



**Publication of the
Northern California
Contest Club**

Issue 554

July 2018



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President's Report

Have you seen them? Heard them? New contesters! They are all around us, joining us. We have welcomed several new members recently, and many more are interested. Not just in NCCC, but in contesting as well. Perhaps its Field Day, a well-proven breeding ground for contesters, perhaps its local clubs doing things together. Maybe something else grabbing new hams attention. But make no mistake, there are new hams interested in our favorite part of the hobby. Isn't it wonderful? Perhaps the death call of radiosport is premature after all.

NCCC Meeting Tuesday 14th August

6:00 pm Social Hour, 6:30 PM Lunch 7 PM Program

Location

Tied House, 954 Villa Street, Mountain View, CA 94041

Program:

WRTC Presentation by Bob K6XX, Mike WA6O, Rick N6XI, Andy AE6Y and referees Ed W0YK & Rusty W6OAT and advisor Tom KW6S

See [page 8](#) for more information

There are many questions being asked - "How do I find out the exchange?", "How do I determine what band to operate?", "How to plan?". All things we have each learned along the way. Some of us were lucky to have others near by to answer questions, while other stumbled into the answers, not so gracefully. We have a tremendous opportunity to help out here, teaching and mentoring new contesters as they come into our favorite part of the hobby. Some invitations will be needed for multi-op (at first), then allowing them to operate our stations (as others did for us years ago). I have to stop here and thank NW6P for inviting several ops into his great station, as well as N6RO and many, many others. Tom, Ken and others have done more than just allow folks in, but instead have shown them the ropes, providing suggestions for ways to do things better and improve their scores and at the same time, our scores.

Continued on page 3



Northern California Contest Club

Excellence In Amateur Radio Contesting

Officers:

President	Jack Brindle	W6FB	jackbrindle@me.com
Vice President /Contest Chair	Chris Tate	N6WM	ctate@ewnetinc.com
Treasurer	Tom Carney	K6EU	treasurer.nccc@gmail.com
Secretary	Ian Parker	W6TCP	secretary.nccc@gmail.com
Past President	Bob Hess	W1RH	w1rh@yahoo.com
Director	Rick Tavan	N6XI	rick@tavan.com
Director:	Bill Haddon	N6ZFO	n6zfo@arrl.net
Director:	Bill Fehring	W9KKN	bill+nccc@w9kkn.net

Volunteers:

New Member Mentor	Al Rendon	WT6K	wt6k@arrl.net
Charter Member	Rusty Epps	W6OAT	w6oat@sbcglobal.net
Awards Chair	Gary Johnson	NA6O	gwj@wb9jps.com
CQP Chair	John Miller	K6MM	k6mm@arrl.net
K6ZM QSL Manager	George Daughters	K6GT	k6gt@arrl.net
K6CQP,N6CQP,W6CQP QSL Mgr	Ed Muns	W0YK	w0yk@arrl.net
NCCC Email reflector Admin	Phil Verinsky	W6PK	kb-w6tqg@verinsky.com
Webmaster	John Miller	K6MM	k6mm@arrl.net
Webinars	Bill Fehring	W9KKN	bill+nccc@w9kkn.net
JUG Editor	Ian Parker	W6TCP	w6tcpian@gmail.com

Thursday Night Sprint:

The Northern California Contest Club sponsors Thursday evening (NA local time) contest practice sessions of 30 minute duration.

On the Thursday (and, sometimes Friday also) prior to a major contest weekend, the practice format follows the upcoming contest.

Generally, on other 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.

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.
non-NCCC:	Tim N3QE (Ladder Scores manager)
Thursday night Contesting Advisory Group:	N6ZFO, Bill (Chair)
	Mark K6UFO, (with W4NZ, N4AF, W9RE, K4BAI, N3BB and W0BH).
The Thursday night NCCC Net	Ken, N6RO

Now its our turn. We need more of us to pitch in and help out. Whether its a program on how to read contest rules or learn about propagation, there are opportunities for teaching sessions and programs. Opening up our shacks to newcomers to help them better their skills. Perhaps we will find out who the next Locust might be (yes, I know, there is only one Locust!) - be sure to keep that fridge stocked, just in case!

So what are we really looking for? Starting with the basics - as previously mentioned, how to read contest rules. How to predict propagation and when to operate on each band. What difference do sunspots make? How to run? When calling CQ, when is it time to QSY? How do we use the logging program or some particular feature? These are all questions I fielded (and tried to answer) at Field Day both while operating and afterwards. The These new folks are very curious, and they are going to be very good, pushing us to either do better or be amazed at how much better they are than us.

There are many opportunities for sessions - besides the monthly programs, we are looking at reviving the NCCC webinar program. This would allow us to save the webinar so that they can be re-played when more convenient for each viewer. Would this be enough? Probably not. Perhaps it is time for smaller teaching sessions hosting maybe a dozen curious students, where one-on-one teaching and mentoring can occur. Several of these could be held periodically with various teachers, perhaps even in various locations at the same time.

And, of course, you may wish to open up your station, whether it be super or modest, for folks to get a better feel for contesting. Remember, once one is addicted to our contesting affliction it can last for life!

WRTC is at hand!

We are just a few weeks fro WRTC and IARU. Held the weekend of the 14th and 15th, there are quite a few NCCCs heading to Germany to participate in some fashion at the WRTC event. Some are ops, judges, or perhaps just spectators. We wish well to all, and have great hopes that one of our members will bring home the gold medal!

Whether you are going or not, you can participate as well. WRTC coincides with IARU so as to give the WRTC participants a real contest to work with. That's where we come in. IARU is a wonderfule contest with world-wide participation, which includes us. Jump in and operate. See how many of the WRTC stations you can work. Paraphrasing the Pokemon craze, "You gotta work em all!"

Note to the WRTC participants. Please reserve the second Tuesday of August for the NCCC meeting where we plan to hold a panel discussion of your experiences at WRTC. Your presence will greatly enhance that discussion!

In case you have been following the W6FB tower project, the concrete is pretty much cured and ready for the tower. The goal is to have the house bracket fabricated and mounted by the time IARU hits so that I, too, can use the new antenna system in the fray.



It's been a long time coming, and I can't wait to finally run with a decent antenna!

