

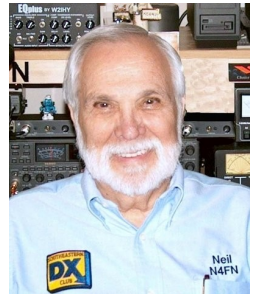
	<p><b><i>North Fulton Amateur Radio League NFARL eNEWS</i></b></p> <p><b><i>July 2023</i></b></p> <p><b><i>Over 42 Years Promoting Service   Friendship   Education   Fun</i></b></p> <p><a href="http://www.nfarl.org">www.nfarl.org</a></p>	
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***Neil Foster, N4FN – The Art of QSLing / Steve Randall, KO4VW***

It's July, and if you haven't done so, a great time to start sending those QSLs to all the contacts you've made during the first half of 2023! Join us on July 18, 2023 for our monthly club meeting, where Neil Foster, N4FN, who may be one of the consummate practitioners in the art of QSLing walks us through what it takes to participate in this aspect of Amateur Radio.

For those who may be new to Amateur Radio, a QSL card is used as a confirmation of RF contact between radio operators. It is usually mailed by one operator to the other following the contact, and includes the basic details, or log information, of the contact. It may also contain a short message and a custom graphic associated with the contact station. Neil will show us what a QSL card consists of, where to obtain them, how to send them and methods for managing cards received from others. Below you'll find a little background info on Neil, which will give you a foundation al level of appreciation regarding his Amateur Radio knowledge and experience.

Here's the background on Neil; First licensed in 1960, in 1984 he upgraded to 20 wpm Extra and when vanity licensing became available, he became N4FN (his initials reversed). He has been active in the Atlanta Ham community for many years having served as President of the QCWA, Atlanta Radio Club (twice), the Southeastern DX Club, as well as holding officer positions in those clubs. Still a member of the SEDX Club, he is also a member of the North Fulton ARL, where he currently serves as QSL Manager and previously as past President.



As an active DX'er Neil has 347 country/entities confirmed along with 12 DXCC awards (8 Band DXCC) and DXCC Honor Roll. Of all the ham radio awards he has, and there are a bunch, Neil is proudest of the Arabian Knights Award (number 568 in the world) and the Royal Jordanian Silver Award (number 191 in the world) from the Arabian Amateur Radio League issued and personally signed by King Hussein of Jordan JY1. Also noteworthy is his receipt of The Commonwealth DX Award (number 332 in the world) issued by the RSGB. Neil holds the British Class A license call sign, G0NBJ, in addition to N4FN. Neil has operated from 13 DXCC countries. The station at home is a Yaesu FTdx101MP and a Elecraft K4D. For HF he uses a K4KIO Hex beam antenna, a GAP Challenger and SteppIR Big IR. When required he can add a bit of power with the Elecraft KPA 1500. Sixty-three years of Ham Radio in January 2023 and Neil professes "it is still magic."

Join us at Preston Ridge Community Center, 3655 Preston Ridge Road Suite 100, Alpharetta, GA 30005 for the meeting. The facility's doors will open by 7:00PM. Our meeting will begin at 7:30PM and should conclude by 9:00PM. Unable to join in person? We'll run a Zoom conference connection. Use this link: <https://us06web.zoom.us/j/86255827457?pwd=a1FHR3F1bDBqMUVuY3plMDdFa2VMQT09>

Meeting ID: 862 5582 7457      Passcode: 584698

Need more meeting information? Please visit our web page at <https://nfarl.org/club-meetings/>

**We are looking forward to seeing you Tuesday evening!**

### ***Have You Been on VHF Lately?***

When was the last time you made a contact on VHF? Was it during a Net? Were you mobile? Or, were you operating from your home station? Who did you contact? Was the contact with a new Ham? A club member? An operator just passing through the area? Did you use EchoLink? Were you running Simplex or through a repeater? Why were you on VHF? Did you forget that the amateur radio 6M band is considered VHF? Thirty MHz to three hundred MHz, that is a reasonably big spectrum spread to play in. Of course, there are a few band plan matters to consider. However, the amateur bands are ranges where license holders from Tech to Extra can play, DX and local traffic as well.

How would you best describe your VHF operating capabilities? Do you have the means to cover all the available bands and modes? Are you interested in any one particular area of the spectrum? Maybe you just stick to the 2M band, mostly focused on mobile operations? Or perhaps, satellite communications are your primary interest in this spectrum. Whatever piques your curiosity regarding Amateur radio operation in the VHF realm, we'd be interested in knowing something about it. Drop us a note at [president@nfarl.org](mailto:president@nfarl.org) or, catch up with me at a club function and fill me in.

In the meantime, enjoy Amateur Radio in the manners you find interesting. Stay safe, but get on the air!

de 73,

Mike Riley  
NFARL President

## ***JULY QST LISTS NFARL AS A MAXIM SOCIETY DONOR / Wes Lamboley, W3WL***

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Over the past few years NFARL has now donated more than \$25,000 to the ARRL Foundation, putting us into the Ambassador Class of the Maxim Society.. The donations were earmarked for the ARRL Scholarships program and the ARRL Teacher's Institute. The funding was made possible through the monies collected at our annual HamJam event in November.

We bring this to your attention to let you know that as club members, you've been responsible for achieving this recognition. Thank you for your continuing support to these areas through participation in our programs such as HamJam.

You can see the complete Maxim Society donor listing beginning on page 31 in the July 2023 issue of QST.

