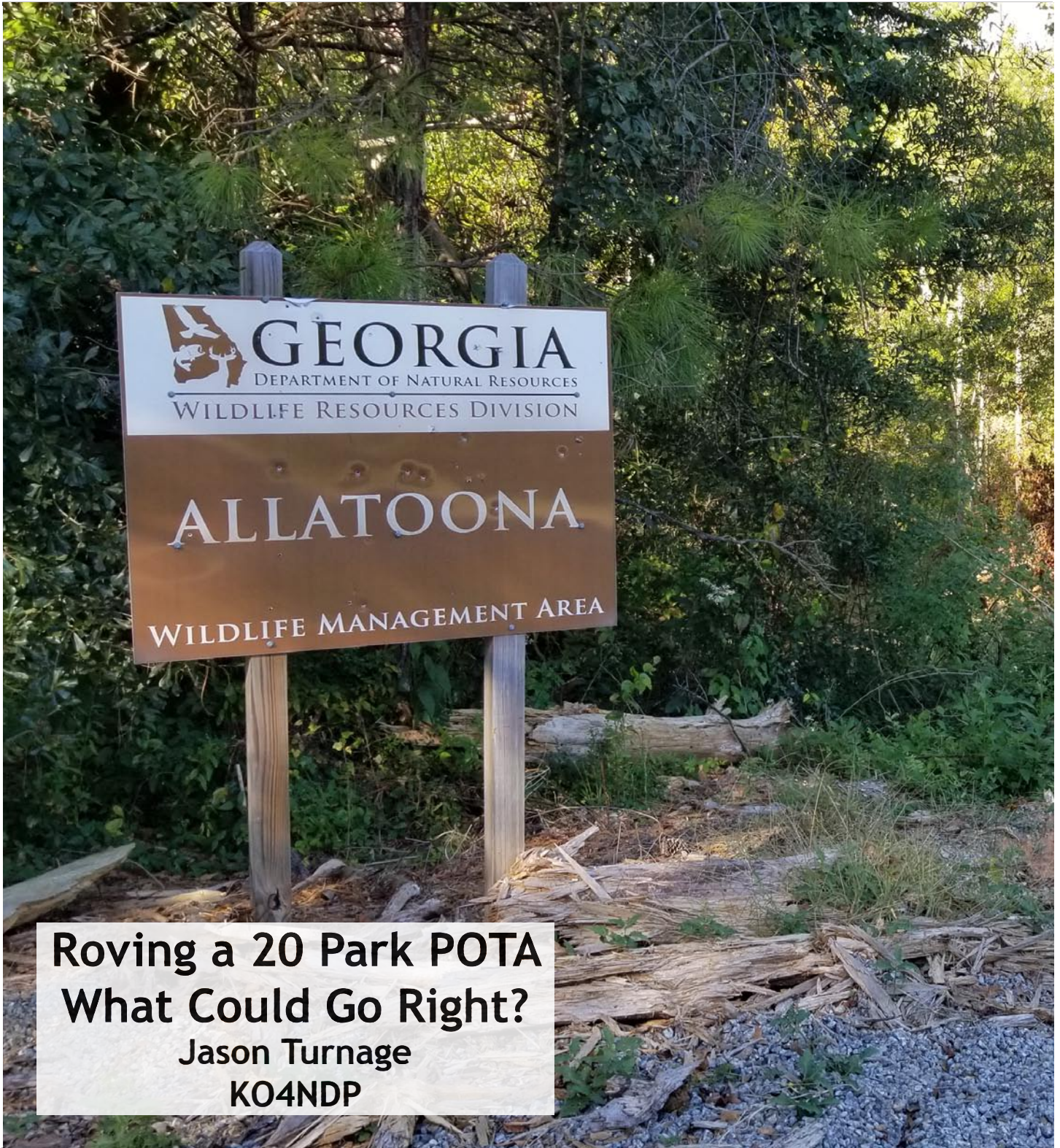


WX4CAR



Newsletter

November 2023 - Issue 3



**Roving a 20 Park POTA
What Could Go Right?**
Jason Turnage
KO4NDP



Message

from the President



As we come closer to the end of 2023, I have to reflect on what this club has accomplished this past year. As customary I will present the “Year in Review” at the December club meeting and Holiday Party. This year has been amazing in many ways because of you, our amazing members.

