



ARRL—NFARL Field Day 2021 / Mike Riley, KN4OAK

ARRL 2021 Field Day is approaching quickly. We'll review operating plans for our ARRL-NFARL 2021 Field Day event during the June club meeting on June 15, 2021.

Leading up to Field Day 2021, the City of Roswell will be proclaiming the week of June 21, 2021 as "Amateur Radio Week". Be sure to plan to attend the reading of the proclamation at the Roswell City Council meeting on June 14, 2021. Traditionally, NFARL club members have gathered prior to the meeting to greet Council members and other meeting attendees prior to the reading. Don't forget to wear your NFARL badge and or shirt! After the proclamation ceremony, feel free to leave. You should be able to make it back to your shack in time for NFARL's Tech TALK net on 145.470 as usual at 8:30PM.

NFARL Field Day setup begins Friday morning at 7:30AM. Arrive at Groveway Community Park, sign in, and help get the antennae up! Two loops, the dipoles, and the beam, along with feed lines, power cables, the generators, the logging network, and other gear. The tents, tables and chairs will be delivered and set up on Friday afternoon. With enough help the setup work is expected to go smoothly.

Site operations begin Saturday morning. Radio connections finalized, operating assignments finalized, operating station chairs in place. The Scouts merit badge class is conducted. The NFARES Team gets setup. The Saturday Evening Picnic setup is completed. Make sure you RSVP to the Picnic before Thursday 6-22-2021! Radio Operations kick-off at 2PM EDT and the chase for QSO's continues for the next 24 hours.

So, what about the nitty-gritty details? Who are the operating captains? What is the operating plan? Is there a Safety Officer? When will the final operator schedules be published? What radios are being used? How does the logging work? Is there a CW station? How about bonus points? What if I am participating from my QTH this year? How can I participate at the club site and at my QTH? If I work overnight Saturday, will we have a breakfast Sunday? How about satellite operations? How and who works them? Come to the club meeting Tuesday, June 15, 2021 to find out what the plan is. If something is of particular interest to you, make sure you ask about it. See you Tuesday!

Here's the Zoom meeting info:

JUNE 15, 2021
7:00 PM – 9:00 PM EDT Video Access
Meeting begins at 7:30PM EDT

Join Zoom Meeting
[https://zoom.us/j/94526170444?](https://zoom.us/j/94526170444?pwd=cnBBeWxWRkZWNDZCeHNrR2pTVTJNzZ09)
[pwd=cnBBeWxWRkZWNDZCeHNrR2pTVTJNzZ09](https://zoom.us/j/94526170444?pwd=cnBBeWxWRkZWNDZCeHNrR2pTVTJNzZ09)

Meeting ID: 945 2617 0444
Passcode: 829984

Here's the meeting location address:

**Preston Ridge Community Center
3655 Preston Ridge Road Suite 100
Alpharetta, GA 30005**

President's Corner / John Norris, N4IHV

May 2021 was a noteworthy month for many reasons. We held our first in-person club meeting at our new meeting location. Participants enjoyed many displays at the back of the room including FT8 and CW rigs, as well as a club gear for sale or free. Lots of items to look at and discuss, making it worth coming to the meeting to see. This month, please bring any of your current projects or ideas to share with us. We have plenty of time before and after the meeting to enjoy company with each other.

Our May guest speaker was Hal Kennedy, N4GG. Hal is a technical writer and ham, currently writing a column in NFARL eNews. Hal presented a revealing discussion on what is involved with self-publication through an online service like Amazon. His professional knowledge of writing and book publishing gave me a better understanding of what is involved in the whole process.

The new club by-laws have been posted on our web page and we will be voting on adopting them at the June 15, 2021 meeting. Be sure to review them and be prepared to discuss and vote.

One of our most important annual events is ARRL Field Day, which will be held on June 26-27, 2021. This event is fun, informational and gives everyone an opportunity to participate. You can help put up antennas, operate radios, join in fellowship, and eat good food. You do not have to be skilled to do this because we will have people there to show you everything you need to know. We always look for new ideas from our new and existing members about Field Day Operations. Don't miss this wonderful opportunity to help yourself and the club make this a success.

We are working to set up our Zoom operation along with the in person meetings. It is an experiment at this point and hopefully we are able to make it work for the June 15, 2021 meeting. Please try to participate in the meetings at Preston Ridge. The address is on our web page. You don't want to miss out on Martha's, W4MSA, excellent refreshment treats she provides for the meetings.

John Norris, NFARL President
N4IHV

Stray- / Jim Stafford, W4QO

One thing you might consider checking into, should you be seeking a new or extra handheld and be headed toward the Baofeng UV-5R on Amazon. Members of our club have recently tested the UV-5R. Check out these two rigs that about the same price but have way better harmonic specs.

The TYT TH-UV88 Dual Band Analog Two Way Radio from **buytwowayradios.com** here is the direct link: <https://www.buytwowayradios.com/tyt-th-uv88.html>. It was recently mentioned on club member, Brian, K4BBL's Ham Radio in Action video on YouTube: <https://www.youtube.com/watch?v=8pYrrdGF1UU&t=17s>

Another alternative is the **Radioddity** offering and the bundle with a spare battery at <https://www.radioddity.com/collections/consumer-radios-amateur-radios/products/ga-5s-dual-band-tri-power-two-way-radio>. It's the GA-5S and also has a good record. Only \$29.95 with the spare battery as I read the website.


