



Publication of the  
Northern California  
Contest Club

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## NCCC — 52 years of

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#### NCCC ZOOM MEETING

FOR DETAILS:

<https://nccc.cc/meetings.html>

Please join us on line via Zoom at:

Date: Tuesday, June 14, 2022

Time: Open chat, 6 PM PDST

Meeting: 6:30 PM to 8:30 PM

Open chat after the meeting, too.

Web Meeting Info: For Zoom meeting information,  
please contact the NCCC Secretary

at [secretary.nccc@gmail.com](mailto:secretary.nccc@gmail.com)

Program:

We look forward to seeing you all online!

Gary, NA60 — NCCC Secretary

### President's Report - WD6T

#### Cheats or Tools?

David A. Jaffe, WD6T

Our May presentation by Brooke Allen N2BA/YN2SX was on amateur radio contesting viewed through the lens of game design theory. Games typically have a set of rules. Anything that violates those rules is "cheating," which is deemed neither ethical nor rewarding.

But what about the use of a tool such as the Reverse Beacon Network to auto-spot stations to work?

According to radiosport rules, this is OK providing you are in an "Assisted" (aka "Unlimited") category. No ambiguity there; again, it comes down to following the rules.

Where it becomes fuzzy is in some hams' views of Assistance. They argue that it is a form of cheating oneself and that those who employ such technology are somehow less worthy of respect and are missing out on the morally superior form of operating. Frequently the cq-contest reflector includes postings that bemoan those who are not "finding stations to work and copying the call signs themselves." Such posters pine for the days when it was just a "boy and his radio" (or "girl and her's") and look down their noses at those who use "Assistance."

(Continued page 3)



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[Thursday Night Sprint](#)

The Northern California Contest Club sponsors a Thursday Night Contesting session of thirty minute duration. Often, on Fridays prior to a major contest weekend, a special practice session is held.

Generally, on Thursday evenings, a special format is followed, called NS or "NCCC Sprint". The NS began in the summer of 2004 as a snappy, concise contest occurring most Thursday nights, North America time. The power limit is 100 watts. Occasionally, multi-week ladder competitions are held. See [www.ncccsprint.com](http://www.ncccsprint.com) for details

Thursday Night Contesting Director and Founder  
 NCCC CW Sprint  
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 W9RE, K4BAI, N3BB, VE3TY, and WO8H)



While there is a valid distinction between “non-RF” technology (Internet) and other forms of “assistance,” using network spots is only one form of "assistance" that differs from the old days of "a boy and his radio." Modern rigs have waterfall displays that allow you to see wide swaths of spectrum and find signals quickly. They have DSP noise reduction, noise blankers, multiple receivers, receive-only antenna ports, and numerous other features that were not available in the 1950s and 1960s. Modern computer loggers have automatic dupe checking and programmable function key macros for auto-sending of CW. All of these could be considered as "cheating yourself."

Moving further down the purism continuum, using any "appliance" radio could be a form of "cheating," where a "real ham" should build a kit himself. And a truly "real ham" should completely home-brew his rig. Finally, the ultimate "real ham" purist would not only home-brew, but also design the circuit himself. But wait, there's more. One recent episode of ARRL "Eclectic Tech" featured a ham who fabricates his own components!

Of course, it can be fun and challenging to turn off packet spots, lower your power to QRP levels, use hand-built equipment, etc., but it is misguided and alienating to new and experienced contesters alike to assert that without doing so, they are somehow falling short.

### **A digression from the world of birding**

While not a perfect analogy, more than once I've heard a birding traditionalist, with his backpack full of field guides and bird-finding guides, look down his nose at the young birder with his iPhone who is using the latest whizzy app to identify birds and upload his lists in real time to a central cloud server. It begs the question as to whether such innovative technology is a crutch (making up for a deficit) or an asset (extending the power of a skilled observer)? Here we invoke the way-back machine:

*When I was twenty years old, I was invited to serve as a driver for a breeding bird survey. This was part of a nationwide effort spearheaded by ornithologist Chandler Robins to document specific locations year after year. We travelled a fixed route, stopping at pre-determined locations early in the morning, and would write down every bird that was seen or heard during a fixed time interval (I believe it was 3 minutes). The sun had not even risen above the horizon and the person I was with could identify numerous birds that were heard but not seen. I was astounded at his skill and resolved to learn how to do it myself. I spent the next spring and summer going out in the field every morning before dawn, listening to birdsongs, attempting to identify them and returning home and listening to LP records to confirm or refute my identifications. Later, I acquired a paraboloid microphone and portable recording equipment and travelled on expeditions deep into the jungles of Brazil, the outback of Australia, and other remote locales (preferably with at least one mountain between me and the nearest man-made noise source), recording birdsongs.*



Back in the present, a few weeks ago, I discovered Merlin, a free iPhone/Android app from the Cornell Laboratory of Ornithology. This amazing program listens to the birds, displays a waterfall display (rotated 90 degrees from what hams are used to) and presents its identifications. It does this by using a technology resembling computer face-matching. It uses the waterfall "signatures" themselves as a set of training data for a neural net which then looks for such signatures in the real-time data. It works amazingly well, often hearing birds that are too faint for my high-frequency-rolled-off ears to pick out. Sometimes it gets the birds wrong (misinterpreting a dog as a raven, for example). But other times it identifies songs or calls that I am not familiar with, even if I know the more common version for the bird in question. It also has multiple recordings of songs and calls for each bird it identifies, which you can play and compare to what you are hearing. Birds will also sometimes respond to the sound of their own song (they assume it's a competing male, and they'll come over and give you a piece of their mind) so these recordings can be used to lure the bird out into the open (though you have to take care not to cause it to abandon its territory due to competition from your iPhone.)

Merlin could be used as a crutch, letting it do the identification and having a list that contains many errors. But it is also a superb learning tool. I first listen myself and identify everything I can hear. If I hear something unfamiliar, I try Merlin and see what it says. If it makes an obvious error, I reject it. But if its guess seems plausible, though perhaps rare, I continue trying to either find the bird visually or identify a more familiar version of its call or song. Thus, Merlin will often alert me to the possible presence of a bird I had not noticed. Since using it, I have increased my knowledge of bird calls and songs.

### **OK, back to ham radio**

In recent years, new contesters have been able to use a CW decoder and encoder to join in the contesting fray much sooner than would have been possible in the past. Such tools can be used as either substitutes for learning CW or as accelerators for new hams working to master the code. Let's support those who are brave enough to give it a shot. We want to encourage new CW ops, not judge them.

Our hobby is technology-based and developing and using new innovations is part of the game. A hot-rod contester will master operating skills such as SDR-based receiver dynamic range, AGC, NR and NB fine-tuning, filter widths and latency/sharpness tradeoffs, riding RF gain, diversity receive, dual antennas to phase-cancel noise sources, use of XIT and RIT, etc. He will bring that same spirit to the design of his station, analyzing and modeling his options for antenna systems to maximize performance for a given goal.

Contesting is about maximizing score through station and operator optimization. New technologies can be weapons in the arsenal of the competitive contester. Often such tools require skills of their own which must be developed and cultivated. Whether any given tool serves as a crutch or as an asset depends on how creatively and skillfully you can leverage it.





As the summer sun moves high in the sky a young man/woman's fancy turns to the North American QSO Parties. There was a great deal of concern that adding the option of assistance to the NAQP for single ops would ruin the contest by creating the "cluster pileup" phenomenon. Did it completely ruin the contests? I don't think so, especially given that many ops were already entering as M2 to use the cluster. Did it change the character of the contests somewhat? Probably, but they're still fun and highly competitive. So, whether you choose to operate in the unassisted or the assisted category, recognize that both have their merits and require skill and technique. If you always do one, try the other for a change of pace; anything that you can do to keep contesting new and fresh benefits the gray matter between your headphones.

In the scheme of things, adding an assisted category to NAQP was a small change. But N2BA challenged us to imagine new ham radio "games" with rules that are quite different from current contests. The NA Sprint was an excellent example of a significantly different contest format. So, in addition to trying some new technology, how about experimenting with inventing a new contest paradigm? What can YOU come up with?



## June 2022 AE6Y VP/CC JUG Column

It's been a year since I have been able to go to Aruba to enjoy the fruits of the complete tower and antenna rebuild that John (W6LD), Ed (W0YK) and I spent several weeks on in 2019 and 2020. We finished just before Covid shut down most travel and instituted a few years of difficult and possibly risky travel to such places.

