



**Publication of the  
Northern California  
Contest Club**



Issue 513

February 2015

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

**NCCC Meeting**

**Monday 9th February 2015**

**Location:-**

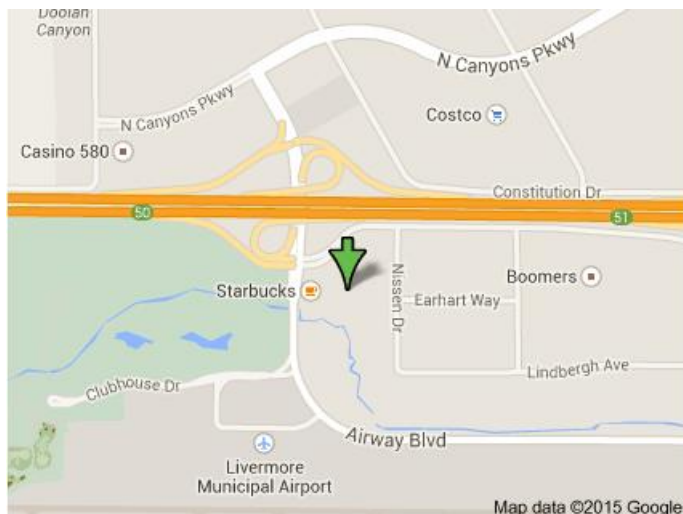
Cattlemen's Restaurant, Livermore, CA

**Time:**

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

**Program**

"The Origins of Silicon Valley: Roots in Ham Radio" Paul Wesling, KM6LH, IEEE SF Bay Area Communications Director, Hewlett-Packard (retired)



**President's Report**

Congratulations to Ed W0YK for the excellent newspaper article about contesting. Besides showcasing Ed's considerable accomplishments, it should help to educate the public about ham radio, and contesting. The most commonly asked question I get asked about ham radio (after "how far does this reach") is "what do you talk about," as if the only thing we do is ragchew on 75 meters.

By now you have hopefully seen the awards survey. Please send in nominations if you are aware of worthy recipients. If we don't get sufficient nominations, some awards may not be bestowed this year.

REDXA is interested in organizing a joint meeting with NCCC. Possibly, MLDXCC will get involved. The gotcha with doing these meetings in that the planning of the meeting must start while the outgoing NCCC board is finishing their terms in office, but the meeting occurs after the incoming board is elected. I have encouraged REDXA and MLDXCC to go ahead with their plans. The future board can decide whether or not to hold a Monday night meeting the month of the joint meeting.

Speaking of the future board, I will not be a candidate for president at the upcoming elections in April, although the by-laws now allow this. I would encourage everyone to think about members who would be suitable as future officers and encourage them to run.

continued on page 3



# Northern California Contest Club

Excellence In Amateur Radio Contesting

## Officers:

President	Rick Karlquist,	N6RK	richard@karlquist.com
Vice President /Contest Chair	Byron Servies,	N6NUL	byron@n6nul.org
Secretary/Treasurer	Tom Carney	K6EU	k6eu@arrl.net
Past President	Alan Eshleman	K6SRZ	doctore@well.com
Director	Tom Hutton	N3ZZ	n3zz.tom@gmail.com
Director:	Ron Castro	N6IE	ronc@sonic.net
Director:	Don Taylor	K6GHA	k6gha@sbcglobal.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	Chris Tate	N6WM	ctate@ewnetinc.com
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
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	David Ashworth	NC6P	nc6p@yahoo.com



# Northern California Contest Club

Excellence In Amateur Radio Contesting

### 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).

We are planning to submit a by-laws change that would split the office of Secretary/Treasurer into separate offices. This should reduce the work load on the future Secretary and Treasurer. There seems to be very little downside to this. If some ambitious person wanted to be Secretary/Treasurer, they could run for both offices. AFAIK, nothing the by-laws would prevent this.

