NORTH AMERICAN QRP CW CLUB

NAQCC NEWS

ISSUE 238 APRIL 2018

KEY CLICKS

- 14TH ANNIVERSARY CELEBRATION IN THE WORKS. The plans are already being made for our 14th anniversary celebration that will run from 0000Z Oct 8 (the evening of the 7th in North America) through 2400Z Oct 14. Our special N#A callsigns have been reserved for all 10 US call districts and in a few month we will start to ask for volunteers to put those calls on the air. Of course there will be a great prize drawing connected with our special sprint that week and, as in previous years, there is a throughout-the-year participation eligibility requirement for the top-tier of prizes. You can see those requirements, along with the kinds of prizes that we will be giving away by looking at last year's prize drawing page at http://www.naqcc.info/prize_drawing_13th_anniv.html.

- LINUX VERSION OF AC2C SPRINTLOGGER AVAILABLE. In addition to the Windows XP, Mac OS X, and modern Windows versions of Ron's great sprint logging software he has now added a Linux version as well. See the *Sprints* section of this newsletter for more details.

- DAYLIGHT SAVINGS TIME BUGS AUTOLOGGER. The recent switch to DST exposed a bug that was buried in the error trapping section of our sprint Autologger. The bug was quickly fixed but not before 5 early-bird sprint loggers had problems making their submissions. (They were contacted individually and asked to resubmit their logs.) We certainly apologize to everyone who was inconvenienced by this issue. Let me also take this opportunity to ask for your continued patience as we update and grow our new systems, and to please let us know anytime you come across a problem or bug.

- THANK YOU FOR THE DONATIONS! A big "THANK YOU" goes out to everyone who has made a recent donation to the NAQCC treasury. The NAQCC has no membership dues and we depend on your generous donations to cover our operating expenses. If others would like to help out with a donation there are two ways that you can do it. The first way is to use *PayPal* to electronically send your contribution to Club Vice President John, N8ZYA, using the email found on the last page of this newsletter. To avoid any additional fees please be sure to check the box that says "*I'm sending money to family or friends*." Also please add a note indicating that this is a donation to the NAQCC and include your call sign. The second way to make a donation is to mail a check or money order made out to *The North American QRP CW Club* and send it to *John Smithson, 1529 Virginia St E, Charleston, WV 25311*. Assuming that we have your correct email address on file, your contribution will be acknowledged by email with a carbon copy sent to a second club officer as a "check and balance."

IN THIS ISSUE

SURPRISES IN SURPRISE BY PAUL, N8XMS

Our son-in-law works for one of the major auto companies here in Michigan and each winter he is sent out to Arizona for about three months to run various warm weather road tests on vehicles. He gets housed in a furnished apartment and our daughter is able to be out there with him. This year they also had their brand new baby along. My wife and I have been fortunate enough a few times in past years to be able to flee the Michigan snow for a couple of weeks and go out there for a visit. This year the new granddaughter was more than enough incentive to do so once again. Of course some radio gear was squeezed into the luggage.

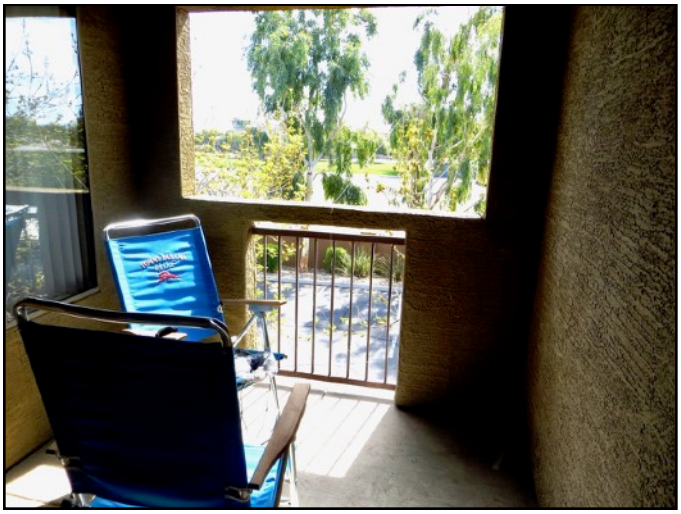
My friend Lyle, AF7OS, extended an invitation to me to join him for a SOTA activation of Shaw Butte in the Phoenix area. Unfortunately my various family activities during our visit didn't let me fit this into the schedule but I did manage to enjoy some hamming from my daughter's apartment - mostly during baby naps! (By the way, Lyle is the manager of the member picture gallery on our NAQCC web site and does a really great job with that. Please contact him if you would like to have your picture included.)

My absolutely minimalistic gear consists of an Elecraft KX1 loaded with six AA alkaline batteries, Palm mini paddle, earbuds, and my bead wire antenna. This antenna was invented by WA3WSJ (https://wa3wsj.homestead.com/WA3WSJ_Bead-Wire_Antenna.pdf) for use while hiking the Appalachian Trail. It consists of a 40-ft long wire radiator and three 16-ft counterpoise wires. It's not a "great" antenna but it is strong and at the same time very small and light weight. It is also almost invisible. It can be deployed as a vertical, sloper, inverted-L, or just about any odd way. The built-in tuner in my KX1 is usually able to give a decent match to this antenna on 20, 30, and 40 meters. With 9-volts from the batteries my rig puts out between 1 and 1.5 watts, depending on the band, and falls off a little as the batteries weaken. Depending on my receiving/transmitting times ratio the batteries will last for quite a long time.

I had this gear in my carry on luggage and the TSA didn't even bat an eye. They took more interest in my Kindle and iPad and actually examined them to "make sure that they are real!" (The sling shot that I use to launch my antenna was in my checked luggage.)

Their apartment was located in Surprise, AZ and, in fitting with that name, I experienced several nice ham radio surprises while there. My first pleasant surprise was the physical layout. The apartment was

located on the 2nd floor and had a small (very small!) balcony. The balcony overlooked a driveway with a single row of parking spaces, and on the far side of that was something that is fairly rare in that part of Arizona - a tall tree! Eureka, I had supports for a horizontal deployment of my antenna!



I didn't get around to setting everything up for a couple of days but when I did, I had another nice surprise in Surprise. My very first shot with my sling shot to deploy my antenna was perfect (that's rather rare for me) and I very quickly had an antenna up that could remain in place for the duration of our visit. The three counterpoise wires were kept together as a single strand and laid down around the the outer edge of the balcony floor. The balcony was so small that the 16-ft of counterpoise wire length wrapped around almost 3/4 of the perimeter! My operating table was the seat of a lawn chair and a second lawn chair took care of my seat.

The KX1's antenna tuner gave me a match of about 1.5:1 on 40-meters, 1.1:1 on 30-meters, and 2:1 on 20-meters. My operating time over the next week or so was both limited and sporadic and was mostly during times when granddaughter Annie was napping.

I was able to work stations on all three bands but early on I had an unpleasant surprise in Surprise. For my first couple of QSOs I noticed that the stations on the other end had a very low tone and I even needed to use a little RIT to tune them in satisfactorily. My third QSO was with Don, WB6IZG, who has an amazing 100% home-brew station. He took the time with some tuning and frequency spotting to help me diagnose the fact that my BFO offset and side tone frequency didn't match correctly. Fortunately I had a digital copy of the KX1 operating manual on my Kindle and found the instructions for entering a BFO correction factor into the rig. All that was needed was a strong signal from WWV and my ears to detect tones for zero-beating. I'm certainly not a musician but my tonal perception was good enough to get the setting "close enough" and subsequent QSOs sounded much better.