My last trip had been for WPX CW in 2021, exactly a year ago, and I had mixed feelings about going this year, but as it turned out, the contest was great fun, and the trip was safe enough, as far as I can tell. John and Ed had been similarly cautious, and our station had mainly been used for some excellent contest results by John Crovelli, W2GD. See our website, [www.arubaqth.com](http://www.arubaqth.com), for details on his operations.

Anyway, I did do a single band 15m entry, and as reported to 3830, am in a horse race with superstation ZX5J in that category. Normally, we can't compete on 15 or 10 with the PYs and LUs, but these were unusual conditions, and of course I'm kicking myself after the fact for not having put in a more serious effort that might have put me convincingly in front of them; as it is, log checking will determine the winner.

Here's a poem about that:

### Return to One Happy Island

I'm back to Aruba once more  
To contest again from P-Four  
Fifteen meters was right,  
All day and all night.  
With pileups to work down galore.

Rather than writing on a random contest topic, I thought it might interest Club members to get an idea of what such a trip entails – so here are my trip notes.

Tuesday, May 24- Weds., May 25, 2022. American was back with the typical redeye to MIA, leaving SFO at 2230, then a five-hour layover in Miami before the 1230 departure for AUA. I had looked at other airlines, particularly because at this time coming out of Covid, the tickets for First/Business class were roughly 3 times more expensive than in past years, and I wanted to fly the premium class mainly to have more space for covid safety. A cheaper alternative would have been JetBlue, but their connection was in Ft. Myers, and on the way back was actually only 56 minutes. That didn't seem to give enough margin of safety, particularly these days with frequent delays [but see below for what actually happened with a three-hour connection time!].

No covid test was needed to get into Aruba, but as a year ago, one must buy covid insurance (for a reduced flat fee now of only \$15), and you have to get an online "ED Card" for boarding that signifies they have on-line approved your travel. This was all pretty easy.

On the way to the airport, I stopped at co-owner John Fore's (W6LD) house to pick up some remoting gear, plus a spool of 3/16th inch Dacron rope that I stuck in my suitcase. I was checking one large suitcase and carrying a small one on board along with my small green backpack (suitable since I wasn't bringing down a radio). As usual I parked at Anza Parking and took the shuttle bus – it worked fine and I hope it's easily available when I get in after midnight a week from now.

I had almost two hours to kill. Last year the new B gate area had been a virtual commercial desert and the Admiral's Club that had relocated there wasn't even open in the evening. This year things have changed. Shops are open and so was the AC. My membership had lapsed earlier this year (I had not renewed due to covid), but they had a deal whereby if you were flying first or business class internationally, including the Caribbean, entry was free, so I didn't have to re-up my membership to get in.

After an uneventful flight, during most of which I slept, I arrived in MIA a little before 7 a.m. and camped out at the Admirals Club at Gate D30, enjoying their variety of free breakfast food. The Customs line was about 20 minutes, as the automatic machines weren't working and there were several planes arriving, but they had a number of agents, so it moved well. No luggage checking at all.

A very strange experience at Hertz: the agent, Carolina, welcomed me back. She then asked if I had a radio station and when I confirmed that I did, she asked me to come behind the counter, where she opened a cabinet and there on the inside were my two QSL cards for AE6Y and P49Y taped to the other door. I had given them to her last year in a casual chat when renting a car. How surprising to see them again!



The car is a small orange Chevy Sonic that seems to work fine. This turns out to be one of the best rentals I have had and it ended up with over 300 kms on the odometer before the trip was done. Unlike the usually nutty European half-height radios with inscrutable controls, this one had a built-in radio with a legible and usable touch screen. Of course, that didn't improve the programming, but as always it was fun to listen to Spanish and Papiamento on the radio, particularly the religious channel 93.1 (also 96.5 for some English music).

At the house the new paint that Cris, P43C, had added is more subdued than the previous version, with salmon-colored accents. The driveway gate and the back gate are only painted with primer (Jean-Pierre, P43A, said it was too windy, and thus too dusty, for final painting). The front gate, however, is still on its last legs. Later JP promised to get it rebuilt, possibly by himself. That will take some serious welding.