Another coordination issue between the clubs is focus contests. I was at the MLDXCC meeting last Saturday and they wanted to finalize their focus contest list. I believe they are going to do WPX and ARRL DX this year, having already done RTTY RU. If there is any significant change in NCCC focus contest in the future, we should coordinate these plans with the clubs, such as MLDXCC and REDXA. I believe it is a given that SS will be an NCCC focus, and of course NCCC doesn't enter the club competition for CQP.

We could use some workers to man the NCCC table at Visalia and help with the hospitality suite. Let me know if you can help.

Rick N6RK

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## VP/CC Corner



The first 2 of the Winter NAQP event weekends are now behind us, and the initial tallies look to have lower participation than even last year! Of course, I am just adding up the 3830 scores submitted for the club, and I know not everyone submits to that site. Still, those numbers would have to double to meet last years totals.

Good news! There are still 4 weekends of NAQP left! The first is on February 28th for RTTY. Then there will be a break and we can all put on our rally caps when the series resumes in July and August for the summer sessions.

Jack W6FB has been doing an outstanding job championing the winter sessions, so look forward to his emails about the RTTY weekend coming up at the very end of the month. There is still some life left in this solar maximum, if the SSB weekend was any indication, so fire up the sound cards and be ready!

For the rest of the season I am looking for contest champions to coordinate NCCC entries in their favorite competition. Have a favorite springtime contest with a team category? Let me know! We can certainly field some teams, and of course I'll be scanning the lists myself for potential NCCC entries.

Also, the awards banquet and elections are also on the horizon. It is never too early to start thinking about nominations for VP/CC for the 2015-2016 contest year.

73, Byron N6NUL  
VP/CC

## Alienation Proclamation or Encouraging Improvement

I had never been on 160 meters before. I don't even recall hearing signals on the 160m band before, but that was probably because I hadn't listened much. It was early evening and the ARRL 160m contest was in process, so I thought maybe I should listen and maybe I might hear someone. Sure enough, I did hear signals. My lowest band antenna is a dipole for 40 meters and I was certain it wouldn't tune on the 160m band, and if it did I doubted that anyone would hear me anyway with my only HF radio, an Elecraft KX3. I lowered the power to 3 watts so I wouldn't damage the radio, and let the radio attempt to tune on the 160m band. Somehow it found some sort of match even without doing any clever rewiring to my antenna to make it better for 160m. I heard a strong station calling CQ repeatedly, and decided I had nothing to lose by attempting a contact. As I discovered later, I should have never attempted a contest contact on this band. I did make contact, as well as a proper exchange. I went on to make 2 more contacts giving a couple of points to some contesters.

I'd always wondered what it takes to participate on this band, but assumed I had far too little room to even attempt anything. Having made even these few contacts on a band I thought was impossible was very encouraging. The nearest station I contacted was only 10 miles away and I thought I might learn something by seeing what a truly large station uses to hear a meager signal from a station like mine, so I contacted Rick N6RK and we arranged a time when I could learn more about the antenna system of a truly superb contest station. Yes, I am one of the people Rick N6RK mentioned in the January 2015 JUG "President's Report".

I didn't have a lot of time to spend visiting his station, so I made the best of the time available. I realized Rick was being very generous with his time when he mentioned that he had 400 QSO's so far in the 10m contest. Since he was taking time out for me, I learned quite a bit simply by listening and asking how the antenna system he has built goes together to best optimize his station.

After reading the President's Report, I learned that it was wrong of me to have even attempted giving any QSO's on a band where my equipment isn't optimized. Even more disturbing from the President's Report is the overall tone that unskilled contesters should not be encouraged, and should not be taught how to be better. I am shocked at the idea that new operators should be shunned from contesting. I assume that even though my station for the 160m contest was completely unacceptable, that he counted my QSO in his total submitted. That he is capable of working 1000 QSO's on Field Day is good, but many of those contacts do not come from trained contesters, but just the average Ham attempting something new and different.

