



**Publication of the  
Northern California  
Contest Club**



Issue 524

January 2016



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**NCCC Meeting**

**Sunday 31st January 2016**

**Location:**

Back 40 BBQ  
100 Coggins Drive  
Pleasant Hill

**Featured contesting topic:**

RTTY Round Up / Wrap-Up / Workshop (try to say that out loud and fast!) featuring W0YK / WK6I / N6WS and others

[See page 14 for details](#)

**President's Report**

Hello KB'ers!

Well, when I saw the near-final total of claimed scores for the ARRL RTTY Round Up, I just said to myself, "Now that's what I'm talking about!".

This club absolutely kicked butt in the first weekend of January. My current count shows about 3.8M as a club total and I'm still missing a few scores. The log count is 66, which is a very respectable number of logs for any club submitting in the Unlimited Category for RTTY Roundup.

We'll talk about celebrating once we see the final results, so we won't get our hopes too far up at this point.

Looking at claimed scores, and logs submitted, this is going to be a 4-club race in the Unlimited Category this year, and that might just be the first time this has happened.

The four clubs are:

- Northern California Contest Club
- Potomac Valley Radio club
- Society of Midwest Contesters
- Minnesota Wireless Association



## Officers:

President	Bob Hess	W1RH	w1rh@yahoo.com
Vice President /Contest Chair	Steve Dyer	W1SRD	w1srd@arrl.net
Treasurer	Dick Wilson	K6LRN	treasurer.nccc@gmail.com
Secretary	Joanna Dilley	K6YL	secretary.nccc@gmail.com
Past President	Rick Karlquist,	N6RK	richard@karlquist.com
Director	Rusty Epps	W6OAT	w6oat@sbcglobal.net
Director:	Rich Cutler	WC6H	wc6h@yahoo.com
Director:	Ron Castro	N6IE	ronc@sonic.net

## Volunteers:

New Member Mentor	Al Rendon	WT6K	wt6k@arrl.net
Charter Member	Rusty Epps	W6OAT	w6oat@sbcglobal.net
Awards Chair	Joanna Dilley	K6YL	joanna.k6yl@gmail.com
CQP Chair	Kevin Rowett	K6TD	k6td@arrl.net
CQP Certificates	John Miller	K6MM	k6mm@arrl.net
K6ZM QSL Manager	George Daughters	K6GT	k6gt@arrl.net
K6CQP,N6CQP,W6CQP QSL Mgr	Ed Muns	W0YK	w0yk@arrl.net
NCCC Email reflector Admin	Phil Verinsky	W6PK	kb-w6tqg@verinsky.com
Webmaster	John Miller	K6MM	k6mm@arrl.net
Webinars	Chris Hoffman	KG6O	choffma@gmail.com
JUG Editor	Ian Parker	W6TCP	w6tcpian@gmail.com
jug@nccc.cc			



### NCCC Net

Thursday 8 PM  
 Freq: 3.610 +/-

### NCCC

Visit the meetings page of the NCCC website [here](#) for details of the next meeting

## 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).

Here's the log count and known claimed scores:

Club	Logs	Known Claimed Scores
NCCC	66	3.8M
MWA	72	2.1M
SMC	51	2.1M
PVRC	50	2.2M

Our score is just huge and one of the highest numbers NCCC has ever done in the ARRL RTTY Roundup.

Our KB'ers deserve recognition, so here they are:

AF6SA	K2RD	K6CTA
K6DN	K6ELE	K6EU
K6GHA	K6GT	K6KNS
K6LE	K6LRN	K6MM
K6MR	K6NV	K6OK
K6RB	K6RIM	K6SU (KZ2V, N6DE)
K6TIG	K6TU	K6UFO (K6UFO, W6RK, N6DB)
K6XV (@N6VV)	K6XX	K9JM
K9YC	KA6W	KE6QR
KM6I	KR6N	N2NS
N6DZR	N6EE	N6GY
N6IE	N6JV	N6NG
N6NU	N6OJ	N6RK
N6WM@N6RO	N6XI	N6ZFO
NA6O	ND2T	NN6NN (W6XK)
NW6P (NW6P, WX5S)	W1RH	W1SRD
W6BB (DG1CMZ)	W6DR	W6EU
W6GJB	W6KPO (@N6DQ)	W6OAT
W6RKC	W6SFK	W6SR
W6SX	W6YX (N7MH)	W7RN (WK6i)
WA6OSX	WB6JJ	WC6H
WD6EIW	WX6V	WX7M (K7XC)

AA6K also deserves a big thanks for flogging this one.

Bottom line: This club can win big when we want to!

So what's next? Well, while NAQP has not been a prime focus for the club this year, our members are still turning out in force for one of my favorite contests. A big thanks to everyone who has participated in the January CW and SSB contests and also thanks go out to Fred, K6DGW for doing the flogging.

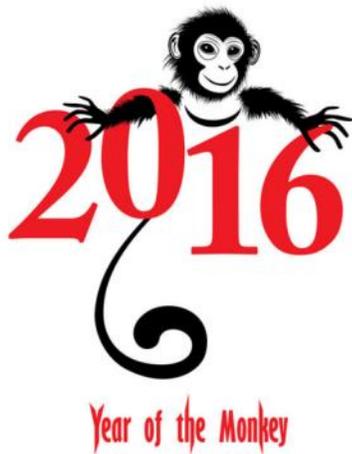
Where were going from here will be determined soon. MLDXCC and PL259 have proven this year that a West Coast club can win SS when they really get organized and really WANT to win. Will NCCC go for the gavel in 2016? Stay tuned.

Bob W1RH

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## K7UI's Reno Log Periodic.





From February 1st through February 14th, the K6MMM monkeys are hosting a Special Event to celebrate the Lunar (Chinese) New Year 2016: **The Year of the Monkey**. The callsign K6M (M is for Monkey) has been reserved for this event.

Check out <http://www.qrz.com/db/k6m> for details.

All interested hams are invited to “Be a Monkey” for an hour or more, and operate as K6M from the KE1B QTH. Operation will be on 80 through 6 meters, with your choice of band and mode (CW, SSB, RTTY).

Available radios include the Icom IC-7600 or brand-new Elecraft K3S, operating at legal limit on 160-6m (700W on 6m), with great antennas on a mountaintop QTH. Pick your favorite band and mode and have at it. This will be a casual event, much less hectic than the W1AW/6 operation, so even armchair ops can have fun and be a monkey for a while.

To sign up for a slot, simply go to <http://tinyurl.com/oeehzth> and follow the instructions. This page has been set to allow editing by anyone, but let me know if you experience any problems.

Bananas (and other refreshments) will be available during the event, and anyone making 25 or more QSOs will get a K6MMM mousepad. (Hooo! Hooo! Hooo!)

Rich KE1B



## Eric KU6J SK



"The untimely passing of Eric June KU6J of Truckee has left many of us stunned. Eric was a friend to all, brilliant, intensely active, a mensch. He encouraged me to sample his SOTA passion and went with me on my first (and, so far, only) SOTA activation at Northstar. I always envied his energy and strength, not just in business and ham radio but in climbing and skiing as well. He was looking forward to finding a successor leader for his software business so he could retire (young). He lived a few miles away in Truckee. I borrowed a connector from him just a few weeks before his passing and had no inkling that anything was (or ever could be) wrong. This is a terrible loss. My condolences to his family and to his many friends and acquaintances in ham radio, the software industry, and beyond." -- Rick N6XI

"I have known him for over 13 years and saw him just a few months ago at the October, 2015 NCCC Sierra Chapter BBQ at N6XI in Truckee. We had great conversation with Eric and many of the hams at the BBQ.

"I had spent many a contest and field day with Eric. He originally got into ham radio as an adult with a Technician no code license because he was into hang gliding and utilized 2 meters with other hang glider pilots and the ground crew. Eric later got into CW, upgraded to Extra and was an excellent CW op on the HF bands, as well as VHF weak signal operation.

"Eric was a brilliant software engineer and owned a significant software company. He was known for being quite active in SOTA and wrote a special program to interface SOTA activations to the CW RBN network that automatically sends out spots. What a wonderful way, as a SOTA Activator, to get spotted as soon as you get started on a hilltop.

"Most of all, Eric KU6J was a super friendly guy whom you just enjoyed hanging around with.

"RIP, Eric KU6J ... SK" -- Barry K6ST

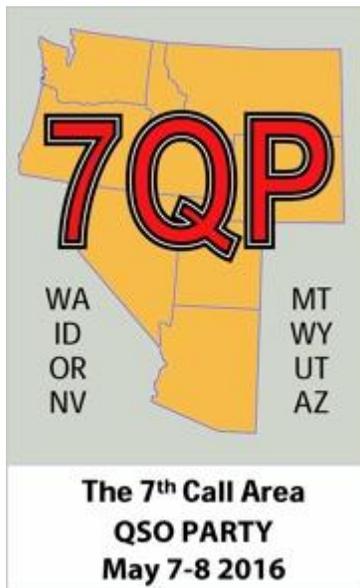


# Sierra Chapter NCCC October 2015 at N6XI BBQ



Left to Right Eric KU6J, Mike WA6ZTY, Todd KH2TJ (Green shirt) Tom K6EU (Blue cap)

**RIP Eric KU6J**



## **7QP will be May 7-8, 2016**

The 11th running of 7QP will be May 7-8, 2016. I am proud to have been one of the founders of 7QP as it is now the third largest state/regional QSO party in the Country.

I am also contrite in not having the time over the last few years to effectively be the Nevada State coordinator and solicit everyone to get on and activate all 17 counties.

- It is a fun one-day operating event where you are the DX
- It is an excellent opportunity for emergency communications preparedness
- It is a great way to “see Nevada” with County mobile or portable DX-Peditions

Full rules are at <http://ws7n.net/7QP/new/Page.asp?content=rules>

I will act as NV coordinator so please send me your plans and I will maintain a master list of who is covering which counties. It is really a fun activity for your Club or ARES group.