As usual, the first order of business was to unpack and start to sort out the radios. Unfortunately, I hadn't brought a serial cable for the K3, as I normally do. There was a strange cable going from the radio to the P3 with a Y adaptor on it that was plugged into the serial port on the P3 that normally goes to a computer (this is appropriate for the modified K3S back panel which now has the kind of USB receptacle that the Winkeyer has (the small square one) to connect to the computer). After quite a bit of looking, I found a short cable in the box in the closet labeled K3 parts, and it worked fine. [See later in this writeup – we also have a whole bin on top of the closet in the second BR full of DB9 cables.]

I hooked up the DX Doubler, although since I was probably going to use only one radio, it was not really needed. The IC-756 Pro2, by the way, is in a bad way, with the display faint and partially obscured by what looks like rub marks on the surface (they aren't actually rub marks, nor on the surface, but that is the appearance they give). By then it was almost 6:30 and I had agreed to meet John Crovelli, W2GD, at 7:30, so I went out for a run starting at the local roundabout and then to the north and back. We had a pleasant dinner at the Kibaima Grill (ex-B55), sitting outside in high wind, to avoid loud music inside. [By the way, it stayed windy all week, and apparently had been so for several weeks already. The temp in the day was typically 32-33 degrees Celsius (i.e., about 90 F.), but without high humidity, so with the wind actually pretty comfortable]. Back home at 9:20 or so, called Sandy, did some work emails and played a bit in the 0300 CWT just sending by hand. 20 and 40 were wide open, and I also worked John on 15 and 80. Then went to bed at around midnight. The beverages all seemed to work well.

Thursday, May 26, 2022. A great night's sleep till about 8 a.m. I got on 15 briefly and ran a few EUs, plus one JA and two BA's!! Very unusual. Then to the supermarket Ling and Sons where I way overbought because I was hungry. Also invested \$72 in a new bottle of Frangelico, as the old one had been used up. Fortunately, Lings was open, though it is a national holiday, Ascension Day, in Aruba. I drove over to check that the testing center at Palm Beach Plaza (the same one John and I had used last year) was open. Their sign says they now are open starting at 7 a.m., seven days a week, and that they give antigen tests for \$35 with results in 3-4 hours, accepted by CDC. I got on 15 for a bit and ran some EUs at around noon.

I drove over to Lisandro's (P43L) and Lissette's house and checked out their fine astronomical observatory, of which they are justifiably proud. They have mounted a 10-inch reflector anchored to a pier in the ground with a building with a sliding roof over it. Attached is a complex control center with four monitor screens. Lisandro showed me some very lovely galaxy pictures he had made that took hours of compute processing to develop. Very impressive. I brought over some materials they had ordered for Lissette and digital SDR stuff for Lisandro.

Then home, had lunch, and JP came over. He's working on the elevated guy anchor across from the north tower. As mentioned, we also discussed the two gates, which are not painted due to the wind, and the front gate which probably needs complete replacement.

I turned on the 91B and found that it made a reliable 1kw plus on 20 and 15. Ran some EUs on 15. I've decided I will probably do a single band 15 or 20 just to have fun DX'ing and make it not so cutthroat as the Classic category or a full single op endeavor.

In the late afternoon I went over to Cris's and gave her cash duly counted by Cindy. Cindy then came out and talked with us, which was pleasant. On the way out, I stopped in at their new house (two houses up the street), where JP was setting up a model train layout. He had purchased an elaborate set of model train materials from an estate for a very low price, as he says there were no other takers on the Island. They are finishing the house as time and finances allow. Took a 46-minute run from the Santa Cruz intersection of the main road north and back, then met John for dinner at Urataka Pizza.



Friday, May 27, 2022. Woke up feeling kind of logy. Drove up to the Hyatt for my traditional breakfast, but they are not upholding their end of the tradition. Breakfast is no longer served by the carp pool; now it's at the patio restaurant nearer the beach. That's ok, but it is now only a buffet, and not a very interesting one at that. I may have to change my routine. On the way back to the house, I stopped in at Unicom, which Cris had recommended. It's on the main road just before the big roundabout where the new highway 8B turns right. Lings is right at that corner. Also stopped in at PriceSmart near the airport, which seemed to be doing a land office business. In both cases I was looking at possible TVs to replace our primitive Vizio flat screen in the house. Back at the house, the Vizio did seem to work OK (my recollection from a year ago is that the remote was inoperative, but not today), though its picture is low res and not very sharp.

