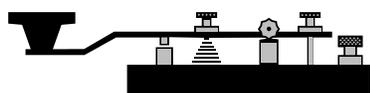


# NAQCC NEWS

ISSUE 266 • AUGUST 2020



## KEY CLICKS

- **FARNSWORD QRQ NET ON THE MOVE**

The 5PM PDT Sunday evening (Monday 0000 UTC) 60M net has moved to 5332 kHz (Ch 1) with channel two as a QRM fallback.

- **LAST CHANCE TO SIGN UP TO OPERATE AS N3A**

It's a great chance to practice some low-key (or slow key) pileup handling and put some QRPx2 QSOs in the log. Details on page 3. Sign up now!

- **QSO TODAY VIRTUAL HAM EXPO — STARTS FRIDAY AUG 7TH**

Eric Guth, 4Z1UG of the *QSO Today Podcast* is trying something new, and huge to replace cancelled hamfests. Over 20,000 hams have registered for two days of presentations on four virtual stages. There are some really nice drawing prizes and the whole thing is paid for by the sponsors, so your ticket is **free!**

<https://www.qsotodayhamexpo.com/>

- **GQRP CONVENTION 2020 — SEPTEMBER 5TH AND 6TH**



Our friends across the pond are doing their own QRP version of a convention via Zoom next month. It's going to be a much smaller event, but everything will be QRP!

They have a great lineup of speakers (starting with Hans Summers) and meetings. The morning sessions will be awfully early for most of us, but you'll have a chance to play them back at your leisure.

The charge for members will be £4 (about \$5.25). Details will be posted soon to <http://www.gqrp.com/convention.htm>

- **IN THIS ISSUE**

A fun letter challenge, some handy tips, Dave WA4NID tells his radio story, the Prez Sez thanks for your generous donations, member polls, Sprints, awards, nets, and chapter news.

The Member Submissions section is back. Send yours to Paul KD2MX [kd2mx@arrl.net](mailto:kd2mx@arrl.net)

### IN THIS ISSUE

Key Clicks	1
The Prez Sez . . .	2
16th Anniversary Update	3
Member Polls	4
Member Spotlight	5
Replacing Equipment Feet	9
Sprints	12
Ham Quips	14
Challenges	15
Awards	19
CW Nets	20
Chapter News	24
Member Submissions	27
About The NAQCC	29
Contacts	30

# THE PREZ SEZ...

Greetings NAQCC Members!

COVID-19 is still making its hideous presence known nationwide, and I hope you are continuing to escape/be immune from this Pandemic. The past few days I've been dealing with a potential tropical storm/hurricane, but we were spared! Lucky us! No sunspots! It's been a rough year!

Our Georgia Non-Profit application is still a work in progress, I just submitted the 4th "corrected document" this past week. Minor stuff, but that's how governments work. I am hoping this will be the last one!

Our Anniversary Celebration is coming up fast (October—the month after next!) and we already have lots of great prizes, including several radios! (No, they ain't KX3's.....). We will have the list of available prizes and other information out shortly. Many great vendors have been generous in donating prizes.

Speaking of celebrations, we are now listed on "QRP Contests"! Take a look!  
<http://qrpccontest.com/> .

A "Special Shout Out and Thanks" to Diz W8DIZ for his hard work and efforts in supporting QRP. Diz's site is <https://www.kitsandparts.com/>

In my Monthly Message that went out by e-mail on the 1st, I solicited folks for donations to the Club—we don't have dues and never will under my watch! But we do have some reoccurring expenses and of course various prizes for several activities. Within minutes the donations started to come in!! Our Treasurer has already reported a slew of contributions, some very generous!! IF YOU RESPONDED AND DONATED, THANK YOU! If you have never donated, or it's been a while (or you just have the money to give), please consider sending a few bucks. We have over 10,000 members—if everyone sent in just \$1, our money worries would be gone for years! Donation information is on the home page (at the bottom) <http://naqcc.info/> and it's really easy to donate via PayPal or just sent Jerry a check. It's much appreciated!! Don't forget to include your call and email address so we know who to thank.

Submissions manager Paul KD2MX is still looking for your words and pictures for the Newsletter—anything related to NAQCC, or QRP CW. Send him an e-mail if you have something or need more information: [kd2mx@arrl.net](mailto:kd2mx@arrl.net)

Don't forget the online Poll, Sprint, and Challenges this month—good stuff to do since you probably won't be out much anyway!!! If/when you do go out—It's hot outside!! Don't forget to use sunscreen, stay well hydrated, take regular breaks.

Stay safe, KEEP YER DISTANCE, WASH YER HANDS, and get radio-active!

**72/73!**  
**Steve Szabo WB4OMM #5913**  
**NAQCC President**



***A little bit of QRP on a wire goes a long way!***



# 16<sup>TH</sup> ANNIVERSARY CELEBRATION

## AUGUST UPDATE

### N3A OPERATORS SLOTS STILL AVAILABLE - LAST CHANCE

Plans are well underway for our 16th anniversary celebration in October. Volunteers have signed up in all 10 US call districts to put our special N3A/# on the air during that week but we could still use more help in many of them. We also have no one set to operate from KH6, KL7, and KP2 yet. Operating schedules are completely flexible, no special equipment is needed, and logging paperwork is kept to a minimum.

### SIGN UP NOW

If you would like to be one of our N3A operators please contact Paul, N8XMS, at paul142857 AT gmail DOT com. Additional information can be found in the June newsletter, [http://www.naqcc.info/newsletter/newsletter\\_264.pdf](http://www.naqcc.info/newsletter/newsletter_264.pdf), and at [http://www.naqcc.info/main\\_n3a.html](http://www.naqcc.info/main_n3a.html).

Celebrate our NAQCC 16th Anniversary celebration the week of October 11. Special event stations will put N3A/# on the air from locations all over the country and we are now starting to recruit volunteer operators for that. Of course a big part of our celebration each year are the special anniversary sprint and monthly challenge, with their associated prize drawings.

## PRIZES!

We usually don't reveal the prize list ahead of time but we want to whet your appetite with just a little peek.

Thanks to the generosity of Ryan Draughn, KK4JXZ, of *LNR Precision Inc.*, one of the prizes that we will be giving away is



the brand new **MTR3b LCD Mountain Topper** portable QRP transceiver! See [https://www.lnrprecision.com/store/MTR3b\\_LCD-Mountain-Topper-p115660359](https://www.lnrprecision.com/store/MTR3b_LCD-Mountain-Topper-p115660359) for information about this great little rig.

## YOUR PARTICIPATION COUNTS

Please remember that there is a throughout-the-year participation requirement to be eligible for the best prizes. It's easy to rack up enough points, even if you started late. See [http://www.naqcc.info/prize\\_drawing\\_16th\\_anniv.html](http://www.naqcc.info/prize_drawing_16th_anniv.html) for drawing details.

## MORE DETAILS

For more information about our celebration, and to see summary reports from previous years, go to [http://www.naqcc.info/main\\_n3a.html](http://www.naqcc.info/main_n3a.html).