We will also sponsor a multiop at W7RN – NVSTO

Please freely distribute this information

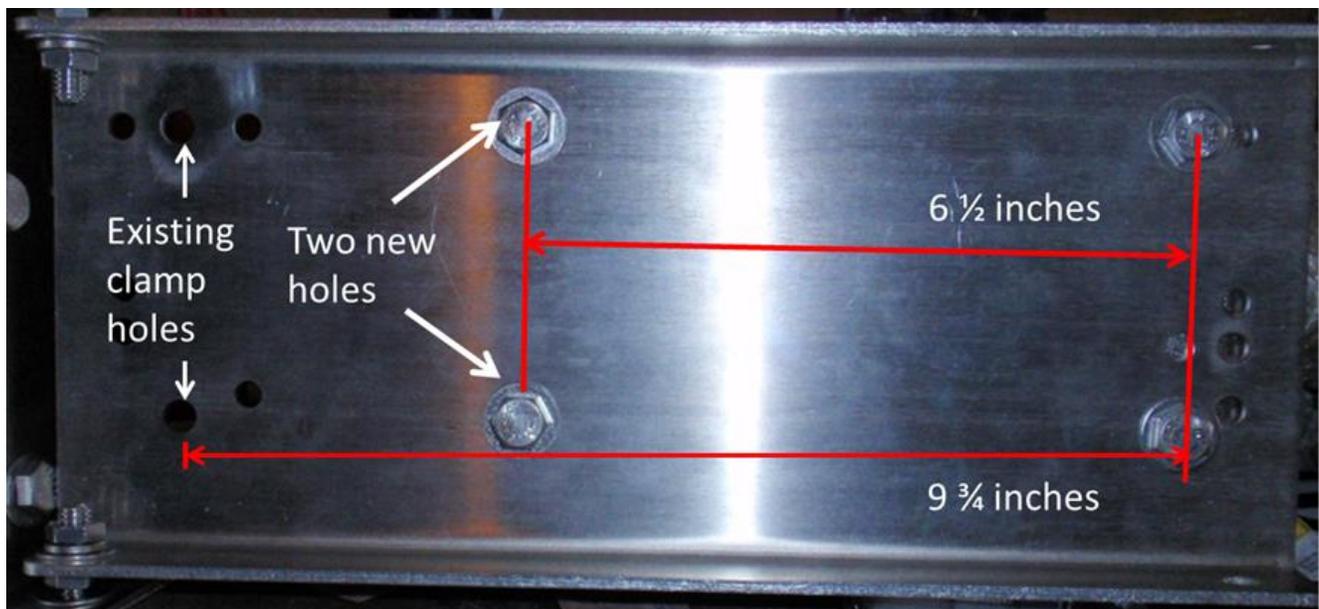
Tom Taormina, K5RC  
Comstock Memorial Station, W7RN  
Storey County ARES, KS7AA

[www.w7rn.com](http://www.w7rn.com)  
[775-847-7929](tel:775-847-7929)

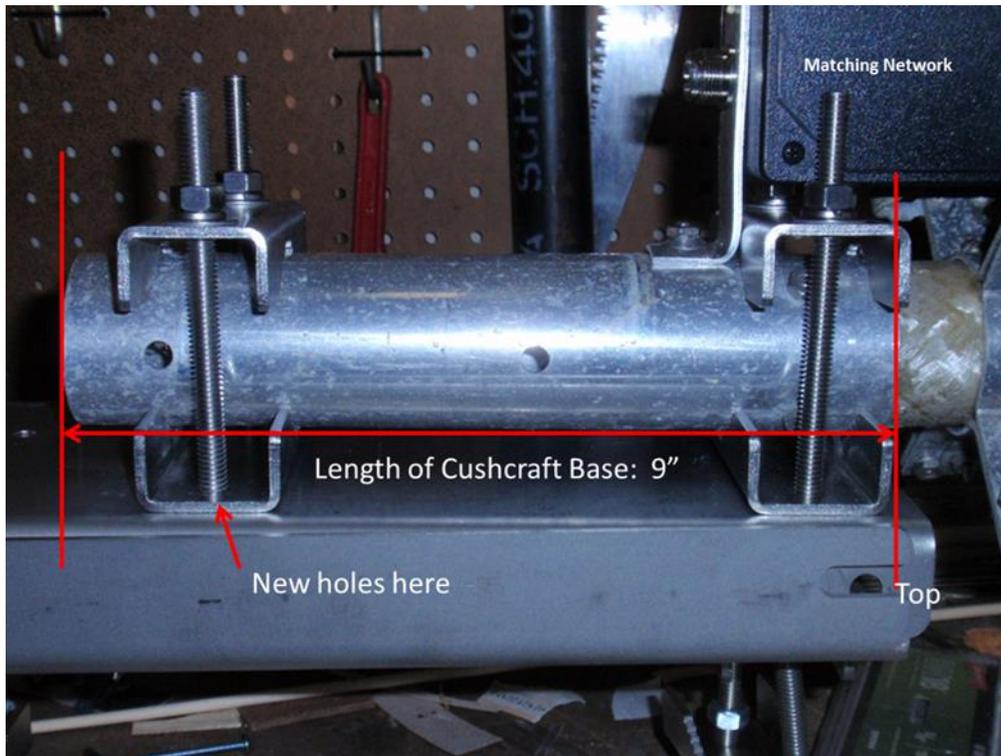
# Using the DX Engineering OMNI-TILT™ Vertical Antenna Tilt Base with Cushcraft R7, R8, R9 Series Antenna

Bob Frosthalm KO6LU

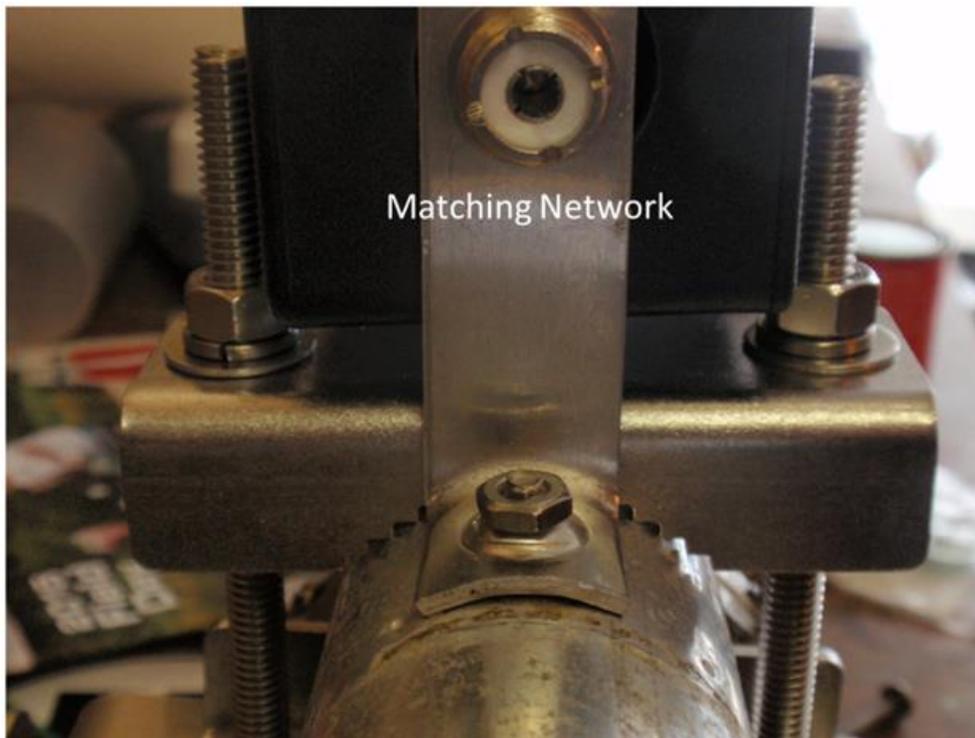
After receiving the DXE-OMNITILT-1P, I was disappointed to note that the predrilled holes on the front plate were insufficient to allow attachment of the standard R7, R8, R9 Cushcraft vertical Base Assembly. The manual describes the predrilled holes in the Base as suitable for several Hustler and Hy-Gain models, but not the Cushcraft. That's a shame because all that is required is to drill two additional holes on the front plate as shown below. Drilling holes in this stainless steel plate yourself is extremely difficult. After considerable effort, I added two new mounting clamp holes 6 ½ inches below the top set of mounting clamp holes.



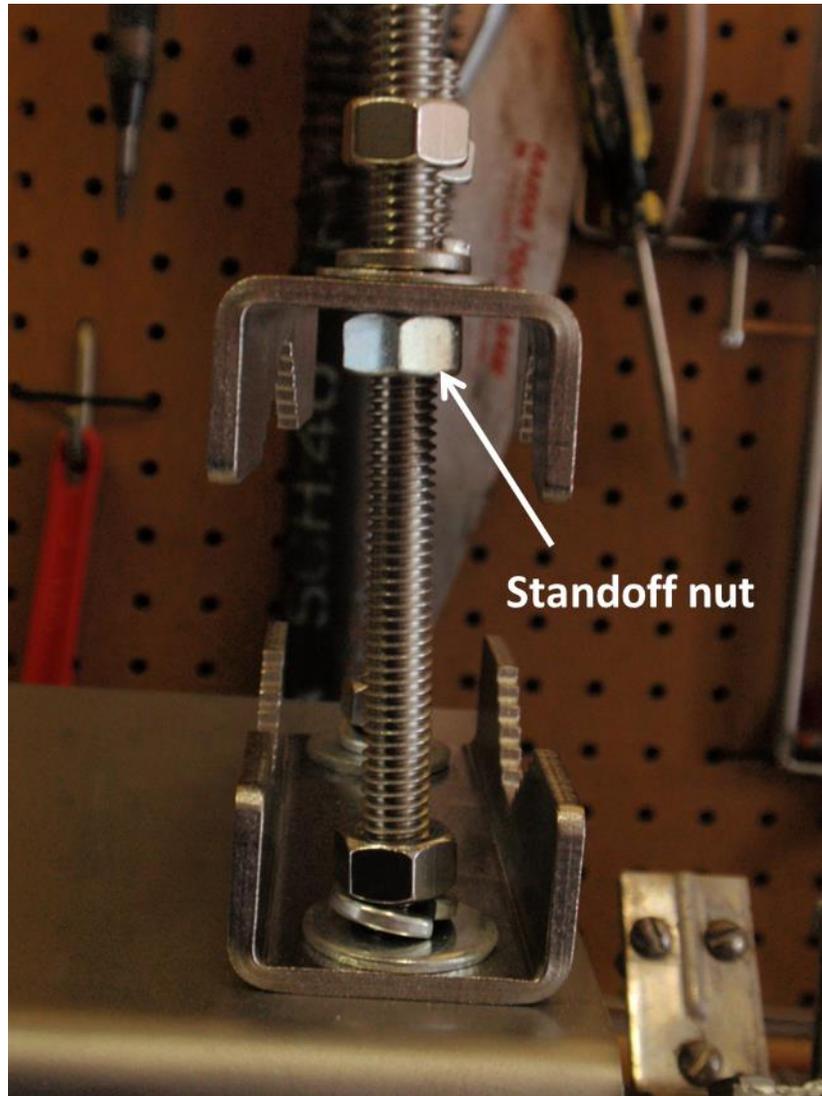
The reason these two new holes are required is that the aluminum base of the R7, R8, R9 is only 9 inches long; insufficient reach to the mounting clamps if they were to be mounted to the existing holes which are 9 ¾ inches apart.



I decided to preassemble the Cushman base assembly with the front plate as a first step. I discovered that the Cushman matching network box nestles nicely between the upper clamp bolts with perfect clearance for nuts and washers making the assembly a nice, compact design.



Then I attached the Tilt Base back plate. I added standoff nuts to separate the mounting clamps, making it easier to slip the assembly over the ground pipe support for the antenna and tilt base. Once the assembly has been slipped over the ground pipe, I used my fingers and retract the nuts out of the way, toward the tilt base, so the clamps can be securely tightened to the support pipe.



Once this preassembled piece was installed but not yet fully tightened to the support pipe, it was easy to rotate it to orient the direction of the tilt to best fit my terrain (well, in my case, it was to avoid a collage of solar panels on 4 sections of my roof). Once properly oriented, I then tightened it and lowered the Cushcraft base assembly to a horizontal position and attached the balance of the R9 that I had pre-assembled. Then, with assistance of some friends, we moved the vertical and its guy cables to a full and upright position.



Thanks to very little wind resistance, I was able to attach the nylon guys to the roof's fascia boards with special blocks I made to avoid the cables rubbing against the edge of the roof's shingles.



The blocks are scrap 2x4 lumber. The eye bolt was selected to be long enough to clear the roof.