I enjoyed another pre-contest ritual, a run along the airport to the Coral Pyramid starting at about 2:30. Only one other mad dog or Englishman in sight. Then to the Ritz for a chocolate milkshake.

Contest notes. I am just using one radio, the shack K3/P3. The Icom 756 Pro2 is also set up, but I don't use it for a single band effort. I'm using my software CQPWIN, ver. 13.1, with no internet.

It still seemed that 15m would be the most interesting band to be on, so I have decided to do a 15 meter single-bander. In previous years there would have been nothing to do Friday night, as the contests starts in Aruba at 2000 local time, and the band would be dead. But tonight, it's chockablock with signals

I start with a pileup that lasts for a solid hour, mostly US/VE, but with quite a few EUs as well, and a few VK/ZLs. What fun! At the end of the first hour, 170 QSOs are in the log. This is my best hour of the contest and I'm pretty sure it's a personal record for WPX CW. I ran at 35 wpm for a few hours, then slowed down to 34 and 33 wpm as weaker sigs required more repeats.

By 0430Z (i.e., 30 minutes past midnight local time!!), things are slowing way down and the P3 doesn't show many signals, so I knock it off for the night a 516 Qs by 264 mults for 390k points. Even though the band has really slowed down, in the last few minutes I was called by 4Z4DX and a YB1! The 4Z4 really surprised me; the YB1 not so much. YB is antipodal to Aruba and as a result, there are often strong signals from there at odd times of day and night.

What is very surprising is that this night the SteppIR has been the best antenna for signal to noise, particularly for NA signals. It's only two elements at 35 feet or so, fixed North-South (and can be reversed at the touch of a button). Most of the US stations, particularly on the East Coast, have been worked on that antenna. The StackMatch is set up to switch between "normal" (in this case, our 5 element JK for 15 meters), the Mid-Tri (4 el on 15) and the SteppIR. I also can reverse it when an SA calls, though later I find that not to be so useful, as the noise level rises by about 10 dB; it's still the best antenna for SA, even pointed north.

I grab a quick English muffin and hit the hay, setting the alarm for about 0410 local. Waking in between, nothing is heard. When the alarm goes off, I really don't want to get up, but there are OH and eastern EU signals on the band. I have a bowl of Miniwheats and slowly start to wake up for a long day.

I start running EUs but not at a high rate. I'm mostly using the 5 el. set at 035. The noise level is about 10 dB better than last night. Instead of powering through at low rates (which would have been a better contest strategy where time isn't really an issue), I take another hour off, waking naturally after about 40 min and brewing some coffee.

The band picks up and the 1100Z hour is 131, my second best of the contest. A milestone at 1232Z with contact 788 (TA2IJ) breaking the one-million-point barrier ( with 439 mults). For the rest of the day, I work off and on and noise comes and goes. It's worst from the northwest, and in that direction worse on the big antenna than on the Mid-Tri. The SteppIR is the quietest of the three. The band is not in nearly as good condition as last night, and I give up finally at 0144Z at 1727 Qs by 758 mults for 3.733M points. The band is closing much earlier than last night, when it was productive all the way to 0430. Not sure what tomorrow will bring.

I noted an annoying off and on sluggish response from my Logitech wireless keyboard, changed batteries (I had brought spares) then replaced it with an oldie PS2 version from the closet. There may be something wrong with the Bluetooth dongle in relation to the keyboard, as later, with the keyboard in front of the computer it seems normally responsive.

I was using the Mid-Tri pointing NW for US Midwest and West Coast. I turned if further west for a few VKs and ZLs but that caused the Green Heron control box to lose sync, and it could not be recovered (i.e., a no motion error would be shown). The Mid-Tri became essentially useless for the rest of the contest.





Sunday morning, I again get up early and find the band in great shape to EU starting at 0825Z. In fact the rates for the 09, 10 and 11Z hours are 94, 79, and 89, which are quite good for this contest, given that I've already worked most of the louder EUs.

The rest of the contest plays out at generally lower rates, and I take lots of time off in small doses (i.e., not enough to count as "off time" under the contest rules that require a minimum of 60 minutes). I have only one bad frequency fight, at about 2026Z when a loud N7 opens up on frequency and simply won't go away, though I know he can hear me clearly -- very poor operating technique; others have QSY'd when asked. I finally give up with one hour to go in the contest as the noise level has gotten so bad to the northwest as to make it almost impossible to work the Midwest and West Coast.