73,

Jack, W6FB

Wi-Fi TV Rotor Controller

Stefan AF6SA



After operating in a rain / hail storm in last September VHF contest from inside car together with Alex/KK6VIX, unable to manually rotate, the decision was made that we needed a rotator for our portable and Field day operations. There was a need of another rotator for the new RX loops in my back yard. After an online search didn't find a small / cheap portable rotor, that can be used on 12VDC power and to be able to raise my VHF/UHF stack from a tilted position. I decided to use the popular Chanel Master TV rotor. Proven waterproof, all season small rotor, capable of rotating my VHF/UHF stack, HEXbeam, Spiderbeam or even a Tri-bander. It just needs a controller and a Compass.

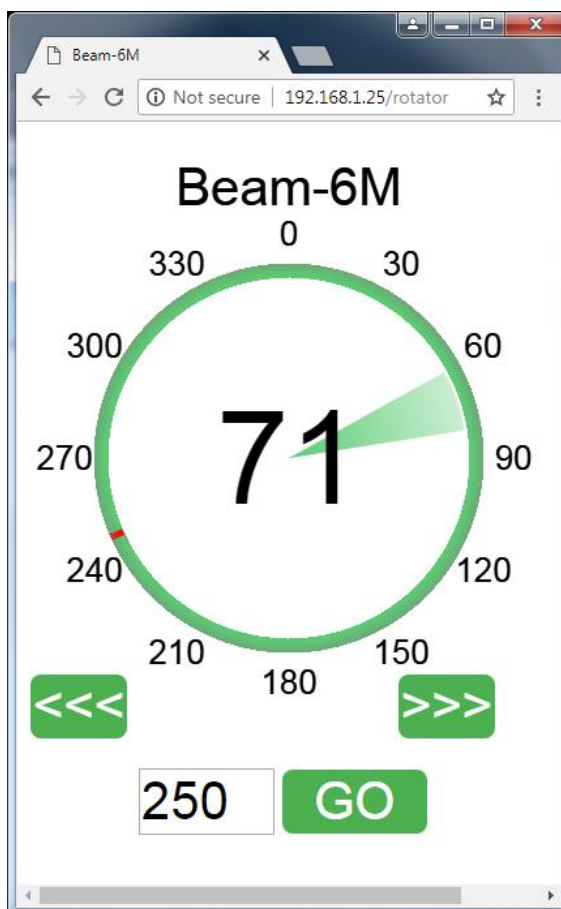
ESP8266 Wi-Fi module with 32bit 80MHz CPU, 4MB FLASH, 80KB RAM, TCP/IP stack hosting a small WEB server that was used in other projects was chosen for the controller. LSM303 3D accelerometer / magnetometer on I2C bus is used as an electronic Compass. For the AC motor control a 12V to 30V step-up converter and a 3-phase 2.5A FET bridge are used to generate the two 18VAC voltages with a 90deg phase difference that is needed to run it. Generating the motor phase voltages allows using a V/Hz profile to control the motor speed between 30Hz and 80Hz. Trapezoidal acceleration / deceleration profiles are implemented, allowing smooth rotation while minimizing the mechanical stress at higher speeds.

Controller PCB is designed to fit inside the rotator body. 2.4GHz coax dipole antenna, Compass and power cables are routed outside.



Features:

- Power requirements: 10-15VDC / 0.08A standby, 2.5A max while moving.
- 16AWG Speaker wire is good up to 30ft, 14AWG for up to 60ft.
- Field oriented motor control, Variable Speed Drive 30Hz – 80Hz for faster rotation.
- Acceleration / deceleration velocity profiles for smooth rotation
- Electronic Compass for easy setup
- Wi-Fi 802.11n network interface, less wires, no special controller needed
- Can be used as Access point or connected to existing Wi-Fi network
- Web interface for point-and-shoot control using any device with a browser.
- Telnet interface - compatible with PstRotator program
- UDP packet listener - compatible with N1MM logger and DXLab suite



Web interface is fully customized.

Installing all that electronics close (2-3ft) to an antennae, requires special attention to mitigate EMC / RFI problems. Ferrite beads (11pcs), magnetically shielded inductor, RC filters and a common mode choke on the power supply cable are used. Specialty I2C buffers on both sides are used to drive the Compass cable - 2x shielded pairs with a drain wire. Drain wire also provides connection between the top and bottom of the rotating parts to minimize chances for RFI/IMD products that can be generated from rotor bearings. Rotor was tested in three settings. In all settings there was no noise/birdies found when rotor was powered, but not moving. TXing 500W on 20M-10M, 100W on VHF and 50W on UHF didn't cause any issue.

- Tested with VHF/UHF portable setup: 144/432MHz dual band Yagi at 2ft and 3el 50MHz Yagi at 4ft above the rotor. Only on 144MHz I can hear a slight increase in the noise floor, less than S unit while rotating.
- Tested with Mosley MP-33 at 2ft above rotor on 20M-10M no noise/birdies found while rotating.
- Tested with RX loops 6ft above the rotor on a fiberglass mast – no noise floor increase or birdies found on 160M and 80M bands.

Visit [project page](#) and download the [User manual](#) for more information and operating tips. Solderless kits are available at <http://www.af6sa.com/projects/Kits.html>
Special thanks to Alex / KK6VIX for helping me with building, testing and editing this project.

August Meeting: WRTC 2018

Tied House, 954 Villa Street, Mountain View, CA 94041

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

Qualifying—Preparation—Contest Strategy—Hardware—Travel—Ceremonies—Setup—Contest & Q&A

This is not your typical DXPedition talk.

And much more...

Featuring representatives from Y84X, Y82L, Y87O, Y81A, & Y84Z



WRTC 2018
Competition Callsigns

Y81A	Y81D	Y81K	Y81M	Y81N	Y81R	Y81U	Y82A
Y82B	Y82D	Y82F	Y82G	Y82K	Y82L	Y82M	Y82N
Y82R	Y82V	Y82W	Y83B	Y83C	Y83D	Y83G	Y83K
Y83L	Y83O	Y83P	Y83R	Y83U	Y83V	Y83X	Y83Z
Y84B	Y84C	Y84G	Y84J	Y84O	Y84P	Y84Q	Y84W
Y84X	Y84Y	Y84Z	Y86C	Y86E	Y86J	Y86O	Y86P
Y86Q	Y86V	Y86W	Y86Y	Y87B	Y87C	Y87G	Y87K
Y87L	Y87M	Y87O	Y87P	Y87U	Y87V	Y87W	Y89A
Y89D	Y89K	Y89M	Y89N	Y89R	Y89U		



July MLDXC / NCCC Joint Meeting

The July meeting took place on July 28th the meeting venue was Old Spaghetti Factory, 2702 W March Ln, Stockton CA 95219. The program was John K6MM "Experiences from the KH1/KH7Z Baker Island DXpedition"!