Part II – the 2 meter SWR mystery

Last month I described the adventure I had while installing my present antenna. The story continues this month with the experience and knowledge gained from the initial startup of the new installation.

Symptom: the off center fed dipole (OFCD) worked as described in the specifications with the exception of 2 meters. Reception at 2 meters was minimal even though the HF bands worked with no Issues. I could only hit the repeater if I transmitted at 25 watts, but reception was very poor.

Coax Cable installation:

1. Coax – I used 92 feet of Carol C1104 RG59/U coaxial cable to connect the antenna to my shack. Before I installed the cable, I measured 92 feet with an antenna analyzer. Here are the cable specifications from the vendor's site. Notice the velocity of propagation and the nominal attenuation specifications. *Based on my Extra Exam studies, I applied what I learned regarding cable materials and performance. The cable was donated to me so I can't complain much here. However: based on the QST review, the antenna should provide some return on 2 meters.*

CATALOG NUMBER	AWG SIZE NOM. DCR	INSULATION MATERIAL		SHIELD COVERAGE NOM SHLD DCR	NOMINAL O.D.		NOMINAL CAPACITANCE		VELOCITY OF PROPAGATION, %	NOMINAL IMPEDANCE, Ω	NOMINAL ATTENUATION	
		INCHES	mm		INCHES	mm	pF/ft	pF/m			MHz	dB/100'
C1104 RG 59/U Type 1354 	22 Ga. Solid Copper-Clad Steel 73.4 Ω/Mft.	Solid PE		95% Bare Copper Braid 2.6 Ω/Mft.	PVC		20.50	67.26	66	73	1	0.41
		0.146	3.71		0.242	6.15					10	0.99
											50	2.38
											100	3.49
											200	5.09
											500	8.43
											1000	13.03
											1450	15.69
											1800	17.48
											2200	19.33
											3000	22.57

2. I installed standard PL-259 connectors as described in the ARRL Handbook.

3. I borrowed a MFJ-259b antenna analyzer from the club to measure the integrity of the installed antenna system. Here are my findings:

Band						
40	SWR	3.2	3.2	3.1		
	Freq	7.025	7.175	7.3		
20	SWR	1.7	1.8	2		
	Freq	14.025	14.225	14.35		
10	SWR	2.4	2.4	3.9		
	Freq	28	28.3	29.7		
6	SWR	3.3	4.7	4	3.1	4.1
	Freq	50.1	51	52	53	54
2	SWR	2.4	1.7	1.1	1.5	1.9
	Freq	144	145	146	147	148

I have a general license, so I measured within the operating range I can use. Also note the 2 meter readings which are quite acceptable. Based on the results, I thought system performance would be acceptable. So, I connected the radio and began RF operation.

I made several contacts on the 20 and 40 meter bands. Operation on the 10 meter band didn't seem to work well with my OFCD. **Operation on the 2 meter band just plain didn't work.**

Continued on Page 4

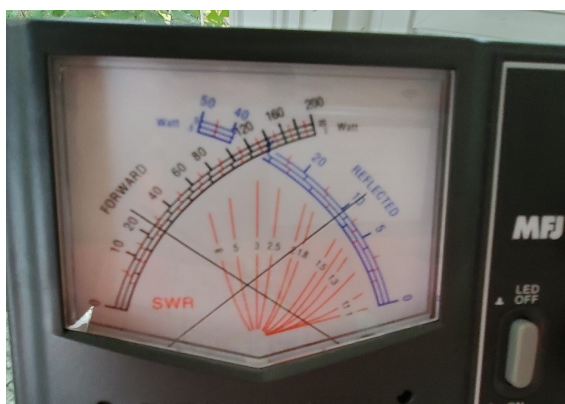
After 49 years, I'm on the HF bands / (Continued from page 3)

The contacts I have made on 40 meters indicate using 10 watts of power is all I need. Here are a couple of N1MM log entries as proof:

TS	Call	Freq	M...	Snt	Rcv	Pfx	Name	Comment
2021-05-28 13:39	W5L	7234.03	LSB	55	55	K	Caro1	GULF COAST HURRICANES SPECIAL EVENT
2021-05-31 21:48	K1UNI	7234.03	LSB	59	58	K	POTA	Operating POTA, S.C

2 meter test

I tried working 2 meters but not much luck even though the SWR specs were good. At high power I could hit the repeater, but reception was very sporadic so I investigated further. I set up my mobile 2 meter rig with my SWR meter. Below are screen shots from the transmitter side and the antenna side:



Antenna Side



Transmitter Side

Notice the transmitter side shows 4 watts going out, the antenna side shows significant attenuation. Also note the SWR reading on the transmitter side (**there is no reading**) indicating significant attenuation. That explains why the reception is almost non-existent.

Conclusion: the measurements indicate significant attenuation at frequencies above 10 MHz. At 100MHz attenuation is greater than 3.49db for 100 feet of coax. Below 10 MHz the specification shows .99db for 100 feet of coax. I suspect that most of the loss is in the cable since I can operate with no problems using 20 feet of RG-8X coax at the antenna side.

This was a great experience, I got the used transmitter through the club, the coax was courtesy of Jim W4QO. I have no complaints and couldn't ask for better support. I hope this information helps someone who is new.

73s, Tony WA3TRA.

