



North Fulton Amateur Radio League NFARL eNEWS

February 2020

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www.nfarl.org



President's Corner / John Norris, N4IHV

Amateur radio as a young man of 13 spelled a new adventure and one that must be investigated.

One of my friends had a Heath Kit Sixer with a wire antenna, which was my introduction. It was intriguing to me that someone could speak through a microphone with no wires to a phone line and get a response. I was hooked and had to know more. It was magic in the greatest sense of the word. My parents understood me well as an experimenter and adventurer at heart. They just wondered what I would do next. Here is an early part of the adventure.

I had no money for a tower and just dreamed of what I could possibly do to solve the problem. I had no trees for wires and a tower was my only solution as I saw it. One afternoon as I was riding my bike home from school I passed some linemen replacing power poles. The poles being removed were just placed beside the road. A great idea suddenly passed through my head. I could buy the old pole (new tower) and take it to my house.

Wait, I have no money and no truck and trailer to haul it. I solved the money problem as I thought weekly payments could be made from my work at the service station. I was stumped about the hauling issue. I decided to stop and try to make a deal. The head lineman wanted to know what I was going to do with the old pole and I told him my dream of a new tower for amateur radio. I asked him if I could purchase the old pole. He thought for a little time and then said he would just give it to me. Money problem solved!

He asked me what my plans were for moving it off the right of way. I told him I was still working out that problem and would have a solution soon. It became clear to all the linemen that I had no solution and they were all smiling. They looked at each other and the head lineman said they had decided to haul it to my house for free. What a day this had become. Free tower and free delivery! They loaded the pole and followed me to the house. I told them they could place the pole in the field beside my house. The dream tower has arrived.

Now all I had to do was dig a hole deep enough that the pole would stay in place. I got my Dad's hole diggers and started. I finally got the hole to the top of the diggers and could go no further. That just had to work. Fortunately the ground was very hard and stiff red clay. Now I am ready to move the pole to the hole. How to move a 45 foot long pole with one person?

(Continued on page 2)

President's Corner (continued)

I remember studying the Egyptians moving large stones with round timbers. I retrieved some pipe sections my dad had in the basement and managed to get them under the pole. Now I just had to drag the pole to the hole. After much tugging and straining the pole arrived at the hole.

A question suddenly jumped into my brain. How do I get the pole into the hole? Leverage is the answer and I contemplated my solution. My dad had a long rope in the basement and it was just what was needed. I tied the rope to the end away from the hole. Now all I had to do was hold the other end and climb on top of the house. I knew the angle would give me leverage to pull up on the other end of the pole and it would drop into the hole. Engineer in training!

Imagine for a minute, a 13 year old on the roof of a house pulling on a rope hoping a pole would fall into a hole. A pole at a 45 degree angle has a lot of weight pulling at the 13 year old. Never did this 13 year old think about being launched off the roof into the adjacent field when strength ran out. Miracles do occur! The pole actually came up enough to fall into the hole. I took a stick and packed rocks and dirt around the pole. All I had to do now was drive spikes into the pole as I climbed with a rope tied around my waist. I got to the top and climbed down to retrieve my handmade antenna. Hauled it up with a rope and somehow attached it to the pole. My dad was Plant Manager for Superior Cable Corporation and that is how I got the coax.

I never told my parents how I got the pole into the ground. Can you imagine coming home and seeing your 13 year old on the roof with a rope pulling on a power pole? Neither can I fathom that. This is one of my many adventures in my life as an experimenter.

Have a great February,

John
N4IHV, President NFARL

Treasurer's Report / John Tramontanis, N4TOL



As I am now in my second month as treasurer of the club, I want to pass on my thanks to the members for all of the assistance, patience, and support during the transition. There is a lot to learn and keep up with, as we have such an active organization and so much planned for the future.

I am especially thankful that our outgoing, and long time treasurer, Fred Moore N4CLA, has been available to tutor me and teach me the ropes about the existing systems and processes. Fortunately, Fred still plans to be active and involved in helping the club, so we will have the benefit of his experience to rely on as we progress.

If you have any questions about your account, the NFARL Mart, or ideas for club finances, please contact me at n4tol@arrl.net.