## **NCCC January Meeting**

**Date:** Sunday, January 31st

**Time:** 11:30 - 2:30 PM

**Location:**

Back 40 BBQ

100 Coggins Drive

Pleasant Hill

<https://www.google.com/maps/place/Back+Forty+Texas+BBQ+Roadhouse+%26+Saloon/@37.93335,-122.058084,16z/data=!4m2!3m1!1s0x0:0x7e4a9dd40d1a6adf?hl=en>

**Featured contesting topic:**

RTTY Round Up / Wrap-Up / Workshop (try to say that out loud and fast!) featuring W0YK / WK6I / N6WS and others

**Food:**

All-you-can-eat BBQ buffet includes:

Smoked beef brisket

Hand carved smoked turkey breast

House field green salad with assorted dressings

Country potato salad

Texas style BBQ beans

Ranch rolls

Assorted cookies

Soda / tea / fresh brewed coffee

**Cost:**

\$22/person

RSVP Mandatory!!! - w1rh@yahoo.com (confirmed RSVP's will be posted on the reflector)



## Ten RTTY Roundup 2016 Comments by Dean N6DE

I promised comments from the K6SU RTTY Roundup summary (M/S ops KZ2V and N6DE).

Here are my 10 comments on RTTY Roundup 2016:

1. The W6YX station had three simultaneous stations active for the RTTY Roundup. In total, we contributed over 475k points to the NCCC for the RTTY Roundup club competition. I believe this is the highest ever contribution to NCCC's RTTY RU score from one station. KZ2V calculated that we had a combined average of 174 QSOs per hour for all 24 hours. In addition, W6LD and ND2T usually operate at W6YX for this contest, but operated at their home stations to give more points to NCCC, and contributed another 81k points. This totals over 557k points for NCCC. What awesome teamwork!

2. After not contesting much in the last few years, participating again was really energizing. It was terrific to contest again with K6UFO, N7MH, N6DB, KZ2V and W6RK. All great guys and superb operators. It was a great reunion! I'll look forward to catching up with W6LD and ND2T in a future contest.

3. It had been three years since I operated a RTTY contest. There are a lot of things that are the same, and some that are different.

4. W0YK, AA5AU, WK6I and K6UFO are still unquestionably the leaders of the RTTY contesting community from combined perspectives of all their volunteer contributions to the community as well as being outstanding RTTY contesters.

5. RTTY Roundup is still one of the most fun contests of the year. It's the same contest with the same strategy. It's easy to get intoxicated with all the domestic activity, so I also enjoyed CQing toward Asia on 15m and 40m, and working EU on 15m and 20m.

6. There is now a S/O-Assisted category in this contest, and a lot of people are entering in this category. ARRL made the right decision. RTTY Skimmers are prolific now. Even N6TV had a RTTY Skimmer running (which was very useful; thanks Bob). I was amazed by the S&P rate I could achieve by just using RTTY Skimmer spots in my band map. However, some DX stations (8P2K, for example) were having the hardest time running pileups and trying to extract a callsign out of their instant RTTY Skimmer multiplier pileups.

7. There is a lot of talk now about the 2Tone decoder. I didn't get a chance to try it. Maybe next time. More decoders and profiles are great, but it also still helps to use your brain in conjunction with any decoder to determine who is calling you. There won't be perfect copy. Use the SCP in your brain, along with your check call window, your knowledge of how numbers translate when you miss a shift, your ability to determine the difference between QRM and a station calling you off frequency, your ability to quickly use RIT in the right direction if you aren't using AFC when CQing, and your ability to piece together bits of a callsign and also separate multiple callsigns, your ability to use stacking / TU NOW by "slowing down to speed up" (trademark W0YK), and your awareness of how the signal sounds when it's a local multipath signal so you can put on your NCCC SCP and look for a callsign in what is mostly gibberish on the screen.

8. There are fewer stations transmitting with reversed polarity. Just one station called me upside-down and I informed him about it. There are just as many stations calling off frequency, if not more than ever. It seems like AFC on during S&P still remains a common mistake.

9. There is more hostility than there used to be from some of the other digital modes in the .070-.079 area of the band. Some of these people are becoming like the SSTV crowd around 14.230 trying to defend their turf.

10. MWA does a really good job getting their members on the air for this contest. In the K6SU log, CA was the most common mult (110 QSOs), followed by MN (101 QSOs). No other mult was close. (TX at 68 QSOs was the next closest)

73...

-Dean – N6DE

## Point Generator Profile

Bob, KO6LU is our NCCC Point Generator this month. You've heard Bob in the CQ WPX contests along with the NAQP's and the ARRL RTTY Roundup. His New Year's resolution is to be even more active this year.

**Name/Call Sign:** Bob Frosthalm KO6LU (Advanced Class)

**Past calls:** WA6BVP, WB5GCS, WB6FPP, WN6FPP

**Location:** Mountain View, CA

**How much property do you have?** Typical postage stamp lot: 10,000 sq ft

**Describe your antenna system:** Roof mounted Cushcraft R9 Vertical, random wire for receiving sometimes

**History:** My interest in Amateur Radio began in 1959 in Oakland, California, when I listened to my uncle, Carroll Steffen, K6AY, carry on conversations with family members while copying cw in his head at some unbelievable speed that left the dots and dashes indistinguishable to the casual observer. I was fascinated by this skill and would often play with a simple code practice oscillator, trying to imitate him. Sensing my interest, he gifted to me an old Navy BC348R HF receiver that served two purposes. It solidified my interest in amateur radio and kept me away from the television set. While the rest of the family watched the Ed Sullivan Show, I was listening to hams around the world exchange signal reports.

In 1963 I passed my Novice exam as WN6FPP. I saved money from my Oakland Tribune paper routes (I had 3 at one time in the Montclair District) to buy an EICO 723 transmitter (featured later in the March 2001 QST) to go with the Navy receiver, and within the allotted year, I advanced to General Class as WB6FPP. With the help of some high school electronics classes, I moved up to Advanced Class a year later, where I remain today. Throughout the 1960s, I chased DX and collected Certificates/Awards and piece by piece upgraded the shack to include Heathkit SB200, SB300, and SB400. During my last year of college (SF State), I traded the Heathkit gear for a Swan 500, which conveniently replaced the glove box in my 1969 Ford Mustang.

In 1972, I moved to Albuquerque, New Mexico, at the behest of my employer and became WB5GSC for a little over a year, then back to California as WA6BVP (in those days you had to have a call reflecting your location). Although inactive since the move to New Mexico, I kept the license up to date, and in the early 1990s took the opportunity to get shorter call sign (KO6LU). Along the way, I had donated the Swan to a local high school radio club. In late 1999, after a successful Hi-Tech M&A Transaction, I decided to retire (that only lasted about 6 months) and become active again. Upon investigating the array of radios available, I found myself facing new brands I'd never heard of and unable to find modern equipment from the old familiar brands like Drake, Collins, Halicrafters, Viking, Heath, National, and Swan with which I was familiar. Somewhere along the way, they were all displaced with names like iCOM, TenTec, Kenwood, and Yaesu.

In short order, I was on the air with an iCOM 775DSP and Cushcraft R-7000 vertical (replaced in 2011 with an R7 and upgraded with an add-on kit to an R9 in 2015), chasing DX and wondering why I had waited so long to get back into the greatest hobby ever...meeting people.

In 2003 I got hooked on contesting and after turning in a respectable score for CQP, was invited to join the Northern California Contest Club. I don't attend the meetings but appreciate the wealth of knowledge that comes across the reflector.

**What's in your shack?** Currently I have a new Kenwood TS990 and an old Collins 30L1 linear that I inherited from SK Joe Buffum, W6TKO, a few years ago. I use an LDG AT-1000 Pro Auto-tuner, but only when I run high power.

**If you're working, what is your career? If not, what was your career?**

After graduating with an engineering degree, I took a job with GTE Lenkurt in San Carlos. I was a field applications engineer, bouncing around the country from hotel to hotel, then back to San Carlos as a project engineer and later I was transferred to Albuquerque to teach in their customer training school. But I missed California and soon found myself back in the Bay Area in the semiconductor industry. My IC career spans 44 years, all of it in Analog, and today I head up marketing and sales for a small fables company in San Jose called JVD Analog ASIC Semiconductors. None of you have ever heard of us, but I guarantee that every one of you has been within an inch of one of our chips (automatic antiseptic dispensers located in hospitals, etc.)

**Family?** I am married (almost 35 years) and have 3 sons ...A contract industrial designer in SF (always looking for new jobs), a 5<sup>th</sup>-6<sup>th</sup>-7<sup>th</sup> grade math & science teacher at Helios School for the Gifted in Sunnyvale, and failure analysis engineer at Riga Labs in Santa Clara. I am blessed to have them all so close.

**How many DXCC entities have you worked?** Since re-entering the amateur radio realm in 1999, I have worked 182 DXCC entities and have 173 confirmed ( I probably should apply for the certificate some day). I have WAS confirmed for phone, cw and digital (another cert I should apply for as well someday)

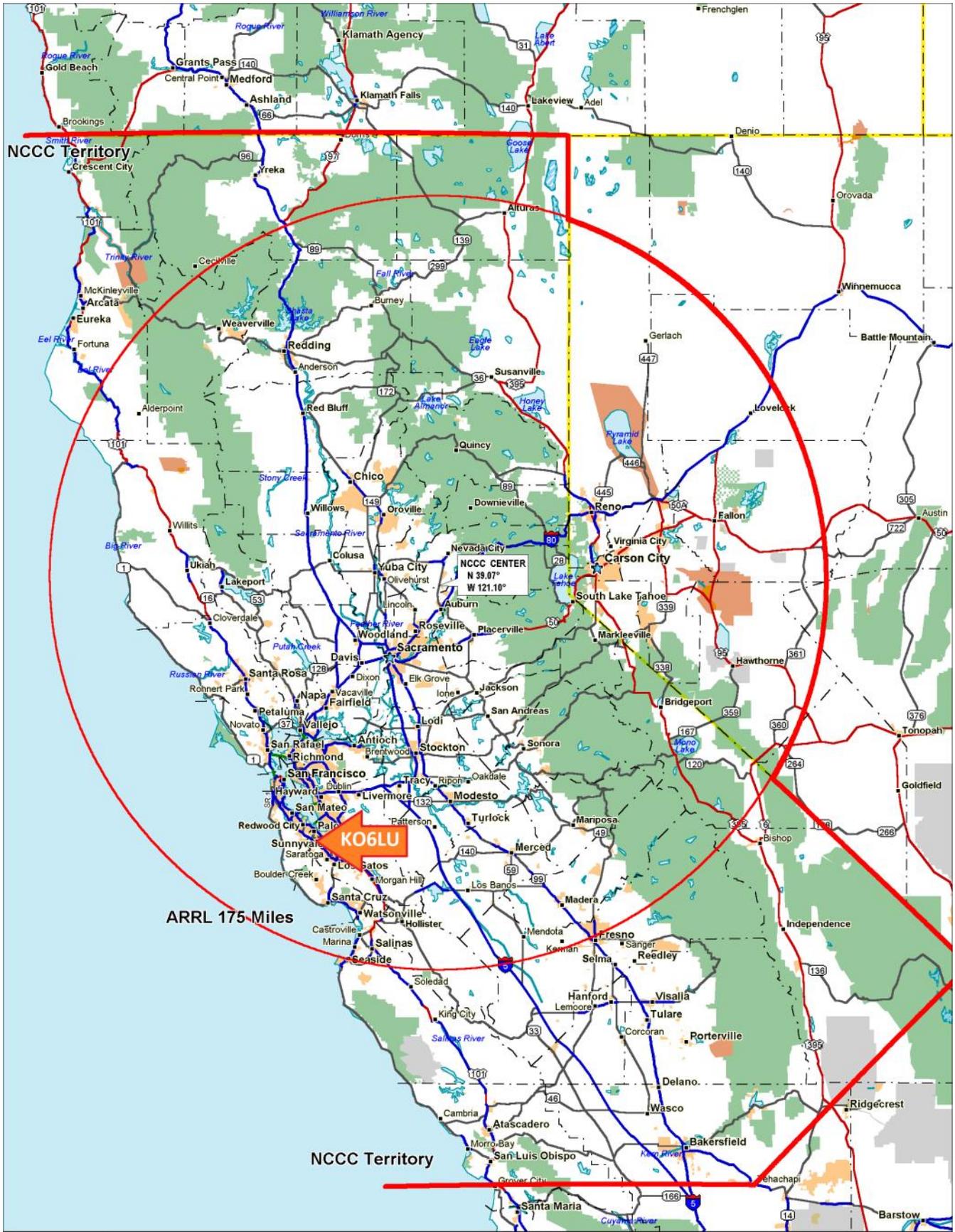
**What's your favorite contest?** I like WPX because a prefix like KO6 offers a small station like me a slight advantage.