CQ WW WPX CW Contest

The WPX Contest is based on an award offered by CQ Magazine for working all prefixes. Held on the last weekend of March (SSB) and May (CW), the contest draws thousands of entries from around the world. The 2021 CQ WPX Contest dates are SSB: March 27 - 28, 2021 and CW: May 29 - 30, 2021.¹

Let's get this out of the way in the beginning – there are many reasons to do contesting besides “winning”. Let's go through some of them, most of which are reasons I do contesting:

1. **Testing out your equipment and antennas** – A few years back I tried two different 160M antennas. The first was a 160M dipole about 50 feet above ground. Notice that 50 feet is about a tenth of a wavelength on 160. This is not very high as dipoles go. Anyway, I tried it and measured the time it took to make 50 contacts. Then I used my 80M horizontal loop with the feed line pair connected together and then laid out two ¼ wave radials for 160 running in different directions around the house. I measured the time it took to make 50 contacts. I know this is not a scientific study! But the 80M loop as a vertical worked much better.
2. **Testing out your skill** – Whether phone or CW, contests are a way to improve your operating skills. Check out this Groups.io post from one ham in the past weekend's contest:

VIN, W1VKE... *Wow! I am a new CW op. Started learning in Jan and had my first QSO in April. This weekend was quite an experience for me with all the fast speeds. I am still only comfortable around 10-13wpm, but I find that any contest with short exchanges is a great way for me to practice. I was running a KX2 at 5w into an 80-10 EFHW and ended the weekend with 25 QSOs which I was really happy with. I would listen for 10-15+ minutes sometimes and wait until the person calling CQ had worked through all the other people and were calling CQ a few times with no answer before I would put my call out. I know a lot of people who are learning will shy away from high speed contests, but I like to listen and get involved whenever it makes sense. I would not put my call out at 13wpm in a high speed pile up. Once I learned the flow it became a bit easier and then I would just try to get a character or two each time I heard the call and then try to listen on where they were in their number sequence. **I find it a little easier for me to grasp higher speeds today (15-20wpm) than it was before the weekend.** I hope I can improve on my 25 QSOs when this rolls around next year.*²

3. **Picking up a new state or country** ... I have sometimes worked during a contest to see if I could catch a “new” one. To do this, I will often use the “assisted” category. In other words, I will use a spotting network to see the call signs on the air such as **dxsummit.fi**. I remember one year, I would use all kinds of techniques to find a new one. With ve7cc, I could put in the prefix for a country that I had heard would be on and ve7cc would tell me where he/she was operating.

Station: W4QO
Class: <u>SOAB QRP</u>
QTH: <u>GA</u>
Operating Time (hrs): 16.5
Summary:
Band <u>QSOs</u>

160: 1
80: 1
40: 51
20: 249
15: 100
10: 12

Total: 412 Prefixes = 280
Total Score = 227,080

¹ <https://cqwp.com/>

² <https://groups.io/g/qrparci/message/3950?p=,,,20,0,0,0::Created,,W1VKE,20,2,0,83237507>

Continued on Page 6

4. **Have fun!** Often I just get on to work several stations in rather rapid sequence. This is true of state QSO parties. Just work a few and here is a key point ... you do not have send in an entry **for the other party to get credit!** That said, it is often nice to send in an "entry". You might find that you actually get a certificate for some obscure category such as "#1 Georgia" or "#2 USA CW". **K4VBM is a master at this idea.** And hey, it's a valid and good way to have fun!

Here are some ideas to possible help you GOTA – Get On The Air. As a QRPer, I sometimes wait until Saturday to jump in on a big contest such as the WPX which runs all weekend and begins at 8PM on Friday. Ben, AJ8J of our club writes: *If anyone's wondering why, it's because Friday night, all of the monster-signal stations are busy working each other, and it's hard for pipsqueak stations to get heard. Rate typically suffers Friday night for us lower-power stations. By Saturday, the monster-signal stations have largely worked each other and are looking for less-than-booming stations to keep their rate up. If you want to get started on Friday night anyway, and you're a lower-power station, start out higher in whatever band you're operating. Don't start in the lower part of the band and work up, start out higher in the band. The higher part of the band is usually sparser, and the monster-signal stations are usually in the lower part of the band.*

Now to WPX.. I had planned to operate only an hour or two so I used N3FJP which is simple to use. And note that it is free for up to 30 contacts in any contest. This makes it handy for state QSO parties where working over 30 might be out of the question. It is \$50 for the full suite of about 80 contests. Just google N3FJP and you'll find all about it. If you want a more feature rich contest program, then check out N1MM. It is a bit harder to set up but has many features not found in N3FJP and it's FREE! I ended up working about 16 hours over Saturday and Sunday with a contacted stations numbering over 400. Oh, I did have FUN!

What about Field Day?

Well, it is a blend of a demonstration of emergency operations for ham radio plus it is a place to keep score. And your NFARL club has entered the most difficult category of 3A and has placed FIRST PLACE in 3 of the last 5 years in that category. Over 30,000 hams participate in ARRL Field Day each year. This year, there are **TWO ways** to participate with/for your club. Come to the **Grovesway Community Park** (previously Waller Park Extension), 160 Frank Lewis Drive (previously Dobbs Drive), Roswell **and/or** work from your home station and send your score in to be combined with the club's operation from the park. **You can do either or both!** Again, you might want to test N3FJP from home. The link for the FD contest software is <http://n3fjp.com/fieldday.html>. Download the program and give it a go on Field Day. If you find you are going to exceed the 30 contacts for FREE, text me at 404-281-8185 and we'll find a way to remove that limit. For more details on the NFARL Field Day, go to <https://nfarl.org/field-day/>. If you have questions about FD, feel free to text me at that phone number.

