# NAQCC NEWS

ISSUE 265 • JULY 2020
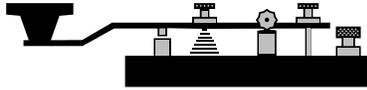
KEY CLICKS

- **NAQCC, INC.**
  Your new Board of Directors has been hard at work. We're officially a non-profit corporation and almost ready to file for IRS non-profit tax status! See the details in *The Prez Sez* in this issue.

- **OPERATE AS N3A**
  There are still spots available. 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!

- **100 SPRINT ACHIEVEMENT:**
  In June, Richard, K4KRW, participated in his 100th regular monthly NAQCC sprint! Only 26 out of our 10,300-plus members have reached this significant milestone. Richard has been listed on our prize page at *http://www.naqcc.info/main_giveaways.html* and received a key fob engraved with his call to commemorate his achievement.

- **150 CHALLENGE CLUB**
  Don W2JEK, #1135 became just the 2nd member to complete 150 monthly Challenges! This month's Challenge on page 16 may give you a 'burning' desire to join him.

- **NET UPDATE**
  The frequency for the NAQCC - MWN will be 14.031 MHz starting July 6 thru September 7. The net is on Monday nights at 7:30 PM local (Central) time. On September 14, it will revert back to 7.031 MHz. This is done for better propagation.

  The Pacific Northwest 80m QRS Net (PNW80) has moved to Friday 0200Z (Thursday 7 PM PDT).

- **ILLOWA CHAPTER ~~ZOOMS~~, ER… *GOOGLES*, ALONG**
  Inability to get together in person has put a damper on a lot of chapter activity, but the Illowa Chapter reports a successful Google Hangouts meeting and shares some useful links from their discussion and NN9K's portable Sprint outing report.

QRP QRP

THE PREZ SEZ...

Greetings NAQCC Members!

NAQCC had it first official Board meeting online via a Zoom meeting on Saturday, June 20th, 2020 at 4:00 PM EDT. With a quorum present, the Board unanimously adopted Club Article of Incorporation and By Laws approving NAQCC, Inc., filing as a Georgia Non-Profit Corporation. The documents and fees were submitted to the Georgia Corporations Division on Monday, June 22, 2020. We are awaiting approval and the Corporate Charter to be issued (hopefully in a few days).

Once approved and Charter issued, we will file a required Annual Report. Then onto the IRS filing for Non-Profit Tax Status!

I will provide all of the documents to our Newsletter Editor and I will also get a new "Admin" Web page originated with all of the information on officers, Board, and corporate documents for all to see. Special thanks to those Board members and especially Ron AG1P and Jerry K4KBL for their above and beyond help and support in this endeavor. More to follow!

We continue to enjoy 100+ participants in our Monthly Sprint, and the Challenges and Nets are also continuing to do well—thanks to all of you for supporting NAQCC!

COVID-19 is still making its hideous presence known nationwide, and I hope you are escaping/immune from this pandemic. It has had a real negative impact on our entire country, (and most of the rest of the world) and has wreaked havoc on the Ham Community as well—just about every hamfest and tailgate has been canceled or now most meetings and social events are either on the air/ online. I'm sure you join me in wishing this away!

We celebrate Independence Day this month, and our best wishes for a safe and Happy 4th of July holiday to you and your loved ones.

It's hot outside!! Don't forget to use sunscreen, stay well hydrated, and take regular breaks.

Our Newsletter Editor Brent WT4U is looking for submissions for the Newsletter—anything related to NAQCC, QRP CW, antennas you use, radio information, Sprint/Challenge tips are great! You don't have to be a Pulitzer Prize winner! If you have something or need more information, send an email to submissions manager, Paul KD2MX at 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!!!

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!

16ᵀᴴ ANNIVERSARY CELEBRATION

JULY UPDATE

N3A OPERATORS NEEDED

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, KP2, and KP4 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, and at 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* 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* 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*.

MEMBER POLLS

JULY POLL

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

Let us know what you think: ***http://naqcc.info/poll_new.html***

JUNE POLL

Hope everyone is staying safe and healthy. Parks and the like are slowly opening back up for some outdoor QRP activity! What are your plans now?
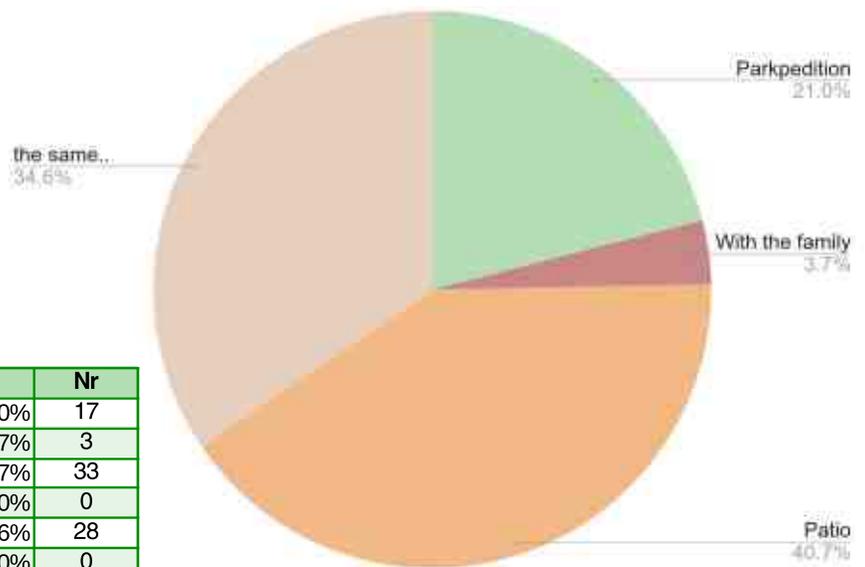
Results	%	Nr
Try a 'Parkpedition'	21.0%	17
Do some operating away with the family	3.7%	3
Just outside on my patio is fine with me	40.7%	33
Announce something 'Totally Different'	0.0%	0
Just remain about the same	34.6%	28
Other	0.0%	0
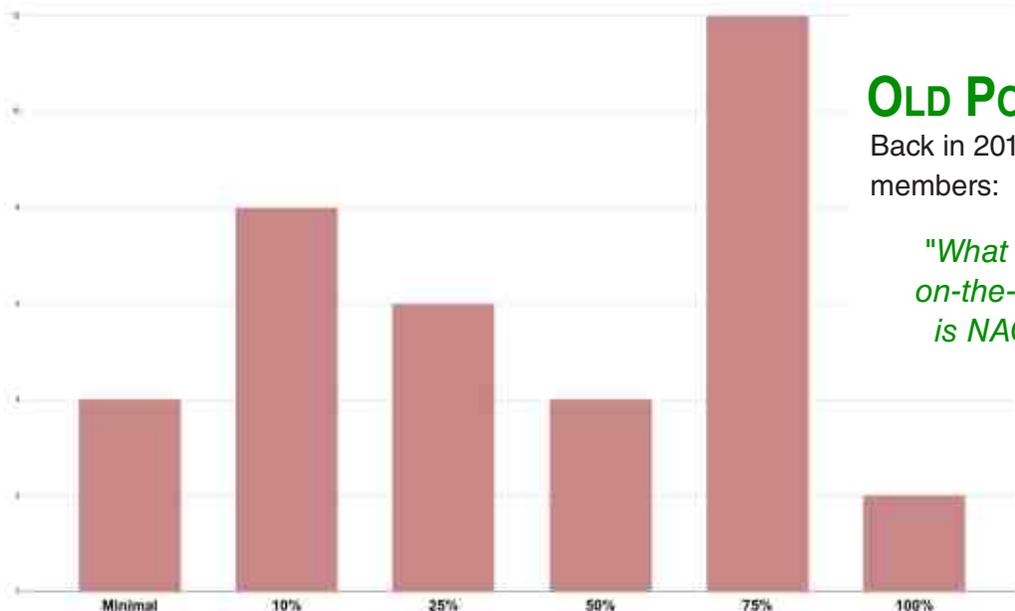
OLD POLL

Back in 2012 we asked NAQCC members:

"What percent of your on-the-air QRP activity is NAQCC related?"