Attendees:

Brandt Woodward K6BEW, Karen Officer K6KSO, John Miller K6MM, Jim Varney K6OK, Dave Sanders K6TQ, Randy K6TYT, Vina Moore K6VNA, John Lee K6YK, Jim Brown K9YC, Jennifer Brindle KB4TGE, Peter Hine KD6CPA, Jerry Olive KD6WKY, Emilia Seiferling KI6YYT, Greg Desbri-say N6GD, Bill Ress N6GHZ, Norm Wilson N6JV, Rick Karlquist N6RK, Rick Eversole N6RNO, Bob Officer N6TCE, Bob Wilson N6TV, Gary Johnson NA6O Steve Allred NC6R, Dennis Moore NJ6G, Greg Glenn NR6Q, Bob Hess W1RH, Jack Brindle W6FB, Glen Brown W6GJB, Bob Leclerc W6RC, Chuck Tift W6RD, Rick Samoian W6SR, Bill Fehring W9KKN, Jim Seiferling WB6BET, Rich Cutler WC6H, Barry Oaks WJ6N, Jim Venneman WX6V, Newman - Guest of WX6V









2018/2019 Dues

Dues renewals for 2018/2019 are \$24 for full members and \$12 for associate members (outside of the club circle). Dues are not mandatory. However, like every club, we have expenses that need to be paid and awards are only issued to paid members so please consider a paid membership. It's only \$24!

Member Planet is used to collect dues and you will shortly receive an automated reminder that dues are payable. You don't need a Paypal account and you can use a credit card to pay dues.

You can also pay for dues by check. Please mail \$24 to the NCCC Treasure, K6EU Tom Carney, 1545 Elwood Dr, Los Gatos, CA 95032

As we are now a 501(c)(3) non-profit organization your dues might be tax deductible to the extent permitted by law. However, check with your tax professional for advice on your specific case.

To log in to Member Planet : Go to <http://nccc.cc/membership.html>

Scroll to the sign in button



Log in using the credentials you signed up with

Log in to MemberPlanet

[Forgot your password?](#)

Select the Blue Renew Button



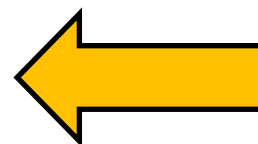
Ian Parker
w6tcpian@gmail.com

My member levels



Northern California Contest Club

Due date: 7/1/2019



If you need help, contact Ian W6TCP w6tcpian@gmail.com

Point Generator Profile Bob, W1RH

He's a Point Generator, a KB'er, and our secret weapon! That's Ron, N6EE.

3830 shows Ron cranking out the points for NCCC as far back as 2003, and we know he was cranking 'em out way prior to that. Ron is a triple play guy. He does SSB, CW, and RTTY. He does the DX contests and the domestic contests. Why is Ron our secret weapon? Well, thanks to Remote Ham Radio, and the Elecraft K0, you never know where Ron will be. Remember N6EE, from NNY in the 2017 SS? Hard to forget that one! I think Ron was the only NNY on the air in SS SSB.

Enough from me; now more from N6EE:

Name/Call Sign:

Ron Lodewyck / N6EE

Past Calls:

KN9RJP, K9RJP, W6PXG, ZF1RL, C6AJU, VP5NN, AH7NA, VP2V/N6EE, PJ2/N6EE, WP2NN

Location:

Turlock, CA and Hawthorne, NJ

How much property do you have:

Turlock: small city lot, Hawthorne, NJ: Condominium

Describe your antenna system (Current and Future):

In Turlock I have a TX455 crankup tower with a 15 foot mast and a GXP7L-7B multi-band yagi at 60 feet and an Innov 5 element 6M LFA yagi above that. This is rotated with an M**2 Orion rotor and a Green Heron controller. The GXP 7L-7B has 7 elements covering seven bands: three elements on 20, 17, 15, 12, and 10M, two elements on 30 and 40M.

An inverted Vee covers 80M Unfortunately, I don't have the room or a place to put even a compromise antenna for 160M.

In New Jersey the condo association prohibits antennas of any type so I have a K3/0 and Remote Rig interface which I use to access stations via Remote Ham Radio.

What's in your shack:

In Turlock I have a fully loaded Elecraft K3 and a KPA500/KAT500. I use a Bandmaster III to auto select the appropriate antenna and/or feedline (the GXP7L-7B uses three feedlines).

My K3/KPA500 station in Turlock is configured for remote access via a Remote Rig interface and Remote Ham Radio so I use a K3/0 in Turlock as well as another K3/0 in New Jersey to access either my own station or any other station in the Remote Ham Radio network. This is an odd arrange-

ment but it gives me great flexibility as well as access to some of the finest stations in the USA, as well as Puerto Rico and Haiti. It also provides others the opportunity to use my station.

What are your previous QTH's:

I lived in Chicago when I was first licensed in 1957 and in Evanston, Illinois while attending graduate school. We moved to Turlock in 1973 and I changed my call to W6PXG.

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

I retired in 2006 from California State University, Stanislaus where I was a Professor of Computer Information Systems for most of my career. I took a few years off from teaching to start Macrotronics, a small company designing, manufacturing and marketing a radio modem. I returned to teaching when I did not follow in Bill Gates footsteps as one of the wealthiest people on the planet :)

Married? Kids? Grandkids?

I have been married to my wonderful wife Betty for 47 glorious years. I say "glorious" because, among many other fabulous traits, has not only tolerated my peculiar hobby (radio contesting is rather peculiar, don't you think?), but has always encouraged me to enjoy it fully. Which I have! In fact, when I mentioned to Betty that I had a dream of visiting all 50 states AND operating a ham radio from each state, she immediately replied "Hey, that sounds great! Let's do it!" We have visited all 50 but operating from Alaska remains elusive; we will get to it some day. By the way, Betty was licensed many years ago as WN9KBR.

Betty and I have one daughter, Danielle, who lives in New Jersey (yes, thus the condo), She is licensed as W2GAL, although she isn't currently active. Danielle is married and has given us two great granddaughters, Ella age 8 and Katie age 4.

How many DXCC entities have you worked?