The November business meeting will be the election of officers. You can still nominate officers to fill any of the available positions. Thus far the existing officers have all been nominated to serve another term. All have agreed to this arrangement.

However, in 2024 we may be tapping some of you on the shoulder to consider taking one of these positions for 2025. Changes in club leadership are healthy for the club and allow existing officers to have some rest. The job is not hard, but it does require you to have a passion for ham radio and the club as the main reason for serving.

We have many members who are Veterans. In November we celebrate Veterans Day on the day of the November meeting. Be sure to thank a Veteran for their service.

We are actively looking for presenters for 2024. If you would like to present to the club on a ham radio-related topic, drop us an email (club.wx4car at gmail.com) and let us know what you would like to do. We will review it and schedule it.

This is the start of the Contest Season for amateur radio. **Chad (KY4KP)** will talk about this at the meeting and in his contesting column. Even if you think that this is not for you, you may be surprised by how much fun it can be, especially the international contests. As the contests get underway, give it a try.

This month I will be doing a presentation about “Understanding Filters”. Might sound boring at first, but this is an important concept that all hams should understand. Our radios all have filters. In particular, the HF radios have tunable filters for the user to set. Using them in the wrong way can make it harder to use your rig, but using them for the intended purpose can make all the difference in working a distant contact. Many of the radio manufacturers tout their filtering capabilities as the main features of the radio. Are you using them?

Finally, the club has continued to grow. We have many new hams that are just beginning their ham radio journey. For these new hams to progress, they will need help. This is a call to action for the experienced hams to come alongside the newcomers and teach them the ropes. This requires your commitment to being patient teachers and helpers. When I scan some of the social media sites for ham radio, I am often aghast at the way newcomers are treated. I am sure some just gave up and looked for another hobby. For CARS to continue to grow and be the best club in Georgia, we need your help. We don’t want to be like the curmudgeons on social media. Help a new ham. You will love it!

73,

Marty

KB4MG

Events



What is Veterans Day?

A formal day of recognition dedicated to all those Women and Men who have previously served their country or are currently serving. Veterans are composed of individuals of all ages, skin colors, religious beliefs, backgrounds, upbringings, and educational levels. They all share a common bond of unselfish service to their country. According to the VFW (Veterans of Foreign Wars) approximately a mere 8% of the US population are veterans.


Hopefully, Veterans Day is a day of thought for many to realize and absorb the magnitude of the personal price that many of these individuals paid to ensure that we continue to enjoy all of our freedoms.

To coin a phrase: Some gave all and all gave some.

To fully understand the cost of freedom, I would suggest spending a couple of hours at the entrance of a Veterans Administration (VA) Hospital observing the individuals coming and going. Some appear visibly okay and others are openly manifesting the cost of freedom. Those who appear visibly okay are suffering from a full gamut of internal issues caused by their unwavering service in hazardous environments. For example: The VA recognizes over 20 medical conditions related to toxic exposures. Over 500,000 Vietnam veterans are suffering from conditions caused by Agent Orange exposure.

Veterans Day is a day that makes this veteran thankful for the recognition that is displayed for the veterans and it does feel good inside to be recognized for proudly serving this beautiful and wonderful country. Thank you to all the CARS members who have served!

Thank you.

Mark Schulze - SSGT 
United States Air Force
1962-1970
AKA – KO4IFY



PARKS ON THE AIR



Roving a 20 Park POTA - What Could Go RIGHT?

In our previous adventure, you followed Chad KY4KP and Jason KO4NDP halfway across North Georgia as we attempted a 10 park POTA rove. The world was against us and we counted the ways that our efforts were stifled, plans laughed at, and dreams crushed. Even the sun didn't want us to succeed as it mocked our attempt to overpower it by overpowering us. This time, it was different.

A New Antenna

When you don't succeed at something in which there aren't any trophies anyway, you simply try again. Reflect on your previous attempt and evaluate not just what all went wrong, but also what all went right. Do less of the wrong stuff (if you can help it), and more of the right stuff. The concept seems simple, but it's the start of a decent strategy.