So now you see that there are lots of ways to have fun in contests, whether spending a short time or long time. I'd like to work you in the next one. Oh, want to know what contests are coming in the next week, go to <https://www.contestcalendar.com/weeklycont.php> and this is for ONE week! For a full month, check out the **Contest Corral** page in QST each month. **CU soon!**



See Something, Say Something / Martha Muir, W4MSA

See something, say something. Hear something, say something. Do something, say something. In general, these are things that students are told in schools these days for very unfortunate reasons. For NFARL, though, these are things members should do for very good reasons, basically, that it is nice to share.

NFARL has a Facebook page. (<https://www.facebook.com/groups/NFARL>) It needs content – your content. If you see news about a new gadget or hamfest or a great place to meet for a pre-club meeting dinner, write up a sentence or two (or more) and post it on our Facebook page. If you make a special contact or hear someone else making a special contact, write it up and post it on Facebook. If you put together or put up an antenna or other piece of equipment, write it up.

These posts don't have to be major theses. Just a few choice words to share info with others would be greatly appreciated.

If, for some reason, you don't want to post it yourself, send it to NFARL's Social Media Director, Steve KS4KJ (ks4kj@nfarl.org), and he will post it for you.

Let's amp up the activity – posts and views in NFARL's Facebook page. If you see something, say something.

U.S. Islands Big Special Event / Terry Joyner, W4YBV

Hello Fellow Hams,

This year, the **USI Big Special Event** runs June 12th through June 20th. (9) days

This is a 201 hour event for anyone looking for U.S. Islands, Parks, Grids, States and counties. Stations like K4D on Dog Island FL000S in Florida, NL7QT on Farm Island AK103R in Alaska, operators will be on the Hudson River on islands like N2B and N2D and up and down the Mississippi river on islands.

Jim N4SEC and I will be on a number of islands around the Atlanta area like Mary Alice park on Saturday June 12th and West Bank island on Sunday June 13th.

Anyone wanting to come out and operate using your call are welcome. (Please email us or call me at 770-833-4413)

We will be on Powers Island at US 285 and the Chattahoochee River on Thursday June 17th, at Indian Island in Stone Mountain Park, on Friday June 18th.

All information please go to <https://usislands.org/usi-special-event-week/> or [QST](#) and [CQ](#). look for us on 40 and 20 meters SSB all 9 days.

USI will be giving out PDF **Island Certificates** for the most Q's

Terry W4YBV

Congratulations to New & Upgraded Hams! / Wes Lamboley, W3WL

The NFARL Volunteer Examiners once again were hosted by Slope's BBQ, and 6 folks either upgraded or got their Tech licenses. As usual, John Norris and I got to talk with each person as they were told that they passed the test they took, and invited them to take part in our Club.

Two people had already been to our recent club meeting, and were impressed with the friendliness and enthusiasm exhibited by the people that were there! They will join and be back.

All were told about Field Day and invited to that event and hopefully will get on the air. All seemed to be anxious to get on, and most already have equipment at home to do so.

Their backgrounds in getting interested in ham radio ran the usual gambit, from a friend telling them about ham radio to being associated with communications in the Air Force. One wanted to



use radios while camping and hiking, and two others were really interested in Emergency Communications and chatted with Joe, AJ2Y, representing the NFARL ARES group. All were given info about the Club, ARES and recommendations on how to select your first bit of radio equipment. Do please plan to come to the next meeting and meet this "Group of Six"!



Candidate Name	Test	Call (If Any)
Chris Scheels	General	KM4YZX
Robert Brown	Extra	KO4NDZ
Ben Garrett	Technician	
Bradley Davis	General	W4SYB
Kellen Wilkening	General	KO4ESP
Nicole Baylosis	Technician	

IMPORTANT– JULY '21 VE Venue Location Change -IMPORTANT

JULY 2021 North Fulton Amateur Radio League VE Test Session Location is Preston Ridge Community Center - - July Session Only!

The NAFRL VE Testing Session scheduled for July 10, 2021 will be held at the Preston Ridge Community Center instead of Slope's BBQ on Highway 92 in Roswell. This change is effective for the July 2021 session only. In August the NFARL VE Test Session will return back to Slope's BBQ.

Preston Ridge Community Center is also the new location NFARL club meeting are now held.

Preston Ridge Community Center
3655 Preston Ridge Road Suite 100
Alpharetta, GA 30005

<https://www.alpharetta.ga.us/government/departments/recreation-parks/facilities/park-facilities-detail/preston-ridge-community-center>

dB or not dB, That is the Question

There is a QST article I recommend you read. It was written by Dean Straw, N6BV, and is titled: *Antenna Ads in ARRL Publications*. The subtitle tells the story: "After more than 35 years, antenna manufacturers may once again advertise performance figures in League publications. Why this changed and what should the astute amateur consumer be looking for in an antenna ad (or product brochure)?" The article can be found in the QST on-line archives. Though published in April, 1998, it's as relevant today as the day it was written.