All of them. Yep, North Korea too. #1 Honor Roll. I also have 8 band DXCC and am currently trying to complete DXCC on 160M (90 confirmed) and 6M (54 confirmed). I must confess, however, that access to the Remote Ham Radio super stations has made those 160 and 6M contacts possible – NEVER could have done that from my station in Turlock. FT8 has also been a HUGE factor. Thank you Joe Taylor.

What is your favorite contest?

You know, I don't really have just one favorite – I really just enjoy contesting, be it DX or domestic; CW, phone, or RTTY; they're all fun. But, in all honesty, I have been enjoying CW more and more as I become more proficient and especially since my hearing loss has made phone contesting quite challenging.

Any tips for contesters?

Practice and Butt-in-chair. That's it in a nutshell for me.

What would you like to see changed in NCCC?

I have been a member of the NCCC for more than 40 years and I truly cherish the Kber friends I have made, the skills I have learned from them and have enjoyed reading every issue of the JUG.

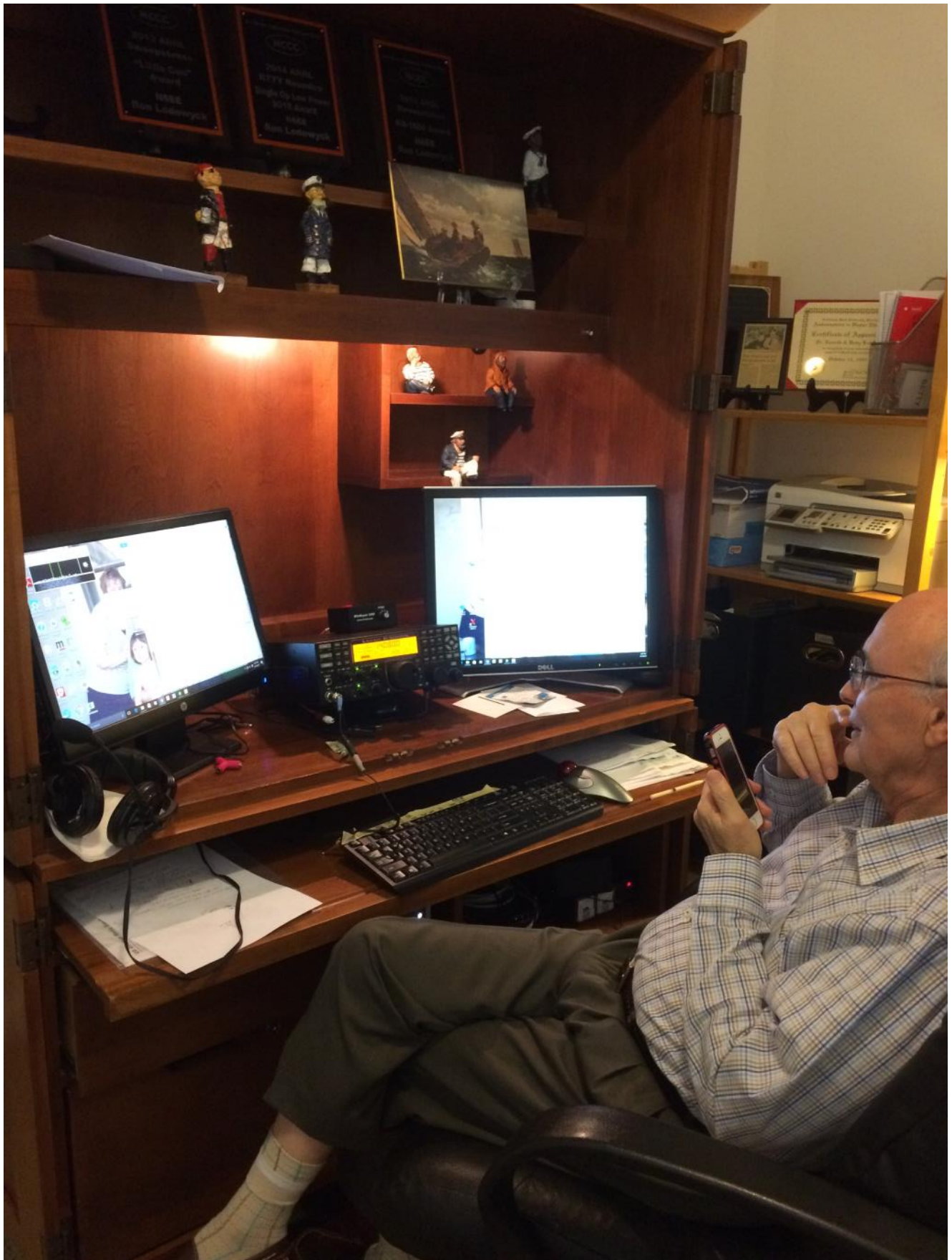
Just keep on doing what you have always been doing because I hope to get what I have always got :) NCCC Rocks!