So the claimed result is 2581 QSOs (net of 116 dupes!!) by 979 mults for 7.446k points. Looking at the prefix log afterwards shows about 85 DXCC countries worked. Prefix leaders are US: 423; Germany: 76; Italy: 65. Only 26 JA prefixes (39 last year) due to increased noise levels in their direction. I miss the many Russian prefixes lost; a few did make it into the log, though they will presumably be deleted by the log checkers.

#### Soapbox As Sent to 3830 Reflector

Well, that was certainly an interesting experience. For various reasons, I didn't want to keep butt in chair for a solid 36 hours, so I thought doing a single band effort would be a good alternative. I had done SB40 before in this contest but thought with the superb 10/15m condx earlier in the week that 15 would probably be the place to be. A single-bander can get boring as rates drop as the band starts to close or you have just about worked everybody, but it's also a fun way to experience a full 24-hour cycle of propagation.

Contest highlights included a very energetic start, featuring a 170-QSO first hour (I think my personal best for this contest). The band was open to EU and NA and kept it up till about 0430Z (that's after midnight local time -- what a change from recent years!). In a similar vein, the early hours on Sunday morning, starting at about 0830Z, featured a long EU run that was an unexpected treat for so early in the morning. On Thursday, at about 1230Z the band had been actually open to JA/BA (an opening I have never experienced before from P4), but none heard at that time during the contest.

The second highlight was how useful our little two-element SteppIR antenna turned out to be. We had put it up in our recent antenna rebuild, and it is just at 30 feet fixed North-South. When we had bad noise, for some reason it was the quietest of the three antennas (5 el JK at 55 feet and JK Mid-Tri at 43 feet being the others). With the 5 el running EU with its very sharp pattern, most of my US Qs were worked on the SteppIR. We also had thought it would be useful for SA callers. It was, but pointing North! Reversing it to South would increase the noise level by 10 dB or so, but pointing north gave the best SA signals. So this one turned out to be a very pleasant surprise.

On the negative side, here are my contest excuses (everyone has to have some, right?)

- 1) My score would certainly be improved with use of internet for multiplier harvesting. Searching for Qs from here isn't normally very productive, while focusing on needed new mults would obviously be a helpful strategy, which I did not use.
- 2) I took lots of short breaks to get up and walk around, eat, etc. Though the WPX clock says 35 hours, the actual operating time is closer to 27 hours. More BIC time probably would have helped the score.
- 3) We had some very bad local noise, that also plagued P44W. It was particularly bad to the Northwest, making it difficult to use an antenna aimed to the western US. For that reason, only a few JAs could be heard.
- 4) *Too many dupes: over 100! Why? I sent my call after 99% of my QSOs, but even got duped by the same stations more than once. Very frustrating.*
- 5) *The score includes a handful of Russian stations, and even a few Ukrainians. Since these are all new prefixes, there will presumably be a score reduction from the log checkers.*

The social scene here is somewhat muted these days, but John Crovelli, W2GD and P44W, and I broke bread several times together. Jean-Pierre, P43A, and Cris, P43C, continue to take good care of our place and have completed a number of significant upgrades. In fact, great accolades go to co-owner John Fore, W6LD, who spent several weeks here two months ago and accomplished a great deal of deferred maintenance, including a new operating table, new a/c, and new washing machine (though in all honesty, in 20 years I had never had occasion to turn on the old one!). John also did a lot of organizing and shelving of our outside aluminum pile (i.e., old antennas and tower sections), while JP and a friend raised the cinder block wall in the yard to help keep out the neighbor's aggressive (maybe friendly?) dogs.



## Tube of the Month

### **4CX1500A**

The [4CX1000A](#) has been around since 1957 and is well known to hams. It could be found in surplus and there were articles written about amplifiers that used it. New tubes that were based on this old design were not commonly seen by the hams as there was no military source that would make them available to the surplus market. When I first found a [4CX1500A](#), I didn't know what it was. It had a solid screen ring like the [4CX1000K](#), but the tube had the 1500-watt plate structure like the [4CX1500B](#). The "B" tube doesn't have a solid ring so it was back to the books.