I like seeing the word "astute" in the sub-title. In my humble opinion only astute hams who were in the hobby around 1963 noticed antenna performance metrics disappear from antenna ads in ARRL publications. Most notably, QST antenna ads no longer contained claims for forward gain, front to back ratio, etc. This was the result of a "horsepower race" among manufacturers where their performance claims started to strain credibility in an effort to outdo each other. The League banned the claims; there was no way to check them. This was a two edged sword however. To the extent some performance claims were legitimate, not having them put the buyer at a disadvantage. It made comparing one antenna to another difficult. On the other hand, false claims did what they were intended to do - lead buyers to poor decisions.

With performance metrics removed from the ads from 1963 to 1998, advertisers became creative with their verbal claims. If you were a ham then you remember ads like: "I worked the world with my Gotham vertical."

The advent of computers, followed by the advent of antenna modeling software changed things. With good models in hand, the ARRL was finally in a position to check advertisers' claims and in 1998 changed its "Advertising Acceptance Policy" to once again allow antenna performance claims in ads. Wisely, the ARRL put stringent stipulations in place before an advertiser could make specific claims about performance. The stipulations included requiring advertisers to provide the ARRL with a model of the antennae in question - models the ARRL could use to independently check claims. Also, advertisers were required to include free-space performance numbers in ads, as a precursor to further claims. The thought was one antenna *could* be compared to another if the playing field was level and the best way to do that was to start in free space.

Which brings me to the point of this article. When it comes to antenna ads it is still "buyer beware." From a philosophical standpoint it's nice to know that manufacturers are no longer publishing incorrect claims, but from a practical standpoint buyers can still become misled, frequently by misleading themselves.

The root of the problem in attempting to compare one antenna to another is there are too many variables and the variables interact. To arrive at a fair comparison the variables must be treated parametrically, and the data needed to do that isn't in antenna ads. Here are four key variables usually not addressed in the ads:

- Height above ground. The free-space performance of an antenna is helpful to seasoned antenna designers, but that's darned few of us. Moving from free-space performance to performance in one's back yard is an extrapolation most of us can't make. Meanwhile, height above ground has

Continued on page 10

a huge effect on antenna performance and the effect is not uniform from one antenna design to another. Two antennas may have identical performance one half-wavelength above the ground, but differ substantially one quarter-wavelength above the ground. If you are comparing the antennas in two ads, are the performance numbers provided as a graph of performance parameters vs. height? It would be rare to see that in a pair of ads, yet it's something we need for an informed decision.

- What ground? A lucky few of us operate over salt water. At the other end of possibilities is operating in a desert. Performance vs. ground description is never advertised, yet we need that information to be a wise consumer. As with height, two antennas may appear the same for one ground type, e.g. over salt water, and be different from each other over the ground in your back yard.

- Bandwidth. Antennas can be designed to maximize performance over narrow bandwidths (high Q) at the expense of performance over a wide range of frequency, or, vice versa. If you can find ads for two "comparable" Yagis, with each listing performance at 50.3 MHz, the broadband antenna will have lower forward gain than the narrow band antenna. If you are only interested in six meter DX, FT8 and weak signal work (all of which resides in the bottom 400 KH of the band) the higher Q antenna is probably the one for you. But what if you are interested in both weak signal work at the bottom of the band and six meter repeaters at the top? The lower gain antenna is your best choice. Is the data needed to guide you through your decision provided? It rarely is. As an aside, the high Q antenna will be more affected by the weather (read: rain). Is this of concern? It won't be mentioned in the ads.

- Pattern. Some Yagis have "clean" patterns with good forward gain, good front-to-back ratio and well controlled side-lobes. Others don't. The forward gain of two Yagis may be the same at the same frequency, at the same height, above the same ground, but the patterns may be different and ads won't provide you the insight you need to know which antenna best meets your needs.

You get the picture. The ads cannot be descriptive enough to support fully informed purchase decisions.

In my experience performance-based antenna decisions are made in one of several ways. These include:

- Subjectively. The newest or most exotic antenna may "look" best.
- Anecdotally. Listening on the air, talking to friends and reading informal reviews (eHam) is a better way forward than simply choosing the next shiny thing.
- Analytically. Review the technical details in the brochures (not the ads). Read the technical reviews in QST and the discussion of general antenna types in the ARRL Antenna Book. Model the antennae if you can. If you can't, ask someone to do some modeling for you.

The final point I'd like to make is about perspective. How deep an understanding of antenna

Continued on page 11

performance do we need? How accurate an understanding is possible? What do we need (not want) to make a purchase decision? If you want to work Japan on 160 meters, every dB counts. If you want to chat with your pals on 75 SSB, fretting about 1 or 2 dB is a waste of time.

It's important to remember that the best models we have are still only approximations, and initial conditions such as ground conductivity might only be known to one significant digit for a given location. It is easy to fall into the trap of mistaking precision for accuracy.

When deciding "dB or not dB" I think the ARRL got it right. Before modeling, what was being presented as useful data simply wasn't. The ARRL shut that down. When data could be checked by modeling, it was once again allowed in the ads. As long as one understands that the data in ads is insufficient to make fully informed decisions, the ARRL decision to allow the data back into the publications seems just right.