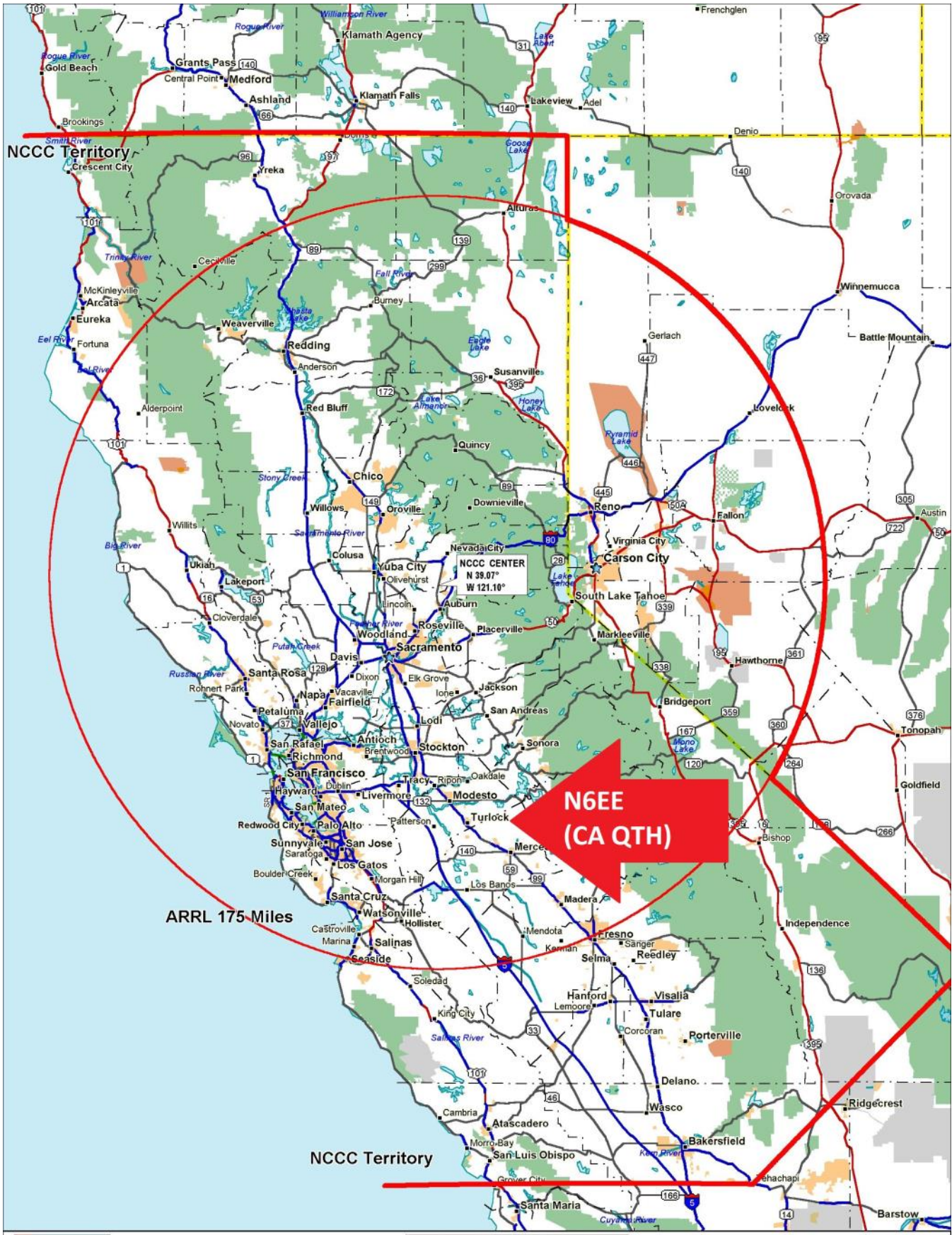
Any other hobbies besides ham radio?

There's something else in the world besides Ham Radio? Just kidding. Betty and I took up the ukulele a couple of years ago and love to sing (well, many might not call it "singing") and play with the Turlock Sunshine Strummers – a fun group of mostly old fuddy duddies. We also love to spend time with the grandkids and putter in the garden – hey, we're retired!









Filtered Island for Wall Warts

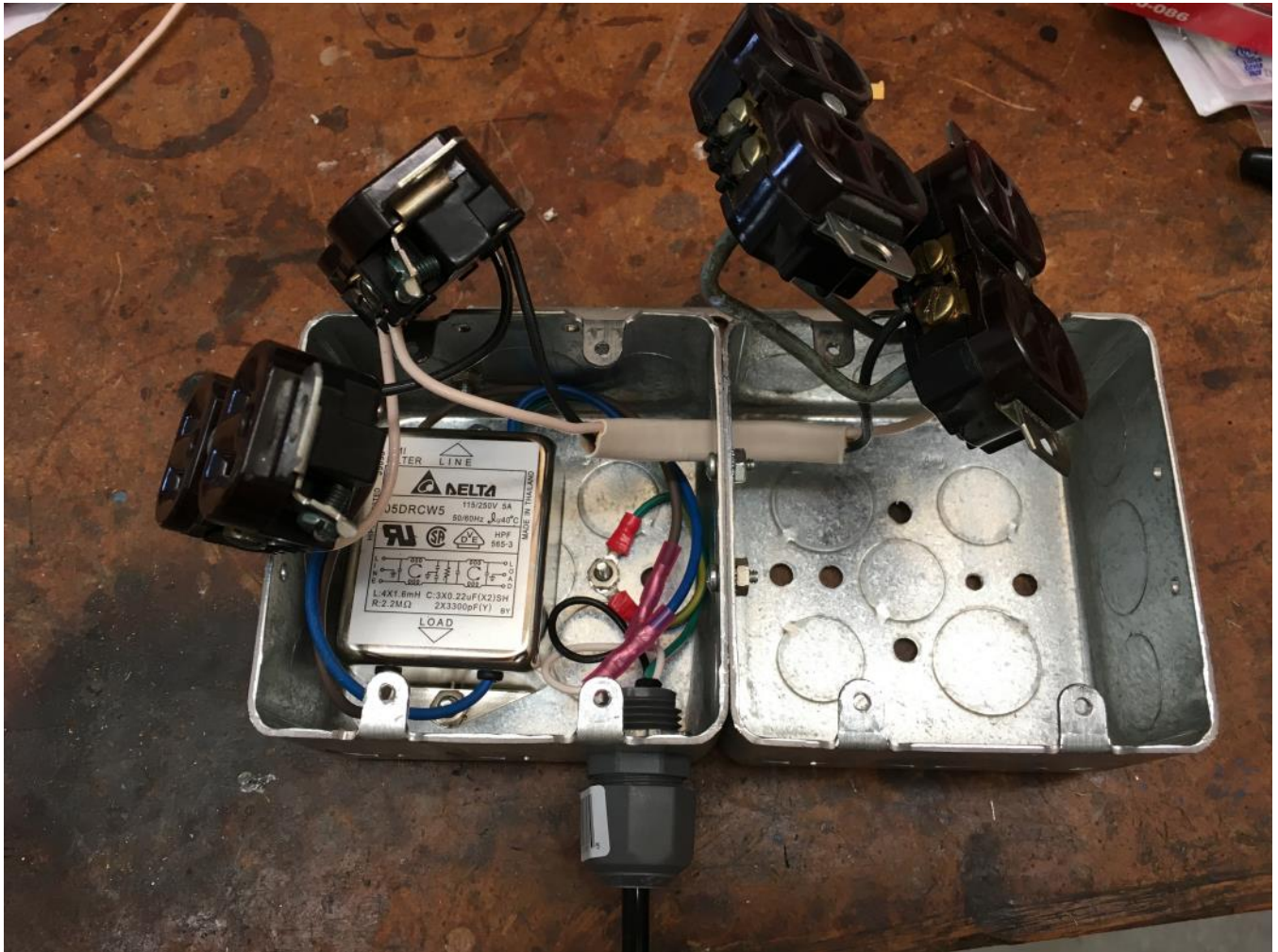
Gary NA6O

Everyone knows that switching power supplies, especially cheap wall warts, are often sources of RFI. But also, in an SO2R or multi-transmitter environment, they often generate harmonics and mixing of local RF fields, leading to additional inter-station interference. Your first measure should be to eliminate them by replacing them with a linear power supply of some kind, perhaps even your 12 VDC station supply if that's suitable. But often you're stuck needing an odd voltage like 7.5, 9, or 19 VDC and it's not so easy to replace.