QRP QRP

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.

FREDERICK SCHEBOR, K8NGW, #8949

RF magic, pure RF magic. That's what planted the seed in me 60 years ago, drove me to ham radio 40 years ago and brought me back into the fold 10 years ago. Going back to the beginning…

In the mid 1960's, my grandparents replaced their tube-based table radio with a transistorized model. They asked me if I would like the old radio. Of course I jumped at the offer. The radio (I don't remember the manufacturer) covered the AM broadcast band and also had one shortwave band. While the shortwave band could pickup the powerhouse stations such as the BBC, Radio Moscow, and Voice of Canada, to me the most important capability was listening to AM broadcast skip late at night. While my parents assumed I was asleep, I would lay in bed (in Dearborn, Michigan) listening to news on WCBS from New York City, country music on WSM from Nashville, or a weather report on WGN from Chicago.

SLOW START WITH MORSE CODE

I share the next step on the ham radio path with many of you … Boy Scouts. If my memory serves me correctly, the (1960's) Radio merit badge morse code requirement was to take part in a 5-minute conversation at 5-words per minute. Unfortunately the LP record we scouts listened to was not at Farnsworth character speed but much, much slower. As a result, I didn't learn the Morse
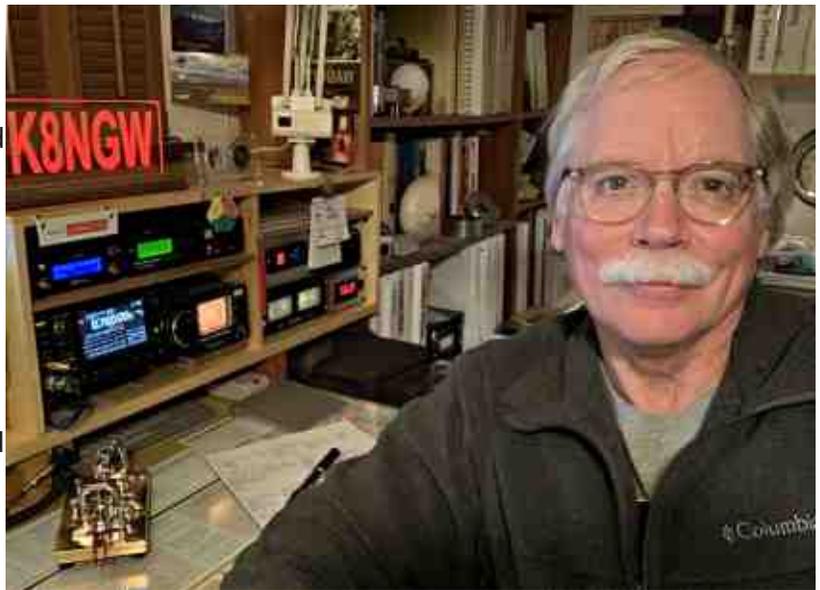
letter sound, but simply counted dots and dashes. (This would come back to haunt me later.)

Fast forward to the 1980's, my first (real) job, and my wife and I moving to Ann Arbor Michigan. The local club (Arrow) was offering a four-week Novice course with the Novice tests (theory & code) being administered at the 4th week. I had no problem passing the theory, and, as I did in the Boy Scouts, my dot and dash counting got me though the CW test. In 1982 the FCC granted me Novice callsign KA8NGW. I picked up a used Heathkit HR10B receiver, a Johnson Viking Adventurer transmitter, ran a 15M dipole down our apartment hallway ceiling and I was on the air!

The next step is also shared with many of you. Life became more complicated. A new home, three wonderful kids, and increased job responsibilities started pushing amateur radio to

the background. Coupled to that was my inability to get my code speed up to 13 words per minute in order to pass the General test. Try as I might, my method of counting dots and dashes limited me to 9-10 words per minute. I wrote a CW practice program for my Commodore Vic-20 that would allow me to work on specific letter sets. Unfortunately, try as I might, I could not overcome counting. Over time, I was on the air less and less until finally I packed my station up, took it to a local ham fest and sold it all.

Modified left handed Vibroplex Original Gold Bug

STARTING OVER: THE PATH TO EXTRA

My return to amateur radio was orchestrated by … the Boy Scouts. I've been an adult scout leader for nearly 30 years. In 2012, the ARRL partnered with the BSA and created a Morse Code Interpreter badge. The badge was available to both scouts and adult leaders. There are several requirements, but they center on sending and receiving morse at 5 wpm. I thought that it would be simple but with a bit of practice. This time however, armed with knowledge of Farnsworth and Koch, and the myriad number of CW practice apps, I went back to square one and re-learned the code properly.

While doing that, I realized that "You know, with a bit of study you could get a Technician license." And while studying for the Tech, I realized that "You know, with a bit more study you could get a General license." I passed the Technician exam in November 2012 and passed the General the following month. To celebrate my accomplishment, through the Vanity program I petitioned the FCC for my original Novice callsign, KA8NGW but with a letter removed, and thus I became K8NGW. I picked up a used Icom 735 and was back on the air the summer of 2013. Since that time, I've upgraded to Extra, graduated from CW Ops Level 2, and learned the joy of sending morse with a bug.
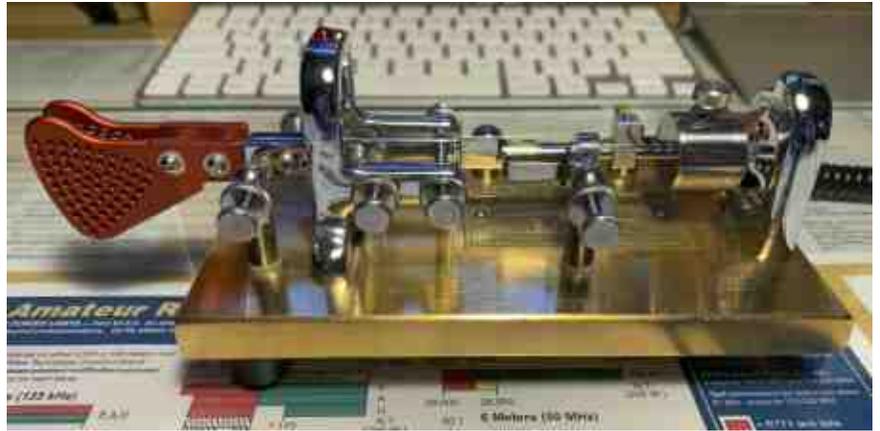
NAQCC

I joined the NAQCC but didn't begin participating until January 2019. Since that time, I've been fortunate to take part in every monthly sprint. With the lack of bug operators in the W8 division, N8XMS and I usually trade off 1st and 2nd places every month. This month (June) I was able to participate in my first mW Sprint. One of these years I'll start participating in the monthly challenges.