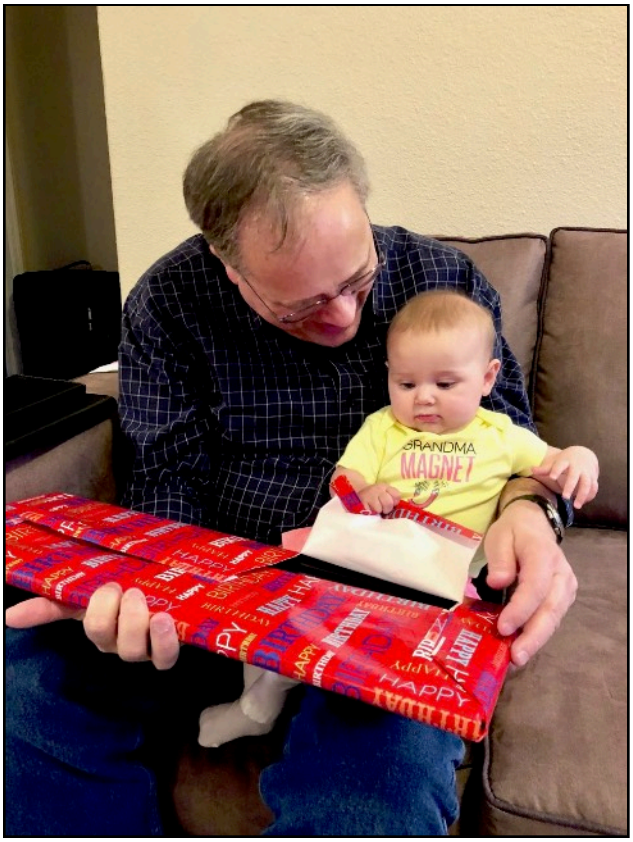
Over the next few days I was able to enjoy a total of 14 QSOs. I worked one SOTA activation on Twin Sisters Peak in CO, and three POTA activations - The Forest of Nisene Marks State Park in CA, Resaca De La Palma State Park in extreme south TX, and Clayton Lake State Park in NM. States worked were CO, CA, TX, OR, NM, and PA. (K3ATO was actually located in FL but was operating his Reading, PA station via a remote link.) My most exciting QSO was a DX one with France on 20-meters. That QSO also happened to be the last one that I made from Surprise.

Bert, F6HKA, near Limoges, France, is an NAQCC member but also spends a lot of his time giving out his SKCC number to members of that club for what is sometimes their first CW European DX contact. I have worked Bert a number of times from my home QTH in Michigan with 5 watts. But a QSO from Arizona with a fading 1-watt signal into a less than optimal antenna was a little bit special! I gave him a

559 and he gave me a 439 but I think that he was being rather generous with that. He has a great antenna and is always willing to try and dig out the weak whispers. Later we exchanged some emails:

> *Hi Bert. Thanks for another fine QSO. I honestly don't know how you do it! I was operating portable from Surprise, AZ with only 1 watt into a random wire tossed up into a tree and a counterpoise on the ground. You have great "ears"!*
>
> *73,*
> *Paul - N8XMS*
>
> *———*
>
> *Hi Paul,*
>
> *Thanks for the nice contact we had a bit earlier. It's incredible how your 1 Watt doing great job.*
> *My antenna helps a lot. I also had the chance to practice moon bounce 35 years ago. It helps to pick up weak signal.*
>
> *Have a great day and nice stay in Arizona.*
>
> *73 Bert F6HKA*

My biggest surprise in Surprise, AZ came when my daughter and her family gave me a belated birthday present. They had held off giving it to me so that I could open it in person with them when we came out for our visit. Of course 5-month old Annie had to help me open the gift:

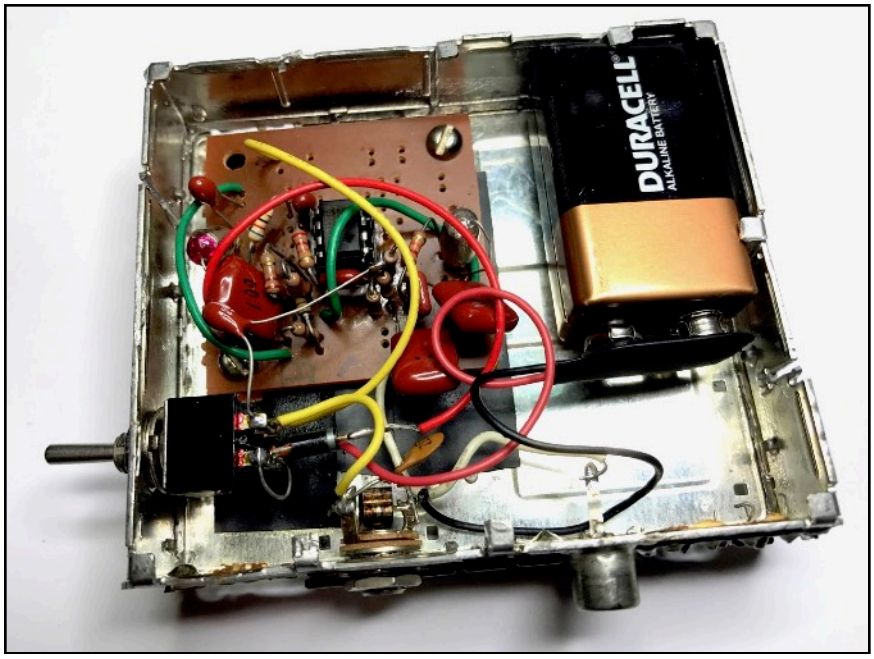


Let the suspense build a little bit before you turn the page to see what my big Surprise surprise was…

A very special framed call sign display for the wall of my shack!

Family, warm weather, fun activities, and a little ham radio thrown in - it doesn't get any better than that! All too soon we had to pack up and return to Michigan where we stepped out of the airport into snow showers. That call sign display is already up on the wall in my home office/shack and it really looks great! Now I just have to figure out how to get Annie interested in ham radio. Is 5-months too young to start learning Morse code?

DIY Audio Filter By Gene, N5GW



Here's a useful gadget that can improve your CW reception. As an outboard device it can work wonders for a wide-bandwidth vintage receiver or even enhance the performance of a modern transceiver. Often there is room to install such a filter within an existing radio. It can be a great addition to a home brew receiver, especially a direct conversion type. I have built and used variations of this filter many times over the years.

Such a filter can be constructed using readily available components. All parts can be mounted on a general purpose IC PC board or ground plane style: no etching, drilling or plating is needed.

I patterned the circuit after one I found years ago in QST, later reproduced in QRP CLASSICS as shown in the first pic on the next page (reproduced with permission from ARRL, courtesy July 1980 QST). The original schematic shows two 714 op amps with wide/narrow (phone/CW) settings, but I simplified a hand-drawn schematic by employing a dual op amp for only CW, and I gave the builder some choice in the selection of components (second pic).

There are several dual op amp chips that will work satisfactorily, including TL072, TL082, LM1458, N5558, BA4558 and others. Check the pin-out before trying other such chips. Also there are several combinations of frequency-determining C and R values that can be used. Formulas for calculating the values of the frequency determining capacitors (C and c) and resistors (R1-R6) have been simplified, including examples (third pic). Notice there are two C's and two c's, and that C is 100 times as large as c. This is convenient because of the system of standard values. Calculated resistor values can be rounded off to the nearest standard value. C1 and C4 can be anywhere between 1 and 10 uF. R7 is equal to R8 and can be anywhere between 10K and 100K. D1 is a reverse polarity protection diode ("dufus diode") and can be any general purpose device such as 1N914.