It began with a new antenna setup. For our previous attempt, we used an end-fed half wave for most of the rove, and a ground-stake vertical for the

rest. Each time we arrived at a new park, about 10 to 15 minutes were spent shooting a rope over a limb with a throw weight, using the rope to pull half the antenna up, finding a suitable place for the other half, hammering a stake in the ground, attaching the coil, and attaching coax. No big deal until you multiply that times the number of parks in your plan. And don't forget to count it twice - because you still have to dismount it all when you're done.

This time, Chad brought along a simple hamstick. A hamstick is a vertical antenna with the lower half of it being a rigid fiberglass stick with a radiating element running under a heat-shrink wrap and with a factory-mounted tuned coil near the end, plus a long thin metal "stinger" as the top half. The stinger is adjustable via a set screw and you fine tune the antenna's resonance by moving the stinger up or down slightly. They are single band antennas, but they only cost about \$30 at MFJ.



The best part of a hamstick is what we needed it for - ease of setup. They are typically used on a car mount, whether bolt on bumper-mount, mirror-mount, or, like we used, a mag-mount on the roof. The coax is already run to the mount, so setting up simply means screwing the antenna into the mount. Tearing down means - you guessed it - unscrewing from the mount.

Another benefit is the ability to operate in places it's not feasible to do so any other way. The Gold

Museum in downtown Dahlonega was that place this time. It's a building in the middle of a town square with only a very small parking lot and tons of weekend traffic. It's considered a POTA spot that's an unattainable dream for most. But with a hamstick, it's as simple as being able to find a parking space.

The Radio Strikes Back

Putting up your antenna is only half the setup. We typically get out a table (or two!), a gear box containing the radio and cables, another box for the battery, and a bag for the antenna. This eats up several more minutes and quite a bit of effort getting it all out and setting it all up (and again, tearing down and stowing away when done). All this is predicated on us needing to "get out" in the first place. What if, instead, we don't "get out" at all and just "stay in?"

Staying in is exactly what we did! We just operated from inside the truck, radio on the console armrest between us (pictured below). The radio effectively stayed in the truck, and "getting it out" meant moving it from the back seat to front. The battery stayed in the back.

Upon arrival at a site, we each had our job. I got out, grabbed the antenna from the back seat, screwed it into the mount. Chad got out, grabbed the radio from the back seat, put it on the front console. That was it. We had the radio powered on and ready to operate in a few seconds after arrival.



The station setup

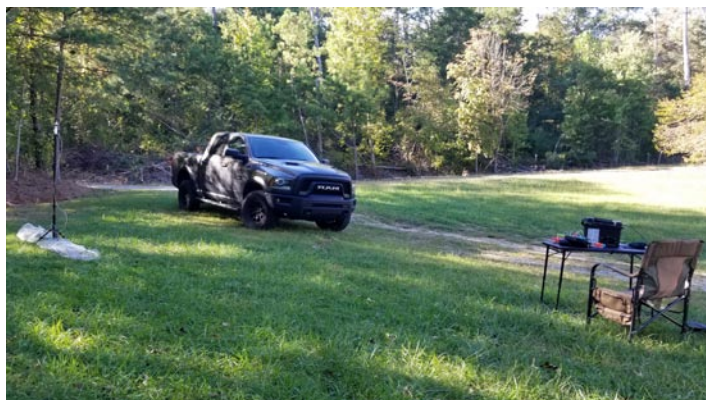
The Return of the Ham Operator

Our "starting time" strategy was also changed. POTA time uses UTC days, so we took advantage of that by starting our adventure on Friday night. Getting a park checked off early helped our mental readiness. It also meant only needing 9 parks the next day.

Next we changed the 10 park lineup a bit. We liked most of the previous adventure, but a few near the end (i.e.; Vogel) had concerns we could quell with a replacement park or two. Three replacements included the Gold Museum in Dahlonega, as well as Hardman Historic Site and Unicoi State Park both minutes outside Helen. These parks were easy choices since they were all closer anyway.

Last trip we had an issue planning food. A cooler of ice and drinks and some pre-purchased subs made quick work of the food dilemma.

