



**Publication of the
Northern California
Contest Club**

Issue 585

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NCCC - 50 years of Contesting Excellence

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**NCCC April ZOOM Meeting
Tuesday April 20, 2021
1830-2030**

**Annual Awards and
Election of Officers**

Slate of Officers for 2021/22:

Pres: WD6T Vp/CC: AE6Y
Secy: NA6O Treas: AF6SA
Past Pres: W6FB
Directors: K3EST, N6KT, K6KM

For meeting details: See

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

President's Report - WD6T

April — Month of Rebirth

In April families come together to celebrate ancient spring holidays. Similarly, NCCC takes time to recognize our individual and collective accomplishments via the annual Awards Meeting. This year's meeting is particularly noteworthy in that it continues our 50th anniversary celebration with a record number of awards, as we are presenting Sweepstakes awards that highlight the critical role that contest has played in NCCC history. These are in addition to the RTTY Roundup awards, the CAQSO Party awards, and the NCCC awards — for example Rookie of the Year and the President's award. Taken as a whole, there are an impressive number of achievements and contributions to celebrate.

Of course, we can't reflect on this year without acknowledging that it has also been difficult for all of us. First and foremost has been the unprecedented Covid-19 pandemic. We have lost friends and loved ones. We have been forced to isolate ourselves and curtail in-person meetings and multi-operator contesting events such as Field Day. And we suffered a particularly devastating fire in the Santa Cruz Mountains that resulted in the loss of one of our major stations.

These circumstances emphasize the importance of our joining together, supporting one another and honoring our achievements. Each of us maintains multiple social contexts, ranging from family and career to hobbies, and passions. NCCC is one of these essential communities, providing a network of relationships, resources and engagement that help make our lives richer and more rewarding.

I'd like to personally thank all of you who have helped out in the myriad of ways necessary to make the club vital: by volunteering, offering your expertise and elbow grease on technical issues, recruiting new members, opening your station to others, participating in the email reflector and meetings, and last but not least, the three secrets of contesting success: operating, operating and operating. 73, Dave, WD6T



Northern California Contest Club

Excellence In Amateur Radio Contesting

Officers:

President	David Jaffe	WD6T	k6daj@arrl.net
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Director:	Bob Cox	K3EST	bobk3est@gmail.com
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Thursday Night Sprint:

The Northern California Contest Club sponsors a Thursday Night Contesting session of thirty minutes 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 American time. The power limit is 100 watts. Occasionally multi-week ladder competitions are held. See www.ncccsprint.com for details.

Thursday Night Contesting Director and Founder	Bill, N6ZFO
NCCC CW Sprint	Tom, N3ZZ (initially, Ken N6RO)
NCCC RTTY Sprint	Ken, K6MR
NCCC Sprint Ladder	Bill, N6ZFO
Sprint Web master www.ncccsprint.com	John, K6MM
Ladder Scores Manager	Tim N3QE
Thursday night Contesting Advisory Group:	N6ZFO, Bill (Chair)
	Mark K6UFO, (with W4NZ, N4AF, W9RE, K4BAI, N3BB, VE3YT and W0BH).
	Ken, N6RO
The Thursday night NCCC Net	



New Contest Categories in CQP

There has been much consternation among certain contesters concerning the elimination of the unassisted category from the WPX phone and CW contests. While we at NCCC can't change what other contest managers are doing, we can try to address the needs and concerns of contesters by adding categories to our own California QSO Party in 2021.

First of all, the unfair advantage afforded by 2BSIQ and SO2R will be partitioned from those with only one radio with a new SO1R category. This will be further subdivided into SO2V and SO1V. Note that SO1V operators may tune as rapidly as they desire as long as they don't use an A/B switch to change frequency. However, if their radio affords the ability to set the tuning step, they must keep the step at 1 kHz. or less, otherwise they will be put in the SO2V category. In addition, there will be a new SO1C category for crystal controlled transmitters. Such operators can be identified in their CQ when they say they are "tuning the band." As crystal controlled operators have less frequency agility, it is considered good sportsmanship for SO1V, SO2V and SO2R operators to yield the right of way to an SO1C operator, particularly if he is QRP. Note that CQ'ing on two frequencies on the same band by rapidly swapping crystals is prohibited.

Thus far, we have considered only single operators. However, many hams have spouses, not to mention dogs. New categories take this into account. For example, MO1R1D3C is for a married one-radio operator with a dog and three cats. Keep in mind that a married operator whose spouse brings him a sandwich must compete in the assisted category.

We all know that antennas play a huge role in contest success. Just as the major CQ contests have a "TB-Wires" overlay, in which the operator promises to use nothing more than a tri-bander (albeit at 140'), and a single element antenna on the low bands (such as an 80 meter rotatable dipole at 190'), we will have a similar category in the 2021 CQP, but will expand on the concept as follows:

1. Low TB-Wires - Same as TB-Wires but antennas may be no higher than 25' above ground. Verticals are allowed as long as they have no more than one radial.
2. Dual TB-No wires - No more than two antennas may be used, and no more than three bands per antenna.
3. Indoor wires - Any number of indoor wire antennas may be used, including attic dipoles, ceiling-mounted loops, and house wiring.
4. High wires - Any wire antenna at any height may be used, providing the operator can traverse it on a unicycle. Warning: No net contacts allowed.