# ***NFARES Update / Bill Largin, KN4DLE***

## ***June and July were busy times for the NFARES Team***

### **Field Day**



During Field Day, NFARES conducted a demonstration showcasing the setup of multiple portable stations that operated with battery and generator support.

The operators demonstrated how voice communication and text messaging could be helpful in emergencies. They showed the ability to send computer-generated text between two stations and send/receive standard emails without internet connections.

Using the digital mode transmission, the NFARES contributed 300 points by completing a series of sample emergency communication messages.

The best part is when visitors stop to ask questions about what ARES can contribute to our communities. Questions range from "Why do we need Ham radio in an emergency when we have cellphones and the internet?" to "How do I get involved in ARES and Emcomm?" We enjoy great conversations and share our excitement about ARES.

Thanks to Grant KK4PCR (ARES Field Day Captain), Mike (AD4MC) our offsite anchor, Jim (K4OFV) sending and receiving digital messages, Tammy (KK4USM) answering questions and supporting the group, Bill (KN4DLE) sending and receiving digital messages. Joy (AJ2Y) did a great service by capturing the Field Day Bulletin via CW and transcribing the content.

Thanks to everyone at NFARL for putting together a fantastic event and an amazing Field Day experience.



### **July Fourth**

#### Peachtree Road Race



For this year's Peachtree Road Race, the Medical Branch Director of the Peachtree Road Race approved the use of GMRS operators to support of the race on July 4, 2023! The GMRS user acted as part of the ARES Group, supporting the entire event. NFARES supported the event by coordinating the GMRS Net.

The GRMS operators (Rovers) were assigned to patrol the "Meadow" in Piedmont Park, where runners gather at the finish line. They provided critical communication to the command center when a runner suffered an illness or was in distress after the 6-mile race.

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## ***NFARES Update / Bill Largin, KN4DLE - continued from previous page***

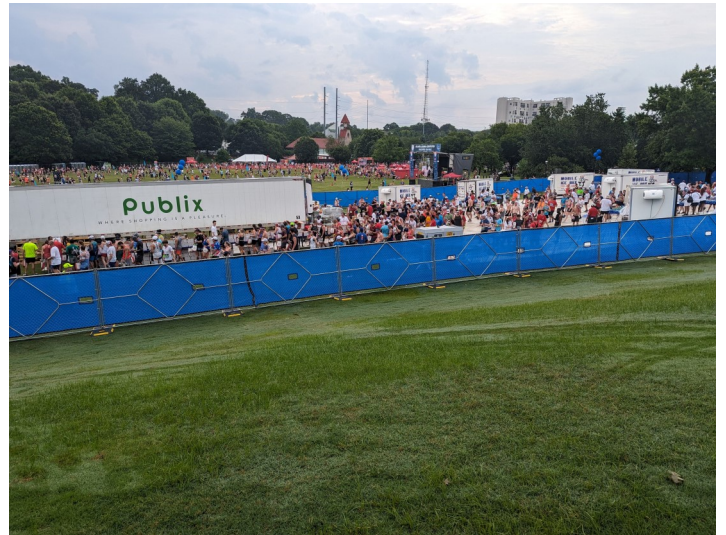
Additionally, they assisted with other health issues in the crowd or separated family members, making it easier for First Responders to locate those in need.



When a runner in the finish area was in trouble, the command center would dispatch a Rover to locate them. The Rover would guide the First Responder to the site using a visual marker (an umbrella) and call for aid if anyone else was in distress. Despite over 40,000 people passing through the finish area in just a few hours, the Rovers were able to help countless people and arrived at the scene first in over 15 incidents.

Severe storms caused the cancellation of all activities in the Finish Area. The Rovers continued to assist, advising people to seek shelter and evacuate the park.

The GMRS Rovers successfully completed a new process despite rain, fatigue, and long hours. They received positive feedback from the Medical Branch and Emergency Response Management and look forward to working with Peachtree Road Race again.



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## ***NFARES Update / Bill Largin, KN4DLE - continued from previous page***

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Dale (KO4STE) and Steve (KQ4EIQ) are NFARES members that were part of the sever person Rover Group. Also, Dale and Steve we critical in recruiting the other operator that made up the team. Bill (KN4DLE) helped to coordinate the operations and communicate with the Command Center.

Other operators that served:

- Liz Todd
- Tammy Largin
- Nathan Parrish
- Karen Ngowe
- Lynette Todd

### Stars and Stripes Celebration Fireworks on Tuesday, July 4th



The NFARES group also supported the city of Sandy Springs during the Fourth of July Celebration. The NFARES has enjoyed supporting this event several times in the past, and this year was no exception.

The NFARES monitors the parking lots and provides essential updates to the Sandy Springs Police Department. Our highly visible group (Yellow Vest) also helped to keep the public informed and reduce the amount of non-emergency traffic on the 911 system. This year, we had the added element of severe storms hitting the area during the celebration. Our ARES operators help communicate the hazards and keep the public informed.

The night ended with a fantastic fireworks display. The City let us know they are delighted with our service and look forward to working with us again.

Bill (KN4DLE) operated from the Incident Command, with support from Robert (AJ4RJ) and Abby (KQ4JEU). Darren (K4DMN), Steve (N4SMK), Jacob (KQ4JEN), and Rebecca (KQ4JEO) monitored important parking locations and provided timely information to SSPD on capacity and availability. Jim (W4IU) was assigned the launch area, providing insight and communications. Mike (AD4MC) served as the off-site operations, providing critical information about the overall plan and important weather reports when the storms rolled in.