After ruthlessly removing all possible switching-type wall warts from the shack at N6RO, I ended up with one small group of them in one corner, mostly supplying power to networking equipment, a computer monitor, and a couple of other odd computer gadgets. My solution was to build a filtered outlet box, and to apply chokes to the DC output lines of each power supply. This provides good isolation from RF ingress both from the AC lines as well as the DC side. Also, the conducted RF switching noise and mixing products coming out of the supplies—on both ports—is suppressed.

To make the outlet box, I ganged together a pair of 4-inch square electrical utility boxes that I had lying around. The deep ones are best because we're installing a filter module inside. The AC line filter that I selected was a Delta 05DRCW5, which is a two-stage unit rated at 5 Amps and cost \$13 from Mouser. There are many other models to choose from. This one is fairly small, inexpensive, and most importantly has good common-mode and normal-mode rejection over the HF bands.

The filter is bolted to the back of one box and there is space for a pair of duplex outlets above it. If your filter is very large you may need an extra box just for that. I used a compression type cord grip bushing for the #16-3 power cord. You can get those at Home Depot. Depending on the kind of boxes you use, there are various outlet plates to choose from. I used a couple of plastic ones and had to saw off a little from each one where they met in the middle. Again, these were just parts I had lying around. Be sure everything in the box is solidly grounded to the boxes.



The output cord on each wall wart needs a choke. I've been using 1.4 inch diameter mix 43 toroids that work well with around 12-14 turns. The typical small plug on those cables fits through easily. Measured impedance rises steadily from 1k at 1.8 MHz to over 5k at 30 MHz. The toroid part number is Fair-Rite 2643802702 and is stocked by Mouser, Arrow, and others for about \$1 each. You can also use the big 2.4-inchers and the impedance will be similar.



After installing on the bench, I put a big label on it that says Wall Warts Only. Think of the outlets as contaminated little cesspools. Don't plug "clean" things into those "dirty" outlets.

NCCC Annual KB Competition Rules

Revised February 25, 2018



Purpose: To provide a means of rewarding NCCC members who are DX contesters, sprinters, VHFers, and especially active contesters in all modes.

Time period: The contest year starts at 0000 March 1 UTC. ARRL DX SSB is the first contest of the year. NAQP RTTY is the last.

Eligible contests: Currently, points from 38 contests are counted. See the table on the next page

Scoring: Score = number of contests in which you participated * sum of (points for each contest * each contest's multiplier). NCCC weekly sprints are special. Points for the entire year are added up, but it is only counted as a single contest.

Multi-ops: Points = total score divided by the number of operators.

Station owners: A station owner who does not participate in a particular contest receives 25% of the points.

Valid scores: Only scores posted to 3830scores.com are counted.

Brackets: There are four independent brackets for the purpose of awards: 1-Platinum, 2-Gold, 3-Silver, and 4-Bronze. Brackets are assigned at the beginning of the contest year according to your final position in the previous year's standings.

Awards: Paid NCCC members may receive awards.

Contact: Gary, NA6O. gwj@wb9jps.com

NCCC Annual KB Competition Table (Updated 2/25/18)

Contest	Month	Multiplier
ARRL DX Contest SSB	March	5
CQ WPX SSB	March	1
NA Sprint Spring SSB	April	100
JIDX CW	April	10
Florida QSO Party	April	20
7th Area QSO Party	May	20
New England QSO Party	May	30
CQ WPX CW	May	1
ARRL June VHF	June	200
All Asian CW	June	10
RAC Canada Day	July	10
IARU HF World Championships	July	5
NAQP Summer RTTY	July	50
NAQP Summer CW	August	50
NAQP Summer SSB	August	50
Kansas QSO Party	August	20
NA Sprint Fall CW	September	100
CQWW RTTY	September	2
NA Sprint Fall SSB	September	100
CQP	October	20
<u>Makrothen</u> RTTY Contest	October	10
JARTS RTTY Contest	October	5
CQWW SSB	October	1
ARRL Sweepstakes CW	November	15
JIDX SSB	November	20
ARRL Sweepstakes SSB	November	15
CQWW CW	November	1
ARRL 160 Meter Contest	December	50
RAC Winter	December	10
ARRL RTTY Roundup	January	50
NAQP Winter CW	January	50
NAQP Winter SSB	January	50
NA Sprint Winter CW	February	100
CQ WPX RTTY	February	1
ARRL DX Contest CW	February	5
NAQP Winter RTTY	February	50
NCCC Sprint CW	Weekly	50
NCCC Sprint RTTY	Weekly	100

Platinum	Gold	Silver
AD6E	AJ6V	AI6JZ
AE6Y	K6AW	K6AAM
AF6SA	K6DGW	K6CSL
K2RD	K6IJ	K6ELE
K3EST	K6NV	K6JS
K5RC	K6RIM	K6KLY
K6GHA	K6TLR	K6KNS
K6LRN	K6UFO	K6KR
K6MM	K6XN	K6RB
K6MR	K6XV	K6ST
K6SRZ	KH2TJ	K6UM
K6XX	KH6LC	K7GK
K7XC	KM6I	K7MKL
K9YC	N0KQ	K7NV
KA6BIM	N2NS	KA6W
N6EE	N3RC	KD6WKY
N6IE	N3ZZ	KE8FT
N6JV	N6KT	KI6OY
N6RO	N6PN	KM9R
N6TV	N6XI	KO6LU
N6WM	NC6R	KX7M
N6ZFO	NJ6G	KZ2V
N7MH	NQ6N	N1DID
NA6O	NW6P	N5KO
W0YK	OH1VR	N6AJS
W1RH	W6DR	N6DE
W1SRD	W6EU	N6DW
W2SC	W6FA	N6GEO
W6NV	W6JTI	N6JS
W6OAT	W6NF	N6NU
W6SX	W6RC	N6RK
WB6JJJ	W6SR	N6VV
WC6H	W9KKN	N9YS
WK6I	WA6O	ND2T
WX5S	WU6X	NF1R
		NK7U
		NR6Q
		VY1JA
		W6LD
		W6NL
		W6RGG
		W6SC
		W6SZN
		W6TCP
		WE6Z

KB Award Brackets - New for 2018

There are four independent brackets for the purpose of issuing awards: 1- Platinum, 2- Gold, 3-Silver, and 4-Bronze.