Good luck with your next antenna purchase!

de, N4GG

Volunteers Make NFARL into What NFARL Is / Mike Riley, KN4OAK

Volunteerism has been a significant characteristic identifying the NFARL for over 40 years. Volunteers are one of the key ingredients to making our club successful. Presently, there are two operating functions that are in need of volunteers to help keep them performing at a superior level that we, as club members, are accustomed to and expect. Last month we wrote to inform you we're looking for a volunteer to take responsibility for managing the NFARL Mart merchandise operations. Previously, we've identified the newsletter editor/ manager role as being available.

Both of these roles are still open for the taking. They even pay our customary volunteer wage level! Current "process role owners" are willing to provide support and training on the existing operations to anyone who can step into the roles. The operating processes are not fixed in stone- they are intended to be flexible and constantly improving. New role owners can adjust and redesign them to meet the club membership's changing needs and preferences. Think of the opportunities this type of situation presents to us!

Please consider volunteering to support NFARL operations. Whether your support is directed specifically to the Mart merchandise management, newsletter operations, or other routine activity area. Sharing your knowledge, skill and talents through volunteering is a great way help and achieve a personal level of satisfaction. Please feel free to contact any of the NFARL Leadership team regarding your interest and desire to lend a hand.

Regards,

Mike KN4OAK

Extra Extra! / From the Extra Class Question Pool

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



E7G05 — How can unwanted ringing and audio instability be prevented in an op-amp RC audio filter circuit?

- A.) Restrict both gain and Q
- B.) Increase both gain and Q
- C.) Restrict Q but increase gain
- D.) Restrict gain but increase Q

See answer on the last page!

Studying for your Amateur Extra-class license?

The [current question pool](#) is effective through June 30, 2024. 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](#).

Reminder! NFARL Proposed Bylaws Revisions / Mike Riley, KN4OAK

*Our Board has revised the **NFARL bylaws**. They are posted [here](#) for a 30 day review period that began 5/7/2020. Club members will be asked to approve them at the May 18, 2021 club meeting. Please take a few minutes to review them and be prepared to make an informed vote.*

This notice has been on the NFARL website Home page for a year or so. The NFARL Board wants to make sure club business can be managed effectively. So, please take the time to review the information so you can help by making an informed decision on the proposed revisions. The Board will be seeking to secure a motion for voting on the changes at the June 15, 2021 meeting.

The NFARL webpage containing the Bylaws has the current version, the proposed version, and a summary of the difference document. That page can be accessed [here](#). The proposed changes are in response to clarification and changes to the originals over time.

Report to the North Fulton Amateur Radio League: the NFARES May 8, 2021 Drill

Introduction

Listeners “reading the mail” on the 145.47 repeater may have needed a second cup of coffee early on a recent Saturday morning after hearing Net Control Operator Bill Largin, KN4DLE, open the May 8, 2021 North Fulton ARES – American Red Cross Exercise. “This is a drill. This is a drill. We have just gotten a report that at 0530 this morning, 30 minutes ago, an Earth-directed X-22 Class solar flare was unleashed by a huge sunspot near the center of the visible disc. This is a drill, repeat, THIS IS A DRILL”.

Frequently repeating that he was describing an imaginary event, by beginning and ending every statement with the reminder “This is a drill”, Bill went on to briefly describe the widespread effects of such an event – loss of satellite communications, and widespread but not total power outages, and loss of ground based communications caused by the simulated solar eruption. Bill then activated the North Fulton Amateur Radio Emergency Service team, who embarked on their preplanned drill, along with thousands of other US ARES operators, and several foreign amateur radio operators as well.

Context

The underlying drill scenario, that of an unexpected but entirely feasible natural event that caused a disruption in essential societal services, provided a backdrop for Club members to test their emergency communications skills and equipment. Ham radio operators have exercised these skills since the founding of the amateur service over 100 years ago. Public service and emergency communications are important parts of the hobby’s mission. It is this role that unfailingly draws licensed amateurs to ARES participation.

Activation

What actually happened after the North Fulton ARES operators were activated? A good amount of ham radio hardware and emergency power supplies were packed into automobiles, driven to pre-planned sites, and assembled into operating stations capable of providing voice and digital communications. One site represented an EOC (Emergency Operations Center), where the Net Control Operator would maintain his or her station. We have identified several sites in North Fulton, characterized by higher local elevations and clear radio views of the surrounding area, to potentially serve as temporary EOCs. The site chosen enabled us to maintain good radio contact with our simulated shelter locations throughout the county. Jim Kauffman, W4IU, accompanied KN4DLE at the simulated EOC, because two operators are often required to handle the higher operational workload at Net Control during an exercise.

The other type of site simulated setting up a radio communications operation at a shelter, such as one that might be set up by the Red Cross at a church or school, to provide relief to local residents. For this drill, the City of Milton made the Broadwell Pavilion available to us. A temporary VHF voice and digital setup was established here by Tammy Waggoner, KK4USM, and Joe Schippert, AJ2Y.

This comfortable shelter was particularly useful since we had the opportunity to host community observers from the Alpharetta Fire Corps,

Continued on page 14

THIS IS A DRILL—May 8 NFARES Action / Joe Schippert, AJ2Y

represented by Joan Foltz, and the latest CERT (Community Emergency Response Team) training class, represented by Stephanie Felts. Both organizations support all the communities from which North Fulton ARES draws – Milton, Alpharetta, Johns Creek, Sandy Springs, and Roswell. In addition, Dianne DaLee, KY4BN, both a NFARL and a Paulding County ARES member, joined the Broadwell Pavilion shelter group to share her knowledge and perspective with us.