Bill Largin, KN4DLE

## Lesson Learned from Field Day – / Dave Bisciotti, KO4USA

I purchased a small portable generator from Tractor Supply not too long ago. It was inexpensive, on sale, and looked to be just the ticket for “off grid” operations as needed. Well, this past Field Day, I tried using it to provide power for our Phone Station. Boy, did I get a lesson about Inverter Generators. UGHHHH...

The generator’s inverter was producing a lot of noise and it was being passed down the AC power line and passed through the Power Supply. The noise overwhelmed the radio on all the lower frequency bands. The Bands 80-40-30 and partially 20 meters were swamped with what can be described as an AC hum. Thank goodness we had another generator to put in place to operate with!

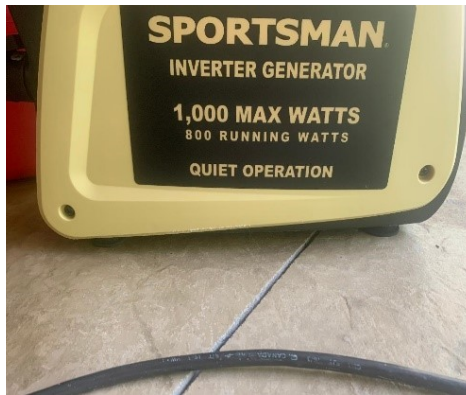


Figure 1



Figure 2



Figure 3

When I got home, I wanted to recreate the setup we used at Field Day to accurately assess the noise details. So, I set up the generator, power supply, radio and test equipment to take a closer look. On the surface the power line looked OK. (See figure 3) All the specifications looked good.

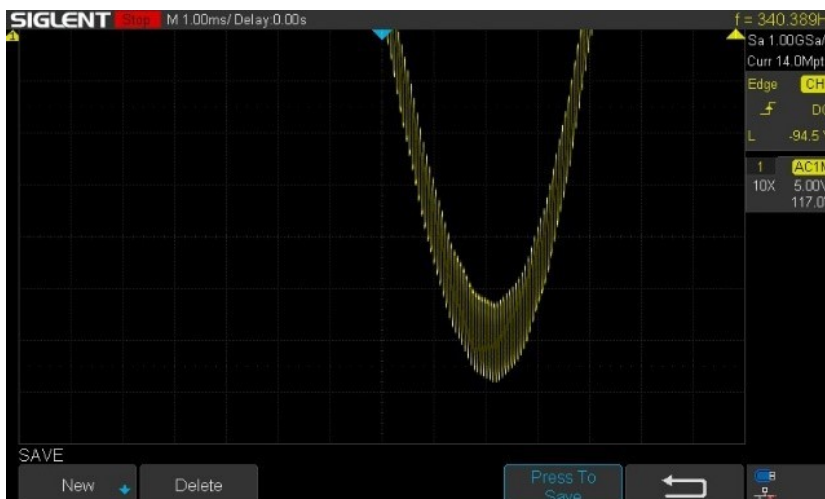


Figure 4

Upon closer inspection, there was high frequency noise on the AC waveform. (Figure 4)

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## Lesson Learned from Field Day – / - continued from previous page



Figure 5



Figure 6

I turned on the radio and observed a massive amount of noise on the waterfall display (see Figure 5). Then, to verify that the noise was coming into the radio via the AC power line, I ran it on an external battery and left the generator running. On Battery, all the noise disappeared. (Fig 6)

The next step was to figure out how to filter the noise coming from the generator. I was sure I

📌 Noise Suppressor Power EMI Filter Termination Single-Phase Line-Conditioner JRELe AC 115/250V 20A CW4L2-20A-S

Brand: JRELe

4.2 ⭐⭐⭐⭐☆ | 97 ratings | 10 answered questions

Amazon's Choice in Electromagnetic Interference Filters by JRELe

\$15.99

📦 Prime Two-Day FREE Returns

- The equipment of laboratory, Communication transmission system equipment, Uninterruptible Power Supply, Medical equipment, Servo frequency control equipment, Automation equipment, Precision machinery
- Highst Test: 1450VDC 2sec (L to N), 1450VDC 2sec (L to N), 1500VAC 2sec (L/N to G), Working Temperature 25/85/21 (-25°C to +85°C)
- Product size: 74.5x50x29mm, Net Weight: 189 G
- Rated Voltage 125/250VAC, Operation Frequency 50/60Hz, Rated Current 1-20A
- Notice: The filter must connect the ground wires, otherwise, the effect shall be reduced by 50%.

📄 Report incorrect product information.



Figure 7

I needed to add a filter / noise suppressor to successfully clean up the power line. A quick search on Amazon revealed an affordable line filter (Fig 7). I also decided to twist / braid the wiring for the toroids. Doing so would improve noise cancellation. (See figure 8). I also decided to wind two toroids, one FT240-43 and one FT240-31.

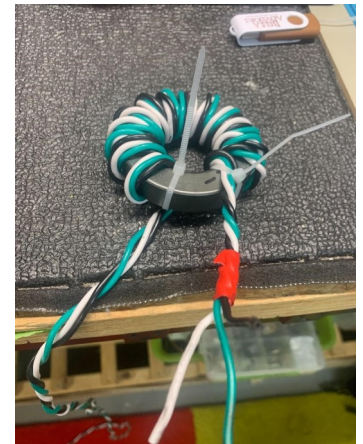


Figure 8



Figure 9

I wired them in series on the load side of the noise suppressor filter. (See Figure 9). I added a plug on the generator side (input) of the filter. I kept the lead length purposely short to minimize the distance from the "noise source" (i.e. Generator) – This will reduce the possibility of the power cable radiating the noise before it gets to the device.