THE SHACK AND PROJECTS

My current station is built around an ICOM-7300 through an MFJ 267 wattmeter/dummy load and out to an LDG RT-100 remote tuner mounted at the base of a DX Engineering 43' vertical with 32 buried 48' - 65' radials. For the low bands, I manually switch in a base-loading coil tapped for 160 and 80 meters. For CW operations I use a Begali Simplex Mono key setup for a "lefty". For NAQCC events, I use a modified left handed Vibroplex Original Gold Bug (a very rare model). For SKCC events I pull out my trusty Army Signal Corps J-38 straight key. For other CW contests or CW DX pileups, I opt for a K1EL K42 CW Keyboard.

Just this month I added a uBITX V6 to the shack. Its a great little QRP rig controlled with a color touch screen driven by an Arduino controller. It does though, require several modifications before its ready for a NAQCC Sprint:

1. AGC - There is none! If you turn the AF gain up to hear a low level CW signal and your neighbor tunes up his 1.5KW amp in the pass band, your eardrums will end up in the next county!

2. CW Filtering - There is none! The CW passband is the same as the SSB passband, ~3 kHz. There's A LOT of CW sprint signals in those 3 kHz!

3. Variable power output - There is none! As built, 20M is 3.72 watts, 40M is 3.31 watts, 80M is 6.45 watts and that is the trouble spot since it's above the 5 watt QRP limit.

Fortunately with a little leg work (Internet searches) and some solder smoke, these issues can be remedied. There is a very active group at: *https://groups.io/g/bitx20*. And lastly, as a bonus, I get to learn Arduino programming since I want the features to be selectable via the touch screen. Hopefully I'll use the uBITX in the September sprint.

ON THE AIR

You'll usually find me on the air Monday nights, or late night Friday and Saturday. All bands and modes are my favorite. In addition to Worked All States on several bands and modes, this past April I was able to complete the ARRL Triple Play Award (all 50 states on SSB, CW, and digital). I'll go after DX, but I'm not a committed DX chaser. My confirmed country count stands at 89. So far the highlight of my amateur radio career was to represent the great state of Michigan during the 2014 ARRL Centennial. It was a real hoot being able to send "CQ CQ CQ DE W1AW/8" from my shack. My copy of the W1AW station license is a cherished memento.

The RF magic that I felt 60 years ago while listening to distant stations, is it still there today? Well, as I make the last few edits to this article, its 12:08 AM and the uBITX is tuned to 5085 kHz … WTWW, Lebanon Tennessee. Yeah, the RF magic is still there!

The latest project: A uBITX V6 and a J-38 key

EVERYTHING YOU EVER WANTED TO KNOW ABOUT A TELEGRAPH KEY AND ANATOMY

BY CLYDE BENNISH NL7VH #9718

As many amateur radio apprentices soon learn, straight keys have been around for about a score years shy of two centuries. Their somewhat crude development started as a means to quickly complete, then interrupt, an electrical circuit of fairly high voltage. Originally these pulses of energy were of three lengths: short, long, and longer. We might conveniently represent them as DITS and DAHS that when combined in various combinations convey information.

WHICH CODE... AND WHOSE?

Arguments may still persist as to who actually invented the code which proved useful in the early stages of electrical communication, however, there is no doubt these days by whose name the code is referred: Morse.

Samuel Morse, at the very least, helped to create and popularize a system of dits, dahs, and spaces that represent letters, numbers, pro-signs, and punctuation.

Without going too deep, two basic code standards developed: the American Morse code, and the European code. Due to technical difficulties with the first barely capable undersea cables, a compromise between the two codes won out—the International Morse Code.
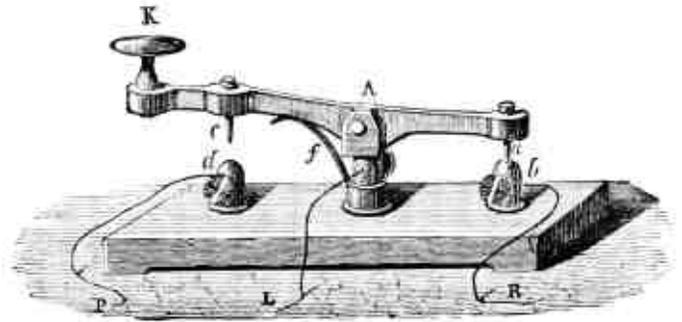
Where the American Morse code uses variable dah lengths, more dots, and difficult to decipher intra-letter pauses, International Morse Code uses more consistent dahs, fewer dits, and eliminates pauses within letters. The international code was simply much easier to decipher at the other end of low tech cables.

For some time to come conflicts between codes ensued. The American Morse Code system persisted in the US and Canada, especially within the railroad networks, while other nations either adopted International Morse or modifications to suit language. With the advent of radio, and combinations of technology, the International system we know today survived. American Morse and others used by small bands of users, such as the Japanese derivatives, percolate in and about the amateur radio and land line telegraph communities.

SO WHAT MAKES UP A TELEGRAPH KEY?

For our purposes we will define a KEY as a simple mechanical device which incorporates a KNOB controlled ARM that rocks vertically (up and down), a SPRING to return the arm after deflection, CONTACT POINTS that make and break an electrical connection, and fixtures, including

BASE and TERMINALS, with which to mount the various components and conduct electricity via external wiring.

Admittedly, various inventions, which to some extent, modify the standard straight key, do nothing to change the main purpose; which is to align two contact points which by human manipulation rapidly close and open. All else is commercial innovation to secure patents or otherwise enhance esthetics, improve performance, or increase commercial value.

PHYSICAL AND PHYSIOLOGICAL PROPERTIES THAT INFLUENCE STRAIGHT KEY OPERATION

It's sometimes difficult to express in precise terms the difference between a good key and an exceptional one or a bad key and a marginal one. Many times the difference simply lays with the end user's style, habit, technique, or esthetic preference. Given the same user, something as simple as knob design or a quarter twist of spring tension may greatly influence operational efficiency between otherwise similar keys. Fortunately most straight keys incorporate various adjustments to compensate for manufactured tolerance range or user preference.

There are a number of adjustments common to many straight keys.

The Pivot adjustment, when available, corrects undesirable lateral arm movement; contact point adjustment permits gap sizing; spring tension adjustment increases or decreases resistance to applied operational pressure; and, where provided, arm leveling adjustment.

Not surprisingly, user preferences, or needs, and operational environments sometimes change. For various reasons too numerous to discuss, users may find changing these adjustments advantageous. The adjustment preference for a warm indoor hand might not be the same as a cold or gloved hand. Users aboard rocking boats may find their normally at-home keys difficult to operate efficiently or pleasantly. Simple adjustments to spring tension or contact gap may make all the difference.