I doubt that anyone contests if they dislike it. I expect that even though it can be a chore at times, there is enjoyment in participating in a contest that makes us try again. Having a rate of 90 is fun, although I'm apparently not allowed to use the 'F' [fun] word in regard to contesting. If it wasn't enjoyable, we wouldn't do it.

Admittedly, I am not the best contester, but I am probably not the worst either. My station at home is absolutely not a contest station. The best I can hope to accomplish from home is to give contacts. I figure that every QSO I give helps someone get a higher score. You can't get any QSO's without someone else participating in the contest, and this is why some effort must be put into help-

ing potential new contesters learn to become better. The Mission Statement of NCCC even states this:

The Northern California Contest Club is a specialized amateur radio club devoted to the pursuit of operating and technical excellence in radio contesting. Our goals are:

- To promote the fun, satisfaction and competitive thrill of radio contesting.
- To help our members develop their operating and technical skills to become better contesters.
- To win the club competition of major amateur radio contests.

As I read it, the January 2015 President's Report is against having fun participating in a contest, and "these guys are a lost cause." This seems to go against the NCCC Mission Statement. Without knowing hardly anything about an individual, it was somehow decided to give up encouraging anyone new? It appears that from a brief encounter that anyone having fun in a contest should be shunned. A contest is only for the serious contesters, and anyone only willing to give out a couple of contacts should be avoided. This is not what I would expect from the president of the NCCC. I would expect NCCC to encourage newer contesters, even if only to listen in a contest.

I have been very fortunate to have had some very good mentors over the years. I have appreciated everything anyone was willing to show or teach. I sincerely hope that the attitude that unskilled new contesters should not be seen or heard is only an attitude held by a small number of NCCC members.

Arnold Harding, KQ6DI

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## 2014/2015 Contest Dues

If you have already paid your NCCC dues for the 2014/2015 contest year, thanks. The club appreciates your support.

If you have not paid dues, a gentle reminder due were due last July and are currently past due. Now would be a good time to pay your dues as we are approaching the March meeting where NCCC awards will be presented. Per long standing policy, awards are only given to those members who have paid dues for the current year.

Not sure if you have paid dues? Check the roster on the club WEB site.

Dues payment can be sent to the club treasurer or via Pay-Pay pp address ([paypal@nccc.cc](mailto:paypal@nccc.cc))

K6EU  
1545 Elwood Dr.  
Los Gatos, CA 95032

Tom K6EU



# To Move or Not to Move? That is the NAQP Question

by Andy Faber, AE6Y

1/21/15

To move or not to move? Is that a good question or is the answer clear? Of course, we are talking about the North American QSO Party (NAQP) here, the contest for movers par excellence.

There's no question that the best way to get a high score in NAQP is to be loud and hear well (I think of this whenever I hear mountain top stations like W6NL and N6NF working guys on 10 and 15 that I can't even hear). Being rare helps. And being an efficient, sharp operator is always good. But for the rest of us, can we help our scores and have some contest fun by moving mults around?

This brief analysis was prompted by my recent participation on Club teams in both the CW and SSB NAQPs in January. I have always found these contests to be very enjoyable. They have a lot of advantages over some other domestic contests: for example (1) They are low power only; (2) They are very friendly, especially the phone version, since the exchange includes your name; (3) Since the exchange doesn't vary, as the contest progresses it is often possible to make contacts at the ESP level, which is particularly helpful as the herd moves to the lower bands; and finally (4) for a single op it is only 10 out of 12 hours! This not only injects an element of strategy into the contest, but also means it doesn't destroy your whole weekend.

Oh, and did I mention that a prime feature of NAQPs is that asking stations to move bands for you is accepted practice, and is usually welcomed by the other station? This adds an interesting dimension to the contest and also helps make it ideal (along with the low power limitation) for two-radio practice.