Finally, a number of other operators stationed themselves either in portable locations, or at their home stations. These operators utilized additional sets of equipment capable of operating on the HF and VHF bands, and employed voice and computer-based digital modes. Jim Kempthorne, KO4OFV; Mike Cohen, AD4MC; Sam Proctor, KO4BCO, and Scott Wegner, KM4JXE completed the team and helped make this exercise useful and successful.

Why Drill?

Simply put, our society is highly interdependent and its complex communications is a given of daily living. Even in the unlikely event of widespread disruptions, communications requirements remain highly complex. Any emergency communications service that is to play a meaningful role must address those requirements.

In 2021, the best tools available in amateur radio for both local and national-level emergency communications involve a mix of VHF (predominantly line-of-site) and HF (long range) radio communications. Voice remains a natural and universally recognized method of communicating on the radio. Multiple advanced digital methods also underlie successful and low-error exchanges of information.

Furthermore, national standards established by FEMA (Federal Emergency Management Agency) provide consistent formatting and content familiar to emergency support organizations. These requirements are by their nature complex. Proficiency is only achieved by exercising them! The NFARES team is accustomed to weekly exercise of these skills on their Sunday Night Nets, however, the periodic opportunities represented by full-blown simulated activations and field setup of equipment take our preparations to the next level.

Ham Radio and EMCOMM (Emergency Communications) Skills

During this exercise, participants composed simulated emergency messages on standard FEMA forms, sent these messages to the simulated EOC, and then on to the drill sponsors, our Georgia ARES organization and the American Red Cross. The drill began on the 145.47 repeater, as noted above. However, once the portable stations were activated, the Net Control switched operations to the more challenging simplex mode of communications. Instead of using the NFARL repeater, Net Control simulated a malfunction, and had all the operators QSY, or change frequency, to the group's pre-determined simplex frequencies. We practiced directed net voice operations, as well as closed-loop communications techniques.

Although much direct communication was possible, our region's hilly landscape prevented perfect direct communication among all stations. This is where the highly reliable and error correcting capabilities of the digital modes came to the forefront. (We used the MT63-2KL mode.) In some cases even the digital communications could not be completed in a sin-

Continued on page 15

THIS IS A DRILL—May 8 NFARES Action / Joe Schippert, AJ2Y

gle hop, so operators volunteered to relay the digital communications. The end result was zero error standard message transfer from the simulated shelters to the temporary EOC.

We exercised, for the first time in a full drill, the Situational Awareness app created by our own W4IU. This application plots location, station capability, and area descriptor information on a local map. We also used a nationwide mapping program developed by ARES, showing station Winlink capabilities on a scalable national map.

Finally, messages were sent directly to Red Cross clearing house stations using a separate software package that is capable of tying into the worldwide conventional email system using radio-connected messaging servers. In some cases, operators used HF to loft the messages several hundred miles, simulating how the local email disruption stipulated in our scenario could be overcome. (We employed WinLink Express software, and various HF and VHF modes, including AX.25 Packet, VaraFM, and VaraHF.) This kind of ham radio-to-email interface is very useful to show non-amateur radio members of emergency organizations that they have another “tool in the toolkit” available for their emergency communications.

Conclusions and Lessons Learned

Did everything go perfectly? Of course not. Did our operators make mistakes? Yes, we did, but we crafted a complicated exercise precisely for that reason. Make the mistakes now, with all the challenges of our complex electronic, procedural, and software systems, so we will make fewer mistakes if and when the real challenge confronts us. We discussed our areas for improvement in a session dedicated to that purpose.

Bottom line: a common comment at NFARES meetings seems to be – when is our next exercise?



Left to right: Joan Foltz, Alpharetta Fire Corps and CERT Lead Instructor; Tammy Waggoner, KK4USM, NFARES Operator; Dianne DaLee, KY4BN, Paulding ARES; and Stephanie Felts, representative of the 2021 Alpharetta CERT Class. Note that Tammy and Dianne are also members of the CERT Class. (Photo: AJ2Y)

