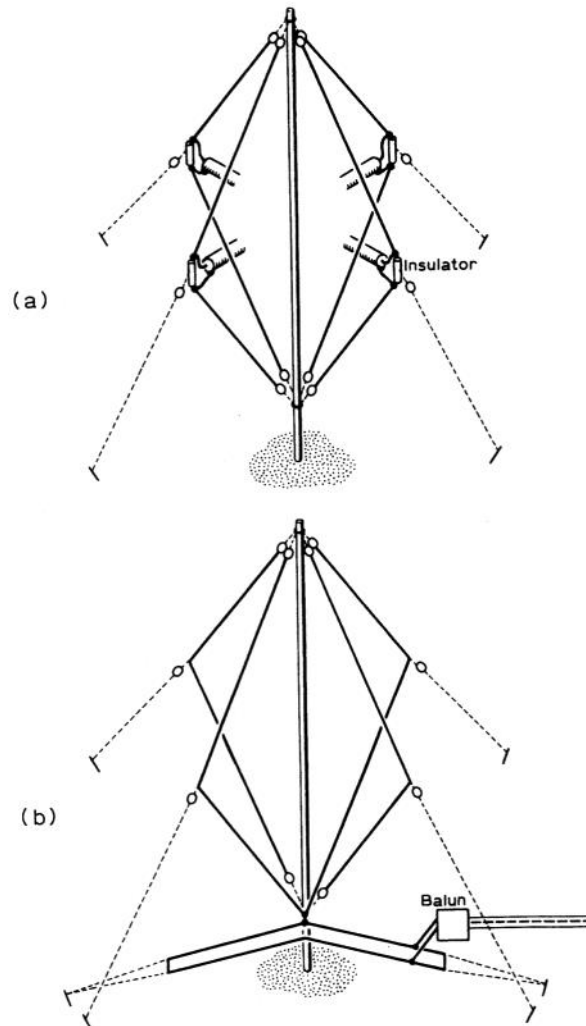


Fig 13.8. This array uses four vertical half-loops suspended from a single pole, with the top portions of the loops forming part of the guy-wire system. In the preferred arrangement, diagonally opposite pairs are fed in phase as the driven element, the other two elements being tuned as reflector and director. The equivalent quad configuration, analogous to Fig 13.3(b), may also be used. For 360° directional switching the four feeders may be brought into the shack or a 'switchbox' may be mounted on the mast. The arrangements shown in Fig 13.2(a) and (b) can also be adapted, assuming access to the lower end and the use of plug-and-socket connections

Inevitably this suffers from the disadvantages of X-beams in general (p95) and, referring to Fig 5.4, the shape of the published radiation pattern suggests a phase-angle ratio ϕ/ϕ_0 of 1.8, corresponding to a gain of only 3dB. If it is necessary to lose an S-point anyway, it seems to the author that given the choice one might as well combine it with the advantages of low height and, incidentally, vastly greater reductions of rear and minor lobes, assuming the results of the computer study [2] to be applicable despite the bends in the elements.

Operating the California QSO Party from Tuolumne County N6G

Early in 2013 Ian W6TCP and Arnold KQ6DI began some discussions on setting up an expedition class station for the California QSO Party (CQP). (An expedition class station is one that is set up specifically for the contest.) The first order of business was to find a site, and a cabin was available in Tuolumne County near Yosemite. The first weekend in March, Ian and Arnold made a field trip to the cabin to confirm that it was a reasonable place, and it was. The first hint of misfortunes to come was that a shed for a cabin 200 feet away burned down during a lightning storm in November 2012. The lightning scars on the nearby trees were clearly visible, as was the track the lightning took across the dirt to get to this shed. Interesting and powerful stuff.

The group of cabins was built in the late 1910's as housing for a lumber camp, and they were built as temporary buildings. They now have water and propane, but no electricity. The nearest electricity is one mile away, so there is very little man-made electrical noise, but we would need to bring our own generators for power.

With a site selected we added John WB6ETY and Eric KG6BZT to the operations. Planning continued throughout the year with equipment lists created and missing items acquired. We needed a beam antenna for 10, 15 and 20 meters, so Ian decided to get a HEXBeam antenna by K4KIO. There was an underused trailer with a tower, so Ian began preparing the trailer for the HEXBeam.

Just when all of the plans were coming together nicely, the Rim Fire began. Surely this wouldn't be an issue because it was nearly 10 miles and 2 river canyons away. Four days after the Rim Fire began, the area of the cabins was evacuated. Three days later, the fire was at the edge of the cabins. Firefighters spent two days protecting the cabins from the firestorm which apparently also caused high winds while they were doing their best to protect the cabins. All the cabins were saved, but speculation from the cabin owners was that everyone would be kept out of the area for several months; well beyond CQP. A plan B site needed to be found so Eric volunteered his family's cabin in El Dorado County. We were relieved to have an alternative site in place in the event that the original cabin was not available in time for CQP.