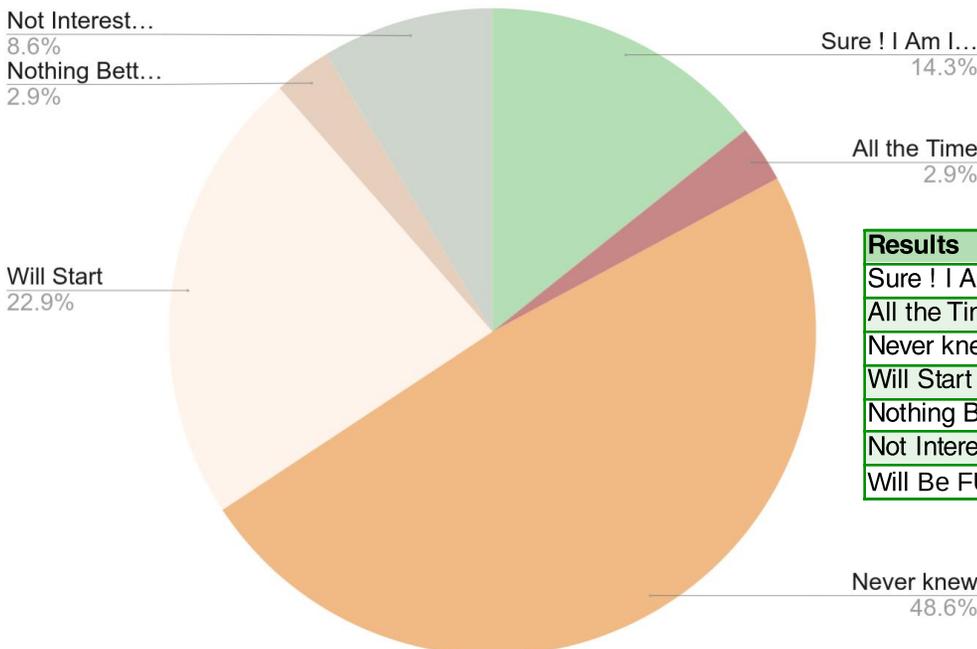
# MEMBER POLLS

## AUGUST POLL

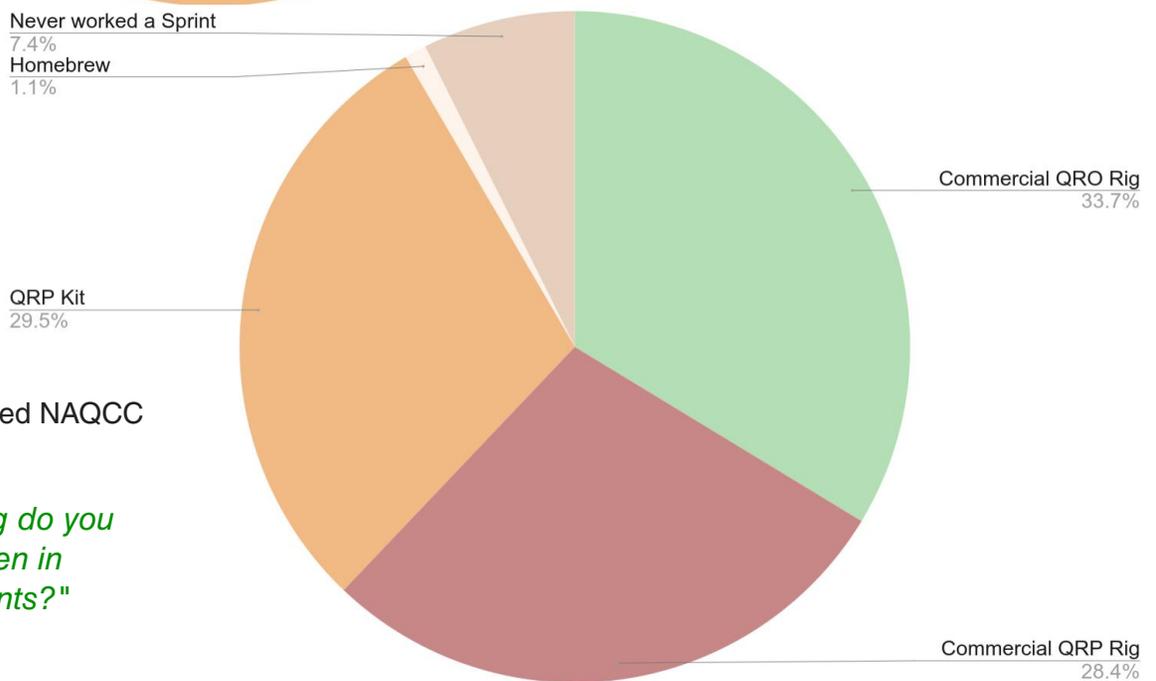
Are you going to hunt 16th Anniversary N3A contacts, or will you be taking a turn with the as an N3A operator? Let us know what you think: [http://naqcc.info/poll\\_new.html](http://naqcc.info/poll_new.html)

## JULY POLL

Do you use the NAQCC Self-Spotter Form (<http://naqcc.info/spots.html>) ? Would you like to?



Results	%	Nr
Sure ! I Am In !	21.0%	17
All the Time	3.7%	3
Never knew	40.7%	33
Will Start	0.0%	0
Nothing Better to Do	34.6%	28
Not Interested.	0.0%	0
Will Be FUN!	1	3



## OLD POLL

Back in 2012 we asked NAQCC members:

*"What type of rig do you use most often in NAQCC Sprints?"*



# MEMBER SPOTLIGHT

Each month one of our members is randomly selected and asked to share their ham radio biography with all of us. Questions or comments should go to Paul, KD2MX.

**DISCLAIMER:** Any views expressed in this section are those of the submitting member and may or may not be those of the NAQCC or its officers.

## DAVE JOHNSON WA4NID #9117

Hi this is Dave WA4NID, currently in Graham, NC, running lots of antennas and having lots of fun! It hasn't always been this way. Although first licensed in 1975, I've had times when life, profession, and restrictions have kept me off the air. Maybe you too?

### STARTED WITH A KNOCK ON THE DOOR

Life is full of stories, and the one about how I got into ham radio is cool. When I was about 15 years old (1974 or 1975), I had a lot of fun riding my bicycle with friend Billy Hallows around our neighborhood, Ortega Forest, in Jacksonville, Florida. Although our family had a rather big lot with backyard smack on the water of the St. Johns River, many other houses in the neighborhood were on smaller lots. One of these that caught our attention had a short tower with a big beam antenna.

One of the advantages of doing something with a friend is that we gain courage together. Notice what's in the word "encourage"! Together Billy Hallows and I got up the courage to knock on the door of the house with the tower. We were greeted by a nice lady, Mrs. Hobbs, who soon had us talking with her husband, C. Harold Hobbs, WA4VZF (now silent key). Harold showed us boys his small and tidy "shack" in a corner of his garage, and even demonstrated some operation. I can't recall details of his equipment except that he had one of those huge Johnson matchboxes with the big knobs.

The most memorable thing about this initial visit was the open wire feedline positioned parallel to a fluorescent tube bulb. Whenever Harold transmitted, that tube would light up in time with his modulation, and the sight of that flashing bulb was the spark of my interest in electronics and radio! I knew instantly this would be the beginning of a fine obsession and active pursuit!

### ELMER

Harold was not only the one who introduced me to ham radio. He was also my first "Elmer." He told me about the clubs, taught me about equipment, and got me started learning CW. He even helped me in my early CW operation by sending practice on the air during JTN, a special net (Jacksonville Training Net, 15m CW) for newbies, in 1975. My Novice class callsign was WN4NID (and besides a brief stint as AA4NID in bicentennial year 1976, I've been WA4NID since). I wrote down everything in those days and stuck it in my logbooks. I want to share with you some snippets of this code practice copy from Harold:

*"Good net operators zero beat the net control station carefully without putting a signal on the air"*

and

*"Always get permission from the NCS to transmit."*

Other "Elmers" (and many helpful friends) helped me after my training by Harold, but I will always be grateful for Harold's kind and patient teaching! Yes, I'd say he was a major inspiration to me. By the way, it seems my friend Billy didn't get bitten by the radio bug at the time. I quickly upgraded to General class (later to Advanced and Extra) and

was active for a few years in traffic handling on NTS and Navy MARS nets, mostly CW, and later in public service and emergency preparedness communications.