It is common to think after the contest that one should have made more moves, but there are two main questions to answer to get into the swing of things: first, how do you get stations to move for you, and second, is it beneficial to your score? This article is focused on the phone contest, as initiating moves is easier on that mode than on CW. In fact, I would say that of CW moves requested, at least half the time I receive the CW equivalent of a blank stare – i.e., no response. On phone, my response rate is much higher. Virtually everyone asked either agrees to the move or has some reason to decline, like: "no antenna on that band," or "will be there later." Unlike on CW, hardly anyone ignores the request.

So, assuming you want someone to move for you, how do you do it? Well, the starting point is that if that person has answered your CQ, then they are fair game for a move request. Sometimes you can even get a running station to move. Thus, on rare occasions when I have heard on my second radio a mult that I have already worked on that band CQing with no response, I might say: "This is AE6Y. Do you have a minute to QSY for a contact on 15?" The station may say "no," or "no propagation," or he may have another radio on that band and suggest a frequency, or he may ask for a proposed frequency. In either of the latter two cases, a contact can be made with profuse thanks.

But back to the normal case, where, e.g., VE4YU has called you on 15 and you know you need him on 20, after he says "Ed Mike Bravo," you can simply say: "Thanks. Can we try 20?" (I know this works with Ed, because he not only moved for me in NAQP, but has done so many times in ARRL

DX contests for P49Y.) He will ask for a frequency, and you need to have one ready or ask him to stand by for a moment while you find one. This can be tricky, and more than once I have chosen a frequency that sounded quiet, but turned out to be occupied. (Once from P49Y I accidentally moved someone to W3LPL's run frequency – that move had an unhappy outcome.) In some cases a contact can be made even on an occupied frequency, but it's embarrassing.

If you have a radio set on the other band, you can do a better job of finding a clear frequency. Another approach is just to pick a frequency that is unlikely to be QRMed (e.g., I moved a few guys to 28555 in NAQP; on CW you might choose oddballs like 14111 or 21111), though if you have to wait for a while for him, you can be wasting time on a remote part of the band. If you have been dual-CQing (i.e., alternating CQs on two bands) or otherwise have a frequency in mind, you can ask directly, e.g.: "Can you QSY to 14318?"

Assuming he agrees, you then change frequency and have to decide to either CQ or call him on the new frequency. Generally, if he is a known good contester, he will be there right away in NAQP, and you can just call him. If he's slower, or maybe says "I'll be there in just a minute; I have to re-tune," then you might decide to just call CQ on the new band and possibly work someone else first.

Once you have made the move and thanked your move partner, then (assuming you are not attempting a double move) you should return right away to your run frequency. If someone is on it, you are faced with a contest-ethics dilemma. Maybe you can reclaim the frequency by CQing, or maybe you'll have to slink away to find a new one. It's like Woody Hayes's description of a forward pass in football: there are three possible outcomes of a move, and two of them are bad – losing your run frequency is the worst of the three, akin to an interception. But that rarely happens in NAQP, since the bands aren't as crowded as in some of the international contests. (CQWW Phone from P49Y is another story, however.)

So, when is it advisable to move a station for a new multiplier? Analysis is complicated by the fact that even though a move may be a new mult, it's possible that it wasn't really necessary, as you may be called by that same mult later on the moved band. Some judgment must be used. For example, in NAQP, early in the contest, VE4DRK called on 15. Since VE4s had been exceedingly rare in the CW contest, I moved Dan successfully to 10. A little later, VE4YU called on 10, so it turned out that the first move hadn't been necessary. But I moved VE4YU to 20 for my first QSO of the contest on that band.

On the other hand, just eleven minutes into the contest VE8NSD, Garth, called me on 10. Now it's not very often that one works even one VE8, let alone two of them, so after getting over my surprise at the call I moved him to 15 easily. We probably should have gone to 20 also (fortunately, he called later on 20). That move, even very early in the contest, was a no-brainer. But, there was clearly no point in moving relatively common Midwestern mults like IL, MN, OH early in the contest. So you always have to balance off the likelihood that a move really will be a new mult that you will not rework on the moved band, against the score boost from the new mult.