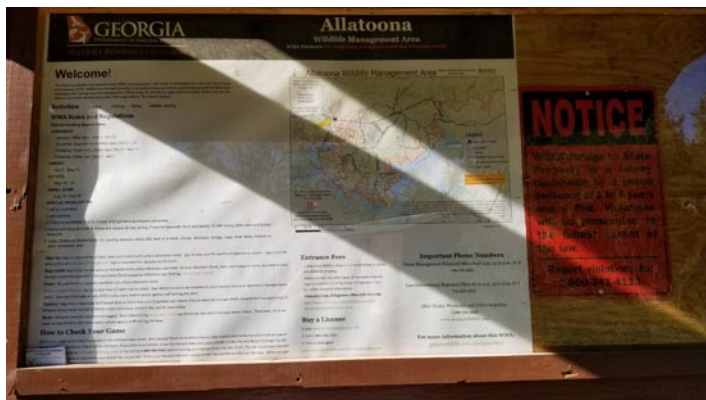
Our last hurdle was to overpower the sun and its unexpected solar storms that wreak havoc on radio



bands. This one was easy. It didn't do that this week.

The Finale

Although we relished in the success of our changes, there was an issue we had to overcome. We met our 10 park goal BEFORE NOON! So now what? Stop now? Of course not, there's still a 15 park goal, and then a 20, and every increment of 5 after that. Why would we even consider not continuing? The dilemma was that we hadn't planned any parks beyond the 10, so everything after was ad hoc, off the cuff, shooting-from-the-hip planning. And it looked exactly like you'd expect: checking out the <https://pota.app/map>





- Moccasin Creek State Park
- Chattahoochee Nat. Forest
- Hardman Historic Site

Thank you for joining us on our 20 park POTA adventure!

Jason KO4NDP

for nearby parks, forming a short plan of a couple or handful of parks, and using Google Maps to navigate to the next one. Then after that group was done, rinse and repeat. This plan worked until we got to 20, then it became more difficult due to a lack of parks in the area without going an obscene distance out of our way. Better all around would have been to form not only a goal plan, but also a stretch goal plan and have that route ready prior to the trip. Figuring out what parks are near your area isn't something you want to be discovering when you're currently driving in the area. At least not when there's time pressure and high gas costs.

Overall, though, the day was nothing but success. We wrapped up our 20th park around 6pm. After that, we called it a day as there was still a 2 hour drive back ahead of us.

Our list of parks:

- Red Top Mountain State Park
- DeSoto Rec Area
- Lake Russell WMA
- McGraw Ford WMA
- Chestatee WMA
- Buck Shoals WMA
- Dawson State Forest
- Chattahoochee WMA
- Warwoman WMA
- Dawson Forest WMA
- Smithgall Woods State Park
- Tallulah Gorge State Park
- Amicalola State Park
- Dahlonega Gold Museum
- Black Rock State Park
- Appalachian Trail
- Unicoi State Park



Tech Talk



The Satisfaction of Homebrewing

You may have heard the term homebrewing or tinkering as it relates to amateur radio. There is also a broader term out there for this called “makers”. There is an entire range of activities in our hobby that fall under that umbrella. In this month’s TechTalk we will take a look at the art of homebrew amateur radio projects. Amateur radio is often called a “hobby of hobbies” because it is so diverse. Homebrewing is not dead but at the heart of ham radio. It is an activity I would encourage all hams to do.

At the start of amateur radio most rigs were made by the ham operator. There were no commercial radios to buy. Equipment was often assembled from surplus parts and from obsolete military radio gear. The picture shows a very crude receiver with a single vacuum tube (sometimes called valves).



In the 1950s time frame radio manufacturers began to pay attention to this new market and began to offer amateur radio equipment, however at a hefty price that was out of the reach of most amateurs. So what to do? By then television had taken off and there were a lot of parts available, as well as vacuum tubes that were suitable for making a ham radio. The horizontal drive tubes made really good transmitting final amplifiers and were used often on homebrew equipment.