Your bracket is assigned automatically at the beginning of the contest year according to your final position in the previous year's standings. New members or those who have never posted a score to 3830 default to the Bronze level.

On the left, is an alphabetical list of the current assignments to the top three brackets.

If your call is not listed, you are in Bronze. If you believe your current bracket is incorrect, please contact NA6O.

TUBE OF THE MONTH

Visit the museum at N6JV.com

Norm N6JV

Visit the Museum: www.n6jv.com

HV-1 (A tube that sucks)

There are vacuum tubes and other devices that require additional vacuum pumping or must be completely pumped down in operation. A transmission electron microscope is like a cathode ray tube where the tube is opened up and the sample to be scanned is placed in the electron beam. The tube is then pumped down before any voltages are applied. A rotary vacuum pump and a series of valves are used to get a vacuum. The microscope I used in college had a bad habit of losing control of the pump and sucking oil into the valve system. It would take me 3 hours to clean it out. Very large tubes like the high power klystrons have diffusion pumps built into the tube to maintain an adequate vacuum.

In 1942, Eimac developed the HV-1, a diffusion pump that was produced for over 20 years. The HV-1 has a heater element in the base that heats a special oil that is vaporized and rises into the tapered aluminum structure in the middle. It works like that stinky Vicks Vaporizer your mother made you smell as a kid.

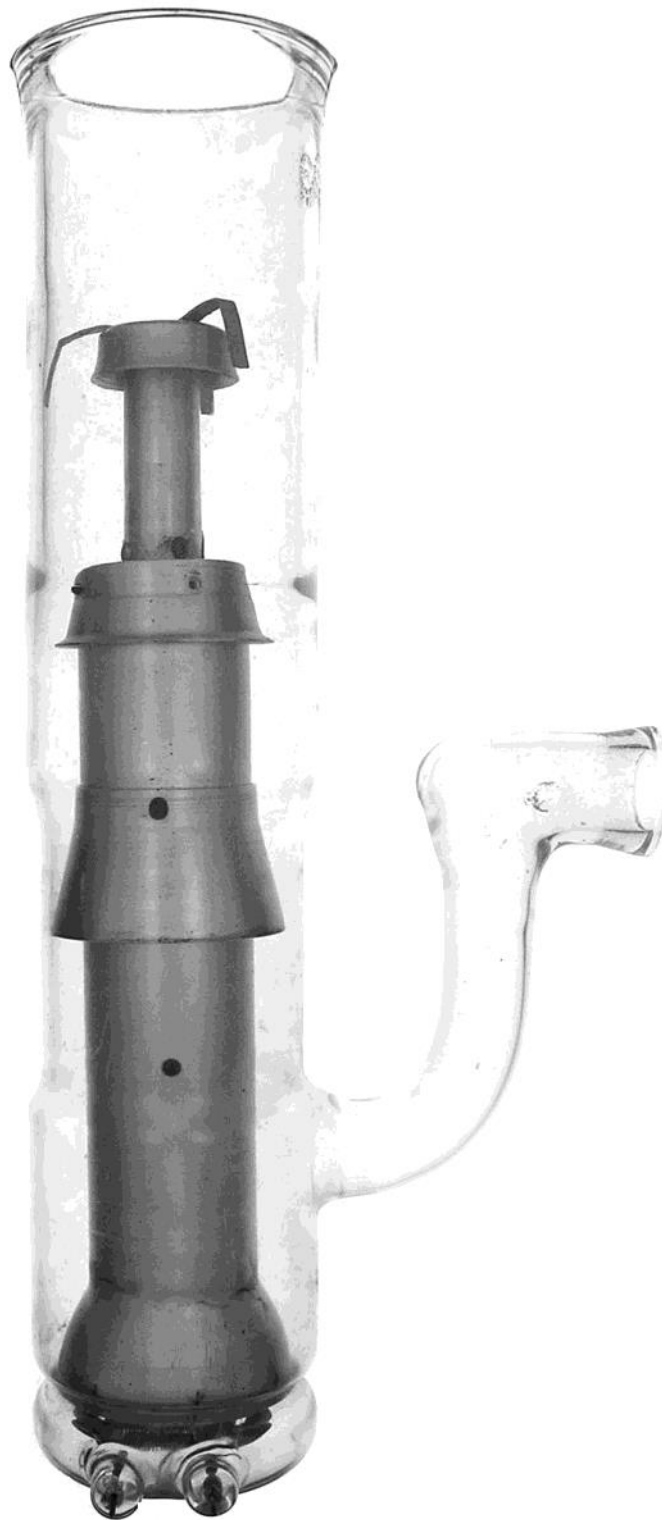
The top of the tube has a manifold that is attached to the item to be evacuated. This area is cooled by a fan. The oil vapor rises in the column and molecules of gas diffuse into the oil before it condenses on the glass and runs into the base. There are three stages of this process with higher concentrations of molecules near the base. The neck in the side is attached to a mechanical forepump that has the ability to remove the gas. The oil is re-heated and vaporized again. The process can achieve a vacuum of 4×10^{-7} mm of mercury.

The HV-1 I have was made in 1942 and may have been the first unit ever made. It was once donated by Eimac to a museum and had a date tag.

TUBE OF THE MONTH

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Norm N6JV



NCCC Life Membership!

The NCCC Life member program was introduced for a flat fee of \$250. If you are interested in becoming an NCCC Life member, please contact Ian W6TCP at w6tcpian@gmail.com

80/20 Rule:

Members who have reached 80 years young and been a NCCC Member for 20 years are eligible for Honorary life membership. Contact Ian W6TCP at w6tcpian@gmail.com

CQP T-Shirts 2016

We have a small number of T-Shirts left for anyone that wants one. They are \$15 each, available on a first come first served basis.