To illustrate the new mult issue, in NAQP SSB, out of 870 QSOs, I moved 21 stations: two to 10, six to 15, seven to 20, one to 40 (thanks to Alan, KH6TU, AD6E), one to 80 and four to 160 (including on a lark, Jack, W6FB, for my only six-bander of the contest).

Review of the log afterwards shows that eight of them were mults that were ultimately reworked on the second band. It's hard to predict how that will work out, and a lot depends on propagation, activity, and how much time you later spend on the second band. For example, as it turned out, none of the six mults I moved to 15 (NWT, VI, WV, AK, PEI, and AB) were reworked, but of the seven moved to 20, four were reworked (MB, NE, ND, SD), while three were not (RI, SK, DE).

Was it worth it to take the time to move 21 stations to effectively add 13 new mults to my score? There are a number of ways you might do an analysis of effectiveness. Here is one, starting with my totals of 870 Qs and 210 mults. My average rate for the contest was obviously 87 QSOs per hour, or about one every 40 seconds. On average, each move probably actually took less time than 40 seconds, so I don't believe I actually lost any contacts that I would have made in lieu of the moves (that might not be the case, say, for Rich, N6KT at W6NL, who had an average rate of 150 Qs per hour, or a contact every 24 seconds). Assuming my contact total would not have changed, one might also speculate that in the 21 contacts made in lieu of moves, there would be a few extra mults, say three of them. On that view, the net delta of my 21 moves amounts to about ten new mults, or 8,700 points (about 5% of the total score). That's the equivalent of 43 extra contacts, or another half hour of operating. My conclusion, thus, is that the moves did increase the score significantly.

In fact, as a matter of general contest strategy, there is something to be said for moving stations that aren't new mults just to get the additional Qs. Particularly if you are dual-CQing, asking any station to call you on the other band is beneficial and wastes almost no time. Ed, W0YK, does this from P49X in RTTY contests to great effect. And John, W6LD, says that at the multi-2 that he did with a bunch of SMCers at our P40L-P49Y station in ARRL Phone last year, over a thousand of their contacts were stations that one of their operators had asked to call them on their other active band.

One more point to mention is that successful moves can really be enjoyable and satisfying. In that vein, the single most entertaining quarter hour of the contest for me was just after 2300Z, when I was dual-CQing on 14187 and 21392. Both frequencies were nice and clear. First Bill, VY2LI, called on 20 and moved to 15. The very next caller was Summer, VE5SDH, on 15, who obligingly moved to 20. The next caller was John, N0GBR in NE, who called on 15 and moved to 20 (though since he was a general class licensee, we had to go to 14343 instead of my run frequency). Two callers later, Jeff, K0CMS in ND, called on 15 and moved to 20, and after one intervening QSO on 20, Tim, VE6SH, called on 20 and moved to 15. A few minutes later, Jim, N0NAC, in SD moved from 15 to 20. This was really exciting and lots of fun. And because I was dual-CQing and had two clear frequencies, all of these moves were quite easy and fast. As mentioned above, it turned out that I later worked NE, ND, and SD again on 20, but they all seemed rare at the time, and I didn't know then that more would show up later.

So my suggestion for the next round of NAQPS, in August when mults are generally harder to find than in January, is to have some fun asking for moves. Particularly on phone, you'll be surprised how well this works.



## AI6V CELEBRATION

On Sunday, January 11, of this year, family members, friends, and fellow hams met at the Embassy Suites Hotel in Walnut Creek to 'Celebrate the Life' of Carl Cook, AI6V. The venue was very nice, the hors d'oeuvres far above average, and the display of mementos assembled from Carl's life were wonderfully presented. On display were photos, scrapbooks, trophies and even his license to compete in high-speed auto competitions. There was even a video a few minutes long which recently produced by Carl!