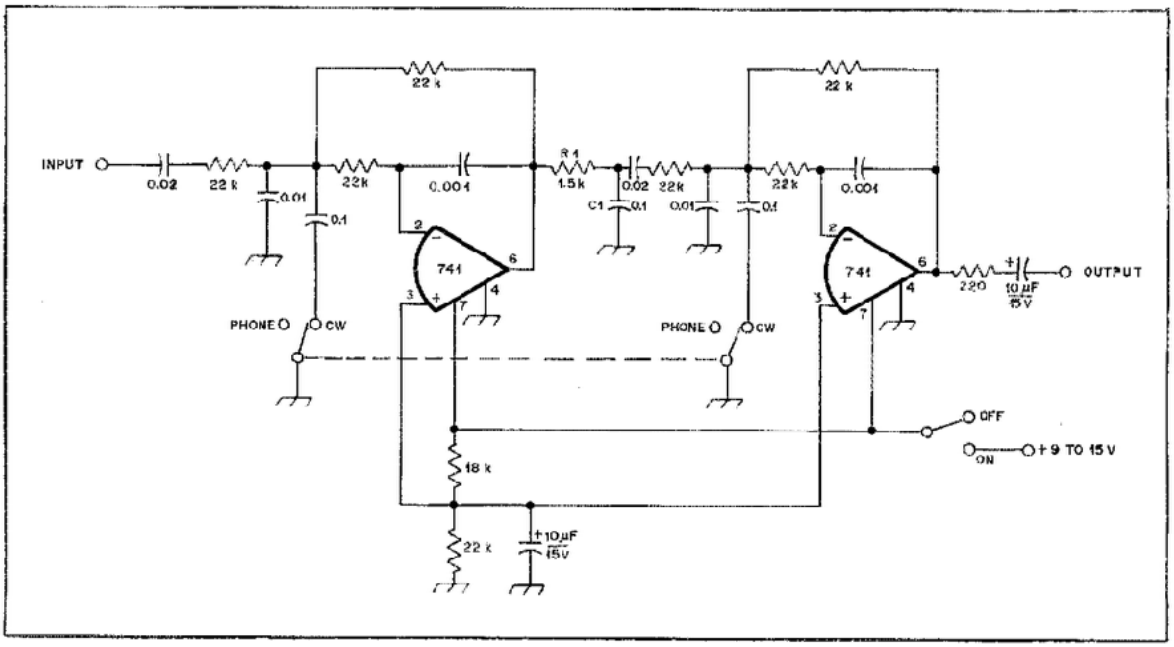
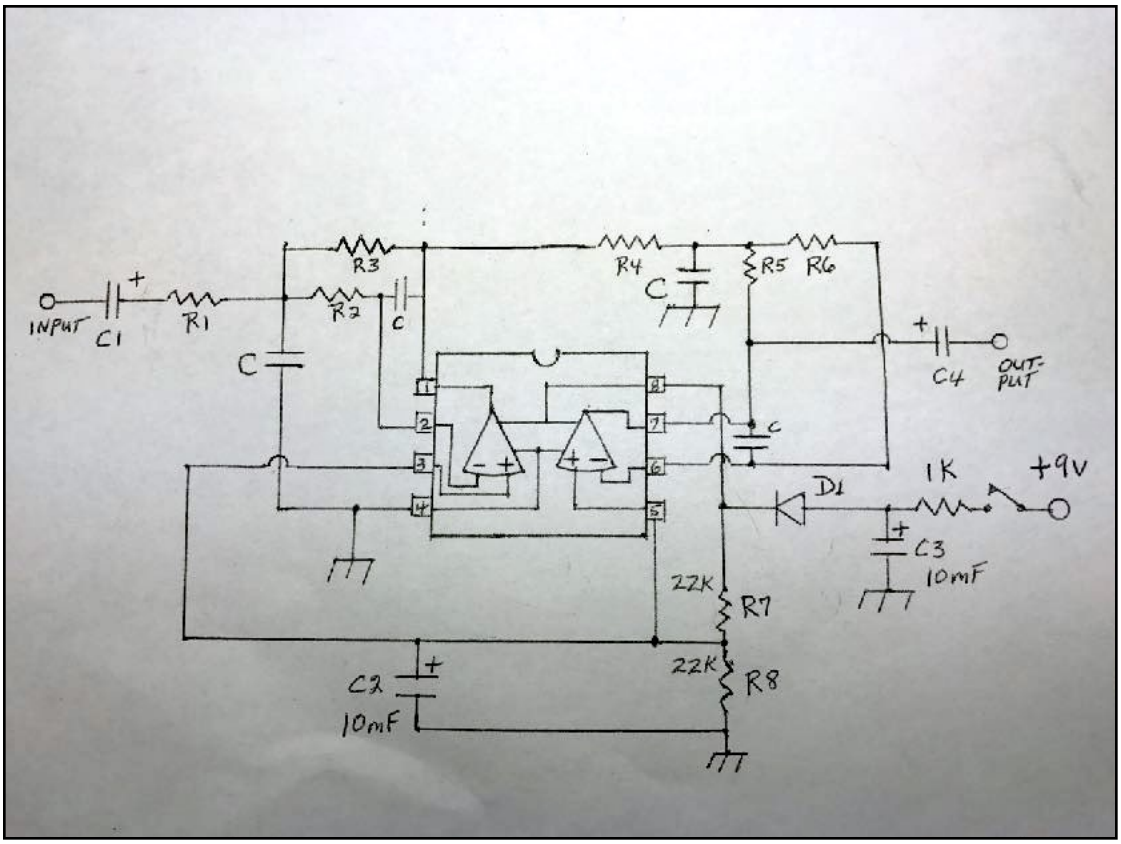
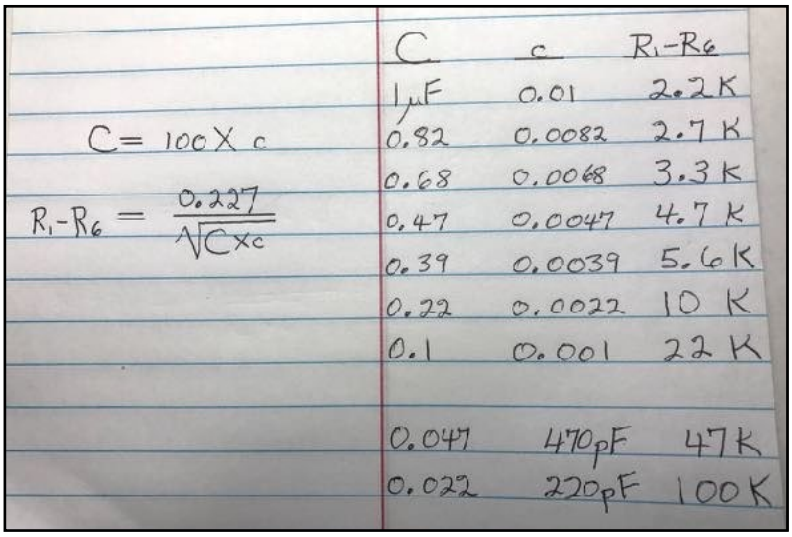


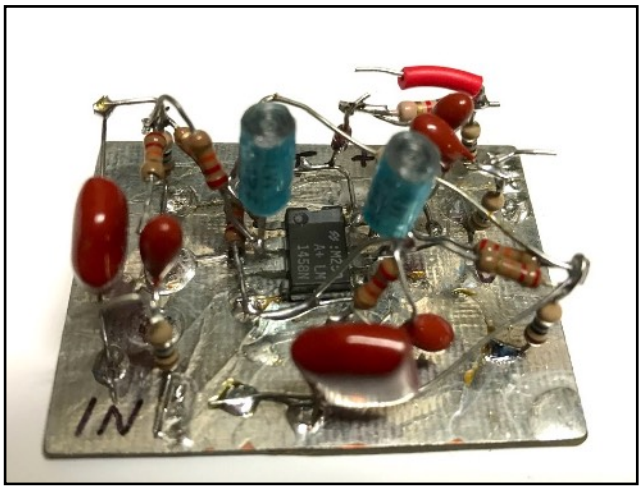
Fig. 16 — A combination phone and cw audio filter.





Final assembly using ground plane ("ugly") construction involves initially straightening out the pins of the chip which will be hard wired to the board. This allows you to use a chip with damaged pins or one which has been cut off a surplus board. Next, pin 4 is soldered to the board, stabilizing the chip. Other components are soldered to the chip pins. High ohmage (10 meg) resistors are used as insulated stand offs. If a general-purpose IC PC board is used, a chip socket can be employed.

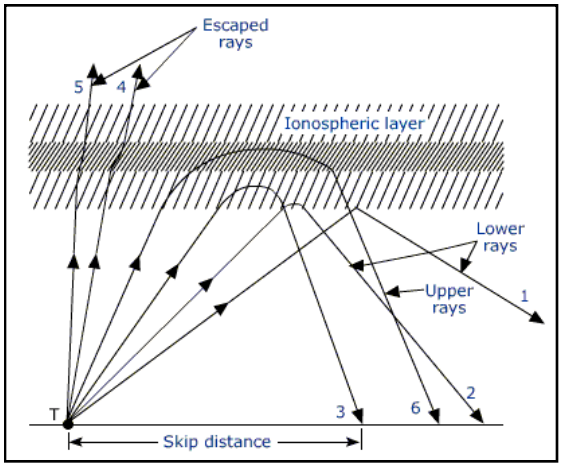
The final pic shows a ground plane version. The picture at the beginning of this article shows the same circuit on a GPICPC board built into a TV UHF box. A 9V battery will power the filter for many hours.