The fire came within 100 yards of the cabins in Tuolumne County, and completely encircled the area. Two weeks after the fire passed the area and two weeks before CQP, $\frac{3}{4}$ " of rain fell, but that wasn't enough to put out smoldering trees and stumps. At the time of CQP, there were still things smoking and occasional tree stumps would catch fire even though the fire had passed over the area five weeks before. We were relieved that access to the cabin in Tuolumne County was allowed and we could operate as planned. [As I'm writing this in early November, some of the cabin owners are continuing to put out nearby stumps and smoldering debris.]

Ian, Eric and Arnold planned on arriving on Wednesday before CQP to start setting up. The best laid plans... Ian's work informed him that he would be at work Thursday and Friday. Eric came down with a cold, and it was mutually decided that he would stay home until he was better and not share his cold. Ian drove up Wednesday morning and set up the HEXBeam antenna, tower and station with the help of Arnold.

Ian headed home Wednesday evening, after having pizza in Groveland. Thursday Arnold managed to put an 80 meter OCF dipole antenna 40 feet up in the trees to cover 40 and 80 meters. John arrived Thursday afternoon. On Friday Arnold and John set up a ¼ wave 40m vertical. Cathi KG6YYY, Chelsea KK6DIP, Eric and Ian arrived Friday afternoon. This didn't leave us with a lot of time for any final details to be worked out, but we got things ready for CQP Saturday morning.



Assembling the HEXBeam

One of our primary goals was to have an enjoyable time. If that meant we would turn off the radios and go for a hike, then that's what we would do. We were in a good location with good equipment, so we expected to do well, but our goal was not for the number of QSOs, but for an enjoyable experience. We were operating for about 20 hours of the contest.

This was Chelsea's first time on HF and had a control operator always present to help her. She very quickly became adapt at making calls and logging.

Our operating equipment was an Elecraft K3, KPA500 amplifier, KAT500 Auto-Tuner and Antenna Switch, a 40 foot trailer tower with HEXBeam K4KIO antenna, a OCF dipole by Hamwaves for 40 & 80 meters, a Honda 3500 watt generator and a Honda 2000 watt inverter generator. N3FJP Logging Software was used and worked well for our Multi-operator, Single-radio operation.

Cathi KG6YYY planned the meals, purchased the food and was in command of the kitchen for most of the meals. This kept costs lower, made the best use of the kitchen facilities available and made for higher quality meals than we could do as individuals.

The food was way more than acceptable and adequate; it was great and amazing; way better than at any radio expedition that we've ever been on. Having meals together, often shutting down the radio, was very enjoyable.



N6G Station— Elecraft K3, KPA500, KAT500

Thanks to Cathi and Chelsea for all of their planning, preparation, and cleanup efforts.

N6G—Menu

Thursday

Breakfast – French Toast, Bacon, Juice, Fruit

Lunch – BBQ Bratwurst, Potato salad, Chips, Sauerkraut

Dinner – Lasagna, Salad, Garlic Bread

continued on next page

Friday

Breakfast – Eggs, Bacon, Juice

Lunch – Assorted lunch meats, Cheese on Rolls, Chips

Dinner - Chicken Enchilada Casserole, Lime Cilantro rice,
Mexican Ranch salad

Saturday

Breakfast – Fried pancakes, Sausage, Juices

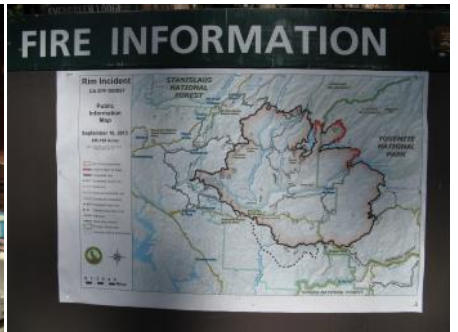
Lunch – Hamburgers, Potato salad & Chips

Dinner – BBQ Chicken, Garlic potatoes, Corn

Sunday

Breakfast – Frittata Scramble

Lunch – Chicken-n-Pork Stoup





From left to right: John WB6ETY, Eric KG6BZT, Chelsea KK6DIP, Arnold KQ6DI



Above— Burnt Trees on Evergreen Road

<

Dotted Red line shows how close the fire line was to the 40M vertical.