Thank you,
John, N4TOL

CPO Kits for Sale in the Mart / Jim Stafford, W4QO

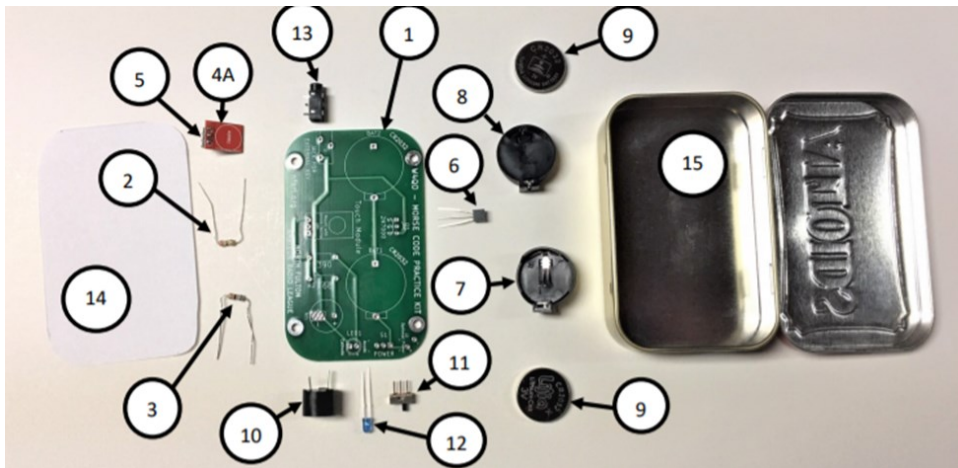
After a very successful Beta test at the October meeting of NFARL Jr, the club Code Practice Oscillator (CPO) kit was taken public at the GARS TechFest on Saturday January 18. About 40 kits were built or bought for later assembly at the TechFest. Aimed straightly at YOUTH, many NFARL members were Elmers for the soldering table which was extremely busy the entire time.



There are several neat and even unique features to this ultra-cheap CPO kit.

1. This CPO does not require a key. Yes, it has a touch pad that energizes the sound so that no key is required. If you have priced keys lately, they run from a low end of \$10 for a science class circuit closer to over \$100 for a fancy key. Around \$20 gets you to a somewhat usable key.
2. The CPO is designed to fit inside an Altoids tin (which is user supplied – buy a tin at your grocery store and see how many more friends you have!). For students, this is great as it protects your key in your book bag. To prevent draining the batteries, there is an ON-OFF switch. BUT YOU MUST ALSO USE A SMALL SHEET OF PAPER IN YOUR ALTOIDS TIN TO PREVENT BATTERY DRAIN. If you take these precautions, you'll get just about shelf life from the 2032 common 3 volt "coin" batteries. Why not use the NFARL CW SHEET? You'll find it on the website shown later! Cut it out yourself. Easy!
3. Low battery drain: If you were to hold down the "button", the batteries would last over 4 hours. If you were to leave the switch ON, the batteries would last 1.5 years!
4. Construction is very simple. It takes about 20 to 30 minutes to build and the pads are widely spaced for the novice builder. This is thanks to Warren KD4Z's great layout of the circuit board. There are only a little over a dozen parts. Kit instructions are available [here](#).
5. May use an external key: If you have a straight key, you may plug it in by using a stereo 1/8" plug into a mounted 1/8" jack.
6. Volume control? Well, there is a nifty way to control the volume. DON'T discard the small sticker over the sounder. Expose just enough to get the desired volume. Keep it low, kids, so as not to irritate your parents!

So that's it! The CPO is now for sale on the [NFARL Mart](#). The price is \$10 each, which includes tax and shipping to U.S. locations (allow up to 3 weeks for delivery via mail) It includes all the parts to assemble your own Code Practice Oscillator. An optional Altoids tin for storage is not included.



Making a New Ham's Day / Martha Muir, W4MSA

As I was taking photos at TechFest, trying to capture the fun, focus, and newly learned skills of the guests who were participating in the NFARL Code Practice Oscillator (CPO) building project, I took photos of folks that I know as well as those I do not. Shortly before heading out to enjoy the entries in the chili contest, I took the photo of Stuart AK4EX and a man in the plaid shirt.



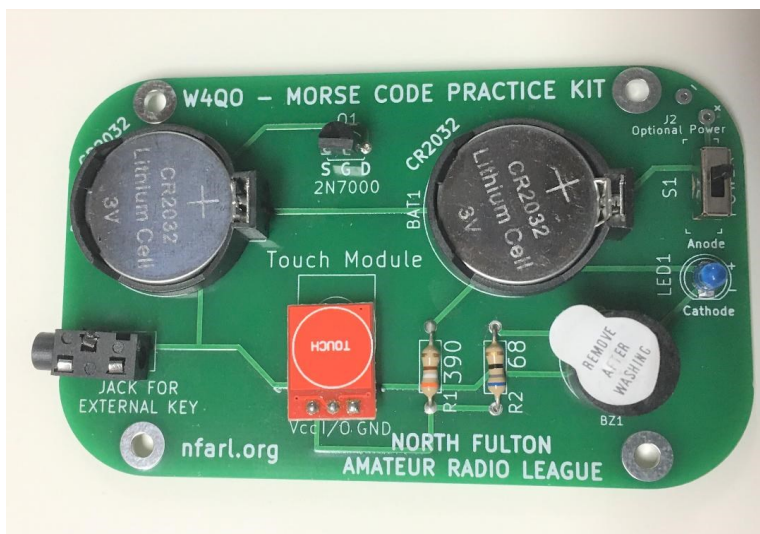
If you were at TechFest, you know that empty tables and chairs are scarce, especially during lunch. I was fortunate to find a place to sit with Steve N4TTY and some others. After a while, the others wandered off and Steve and I continued talking. Soon the man in the plaid shirt came to the table where Steve and I were and asked if he could sit in an empty chair to enjoy his lunch. He introduced himself as Luis.