Similarly, those unfortunate hams with only one tower and mono-banders need no longer feel at a disadvantage when forced to compete against those with multiple towers, as there are now separate categories based on the number of towers: MB1, MB2, MB3, etc. For those who can't remember how many towers they have, or who erect a tower during the contest, or who cannot count beyond three, there is a special category: MBM ("many").

Finally, there are two new dummy load categories: Wet and Dry. The dry category is further broken down into three fan RPM sub-divisions, Fast, Medium and Slow. This seems only fair.

Power categories have been expanded to the following to cover the common cases:

- * "Godzilla" - 1.5KW or as much as you can get away with
- * "Largemouth bass" - 1 KW
- * "120 volter" - 500 W
- * "Chocolate" - 200 W
- * "Vanilla" - 100 W
- * "Soft white" - 75 W
- * "Cue Our Pee" - 5 W
- * "Fried" - 1 W or less

Note that if you use a compact fluorescent or LED light bulb as an antenna, you must compete in the category of the equivalent incandescent bulb.

In addition, as terrain plays an important part in the effectiveness of a station, the power categories are being augmented by relative elevation categories. To determine your category, measure the angle of the terrain in 30-degree increments. Your "Terrain Factor" category T is then determined by the following formula:

$$T = \text{Sum}_{n=0,11} (A-a(n)) * H(n) * P(n),$$

where A is your altitude in meters above sea level, a(n) is the altitude 300 meters from your QTH in the n'th direction, H(n) is the ham population multiplier in that direction, divided by the average distance to that population in kilometers, and P(n) is the mean signal strength in dB in that direction averaged over five separate years, spaced 11 years apart. It is not necessary to compute the T factor yourself. Just enable "location services" for your logging program and it will not only compute it, but also email it to the contest manager, OR'ed with a random 64 bit number derived from thermal noise and signed with a secure cryptographic hash function.

Home-brewing is an integral part of ham radio. Therefore, a new category has been added for those who replace the integrated circuits in their modern radios with micro-tubes, which are widely available via e-Bay and the dark web and are easy to install, requiring only basic ESD soldering tools and an electron microscope.

Keep in mind that any of the above categories can be combined with one or more other categories. So, for example, you could compete as Godzilla Indoor Wires, though you must first conduct an FCC safety evaluation and report the results to your state, county and local authorities. Your family may also implore you to update your will. Humor them.

We are confident that you will find that these new categories make the California QSO Party both more tasty and less filling. We don't expect to completely solve the problem of fairness in contesting, but at least this new approach allows those in the MO1R Slow-Fan Dummy Load Fried Terrain -100 category a chance to compete with one another without having to worry about the SO2R Wet Dummy Load Godzilla Terrain 1000's having an unfair advantage.

Fine print: We reserve the right to add or remove categories without warning or reason. No plaque will be awarded for any category that has less than one entry. Officers of the NCCC must compete in the "Overworked" category. Happy April!



Ed Note: Usually we do not publish items from non-NCCC authors in the JUG, but for the following article, written by W4GKF may have compelling interest to the large group of NCCCr's who use SteppIR beams and a 2nd smaller group who raise snakes, either for profit or fun. The JUG thanks Alan, AD6E/KH6TU for bringing this important SteppIR article to our attention.

For original article See <https://t-rexsoftware.com/w4gkf/steppir/qaam/index.htm>

QAAM

Quiet As A Mouse: ® SteppIR Element Cleaning

Chaz, W4GKF

I installed my 3 element SteppIR antenna a few years ago and I've really enjoyed using it daily. It's never given me a moment's worry having such advanced technology working 30 meters in the sky; but I heard that a few owners have complained about receiver noise when the antenna changes frequency. Others have mentioned "dead spots" when receiving which, they report, clear up with the application of RF

Their theory is that there might be some corrosion on the retractable beryllium-copper strips which make up the antenna elements.

Though I don't personally have this problem on my SteppIR, I decided, as a service to the SteppIR community, to try to design a solution for this situation combining two of my hobbies, Ham Radio and African Pygmy Mouse breeding.

While I don't have the photos ready to post showing the construction of what I'm calling "QAAM - Quiet As A Mouse"® SteppIR Element Cleaning, I am publishing how it works (along with my engineering drawings) as part of my copyright and patent protection process.

I raise African Pygmy mice (MUS Minutoides) that I sell to pet stores as living snake food. While very small, these mice accept training equally well as full-sized mice. The average pygmy mouse is only about 70mm in length including tail making them perfect for this application.