N6G Team (from Left to Right) Eric KG6BZT, Ian W6TCP, John WB6ETY, Chelsea KK6DIP, Arnold KQ6DI

Apart from very nearly losing our CQP location we met the primary goal of CQP and had an enjoyable time. Thanks to all the stations that worked us.

The N6G Team.

CALIFORNIA
QSO PARTY

49th Running Of The CQP!

October 4-5, 2014

1600 UTC Oct 4 to 2200 UTC Oct 5



Contest Calendar—December page 1

SARL Digital Contest	1300Z-1600Z, Dec 1
ARS Spartan Sprint	0200Z-0400Z, Dec 3
QRP Fox Hunt	0200Z-0330Z, Dec 4
NRAU 10m Activity Contest	1800Z-1900Z, Dec 5 (CW) and 1900Z-2000Z, Dec 5 (SSB) and 2000Z-2100Z, Dec 5 (FM) and 2100Z-2200Z, Dec 5 (Dig)
NCCC RTTY Sprint	0130Z-0200Z, Dec 6
QRP Fox Hunt	0200Z-0330Z, Dec 6
NCCC Sprint	0230Z-0300Z, Dec 6
ARRL 160-Meter Contest	2200Z, Dec 6 to 1600Z, Dec 8
TARA RTTY Melee	0000Z-2400Z, Dec 7
Wake-Up!QRP Sprint	0600Z-0629Z, Dec 7 and 0630Z-0659Z, Dec 7 and 0700Z-0729Z, Dec 7 and 0730Z-0800Z, Dec 7
VU International DX Contest	1200Z, Dec 7 to 1200Z, Dec 8
SKCC Weekend Sprintathon	1200Z, Dec 7 to 2400Z, Dec 8
TOPS Activity Contest	1600Z, Dec 7 to 1559Z, Dec 8
EPC Ukraine DX Contest	2000Z, Dec 7 to 1959Z, Dec 8
AWA Bruce Kelley 1929 QSO Party	2300Z, Dec 7 to 2300Z, Dec 8 and 2300Z, Dec 14 to 2300Z, Dec 15
Ten-Meter RTTY Contest	0000Z-2400Z, Dec 8
CQC Great Colorado Snowshoe Run	2100Z-2259Z, Dec 8
NAQCC Straight Key/Bug Sprint	0130Z-0330Z, Dec 11
QRP Fox Hunt	0200Z-0330Z, Dec 11
CWops Mini-CWT Test	1300Z-1400Z, Dec 11 and 1900Z-2000Z, Dec 11 and 0300Z-0400Z, Dec 12



Contest Calendar—December page 2

QRP Fox Hunt	0200Z-0330Z, Dec 13
NCCC Sprint	0230Z-0300Z, Dec 13
ARRL 10-Meter Contest	0000Z, Dec 14 to 2400Z, Dec 15
International Naval Contest	1600Z, Dec 14 to 1559Z, Dec 15
QRP ARCI Holiday Spirits Homebrew Sprint	2000Z-2359Z, Dec 15
Run for the Bacon QRP Contest	0200Z-0400Z, Dec 16
NAQCC-EU Monthly Sprint	1800Z-2000Z, Dec 16
NAQCC Straight Key/Bug Sprint	0130Z-0330Z, Dec 18
QRP Fox Hunt	0200Z-0330Z, Dec 18
Lighthouse Christmas Lights QSO Party	0001Z, Dec 20 to 2359Z, Jan 1
QRP Fox Hunt	0200Z-0330Z, Dec 20
NCCC Sprint	0230Z-0300Z, Dec 20
Russian 160-Meter Contest	2000Z-2400Z, Dec 20
AGB-Party Contest	2100Z-2400Z, Dec 20
OK DX RTTY Contest	0000Z-2400Z, Dec 21
Feld Hell Sprint	0000Z-2359Z, Dec 21
Croatian CW Contest	1400Z, Dec 21 to 1400Z, Dec 22
ARRL Rookie Roundup, CW	1800Z-2359Z, Dec 22
SKCC Sprint	0000Z-0200Z, Dec 25
QRP Fox Hunt	0200Z-0330Z, Dec 25
DARC Christmas Contest	0830Z-1059Z, Dec 26
QRP Fox Hunt	0200Z-0330Z, Dec 27
NCCC Sprint	0230Z-0300Z, Dec 27
RAC Winter Contest	0000Z-2359Z, Dec 28
World Wide Iron Ham Contest	1200Z, Dec 28 to 1159Z, Dec 29
Original QRP Contest	1500Z, Dec 28 to 1500Z, Dec 29
Stew Perry Topband Challenge	1500Z, Dec 28 to 1500Z, Dec 29
RAEM Contest	0000Z-1159Z, Dec 29