## HOME LIFE

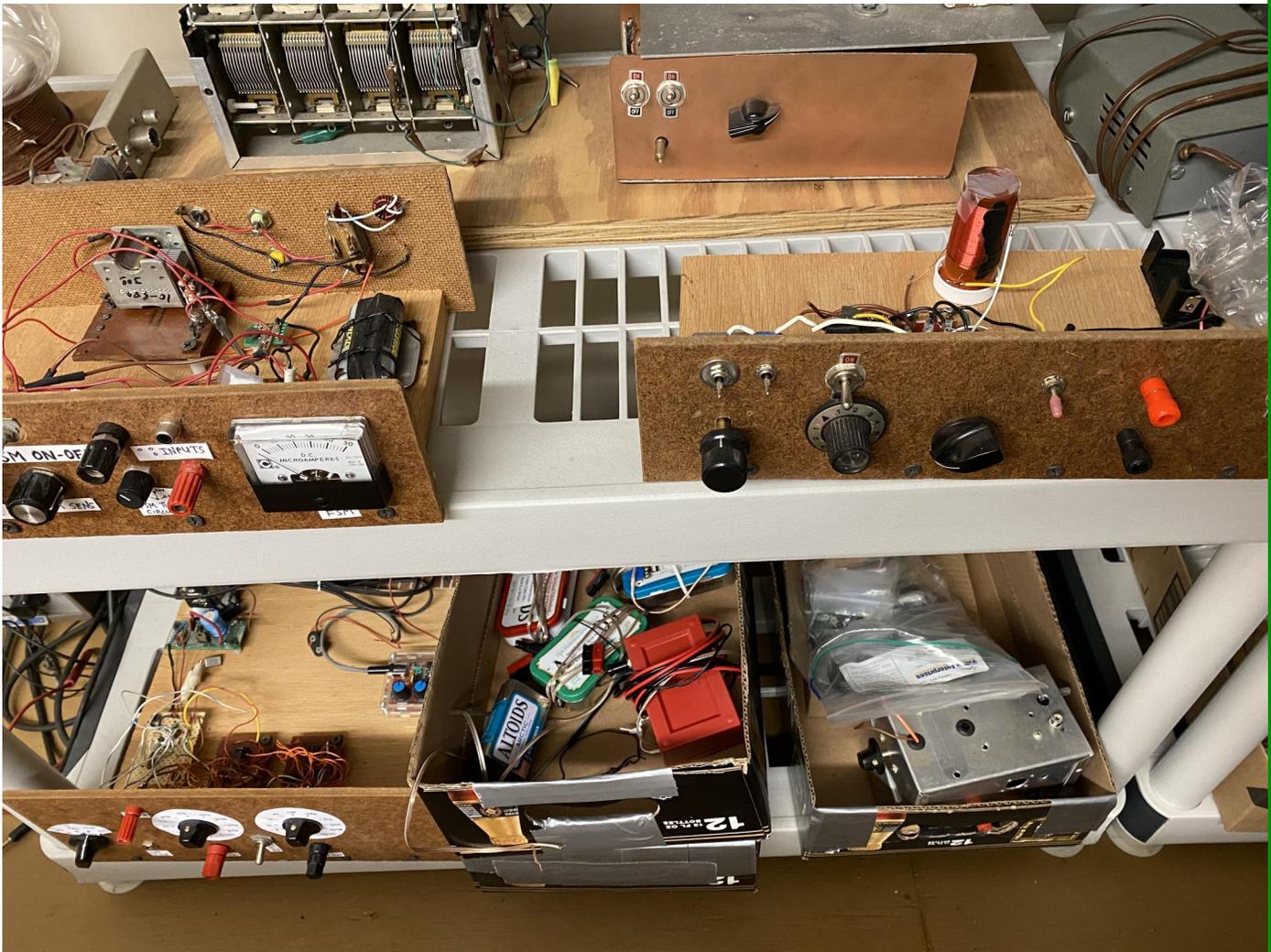
I am a scientist, with training in microbiology, cell science, and human molecular genetics. After my active career as scientist, I did independent IT consulting, and ministry with kids (with Child Evangelism Fellowship) working in the “hood” (public housing—many stories there!). Married to an amazing Chinese lady rather late in life, I have a son who is now an electrical engi-

neer! It’s nice having a wife who is tolerant of my hobbies. She even sometimes helps with installing and maintaining my antennas! How amazing is that?! I sometimes help her with gardening, after all, fair is fair. I say she grows the plants and I identify them—having studied botany (more specifically—oops even that’s a joke—plant taxonomy) as a hobby for about 45 years!

Through long years of school and work, there were times when I was not on the air at all. There were also times I lived in apartments, and I often got on the air with some interesting antennas. I plan to share about that through some future articles here in this newsletter.



My current operating position with IC-7300 (main fixed station rig, a replacement for my beloved TS440 that died recently after nearly 40 years), old TS-50, and FT-891. Various other accessories can be seen for tuning, digi modes, etc.



One of about five shelves of radios and accessories in my shack. This shows homebuilt radio accessories (field strength meter, dip oscillator, and power supply), and on bottom left is homebrew signal generator using digital chips and 2-stage frequency dividers, for making signals even below one Hertz! (Ken Cornell "Radio Scrap Book" is source. One side-hobby is logging LF beacons and making my own LF beacon transmitters). Bottom middle is box with several oscillator projects in Altoids tins, and homebrew signal tracer. Bottom right is one of many shelf-fulls of radio kits and homebrew circuits. Right now I am starting to plan for building narrow audio filters for CW.

## ANTENNAS

For several years before 2007, I had a great time in Durham, NC, using homebuilt HF antennas. Especially gratifying was the 160m inverted L, homebuilt. Also a G5RV gave good results for other bands! Most recently, we lived in Cary, NC, from 2007 to 2017, with severe homeowner "restrictions" on antennas, and I was off the air. Then in

2017 we moved to Graham, on a lot that is 3 acres —until there are heavy rains and the creek rises! (Some scary stories there, maybe for later). Now I have room for antennas again. The lot is a topographical "bowl" in a flood zone! That's no problem for HF, though I'm finding out it is NOT a good situation for doing much on VHF and UHF except hit local repeaters. I look forward to sharing later about my current antennas.

## LEARNING, BUILDING, & CHASING AWARDS

For the past several years, I've been blessed with being "semi-retired." Although my wife and I do some real estate investing and other business together, I have a lot of freedom with my time. I've focused on learning more electronics and doing more with radio. Since I have a lot of old radios, many kits that I've built myself (and some of them work, haha!), I've built some oscillators and signal tracers to help with troubleshooting my old radios (and to learn more about oscillators, a grand subject unto itself). Sometimes I feel handicapped in not being an electrical engineer or having formal training in electronics, but I also feel that I can do a lot with patient learning, troubleshooting, and experimenting. So even though I've done a lot, I have so many plans and projects that keep me excited and motivated.

Besides learning and building, a big focus of my "radio time" in the past 3 years has been operating on 3905 Century Club nets. I have a goal to get their Master award, and this takes earning about 25 awards along the way! Already I've earned 6. For Century Club nets, I operate using 95 watts, but for nearly all other operating, I am QRP 5 watts or less. I love the new digital modes, and often operate ft8 at 5 watts.

I'm not much of a DXer, but do enjoy the pursuit. In 2017 I earned DXCC (mixed band/mode). The joke is it only took me 45 years! And May 2020 I earned special DXCC using QRP power. Though I've admitted to you I don't always run QRP, and the first couple years as a ham I wasn't yet a QR-Per, for most of my active radio years QRP has been a major obsession. For some years in the 1990s I served as membership chairman of QRP ARCI. And I am cofounder of the KnightLites ([knightlites.org](http://knightlites.org)).

## CW GOALS

Lately I've found myself wanting to do more CW operating, and though I've not been active in events, I do plan to get going with the various NAQCC and SKCC events, as a way to increase my experience with CW.

Another goal is to earn the Code Proficiency certificate for copying W1AW at 25 words per minute (wpm). When I passed the Extra class exam, we had to demonstrate CW proficiency at 20 wpm. That was no problem for me when 20 years old, but I found my skills were rather rusty in 2017, when I could only copy about 12 wpm! Now I think I can handle somewhere between 15-20, so maybe that 25 wpm certificate will soon be within reach! You all can help me, let's get on the air and have some chats!

Although I've used a straight key and electronic iambic keyers (with my trusty Brown Brothers paddle) for many years, I've recently acquired a Vibroplex "Lightning Bug" and been practicing. This is definitely an acquired skill, but I'm almost ready to go "on the air" with the Bug. Thanks Randy KB4QQJ for all the tips and help since I moved to Graham! We have a great bunch of guys in our local club.

I encourage everyone to keep learning, and keep having fun with RF.

72,

Dave WA4NID



# THE PRICE OF CREATION

## —OR REPLACING MISSING EQUIPMENT FEET

BY CLYDE BENNISH NL7VH #9718

The trials and tribulations of an amateur radio operator never seem to cease. Antennas break, connectors corrode, buttons stick, mics fail. QRM, QRN, QSB, lightening strikes, power failures, babies cry, diaper changes, jobs lost, cars damaged, calls from the spouse to haul the trash, and feet fall off equipment.

It's the latter of these dilemmas of which I mean to address.

***“WHETHER SCREWED ON, GLUED ON, TAPED ON, OR CLASPED; OUR EQUIPMENT FEET WEAR OUT, GET HARD, CRACK, OR GET LOST.”***

### FOOT TROUBLE

Comparatively speaking, missing, damaged, or just plain unsatisfactory equipment feet may be the least of our worries, but eventually this need joins the rest of the miserable setbacks and requires attention.

Whether screwed on, glued on, taped on, or clasped; our equipment feet wear out, get hard, crack, or get lost. They seem to fail at the least opportune times, such as when we're in the field.

Welcome to my world.

Recently I endured such trauma from unsatisfactory feet that I thought I'd lose my mind. Having previously experimented with feet too soft, and the hour being too late to secure a new set at the local emporium, I pulled on what few hair follicles remain upon my noggin until tears welled up beneath clenched lids. Then a glimmer of remembrance spit and sputtered up in the gray matter.