Available sizes:

2XL

XL

M

Contact Ian W6TCP at w6tcpian@gmail.com for details

BoD meeting minutes

The monthly minutes from the NCCC BoD meetings are available in the members only section of the NCCC website. See <http://nccc.cc/members/minutes.html>

JUG Articles Wanted!

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Contest Calendar— August page 1

Phone Fray
CWops Mini-CWT Test

NRAU 10m Activity Contest

SKCC Sprint Europe
QRP Fox Hunt
NCCC RTTY Sprint
NCCC Sprint
10-10 Int. Summer Contest, SSB
European HF Championship
WAB 144 MHz Low Power Phone
ARRL 222 MHz and Up Distance Contest
North American QSO Party, CW
SARL HF Phone Contest
ARS Spartan Sprint
Phone Fray
CWops Mini-CWT Test

QRP Fox Hunt
NCCC RTTY Sprint
NCCC Sprint Ladder
WAE DX Contest, CW
SKCC Weekend Sprintathon
Maryland-DC QSO Party
MMMonVHF/DUBUS 144 MHz Meteorscatter Sprint Contest
4 States QRP Group Second Sunday Sprint
NAQCC CW Sprint
Phone Fray
CWops Mini-CWT Test

QRP Fox Hunt
NCCC RTTY Sprint
NCCC Sprint Ladder
SARTG WW RTTY Contest

0230Z-0300Z, Aug 1
1300Z-1400Z, Aug 1 and
1900Z-2000Z, Aug 1 and
0300Z-0400Z, Aug 2
1700Z-1800Z, Aug 2 (CW) and
1800Z-1900Z, Aug 2 (SSB) and
1900Z-2000Z, Aug 2 (FM) and
2000Z-2100Z, Aug 2 (Dig)
1900Z-2100Z, Aug 2
0100Z-0230Z, Aug 3
0145Z-0215Z, Aug 3
0230Z-0300Z, Aug 3
0001Z, Aug 4 to 2359Z, Aug 5
1200Z-2359Z, Aug 4
1400Z-1800Z, Aug 4
1800Z, Aug 4 to 1800Z, Aug 5
1800Z, Aug 4 to 0559Z, Aug 5
1400Z-1700Z, Aug 5
0100Z-0300Z, Aug 7
0230Z-0300Z, Aug 8
1300Z-1400Z, Aug 8 and
1900Z-2000Z, Aug 8 and
0300Z-0400Z, Aug 9
0100Z-0230Z, Aug 10
0145Z-0215Z, Aug 10
0230Z-0300Z, Aug 10
0000Z, Aug 11 to 2359Z, Aug 12
1200Z, Aug 11 to 2400Z, Aug 12
1600Z, Aug 11 to 0400Z, Aug 12
2200Z, Aug 11 to 2200Z, Aug 13
0000Z-0200Z, Aug 13
0030Z-0230Z, Aug 15
0230Z-0300Z, Aug 15
1300Z-1400Z, Aug 15 and
1900Z-2000Z, Aug 15 and
0300Z-0400Z, Aug 16
0100Z-0230Z, Aug 17
0145Z-0215Z, Aug 17
0230Z-0300Z, Aug 17
0000Z-0800Z, Aug 18 and



Contest Calendar— August page 2

SARTG WW RTTY Contest	0000Z-0800Z, Aug 18 and 1600Z-2400Z, Aug 18 and 0800Z-1600Z, Aug 19
ARRL 10 GHz and Up Contest	0600 local, Aug 18 to 2400 local, Aug 19
Russian District Award Contest	0800Z, Aug 18 to 0800Z, Aug 19
Keyman's Club of Japan Contest	1200Z, Aug 18 to 1200Z, Aug 19
Feld Hell Sprint	1600Z-1759Z, Aug 18
North American QSO Party, SSB	1800Z, Aug 18 to 0559Z, Aug 19
CVA DX Contest, CW	2100Z, Aug 18 to 2100Z, Aug 19
SARL HF Digital Contest	1400Z-1700Z, Aug 19
ARRL Rookie Roundup, RTTY	1800Z-2359Z, Aug 19
Run for the Bacon QRP Contest	0100Z-0300Z, Aug 20
SKCC Sprint	0000Z-0200Z, Aug 22
Phone Fray	0230Z-0300Z, Aug 22
CWops Mini-CWT Test	1300Z-1400Z, Aug 22 and 1900Z-2000Z, Aug 22 and 0300Z-0400Z, Aug 23
QRP Fox Hunt	0100Z-0230Z, Aug 24
NCCC RTTY Sprint	0145Z-0215Z, Aug 24
NCCC Sprint Ladder	0230Z-0300Z, Aug 24
Hawaii QSO Party	0400Z, Aug 25 to 0400Z, Aug 26
ALARA Contest	0600Z Aug 25 to 0559Z, Aug 26
SCC RTTY Championship	1200Z, Aug 25 to 1159Z, Aug 26
W/VE Islands QSO Party	1200Z, Aug 25 to 0300Z, Aug 26
YO DX HF Contest	1200Z, Aug 25 to 1200Z, Aug 26
Kansas QSO Party	1400Z, Aug 25 to 0200Z, Aug 26 and 1400Z-2000Z, Aug 26
Ohio QSO Party	1600Z, Aug 25 to 0400Z, Aug 26
CVA DX Contest, SSB	2100Z, Aug 25 to 2100Z, Aug 26
50 MHz Fall Sprint	2300Z, Aug 25 to 0300Z, Aug 26
SARL HF CW Contest	1400Z-1700Z, Aug 26
Phone Fray	0230Z-0300Z, Aug 29
CWops Mini-CWT Test	1300Z-1400Z, Aug 29 and 1900Z-2000Z, Aug 29 and 0300Z-0400Z, Aug 30
QRP Fox Hunt	0100Z-0230Z, Aug 31
NCCC RTTY Sprint	0145Z-0215Z, Aug 31
NCCC Sprint Ladder	0230Z-0300Z, Aug 31
G3ZQS Memorial Straight Key Contest	2300Z, Aug 31 to 2300Z, Sep 2



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.

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).

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Northern California Contest Club Reflector—Guidelines

This reflector is devoted to the discussion of contesting.

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

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

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



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VHF/UHF D-STAR Portable

KENWOOD



TS-590SG
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2M/440 Dualband



TM-V71A
2M/440 DualBand



TM-281A
2 Mtr Mobile



TH-D74A
2M/220/440 HT

YAESU
The radio



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FT-450D
A100W HF + 6M Transceiver



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2M/440 Mobile



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