**Any tips for testers?** I'm a casual tester...never expect to win anything...just do it for fun. The nice thing about NCCC is that I can operate at my own pace without peer pressure for "more".

**Any other hobbies besides ham radio?** You might say my career is a hobby...It is soooooo much fun working for a small, privately owned company. I've done the Philips, Fairchild, National big company thing and I've been with many ventured funded start-ups and it's great to away from all the politics. In my spare time, I dabble with wood – cabinetry, furniture, outdoor decking, etc. But aside from Ham Radio, my biggest hobby is screenwriting: [www.robertchristianfrostholm.com](http://www.robertchristianfrostholm.com)







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# TEAM BUILDING

## *The Perils of a Team Flogger*

By Fred K6DGW

Some contests allow the fielding of one or more teams who, in addition to competing with their own individual scores, can compete as a team, NAQP and NA Sprint are probably the two best examples. I've been doing the team organization for the NAQP's for some time now. After the Jan 2016 NAQP CW and SSB, I've had a chance to review and think about the process, concluding that it could be improved. After the SSB NAQP, which didn't work out well by some measures, Scott, W6CT, posted an email suggesting possible changes, so at least I have the company of one member. ☺ I'm going to aim this at the NAQP's because that's what I'm familiar with, but the subject applies to all contests where we field teams.

The current process is pretty simple, until we get to station assignments to teams. The organizer solicits emails from those who intend to operate and want to be on one of the NCCC teams. At a minimum, the email must include the call used on the air and that of the operator if different. That's the absolute minimum. We almost always ask for some indication of the expected/planned level of effort as well, and it helps a lot to know the station that will be used if not the operator's home station. What we actually get varies in detail including nothing, "as much as I can manage," "??", a time estimate, estimates of the number of Q's the op thinks will be made, and pretty much everything in between. Examples might be "W6XYZ, a few Q's," or "W6ABC, depends on family activities."

Obviously, we want to field as many winning teams as we can – this is radiosport and, while we do this for many reasons, competition is a big one – so we want the biggest guns on one or two teams. There's also a non-scriptural belief that they will be numbered 1, 2, 3, ... and a reasonable expectation that team scores will be more or less inversely proportional to team number. Named but non-numbered teams have been tried in the past which didn't fool anyone. When I started with the NAQP's, there were a few that would "sandbag" their estimates, suggesting a small or even token effort and then turning in big scores. That seems to have subsided lately, perhaps once the sandbaggers realized the floggers were figuring out what was going on. ☺

A couple of years ago, Dean, N6DE, conceived of and coordinated a tri-club challenge [SMC, PVRC, NCCC] based on overall NAQP scores. There are 2 sets of 3 NAQP's each year, winter and summer, and the aggregate club score for submitted logs is multiplied by the number of logs submitted for each of the six. The six are then summed for the year. It's a cool idea, a "contest within a contest," and it has stimulated increased levels of participation.

And, thus endeth the "simple part."

At first glance, it would seem that assignment of stations to teams should be straightforward. A full-time effort at W6YX, N6RO, or by one of the traditional high scoring operators at a highly capable station [think N5KO or W6NL at W6NL, or WK6I doing multi-armed RTTY at W7RN] is a slam dunk for Team #1. Conversely, an email indicating an hour or so and possibly some uncertainty in that time estimate, or operating from a known equipment/antenna challenged station, is a candidate for a higher numbered team. Unfortunately, in between those two no-brainers is a vast expanse of uncertainty, often including uncertain contradictions (e.g. a normal high scorer with an uncertain level of effort – he manages a full-time effort = big score. If the effort doesn't work out = not so much).

The Tri-club Challenge has also brought out a number of operators who might not have signed up for a team before but who want to be a "participation multiplier" [P-MULT] for the Challenge. During the contest, time slips away, and they may turn in a much larger-than-expected score – or not. The additional participation is very good, it raises both the aggregate club score and the P-MULT's. It also adds to the uncertainty of team assignments.

So what to do? The goal of this dissertation is to stimulate a discussion on ways to improve the process and thus field more winning teams – and encourage participation by those who do not want to be on a team. I will offer several modest examples, none of which I will die for, to help with that discussion stimulation ...

**Separate P-MULTS from Teams:** With the advent of the Challenge, I've just automatically assumed that everyone who signs up wants to be on a team. Perhaps that isn't the best assumption. Separation would lower the number of teams we field. But, the higher numbered teams where the P-MULT stations are assigned generally post scores in the low thousands and sometimes less than a thousand, and the operators probably don't really care where their team places anyway.

**Standardize the Level of Effort Estimates:** Right now, level of effort is totally open-ended and operators can provide whatever information they wish, including none. The only real standardization is Full-Time vs Part-Time and even that can be obscure. This makes it very hard to prioritize operators ... is "several hours" a larger or smaller effort than "maybe half-time," or even just "part-time?" We could specify that the email contain the three calls [on-air, opr, stn], a numeric time estimate, and an estimate of number of Q's, or some combination of those. After all, the operator knows his/her abilities best, why force that decision onto the flogging crew?

A possible downside to this is the basic human nature to commit to a level you know you can achieve, even while knowing you could and easily may do much better given that it's a good enough day, leading to rampant underestimation. A possibly bigger downside is that asking people to commit to some quantitative level of effort may turn a lot off who otherwise might have participated for the club.

**Register a Fixed, Pre-specified Number of Teams:** Decide in advance that NCCC will field three [or number of your choice] competitive teams. This concept would limit the effort of the assignment crew to the really competitive stations for registration. Now in fact, below about Team 3, or maybe 4 in a well-attended contest, assignments to teams borders on the random anyway ... everyone sort of "looks alike."

**Maintain an On-going Master Ranking of Operators/Stations:** I include this one because it has been suggested before, using a ranking scheme somehow similar to N6ZFO's NS Ladder concept. Team assignments would be based on "ladder" position plus estimated operating time of those signing up to operate. This could be complicated, but probably should be considered in the discussion I hope this dissertation stimulates.

**Establish Basic Criteria for Ranking Prior to Assignment:** Some operators who sign up for full-time operations may be working from a smaller station than a highly experienced operator from a larger station who signs up for a half-time effort. How should they be ranked for assignment? It's seemed to me that ranking a part-time effort over a full-time effort requires some justification ... such as the half-timer is N6BV @ N6RO and the full-timer is K6DGW @ K6DGW. I've encountered this multiple times, and heard about the ultimate decision multiple times after the fact.

OK ... those are five modest ideas and I'm sure there are more. The overall objectives are:

- 1) Field one or two really winning teams
- 2) Improve the repeatability of team assignments from contest to contest
- 3) Simplify/standardize the team assignment process
- 4) Lower the level of stress inflicted on those who make team assignments

#4 is a real issue. Some operators do look at their team assignment as a statement of their skills and capabilities as perceived by the contest promoter. The promoter doesn't want to offend anyone, but also wants to field winning teams, and currently has to do it while immersed in a lot of uncertainty.

It may be that all this "team stuff" in contests just wears folks out, and does not achieve our overall objective of more folks on the air. I really don't know. It might be good to see if we can find out. My experience is mixed. I've been told "Thanks for reminding me, I forgot and want to do it," to "I really get tired of the repeated flogging."

Promoting contests is also a great place to get newer members involved in the club operations since it is a relatively short activity, and is directly related to contesting and winning. We can make it a lot more attractive to them, and I believe we should, but only if it works for the active membership. Increasing participation from our sizable inactive membership is a different problem.

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1 The daughter of good friends works for a cosmetics company, and refers to those times when she is making presentations at the cosmetic counter in a department store as "flogging my products." It seems to apply to promotion of contest teams fairly well.

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## Northern California Contest Club Reflector—Guidelines

This reflector is devoted to the discussion of contesting.

This includes contests, station building, dxpeditions, technical questions, contesting questions, amateur radio equipment wants/sales, score posting, amateur radio meetings/conventions, and membership achievements.

This does not include personal attacks, politics, or off-subject posts which will be considered a violation of the Guidelines.

Violations may result in removal of the violator from the reflector and possibly from club membership in good standing.

# TUBE OF THE MONTH

Visit the museum at [N6JV.com](http://N6JV.com)

Norm N6JV

## The 4-1000A Family

Since I was first a ham, I have often heard the story of the problems of Eimac after WWII. The tale always went that Eimac had an agreement with the government that all the triodes that Eimac made for the war effort would not be sold to the public and therefore destroy Eimac's future commercial sales. Hundreds of thousands of Eimac tubes were sold in surplus after the war and the tale followed that Eimac had to scramble to develop a new line of power tetrodes to sell to hams and industry.