### PAINFUL LESSONS

Here is the sequence of memories as they developed into creative thought:

As a toddler not much under school age, perhaps three or four years old, I endeavored to witness exactly how heat transfers from hot clothes irons

into fabric. It's one of my earliest childhood memories. My mother was dutifully ironing in the backyard on a warm and bright

morning while her flock scampered about while addressing intermittently the wondrous world of youth. Having just observed mom transforming dad's shirt from a wrinkly rag into a full torso shape, I stretched forth my fingers to feel its warmth. I then spied the iron standing tall and temporarily abandoned upon the ironing board. I sought to satisfy curiosity.

What I expected was a temperature akin to that of the shirt, but what I observed as I lay my hand full face onto the iron was something substantially different. The scream must have unnerved every mother for three blocks around so instantaneously did my mother come to my aid. No sooner had she inspected the damage than soothing hose water fell as a waterfall through my aching fingers. The memory begins to slip from that point.

## ANOTHER HOT CLUE

Then, as I continued to agonize over the want of new feet for my Morse code key, I thought of the meeting I attended with my father and brother. I couldn't have aged more than eight years from the iron experience. My father was a semi-professional pilot who, when not working as a phone company PBX installer, spent his remaining waking moments indulging in aviation. Right up there with paying bills, my father held airplanes, and the building of models, in as lofty a regard as does a priest his testimony.

As was the custom at the model club meetings, to which my brother and I displayed every broken propeller accumulated at flying events, a raffle took place. For the first time to date I won something of significance—a brand new hot glue gun. Although enraptured at the time, I soon apprehended what little use it was to me. Hot glue is messy and dangerous. Not only did model glue work better, but I got burned less. The glue gun ended up in a drawer.

For 50 years I've used them so infrequently that only last year did I ask my wife to pick one up at her convenience.

"Honey," I asked more recently, "where did you put that glue gun?" "The what?" she retorted.

## THE SEARCH BEGAN

I could have saved myself a lot of trouble by looking first in the last place I thought of. The five gallon paint lid popped off with liberal force. Buried beneath old rags, tools, and other forgotten paraphernalia was the item sought after.

My time and yours could very well be devoured by hours of detailed description of hot glue feet-



making failures that might make me look really stupid, so we'll cut through the slurry to the more appealing results.

## A STICKY INSPIRATION

After laying the glue gun down in disgrace, and cursing the manufacturer for false hope, slowly, but progressively, the translucent glue sticks themselves engaged my attention. I grabbed one, turning it about between my fingers, and apprehended almost subliminally their potential worth to hams everywhere.

Using a sharp knife, I cut the stick into thin wafers and experimentally imagined them beneath my key. I sipped some cold coffee and plugged in the glue gun. I put the coffee mug in the microwave. Dabbing a bit of hot glue to the glue stick wafer, I anchored the unlikely foot into position. The reheated coffee never tasted so good.

I found that making equipment feet from glue sticks offers many advantages. First and foremost glue sticks are cheap. The translucent appearance is pleasing to the eye.

### TIPS & TRICKS

Wafer thickness may be customized to match the remaining feet if one is missing, or the elevation of equipment may be modestly altered to raise or lower the profile.

Carefully heating the glue stick end before cutting allows for a nicely rounded store-bought look.

By lightly sanding the cut, several wafers can be matched for thickness.

Glue stick wafers have a very high friction coefficient that keeps equipment in its place.

Glue sticks come in two sizes. The smaller diameter is perfect for small to medium appliances. The larger one works well for even larger appliances that aren't too heavy.

I now keep an assortment of glue sticks and adhesives in the shack and the field box.

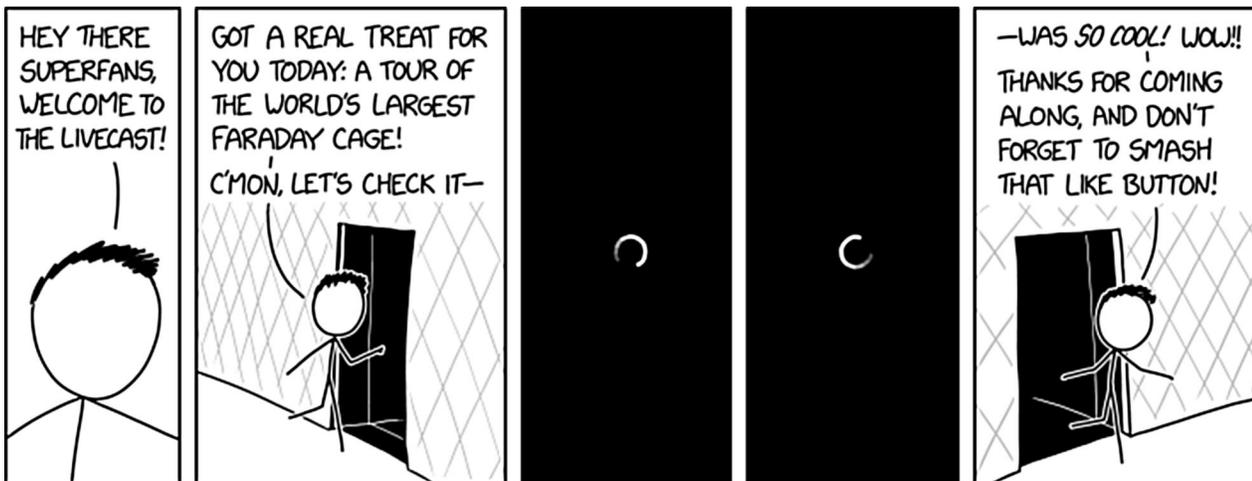
Not only does hot glue fasten the wafers securely, but double-sided tape, rubber cement, and other



soft glues work well too. However, I advise against epoxies or other hard glues that might be difficult to remove should the glue wafers need replacing.

I'll also mention that care should be your guide when mounting glue wafers to plastics and painted surfaces.

Have fun making your own glue stick wafers and never again worry about finding just the right size feet at the store!



# NAQCC SPRINTS

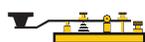
## AUGUST SPRINT

Our Sprint this month will be on Wednesday, August 12, 2020, 0030-0230 Z. That's the evening of Tuesday, August 11 here in North America.

Complete information at <http://naqcc.info/sprint/sprint202008.html>.

## RULES

Complete sprint rules and instructions on how to submit your log can be found at [http://naqcc.info/sprint\\_rules.html](http://naqcc.info/sprint_rules.html). On that page you will also find information about the different computer loggers that are supported for our sprints. The membership data files for those supported loggers can be downloaded at <http://naqcc.info/contests.html>. **Please be sure to always get the latest membership data for your logger about a day before the Sprint.** A complete schedule for our upcoming sprints can be found at [http://naqcc.info/sprint\\_sked.html](http://naqcc.info/sprint_sked.html).



Sprints earn you participation points so you're eligible for the best prizes in the 16th Anniversary drawing—including the brand new **MTR3b LCD Mountain Topper!** See [http://www.naqcc.info/prize\\_drawing\\_16th\\_anniv.html](http://www.naqcc.info/prize_drawing_16th_anniv.html).

## LAST MONTH'S SPRINT RESULTS:

Complete sprint results, including all of the soapbox comments, can be found at <http://www.naqcc.info/sprint/sprint202007.html>. High scores can be seen in the tables on the next page.

We would especially like to welcome our first-time regular sprint loggers and hope that they will return to participate often: AC9YD

July Sprint				
	Current Month	Previous Month	All-Time Record	Record Date
Logs	107	130	217	4/17
Participants	147	194	269	2/13
Total QSOs	1377	1719	3154	4/17
Hour 1 QSOs	746	978	1704	4/17
Hour 2 QSOs	631	741	1450	4/17
20m QSOs	280	282	1232	8/13
40m QSOs	986	1207	2203	4/17
80m QSOs	111	230	1417	2/13
Avg QSOs/Station	12.9	13.2	19.3	9/11

SWA STRAIGHT KEY CATEGORY			
Division	1st	2nd	3rd
W1	K1MZM	KN1H	-
W2	WA2NYY	W2SH	KA2KGP
W3	K3JZD	KD3CA	KC3MIO
W4	KC5F	N4OW	N4FI
W5	N5GW	W5UAA	KG5HCF
W6	AI6SL	W6STR	-
W7	KF7WNS	KC7DM	-
W8	WB8LZG	NF8M	K8ZAA
W9	K9QEW	W9CC	KC9IL
W0	N0AR	W0EJ	NN0SS
Canada	VE3SIF	VA2EO	VE9BEL
DX	-	-	-