African Pygmy Mice

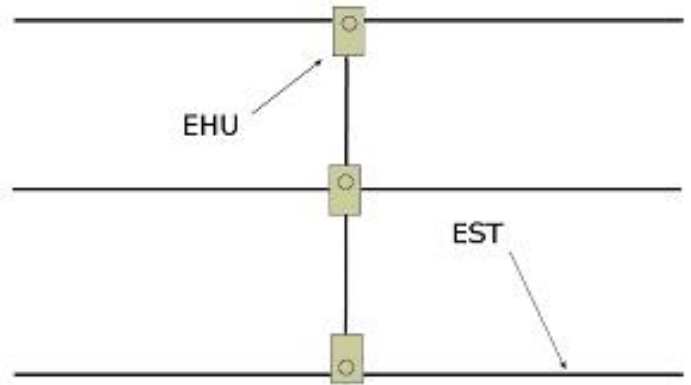


W4GKF SteppIR Antenna



A brief overview of SteppIR technology

SteppIR antennas are designed with a device called an Element Housing Unit (or EHU) containing two reels of copper-beryllium tape that can be extended and retracted (under program control) to form a Yagi element. The tape rides inside hollow fiberglass tubes called Element Support Tubes (or ESTs). One EHU and a pair of ESTs form a Yagi element. One of these makes a dipole and two or more are used for multi-element antennas. This elegant design yields resonant antenna lengths on bands from 6m to 20m or 40m (depending on the antenna model).



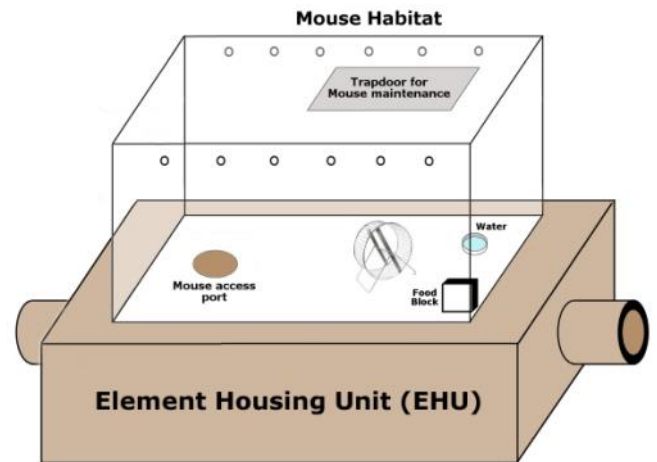
The QAAM design approach

If I could find a way to introduce a pygmy mouse into each EST and train them to run back and forth with some way of carrying a cleaning substance or device, we might have a solution.

This project involved several steps:

1) I modified the SteppIR Element Housing Unit (EHU) by drilling a 1/2" hole (the Mouse Access Port) in the top of each.

2) I fabricated a small, ventilated Plexiglas box and cemented it with epoxy to the top of each EHU. The box has a small trapdoor in the top, ventilation holes and unique (and this was the hard part) water system, driven by demand, to pump water up and into a small (soft drink bottle cap-sized) reservoir. There is also a food block (food bound with a nutritional bonding agent making the food block something like a Granola bar). I also installed a small, readily available exercise wheel in each box for off-duty exercise. The Plexiglas box is covered in UV resistant film for light and temperature control.



3) I trained three mice (you'd need four for a 4EI SteppIR) on a bell signal to go down from their box/habitat into the EHU and run to the end of each of the two Element Support Tubes (EST) and then run back three times. I did this with simulated ESTs in the lab of course, until each mouse's performance was ingrained and natural.

4) I used an unused pair of wires in the control cable (I originally ran 16- conductor thinking I might one day have a 4-Element SteppIR but my lot size prohibits that) with a doorbell mechanism mounted in a weatherproof box on the mast below the boom and a simple pushbutton in the shack (schematic available but, sadly, not in time for publication). **NOTE:** One important part of the circuit was use to lock out the bell trigger if the rig was in transmit mode. Even 100w of RF is enough to permanently "discourage" the mouse in the driven element. And that just leads to unnecessary maintenance.

5) My wife sewed up a little vest for each mouse (and these are tiny animals) with a graphite panel on each side. I made the graphite panels from matchbook strike strips.



Mouse Vest

6) I introduced one trained and now, vested, mouse into each EHU/Habitat via the aforementioned trapdoor.

Training the mice

We used Pavlovian technique in training the mice. They soon learned that the bell was the trigger to run the length of each of the ESTs and back; it took a while to ingrain the "run the circuit three times" instruction but eventually they "got it". One interesting aside: We failed completely to train a single female mouse. Not one. Each one looked at us as if we were crazy. No explanation. The males, on the other hand were eager to please!



How it works

When I want to clean the element tapes, I simply extend the elements to 14.0Mhz (fully extended, that is) and ring the bell from the shack. The "not while transmitting" lockout is (as mentioned above) a vital part of the circuit.

Each trained mouse comes down from its habitat and runs down the tubes with the graphite panels on the side of their vests removing any built-up corrosion as they go! Their training causes them to do this three times and then sends them back up into their habitat.

Voila! It worked!