72, Gene, N5GW

THROWING CURVE BALLS BY PAUL, N8XMS

Predicting radio signal propagation has always been a little "fuzzy" to say the least. Understanding solar flux numbers and geomagnetic conditions can help, but unfortunately our predictions still end up being about as accurate as the weather forecast on the evening news! (How many times have you shoveled eight inches of predicted "light snow flurries" from your driveway?) But some recent research that I have conducted just might change all of this.



We are all very familiar with the model that shows how the ionosphere bends our otherwise straight-line radio signals. But it turns out that this model is not only overly simplistic, it is actually wrong because it fails to take into account an important property of our physical universe. And the funny thing about this is the fact that all of us have known for years the evidence that disproves this model! - How many times have we all made QSOs with stations that should be in the propagation skip zone?[1] So there must be something else that is impacting the paths that our signals follow!

What that "something" is came to me while I was playing with my 7-year old granddaughter, Reagan. She is a very imaginative little girl and loves to make up story scenarios that we then play-act out. On this particular day she said, "Grandpa, let's pretend that the door to my room is a portal that connects to a wormhole that takes us to another dimension just like in Minecraft, The Legend of Zelda." **Well, "out of the mouth of babes!"** A lightbulb lit up over my head! No, I don't mean some sort of portal or extra dimension, that would be silly! But the physics behind a wormhole is the simple principle from general relativity that light is bent by gravity, and since our radio signals are just lower frequency photons of light, could this possibly be the key?

But how much of a bend is there, and would it be enough to land a signal in that "skip zone?" To answer that question I went to the most infallible source of information that I could find - Google. After a couple of hours on the internet, with a short break to watch some funny blooper videos on YouTube, I found a series of mathematical equations that, if I could solve them, would answer this important question. I don't have the space to go into all of the details behind the solution of these equations but I have listed them below. (You might actually recognize some of them.)

Decible Power Ratio:

$$dB = 10 \cdot \log\left(\frac{P_2}{P_1}\right)$$

Quadratic Formula:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

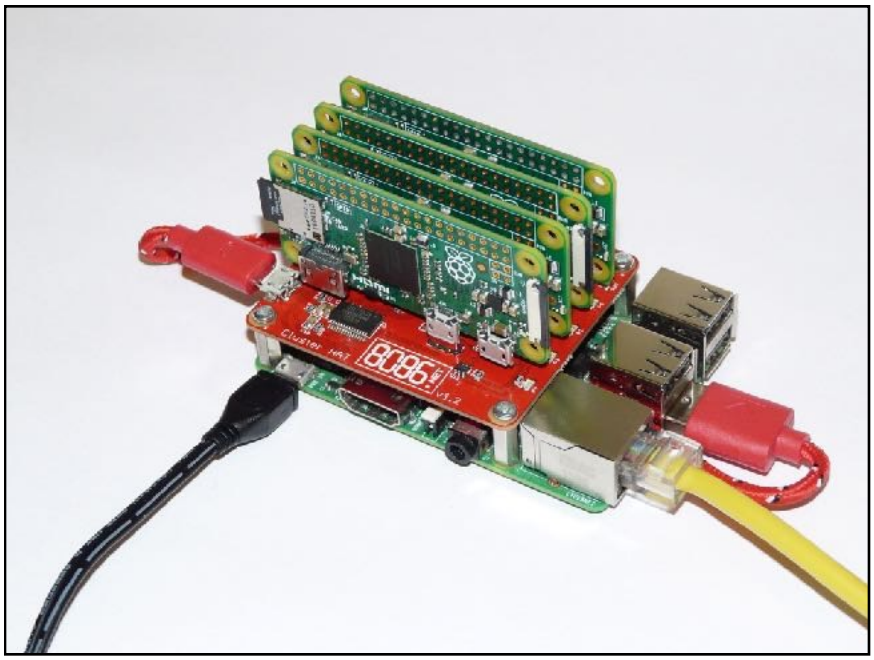
Maxwell-Faraday Equation:

$$\nabla \times E = \frac{\partial B}{\partial t}$$

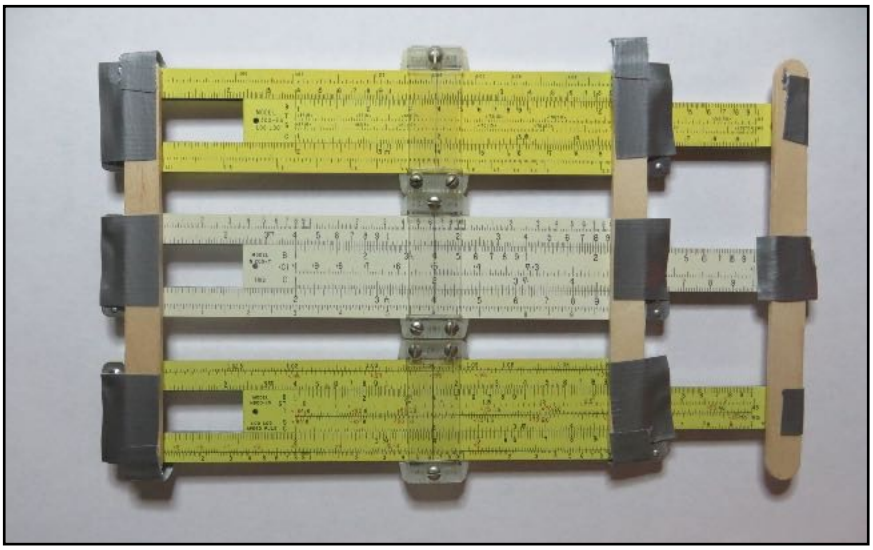
General Relativity Geodesic Equation:

$$\frac{d^2x^\beta}{d\lambda^2} + \Gamma^\beta_{\mu\nu}\frac{dx^\mu}{d\lambda}\frac{dx^\nu}{d\lambda} = 0$$

I knew that solving this system of equations would require some three-dimensional vector analysis on a digital parallel processing platform (DPPP). But that could be expensive so I needed an alternative. My first thought was to use several Raspberry Pi micro-computer boards piggybacked together. But I found that the Unix operating system had trouble running the Fortran script that I wrote.



So next I rummaged through my junk box to see if there was something else that I could come up with and I was able to cobble together my own version of a usable digital parallel processor. It's baud rate didn't match the Raspberry Pi's but with a little patience it would do the job! (**Junk box + Duct tape = Genuine ham radio ingenuity!**)



With this DPPP I was able to calculate, to a reasonable three significant digits, that the gravitational bending of our radio signals can indeed account for reception in the "skip zone!"[1]

Of course a scientific theory isn't worth the paper that it is written on if it can't be confirmed with a carefully designed experiment. I live in an urban antenna-restricted area but a ham buddy of mine lives on a ranch in western South Dakota and he agreed to help me test my theory.

It took the two of us about three hours, including a couple of breaks for some cooling adult beverages, to put up a special tower and antenna. We then used a Chinese manufactured Rockmite coupled to one of those Raspberry Pi units to create a 450 mW, 40-meter beacon signal. We monitored the beacon with an MFJ-801 field strength meter as we rode around his property on a couple of saddle horses. After checking about a dozen different locations we were able to confirm my theoretical calculations. **Gravity was indeed bending the radio signal!**

Of course the consequences of my work are significant! I have been in touch with the ARRL, Gordon West, and other major ham radio VEC organizations to start the process of rewriting the FCC exam question pool to correctly reflect this new discovery. To date I have not yet heard back from any of them.