SWA BUG CATEGORY			
Division	1st	2nd	3rd
W1	WB1GYZ	-	-
W2	-	-	-
W3	K3RLL	NN3E	K3WWP
W4	KJ4R	-	-
W5	NF5U	-	-
W6	W6JIM	-	-
W7	N7QR	-	-
W8	N8XMS	K8NGW	-
W9	AA9L	-	-
W0	KD0V	-	-
Canada	VE3KZ	-	-
DX	-	-	-

SWA KEYSER/KEYBOARD CATEGORY			
Division	1st	2nd	3rd
W1	KB1M	KC1DVT	-
W2	WA1GWH	N2JJF	N2ESE
W3	-	-	-
W4	N4MJ	K4KBL	N4SO
W5	K5TSK	KE5YUM	-
W6	WU6P	-	-
W7	WY7N	-	-
W8	WI8J	WA8SAN	-
W9	AB9CA	NN9K	AB9BZ
W0	N0TA	K9OSC	K0EW
Canada	VA3NU	VE3DQN	-
DX	-	-	-

GAIN CATEGORY			
KEY	1st	2nd	3rd
SK	KQ1P	-	-
BUG	KF6C	-	-
K/K	K4BAI	W2QL	-

FIRST-TIME ENTRANT HIGH SCORE			
KEY	1st	2nd	3rd
SK	AC2YD	-	-
BUG	-	-	-
K/K	-	-	-
SPRINT PRIZE DRAWING WINNER			
<b>W2QL</b>			

## SPRINT HONOR ROLL

We honor the following members for their outstanding participation over the years in our regular sprints. Exact counts can be seen at [http://naqcc.info/sprint\\_dates.html](http://naqcc.info/sprint_dates.html).

Number of Sprints	Members
50+	NU7T(SK) N8LA K9EYT KF7WNS KD3CA KB0ETU N2CN K2YGM AA7CU NQ2W KC7DM NF5U N8QY WY3H WI5H WA1GWH WB4OMM K6CSL AA0W KB1M WK6L KC2EGL W5UAA WA2FBN VE3DQN K4ORD AB8FJ NN0SS K2HT WB1GYZ VE5BCS(SK) VE3GNU WB9HFK
75+	AA9L K4NVJ NO2D AK3X KB3AAG(SK) KA9FQG VE3FUJ NA4O WD0K N8BB N5GW KQ1P KN1H K6MGO K9OSC N4MJ <b>N8APO</b>
100+	KE5YUM KD2MX K1IEE KD0V WA2JSG N4FI W4DUK N2ESE WB8ENE WX4RM WG8Y W8SAN N0TA K4KRW
125+	N8XMS K4BAI KU4A NF8M K3RLL <b>K4JPN</b>
150+	W2JEK W2SH W9CC WB8LZG
175+	KA2KGP K3WWP



Dick Sylvan, W9CBT, #2062, has been a QRP/CW operator for a long time. He is also a very accomplished ham radio cartoonist and his work has appeared previously in the K9YA Telegraph newsletter. His book "HI HI - A Collection of Ham Radio Cartoons" is available at [www.lulu.com](http://www.lulu.com).

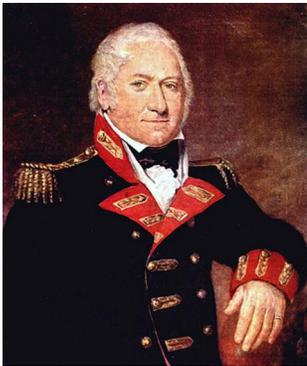
# NAQCC CHALLENGE BY GARY, K1YAN #2365

## THIS MONTH'S LETTER CHALLENGE: THEIR NAMES BECAME WORDS

Have you ever wondered where words come from? Why do we call something a car instead of a boat? For the most part I don't have a clue, but here are a few words with origins we can trace back to people's names. This challenge consists of some of these name related words that have become part of our language.

### SHRAPNEL

Henry Shrapnel was a lieutenant in the British Royal Artillery. He was also an inventor. In the late 1700s, he designed an exploding cannonball that released a hail of lead shot. The British Army followed up with an improved design in the early



1800s. In this design the case itself provided the projectiles. Shrapnel's name became used to describe pieces produced by an exploding shell or bomb.

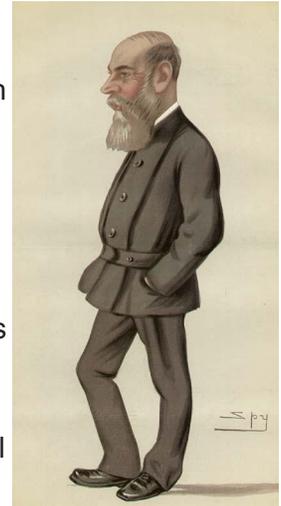
### DUNCE

John Duns Scotus lived in the "13th-century. He was one of the most important intellectuals of the age. In the 1500s, during the English Reformation, his ideas fell out of favor. As part of this turnaround, his name became the basis for the term dunce, a stupid person unable to learn.



### BOYCOTT

Charles Boycott was a rich land owner in Ireland in the 1800s. His riches came from tenant farmers who rented his land to farm. There were fears that a famine was coming and Boycott and other land owners received demands to lower their rents and stop evicting tenants. They refused and a protest resulted. Nobody in the local area would deal with Boy-



cott, harvest his crops or provide him services. This form of protest then became associated with his name.

### CARDIGAN

James Brudenell, the 7th Earl of Cardigan, led the Charge of the Light Brigade during the Crimean War. He became a popular war hero for this action. The Russian winters in which Lord Cardigan's troops operated were brutal and prompted Lord

Cardigan to design a woolen coat for his men. His popularity helped to make the design fashionable and ultimately resulted in the Cardigan sweater we know today.



## MESMERIZE



Franz Mesmer was an 18th-century German physician who believed that the ebb and flow of an invisible fluid in the body controlled disease. He believed that trances, directed by a trained person, could regulate the fluid and effect a cure. The treatments, known as mesmerism, led to the development of hypnotism and the word mesmerize.

## LEOTARD

Jules Leotard was a French acrobat with the Cirque Napoleon in Paris. A very athletic and handsome man, he was said to be the inventor of the trapeze act and the inspiration for the song "The Daring Young Man on the Flying Trapeze". He also created a tight fitting, one piece suit to perform in, which after his death became known as the leotard.



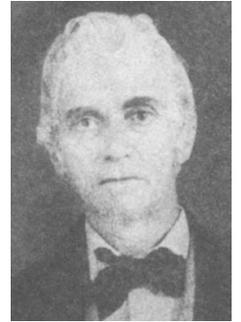
## NICOTINE

In 1561, French diplomat Jean Nicot returned to Paris from his assignment in Portugal. He brought with him tobacco. Crushed and used for snuff, it was a great hit and was thought to cure disease. The plant's genus was named *nicotiana* in his honor in 1753. The active ingredient was found in 1828 and named nicotine to honor Nicot.



## MAVERICK

Samuel Maverick was a Texan in the 1800s and was at the Alamo for its historic battle. The use of his name to mean a nonconformist began with his refusal to brand his cattle. This was done by virtually every rancher of the day, except for Sam. His name as a word first meant an unbranded calf but later came to mean a nonconformist.



## SILHOUETTE

Etienne de Silhouette became French finance minister in 1759. His claim to fame was the penny pinching style he brought to the office. It drew ridicule and resulted in him being replaced in only three months. A la Silhouette came to mean doing something in a cheap manner. It later was used to describe the popular art form of black paper cutouts that were considered a cheap and inferior type of art. This led to the current use of the term silhouette.



## GUILLOTINE

In 1789 Dr. Joseph-Ignace Guillotine proposed a new humane method of capital punishment to the French National Assembly. His intent was to replace the breaking wheel which killed the victim by crushing, beating and breaking bones. His beheading machine was adopted and given his name.