Continued on next page

## ***Lesson Learned from Field Day – / - continued from previous page***



The "load" side of the device was built with a receptacle to accommodate whatever needs to be plugged into for power. When I tested the device, I ran a 25' extension cord to the Radio's power supply. The results were terrific!

*Figure 10 Plug on the generator side and receptacle on output*

Take a look at the results. Figure 11 is the radio's waterfall without filter device in the power line and Figure 12 is the radio's waterfall with device inline. A huge difference.



*Figure 11— **without** the filter device*



*Figure 12— **with** the filter device*

The project only cost me about \$30 dollars. Much better than buying a new generator! This filter can also be used in your shack as it will take care of noise coming in from your household mains or grounds and will also prevent noise from your radio getting back into the power lines..

Call me if you have any questions.

Dave Bisciotti  
KO4USA



## ***NFARES Has Renewed EchoLink / Mike Cohen, AD4MC***

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### ***Setting up EchoLink for our 147.06 Repeater on the Roswell Water Tower***



For those not familiar with EchoLink,

EchoLink® software allows licensed Amateur Radio stations to communicate with one another over the Internet, using streaming-audio technology.

The program allows worldwide connections to be made between stations, or from computer to station, greatly enhancing Amateur Radio's communications capabilities. There are more than 350,000 validated users worldwide — in 159 of the world's 193 nations — with about 6,000 online at any given time.

It is available for Apple, Android and Windows PCs <https://www.echolink.org/>

Several years ago, one of our active NFARES members, Scott Dunbar, N4SBD – SK, graciously offered to set up EchoLink at his home for our 147.06 repeater. We greatly enjoyed and appreciated this service. Sadly, Scott suddenly became a silent key at a very young age.

For many months, NFARES did not have EchoLink capabilities. To get us going again, Grant, KK4PCR, offered to set up the EchoLink station at his home. This was quite a challenge, because the existing setup included a now unreliable Windows 7 PC.

With support from Mike, KN4OAK and Wes, W3WL, NFARES was offered one of the 8 laptops purchased for Field Day to use as our dedicated EchoLink PC. Dave, KO4USA, made a special trip the same day bring it to my home so that I could try to set it up for Grant, who was away for the weekend.

Does anyone know what Port Forwarding or IP Allocation on a home Internet router means? Well...we sure didn't and after many hours of trying to climb a very steep learning curve, only with the patient and competent help from Mike, K5JR, and Robert, AJ4RJ, were we able to complete the setup.

Now, we can again welcome remote check-ins to our Sunday Night NFARES nets and we also use it while on our Wednesday night Fun Nets enabling us to have simultaneous VHF and HF communications.

**You can find us at NF4GA-L, node 889158.**

(Note that the NFARL 145.47 repeater also has an EchoLink system, NF4GA-R, node 560686.)

Join us - from anywhere - for a friendly QSO.

Mike Cohen, AD4MC

## ***Congratulations New & Upgraded Hams! / Wes Lamboley, W3WL***

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Well, I am very glad to report that our License Exam candidates have done it again! All six candidates successfully completed their exam objectives this month! Please congratulate them when you see them again, or drop them a note. Their email address is shown in the table below.

While you're thinking about this, don't forget to thank our VE Team for the support and encouragement they provide. You'll also want to thank Slope's BBQ for their gracious hospitality in providing the facility space for testing! Please do so at your next Hungry Hams visit!

de 73

Wes, W3WL

<b>Candidate Name</b>	<b>Email</b>	<b>Call (if applicable)</b>	<b>Test</b>
Ryan Hamilton	<a href="mailto:rhamilton7@icloud.com">rhamilton7@icloud.com</a>		General
Steven Sheffield	<a href="mailto:ssheffield4991@gmail.com">ssheffield4991@gmail.com</a>		Tech and General
Michael Norton	<a href="mailto:mnorton1970@sbcglobal.net">mnorton1970@sbcglobal.net</a>	KG5SRG	General
Lee Howard	<a href="mailto:leehoward4494@gmail.com">leehoward4494@gmail.com</a>		Tech and General
Devin Childress	<a href="mailto:devinchildress@gmail.com">devinchildress@gmail.com</a>		
John Schult	<a href="mailto:johnschult@me.com">johnschult@me.com</a>		Tech

## ***Letter to the Editor / [enews@nfarl.org](mailto:enews@nfarl.org)***

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Beginning with May 2023 NFARL eNEWS, we began to run a "Letter to the Editor" column where we're inviting readers to provide feedback on articles, comments on the presentation of articles, suggestions for improvements, comments and viewpoints on amateur radio related topics of interest, and observations on the North Fulton Amateur Radio club operations.

You are invited to submit your articles, notes, comments, etc., to [enews@nfarl.org](mailto:enews@nfarl.org). Items submitted before the 2nd Friday of the month will be included in that month's edition of enews. Submissions after the 2nd Friday will be included in the following month's edition. You may get a response article from the enews editor, or you may not, depending on the content and nature of the article submitted.

*So far (as of July 2023), we haven't received any input. Either that means no one is reading the newsletter, or it is just fine the way it is...*

## The Beer Can Vertical

Across one's ham career a few things will stand out. Unforgettable QSOs. Rare DX never to be worked, then worked. Awards just out of reach. Friendships. Novel ideas, like making antennas out of beer cans.