What we learned before going into production

I can't emphasize the importance of adequate testing before bringing such a product to market.

We tested with the test element at table height.

The "alpha" design for the mouse-vest had graphite strips on only one side. We were unable to get the mice to consistently run along only one side of the tape; an easy fix to was to add a strip to the other side of the vest so it didn't matter which side the mouse chose. An added benefit is that we get cleaning action as the mouse runs both ways.

Since the food block needs replenishing (our first design only lasted about two weeks before being consumed; these little guys are hungry) it's important to be able to lower the tower to replace the food blocks. But we learned that the size of the food block could be quadrupled without difficulty so we were able to reduce the number of times the tower had to be lowered to about once only every eight weeks.

The water delivery system was problematic at first. It's designed to replenish the tiny drinking reservoir when the level gets low. A submersible aquarium pump at the base of the tower pumps water through 1/4" clear plastic hoses to each of the EHUs. The pump is attached to the house main. A wee float is used to open the valve at the drinking reservoir as the water level falls. No problem! Remember to leave enough "drip loop" in the tubing to account for the beam turning.

Testing continues

We ran the system for a month working out the kinks before lifting the completed 3-element system into place at the top of my 30m tower. It's been working fine for almost three years. And the mice seem contented and do their jobs well.

Conclusions

This was as close to a self-cleaning system as I could come up with. The mice used are fully grown and their life span is about 80 months so I won't need to "service" the system for some time yet.

FAQ

Does QAAM work with the MonstIR or the other 40m versions?

Yes, quite nicely. The additional element length on the MonstIR is no problem for the mice; they actually seem to enjoy the additional exercise!

I have "trombone" elements; will that work OK?

Yes; as with the longer ESTs on the MonstIR, the mice LOVE the extra distance; more exercise, healthier mice!

What happens when a mouse, well, dies?

We haven't had to deal with that question yet. Our assumption is that since the mouse spends most of his time in the habitat, the odds are that is where he'll be when he expires. You'd lower the tower, remove the "out-of-service" mouse and replace with a freshly trained one. We always have trained mice available for replacement; see price list below.

I'm thinking of buying a breeding pair; what's your advice?

Well, we don't recommend that (though we do make breeding pairs available) since you'd have to do the training yourself and, believe me, that is a real chore. Also, as mentioned above, we've been able to train male mice only; the female mice simply won't perform. They look at you as if you're nuts for some reason.

What do the folks who make the SteppIR antenna think about this?

Frankly, they think the whole thing is ridiculous and unnecessary; and cutting the hole in the top of the EHU voids their warranty but, hey, whose antenna is this anyhow?!?

We make trained mice available in sets of three or four and the EHU/habitat boxes in sets of three or four as well.

Pricing

Set of three habitats and three mice:	\$1,200
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Set of four habitats and four mice:	\$1,600
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Set of three mice (only)	\$300
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Set of four mice (only)	\$400
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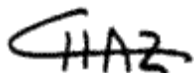
(*)Breeding pair:	\$250
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(*) With this option, training your own mice is an end-user responsibility and is not recommended; habitats not sold separately.

Use the email address at the end of this article for ordering/shipping information. And please, no contact or questions to or about the ASPCA; they've been driving us nuts about this.

NOTE: This project is in no way endorsed by Fluid Motion Inc., designer of the SteppIR family of antennas.

Questions? Ready to order? Click .



Chaz W4GKF

Results—NCCC Sprint Ladder XXXI, January 8 –February 5, 2021

Bill Haddon, N6ZFO Contest Director

Either from boredom or enthusiasm the NCCC Sprint Ladder competition achieved record levels of participation in its 31 running since the contest began 20 years ago in 2001. Special congratulations to Lar, K7SV for his first Atlantic Division victory, and to our perennial QRP champions, K6UFO (NN7SS) and K8CN in New Hampshire. And the usual winners W9RE and K6MR prevailed, but notably KZ5D outdistance his rival Jim, N3BB. Marko, N5ZO continues his outstanding performance from the West Coast. See you all in Sept!

NS Ladder XXXI - January 8 - February 5 2021 FINAL RESULTS

2021 Jan 8 • 2021 Jan 15 • 2021 Jan 22 • 2021 Jan 29 • 2021 Feb 5

Results compiled by Tim,

N3QE

64 Participating Stations

Atlantic Division

Call	Class	Wk1	Wk2	Wk3	Wk4	Wk5	High 4
K7SV	LP	2352	1504	2337	2028	2268	8985
N3QE	LP	1457	1700	2090	2296	1813	7899
N4AF	LP	1995	1872		1410	1944	7221
K8MR	LP	936	1749	1288	1380	1505	5922
K4BAI	LP		1092	1440	1053	1320	4905
W1FJ	LP		945	1189	858	1080	4072
W1UJ	LP	330	945	858	780	884	3467
W4WF	LP	448	630			609	1687
K8CN	QRP		110	304	238	238	890
NK4O	LP	18	270	150		208	646
AA5JF	LP					210	210
WA3AAN	LP					143	143