## LAST MONTH'S CHALLENGE

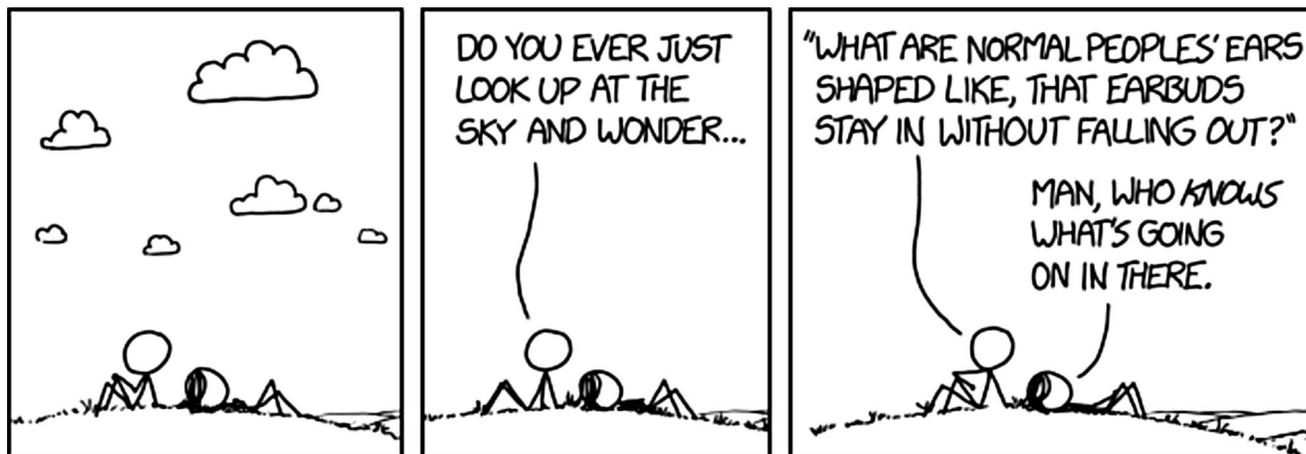
The deadline for submissions for our July "Charcoal Briquet" Challenge is still a few days away. You can see what has been submitted so far at <http://www.naqcc.info/challenges/challenges202007.html> and final results will be posted on that page shortly after the 10th of the month.

## CHALLENGE HONOR ROLL

We honor the following members for their outstanding participation over the years in our monthly challenges. Exact counts can be seen at [http://naqcc.info/challenges\\_sdchedule.html](http://naqcc.info/challenges_sdchedule.html).

Number of Challenges	Members
25+	W3IQ KU4A K9OSC KD0V WA2FBN WI5H WY3H N1JI VE3HUR G3JFS N1LU KJ4R KD2MX AK3X VE3DQN KA5PVB AH6AX WB4OMM KB1M
50+	PA0XAW VE3FUJ NU7T(SK) N9SE PA9CW <b>NF1U</b>
75+	
100+	K1IEE K1YAN
125+	N8XMS
150+	K3WWP W2JEK

 Awards earn you participation points so you're eligible for the best prizes in the 16th Anniversary drawing—including the brand new **MTR3b LCD Mountain Topper!** See [http://www.naqcc.info/prize\\_drawing\\_16th\\_anniv.html](http://www.naqcc.info/prize_drawing_16th_anniv.html).



# NAQCC AWARDS

You may already be a winner! NAQCC has an extensive list of awards. Check your log to see if you're close, or just need to submit. Complete details can be found at <http://naqcc.info/awards.html>.

## FEATURED AWARDS:

### DXCC

It's just the classic DXCC award with some modifications for QRP/CW.

Contact as many countries as possible within the time frame using QRP, CW, and simple wire antennas.

- A - 100 countries.
- B - 100 countries 2X QRP
- C - 25, 50, 75, 100 countries QRPp
- D - Mobile 100 countries

Equipment:

YOU:

- Power:
- A,B, D - QRP
- C - QRPp

Antenna:

A,B,C, D - Simple Wire Antennas by NAQCC standards

HAM YOU WORK:

Power:

- A,C, D - Any
- B - QRP

Antenna:

A,B,C, D - Any

QSOs:

Rag chew or contest QSO's are both acceptable.

Complete details on this award can be found at [http://www.naqcc.info/awards\\_dxccwa.html](http://www.naqcc.info/awards_dxccwa.html).

## RECENTLY ISSUED AWARDS:

### 1000 Miles per Watt:

Nr	Call	Stn worked	MPW	Award Date	
0553	K9OSC	WB8CCR	1,376	06/18/20	CF Zepp @30'

### QSO-A-Day Award: ONE MONTH:

Nr	Call	Total QSO's	Date	Notes
0001	VE3SIF	206	06/02/20	Month of May 2020

### USA - 100 Prefixes:

Nr	Call	Date
0015	KA5PVB	06/02/20



# NAQCC QRS/QRQ NETS

We have a number of nets (QRS = slow speed, QRQ = higher speed) designed to help people build up their CW operating skills. Complete information about these nets can be found at [http://naqcc.info/cw\\_nets.html](http://naqcc.info/cw_nets.html). Questions should be directed to Net Manager Mark, W8EWH.

NAQCC Net Schedule				
Net	Local Time	UTC	Freq +/-	Primary NCS
<b>FarnsWord QRQ Round Table Nets (FRN)</b>	Sunday	Monday		
			5332 kHz (ch1) <b>New freq</b> Alt = 5348kHz)	60m JB NR5NN (CA)
	5PM PDT	0000 Z	3556 kHz	80m Rick N6IET (CA)
	8PM PDT	0300 Z		
	Tuesday	Wednesday		
	8PM PDT	0300 Z	7046 kHz	40m Rick N7HRK (MT)
<b>East Texas QRS Net (ETN)</b>	Monday 7pm CDT	Tuesday 0000 Z	7066 kHz Summer 3568 kHz Winter	Allen KA5TJS (TX)
<b>Midwest QRS Net (MWN)</b>	Monday 7:30 CDT	Tuesday 0030 Z	14031 kHz	Bob W0CC (KS)
<b>Rocky Mtn Regional/ Continental QRS</b>	Tues/Thurs 10:30 AM MDT	Tues/Thurs 1630 Z	7062.5 kHz	Dale WC7S (WY)
<b>Pacific Northwest 80m QRS Net (PNW80)</b>	Thursday 7 PM PDT	Friday 0200 Z	3556.5 kHz	Stewart KE7LKW (WA)
<b>West Coast QRS Net (WCN)</b>	Suspended			
<b>The 1 Land QRS Net (1LND)</b>	2nd & 4th Sundays of the month 8pm EDT	Monday 0000 Z	3560 or 3565 kHz	Ed K1RID (ME)

**Note: On the rare occasions that there is a conflict between one of our scheduled nets and one of our regular sprints, the sprint will take precedence.**

## NET CONTROL STATION REPORTS

### NAQCC FARNSWORD QRQ ROUND TABLE NETS (FRN)

**New freq**

Sunday evenings 5:00 PM PDT, which is Monday 0000 UTC, on 5332 kHz (Ch 1)\*

\*If QRM on Ch1, then use alternate 5348 kHz (Ch 2)

Sunday evenings 8:00 PM PDT, which is Monday 0300 UTC, on 3556 kHz +/-

Tuesday evenings 8:00 PM PDT, which is Wednesday 0300 UTC on 7046 kHz +/-

60m NCS - JB NR5NN (CA);

80m NCS - Rick N6IET (CA);

40m NCS - Rick N7HRK (MT)

The NAQCC FarnsWord QRQ CW round table nets ...

... promote head copying skills while encouraging participants to send good, properly-spaced code at between 21-25 wpm. We typically go two rounds after check-ins, including signal reports and topical commentary about the weather, the pandemic, recent contests or other CW events, antenna experimentation and/or catastrophes, and HF portable CW operations such as Field Day 2020.

Anybody who can copy and send at least 15 wpm is welcome to participate – you don't have to be a member of NAQCC.

Because of the multiple round-table nature of our net, it's best if we all are able to copy each other, which means sometimes going QRO (but never over 100 watts). It also means occasionally moving net times seasonally to take advantage of NVIS propagation conditions and times.