FEET

Another user option not often considered are the very feet on which the key base rests. Because these feet or pads are usually made from materials prone to loss, aging, or wear, they may require periodic replacement. Perhaps for some reason the pads on even new keys are less than desirable. Pad replacement is often a matter of what's available, but careful selection may benefit the user far more than expected.

Spongy feet or pads may better protect table surfaces, but they absorb vertical pressures causing the key base to rise and fall during use; instability. Delays in contact point closure and
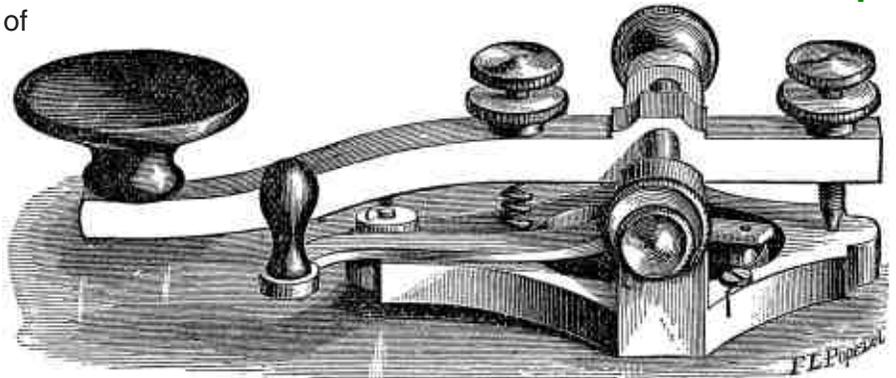
opening result which degrades key efficiency. Pads too hard may mar table surfaces, but worse, operationally, is the likelihood the base will slide during use; instability.

Keys with knobs too high might benefit with pads less thick. Keys with knobs too low could be raised slightly with thicker pads. Base feet are such a big deal that I use only three on my keys. Given that base feet are largely unadjustable, three points of contact are much more stable than four on any surface other than perfectly flat and smooth.

FINGERS

Speaking of pads, lets discuss those of the fingers. That meaty portion of the finger between the pad and bone is rather thick and pliable. Finger pads act much like feet too spongy; they absorb energy and inefficiently delay contact point closure and opening. Contact delay compensation is through feel and timing acquired by experience, but users might become more efficient if certain observations are known.

Normally, the closer the fingertip gets to the knob, the less finger pad tissue there is. In other words, using the finger tip to push against the knob is more efficient than using the meatier portions. If the finger nail is used in conjunction the more efficient the engagement becomes. Applying two fingers and nails to the knob decreases point closure delays in significantly.

Combining fingertip use with applied vertical pressures perpendicular to the arm, minimum finger and wrist flexing, and application of almost instantaneous pressure to the knob produces fairly efficient contact closure speed. It's about as efficient as the hand can be with a straight key. Anything that directly or indirectly delays contact play, such as points too far apart, spring too tense or light, feet too soft or firm, or non vertical force, the less crisp the code. Lessening delay between mind and point contact improves efficiency. Good posture, good forearm position, alert mind, key within comfortable reach, all support efficiency.

POSITION METHODS

For the sake of argument we'll limit operational styles to two: the American style in which the forearm rests atop a table with the straight key placed well back from the table front edge, and the European style in which the key is placed near the table front edge and the forearm floats in free space. Other names for these styles are

for the moment immaterial. There are various preferences and opinions based mainly on initial instruction, habit, comfort, and practicality, so I'll not debate them.

However, I will note here that through personal discussions and experience, speaking in broad terms, I find that the American method seems to favor lighter or smaller keys, and keys with low flatter knobs. On the other hand the European method seems to favor larger, heavier keys, and keys with high rounder knobs.

"SLOPPY KEYS MAKE FOR SLOPPY CODE."

Historically neither method seems more or less efficient than the other overall, but there may be applications in which one method might be preferred. Available space, mobility, key positioning or mounting styles (some keys were designed to mount on vertical surfaces such as on a wall or the side of a desk) may favor one method over the other.

CONTACT ACTION

Optimally what's desired is clean, crisp, rapid, and accurate contact action. Any correctable delays are a waste of energy and degrade code quality. Too light a spring tension may induce the user to pull up on the knob as well as cause fear of accidental contact, which introduces a host of adverse variables physical and dynamic. Too firm a spring tension may result in extreme closure delays that distort user timing or rhythm resulting in missed, extended, uneven, or
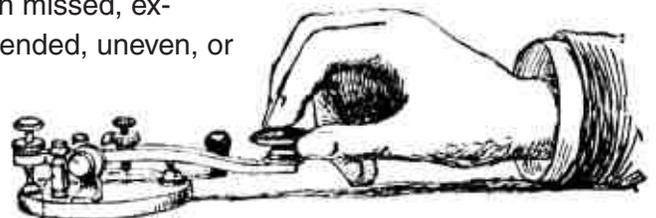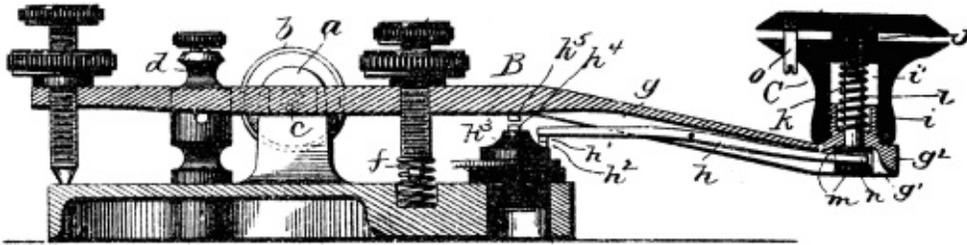
merged code pulses. The introduction of lateral key pressure slows things down. Wide contact gap may result in errors similar to those of extreme spring tension. Sloppy keys make for sloppy code.

Historically voltages across key contacts were sufficiently high to cause inefficient arcing. If not careful users might sustain burns or worse. These days we're not as concerned. I recently measured two of my contemporary radios at 4.5 and 5 volts across the points. It's not likely the amperage is going to kill me. Nevertheless, there are factors other than arcing that may interfere with expected performance.

Corrosion, pitting, dirt, grime, lateral slop, and loose contacts could either prevent electron flow altogether or cause pre closure current leakage in advance of actual contact closure. A user might then notice changes in tone quality as the pulse envelope distorts. It should be abundantly clear that dirty or corroded contacts are undesirable.

OTHER FACTORS

Other engineered factors play a significant roll in telegraph key performance. The ratio between the length of arm to distance of contact-points, from the center of arm rotation, affect contact efficiency and speed of closure. There is a tradeoff somewhere between good feel, reliable contact pressure to overwhelm pitting, corrosion or other deposits, and a high speed of closure. Measuring my keys for ratio I found both to be nearly the same; about 2:1. Meaning that the knob is about twice the distance from the pivot point as the points. High ratios might cause needless damage

to contact points; too low a ratio might not prevent contact bounce or inhibit reliable contact.

So, what makes for a reliable, stable, efficient, and serviceable key? And what are the recommended user techniques?

CONTACT POINTS: Points should be robust to prevent deformation; securely attached; clean and polished; made from good, hard, conductive material; near 2:1 arm to contact ratio or possibly a bit more; clean and clear electrical path to wire terminals; slightly curved contact surfaces that are well aligned; finely adjustable with lock.