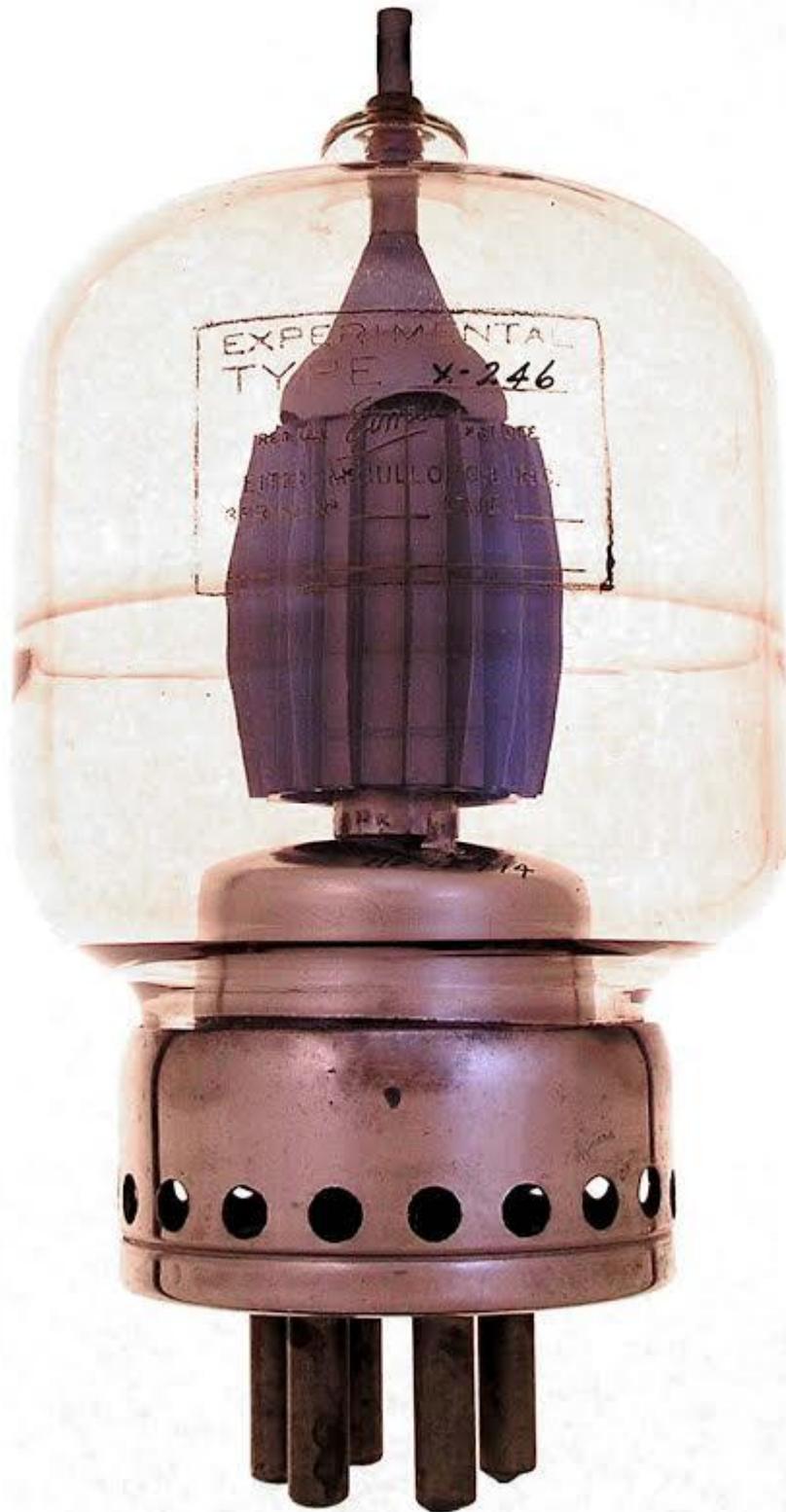
The Tube Collectors Assn. has possession of the old production records for Eimac. From this archive, a document we call the "X-Files" has been compiled. This file has developmental numbers and short descriptions of experimental tubes from 1942 until 1960. Each experiment had an "X" number assigned.

I keep hunting for these "X" tubes and have found several. Eimac was working on this tetrode line from at least 1943. The X-246 is an example of the early 4-1000A. The base pins are extra long and there is a circle of small cooling holes in the base. This tube dates from 1944. In 1947, Eimac released the 4-750A. It was soon replaced by the 4-1000A. The 750 and 1000 both have the shape and base structure of all the modern 4-1000A tubes.

It looks like Eimac was planning for post war production well in advance of wars end. Perhaps these hams anticipated the current interest in 160 meter DXing. These tubes along with a pulse rated version, are still in production although not by Eimac.









# California QSO Party

## GOLDRUSH—TEAM

### K6D - Los Angeles

### W6VI

Our K6D operation could be classified as an accidental Gold Rush participant. The same special call has been used for several years at the annual (San Fernando) Valley Disaster Preparedness Fair and was reserved for the 2015 event well in advance of the CQP announcement. This year the fair happened to fall on Saturday of CQP weekend.

When asked to be one of the Gold Rush stations, we agreed, knowing that others would be looking for the special suffixes. Our plan all along had been to set up and operate a very basic HF station as a demonstration, and our newfound “celebrity-for-a day” status did not change those plans. Basic it was: a 20m dipole at about 20 feet up, supported by tripods and fiberglass camo netting poles, and a barefoot K3.

Marty N6VI had volunteered to man the station for the four hour duration of the Preparedness Fair, so he equipped it to run both phone and CW. To make the demonstration more interesting to members of the public, he brought an outline map of the states and a red pencil to color in each state as it was worked. This let us show our visitors in real time what sort of reach such a simple station had, and the demonstration was effective. By the end of the fair, the map was mostly red, reflecting contacts all across the country.

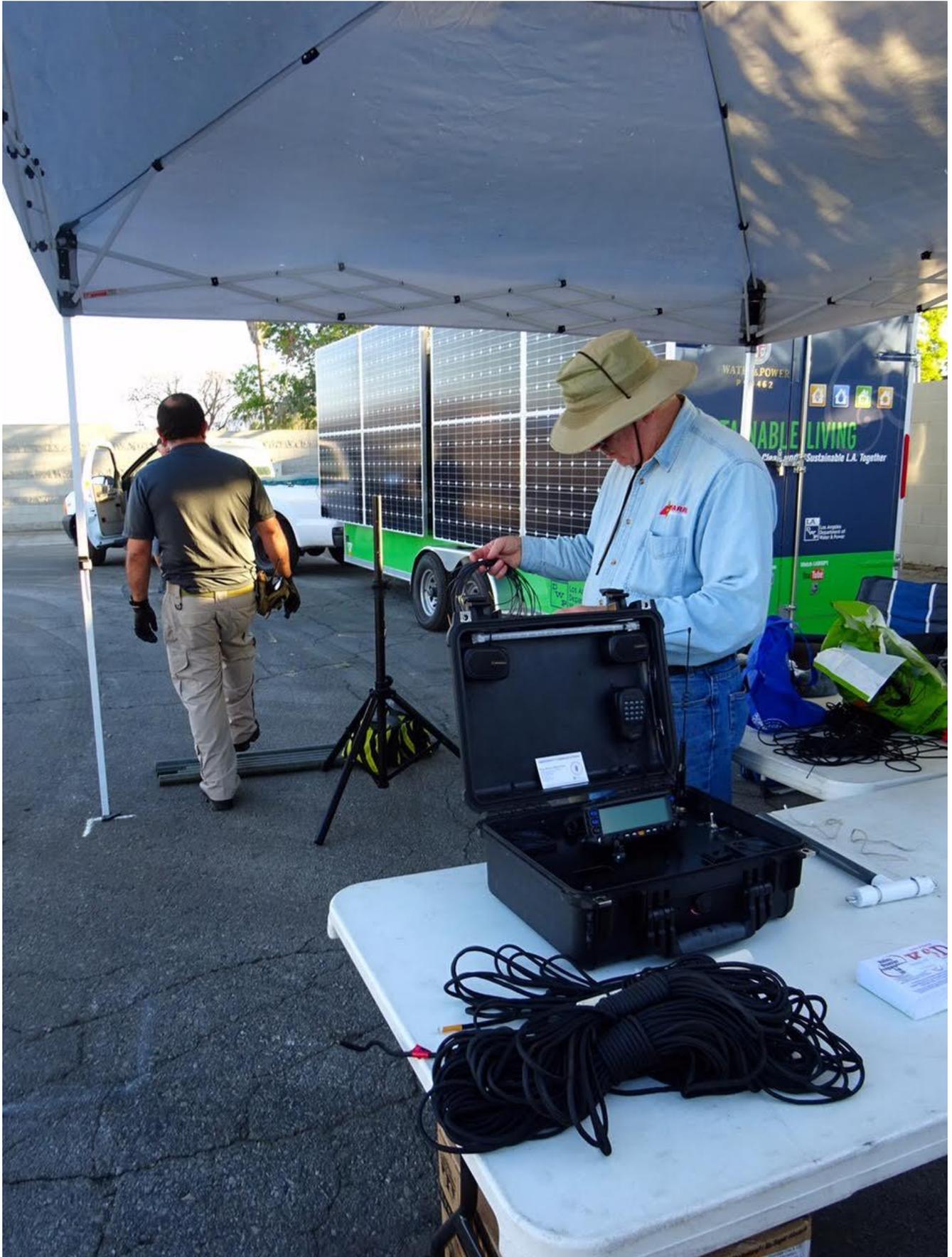


151003\_IMG\_0021.JPG



151003 IMG\_0029.JPG







# California QSO Party

## GOLDRUSH—TEAM

### W6D - Santa Cruz

### K6XX

Summary for W6D (dog) = K6XX@K6XX

2438 x 58 = 347,246 points. SOHP. 24 hours. 1120 CW + 1336 fone

As usual, this was great fun. Not quite as much fun as last year, though.

Made a strategic mistake by starting on 15m. Rate was "only" 2/minute, well below expectations. After only 5 minutes, a QSY to 20m provided the rate boost anticipated. The band actually opened decently, but was only a shadow of last year.

10m also did not meet expectations. It opened both days, but simply was not the place to be early in the contest on Saturday. Signals were strong for about an hour Sunday morning, but once it closed, the panadapter showed "flatline" for the remainder of CQP.

Another indicator of declining propagation was the lack of Europeans. Last year "DX" was the number one "state" worked, with most all of them Eu. In 2015, there was only 56 (2.3%) DX, including a paltry 30-some Eus.

VT was the last multiplier--not worked until Sunday daytime, but NV ranked second to last. Nevada wasn't logged until more than 5 hours after mult #56, well after dark Saturday night.

Summary-----

BAND	Raw QSOs	Valid QSOs	Points	Mults
160CW	37	37	111	0
160SSB	2	2	4	0
80CW	118	118	354	0
80SSB	154	153	306	0
40CW	297	293	879	1
40SSB	227	227	454	0
20CW	362	360	1080	38
20SSB	608	600	1200	1
15CW	240	237	711	10
15SSB	293	293	586	8
10CW	66	66	198	0
10SSB	52	52	104	0

Totals 2456 2438 5987 58

1120 CW + 1336 fone

Final Score = 347,246 points.

Top 10 States:

TX	0	12	39	61	38	1	151	6.2
FL	0	5	13	42	32	11	103	4.2
TN	1	5	19	33	28	13	99	4.1
IL	2	8	15	47	26	0	98	4.0
PA	1	6	19	39	23	2	90	3.7
SCLA	1	12	15	25	21	8	82	3.4
VA	0	4	11	29	21	8	73	3.0
GA	0	5	15	19	18	11	68	2.8
NC	0	2	12	26	15	8	63	2.6
NY	1	5	14	28	11	3	62	2.5
OH	0	3	14	29	13	2	61	2.5

Laggards:

NT one solitary Q  
 VT 3  
 Alaska 4

The best 60 minute rate was 171/hour from 2125 to 2224

The best 30 minute rate was 196/hour from 2125 to 2154

The best 10 minute rate was 210/hour from 2125 to 2134

The best 1 minute rates were:

6 QSOs/minute 1 times.  
 5 QSOs/minute 11 times.  
 4 QSOs/minute 81 times.  
 3 QSOs/minute 253 times.  
 2 QSOs/minute 430 times.  
 1 QSOs/minute 434 times.

U.S. Call Areas Worked

Area	QSOs	Pct
------	------	-----

0	174	7.1
1	159	6.5
2	148	6.1
3	147	6.0
4	400	16.4
5	205	8.4
6	509	20.9
7	150	6.2
8	157	6.4
9	201	8.2

Total	2250	92.3
-------	------	------

## Multi-band QSOs

1 bands	928
2 bands	253
3 bands	137
4 bands	54
5 bands	18
6 bands	4

The following stations were worked on 6 bands:

VA3DF    N8UM    N6TV    N6O

## ----- Single Band QSOs -----

Band	160	80	40	20	15	10
QSOs	8	67	176	476	174	27





**W6D - Santa Cruz**

# Planning Antenna Systems For the Little Gun Station—Part 2 by Jim K9YC

## Figure of Merit for Height of Horizontal Dipoles

A careful study of Fig 25 (part 1, December 2015 JUG) suggests that another view of the data might be worthwhile. Fig 32 expands the data set of Fig 25 to 110 Ft. Fig 33 provides another very useful view of the same data. I took data points from each antenna height curve for vertical elevations of 5°, 10°, 15°, and 20°, entered them in a Quattro Pro spreadsheet, and plotted it to produce Fig 33. The slopes of these curves, which are essentially parallel to each other below about 80 ft, allows us to define a “figure of merit” for the height of a horizontal 40M antenna for low radiation angles.