**Below are the lists of stations who checked into each net, each week. Dates are UTC.**

FRN/60 FarnsWord QRQ Round Table Net QNS - JB NR5NN NCS

Sunday 5pm PDT (Monday 0000 UTC) on 5348 kHz (Ch 2)

Jul 07 - QNS (6) NR5NN NCS, N6IET, W6MK, WJ7S, K6GVG, AI6SL

Jul 13 - QNS (7) NR5NN NCS, N6IET, KW6G, K6GVG, W6MK, AI6SL, WJ7S

Jul 20 - QNS (8) NR5NN NCS, K6GVG, KB7KY, N6VN, KW6G, N6IET, W6MK, AI6SL

Jul 27 - QNS (7) NR5NN NCS, KW6G, K6GVG, W6MK, N6IET, AI6SL, KB7KY

FRN/80 FarnsWord QRQ Round Table Net QNS - Rick N6IET NCS

Sunday 8pm PDT (Monday 0300 UTC) on 3556 kHz ±

Jul 07 - QNS (6) N6IET NCS, KW6G, K0DTJ, NR5NN, K6GVG, W6MK, N6VN, K6JJR, AI6SL

Jul 13 - QNS (9) N6IET NCS, NR5NN, N6VN, K6GVG, W6MK, K6JJR, KW6G, K0DTJ, AI6SL

Jul 20 - QNS (8) N6IET NCS, KW6G, K0DTJ, K6GVG, AI6SL, W6MK, W6MK, K6JJR

Jul 27 - QNS (6/7) N6IET NCS, K6JJR, KW6G, K0DTJ, AI6SL, K6GVG, (AA6GA)

FRN/40 FarnsWord QRQ Round Table Net QNS - PBRick N7HRK/M NCS  
Tuesday 8pm (Wednesday 0300 UTC) on 7046 kHz ±

Jul 9 - QNS (no report)

Jul 15 - QNS (5) N7HRK NCS, KW6G, AI6SL, N6IET, (K6GVG)

Jul 22 - QNS (no report)

Jul 29 - QNS (7) N7HRK/M NCS, WU7F, K0DTJ, KW6G, KB7KY, WI6O, NR5NN, K6GVG

---

### NAQCC EAST TEXAS QRS NET (ETN)

Monday evenings 7:00 PM CDT, which is Tuesday 0000 UTC, on 7066 kHz +/- (Summer) or 3568 kHz +/- (Winter)

Main NCS - Allen KA5TJS (Texas)

July 010 - QNI (2) NCS KA5TJS KE5YUM

Conditions not to good tonight. Terry was hitting 580 for a while and then the QSB killed both of use.  
He reported that Andy KE5YGA could not hear me.

July 15 - QNI(3) NCS KA5TJS KE5YGA N4NN

Ruff night! Allen was about 570 with QRN/QSB. Andy dropped out due to QSB. Better luck next week I hope. TNX guys.

July 22 - QNI(3) NCS KA5TJS KE5YGA N4NN

Signals were very good tonight. YGA was 589 and NN was 579. Had some QRM and had to move up to 7.067kc.

July 28 - QNI(3) NCS KA5TJS KE5YGA N4NN

The band changed just as Andy got on and I lost him. Allen was a good 579 from GA.

---

### NAQCC ROCKY MOUNTAIN REGIONAL/CONTINENTAL QRS NETS (RMRC)

Tuesday and Thursday mornings 10:30 AM MDT, which is 1630 UTC on 7062.5 kHz +/-

Main NCS - Dale WC7S (Wyoming)

No Report

---

### NAQCC MIDWEST QRS NET (MWN)

Monday evenings 7:30 PM CDT, which is Tuesday 0030 UTC, on 7031 kHz +/-

Main NCS - Bob W0CC (Kansas)

June 30 - No Report - Working

July 06 - No Report - Working

July 13 - No Report - Working

July 20 - QNI(2) - W0CC, N1ZX

Stan did a GREAT job picking out a weak signal in static!

July 27 - QNI W0CC

Cannot find anyone on the CW Band! QRN S-5. Next week will be better!

---

### NAQCC WEST COAST NET (WCN)

Net suspended until further notice.

---

### NAQCC PACIFIC NORTHWEST QRS 80 METER NET (PNW80)

Thursday evenings 7:00 PM PDT, which is Friday 0200 UTC on 3556.5 kHz +/-  
Main NCS - Stewart KE7LKW (Washington State)

July 03 - PNW QNI (5) NCS KE7LKW, WB4SPB, WB7WHG, AD7BP, K7JUV

July 10 - PNW QNI (6) NCS KE7LKW, WB4SPB, WB7WHG, AD7BP, W7ANM, N0DA

July 24 - PNW QNI (4) NCS KE7LKW, WB4SPB, AD7BP, W7ANM

July 31 - PNW QNI (8) NCS KE7LKW, WB4SPB, AD7BP, W7ANM, WB7WHG, N0DA, N7IMI, NB7M

---

### NAQCC 1 LAND QRS NET (1LND)

Second and Fourth Sundays of the Month at 8:00 PM EDT, which is Monday 0000 UTC  
on 3560 or 3565 kHz +/-  
Main NCS Ed K1RID (Maine)

July 15 - QNI (2) NCS K1RID, KM4ZZ

July 25 - QNI (2) NCS K1RID, K1IX



# NAQCC CHAPTER NEWS

The North American QRP CW Club currently has six local chapters - Western Pennsylvania, West Florida, Illowa, Downeast Maine, Long Island, and Florida - but we would be more than happy to expand on that list. Chapters are more or less independent local gatherings organized by NAQCC members in a geographical area and subject to a list of guidelines from the NAQCC. They provide opportunities to have fun and to promote our parallel passions of QRP and CW. If you are interested in forming a local chapter please contact Club President Paul, N8XMS.

If your chapter is planning a portable operation activity and would like to have it promoted on the club email list or in the newsletter, send an email with the subject "NAQCC Portable Operation" and with the exact wording of the announcement to Vice President John, N8ZYA, at the email address listed on the last page about a week before the operation. Please be sure to include the UTC time for the event and not just the local time.

A report about your chapter activity should appear here. Please send them to KD2MX or N8XMS at the email addresses listed on the last page.

NAQCC chapters located in the United States are welcome to use the NAQCC Club call, N3AQC for their special operations. Please contact call sign trustee Paul, N8XMS, to schedule the use of N3AQC.

## NAQCC LONG ISLAND CHAPTER

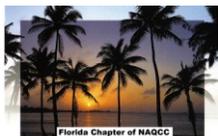


Items in this section are from the Long Island Chapter unless otherwise credited.

Questions and comments should go to Howard, WB2UZE.

No Report

## NAQCC FLORIDA CHAPTER



Items in this section are from the Florida Chapter unless otherwise credited. Questions and comments should go to Nikki, KM4SBQ.

The Florida Chapter website is <http://wb4omm.com/naqcc-fl-chapter>.

No Report

## NAQCC ILLOWA CHAPTER



Items in this section are from the Illowa Chapter unless otherwise credited.

Questions and comments should go to Tim, N9BIL.

The Illowa Chapter operates in the “Quad Cities” area of Davenport, IA / Moline, IL.

The Illowa Chapter website is at <https://sites.google.com/site/naqccillowa2/>.

The Illowa group had a monthly chapter meeting on July 9th. Attending remotely were Tim-N9BIL, Pete-NN9K, Mark-K0NIA, Tony-N9YPN and Heidi-KG0GGY. Due to the continued COVID-19 Social Distancing requirements all attended via “Google Hangouts.”

Many topics were discussed including:

- QRP/RCI Homebrew Sprint this Sunday. Pete could use the Qs.
- QSO Today Virtual Ham Expo – August 8 and 9, 2020.

<https://www.qsotodayhamexpo.com/>

- Discussed the recent 13 Colonies special event.

<http://www.13colonies.us/>

- Portable operation for the Skeeter-Hunt – August 16, 2020?

<http://w2lj.blogspot.com/p/njgrp-skeeter-hunt.html>

- Flight of the Bumblebees – July 26, 2020?

<http://arsgrp.blogspot.com/>

- Reviewed Field Day activities.

- Heidi discussed her progress with CW Academy

<https://cwops.org/cw-academy/>

- Space Weather Woman

<http://www.spaceweatherwoman.com/>

## NAQCC WEST FLORIDA CHAPTER



Items in this section are from the West Florida Chapter unless otherwise credited. Questions and comments should go to Ron, N9EE.

The chapter's web site is

<https://www.facebook.com/groups/967110089994401/>.

No Report



## NAQCC WESTERN PENNSYLVANIA CHAPTER



Items in this section are from the Western Pennsylvania Chapter unless otherwise credited. Questions and comments should go to John, K3WWP.

The WPA Chapter has suspended all its activities until further notice because of the virus situation.