East Central Division

Call	Class	Wk1	Wk2	Wk3	Wk4	Wk5	High 4
W9RE	LP	2124	2340	2196	2440	2356	9332
NA8V	LP	1598	1575	2160	1518	2184	7517
KW8N	LP	2394	1715	1584	1598	1620	7327
W8WTS	LP	1872	1428	1530	1540	2040	6982
W1NN	LP	1551	1584	1645	1440	1645	6425
K9CT	LP		2052	1160	1260	1519	5991
N8EA	LP	1271	1470	1504	1376	1551	5901
K9BGL	LP	1364	1800	1189	952	1376	5729
N4OGW	LP		1632	1440	2028		5100
K1GU	LP	1160	1092	1107	1161	1200	4628
VE3YT	LP	486	768	999	800	1120	3687
K9MMS	LP	560	986	1073		714	3333
K4OAQ	LP	768	120	806	690	816	3080
N9LQ	LP	520	957	1008	468		2953
W4NZ	LP		1452		925		2377
NF8M	LP	391	475	572	500	525	2072
KOEJ	LP					1271	1271
K9DX	LP		396		150		546
WB2RPW	LP			40			40

NCCC in CA/NV

Call	Class	Wk1	Wk2	Wk3	Wk4	Wk5	High 4
K6MR	LP	1683	1680	2052	1938	1118	7353
WD6T	LP	1276	1376	1924	1230	1200	5806
N6ZFO	LP		1140	1102	1656	972	4870
N3ZZ	LP	1008	1240	1036	1178	850	4462
AJ6V	LP	375	475	888	800	336	2538
N6TV	LP				1536	925	2461
K6NV/7	LP	580	616	551	750	494	2440
N6TVN	LP	99	195	323	195	99	812
W1RH	HP	120					(120)
K6KM	LP				20		20

West Division

Call	Class	Wk1	Wk2	Wk3	Wk4	Wk5	High 4
N5ZO	LP	1380	1862	2052	2035	1500	7449
AA7V	LP	770	810	1394	1785	962	4951
WJ9B	LP	975	966	1472	1161	1075	4683
K4XU	LP	1040			1120	1092	3252
K7SS	LP			1260	1380		2640
KORF	LP			1260		1353	2613
NN7SS	QRP	286	234	520	442	391	1639
KI7Y	LP	230		336		187	753
N7DX	LP	80	65	330		260	735
N7VS	LP			12	49	63	124
N4DW	LP					4	4

West Central Division

Call	Class	Wk1	Wk2	Wk3	Wk4	Wk5	High 4
KZ5D	LP	9	2016	2700	2451	1900	9067
W0BH	LP	1645	1408	1312	1989	1350	6392
N3BB	LP	1836	2360	1900			6096
KG5U	LP	540	1353	884	1218	1189	4644
KOVBU	LP	660	1102		735	759	3256
N0AC	LP	168	644	783	924	768	3119
K5PI	LP	800			1176		1976
WDOT	LP	900	1025				1925
K0TG	LP	42	408	551	414	391	1764
KB5RF	LP	150	414	224	168	182	988
N5AW	LP	980					980
AI6O	LP		126	221			347
K6MI	LP				25		25

Stations per week		45	49	48	49	51	64
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Point Generator Profile

Don Taylor, K6GHA

Interviewed by Bob, W1RH

Don's response to being selected for the April PGP: "Thanks for the honor of being this year's April Fool!"

Nope, Don is not our April Fool, but he does have a great sense of humor! His comment does give me an idea of where to go with this column next April, however...

Most of you know Don. He's been a superb supporter of this great club for many years. He also shares his home-brew beer with anyone willing to try it, which puts him pretty high on my list! Good stuff, as I have found out more than once when Don used to bring a jug to the Tide House for our award meetings.

As a KB'er, Don has been an incredibly active contester for many years and his logs, focus contest or not, have always been submitted on behalf of the Northern California Contest Club.

I do want to note some of Don's contest activities. He's a low power guy, yet he's always in the hunt and has really done well in that category. In 2015, with a score of 1,060,375 (after log checking), Don placed 5th, USA, Low Power, in the CQ WPX SSB Contest. No other West Coast station even came close to Don's score. 910 low power Q's; and that was about a year and a half after the second peak of Cycle 24. Wow! It doesn't stop there, however. Don placed 8th, USA Low Power in the 2014 CQ WPX RTTY Contest. By the way, although Don has used the call sign, NG6O, in later WPX contests, the two contests just mentioned were done using his very common "K6" prefix.

Don doesn't just focus on the international DX contests. You'll note the two nice SS and 7QP plaques pictured. Nearly every year, you will find Don in the Hawaii QSO Party (go to <https://www.hawaiiqsoparty.org/k6gha/>, for a nice article he authored that is posted on the Hawaii QSO Party's website), 7QP, Salmon Run, and many others. And, of course, there's NAQP.... all of them CW, SSB, and RTTY, year, after year, after year.