12 STORE BUYING POWER

ANAHEIM, CA
(Near Disneyland)
933 N. Euclid St., 92801
(714) 638-7373
(800) 854-6046
Janet, KL7MF, Mgr.
anaheim@hamradio.com

BURBANK, CA
1525 W. Magnolia Bl., 91506
(818) 842-1786
(877) 892-1748
Eric, K6EJC, Mgr.
Magnolia between
S. Victory & Buena Vista
burbank@hamradio.com

OAKLAND, CA
2210 Livingston St., 94606
(510) 534-5757
(877) 892-1745
Nick, AN6DX, Mgr.
I-880 at 23rd Ave. ramp
oakland@hamradio.com

SAN DIEGO, CA
5375 Kearny Villa Rd., 92123
(858) 560-4900
(877) 520-9623
Jerry, N5MCJ, Mgr.
Hwy. 163 & Claremont Mesa
sandiego@hamradio.com

SUNNYVALE, CA
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Jon, K6WV, Mgr.
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sunnyvale@hamradio.com

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(800) 644-4476
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(602) 242-3515
(800) 559-7388
Gary, N7GJ, Mgr.
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(800) 444-7927
Mark, KJ4VO, Mgr.
Doraville, 1 ml. no. of I-285
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22191
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(800) 444-4799
Steve, W4SHS, Mgr.
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virginia@hamradio.com

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(Near Boston)
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TS-2000 HF/VHF/UHF TCVR

- 100W HF, 6M, 2M • 50W 70CM • 10W 1.2GHz w/ opt UT-20 module • Built-in TNC, DX packet cluster
- IF Stage DSP • Backlit front key panel



TM-281A 2 Mtr Mobile

- 65 Watt • 200 Memories • CTCSS/DCS • MH-Std specs • Hi-quality audio



TS-590S HF + 6M Transceiver

- 100W HF + 6M • 500 Hz & 2.7 KHz roofing filter
- Built-in auto tuner • Best dynamic range in class
- 32 bit DSP

TH-F6A 2M/220/440

- Dual channel receive • .1 - 1300 MHz (cell blocked) RX • FM, AM, SSB • 5W 2M/220/440 TX, FM • 435 Memories
- Li-Ion Battery



TM-V71A 2M/440 Dual Band

- High RF output (50W) • Multiple Scan • Dual receive on same band (VxV, UxU) • Echolink® memory (auto dialer) • Echolink® Sysop mode for node terminal ops

ICOM

IC-7000 All Mode Transceiver

- 160-10M/6M/2M/70CM
- 2x DSP • Digital IF filters
- Digital voice recorder
- 2.5" color TFT display



ID-51A VHF/UHF Dual Band Transceiver

- 5/2.5/1.0/0.5/0.1W Output • RX: 0.52-1.71, 88-174, 380-479 MHz** • AMV FM/FM-N/WFM/DV • 1304 Alphanumeric Memory Chis • Integrated GPS • D-STAR Repeater Directory • IPX7 Submersible



IC-7600 All Mode Transceiver

- 100W HF/6M Transceiver, gen cov. receiver • Dual DSP 32 bit • Three roofing filters - 3, 6, 15kHz • 5.8 In WQVGA TFT display • Hi-res real time spectrum scope



IC-V8000 2M Mobile Transceiver

- 75 watts • Dynamic Memory Scan (DMS)
- CTCSS/DCS encode/decode w/ tone scan • Weather alert • Weather channel scan • 200 alphanumeric memories

ID-880H Analog + Digital Dual Bander D-STAR

- D-STAR DV mode operation • DR (D-STAR repeater) mode • Free software download • GPS A mode for easy D-PRS operation • One touch reply button (DV mode) • Wideband receiver



YAESU
The radio



FTDX-3000 100W HF + 6M Transceiver

- 100 Watt HF/6 Meters • Large and wide color LCD display • High Speed Spectrum Scope built-in • 32 bit high speed DSP/Down Conversion 1st IF



FT-7900R 2M/440 Mobile

- 50W 2M, 45W on 440MHz • Weather Alert • 1000+ Memories • WIRES capability • Wideband receiver (cell blocked)

FT-60R 2M/440 5W HT

- Wide receiver coverage • AM air band receive • 1000 memory channels w/alpha labels • Huge LCD display • Rugged die-cast, water resistant case • NOAA severe weather alert with alert scan



FT-450D 100W HF + 6M Transceiver

- 100W HF/6M • Auto tuner built-in • DSP built-in
- 500 memories • DNR, IF Notch, IF Shift



FT-857D Ultra Compact HF/VHF/UHF

- 100W HF/6M, 50W 2M, 20W UHF • DSP included
- 32 color display • 200 mems • Detachable front panel (5K-87 required)

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