The 4CX1000A family of tubes, which include the 4CX1000K and the water cooled [4CW2000A](#), are electrically very similar. They were designed to operate in class AB1 with zero driving power. The control grid could easily be damaged. The 4CX1500B had an improved grid and cathode that allowed a watt of grid current. The 4CX1500A is a very different tube. The grid can dissipate 25 watts so could operate in class AB1, AB and CW as an amplifier at up to 110 MHz as well as in pulse service. The 1500-watt anode could be operated with up to 5000 volts at an amp. This tube would coast at 1500 watts output if you could find a filament transformer that could deliver 5 volts at 40 amps. The filament was thoriated tungsten so was "instant on" unlike the oxide coated cathodes with their long warm up time that is required with the 4CX1000A group.

The 4CX1500A was used in the Continental 416D transmitter as well as in the Harris MW-50C3 AM broadcast transmitter where it drove the 4CX35,000C final.

Norm N6JV





Dear All,

My apologies for a very late June newsletter. The formatting gods deserted me. NCCC nearly had a paper and tape newsletter this month. I am giving alms to the publication deities as we speak.

Saraj, KU6F  
Jug Editor



## **NCCC Membership Information**

If you wish to join NCCC, please fill out an application for membership, which will be read and voted upon at our monthly meeting.

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).

Life Memberships. — \$250.00 Contact [secretary.nccc@gmail.com](mailto:secretary.nccc@gmail.com). The 80/20

Rule:

Members who have reached 80 years of age and have been a NCCC Member for 20 years are eligible for Honorary life membership. Contact [secretary.nccc@gmail.com](mailto:secretary.nccc@gmail.com)

## **JUG Articles Wanted!**

Your help allows us to produce a quality newsletter. Please consider submitting an article!

The editor welcomes any and all relevant articles for inclusion in the JUG.

The preferred format is Mac PAGES or MS Word (.doc or .docx), Arial 11 point.

Indicate the insertion point and title of diagrams and pictures in the text and attach photos separately. Pictures should be full resolution. Avoid PDF files and email text. Please contact us if that's your only format.

Send material to Saraj, KU6F, [saraj@sonic.net](mailto:saraj@sonic.net), ph: 707-888-3906

PLEASE INDICATE "JUG SUBMISSION" IN EMAIL SUBJECT LINE.

## **Northern California Contest Club Reflector—Guidelines**

The NCCC reflector is devoted to the discussion of contesting.

Topics include, for example, contests, station building, dx-peditions, technical questions, contesting questions, amateur radio equipment wants/sales, score posting, amateur radio meetings/ conventions, and membership achievements. Postings may not include personal attacks, politics, or off-subject posts. Such postings will be considered a violation of the Guidelines.

## **Find NCCC on Social Media**

Facebook: "Northern California Contest Club"

Twitter: "NCCCCKB"





## NCCC Lands' End Store

We are pleased to announce that the new NCCC Land's End store is online! You can choose from an array of shirts, jackets, and hats and apply your choice of custom-embroidered NCCC logos: A plain one, or one that also says Fifty Years. And, you can personalize your item by adding your name and/or call sign. The store is open 24/7 and items are shipped directly to you. No more waiting for everyone else to make up their minds on a group purchase.

Go to <https://business.landsend.com/store/nccc/> It's easy to use.

From nccc.cc: <http://nccc.ccc/members/lestore.html>

Thanks to W6TCP for helping to set this up.

Instructions for purchases from Lands' End NCCC Store:

1. Go to <https://business.landsend.com/store/nccc/>
2. Click on Men's or Women's link, then choose item(s)
3. Pick color, inter quantity of each size you want to order.
4. Click Apply Logos and Personalizations. This will display the logo choices. Try them out. It will show you what they look like on your chosen fabric color.
5. Select a location for logo (left side, ride side, back, etc)
6. Click Apply Logo.
7. Optionally, click Add Personalization to add your name or call sign (\$8.00, 10 character limit)
8. Click Add to Bag and Continue Shopping or.
9. Start Secure Check out. Account creation and credit card required.