But the most evident and pervasive things that were communicated by the assembled celebrators were the love for Carl and the respect for all he had done. Several of Carl's closest friends and family members told short stories about fun times they had spent with Carl.

A recurring theme was Carl's love of ham radio contesting. It was related that over the years, Carl had contest stations in the Sierra foothills, Brentwood, Las Vegas, and Aruba. He was a consummate contester, and had several world records as AI6V or P40V.

There is a contest in the spring called "WPX", for "Worked all Prefix" contest. Carl went to Aruba for this one several times. That left his home US call, AI6V, languishing unused here. Because the prefix 'AI6' is (being rarer) much more sought after than my own prefix 'K6', I thought I could improve my scoring potential if I could be AI6V during the phone portion of the WPX contest a few years ago. I asked Carl's permission to use his callsign and he said 'Sure you can use it. And have fun.'

Now, one of the prime directives of contesting is to 'Keep the rate up!'

I found that very difficult to do.

Me: "CQ contest, Alpha India Six Victor."

OH2xx: "Hi Carl, you're five-nine-one-fourteen. How are you?"

Me: "Carl is in Aruba. OH2xx five-nine-ninety three."

OH2xx: "This isn't Carl?"

Me: "No, I'm just keeping his callsign lubricated for the weekend. QRZed AI6V."

"ES2xx"

"ES2xx five-nine-ninety four"

" You're five nine sixty five. How are you, Carl?"

"Carl is in Aruba. I'm just borrowing his callsign for the contest. "

And so it went...

You can appreciate that I was not able to maintain a very good rate, even though everyone wanted to work AI6V. However, I learned that Carl had MANY friends, all over the world, and I met a lot of them!

Carl once told me he had a 'heart condition' and because I have spent most of my professional life in heart research, I was interested in what he had to say. (It turned out that I was well-acquainted with two Cardiologists that Carl was seeing.) Carl was advised to "Slow down, sell the place in Aruba, lose weight, and take things easy."

So Carl sold the place in Aruba, lost weight, and just to keep busy, got licensed to make high speed runs at Bonneville salt flats in Utah. In 2006, he achieved a two-way average speed of over 235 miles per hour, and became a member of the 'Two hundred mph club'.

With that accomplished he looked for another 'take things easy' challenge, so he bought another place in Aruba, refurbished it, and installed another contest station!

One might say he was 'driven' but I never saw him in a condition I'd call 'stressed out'. It seemed to me that life was all FUN to him, and his big smile was always on display!

I'm lucky to have been his friend for over twenty years, and to have been included in the celebration.

73, K6GT



# Contest Calendar— February page 1

North American SSB Sprint Contest	0000Z-0400Z, Feb 1
RSGB 80m Club Championship, SSB	2000Z-2130Z, Feb 2
ARS Spartan Sprint	0200Z-0400Z, Feb 3
QRP Fox Hunt	0200Z-0330Z, Feb 4
CWops Mini-CWT Test	1300Z-1400Z, Feb 4 and 1900Z-2000Z, Feb 4 and 0300Z-0400Z, Feb 5
NRAU 10m Activity Contest	1800Z-1900Z, Feb 5 (CW) and 1900Z-2000Z, Feb 5 (SSB) and 2000Z-2100Z, Feb 5 (FM) and 2100Z-2200Z, Feb 5 (Dig)
NCCC RTTY Sprint	0145Z-0215Z, Feb 6
QRP Fox Hunt	0200Z-0330Z, Feb 6
NCCC Sprint Ladder	0230Z-0300Z, Feb 6
YLRL YL-OM Contest	1400Z, Feb 6 to 0200Z, Feb 8
Triathlon DX Contest	0000Z-0759Z, Feb 7 (CW) and 0800Z-1559Z, Feb 7 (SSB) and 1600Z-2359Z, Feb 7 (RTTY)
Vermont QSO Party	0000Z, Feb 7 to 2400Z, Feb 8
YL-ISSB QSO Party, CW	0000Z, Feb 7 to 2359Z, Feb 8
10-10 Int. Winter Contest, SSB	0001Z, Feb 7 to 2359Z, Feb 8
SKCC Weekend Sprintathon	1200Z, Feb 7 to 2400Z, Feb 8
Black Sea Cup International	1200Z, Feb 7 to 1159Z, Feb 8
Minnesota QSO Party	1400Z-2400Z, Feb 7
FYBO Winter QRP Sprint	1400Z-2400Z, Feb 7