KNOB: Comfortable in-your-fingers design made from quality materials other than conductive; Flat top or slightly rounded with no sharp edges; optional disk at bast to increase control in adverse circumstance (sweaty digits).

SPRING: Easily and securely adjustable from slight to moderate compression; durable; easily cleaned.

BASE: Firm but well gripping feet; good weight to prevent sliding, tilt, or accidental lifting with knob; longer and wider for high knobs; robust fixtures and hardware; easily removable dust/moisture cover.

ARM: robust but not too heavy; about 2:1 arm to points ratio; clean, clear electrical path from points to wire connectors; absolute minimum lateral play; smooth rotation.

ARM CRADLE: Robust pivot assembly; durable; easily cleaned and maintained; if electrical path goes through pivot, then inspect same frequently for corrosion or dirt.

TERMINALS: Robust; ability to connect wire without tools; adequate post separation; secure and well mounted.

USER TECHNIQUES

The goal is to apply comfortable, instantaneous finger pressure to the knob, or nearly so, with sufficient force to ensure good point contact and release. Fingertips, rather than finger pads, apply pressure through slightly curved fingers with a baseball-like radius. Forearm resting comfortably on the table (American method) without much reaching, or forearm to the side (European method) and in line with key arm and at approximately same height. Use forearm rather than wrist or fingers to power the key. Keep wrist and fingers firm but not tense. Apply finger pressure along centerline and perpendicular to arm. Any force directed otherwise delays closure. Fold unused fingers (pinky, ring, or both) back and into the palm. Use thumb along side of knob as a guide and place keeper; refrain from using much thumb force atop knob; let the index and middle finger do the work. Use good posture; sending while laying in your bed will not bring out the best in you or the key.

I'm sure there are hams out there with differing opinions. Who am I to disagree? However, considering human physiology and telegraph key physics the above observations and recommendations seem as logical and substantial as any other.

Doubt may be satisfied though a little hypothetical testing. If, for instance, arm/point ratios were 1:1 or 1:01 what would be the results? How would arm slop affect keying? Could you send with the palm of your hand or your nose? Sure you could, but it wouldn't be very efficient. How might gripping the sides of the knob improve efficiency to make clean, clear, crisp, and repetitive key action?

I'm not trying to tell anyone how to operate, I'm merely suggesting aspects of key mechanics and human ability that combine to produce good, efficient code. How do I know?

NOTICABLE IMPROVEMENT

Developing some conclusions after research, I consciously applied these techniques during some recent QSOs. Hams could immediately hear the difference between my old style, which wasn't too sloppy, and the new. I received positive comments without asking. I can hear the difference in my own side tone. That's little evidence for you, but an eye opener for me.

Through effort and a bit of practice I've effectively made my keys work harder and better. It might be fun to quantify clear, crisp code as opposed to poorer sending. Given that all else is equal, at what level above the noise would each sender become intelligible? My bet would be on the cleaner sender being understood earlier.

Of course one can throw out all this analysis in less than optimum operational circumstance. One might be better off with more spring tension, bigger point gap, a little slop, and a round knob fisted tightly while mobile. Car, airplane, boat, train, bicycle, or walking might prove to be incredibly unstable platforms demanding much greater physical control and less finesse. But at the bottom of it all, far be it from me to cause any ham to lose sight of the single most important aspect of amateur radio: having fun.
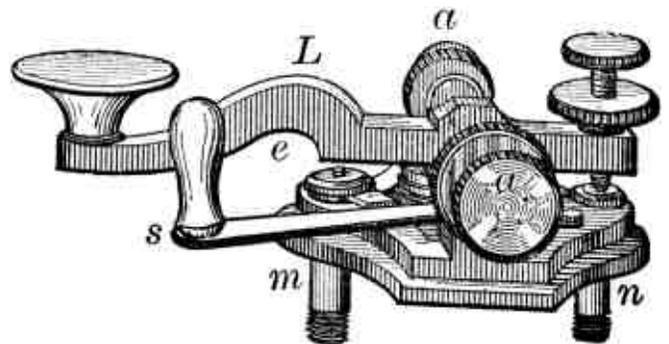
NAQCC SPRINTS

JULY SPRINT

Our Sprint this month will be on Thursday, July 16, 0030-0230 Z. That's the evening of Wednesday the 15th here in North America. Complete information at *http://naqcc.info/sprint/sprint202007.html*.

RULES

Complete sprint rules and instructions on how to submit your log can be found at *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*.

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*.

LAST MONTH'S SPRINT RESULTS:

Complete sprint results, including all of the soapbox comments, can be found at *http://www.naqcc.info/sprint/sprint202006.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: K7RLN KD7ICW KF5TWJ KI6M N2RIC N8HZM NC1A WODCX WA5LSV WX4USA

June Sprint			
	Current Month	**Previous Month**	**All-Time Record**	**Record Date**
Logs	130	126	217	4/17
Participants	194	182	269	2/13
Total QSOs	1719	1697	3154	4/17
Hour 1 QSOs	978	1014	1704	4/17
Hour 2 QSOs	741	683	1450	4/17
20m QSOs	282	252	1232	8/13
40m QSOs	1207	1312	2203	4/17
80m QSOs	230	133	1417	2/13
Avg QSOs/Station	13.2	13.5	19.3	9/11

SWA STRAIGHT KEY CATEGORY			
Division	1st	2nd	3rd
W1	KN1H	K1MZM	K1IX
W2	WA2NYY	W2SH	W2JEK
W3	K3EW	KC3MIO	AK3X
W4	K9EZ	N4OW	KC5F
W5	N5GW	KG5HCF	WA5LSV
W6	W6UG	KI6M	AI6SL
W7	N7KM	KC7DM	K7RLN
W8	W8DXU	WB8LZG	NF8M
W9	WB9HFK	K9EYT	N8HWV
W0	AA5LH	AA0W	N8LA
Canada	VA2EO	VE9BEL	VA3XAR
DX	-	-	-

SWA BUG CATEGORY			
Division	1st	2nd	3rd
W1	WB1GYZ	-	-
W2	WB2LQF	-	-
W3	KD3CA	K3WWP	-
W4	KJ4R	K3RLL	K3ZGA
W5	NF5U	K5TSK	-
W6	W6JIM	W6SMF	-
W7	-	-	-
W8	K8NGW	-	-
W9	AA9L	-	-
W0	W0KFG	-	-
Canada	-	-	-
DX	-	-	-

SWA KEYER/KEYBOARD CATEGORY			
Division	1st	2nd	3rd
W1	KB1M	N2CN	-
W2	K2OID	WA1GWH	N2ESE
W3	NR3Z	W3NCR	-
W4	K4KBL	N4MJ	K4KRW
W5	K5WX	N5AAS	-
W6	W8KO	WU6P	-
W7	-	-	-
W8	WA8SAN	N8HZM	-
W9	AB9BZ	KY0Q	-
W0	N0TA	K0EW	K9OSC
Canada	VE3KZ	VE3DQN	VE3GNU
DX	-	-	-

GAIN CATEGORY			
KEY	1st	2nd	3rd
SK	NF1O	WD4CFN	KQ1P
BUG	-	-	-
K/K	K4BAI	-	-

| FIRST-TIME ENTRANT HIGH SCORE			
KEY	1st	2nd	3rd
SK	NC1A	W0DCX	KI6M
BUG	-	-	-
K/K	N8HZM	-	-
SPRINT PRIZE DRAWING WINNER			
AC5BX			

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*.