Now, let's hear from Don:

Name/Call Sign: K6GHA, First licensed in 2007

Past calls: KI6HST, Club Call NG6O

Location: Santa Cruz, CA

How much property do you have? Living close to the Mystery Spot in the Santa Cruz Mountains on about 4.5 acres.

Describe your antenna system: Eclectic and sometimes functional.

Current Antennas: TH-7DX on a Wilson 61 tower. Buckmaster 10-80M near end fed dipole.

Future Antennas: Second Buckmaster Dipole 10-160M (need to climb a tree). 2nd tower MA-850 w/ SteppIR DB-18E (almost there).

What's in your shack? K-Line: Elecraft K3, P3, and just recently KPA500, KAT500; Yaesu FT857, Yaesu FRG-7, and a few boat anchors.

What are your previous QTH's? Been at this QTH here since 1999. Hope to always be here. Santa Cruz, Ben Lomond, Homestead Fl, Okinawa Japan.

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

33 years with Hewlett Packard. 2 years with Zero (electric) Motorcycles and still there.

Married? Yes, Deleese (KJ6CAE) **Kids?** 2- Callie, Kat **Grandkids?** 0 for now

How many DXCC entities have you worked? 205 and counting.

What's your favorite contest? It is like you are asking which is your favorite kid!?! CQP/7QP/HiQP and ARRL Sweepstakes and CQWW. Now don't ask me about modes!!!

Any tips for testers? BIC (Butt-In-Chair) and ask for help. The NCCC is a wealth of great information, support, and an enthusiastic members. I wouldn't be where I am today in contesting and station configuration without the generosity of the NCCC and its membership.

What would you like to see changed in NCCC? Some awareness and appreciation for the perennial LP and QRP guys. ;-)

Any other hobbies besides ham radio? Brewing Beer, Shucking Oysters, having a great time wherever I am.

A few other things:

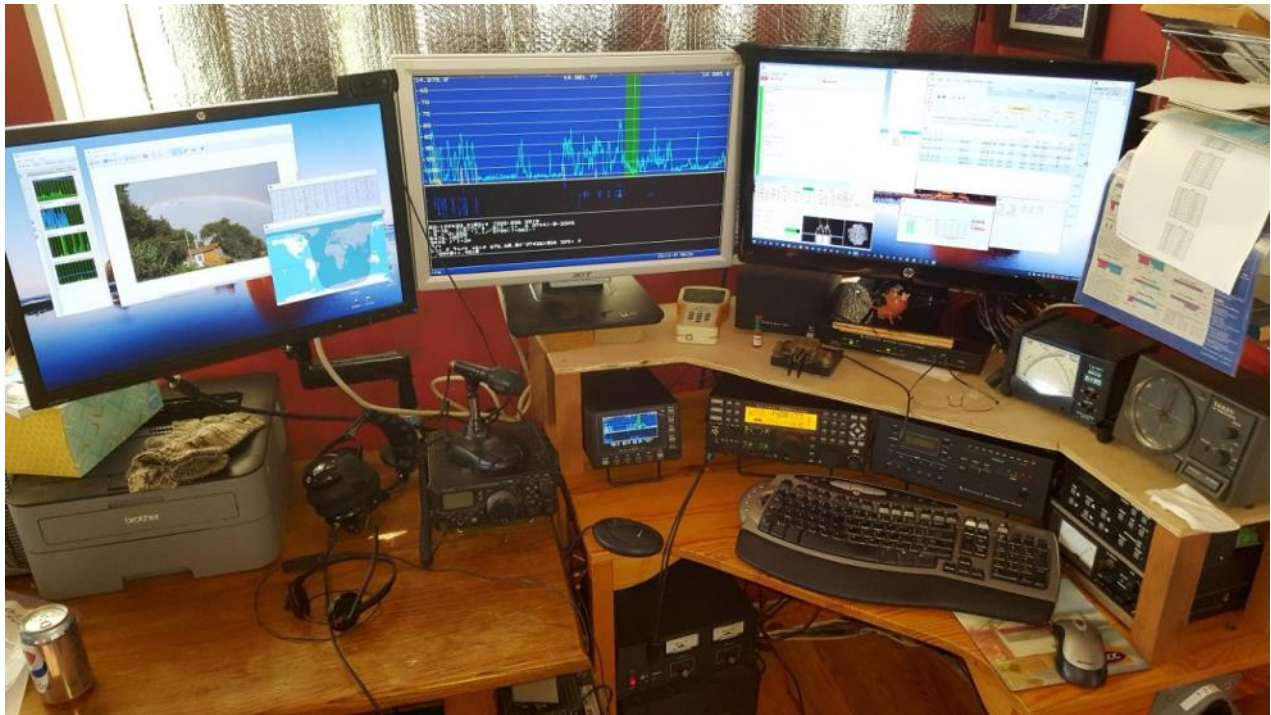
- Past Board Member of the NCCC
- Pre-WRTC 2018 shakedown in Germany in 2017 with K6XX and KW6S
- Co-chair IDXC Contest Academy 3 years 2013-15
- Past President, VP, and Board Member of the Santa Cruz County Amateur Radio Club
- USAF 1974-78 longest distance contact prior to contesting was from Okinawa to Travis AFB from the back seat of an RF-4C doing a radio check... on the ground and no license needed.