There is also the need for some further research in this area. As we moved around from location to location our GPS unit consistently showed a deviation of a few feet from the theoretically calculated positions. I hypothesize that this was possibly due to signal refraction resulting from variations in the molecular density of the air caused by temperature changes. *Confirming this hypothesis however will require a lot more hot air than what this author is prepared to provide.*

———————

[1] Of course the current literature refers to this as "*short skip*." But as will be shown in this paper, this term is just "science speak" to avoid saying "we don't know why this happens."

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.

BRIAN THRELKELD, KQ4MM, #9228

My first exposure to shortwave radio was in the basement of my childhood home with an old ARC-5 that my dad said came out of a WW2 B-25 bomber. I connected a set of earphones and ran a wire all around the basement back to the antenna post (I still have that ARC-5). At night I could tune in WWV on 5MHz and listen to the time and reports, and then the 80M ham band where I could hear all of those strange garbled voices (SSB) and morse code. Some of the morse code was slower and I was able to write down the dahs and dits and decode it.

Quickly I decided I wanted to learn morse code so my dad and I built a Radio Shack oscillator. Armed with that oscillator, a key, and a book on how to learn morse code, off I set on this new adventure. I did eventually learn most of the characters, and could copy the novices on 80M, but as time went on, friends and other adventures soon took the ARC-5's place for this 9-year-old boy.

Fast forward to 1985, I'm in the USAF stationed in San Vito dei Norman, working in the air force post office when I stumble across some SWL cards someone was receiving. Seeing those SWL cards peaked my interest in SWL so I ordered a Kenwood R2000 and began SWLing most every night and mailing out reception reports the next morning. I quickly amassed quite a collection of SWL cards and neat SWAG from the many of the stations to which I sent reports.

About three years later, I was relocated back stateside to Keesler AFM Mississippi which is where I was licensed in 1989 as N5OBF (Technician). I quickly brushed up on my morse and soon upgraded to General, then Advanced. I passed my Extra written, but never could break the 20WPM barrier to finish the upgrade.

The club at Keesler (K5TYP) at the time was very active and had a nice station. That, plus being solar cycle 22, meant I was able to work much DX on SSB so I let my morse skills get rusty. In December of 1992, I decided to separate from the USAF and moved back to my birth QTH of Huntsville Alabama.

As a result of this move, starting a new career and raising a family, most of my spare time was taken up, and amateur radio became a passing interest. Now 25 years later and living near Nashville TN, a casual conversation with a dear friend resulted in me obtaining some of her late father's (Bill Lockin - W9KAC) gear. Unfortunately I only met Bill a few times. He was a WW2 veteran and flew C-47's during the war, but he was a fascinating person that I wish had been my Elmer.

The ICOM 751a of Bill's turned out be non-functional and unrepairable but the bug had bitten and this brought me back into amateur radio as of this past May of 2017. With a new found love of morse, I began the relearning process via the LCWO site. I now can send and copy about 10-13 WPM with hopes of getting a little faster, while still keeping accuracy paramount.

As I got on the air, I quickly came across the great people at SKCC and then of course NAQCC and my path was set. I disconnected my microphone and stowed it away in my desk drawer. It is CW-only for me now. Now a few months down the road, I think many morse operators are naturally drawn to QRP at some point. For me, it just seemed a natural progression of my morse adventure to combine QRP with portable outdoor operation.

Currently I enjoy the NAQCC and SKCC sprints, rag chewing, chasing DX when I can hear it on my end-fed wire (which isn't very often), and restoring and using old keys. Being a straight key only guy, and having some nerve damage that causes a slight tremor in my hands, I found by experimentation, that cootie-style keying was the method for me.

I currently use a Kent SP-1 wired as a cootie, but recently purchased a Bunnell double-speed key from member Steve Morris W5BIB (Thanks Steve). This Bunnell cootie will end up being my primary station key and the Kent will be relegated to QRP portable operations.

I also have a nice 1941 Vibroplex original standard that I plan to attempt to learn someday as well. Interestingly, my late grandfather was a freight agent and telegraph operator for a railroad in Mississippi and this was the kind and vintage of Vibroplex that he used on a daily basis. I also enjoy using my J-37 and Begali camelback, amongst others, on occasion as the mood strikes me.

When I'm not pounding brass, I like to be outside boating, hunting, hiking, camping and just generally enjoying the great outdoors. I work as an IT manager for Sanmina Inc. and plan to retire in a few more years, God willing.

NAQCC SPRINTS

CURRENT MONTH'S SPRINT: Our sprint this month will be on April 11, 0030-0230 UTC. That's the evening of Tuesday the 10th here in North America. Complete information about the sprint can be found at http://www.naqcc.info/sprint/sprint201804.html.

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.

LAST MONTH'S SPRINT RESULTS: We had 108 logs submitted for our March sprint showing 159 total participants. Some members reported fairly good conditions on 80-meters but those who had to stay on 20 or 40-meters had a few other choice words to use! Nevertheless it was a fun time for everyone. As all of you know AC2C with his new SprintLogger software and N2CN with his work on our club database and Autologger/Cross-checking system have made, and are continuing to make, some huge contributions to our club. As K8UDH said in his soapbox comments, "*This was my first opportunity to use the new NAQCC SprintLogger by AC2C and the new NAQCC Autologger. They are excellent tools and a great asset for NAQCC.*" Complete sprint results, including some great soapbox comments, can be seen at http://www.naqcc.info/sprint/sprint201803.html. High scores can be seen in the tables at the end of this section.

We would especially like to welcome our first-time sprint loggers and hope that they will return to participate often: AD0YM KU5M N4IAG N5XE VE9AT

PARTICIPATION ELIGIBILITY: Remember that participating in a combination of sprints and challenges will make you eligible for the top-tier prizes in our anniversary drawing in October. Eligibility details can be seen on the page for last year's drawing at http://www.naqcc.info/prize_drawing_13th_anniv.html.

LOGGING SOFTWARE OPTIONS AVAILABLE FOR OUR SPRINTS: We now have three options (with some sub-options) available for those of you that are looking for logging software that is fully compatible with our sprint format and log submission requirements:

GenLog by W3KM - This software will run on Windows computers and is a good all-purpose contest logging program. In addition to working well for our sprints, GenLog comes with templates for just about every ham radio contest that you can think of. So if you are planning to expand your contesting beyond our NAQCC sprints this might be the software that you want to use.

NAQCC SprintLogger by AC2C - This logger has many more "bells and whistles" than GenLog, including things like the ability to directly interface with many different radios. But there is a bit of a trade-off in that it is more narrowly focused on our NAQCC sprints and not really designed to be used with other contests. SprintLogger currently is available in 4 different versions - Modern Windows, Windows XP, Mac OS X, and Linux.

NAQCC Sprint Logger.numbers Spreadsheet - This spreadsheet was originally developed as an alternative for sprinters who were not able to run the GenLog program on their Mac computers. It still works but frankly AC2C's Mac version of his logger is far superior and support for this spreadsheet will probably end in the near future.

You can find out more about these software packages along with other logging and reporting options on our sprint rules page at http://www.naqcc.info/sprint_rules.html.