Number of Sprints	Members
50+	NU7T(SK) KB8FE K9OSC N4MJ KB0ETU N8LA K2YGM AA7CU K9EYT NQ2W KF7WNS KD3CA N2CN N8QY WY3H K6CSL WI5H NF5U KC7DM KC2EGL WK6L WA1GWH K4ORD AB8FJ WB4OMM VE5BCS(SK) AA0W W5UAA WA2FBN KB1M K2HT VE3DQN
75+	AK3X K4NVJ KB3AAG VE3FUJ NO2D N8BB AA9L NA4O WD0K K6MGO KA9FQG KQ1P N5GW KN1H
100+	KE5YUM KD2MX K4JPN K1IEE KD0V WA2JSG N4FI W4DUK N2ESE WB8ENE WX4RM WG8Y W8SAN N0TA **K4KRW**
125+	N8XMS K4BAI KU4A NF8M K3RLL
150+	W2JEK W2SH W9CC WB8LZG
175+	KA2KGP K3WWP
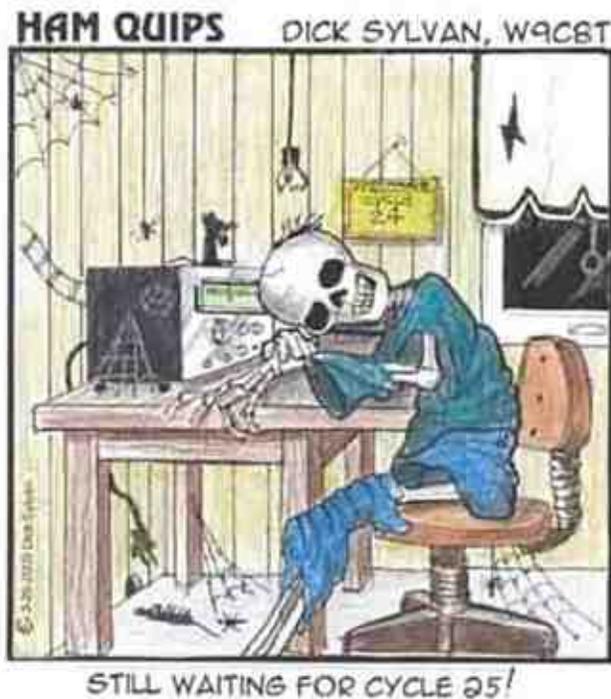
Dick Sylvan, W9CBT, #2062, has been a QRP/CW operator for a long time. He is also a very accomplished ham radio cartoonist and his work has appeared previously in the K9YA Telegraph newsletter. His book "HI HI - A Collection of Ham Radio Cartoons" is available at www.lulu.com.

NAQCC CHALLENGE   BY GARY, K1YAN #2365

THIS MONTH'S LETTER CHALLENGE: THE CHARCOAL BRIQUET

It is July and that means that backyard BBQ is once again king of the chow line. Roll out the grill and grab that bag of charcoal briquets. Hey, where did the idea for briquets come from… somebody sure came up with a winner? Would you believe me if I said that todays briquet is linked with the model T Ford? Well it is and here is what happened.

In 1919, a Model T used 100 board feet of wood for various parts such as the frame, dashboard, steering wheel and wheels. With this in mind, Henry Ford decided he wanted to obtain his own wood supply. Edward G. Kingsford, whose wife was a cousin of Ford, was also a real estate agent in Michigan. He was asked to find a wood supply for Ford. In the early 1920s, Ford acquired timberland in Iron Mountain, Michigan, and built a sawmill and parts plant in a neighboring area (which became Kingsford, Michigan).

The plant generated waste wood in the form of stumps, branches and sawdust. Orin Stafford, a university chemist, had invented a method for making pillow-shaped lumps of fuel. Sawdust and mill waste were combined with tar and bound together with cornstarch. Knowing a great marriage of technologies when he saw one, Ford built a briquet factory, based on a Thomas Edison design, next to his sawmill and hired Kingsford to run it.

At first, the Ford Charcoal Company sold the newly renamed briquet (originally named briquette by Stafford) only through Ford dealerships. The charcoal was mostly sold to meat and fish smokehouses. Supply soon exceeded the commercial demand. By the mid 1930s, Ford began marketing "Picnic Kits" containing charcoal and portable grills, through Ford dealerships. "Enjoy a modern picnic," the package proclaimed, "Sizzling broiled meats, steaming coffee, toasted sandwiches." Barbecuing really took off after World War II, fueled by suburban migration and the invention of the Weber grill. An investment group bought Ford Charcoal in 1951, renamed it in honor of Kingsford and began operation of Kingsford Charcoal. The plant was later acquired by Clorox in 1973.
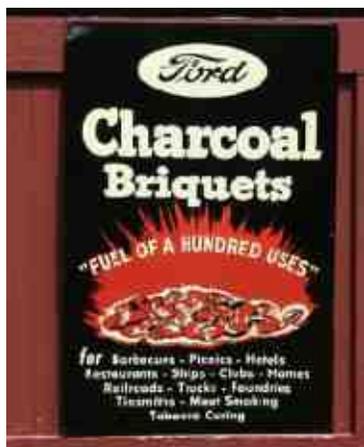
So, when you, the pit master without equal, are at your charcoal grill, working your magic, sneak a look at that Ford parked in the driveway and say "Thanks Henry."

Rules:

Just make ALL the words from calls of stations you work subject to the General Challenge Rules. (Any spaces in the phrases should be ignored. For example the challenge phrase "INVERTED V ANTENNA" should be treated as if it is the single word "INVERTEDVANTENNA.")

Each letter in a callsign you work during the month can be used twice to complete the challenge words. Complete rules, information, and a helpful tutorial on how to organize your work for an alphabet challenge along with detailed general rules and submission instructions can be found at
http://naqcc.info/challenges_rules.html

Words

- MODEL T FORD
- EDWARD G KINGSFORD
- ORIN STAFFORD

- SAW DUST AND MILL WASTE
- PICNIC KITS
- TAR AND CORNSTARCH

July Challenge Tracker:

A	C	D	E	F	G	H	I	K	L	M	N	O	P	R	S	T	U	W

[X] Every time you work a new station this month, mark off the lowest box under each letter of the call to track your progress and see what letters you still need.

Challenges earn you participation points so you're eligible for the best prizes in the 16th Anniversary drawing—including the new **MTR3b LCD Mountain Topper!**
See *http://www.naqcc.info/prize_drawing_16th_anniv.html*.

Next Month's Challenge

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. Check out the next newsletter for the whole story. *http://naqcc.info/challenges/challenges202008.html*

LAST MONTH'S CHALLENGE

The deadline for submissions for our June "Operation Columba" Challenge is is still a few days away. You can see what has been submitted so far at *http://www.naqcc.info/challenges/ challenges202006.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*.