# Contest Calendar— February page 2

AGCW Straight Key Party	1600Z-1900Z, Feb 7
British Columbia QSO Party	1600Z, Feb 7 to 0400Z, Feb 8
Mexico RTTY International Contest	1800Z, Feb 7 to 1759Z, Feb 8
AWA Amplitude Modulation QSO Party	2300Z, Feb 7 to 2300Z, Feb 8
North American Sprint, CW	0000Z-0400Z, Feb 8
Classic Exchange, Phone	1400Z, Feb 8 to 0800Z, Feb 9
ARRL School Club Roundup	1300Z, Feb 9 to 2359Z, Feb 13
NAQCC CW Sprint	0130Z-0330Z, Feb 11
QRP Fox Hunt	0200Z-0330Z, Feb 11
CWops Mini-CWT Test	1300Z-1400Z, Feb 11 and 1900Z-2000Z, Feb 11 and 0300Z-0400Z, Feb 12
RSGB 80m Club Championship, Data	2000Z-2130Z, Feb 11
NCCC RTTY Sprint	0145Z-0215Z, Feb 13
QRP Fox Hunt	0200Z-0330Z, Feb 13
NCCC Sprint Ladder	0230Z-0300Z, Feb 13
PODXS 070 Club Valentine Sprint	0000Z-2359Z, Feb 14
CQ WW RTTY WPX Contest	0000Z, Feb 14 to 2359Z, Feb 15
SARL Field Day Contest	1000Z, Feb 14 to 1000Z, Feb 15
Asia-Pacific Spring Sprint, CW	1100Z-1300Z, Feb 14
KCJ Topband Contest	1200Z, Feb 14 to 1200Z, Feb 15
Dutch PACC Contest	1200Z, Feb 14 to 1200Z, Feb 15
OMISS QSO Party	1500Z, Feb 14 to 1500Z, Feb 15
New Hampshire QSO Party	1600Z, Feb 14 to 0400Z, Feb 15 and 1200Z-2200Z, Feb 15
FISTS Winter Unlimited Sprint	1700Z-2100Z, Feb 14
RSGB 1st 1.8 MHz Contest	2100Z, Feb 14 to 0100Z, Feb 15
Run for the Bacon QRP Contest	0200Z-0400Z, Feb 16
QRP Fox Hunt	0200Z-0330Z, Feb 18
CWops Mini-CWT Test	1300Z-1400Z, Feb 18 and 1900Z-2000Z, Feb 18 and 0300Z-0400Z, Feb 19
AGCW Semi-Automatic Key Evening	1900Z-2030Z, Feb 18
RSGB 80m Club Championship, CW	2000Z-2130Z, Feb 19