SWA STRAIGHT KEY CATEGORY			
Division	**1st**	**2nd**	**3rd**
W1	KN1H		
W2	W2SH	KA2KGP	
W3	AH6AX	KD3CA	
W4	WG8Y	N4OW	KQ4MM
W5	N5GW		
W6	K6MGO		
W7	KC7DM		
W8	W3NP		
W9	WB9HFK	NX1K	
W0	N0TA	NN0SS	
VE	VE3DQN		
DX			

SWA BUG CATEGORY			
Division	**1st**	**2nd**	**3rd**
W1	K1IX		
W2			
W3	K3WWP		
W4	AK4NY		
W5	NF5U		
W6			
W7			
W8	N8XMS		
W9	AA9L		
W0	KD0V		
VE	VE3IDS		
DX			

SWA KEYER/KEYBOARD CATEGORY			
Division	**1st**	**2nd**	**3rd**
W1	KB1M		
W2	W2JAZ	K2YGM	
W3	W3KWH		
W4	K4KRW	N4MJ	KB9ILT
W5	K5MBA		
W6			
W7	KF7Z		
W8	WA8SAN		
W9	K9JWI		
W0	K9OSC		
VE	VE3GNU		
DX			

GAIN CATEGORY			
KEY==>	**SK**	**BUG**	**K/K**
	K4BAI		

FIRST TIME ENTRANT HIGH SCORE			
KEY==>	**SK**	**BUG**	**K/K**
	KU5M		N5XE
PRIZE DRAWING WINNER			
KN1H			

	Current Month	Previous Month	All-Time Record	Record Date
Logs	108	120	217	4/17
Participants	159	161	269	2/13
Total QSOs	1524	1632	3154	4/17
Hour 1 QSOs	856	916	1704	4/17
Hour 2 QSOs	668	716	1450	4/17
20m QSOs	20	2	1232	8/13
40m QSOs	805	462	2203	4/17
80m QSOs	699	1168	1417	2/13
Avg QSOs/Station	14.1	13.6	19.3	9/11

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) NA4O N8BB AA9L WD0K K6MGO KB8FE KQ1P KA9FQG NQ2W WY3H AA7CU N8QY K9OSC KB0ETU K6CSL K9EYT N5GW AK3X K2YGM KC2EGL VE5BCS(SK) N8LA KN1H K4ORD KF7WNS N4MJ
75+	K1IEE K4NVJ N4FI KD0V WA2JSG KB3AAG(SK) W4DUK WB8ENE VE3FUJ KE5YUM K4KRW N2ESE WX4RM NO2D WA8SAN N0TA WG8Y
100+	N8XMS K4BAI KU4A KD2MX NF8M K4JPN K3RLL
125+	W2JEK W9CC W2SH WB8LZG
150+	KA2KGP K3WWP

NAQCC CHALLENGES

CURRENT MONTH'S CHALLENGE: Our challenge in April is an alphabet challenge that works with a list of words related to the famous Curtis Keyer chip from the 1970's. The full list of words and other details can be found at http://naqcc.info/challenges/challenges201804.html.

NEXT MONTH'S CHALLENGE: Our challenge in May is an interesting twist to an alphabet challenge with the requirement that all contacts are made with home-brew gear. You can find the details at http://www.naqcc.info/challenges/challenges201805.html.

Complete information about our challenges including a helpful tutorial on how to organize your work for an alphabet challenge can be found at http://naqcc.info/challenges.html. Detailed general rules for our challenges can be found at http://naqcc.info/challenges_rules.html.

LAST MONTH'S CHALLENGE: The deadline for submissions for our March 30-Meter challenge is still a few days away so the final results are not yet available. This was an interesting challenge with a specified band, a state/DX count requirement, and a total miles-per-watt requirement. You can see what has been posted so far at http://naqcc.info/challenges/challenges201803.html. Final results will also be available there shortly after the 10th of the month.

PARTICIPATION ELIGIBILITY: Remember that participating in a combination of sprints and challenges will make you eligible for the top-tier prizes in our anniversary drawing in October. Eligibility details can be seen on the page for last year's drawing at http://www.naqcc.info/prize_drawing_13th_anniv.html.

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://www.naqcc.info/challenges_schedule.html.

NUMBER OF CHALLENGES	MEMBERS
25+	PA9CW NF1U WI5H KU4A K9OSC KD0V PA0XAW WY3H N1JI VE3HUR N9SE N1LU KD2MX WA2FBN
50+	VE3FUJ NU7T(SK)
75+	K1YAN K1IEE
100+	W2JEK N8XMS
125+	
150+	K3WWP

NAQCC AWARDS

We have an extensive list of awards that you can earn. Complete details can be found at http://naqcc.info/awards.html.

FEATURED AWARD: FRIENDSHIP CLUB AWARD

This month we feature our Friendship Club Award where the goal is to work, and get to know, your fellow club members. The basic award is earned with 200 points and there are endorsements for earning additional points beyond that level. A QSO with a member consisting of RST, QTH, NAME, RIG, WX, and NUMBER is worth 1 point. A sprint QSO is worth 2 points. But a rag-chew kind of QSO with a member where you learn at least one additional piece of information about the person beyond the 6 items listed above will earn you a whopping 4 points. A QSO with club call N3AQC or one of our N#A stations during our anniversary celebration is worth 5 points. You can find complete details about this award at http://www.naqcc.info/awards_workedmembers.html. You will also find on that page a link to a tutorial on how you can use GenLog to help keep track of your point progress.

RECENTLY ISSUED AWARDS:

1000 MPW AWARD

0541	WA4HCC	HA8RM	-	4,988	03/22/18 endfed @17'
0540	WA4HCC	OK2RZ	-	4,810	03/22/18 endfed @17'
0539	VE3CBK	XR0YD	-	1,086	03/21/18 20m Inverted V @20'
0538	VE3CBK	ZP6CW	-	1,005	03/21/18 20m Inverted V @20'
0537	K4KBL	3B8XF	-	1,983	03/19/18 OCF @50'

2x QRP AWARD - 1000 POINTS

0021 - KA5PVB	03/23/18	Nothing but Straight Key!

30-30 AWARD

0042 - G3JFS	Feb 2018	03/19/18	all DX Contacts

FRIENDSHIP CLUB - 800 POINTS

0015 - KU4A	402	03/16/18

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 Wayne, NQ0RP.

NAQCC NET SCHEDULE

Net	Local Time	UTC	Freq +/-	Primary NCS
FarnsWord 40 m QRQ Round Table Net (FRN)	Sunday 5:00 PM PT	Monday 0000 Z	7056 KHz	Rick, N6IET (in CA)
FarnsWord 80 m QRQ Round Table Net (FRN)	Sunday 7:00 PM PT	Monday 0200 Z	3556 KHz	Rick, N6IET (in CA)
FarnsWord 60 m QRQ Net (53N) (Starts immediately after the FRN 40m net.)	Sunday +/-6:00 PM PT	Monday +/-0100 Z	5348 KHz (Ch 2)	JB, NR5NN (in CA)
East Texas QRS Net (ETN)	Monday 7 PM CT	Tuesday 0000 Z	7065 KHz	Allen, KA5TJS (in TX)
Midwest Net QRS Net (MWN)	Monday 7:30 PM CT	Tuesday 0030 Z	7061 KHz	Bob, W0CC (in KS)
Rocky Mtn Regional/Continental 20/40 QRS Nets (RMRc)	Tues & Thurs 4:00/4:30 PM MT	Tues & Thurs 2200/2230 Z	14060/7062.5 KHz	Dale, WC7S (in WY)
West Virginia QRS Net (WVN)	Wednesday 9 PM ET	Thursday 0100 Z	3556 KHz	John, N8ZYA (in WV)
Pacific Northwest 80 m QRS Net (PNW80)	Thursday 7 PM PT	Friday 0200 Z	3556.5 KHz	Stewart, KE7LKW (in WA)

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

FRN/40m on 7056 ± 0.5 kHz at 5PM PT Sunday (0000 UTC Monday)
53N/60m on 5348 kHz at 6PM PT (or earlier) Sunday (0100 UTC Monday)*
FRN/80m on 7056 ± 0.5 kHz at 7PM PT Sunday (0200 UTC Monday)
*** 53N will start as soon as FRN/40 has closed (QNF) or the band went long on us and may start as early as 20 minutes before this scheduled time.**

March NAQCC FarnsWord QRQ 40/60/80-meter Round Table Net QNS

FRN/40m on Sunday at 5pm PDT (0000z) on 7056 kHz ± 0.5 kHz
Mar 04 - QNI (7) N6IET, KE6EE, N7HRK/m, K6GVG, KW6G, K6JJR, AI6U
Mar 11 - QNI (4) N6IET, N7HRK/m, KE6EE, K6GVG
Mar 18 - QNI (9) N6IET NCS, N7HRK/m, AI6SL, KE6EE, W7SAG/p, K6GVG, KW6G, NR5NN, N6KIX
Mar 25 - QNI (8) N6IET, W7SAG, AI6SL, K6JJR, K6GVG, KW6G, N7HRK/m, AI6U

53N/60m on Sunday at 6pm PDT (0100z)* on 5348 kHz (Ch 2)
Mar 04 - QNI (8) NR5NN, AI6SL, KE6EE, K6JJR, AI6U, K6GVG, N6IET, N6KIX
Mar 11 - QNI (3) K6GVG, N6IET, KE6EE
Mar 18 - QNI (6) NR5NN, KE6EE, N6IET, W7SAG/p, K6GVG, KW6G
Mar 25 - QNI (7) N6IET, W7SAG, KW6G, AI6U, K6GVG, AI6SL, NR5NN
* 53N usually starts a few minutes early, shortly after FRN/40 ends.