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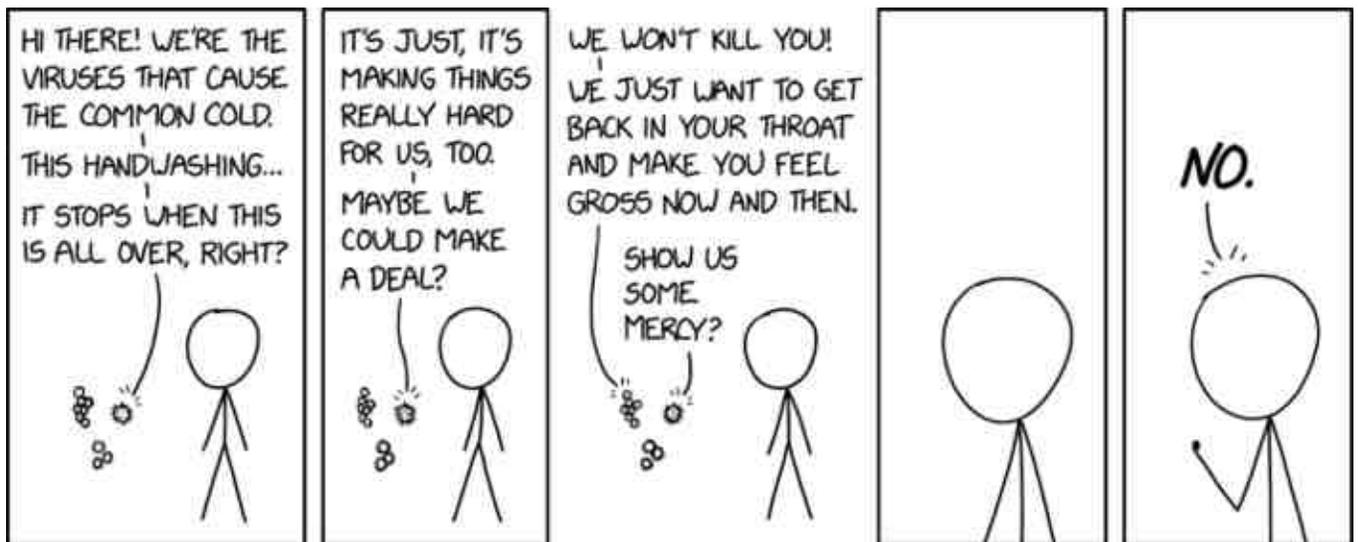
xkcd.com

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:

1000 MILES PER WATT AWARD

Make a QSO using 5 watts or less power and a simple wire antenna in which distance(miles) / power(watts) is greater than 1000.

To show the super-efficiency of CW, this award is issued to anyone who demonstrates that efficiency by making a QSO using QRP or QRPp and a simple wire antenna per NAQCC standards where the distance between stations divided by power in watts is greater than 1000. You can find a distance calculator here.

KMPW 100 AWARD

Make *100 QSOs* in which distance(miles) / power(watts) is 1000 or greater.

It is fairly easy to get a 1000 MPW award with the modern equipment in use nowadays. Russ N9IV wants to make it a bit harder and he suggested this award. It involves making not 1, but 100

KMPW QSO's. Even that is not all that hard in reality as I found out when I (K3WWP) checked my log to see roughly how many such QSO's I had here. I used a great circle map centered on Kittanning, PA and added up all my QSO's from countries that were entirely 5,000 miles or more from my QTH. I didn't count QSO's from countries that were partly inside the 5,000 mile distance nor those countries within 5,000 miles that I worked with less than 5 watts. Going by that premise I have 395 such QSO's, 169 of which are verified by regular QSL card. I mention the verified total because Russ believes all the QSO's should be verified. We address that in the rules below. When you work on your totals, you can find links to distance calculators *here*. NOTE: The mileage figures listed in the QRZ.com database are NOT accurate. For example, in checking my Japanese QSO's, all come up to the same exact distance there despite being in many different cities.

Complete details on this award can be found at *http://www.naqcc.info/awards_wpxswa.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

QRP ~~~~~~~~~~~~~~~ QRP

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*. Questions should be directed to Net Manager Mark, W8EWH.

NAQCC Net Schedule				
Net	**Local Time**	**UTC**	**Freq +/-**	**Primary NCS**
FarnsWord QRQ Round Table Nets (FRN)	Sunday	Monday		
	5PM PDT	0000 Z	5.348 kHz (ch2)	60m JB NR5NN (CA)
	8PM PDT	0300 Z	3556 kHz	80m Rick N6IET (CA)
	Tuesday	Wednesday		
	8PM PDT	0300 Z	7046 kHz	40m Rick N7HRK (MT)
East Texas QRS Net (ETN)	Monday 7pm CDT	Tuesday 0000 Z	7066 kHz Summer 3568 kHz Winter	Allen KA5TJS (TX)
Midwest QRS Net (MWN)	Monday 7:30 CDT	Tuesday 0030 Z	14031 kHz **New frequency**	Bob W0CC (KS)
Rocky Mtn Regional/ Continental QRS	Tues/Thurs 10:30 AM MDT	Tues/Thurs 1630 Z	7062.5 kHz	Dale WC7S (WY)
Pacific Northwest 80m QRS Net (PNW80)	Thursday 7 PM PDT **New time**	Friday 0200 Z	3556.5 kHz	Stewart KE7LKW (WA)
West Coast QRS Net (WCN)	Suspended			
The 1 Land QRS Net (1LND)	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)

Sunday evenings 5:00 PM PDT, which is Monday 0000 UTC, on 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)

Jun 01 - QNS (7) NR5NN NCS, KW6G, N6IET, AI6SL, W6MK, K6GVG, WJ7S

Jun 08 - QNS (7) NR5NN NCS, KW6G, W6MK, K6GVG, AI6SL, N6IET, WU6P

Jun 15 - QNS (7) NR5NN NCS, KW6G, AI6SL, K6GVG, W6MK, N6IET, WU6P

Jun 22 - QNS (6) NR5NN NCS, N6IET Co-NCS, W6MK, AI6SL, K6GVG, WU6F

Jun 29 - QNS (6) NR5NN NCS, W6MK, N6IET, WU6P, AI6SL, K6GVG

FRN/80 FarnsWord QRQ Round Table Net QNS - Rick N6IET NCS
Sunday 8pm PDT (Monday 0300 UTC) on 3556 kHz ±

Jun 01 - QNS (6) N6IET NCS, K6JJR, AI6SL, K6GVG, W6MK, KW6G

Jun 08 - QNS (7) NR5NN NCS, KW6G, W6MK, K6GVG, AI6SL, N6IET, WU6P

Jun 15 - QNS (6) N6IET NCS, K6JJR, W6MK, K6GVG, AI6SL, KW6G

Jun 22 - QNS (9) N6IET NCS, KW6G, W6MK, K6JJR, AI6SL, K6GVG, K0DTJ, NR5NN, WU7F

Jun 29 - QNS (5) N6IET NCS, K6JJR, K6GVG, W6MK, AI6U

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

Jun 03 - QNS (5) N7HRK/m NCS, N6IET co-NCS, KW6G, WJ7S/p, WI6O

Jun 10 - QNS (6) N7HRK/m NCS, KW6G, K0DTJ, N6IET, AI6SL, W6MK

Jun 17 - QNS (No report)

Jun 24 - QNS (8) N7HRK/m, NR5NN, KW6G, K6GVG, W6MK, WU7F, WJ7S, WI6O

Jul 01 - QNS (7) N6HRK/m NCS, K0DTJ, KW6G, K6GVG, (WJ7S, W6MK, N6IET)

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)

June 02 - QNI (4) NCS KA5TJS KE5YUM KE5YGA N4NN
Had some QRN and QSB tonight but signals were fair for the first net in June! Andy and
Terry were 579/589 but had to turn it up to 50 watts for Allen, He reported 229 at first. 559
after that.