Call sign is my Dad's. For 40 years he tried to get me into amateur radio. His last words to me were "so when are you going to get your ticket?"

Two years after his passing I earned my Tech through Extra Class licenses (and acquired his Call). I guess he finally did get me into the hobby, and I wish I had done it sooner. I'm sure he would have gotten a kick out of where I am today.

I do hold a few county records for CQP.

- Santa Cruz SOLP Assisted
- Santa Cruz SO QRP



Don, K6GHA's Station. Ed note: Can we start a fund to buy Don some larger monitors?!



K6GHA House and Antennas. . . in the words of Judy Garland singing "Somewhere, Under the Rainbow, Way up High" (Ed)

Don, K6GHA, winner of the LP Category in the 2019 Hawaii QSO Party.





– K6GHA ARRL Phone Sweepstakes 2017 Unassis.
LP Winner, Pacific Division

– 2018 7QP Unassisted LP Winner Outside 7th
Area



K6GHA's renowned Beer.

Tube Of The Month

6166A/7007

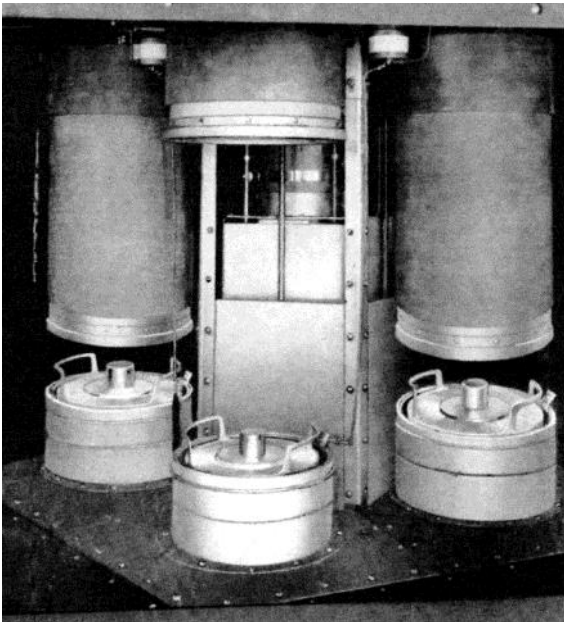
Norm, N6JV

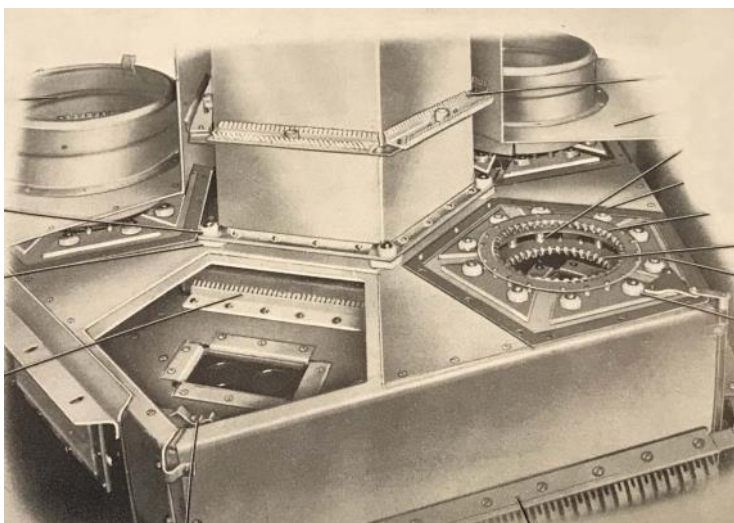
The first attempt to produce a high-powered transmitter for VHF TV was a success, although running large numbers of low powered tubes to get the required output wasn't optimum. RCA in 1952 announced a new 12,000-watt dissipation beam tetrode that would operate at full ratings up to 220 MHz. The tube was the 6166 and it was constructed with glass insulation and coaxial elements except for the filament pins. A filament current of 180 amps was easier to handle with heavy pins. RCA's new 25 KW amplifier used 2 of the 6166 tubes instead of seven paralleled tubes. The new 50 KW amplifier used five of the 6166s in parallel. A pair of the TT-50AH amplifiers could be combined to make the TT-100AH at 100 KW. This was the time that the first ceramic insulated tubes were being produced. The 6166 was re-assembled with ceramic insulation and it was renamed the 6166A. The new tube only drew 168 amps of filament current. In 1960, the 6166A and a similar tube the 7007, were combined as the 6166A/7007. The new tube had a more efficient anode construction. The old transmitters had no problems running the newer and cooler tubes. Now five tubes were doing the job that required fourteen smaller tubes in the old unit to produce 50 KW output.