I've had more than a passing interest in beer can verticals. The concept has a rich, frothy history. It's my belief everyone should try one at least once – both the antenna and the can preparation. Beer can verticals put out great signals and are an endless source of bemusement.

"What's the antenna there OM? You are S9 + 40!"

"Beer can vertical"

"Tell me more! Where did you get it?"

"Made it myself, starting with emptying the cans"

Beer can verticals have never been for sale. There've been no kits either. The main component (steel beer cans) was available in grocery stores for decades. Beer can verticals are built from scratch – each with its own nuances.

The first instance of a beer can vertical was documented in QST, November, 1955. The article was written by Pete Czerwinski, W2JTJ. The title of the article is stealthy (planned?). You can't find it in the QST archives by searching for "beer" or "beer can." The title is: Budget 7-Mc. Vertical Antenna.

The article is a great read. It's instructive. It's amusing. It's a real thing. It's not in an April issue.

W2JTJ did, in fact, solder 82 beer cans together to make a 40-meter vertical. The bottom can had the end removed – it rested on a "jim-dandy quart-sized soda bottle" – the base insulator. Soda bottles were glass in 1955. The vertical was guyed at two heights using "plastic clothesline." A picture of W2JTJ with his antenna is shown in Figure 1.

Here is the material list, circa 1955:

Adjusted for inflation from November, 1955 to May, 2023, that's \$77.44 in today-dollars.

Note the cost of the beer and beer cans was listed as zero. It was an article of faith that 82 empty beer cans would be available, antenna project or no antenna project.

Bringing the design up to date would require surprisingly few changes. It might even be possible to build one for \$77.44, the inflation adjusted budget. Yes, this is a personal challenge. Let us know how it turns out.

<u>Item</u>	<u>Cost</u>
82 beer cans	\$0
200 ft. plastic covered clothesline	\$1.80
3 guy-line insulators	\$0.36
1 soda bottle	\$.05
1 hank of solder	\$0.25
130 feet aluminum wire (radials)	\$2.50
4 pieces - brass welding rod	\$0.50
1 can, pressurize aluminum paint	\$1.39
Total:	\$6.85

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### Thoughts on Replicating it Today

A 1950s quart-sized glass soda bottle can be purchased on eBay for \$5.

Knowing what we know now, the four 32 foot long buried radials would be better at around 22 feet and made from copper wire, not aluminum. The Wireman sells suitable copper wire for \$0.10/ft., so that's \$8.80 for the radials.

Call on your ingenuity to update the clothesline guy wires. One possibility: 210 yards of 50 lb. fishing line can be had at Walmart for \$5.53.

The elephant in the room is the beer cans. In 1955 beer cans were made of heavy-gauged steel, coated with tin. The rims were easy to solder to. Today's beer cans are made from thin-walled aluminum, both too flimsy to stand 32 feet vertically and nearly impossible to solder to. There has been recent progress on these issues however, which I cover below.

Individual 1950s steel beer cans cost around \$7 on eBay. 82 of them would cost close to \$600 – that's inconsistent with the "budget" design philosophy. Searching eBay for "Large lot of steel beer cans" was more encouraging. I found a lot of 20 assorted steel cans for \$4.99 + \$10.64 shipping. Some listings include the words: "Or best offer." With diligent shopping, 82 cans might be found within the \$77.44 budget. If not, the antenna could be completed for around \$100 – still a "budget" antenna. An aside: eBay beer cans from the 1950s arrive empty.

The remaining task would be finding a suitable "hank" of 60/40 solder. Once again, eBay is a good bet.

### An Editorial Remark

From the time this antenna design first surfaced, well meaning but misguided persons have suggested soda cans and even SOUP CANS could be substituted. Setting aside the puns that come to mind, I have never encountered a successful "soup can vertical." Can antennas of the non-beer variety are wrong on every level.

### Can Antenna History

My brother-in-law Mike, WS4Q (WN2GJG in those days), built one in 1964. I helped with the soldering. I recall the first attempt to put it up resulted in it folding over somewhere near the middle. After repair and with a larger crew (three of us) we managed to get it vertical without crimps or folds. It was a fine antenna. Those beer cans worked a lot of nighttime DX on 40. To this day Mike may hold the beer-can DXCC record (and not realize it).

At this point I'll confess I built one of these antennas myself. Mike's success was inspiring. I completed construction in 1965, but never got it up.

Soldering the cans together was the easy part. Getting it vertical eluded me. Steel beer cans are sturdy, but as the 1955 article points out, it takes three of four persons to get one of these up without having it crimp or fold over. My beer can stack and I went through numerous cycles of folding over, being repaired and folding over again. Trying to erect one of these by yourself is a fool's errand and a colossal waste of solder.

*- Continued on next page*

## ***Around the Shack / Hal Kennedy, N4GG - continued from previous page***

As with all great ideas, there were follow-up articles in QST over the years. The original article's author, W2JTJ, wrote a follow-up: "The 'Budget' Vertical on 20 Meters," published in the September, 1960 QST. It described a matching network to get the 82-can 40-meter vertical resonant on 20 meters. Notice the title, once again, does not include the word "beer."

For those disinclined to root around in the QST archives, here are a few excerpts from each of the salient articles.