June 09 - QNI (4) NCS KA5TJS KE5YGA N4NN AC5EH
A good net last night. Signals were pretty good here and great to hear Dwain for the first
time last night. A very good signal from AR with 4 watts. He was hitting 599 on peaks. We
did have some digital QRM for a few minuets but they gave up thank goodness.

June 16 - QNI (5) NCS KA5TJS KE5YUM KE5YGA AC5EH N4NN
We had some thunder storms in the area but they cleared by net time tonight. Signals were
good with GA being the weakest tonight.

June 23 - QNI (2) NCS KA5TJS KE5YGA
Only Andy made it thru the QRM last night. Thunder storms all over the South. He was
QRO and 589. He gave me a 559 with my 10 watts.

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 14.031 kHz +/-
Main NCS - Bob W0CC (Kansas)   **New frequency**

　　May 25 - No Report

　　June 01 - QNI (1) W0CC   QRN S-9   Had to migrate to 7.0295 and posted on QRZ

　　June 07 - No Report (Working)

　　June 14 - QNI (1) W0CC   QRN S-9+   Shifted to 7.032 and posted on QRZ

　　June 22 - No Report (Working)

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 +/-   **New time**
Main NCS - Stewart KE7LKW (Washington State)

　　June 05 - PNW QNI (4) NCS KE7LKW/p, WB4SPB, WB7WHG, AD7BP

　　June 12 - PNW QNI (8) NCS KE7LKW, WB4SPB, WB7WHG, AD7BP, N0DA, K7YEM, K7JUV,
　　　　　W7ANM

　　June 19 - PNW QNI (6) NCS KE7LKW, WB4SPB, WB7WHG, AD7BP, K7JUV, W7ANM

　　June 26 - PNW QNI (6) NCS KE7LKW, WB4SPB, WB7WHG, AD7BP, K7JUV, W7ANM

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)

　　June 15 - QNI (2) - NCS K1RID, WX1E

　　June 26 - QRT LIGHTNING

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 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 June11th. Attending remotely were Tim-N9BIL, Pete-NN9K, Mark-K0NIA, Tony-N9YPN, Dave-NI9M, Heidi-KG0GGYand Brad-KC0RZP. Due to the continued COVID-19 Social Distancing requirements all attended via "Google Hangouts."

Many topics were discussed including:

- Reviewed NAQCC Sprint
- Milliwatt Sprint 6/17
- ARRL Modified Field Day Rules
    http://www.arrl.org/temporary-rule-waivers-for-arrl-field-day-2020
    Reviewed everyone's Plans
- Outing in a park.
    Looking for locations that will accommodate the Social Distancing requirements.

- Jackite Poles
  https://www.jackite.com/online-store/Windsock-Flying-Poles-c21767998
- My Antennas
  https://myantennas.com/wp/
- SKCC Weekend Sprint – June 13th
  https://www.skccgroup.com/operating_activities/weekend_sprintathon/
- Toroids
  http://www.amidoncorp.com/ft-240-52
- •Magnet Wire
  https://www.amazon.com/Magnet-Enameled-Copper-Winding-Crafts
  /dp/B019MK9YWS

NN9K SHARED THIS PICTURE AND SOAPBOX OF HIS JULY NAQCC SPRINT OPERATION:

NN9K - before this evening I've only operated the NAQCC Sprint from my home. This time I decided to operate from a portable location, a rest area at an I80 Welcome Center. The antenna system was my tried and true county hunting mobile array-a Hustler 54 inch mast topped with 20 and 40-meter resonators. Rig —KX3 @ 5 watts with battery power. Everything worked as designed except for the propagation. Really deep QSB on 40-meters and 20-meters seemed to die a bit early. Of course. the line of thunderstorm that passed through northwestern Illinois didn't help signals between me and the east coast. But all-in-all it was fun even with the high temperatures, humidity and low QSO count.

Our next meeting will be held on Thursday, August 8th at 7:00pm at the Moline Village Inn restaurant.

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

QRP ~~~~~~~~~~~ QRP

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 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

SHERLOCK INVESTIGATES FIRE IN BC-221

BY PAUL SIGNORELLI, W0RW, #2500

It was a cold and stormy night when the Ice Station Zebra* 40 meter operation was completed. The highly modified BC-221 that was described in the Nov. 2019 Issue of the NAQCC Newsletter http://naqcc.info/newsletter/newsletter_257.pdf was returned to the shop for LiIon battery recharging. It contained 6 26650 LiIon cells wired 2P3S (2 cells in parallel and 3 of those paralleled pairs in series).

SMOKE FILLED THE SHOP!

It was placed on the charging station and recharging initiated, soon after that there was a big muffled explosion, 2 actually. Smoke was filling the shop and flames were bursting out of the battery compartment of the BC-221, the battery door had been blown off by the explosion. A lot of the cardboard packing material was on fire and the cells were blowing off like Estes Rockets. Flames were 1 foot high.

The BC-221 was quickly moved outdoors. The flames and explosions continued, 4 more times. The flames refused to be smothered as the remaining cells exploded and resisted a Dry Chemical fire extinguisher. Only a simulated picture of the destruction is available. You can't put out a LiIon fire that is in process of a "Cook Off." This is not a chili competition; it is a term that munitions engineers use to describe the process of ammunition being exploded by a nearby fire.

How could all this have happed? Sherlock quickly realized that the BC-221 was inadvertently placed on the 24V charging station and the 24V charger was connected to the 12V battery. The connectors were the same, Mistake number 1. The cells were all packed together (Cord wood style) side by side, mistake Number 2

The radio inside the upper part of the BC-221 case survived this trial by fire but was coated in soot and fire extinguisher particles but still operated correctly. It was cleaned off with alcohol and suffered no ill effects from the fire.

PREVENTIVE MEASURES

Preventive measures taken to prevent this mistake from happening again:

* Ice Station Zebra is a remote Colorado operating site, Ref: http://w3bqc.homestead.com/Ice_Station_Zebra.pdf

1 – The system was Mistake Proofed. That is a term used by Quality and Design engineers to eliminate potential mistakes from happening. A different connector type was installed on the 12V charger and on the side of the case.

2 - The new replacement cells were spaced apart from each other so there would not be another avalanche "Cook Off". There is plenty of room in the battery compartment and the flammable packing material was removed.

3 – Added a reverse protection diode to prevent any potential polarity reversal.

The old BC-221 no longer has the WW2 MFP (Moisture and Fungus Proof paint) smell, It now just smells like smoke.

Hopefully you will use the results of this investigation to Mistake Proof your batteries and power connections.

73 –Paul, W0RW

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 contester 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:

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Additional contact information can be found on the next page.

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