The TT-50AH amplifier was grounded grid and had the 5 tubes arranged in a circle around a pentagonal deck. The tubes could be removed when the air ducts were raised. The chimneys and their associated mounting plates could be removed to give access to the sockets. The first photo was taken from RCA-Transmitting-Equipment-Catalog-1956 and the second from the amplifier's service manual.

Visit the museum at N6JV.com

Norm N6JV





*Visit the museum at
<http://n6jv.com>*

Norm, N6JV



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. The 80/20 Rule: Members who have reached 80 years of age have and been a NCCC Member for 20 years are eligible for Honorary life membership. Contact 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 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 Bill, N6ZFO at n6zfo@arrl.net 415 209-3084

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: "NCCCKB"



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.

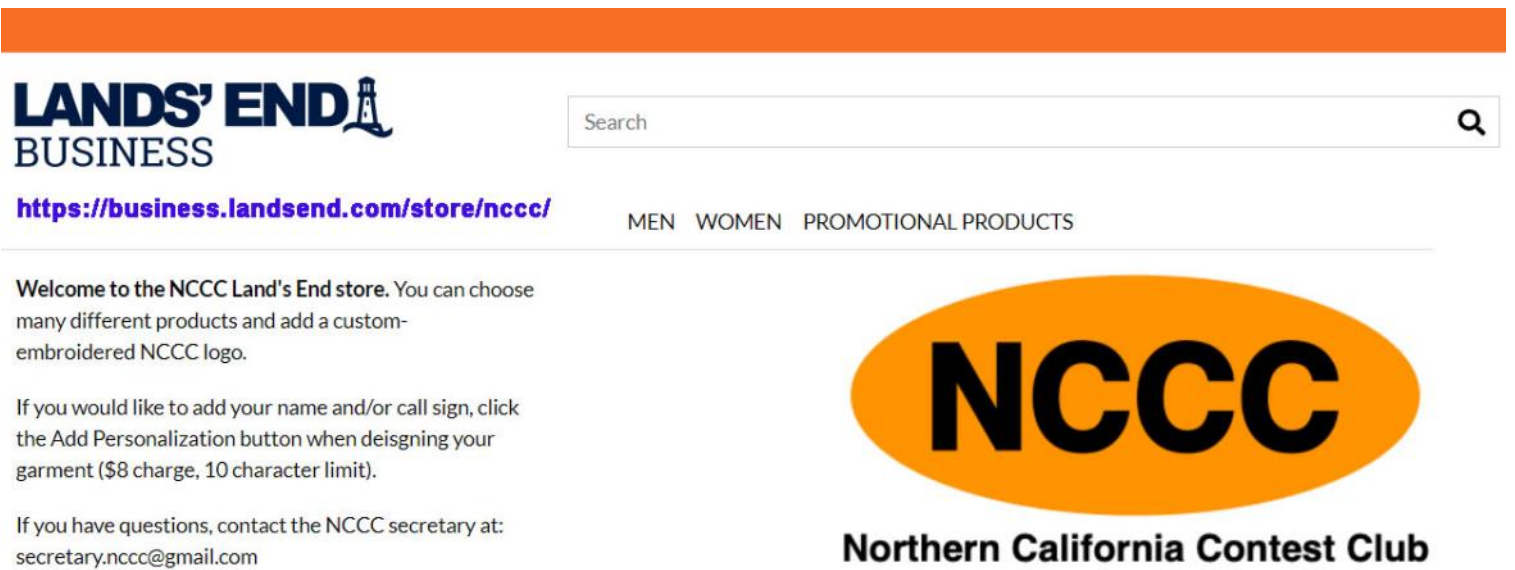
And, you can personalize your item by adding your name and/or call sign. The store is open 24/7 and items are shipped directly to you. No more waiting for everyone else to make up their minds on a group purchase.

Go to <https://business.landsend.com/store/nccc/>

It's easy to use.

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

Thanks to W6TCP for helping to set this up.



LANDS' END BUSINESS

<https://business.landsend.com/store/nccc/>

MEN WOMEN PROMOTIONAL PRODUCTS

Welcome to the NCCC Land's End store. You can choose many different products and add a custom-embroidered NCCC logo.

If you would like to add your name and/or call sign, click the Add Personalization button when designing your garment (\$8 charge, 10 character limit).

If you have questions, contact the NCCC secretary at: secretary.nccc@gmail.com

NCCC

Northern California Contest Club

Instructions for purchases from the Lands' End NCCC Store:

1. Go to <https://business.landsend.com/store/nccc/>
2. Click on the Men's or Women's link, and then choose an item.
3. Pick a color, then enter the 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. On shirts, for instance, you can place the logo in one of several locations.
6. Click Apply Logo.
7. Optionally, click Add Personalization to add your name and/or callsign (\$8 charge, 10 character limit)
8. Click Add to Bag. Keep shopping, if you like.
9. Click Start Secure Checkout. Account creation and credit card required.

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 KP1500 and KP1500 amplifiers

'The performance of their products is only eclipsed by their service and support. Truly amazing!' Joe - W1G0

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KENWOOD



TS-590SG
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