### From W2JTJ's November, 1955 Article

In a sidebar: *The author shows considerable ingenuity in utilizing readily-available materials...* [Note: QST makes no up-front mention of beer or beer cans]

*...beer cans are approximately 2 ½ inches in diameter and the supply, especially during the summer months, is virtually inexhaustible.*

*The completed mast, glistening with the new coat of aluminum paint, is now ready for installation. The author suggests that four men be used on this job.*

*While two men support the mast at its center section, a third man should climb a stepladder and place the top end on a near-by first-story roof or other structure... The author accomplished these steps...experiencing no difficulty whatever. [Ha ha!]*

*The XYL did comment on the neat appearance of my new antenna, although she confessed that there were times, as I was soldering the cans together, when she thought I had finally lost my marbles.*

### From April, 1956 QST. The Beer-Can Antenna, Minnesota Style, by H. T. Orr, W0WET

*...As soon as W2JTJ's article...immediately remarks could be heard on the local nets, like "Say Bob, you want to come over and help me get the material ready for the new antenna?"*

*The first thought...was to invite the local boys over...the theory being that each person would be capable of removing the contents of enough cans to make a 6- or 10-meter vertical.*

*Since no silica gel was available to act as a dehydrating agent in each can, the occasional cigarette butt found in the cans was left there in hopes that it would absorb any moisture that might collect.*

*The only means of soldering here was a 135-watt soldering gun. The first two cans took about 10 minutes to solder. The handle of the gun was hot enough to melt solder by itself.*

*According to the article, the assistance of four persons is necessary... It was found that persons with interests in raising beer-can antennas were as scarce as 160-meter wide-spaced rotary beams.*

*At the first attempt the antenna raised almost three feet off the ground before breaking. On the second try the antenna went up almost six feet before breaking into three pieces.*

*If the picture of W2JTJ's finished product had not appeared in QST, we would never have believed it could be done.*

*We quickly made bets as to how many hours it would stay up.*

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Figure 1. W2JTJ poses with the original beer can vertical, circa 1955.

## ***Around the Shack / Hal Kennedy, N4GG - continued from previous page***

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From "Strays," May, 1956 QST

*The "beer can vertical" that was described in the November, 1955 QST now is used by the Illinois State Police Department. Early in March W0EDH and W9ZJZ constructed an antenna mast out of 77 cans and erected it in front of the state police building.*

*...the base insulator was fashioned from a ginger ale bottle mounted in a coffee can.*

*The beer-can job [sic] was constructed for use with the state police 700 watt transmitter...*

From "Strays," June, 1956 QST

*Perhaps it is time to call a halt to the saga of the beer can antennas. But at least let's wind it up in the following vein. First, a minister has written to ask just how he could reasonably accumulate the necessary 82 cans. This was topped only by a 13 year-old who wanted to know whether the antenna would work just as well with frozen orange juice cans!*

From September, 1960 QST. The "Budget" Vertical on 20 Meters, by W. Pete Czerwinski, W2JTJ

*...the author would like to make a few comments on the mechanical attributes of this antenna. It has weathered all storms over the last five years without damage. A direct hit with a baseball kinked one of the cans...I had to scare up a replacement – not a very serious problem!*

*The original aluminum paint lasted about two years. When the labels on the cans started to show through, the XYL...*

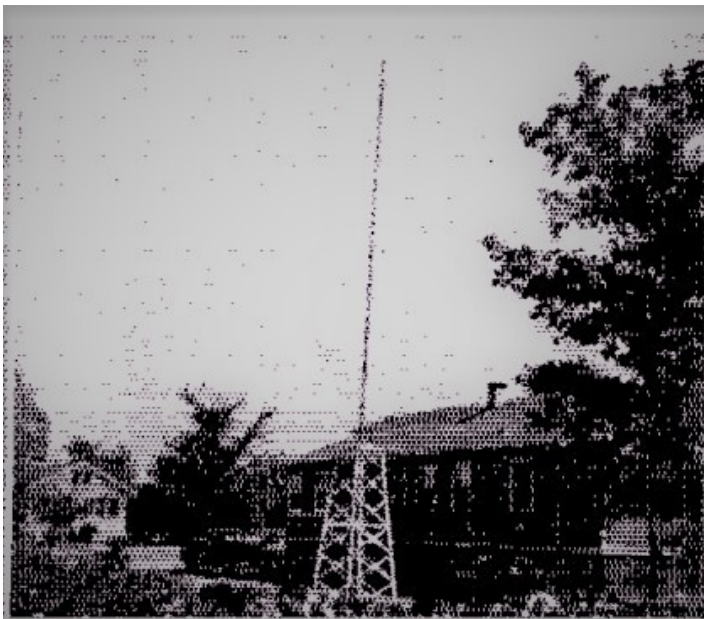
*Several of the readers of the original article complained of difficulty in making solder stick to the cans.*

From "Strays," June, 1961 QST

*WA2QWF suggests that those hams who put on too much weight emptying beer cans for a beer-can vertical will be glad to know that Metrecal cans also work fine.*

A Problematic Discovery in the August, 1943 QST

Researching subjects held near and dear can sometimes lead to discovering things you'd rather not know. Since I became licensed in 1961 I've held the belief that W2JTJ invented the beer can antenna in 1955. This may not be the case. Here is the very brief caption under a photo (Figure 2) at the bottom of page 60 in the August, 1943 QST:



"The quarter-wave vertical antenna is made up of one-quart oil cans soldered end-to-end."

Ah, an enigma. Was W2JTJ's 1955 beer can vertical inspired by W9GGI's oil can antenna from 1943? They were both for 7 Mc. (MHz).