Luis stated that he had just earned his Tech license the previous Monday (remember, TechFest was on Saturday so he had been a ham less than a week at that point). Luis asked what clubs we were members of. Steve stated he was with the Alford Memorial Club in Stone Mountain. I pointed to the logo on my green shirt and said that I was with the North Fulton Amateur Radio League.

A giant smile came to Luis' face. Pulling an Altoids tin out of his shirt pocket, he exclaimed "I just made this with the North Fulton club!" I asked if I could get a picture of him and his CPO to share with my friend who couldn't be here today. I pointed out his call sign on the upper left corner of the circuit board. The smile got even bigger. "You know the guy responsible for this?" This made him even happier.

It turns out that Luis lives south of Atlanta, probably too far to get actively involved in NFARL so I introduced him to another ham who lives in the same town as Luis does. It appears they formed a fast friendship.

Thank you again, Jim W4QO, for designing this CPO. Thank you Warren, KD4Z, for getting the circuit boards printed. Thank you NFARL mentors who helped all the folks, including Luis, successfully build their CPOs. That refreshingly small kit build had a positive impact that has extended further than probably any of us had imagined. You all definitely made Luis' day.



Extra Extra! / From the Extra Class Question Pool

New info for Technicians and Generals and a refresher for Extra Class Licensees!



E4C04 — How is the noise figure of a receiver defined?

- A) The ratio of atmospheric noise to phase noise
- B) The ratio of the noise bandwidth in Hertz to the theoretical bandwidth of a resistive network
- C) The ratio of thermal noise to atmospheric noise
- D) The ratio in dB of the noise generated by the receiver to the theoretical minimum noise

Studying for your Amateur Extra-class license?
The [current question pool](#) is effective through June 30, 2020.

The new Amateur Extra-class license examination question pool, effective from July 1, 2020, through June 30, 2024, has been released and is available at the National Conference of Volunteer Coordinators (NCVEC) [website](#).

Ian NV4C and his team hold license test sessions on the second Saturday of each month. For more information including upcoming test dates, [click here](#).

Contest Corner

- 2/29/20 to 3/01/20 [South Carolina QSO Party](#)
- 3/01/20 [North Carolina QSO Party](#)
- 3/07/20 to 3/08/20 [ARRL International DX Contest, SSB](#)

2020 Georgia QSO Party / John Tramontanis, N4TOL

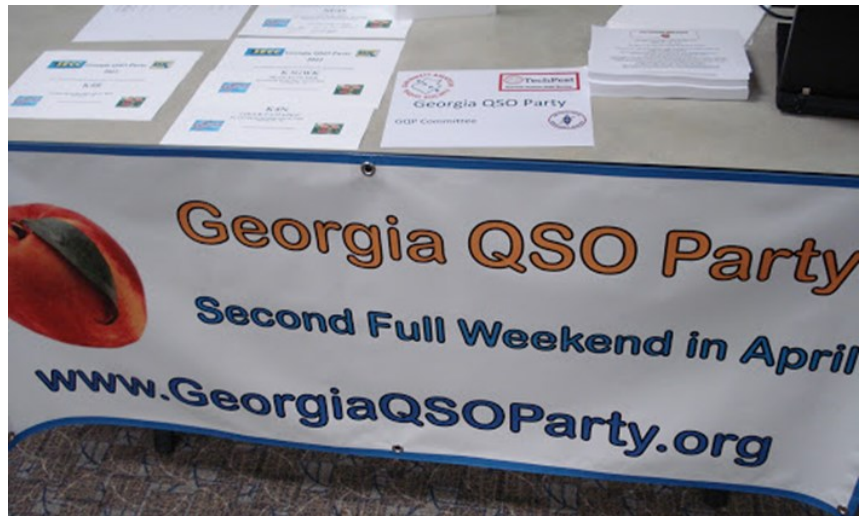
The 59th running of the Georgia QSO Party (GQP) will take place on **April 11-12** this year.