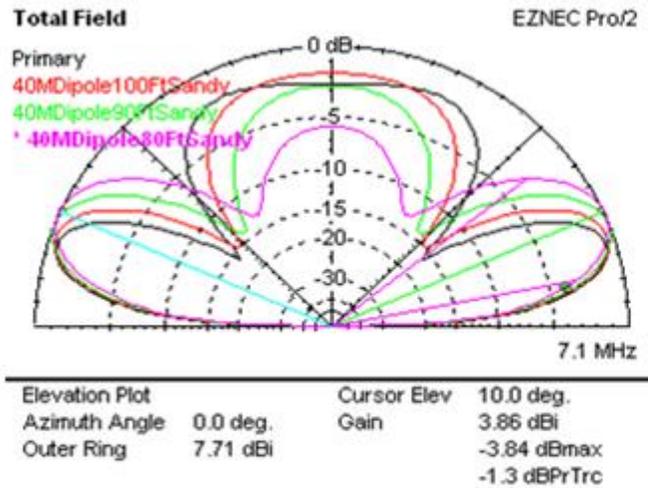


Fig 32 - 40M Horizontal Dipole at 80 Ft, 90 Ft, 100 Ft, 110 Ft, Sandy Ground

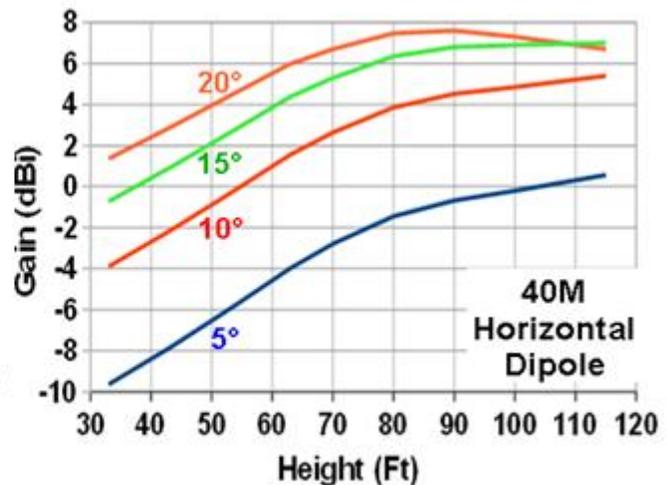
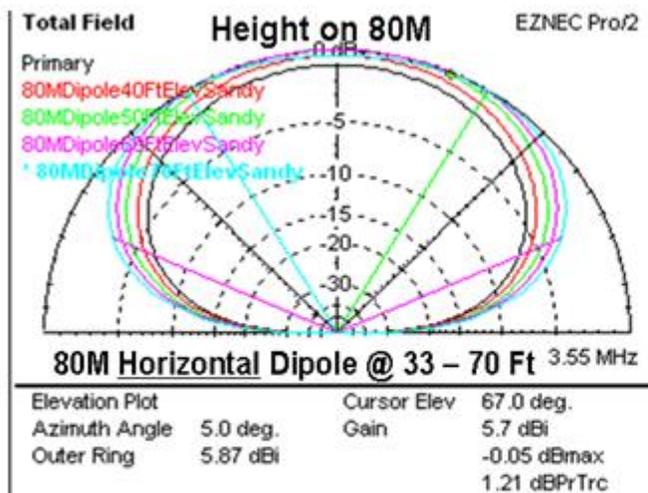


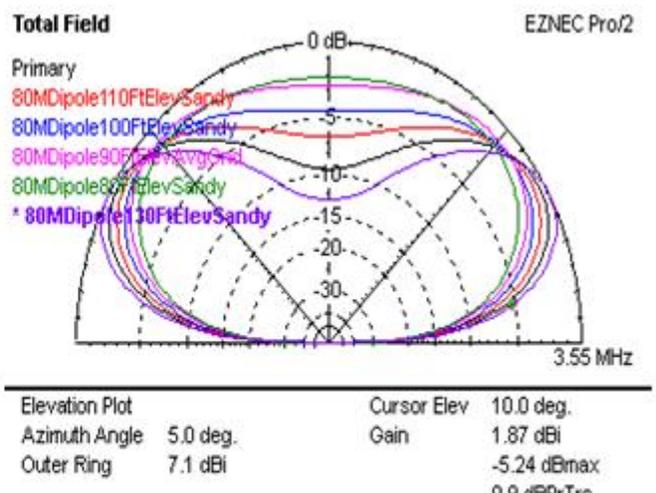
Fig 33 - Another Look At The Same Data

**What is Height Worth On 40M?** Fig 33 clearly shows that, for all angles below about 25 degrees, 10 ft of added height is worth about 1.9 dB on 40M between 20 ft and 70 ft. The advantage of additional height is much less above 70 ft ( $\lambda/2$ ). Raising a 40M dipole from 33 ft ( $\lambda/4$ ) to 67 ft ( $\lambda/2$ ) is worth about 6 dB at vertical angles below about 20 degrees; going up to 120 ft ( $.433\lambda$ ) is good for another 3 dB for radiation angles below about 15 degrees.



Black (Reference) Curve is 33 Ft

Fig 34 - 80M Horizontal Dipole at 33 Ft, 40 Ft, 50 Ft, 60 Ft, 70 Ft Sandy Ground



Black (Reference) Curve is 120 Ft

Fig 35 - 80M Horizontal Dipole at 80 Ft, 90 Ft, 100 Ft, 110 Ft, 120 Ft, 130 Ft, Sandy Soil

**What is Height Worth on 80M?** Figs 34-36 show the corresponding results for 80M. Below a height of about 133 ft ( $\lambda/2$ ), every 10 ft of mounting height increases signal strength by about 0.9 dB at elevation angles below at least 30°. A dipole at 133 ft ( $\lambda/2$ ) is nearly 6 dB louder at low angles than one at 67 ft ( $\lambda/4$ ), and the 67 ft high dipole is 3 dB louder than it would be at 33 ft ( $\lambda/8$ ).

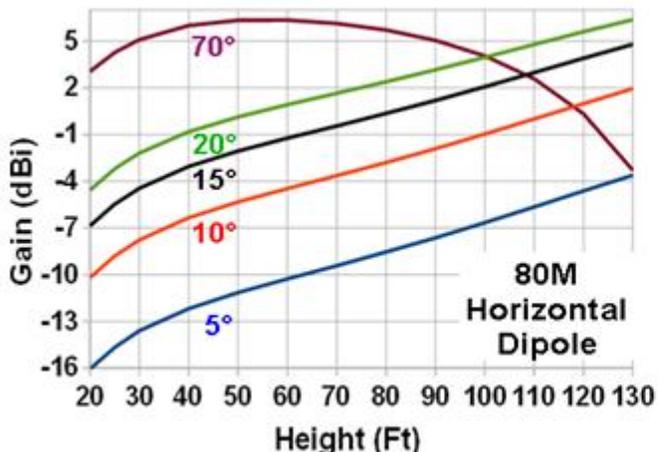


Fig 36 –Data From Fig 34, Fig 35 Re-plotted

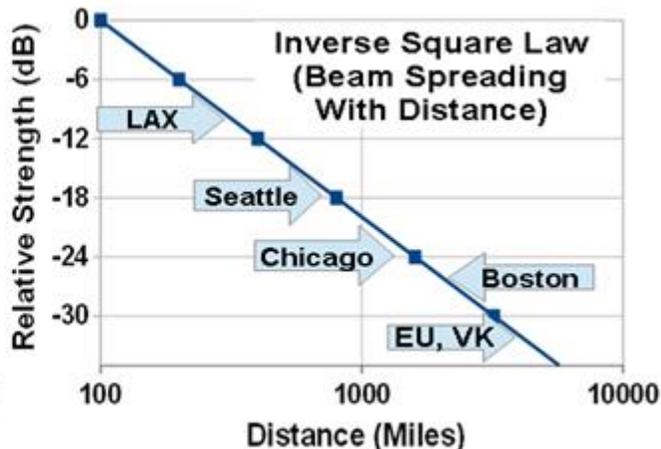


Fig 37 – Reduced Signal Loss to Closer Stations

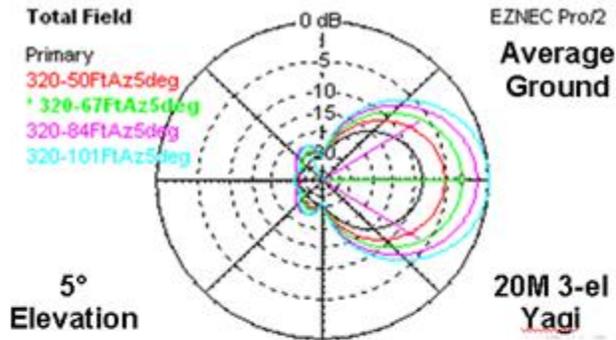
**Debunking The NVIS Myth** Fig 36 clearly shows that you don't need a ground-hugging dipole for NVIS (high-angle paths to work nearby stations). Indeed, the optimum height for NVIS is  $0.22\lambda$  (60 ft on 80M), and an antenna at  $0.33\lambda$  (90 ft on 80), is only 1 dB less than optimum. And, as we've already learned, the higher antenna is 2.5 dB louder at the lower angles needed to work distant stations. Even when the antenna is raised to 120 ft, high angle radiation is only 3 dB below maximum, while the 120 ft antenna is 3 dB louder at low angles than the 90 ft antenna! On 40M, 30 ft is near optimum for NVIS, 45 ft is only 1 dB down, and 60 ft is only 3 dB below optimum. Table 1 summarizes the result by band.

**Table 1 -- NVIS Performance @ Height**

Band	Max	-1dB	-3 dB
160M	120 ft	180 ft	240 ft
80M	60 ft	90 ft	120 ft
40M	30 ft	45 ft	60 ft

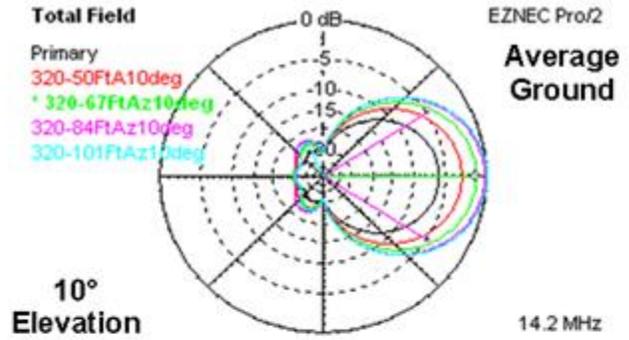
**Inverse Square Law** Fig 37 shows relative path loss vs distance. Stations we're likely to work by NVIS are in the range of a few hundred miles or less; Fig 37 shows that stations around LAX are 8 dB closer than those in Seattle or Phoenix, and 14 dB closer than those around Chicago. For contesting and DX chasing, we want maximum gain to those distant locations, because inverse square law helps us work the closer ones; the design choices I'll make with horizontal antennas for 40M and 80M will be to get them as high as possible, compromising NVIS performance for maximum DX performance.

**Height Of Horizontal 20M Antennas** Figs 38-41 show the effect of mounting height on a typical 3-el 20M Yagi. This particular design is taken from the ARRL Antenna Book.