Figure 2. The W9GGI oil-can 40-meter vertical. I apologize for the poor picture quality. It's a screen grab of a PDF scan of a 1943 QST page.

- Continued on next page

## ***Around the Shack / Hal Kennedy, N4GG - continued from previous page***

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They both used lots of cans. We will never know, but my wish-bias leans in favor of W2JTJ not being influenced by W9GGI's oil can vertical. I wish to believe both are original designs. History is replete with examples of great things discovered independently by two or more people.

### The Modern Can Antenna

I wrote about the WB4VVF ACCU-KEYER some months ago. First described in the August, 1973 QST, people are still building that keyer today – 50 years later. Are 1955-engineered beer can verticals being built in 2023, 68 years later? Or have they been relegated to the dusty memory of geezers like me?

Like ACCU-KEYERS, the occasional beer can vertical is still being built. I am writing this the day after Field Day, 2023. Yesterday a newly built beer can vertical went on the air at the GARS



(Gateway Amateur Radio Club) Field Day, call sign K4GAR. It was built by David Wall, NA4AE. It's resonant on 15 meters. It radiated just fine – a lot of contacts were made. See Figure 3. Consistent with every beer can vertical built, NA4AE's design deviated somewhat from the W2JTJ design of 1955.

David's design is an elevated ground plane rather than a ground-mounted vertical - a wise decision. Also, the beer cans are modern aluminum ones, purchased from a local brewery. It's nice to know you can support local businesses with antenna parts purchases. Craft brewing has made this possible.

During Field Day 2023, the NA4AE beer can vertical was operated from the parking lot of a brewery – the same one selling the cans with free beer included. That must be worth an additional 6 dB. Perusing David's design I'm guessing the cost came in at under \$100.

Per David, soldering the cans proved impossible. Electrical connection was made by strapping each can to the next with wire. As anticipated, the aluminum cans had negligible structural integrity (heck, even steel cans kept folding over in the 1960s) so David's design included a support tube running up

through the center of the cans. As an adjudicator of all things beer-can-antenna related, I have ruled this departure from the original design "in-bounds."

*- Continued on next page*

## ***Around the Shack / Hal Kennedy, N4GG - continued from previous page***

### Building Your Very Own

Doing a little research I discovered there are beer can size standards. Who knew? A standard 12 oz. beer can is 4.8 inches tall and 2.6 inches in diameter. Were those the dimensions in 1955? I don't know but they must be close.

82 cans work out to 32.8 feet, which is just right for a 40-meter vertical. For 82 cans with a 2.6 inch diameter, EZNEC predicts a resonant frequency of 7.17 MHz (Mc in 1955) and a flat SWR of 1.3:1 across the entire band. Not a bad design.

For those inclined to continue the rich history of budget beer can antenna building, here is a useful table:

I will award a plaque to the first person who successfully erects an 80 meter beer can vertical. Meanwhile, small ones for six or two meters hold promise. They would be easy to build, have wide bandwidth and come with the whiz-bang reward only a beer can antenna can provide.

I can't encourage you enough to head to the QST archives and read the articles. They are a hoot. We all need a good laugh now and then and as I said at the opening – beer can verticals are a thing – they are real.

73,  
Hal N4GG

<u>Band</u>	<u>Cans</u>
160	332
80	171
40	82
30	61
20	45
17	35
15	30
12	26
10	23
6	13
2	4.4
1.25	2.9
0.7	1.5

## ***NFARL QSL Card Update Contest/ Dave Bisciotti, KO4USA***

Time for a little updating and refresh– We are planning to update the NFARL QSL Cards. You are invited to make this happen!

Beginning at our July 2023 Club meeting, we're initiating a club challenge to members so we can come up with a refreshed Club QSL Card set.



### ***Challenge***

→The NFARL Club is looking to update our QSL Card. **We are looking for creative people** to submit their suggested QSL Card design.

→The club will vote on the designs submitted. The member who has their submission selected, will receive a **free year's membership to the club.**

- Continued on next page



- The design shall use the club logo
- The design should incorporate both the NF4GA and K4JJ callsigns
- The design should include the ARRL Special Services Club logo
- List the Club's web URL (WWW.NFARL.COM)
- The design should have provisions for several manual entries or labels over the manual entry area
- The design should include the Maiden Head or Grid Square
- Provision a space for the operator's name and call sign
- There should not be any "dating" that will make the contact useless after any period of time
- *Optional...*include any club awards such as DXCC in the design



**The Design should  
incorporate all the  
above...**

### ***How to enter your design***

- **Send** your design to:
  - [KO4USA@ARRL.NET](mailto:KO4USA@ARRL.NET)
- QSL design submissions will be collected over the next month and then presented at our next club meeting.
- Members will be asked to vote on their favorite submission. (Online voting will be available for members not in attendance).

*You'll want to be sure to try and attend the July 2023 club meeting! Following Neil's "The Art of QSLing" presentation, we'll explain details of how the contest works and what the requirements for the design include. We'll inform you of how the entries can be submitted and review the details for voting. Join s in this event! It's going to be your club QSL card!!*

## Extra Extra! / From the Extra Class Question Pool

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



### E9B08

**What is the far field of an antenna?**

- A. The region of the ionosphere where radiated power is not refracted
- B. The region where radiated power dissipates over a specified time period
- C. The region where radiated field strengths are constant
- D. The region where the shape of the antenna pattern is independent of distance

**See answer on the last page!**

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](#). Note the new Technician class license examination question pool is effective July 1, 2022.