FRN/80m on Sunday at 7pm PDT (0200z) on 7056 kHz ± 0.5 kHz
Mar 04 - QNI (3) N6IET, KW6G, K6GVG
Mar 11 - QNI (2) N6IET, K6GVG, W7SAG
Mar 18 - QNI (4) N6IET, K6GVG, N6KIX, AI6U
Mar 25 - QNI (4) N6IET, K6GVG, K6JJR, AI6U

Commentary

We generally enjoyed good afternoon/evening NVIS conditions and strong signals on 60 and 80 meters in March, with the more direct sunlight and later sunsets. But with practically no sunspots and a low Solar Flux Index (SFI), NVIS max (fxF2) rarely climbs as high as 7 MHz these days, so FRN/40 often required relays between the closer stations.

We welcome all CW ops who can send and receive at least 15 wpm. The NCS generally sends at 21 wpm and might QRQ a bit toward the end of each net. We're trying to practice good word spacing for good head copy. NAQCC is a QRP club, so let's always use the minimum power needed for good communication. But we realize that, these days, 5 watts is often not enough power to be heard by most stations over such a large area (the entire Pacific time zone and parts of the Mountain time zone). So feel free to QRO when conditions warrant.

72/73/77,

Rick N6IET
==========

NAQCC East Texas QRS Net (ETN)
Monday evenings 7:00 PM CT, which is Tuesday 0000 UTC, on 3561 kHz +/-
Main NCS - Allen KA5TJS (Texas)

2018/3/6 QNI(3) NCS KA5TJS N5DRG KE5YGA
We had thunder storms move thru between 3 and 5 o'clock so we were still getting S9 QRN at net time. Managed to pull Andy out of the noise but Danny was +20 so no problem coping him.
We will be moving to DST next week so be seeing you on 7.065 +/- QRM at 00:00z. That is still 7:00pm CDT here.

2018/3/13 QNI(2) NCS KA5TJS AB0DK
Well the band was long for the first time no 40 meters this year after the time change and just had Dave (9209) check in last night. We traded QRP 2x reports of 559/569.
Hope for better conditions soon.

2018/3/27 QNI(5) NCS KA5TJS KE5YUM KE5YGA W5FUY N5DRG
Signals were great last night. I had to move up to 7.066kc due to traffic on 65 and that worked until we started getting Digital QRM. The QRP signals from 3 out of 4 stations were good. Hope the band conditions continue thru the summer for sure.
Welcome to David W5FUY and his first time check in.

Allen KA5TJS
==========

NAQCC MIDWEST QRS Net (MWN)
Monday evenings 7:30 PM CT, which is Tuesday 0030 UTC, on 7061 kHz +/-
Main NCS - Bob Tenny W0CC (Kansas)

2018/03/05 QNI (2) W0CC, WQ0G
Better band conditions. Kyle, WQ0G, was the only response, so we had a prolonged QSO with periodic checks for additional callers.

2018/03/12 QNI (2) W0CC, WQ0G
With the time change, tuned up in the gray zone and heard several stations, then the QRN began. Anxious for next week.

2018/03/19 QNI (1) W0CC
S 6-8 QRN. Some QSO activity adjacent to 7.061; however, could not get them to join net. Looking forward to next week.

2018/03/26 QNI (2) W0CC, KC9IL
S 7-8 with QSB. Warren, KC9IL, NAQCC #7610, did a GREAT job running 5 watts thru the QSB and QRM! The QRM forced a QSY to 7.062.The bands are improving. Excited for next week.

==========

NAQCC West Virginia QRS NET (WVN)
Wednesday evenings 9:00 ET, which is Thursday 0100 UTC on 7117 kHz.
Main NCS - John N8ZYA (West Virginia)

NCS N8ZYA - No check-ins tonight. The band was too long for local contacts.
However, I had an about an hour QSO with Dennis KT5D in Knoxville Tennessee. I love a good long chat with a good operator. I've not had much spare time these last several months and it was wonderful to just shoot the breeze. Dennis was using an old Johnson Viking Ranger at 50 watts and a simple dipole. The receiver tonight was a Collins 75 S.

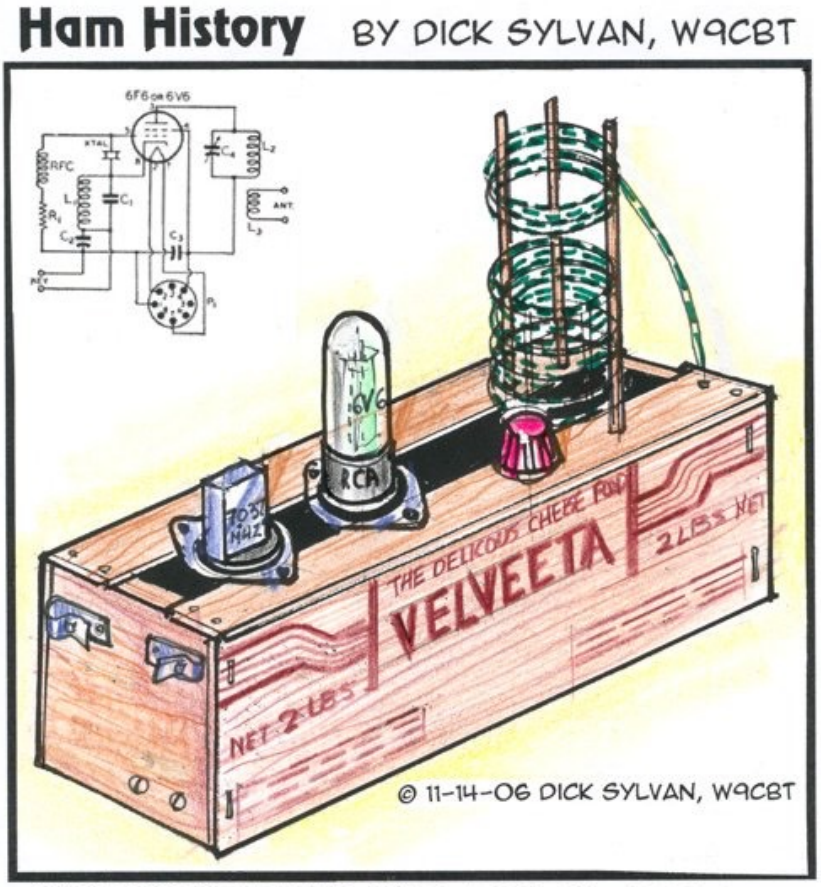
==========

NAQCC Pacific Northwest QRS 80 Meter Net (PNW80)
Thursday evenings 7:00 PM PT, which is Friday 0200 UTC on 3574 kHz.
Main NCS - Stewart KE7LKW (Washington State)

2018/03/02 QNI (5) NCS KE7LKW, KG7JEB, K7JUV, AD7BP, WB4SPB.
2018/03/15 QNI (5) NCS KE7LKW , KG7JEB, K7JUV/7, AD7BP, WB4SPB.
2018-03-23 QNI (4) NCS KG7JEB, WB4SPB, AD7BP, K7JUV
03-30-2018 QNI (4) NCS KG7JEB, WB4SPB, AD7BP, W7RX

HAM QUIPS

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.



RIGHT OUT OF THE 1947 ARRL HANDBOOK, THIS WAS MY FIRST RIG. IT RAN 8 W TO A 6V6 TUBE. I SWIPED MY MOM'S VELVEETA CHEESE BOX FOR THE CHASSIS.

NAQCC Chapter News

The North American QRP CW Club currently has seven local chapters - Western Pennsylvania, West Virginia, West Florida, Central Texas, Illowa, Delmarva, 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.