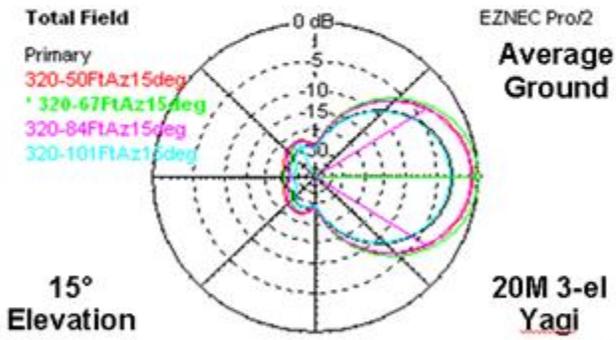
Azimuth Plot	Cursor Az	0.0 deg.
Elevation Angle	Gain	7.46 dBi
Outer Ring	0.0 dBmax	5.79 dBPrTrc

**33 Ft, 50 Ft, 67 Ft, 84 Ft, 101 Ft**  
 Fig 38 – 20M Yagi vs Mounting Height



Azimuth Plot	Cursor Az	0.0 deg.
Elevation Angle	Gain	11.89 dBi
Outer Ring	13.04 dBi	0.0 dBmax 4.8 dBPrTrc

**33 Ft, 50 Ft, 67 Ft, 84 Ft, 101 Ft**  
 Fig 39 – 20M Yagi vs Mounting Height



Azimuth Plot	Cursor Az	0.0 deg.
Elevation Angle	Gain	12.74 dBi
Outer Ring	0.0 dBmax	3.01 dBPrTrc

**33 Ft, 50 Ft, 67 Ft, 84 Ft, 101 Ft**  
 Fig 40 – 20M Yagi vs Mounting Height

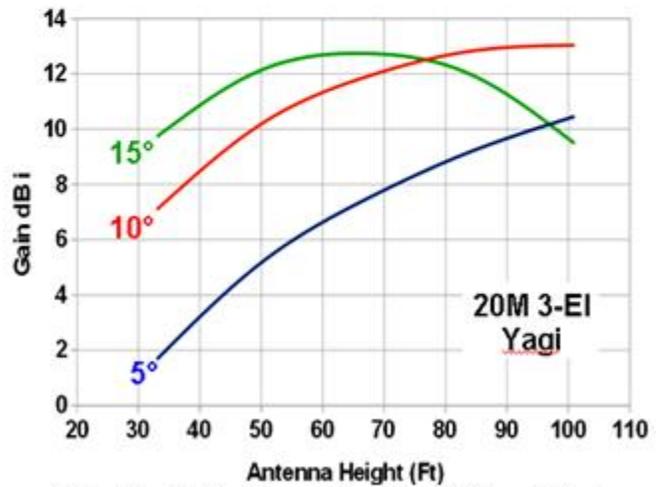
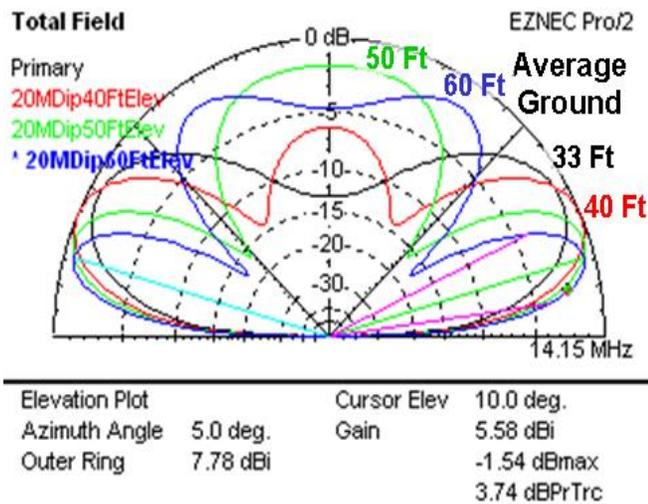


Fig 41 – Data From Figs 38-40 Re-plotted

**The Value of Height on 20M** Fig 41 shows that for a 20M Yagi at low angles, every 5 ft of mounting height below about 70 ft is good for about 0.9 dB; we get 6 dB by going from 33 ft to 67 ft. At 5 degrees, we get 2 dB by going from 67 ft to 100 ft. Another way of looking at it is that the three sections of Rohn 25 that it takes to go from 30 ft to 60 ft is worth 5.5 dB.



**Lobing of High Horizontal Antennas** Fig 42 shows how the vertical pattern of a 20M dipole varies with mounting height. Lobing begins as the antenna is raised above about  $\lambda/2$  (33 ft on 20M). Lobes appear first at higher vertical angles; nulls move down as the antenna is raised, and a second null develops at a higher angle. Thus, as we raise the antenna we can optimize it for low angles, but degrade performance at higher angles.

Propagation to any given station varies with time; at one time, the path may be at a high vertical angle; an hour later it may be at a low angle. Note that while this data is plotted for a dipole, any horizontally polarized antenna will exhibit the same effects.

**How Does This Relate To Terrain Effects? (HFTA)** All of the analysis shown in this report is on the basis of extensive modeling done in NEC, which assumes antennas are in “flatland” – that is, terrain has no effect on propagation. For some of us, this represents the real world, but for many of us it does not. Corresponding models for non-flat terrain should be done using HFTA, simply by setting antennas at various heights and studying the result. In general, the principles outlined here will simply be “superimposed” on the effects of terrain as predicted by the NEC model. That is, increasing the height of a horizontal antenna will tend to concentrate its radiation at a lower angle, which will then interact with the terrain as HFTA predicts.

N6BV’s very useful High Frequency Terrain Analysis (HFTA) software is on the CD that comes with the ARRL Antenna Book. HFTA uses terrain data obtained from government sites on the internet, processes it to generate radial data for every five degrees of azimuth, then computes the effect of that terrain for an antenna at specified mounting heights. HFTA comes with statistical data for each HF band for the vertical arrival angles from one part of the world to another, the user then calls up that data and HFTA superimposes it on the modeled data.

My QTH is at 2,000 ft; with nearby ridges in the range of 2,550 ft to the NE and about 2,200 ft to the east and NW. Extensive HFTA modeling showed that a tower height in the range of 120 ft was near ideal for the HF bands – to improve on it, I’d need to raise the Yagi to about 300 ft. I stopped at 120 ft.

**A Practical Design Question:** Joe Ham is considering a 2-el Yagi for 40M, which he can put on a 70 ft tower. As an alternative, Joe can hang a pair of horizontal dipoles at right angles to each other in tall redwoods at 120 ft. Which of these two antenna systems would perform best, and by how much?

**Performance Difference:** From Fig 33, a horizontal antenna would be 2 dB louder at 120 ft at low angles than at 70 ft. If the gain of the 40 Yagi Joe is considering is 3.5 dBd, and we mount it at 70 ft, it will be 1.5 dB louder than the dipoles at 120 ft.

**Cost Difference:** If you have the trees, two dipoles at 120 ft will cost about \$1,400 for climbers, \$600 for antennas (wire, hardware, coax, rope, pulleys), total \$2,000. An Optibeam Moxon on a 70 ft tower (antenna, hardware, coax, rotator, labor) will cost \$5,000 - \$7,500, depending on whether you do your own climbing and whether you can buy hardware used. Bottom line – the 1.5 dB advantage of that Yagi on transmit costs \$2,500 – \$5,000 more than the dipoles. And, of course, the Yagi may hear better by virtue of its directivity. The reader is encouraged to do his own cost estimates for practical installations.

## Summarizing What We Have Learned

**Ground Quality** refers to the nature of the earth around your QTH. It has nothing to do with an electrical connection to the soil. Rocky, sandy soils are very poor grounds; moist, loamy soils are good grounds. If you live in the mountains or in highly developed area like a city, your ground is poor to very poor. If you live in a fertile valley, your ground is pretty good. The ground under our antennas burns transmitter power before it can be radiated; good radial systems minimize that loss. The ground at a distance from our antennas (hundreds of yards) reflects the energy radiated by our antennas, which combines with direct radiation from the antenna to form the vertical pattern.

Horizontal antennas are not affected by ground quality, because the strength of the first reflection does not depend upon ground quality. .

Vertical antennas are strongly dependent upon ground quality – the better the quality of the ground, the better they will work because that first reflection is stronger.

Horizontal antennas are strongly affected by height – higher is better.

Vertical antennas work better if elevated above ground. Roof level of a one-story or two-story home is a good mounting height for HF verticals.

**Vertical Antennas on Towers** interact with the tower to distort the vertical pattern of the antenna unless they are effectively isolated from the tower. If not very well isolated, the resulting vertical pattern can be pretty nasty. Isolation is provided by radials and by common mode chokes. See Appendix One of [k9yc.com/RFI-Ham.pdf](http://k9yc.com/RFI-Ham.pdf)

End-fed verticals (verticals that require radials) can work well on towers ONLY if they have effective radial systems for each band on which they will operate. Two resonant radials per band is a minimum. If it's a mono-band antenna, you'll need four. The feedline also requires an effective common mode choke at the feedpoint. The Butternut, Hustler BTV-series, and HyGain AVQ-series are examples.

Verticals that are, in essence, center-fed dipoles must be insulated from a tower, and the feedline must have a common mode choke that is physically located at the point where the antenna is mounted to the tower. The Cushcraft R-series and MA6-series, the HyGain AV-series, Gap Titan, and Force 12 verticals are examples.

**Vertical Antenna Interactions** All antennas interact with surrounding conductors to some extent, but vertical antennas tend to have strong interactions with other vertical conductors that can strongly affect their polar pattern.

**Ground and Antennas** A connection to earth does not make an antenna work better – the earth is a big resistor, so any current flowing into the ground burns transmitter power. We use radials on vertical antennas to shield the earth from the antenna, so that current and fields from antenna return to the low resistance radials rather than the high resistance earth.

**Earth Connections** are important – we need them for lightning protection. But they do not make antennas work better, and they do not reduce noise or RFI. What does reduce noise and RFI is to bond together all of the equipment in our shacks, and the earth connections in our homes. Bonding is also critical for lightning safety.

**Bonding** simply means a mechanically robust, low impedance connection between grounded objects. The impedance must be low at all frequencies, not just DC. Inductance dominates the impedance above power frequencies, so bonding conductors must be very short to be effective.

## **Getting Practical -- Where *Can* I Put Antennas?**

Now that we have a good idea about how various antennas perform, we're back to where we began. We can start looking at the possibilities that our real estate (and the attitudes of XYL and neighbors) permit. Can I sweeten up my XYL so that she'll accept the antenna I really want? Perhaps she'd like a new sewing machine? What do we have for skyhooks? Can we launch a rope into a tree to support one end of a dipole? Will a building support one end of an antenna? Can we safely mount a multiband vertical on the roof of our home or garage? Can we route a feedline from the proposed location to the shack? How close would the proposed antenna be to noise sources? To our neighbor's living room entertainment system? What are the best orientations for horizontal dipoles based on where the QSOs are? Do I need much high angle radiation?