# Contest Calendar— February page 3

NCCC RTTY Sprint	0145Z-0215Z, Feb 20
QRP Fox Hunt	0200Z-0330Z, Feb 20
NCCC Sprint Ladder	0230Z-0300Z, Feb 20
ARRL Inter. DX Contest, CW	0000Z, Feb 21 to 2400Z, Feb 22
REF Contest, SSB	0600Z, Feb 21 to 1800Z, Feb 22
SARL Youth Day Sprint	0800Z-1000Z, Feb 21
Feld Hell Sprint	2000Z-2159Z, Feb 21
Russian PSK WW Contest	2100Z, Feb 21 to 2100Z, Feb 22
High Speed Club CW Contest	0900Z-1100Z, Feb 22 and 1500Z-1700Z, Feb 22
SARL Digital Contest	1300Z-1600Z, Feb 22
CQC Winter QSO Sprint	0100Z-0259Z, Feb 23
SKCC Sprint	0000Z-0200Z, Feb 25
QRP Fox Hunt	0200Z-0330Z, Feb 25
CWops Mini-CWT Test	1300Z-1400Z, Feb 25 and 1900Z-2000Z, Feb 25 and 0300Z-0400Z, Feb 26
NCCC RTTY Sprint	0145Z-0215Z, Feb 27
QRP Fox Hunt	0200Z-0330Z, Feb 27
CQ 160-Meter Contest, SSB	2200Z, Feb 27 to 2200Z, Mar 1
UBA DX Contest, CW	1300Z, Feb 28 to 1300Z, Mar 1
North American QSO Party, RTTY	1800Z, Feb 28 to 0559Z, Mar 1



# HAM RADIO OUTLET

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**ICOM**



**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 WVGA TFT display • Hi-res real time spectrum scope



**IC-7200 | HF Transceiver**

- 160-10M • 100W • Simple & tough with IF DSP • AGC Loop Management • Digital IF Filter • Digital Twin PBT • Digital Noise Reduction • Digital Noise Blanker • USB Port for PC Control



**IC-7100 | All Mode Transceiver**

- HF/50/144/430/440 MHz Multi-band, Multi-mode, IF DSP • D-STAR DV Mode (Digital Voice + Data) • Intuitive Touch Screen Interface • Built-in RTTY Functions



**ID-5100A | VHF/UHF Dual Band Digital Transceiver**

- Analog FM/D-Star DV Mode • SD Card Slot for Voice & Data Storage • 50W Output on VHF/UHF Bands • Integrated GPS Receiver • AM Airband Dualwatch • FM Analog/DV Repeater List Function

**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\*\* • AM/FM/FM-N/WFM/DV • 1304 Alphanumeric Memory Chls • Integrated GPS • D-STAR Repeater Directory • IPX7 Submersible



**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

**KENWOOD**



**TS-590SG | HF/50MHz Transceiver**

- Equipped with 500 Hz/2.7 kHz roofing filter as standard • ALC derived from TS-990S eliminating spike issues • Antenna output function (shared with DRV connector) • CW - morse code decoder function



**TM-D710G | 2M/440 Dualband**

- V+V/V+U/U+U operation • Built-in GPS • Built-in TNC for APRS & DX-Cluster operation • 50W 2M & UHF • 1,000 memories • Dual receive • Green or amber backlight colors • Latest APRS firmware w/new features • Sky Command II remote functions



**TM-V71A | 2M/440 Dualband**

- High RF output (50W) • Multiple Scan • Dual receive on same band (VxV, UxU) • Echolink® memory (auto dialer) • Echolink® Sysop mode for node terminal ops • Invertible front panel • Choice of green/amber for LCD panel • 104 code digital code squelch



**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



**FT-991 | HF/50MHz/2M/440 Transceiver**

- 160 M-440MHz - SSB/CW/FM/C4FM Digital/AM/RTTY/PSK • 100 W (2M/440: 50 Watts) • 3.5" TFT full-color touch panel operation • High speed spectrum scope • Roofing filters: 3kHz & 15kHz • 32-bit high speed floating point IF DSP



**FTDX1200 | 100W HF + 6M Transceiver**

- Triple Conversion Receiver With 32-bit Floating Point DSP • 40 MHz 1st IF with selectable 3 kHz, 6kHz & 15 kHz Roofing Filters • Optional FFT-1 Supports AF-FFT Scope, RTTY/PSK31 Encode/Decode, CW Decode/Auto Zero-In • Full Color 4.3" TFT Display



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

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



**FTM-400DR | 2M/440 Mobile**

- Color display-green, blue, orange, purple, gray • GPS/APRS • Packet 1200/9600 bd ready • Spectrum scope • Bluetooth • MicroSD slot • 500 memory per band



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