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

*These are some contests and events besides the "routine K1USN, CWops, and other organizational events" scheduled to occur the near future*

Contest Name	Time & Date
<a href="#">+ Walk for the Bacon QRP Contest</a>	0000Z-0100Z, Jul 20 and 0200Z-0300Z, Jul 21
<a href="#">+ NAQCC CW Sprint</a>	0030Z-0230Z, Jul 20
<a href="#">+ Maidenhead Mayhem Contest</a>	0000Z, Jul 22 to 2359Z, Jul 30
<a href="#">+ YOTA Contest</a>	1000Z-2159Z, Jul 22
<a href="#">+ MARAC US Counties QSO Party</a>	0000Z, Jul 29 to 2400Z, Jul 30
<a href="#">+ QCX Challenge</a>	1300Z-1400Z, Jul 31
<a href="#">+ QCX Challenge</a>	1900Z-2000Z, Jul 31
<a href="#">+ QCX Challenge</a>	0300Z-0400Z, Aug 1
<a href="#">+ Walk for the Bacon QRP Contest</a>	0000Z-0100Z, Aug 3 and 0200Z-0300Z, Aug 4
<a href="#">+ 10-10 Int. Summer Contest, SSB</a>	0001Z, Aug 5 to 2359Z, Aug 6
<a href="#">+ North American QSO Party, CW</a>	1800Z, Aug 5 to 0559Z, Aug 6
<a href="#">+ ARRL 222 MHz and Up Distance Contest</a>	1800Z, Aug 5 to 1800Z, Aug 6
<a href="#">+ NAQCC CW Sprint</a>	0030Z-0230Z, Aug 9
<a href="#">+ ARRL EME Contest</a>	0000Z, Aug 12 to 2359Z, Aug 13
<a href="#">+ FISTS Saturday Sprint</a>	0000Z-2359Z, Aug 12
<a href="#">+ Maryland-DC QSO Party</a>	1400Z, Aug 12 to 0400Z, Aug 13
<a href="#">+ Kentucky State Parks on the Air</a>	1400Z-2200Z, Aug 12

## NFARL Upcoming Events and Dates

- **Every Sunday — NFARES net** - 8:30 PM - 147.06 MHz (+) PL 100  
Also find us on EchoLink® at NF4GA-L, node 889158. All licensed hams are welcome, you do not need to be an ARES member! Check [NFARES.org](https://www.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 (Discord) but Internet is not required to join the net. Check [NFARL Nets](#) for more information and "how to". Here's the link to the NFARL server on Discord web app <https://discord.gg/spr2a9D>
  - **Every Wednesday — Hungry Hams Lunch Bunch** - 11:15 AM  
Location: Slope's BBQ, 34 East Crossville Road, Roswell, GA 30075 (770) 518-7000  
 **SLOPE'S BBQ**  
***Dining Room is OPEN. Get Take Out if you can't stay!***
  - **Every Thursday — YL 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 Wednesday — CW CHAT** — 8:00 PM on ZOOM.  
***New meeting link and credentials:***  
<https://us06web.zoom.us/j/84722087419?wd=VIN2d0xvQVhKcDIUL0R4N1hQMTQ2UT09>  
Meeting ID: 847 2208 7419; Passcode: CW-CHAT
- **Second Tuesday — NFARES Meeting - August 8, 2023 *Now meeting in-person!***  
Meeting location: The Church of Jesus Christ of Latter-day Saints, 500 Norcross St. Roswell, GA 30075. Enter using the "Family History Center" Door. ***See [NFARL website](#) for details & Zoom link.*** NFARES members receive Zoom invitation automatically.
- **Second Saturday – VE Testing - NFARL August 12, 2023 session:** 8:30 - 10:30AM  
Slope's BBQ, 34 Crossville Road, Roswell, GA 30075. Seating will be limited to 20 - preregistration is required. [Registration is by email to Ian NV4C](#); monitor registration opening & closing on the website. [Click here for more information.](#)
  - **Fourth Tuesday – NFARL Executive Team Meeting** - July 25, 2023, 7:00 PM.  
***Online meeting only*** — monitor website and NFARL Groups.io reflector for updates.
- **NFARL Club Meeting— Tuesday, July 18, 2023— 7:00 PM** Preston Ridge Community Center, 3655 Preston Ridge Road Suite 100, Alpharetta, GA 30005. The facility's doors will open at 7:00PM. Our meeting will begin at 7:30PM and should conclude by 9:00PM. Our meeting topic is "The Art of QSLing", presented by Neil Foster, N4FN
- **2023 Huntsville Hamfest— August 19-20, 2023**  
Von Braun Center South Hall, 700 Monroe St SW, Huntsville, AL 35801  
Hours: Saturday 9 AM — 4:30 PM, Sunday 9 AM — 3 PM

## Contact Us

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Mentors / Elmers	John Hathcock WE4AUB	<a href="mailto:Elmers@nfarl.org">Elmers@nfarl.org</a>
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eNews Team	Help Wanted!!	<a href="mailto:enews@nfarl.org">enews@nfarl.org</a>

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## North Fulton Amateur Radio League

P.O. Box 1741  
Roswell, GA 30077

[nfarl.org](http://nfarl.org)

eNEWS can be located online at:  
<https://nfarl.org/enews-index>

## 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 Call signs: NF4GA and K4JJ**

**Extra Extra answer: D (question E9B08)**

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