The screenshot shows the Lands' End Business website interface. At the top left is the "LANDS' END BUSINESS" logo. To the right is a search bar with the word "Search" and a magnifying glass icon. Below the logo is the URL <https://business.landsend.com/store/nccc/>. To the right of the URL are navigation links for "MEN", "WOMEN", and "PROMOTIONAL PRODUCTS". The main content area on the left contains a welcome message: "Welcome to the NCCC Land's End store. You can choose many different products and add a custom-embroidered NCCC logo." Below this is another message: "If you would like to add your name and/or call sign, click the Add Personalization button when deisgning your garment (\$8 charge, 10 character limit)." At the bottom left, it says: "If you have questions, contact the NCCC secretary at: secretary.nccc@gmail.com". On the right side of the page is a large orange oval containing the text "NCCC" in bold black letters. Below the oval is the text "Northern California Contest Club".



# Northern California Contest Club

Excellence In Amateur Radio Contesting

## K4 HIGH-PERFORMANCE DIRECT SAMPLING SDR



### A direct-sampling SDR you'll love to use

Our new K4 transceiver harnesses advanced signal processing while retaining the best aspects of the K3S and P3. It features a 7" touch display, plus a rich set of dedicated controls. Per-VFO transmit metering makes split mode foolproof. Band-stacking registers and per-receiver settings are versatile and intuitive. Control usage information is just one tap away thanks to a built-in help system.

### Modular, hybrid architecture adapts to your needs

The basic K4 covers 160-6 m, with dual receive on the same or different bands. The K4D adds diversity receive, with a full set of band-pass filters for the second receiver. (Thanks to direct RF sampling, there's no need for crystal filters in either the K4 or K4D.) The K4HD adds a dual superhet module for extreme-signal environments. Any K4 model can be upgraded to the next level, and future enhancements—such as a planned internal VHF/UHF module—can be added as needed.

### Single or dual panadapter, plus a high-resolution tuning aid

The main panadapter can be set up as single or dual. Separate from the main panadapter is our per-receiver mini-pan tuning aid, with a resampled bandwidth as narrow as +/- 1 kHz. You can turn it on by tapping either receiver's S-meter or by tapping on a signal of interest, then easily auto-spot or fine tune to the signal.

### Comprehensive I/O, plus full remote control

The K4's rear panel includes all the analog and digital I/O you'll ever need. All K-line accessories are supported, including amps, ATUs, and our K-Pod controller. The Video output can mirror the K4 screen or display a high-res Panadapter only screen. Via Ethernet, the K4 can be 100% remote controlled from a PC, notebook, tablet, or even another K4, with panadapter data included in all remote displays. Work the world from anywhere—in style!

### K4 KEY FEATURES

Optimized for ease of use

Modular, upgradeable design

7" color screen with touch and mouse control

ATU with 10:1+ range, 3 antenna jacks

Up to 5 receive antenna sources

Full remote control via Ethernet



The K4 interfaces seamlessly with the KPA500 and KPA1500 amplifiers

The performance of their products is only eclipsed by their service and support. Truly amazing! Joe - W1GO



For complete features and specifications visit [elecraft.com](http://elecraft.com) • 831-763-4211



# Northern California Contest Club

Excellence In Amateur Radio Contesting

# HAM RADIO OUTLET

MULTI-STORE BUYING POWER!

**ICOM**



**IC-9700**  
All Mode Tri-Band Transceiver



**IC-7300**  
HF Transceiver



**IC-7100**  
All Mode Transceiver



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



**IC-705**  
HF/50/144/430 MHz All Mode Transceiver

**KENWOOD**



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



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



**TM-V71A**  
2M/440 DualBand



**TM-281A**  
2 Mtr Mobile



**TH-D74A**  
2M/220/440 HT

**YAESU**  
*The radio*



**FT-991A**  
HF/VHF/UHF Transceiver



**FT-891**  
HF+50 MHz All Mode Transceiver



**FTM-300DR**  
C4FM/FM 144/430 MHz Dual Band



**FTM-400XD**  
2M/440 Mobile



**FT-70DR**  
C4FM/FM 144/430 Xcvr

5 Ways to Shop!

- RETAIL LOCATIONS - Store hours 10:00AM - 5:30PM - Closed Sunday
- PHONE - Toll-free phone hours 9:30AM - 5:30PM
- ONLINE - WWW.HAMRADIO.COM
- FAX - All store locations
- MAIL - All store locations

HRO is family owned and operated by active hams!

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Contact HRO for promotion details. Toll Free including KL7, VE and KH6. Call will be routed to nearest store. All 800-HRO-lines can assist you. If Busy, you may call another number. Prices, specifications and descriptions subject to change without notice.