### **References:**

"HF Vertical Performance- Test Methods and Results," H. Ward Silver (N0AX) and Steve Morris, K7LXC, Champion Radio Products, 2000

Collected tutorials by Rudy Severns, N6LF. <http://www.antennasbyn6lf.com/>

ARRL Antenna Book

Low Band DXing, by ON4UN (for 160M, 80M, and 40M), published by ARRL

## **Contesting from the West Coast – Musings on West Coast relevant contests by N6WM**

(Opinions are specifically those of the author and do not  
represent any official statement of the NCCC)

Greetings fellow testers. Great Job on Roundup! I had a blast in this, it was my first serious effort in 6 years, and am always amazed at how well we do from W6 in this. For whatever reason, we can be very competitive in this particular test. This year, I was amazed with the once again mind boggling score from our very own Ed W0YK/P49X, also W7RN(WK6I op) maintaining SOHP dominance in the Pacific Div, and even myself (sorry for the shameless self promotion) charting new Pacific division record territory in the SOHP Unlimited category as N6WM@N6RO, team W6YX breaking into multiple efforts to produce a huge aggregate score from the hills at Stanford, and equally awesome was the entire team effort from all of you who got QRV in whatever capacity you could to help team NCCC. My hat is off to all of you.. Great Job! Now lets move on to February.

Things are starting to slow down a bit, but the viable contest season from the left coast does continue.

Lets take a look at what's going in as we look over the contest calendar..

Here we go with the State QSO parties to offset some of the major test slow down. Each is unique and some are quite enjoyable. This month takes us to the State of Vermont 0000Z, Feb 6 to 2400Z, Feb 7, Minnesota for 10 hours of fun 1400Z-2400Z Feb 6, New Hampshire for their contest shin dig 1600Z, Feb 13 to 2200Z Feb 14, South Carolina 1400Z, Feb 27 to 0059Z, Feb 28 and North Carolina 1500Z, Feb 28 to 0059Z, Feb 29. I know a number of 6 landers that usually target a couple of these over the year, and do quite well as regulars. Maybe you could do the same. It's a great way to have contest fun from your little pistol, and many folks that you work may just loop around and return the favor to you in October for CQP 51.

### **North American Sprint, CW 0000Z-0400Z, Feb 7**

Are you ready for the fastest 4 hours in cw contesting? The NCJ NA Sprint CW is just that. Another great platform to do well from a modest station, why? You must QSY after soliciting a station with a CQ and working him. It gets a bit crazy, but ultimately everyone wants everyone in their log.. Contact Bob V. W6RGG if interested so he can get you on an NCCC team. 4 hours of your time. Super fast! Super fun!

### **CQ WW RTTY WPX Contest, 0000Z, Feb 13 to 2359Z, Feb 14**

Playing on my earlier statement regarding astounding W0YK/P49X scores.. The RTTY version of the WPX contest is loads of fun under the Management of W0YK himself. Ed does amazing work in this test as as an operator and as manager of it. Good enough to make it worth your QRV! Mults everywhere! Look at it this way, you just set your whole station up for Roundup, you got warmed up operating it, and now you can take it into the International competition to work as many prefix's as possible. It also gives you an opportunity to use that funky club call you keep in the coffers for WPX pile up generation use (No one would possibly do that right?). Look for lots of prefixes like.. lets see. KX?, WX?, WN?, NG?, WV?, NC? . They will all be out there! All joking aside this is a super fun contest with a very satisfying multi-million point score potential Lets see what you've got!

## **CQ 160-Meter Contest, SSB 2200Z, Feb 26 to 2200Z, Feb 28**

Stay up all night from dusk till dawn and enjoy a fine case of ringing ears and laryngitis. Naww just kidding.. This is an interesting contest with its fun factor firmly planted in the propagation gods of top band. When its bad.. this one is a dog, there are no CW signals to bust through that S8 floor. Ill be honest. But every now and then the stars line up.. and 160 is smoking good, and if it is, you may just log some serious 160 DX in the phone slots no less! Try and find a good station to work this from. There are a number of them out there that will sit idle during the SSB top band test unless you get in the chair. A great opportunity to learn and use gain controls and diversity on your trusty radio, as well as SAL's and other loops, 4 squares, and the beverage. Both antenna and the caffeine infused variety. GL and Have fun.

## **North American QSO Party, RTTY 1800Z, Feb 27 to 0559Z, Feb 28**

Hold on.. more RTTY action with heavy KBer influence on deck. It's the third winter NAQP and we need to be QRV in the K6UFO Managed NAQP RTTY contest. Mark is a cool dude and so is this test. Same deal goes as the others. you can spend a couple hours setting up for RTTY again and make one QSO for participation points. Really? much appreciated. Or you you have some real fun and go for it. SO2R.. multiple decoders. Top 10 glory.. or just spend a couple hours diddling.. that is the beauty of these NAQP tests. Fun and low frustration factor contesting.

And that's kind of it for the big stuff.. there are quite a few additional contests out there that may strike you fancy.. Do your due diligence and check the WA7BNM contest calendar at <http://www.hornucopia.com/contestcal/contestcal.html> and find something fun to do..

So until next month, 73 and of course, seeya next time

Chris  
N6WM



# Contest Calendar— February page 1

RSGB 80m Club Championship, SSB	2000Z-2130Z, Feb 1
ARS Spartan Sprint	0200Z-0400Z, Feb 2
QRP Fox Hunt	0200Z-0330Z, Feb 3
Phone Fray	0230Z-0300Z, Feb 3
CWops Mini-CWT Test	1300Z-1400Z, Feb 3 and 1900Z-2000Z, Feb 3 and 0300Z-0400Z, Feb 4
UKEICC 80m Contest	2000Z-2100Z, Feb 3
NRAU 10m Activity Contest	1800Z-1900Z, Feb 4 (CW) and 1900Z-2000Z, Feb 4 (SSB) and 2000Z-2100Z, Feb 4 (FM) and 2100Z-2200Z, Feb 4 (Dig)
NCCC RTTY Sprint	0145Z-0215Z, Feb 5
QRP Fox Hunt	0200Z-0330Z, Feb 5
NCCC Sprint Ladder	0230Z-0300Z, Feb 5
YLRL YL-OM Contest	1400Z, Feb 5 to 0200Z, Feb 7
Vermont QSO Party	0000Z, Feb 6 to 2400Z, Feb 7
Triathlon DX Contest	0000Z-0759Z, Feb 6 (CW) and 0800Z-1559Z, Feb 6 (SSB) and 1600Z-2359Z, Feb 6 (RTTY)
10-10 Int. Winter Contest, SSB	0001Z, Feb 6 to 2359Z, Feb 7
Black Sea Cup International	1200Z, Feb 6 to 1159Z, Feb 7
F9AA Cup, CW	1200Z, Feb 6 to 1200Z, Feb 7
Minnesota QSO Party	1400Z-2400Z, Feb 6
FYBO Winter QRP Sprint	1400Z-2400Z, Feb 6
British Columbia QSO Party	1600Z, Feb 6 to 0400Z, Feb 7
AGCW Straight Key Party	1600Z-1900Z, Feb 6
FISTS Winter Slow Speed Sprint	1700Z-2100Z, Feb 6
Mexico RTTY International Contest	1800Z, Feb 6 to 1759Z, Feb 7
North American Sprint, CW	0000Z-0400Z, Feb 7



# Contest Calendar— February page 2

ARRL School Club Roundup	1300Z, Feb 8 to 2359Z, Feb 12
NAQCC CW Sprint	0130Z-0330Z, Feb 19
QRP Fox Hunt	0200Z-0330Z, Feb 10
Phone Fray	0230Z-0300Z, Feb 10
CWops Mini-CWT Test	1300Z-1400Z, Feb 10 and 1900Z-2000Z, Feb 10 and 0300Z-0400Z, Feb 11
RSGB 80m Club Championship, Data	2000Z-2130Z, Feb 10
NCCC RTTY Sprint	0145Z-0215Z, Feb 12
QRP Fox Hunt	0200Z-0330Z, Feb 12
NCCC Sprint Ladder	0230Z-0300Z, Feb 12
CQ WW RTTY WPX Contest	0000Z, Feb 13 to 2359Z, Feb 14
SARL Field Day Contest	1000Z, Feb 13 to 1000Z, Feb 14
Asia-Pacific Spring Sprint, CW	1100Z-1300Z, Feb 13
KCJ Topband Contest	1200Z, Feb 14 to 1200Z, Feb 15
SKCC Weekend Sprintathon	1200Z, Feb 13 to 2400Z, Feb 14
Dutch PACC Contest	1200Z, Feb 13 to 1200Z, Feb 14
OMISS QSO Party	1500Z, Feb 13 to 1500Z, Feb 14
New Hampshire QSO Party	1600Z, Feb 13 to 2200Z, Feb 14
FISTS Winter Unlimited Sprint	1700Z-2100Z, Feb 13
RSGB 1st 1.8 MHz Contest	1900Z-2300Z, Feb 13
PODXS 070 Club Valentine Sprint	0000Z-2359Z, Feb 14
Classic Exchange, Phone	1400Z, Feb 14 to 0800Z, Feb 15 and 1400Z, Feb 16 to 0800Z, Feb 17
QRP Fox Hunt	0200Z-0330Z, Feb 17
Phone Fray	0230Z-0300Z, Feb 17
CWops Mini-CWT Test	1300Z-1400Z, Feb 17 and 1900Z-2000Z, Feb 17 and 0300Z-0400Z, Feb 18
AGCW Semi-Automatic Key Evening	1900Z-2030Z, Feb 17



# Contest Calendar— February page 3

RSGB 80m Club Championship, CW	2000Z-2130Z, Feb 18
NCCC RTTY Sprint	0145Z-0215Z, Feb 19
QRP Fox Hunt	0200Z-0330Z, Feb 19
NCCC Sprint Ladder	0230Z-0300Z, Feb 19
ARRL Inter. DX Contest, CW	0000Z, Feb 20 to 2400Z, Feb 21
SARL Youth Day Sprint	0800Z-1000Z, Feb 20
Russian PSK WW Contest	1200Z, Feb 20 to 1159Z, Feb 21
Feld Hell Sprint	2000Z-2159Z, Feb 20
AWA Amplitude Modulation QSO Party	2300Z, Feb 20 to 2300Z, Feb 21
CQC Winter QSO Sprint	0100Z-0259Z, Feb 22
Run for the Bacon QRP Contest	0200Z-0400Z, Feb 22
SKCC Sprint	0000Z-0200Z, Feb 24
QRP Fox Hunt	0200Z-0330Z, Feb 24
Phone Fray	0230Z-0300Z, Feb 24
CWops Mini-CWT Test	1300Z-1400Z, Feb 24 and 1900Z-2000Z, Feb 24 and 0300Z-0400Z, Feb 25
UKEICC 80m Contest	2000Z-2100Z, Feb 24
NCCC RTTY Sprint	0145Z-0215Z, Feb 26
QRP Fox Hunt	0200Z-0330Z, Feb 26
NCCC Sprint Ladder	0230Z-0300Z, Feb 26
CQ 160-Meter Contest, SSB	2200Z, Feb 26 to 2200Z, Feb 28
REF Contest, SSB	0600Z, Feb 27 to 1800Z, Feb 28
UBA DX Contest, CW	1300Z, Feb 27 to 1300Z, Feb 28
South Carolina QSO Party	1400Z, Feb 27 to 0059Z, Feb 28
North American QSO Party, RTTY	1800Z, Feb 27 to 0559Z, Feb 28
High Speed Club CW Contest	0900Z-1100Z, Feb 28 and
SARL Digital Contest	1300Z-1600Z, Feb 28
North Carolina QSO Party	1500Z, Feb 28 to 0059Z, Feb 29

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**TM-281A | 2 Mtr Mobile**

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



**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

**YAESU**  
The radio



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**FT-450D | A100W HF + 6M Transceiver**

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