The object of the GQP is for amateur radio operators outside of Georgia to make on the air contacts with stations located inside the state of Georgia, and for amateur operators in the state of Georgia to make contacts with all other hams both inside and outside the state of Georgia.

This is a great opportunity for Georgia stations to "Get On the Air".

Have you been avoiding HF operation due to lack of activity and weak band conditions? Are you despondent that Solar Cycle 24/25 minimum [may occur in April 2020](#)?

The GQP will provide a remedy for any despondence due to lack of band activity by putting Georgia, and you, on the air. This is a great opportunity to "tune up" your station, antenna(s), and software and allow you to "be the DX." You can practice "running," calling CQ and letting other stations come to you. And, as the solar cycle will soon be on the upswing, you and your station will be ready to take advantage of the improving band conditions.



The members and friends of the North Fulton Amateur Radio League have always been key participants in the GQP. We will be discussing club plans and details for the GQP in the coming weeks. All NFARL members are encouraged to participate as part of the club GQP team in this year's event. We can all compare experiences and stories, and most importantly have a lot of fun!!!

Please visit <http://georgiasqso.org/> for detailed info on the event.

73,
John Tramontanis N4TOL



NFARL Upcoming Events and Dates

- **Every Sunday — NFARES net** - 8:30 PM - 147.06 MHz (+) PL 100
All licensed hams are welcome, you do not need to be an ARES member!
Check NFARES.org for more information.
- **Every Monday — Tech Talk** - 8:30 PM - 145.47 MHz (-) PL 100
NFARL's flagship technical based "non check-in" net. The net is always better when using the web based chat room but Internet is not required to join the net.
Check NFARL Nets website for more information and "how to".
- **Every Wednesday — Hungry Hams Lunch Bunch** - 11:15 AM
Location: Slope's BBQ, 34 East Crossville Road, Roswell, GA 30075
Meet with your fellow club members every Wednesday!
- **Every Thursday — YL OP Net** — 8:00 PM - 9:30 PM - 145.47 MHz (-) PL 100
Check NFARL Nets website for "how to." This is a great opportunity for YL's to get on the radio with other YL's! OM's (guys) are welcome to listen in to this YL net.
- **Every Saturday — Royal Order of the Olde Geezers Breakfast** - 9 AM
Location: Reveille Café, 2960 Shallowford Road, Marietta, GA 30066 You don't need to be old or a geezer to join this breakfast get-together, everyone is welcome!
- **Second Tuesday — NFARES Meeting** - March 10, 2020, 7:00 PM - 9:00 PM
Location: Fellowship Bible Church, 480 W. Crossville Road, Roswell, GA 30075
Check NFARES.org for more information.
- **Second Saturday — VE Testing** - March 14, 2020, 10:00 AM
Location: Alpharetta Adult Activity Center at North Park
13450 Cogburn Road, Alpharetta, GA 30004 NFARL provides amateur (ham) radio test sessions! All exam modules are offered at all sessions. Walk-ins are welcome, no appointment is necessary. For more information please see our website.
- **Third Tuesday — NFARL Club Meeting - February 18, 2020, 7:30 PM**
Program: "Tower Safety" presented by Tim Duffy, K3LR
Social gathering 7-7:30 PM
Location: Alpharetta Adult Activity Center at North Park
13450 Cogburn Road, Alpharetta, GA 30004
- **Fourth Tuesday — NFARL Executive Team Meeting** - February 25, 2020, 7:00 PM
Location: Arbor Terrace at Crabapple, 12200 Crabapple Road, Alpharetta, GA 30004
Meetings are open to all NFARL members. Space is available on a first arrival basis.
Please contact the President to ensure available space.
- **April 11-12, 2020—Georgia QSO Party!**
- **June 27-28, 2020 – Field Day!**



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North Fulton Amateur Radio League

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nfarl.org

eNews can be located online at:
<https://www.nfarl.org/enews/eNewsIndex.html>

Club Repeaters

Frequency—Description	P.L. Tone	Location
145.470 (-) EchoLink Node 560686 NF4GA-R	100 Hz	Morgan Falls
147.060 (+) Primary ARES Repeater	100 Hz	Roswell Water Tower
* 224.620 (-) Joint Venture with MATPARC	100 Hz	TBD
443.150 (+)	100 Hz	Roswell Water Tower
444.475 (+)	100 Hz	Morgan Falls
* 927.0125 (-)	146.2 Hz	TBD

** Currently off the air*

Club Callsigns: NF4GA and K4JJ

Extra Extra answer: D (question E4C04)

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