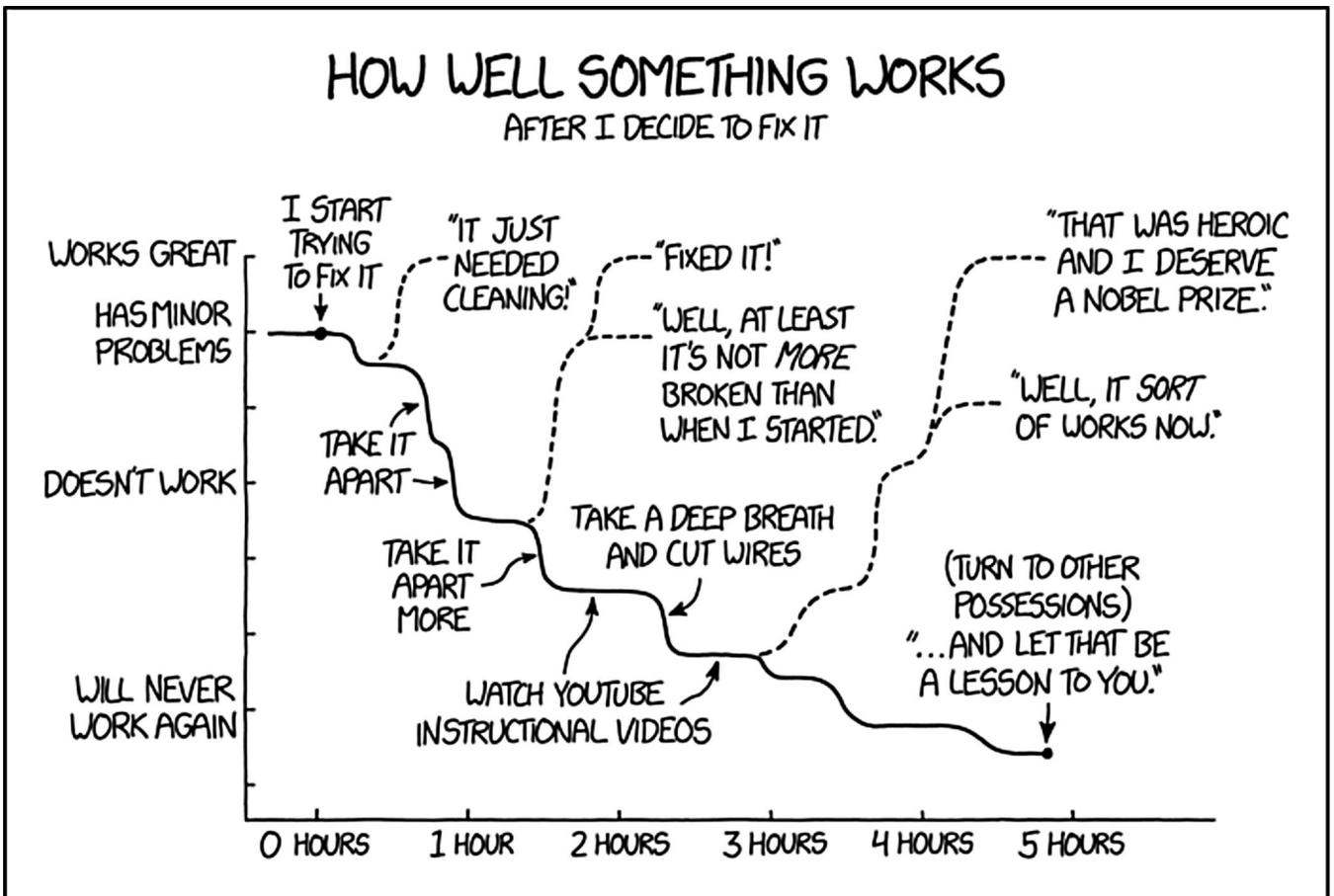
## NAQCC DOWNEAST MAINE CHAPTER



Items in this section are from the Downeast Maine Chapter unless otherwise credited. Questions and comments should be directed to Jeff, KA1DBE.

The chapter is located in the Hancock and Washington counties area of Maine.

No Report



# MEMBER SUBMISSIONS

This section is a forum for you to tell other members what you've been up to on the ham bands or to submit a short article dealing with some aspects of CW and QRP operation or equipment. Just about anything that would be of interest to our members would be welcomed. Send your items to our News Editor Paul, KD2MX.

DISCLAIMER: Any views expressed in this section are those of the submitting member and may or may not be those of the NAQCC or its officers.

## NVIS ANTENNA FOR QRP PORTABLE

### Claude VE2DPE #10022

On May 17, 2020, at around 15h30 UTC, I was fiddling with a homemade portable NVIS linear-loaded 40 m dipole, about three-feet above ground at its apex.

I had my KX2 plugged in to monitor the band. I suddenly heard NE9EE calling CQ on 7.055 MHz. His signal was booming in at S5-S6 over a very quiet noise-free background.

Now, I figure that's almost 700 miles away from my QTH (FN36gb) near Joliette, Quebec, Canada. That's way further than I expected from this low-slung NVIS dipole!

Unfortunately, I did not have a key plugged in the KX2 and lost a great opportunity to make a great contact! :-)

I looked him up on the Web and found his email address. I wrote him to ask: "Could you tell me what type of antenna and power you were using?"

He wrote back the next day: "Antenna is a OCF inverted 'V' up 30 feet & power was 1200 watts.

Thanks, Al K9FW."

1200 watts! No wonder he made me jump! Still, I believe my antenna will enable me to work QRP when I'm out camping in some remote location, away from this maddening coronavirus pandemic.

For those of you who might be interested in reading about my portable NVIS linear-loaded 40 m dipole, I wrote an article describing it here: <https://www.hamradiosecrets.com/nvis-antenna.html>



**Ken Brown, N4SO**, was the winner of one of our recent monthly Sprint drawings. He selected a K2 spinner knob insert for his prize and sent this picture of it installed on his radio.

# NAQCC CLUB INFORMATION

## STATEMENT OF PURPOSE

from former NAQCC President Paul Huff, N8XMS

Amateur radio has something for everyone. SSB, FM, AM, the digital modes, and QRO power levels all have their place in this great hobby and we certainly recognize the importance of these modes as well as the enjoyment that they give to many. But for a growing number of hams the challenge of “doing the most with the least” makes QRP (and QRPP) CW operating the greatest thrill available in amateur radio, and the North American QRP CW Club exists to promote this exciting facet of the hobby. As part of our focus we also encourage, but do not limit operators to, the use of simple wire antennas.

The NAQCC provides numerous opportunities for hams to enjoy QRP/CW operating. For contest types we have a popular monthly 2-hour sprint that runs at relatively low CW speeds and at a fairly relaxed pace. Three special sprints also take place during the year for 160-meter and QRPP operators. For a month-long activity we offer our members a Monthly Challenge that can be anything from forming a list of words from the calls of stations worked, to making a prescribed number of contacts using home-brew gear. There is also an extensive awards program to recognize the significant QRP/CW accomplishments of our members.

We also serve as a resource for people who are just getting started in QRP and/or CW. Our slow-speed CW nets are a great place for beginners to practice Morse code under real on-air conditions. Beginners will also find a wealth of helpful information on our club website and we are more than willing to try to answer any questions about QRP and CW that you might have. An extensive monthly newsletter is filled with useful projects and news from fellow QRPers.

A number of local NAQCC Chapters offer opportunities to get together for in person socializing and QRP/CW activities. Portable operations are especially popular with the local chapters. Whether you are a veteran ham radio operator who is looking for a new challenge in the hobby, or a beginner who is intrigued by the possibilities of QRP/CW communication, we cordially invite you to join us. Membership is free and the benefits and fun are significant.

The North American QRP CW Club was founded in 2004 by WY3H and K3WWP and now has over 9500 members world wide. Membership is free and anyone interested in CW/QRP operating is welcome. Complete information about the NAQCC, including a membership application, activities schedule, and useful resources, can be found on our website at <http://www.naqcc.info/>.

Inquires can also be sent to:

Club President Steve Szabo, WB4OMM  
536 Central Park Blvd  
Port Orange, FL 32127  
USA

Additional contact information can be found on the next page.



NAQCC CONTACTS		
NAQCC President	Steve WB4OMM	sszabo1@cfl.rr.com
NAQCC Treasurer	Jerry K4KBL	digilink@gmail.com
Newsletter Editor	Brent WT4U	wt4u@knoxtour.com
Downeast Maine Chapter	Jeff KA1DBE	j.hanscom@gmail.com
Florida Chapter	Nikki KM4SBQ	nickies1130@aol.com
Western Pennsylvania Chapter	John K3WWP	naqcc33@windstream.net
Illowa Chapter	Tim N9BIL	n9bil@arrl.net
West Florida Chapter	Ron N9EE	n9ee55@gmail.com
Long Island Chapter	Howard WB2UZE	wb2uze@yahoo.com
Help for Beginners	Brion VEFUJ	ve3fuj@wightman.ca
Member Submissions Member Spotlight	Paul KD2MX	kd2mx@arrl.net
NAQCC CW Nets	Mark W8EWH	mark.yergin@gmail.com

NOTE: These email address are not automatic links.  
They are given here in graphic form to avoid harvesting by spambots.

### REPRINT POLICY

Unless otherwise stated in the article, local clubs and other ham radio organizations are free to reprint featured articles from this newsletter, provided appropriate credit is given to the North American QRP CW Club and the author of the article. If at all possible a link to the club website at <http://www.naqcc.info/> should be included.