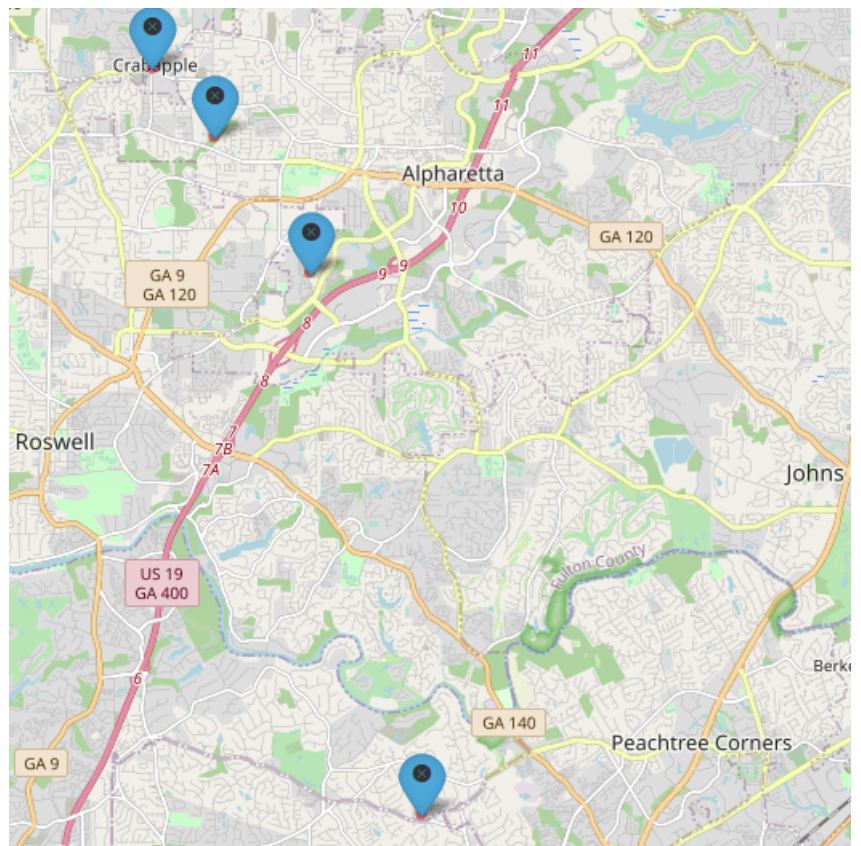
Continued on page 16

THIS IS A DRILL—May 8 NFARES Action / Joe Schippert, AJ2Y

Bill Largin, KN4DLE, Net Control Op at the simulated EOC. The empty chair belongs to Alternate Net Control, W4IU, taking a break from operating to take this picture.



Screenshot from W4IU's Situational Awareness app, used in a drill for the first time. Clicking on the flags provides Emergency Management personnel with information about the event they are managing. For example, the blue flags show the portable ARES stations in the event, including station capabilities. Additional color-coded flags (not shown in this example) may mark and describe other features of interest to Emergency Management personnel, such as individual accident scenes, downed power lines, damaged structures, and the like.



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](https://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
Dining Room now 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 Thursday — CW SIG** — 8:00 PM on ZOOM. Meeting ID is 815 5160 3634; password is CW-CHAT (all CAPS)
 - **Every Saturday — Royal Order of the Olde Geezers "Breakfast"** - 9 AM-10AM
This informal breakfast group on Saturday mornings is NOW on ZOOM. Join Zoom Meeting <https://us02web.zoom.us/j/84974393861?pwd=b2l5cWx6djVIUFY5UVZoQjZrckFFQT09> Meeting ID: 849 7439 3861 Passcode: ROOG
 - **Second Tuesday — NFARES Meeting - July 13, 2021** ***Presently- Online meetings only*** Check [NFARES.org](https://nfares.org) for more information.
 - **Second Saturday – VE Testing - NFARL July 10, 2021 session: COVID-19 Restrictions in place. By reservation only.** See the "[Test Sessions](#)" web page for details & registration process. Contact Ian at nv4c.ian@gmail.com for questions / concerns / reservations.
- **Third Tuesday — NFARL Club Meeting** - June 15, 2021, 7:30 PM
LIVE meeting! NEW LOCATION! Preston Ridge Community Center
— June 2021 Meeting: Social Catch Up; Hello to New Hams & New Members
Door opens at 7PM for Social Networking. Meeting begins promptly at 7:30. See [Page 1](#)
- **Fourth Tuesday – NFARL Executive Team Meeting** - June 29, 2020, 7:00 PM
Online meeting only
— monitor website and NFARL Groups.io reflector for updates.
 - **Amateur Radio Week Proclamation June 14, 2021 7:00PM**—Roswell City Council Chambers, 38 Hill St, Roswell, GA 30075. Coincides with Roswell City Council Meeting
 - **ARRL-NFARL 2021 Field Day June 26th & 27th**— 24 HRS of radio beginning 2PM!
See Page 1 or go to <https://nfarl.org/field-day/>

Contact Us

President	John Norris N4IHV	President@nfarl.org
Vice President	Mike Riley KN4OAK	VicePresident@nfarl.org
Secretary	Martha Muir W4MSA	Secretary@nfarl.org
Treasurer	John Tramontanis N4TOL	Treasurer@nfarl.org
Activities Chair	Fred Ackerly W4FRA	Activities@nfarl.org
Membership Chair	Wes Lamboley W3WL	Membership@nfarl.org
Past President	Daryl Young K4RGK	PastPresident@nfarl.org
Mentors / Elmers	Chuck Catledge AE4CW	Elmers@nfarl.org
Field Day Chair	Mike Riley KN4OAK	FieldDay@nfarl.org
Scout Coordinator	Jon Wittlin K4WIT	k4wit@nfarl.org
ARES Liaison and Community Relations	Jim Paine N4SEC	n4sec@nfarl.org
Repeater Operations	Mike Roden W5JR	Repeaters@nfarl.org
Webmaster	Bill Cobb K4YJJ	Webmaster@nfarl.org
eNews Team	Help Wanted!!	enews@nfarl.org

North Fulton Amateur Radio League

P.O. Box 1741
Roswell, GA 30077

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 Call signs: NF4GA and K4JJ

Extra Extra answer: A (question E7G05)

Supporters and Affiliates

Please support our sponsors and affiliates by clicking on the logos below to visit their websites.

Arbor Terrace®
AT CRABAPPLE
Assisted Living & Memory Care for Seniors
An Arbor Company Community



SLOPE'S BBQ

ELECRAFT

KENWOOD
Listen to the Future



FlexRadio