Chapter Reports Begin On The Next Page

CENTRAL TEXAS CHAPTER

Items in this section are from the Central Texas Chapter unless otherwise credited. Questions and comments should be directed to Danny, N5DRG.

The chapter is located in the Austin, TX area and maintains a website at http://www.naqcc-centraltexas.net/index.html.

Central Texas Chapter member Danny, N5DRG, is planning a SOTA activation later this month. Here is his announcement:

Saturday 21st April 2018 - ***15:00***

N5DRG *on* ***W5T/DE003*** - ***7.065-cw,10.120-cw,14.065-cw,146.52-fm***

7.065 to start, then 14.065 as band changes (Posted by N5DRG)

Depending on if I have cell phone coverage I will post changes to this via the NAQCC Central Texas Spots page, and the SOTA Watch II page.

If not may just have to watch the SOTA page for folks who may spot me on the cluster.... maybe.

DELMARVA CHAPTER

Items in this section are from the Delmarva Chapter unless otherwise credited. Questions and comments should be directed to Bill, N3IOD.

The chapter is located in the Delaware-Maryland-Virginia area.

No report available.

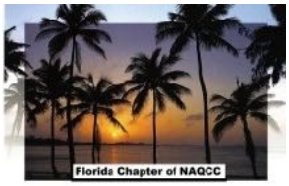
DOWNEAST MAINE CHAPTER

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 available.

NAQCC FLORIDA CHAPTER



Items in this section are from the Florida Chapter unless otherwise credited. Questions and comments should go to Steve, WB4OMM.

The Florida Chapter website is http://wb40mm.com/naqcc-fl-chapter.

NAQCC FLORIDA CHAPTER MEMBER NEWS: March 2018

Small Group.....Small Report!!!

On Friday, February 16, 2018 the Florida Chapter of NAQCC returned to a local park favorite for our monthly adventure. We held our latest “Operation in the Park” at Lake Ashby Park in New Smyrna Beach, Florida (as previously discussed, the park address is in New Smyrna Beach – but it’s 17 miles to the beach!).

The 64-acre rural park includes primitive tent camping, a playground, volleyball court, nature/horse trails, boardwalks, fishing pier, grills, and pavilions with picnic tables. It also offers a free public boat ramp nearby and a 3,500-square-foot children's play area that includes a variety of climbers, swings and ladders.

This popular waterfront park offers many outdoor recreational opportunities, including canoeing, fishing, walking and simply enjoying nature. Angling is permitted from a boardwalk and along the shore. Additionally, a launch site for personal watercraft is available. Lake Ashby was named for Major James A. Ashby, who helped lead American military forces during the Second Seminole War.

Most of our group couldn’t make it this month – work, personal obligations, and the cold weather (it was in the low 50’s when we started).

This trip we had a total of 3 members/operators in our group to include: Art WB4MNK #5274; KD4JS #8019; and Mike K8NS #8597. Thanks to John KD4JS for taking most of the pics again! Got there later than usual because of the cold WX which actually worked out pretty good.

John KD4JS #8019

As usual, John took care of the photos and QRPSPOTS postings for both operators.

Here he dutifully works his magic!

Thanks John!

Art WB4MNK #5274

Art's KX1 and a ground mounted 17' vertical for 20,30 and 40 meters

Art worked: 20M WA9TUT Dirk IL; WI5H Mike TX; AA8LF John MI; and VE7ACN/7 Mikhail BC

Also, he worked WI5H Mike in TX on 30M – a twofer!

Mike K8NS #8597

Mike's Station was a KX3 and a wire in a tree.

He worked:
40M W8ARC Bob WV.
17M PJ2/SP2GCJ and EA8PT

Nice DX!!

More Pics….

Art and Mike "making adjustments".....

Mike and John, "reaping the benefits"!

The WX turn out to be a beautiful day. We had a bunch of fun and enjoyed the outing very much.

Many thanks to those who listened for us and helped make this another successful NAQCC-FL event!

NEXT MONTH'S SCHEDULED EVENT:

Friday, April 20th, 2018 starting at 9:30 AM EDT

A NEW ONE! **Mill Lake Park (230 S. Orange Avenue, Orange City, FL)**

Park webpage with directions: DIRECTIONS TO PARK AND INFO

WHO: "The Usual Suspects" – Art WB4MNK, Steve WB4OMM, Rick AA4W, Don K3RLL, Wally KG4LAL, Bob W2EJG, John KM4JTE, John KD4JS, Phil NW4X, Nikki KM4SBQ, John W2IV, Doug W4DBL (and whoever else can make it).

Visit our Web Page:

http://wb4omm.com/naqcc-fl-chapter/

Look for our announcement!

***72/73 to all* – Steve WB4OMM, #5913 - NAQCCFL@yahoo.com**

NAQCC ILLOWA CHAPTER

Items in this section are from the Illowa Chapter unless otherwise credited. Questions and comments should go to Mark, K0NIA.

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/.

No report available.

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 at https://www.facebook.com/groups/967110089994401/.

No report available.

NAQCC WEST VIRGINIA CHAPTER

Items in this section are from the West Virginia Chapter unless otherwise credited. Questions and comments should go to John, N8ZYA.

The chapter's web site is at http://n8zyaradioblog.blogspot.com/.

No report available.

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.

March was another quiet month for WPA Chapter activities. A few get togethers with Mike is about all that went on. Not that those weren't good - they certainly were as always. However we are looking forward to more activities with more members when the weather finally decides to warm up.

On March 9 we had a Lenten fish dinner at a local file hall. Then here at home, we worked some DX and a special event station. The SE station was W5T observing the 104th anniversary of the battleship Texas. We also worked XR0YD which was Mike's first Easter Island QSO on QRP/CW. Oh yes Mike was a QRO/Phone op before I converted him back in early 2000s so he might have worked Easter Island on that other mode as he likes to call Phone now.

We had planned to have a Requin subpedition in March, but couldn't work out a sked with Art from the sub that suited us and him.

We had another Lenten fish dinner at the same fire hall on the 23rd. Then as usual when we get together, we visited my shack. We both worked LZ40MS on 40 meters, then we both got XE2I on 20 meters.

Then as we do every fourth Wednesday of the month, we got together for a pizza in the evening. After that though we didn't have any luck with working DX, so it was off to the computer for some hidden object games.

We also made some tentative plans for the month of April which hopefully include our postponed Requin subpedition. Another thing we have planned is a testing of our antennas here at home for Field Day in case we have to operate from here again this year. We plan to see if we can eliminate or at least lessen our interference with each other which we had last FD and also for our NAQCC anniversary operation of N3A in October.

That sums up March. Hope there is more to talk about for our April activity.

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.

From John, K3WWP, #0002 —

Not much to report for March. What there is can be found in my web site diary at http://k3wwp.com/home_ss_diary.html. I had a couple tough days with the DX streak, but it is still going. A couple of more than usually interesting QSOs. Also some chat about non-ham matters like my gardening, woodworking, Roscoe, and of course March Madness.

NAQCC Club Information

Statement Of Purpose

From 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 9000 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 Paul Huff, N8XMS
9928 Eckles
Livonia, MI 48150
USA

Additional contact information can be found on the next page.

NAQCC CONTACTS		
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NAQCC Vice President West Virginia Chapter	John - N8ZYA	jspiker58@gmail.com
Delmarva Chapter	Bill - N3IOD	william.hammond@mchsi.com
Downeast Maine Chapter	Jeff - KA1DBE	ka1dbe@arrl.net
Florida Chapter	Steve - WB4OMM	wb4omm@arrl.org
Western Pennsylvania Chapter	John - K3WWP	jsk3wwp@windstream.net
Central Texas Chapter	Danny - N5DRG	n5drg@naqcc-centraltexas.net
Illowa Chapter	Mark - K0NIA	iowamv@gmail.com
West Florida Chapter	Ron - N9EE	n9ee@tampabay.rr.com
Help For Beginners	Brion - VE3FUJ	ve3fuj@wightman.ca
Member Submissions Member Spotlight	Paul - KD2MX	kd2mx@arrl.net
NAQCC CW Nets	Wayne - NQ0RP	wayne.dillon@gmail.com