Enter HeathKit in the early 1950s with offerings in amateur radio. This kit manufacturer was already well known for test equipment, audio, and even TV kits. It was a perfect fit for amateur radio because it reduced the price of entry often by a factor of 10. People who could afford Collins, Drake, and Hammerlund were not their customers. This was a way to do “guided” homebrew in the form of a kit. These radios were extremely popular and are still valued by many hams. Look up the HeathKit HW-101 and you can still see these rigs going for \$400-\$500 in good condition.

As a novice in 1966 my first transmitter was a HeathKit HX-11, which was 50 watts, CW only, and crystal controlled. Great little transmitter that helped me get started with ham radio and changed the trajectory of my future career. This was a kit that I had to assemble. Lucky for me it worked. I enjoyed this rig for the entire year of my Novice term. In 1967 I upgraded to Technician, but became inactive until 2013.



Today homebrewing encompasses a very wide range of activities. In 2022 we had over 20 people in the club participate in building a 2-meter Yagi antenna using PVC pipe and cut pieces of a metal tape measure. Many of these are used weekly to check into the ARES and CARS weekly Nets. I am here to tell you that homebrewing is still a big part of ham radio. It lets you experiment and create things useful to your station and give you the satisfaction of saying “I made that”. Antennas are a natural homebrew project that add a lot to your understanding of how they work as well as build your skills.

In our February 2023 club meeting, Jason Turnage (KO4NDP) showed how he designed and constructed a base-loaded vertical antenna for use in POTA activations. Download his presentation and see if you too can build an antenna.

Homebrewing can come in many forms. It may be as simple as making a cable that you need, all the way to building an entire radio. The sky is the limit.

You don’t have to be highly technical to enjoy and participate in homebrew projects. Start small with a project you think you can be successful with. Ask for help if you get stuck.



Tech Talk

There are still a number of kits out there that you can build, and are at all levels of expertise. What is popular are kits for QRP (low power) operation. Here are a few you may want to consider:

Company	Product	Website
QRP Labs	CW and Digital transceiver kits	www.qrp-labs.com
QRPme	Many types of kits	www.qrpme.com
Pacific Antenna	Many types of kits	www.qrpkits.com
4State QRP Group	Mostly QRP rigs	www.4sqr.com
Electronics USA	Ham Clocks kits	www.electronicsusa.com

What if you want to do some much more complex projects? There are many resources out there you can look at to get some ideas. With the availability of many types of function blocks and modules, you can begin to imagine your own projects. The basis for many of these is the Arduino family and similar types of microcontrollers. I have used these in projects for years and find them to be invaluable.

Here are two references for a bunch of projects for ham radio based on the use of modules.

1. Arduino for Ham Radio, Popiel (KW5GP), ARRL Publications, 2015
2. More Arduino Projects for Ham Radio, Popiel, ARRL Publications, 2017
3. Microcontroller Projects for Amateur Radio, Dr. Jack Purdum (W8TEE), 2020
4. Software Defined Radio Transceiver: Theory and Construction of the T41-ep Amateur Radio SDT, Dr. Jack Purdum, 2022 [pre-fabricated PCBs with all SMD devices already on the board are available as a semi-kit from 4SQRP (see <http://www.4sqr.com/index.php> for details).]

If you want to look at the sources for many of the modules used in the projects shown in these books many of them come from 2-3 sources.

1. Adafruit Industries, www.adafruit.com
2. Sparkfun, www.sparkfun.com
3. AliExpress, www.aliexpress.com , You will have to search for electronics parts and modules

If you have a project you want to try, talk with some of the members and see if you can get some advice. You can also submit questions through the club email.

I encourage you to try a project. See what happens. I promise you will increase your knowledge of amateur radio and will have a feeling of accomplishment and satisfaction in your efforts.

Marty Buehring – KB4MG



FCC Considers Removing Baud Rate Limits to Boost Amateur Radio Communication

In a significant development for the ham community, the Federal Communications Commission (FCC) is considering a proposal to eliminate baud rate limits on certain amateur radio transmissions. This potential change, which aims to improve the capabilities of radio operators, particularly in emergency communications, has sparked excitement and debate within the community.

Speed restrictions that cap transmissions at 300 baud in most bands have been on the books since the early 1980s. “Baud” defines the rate at which a carrier wave is varied in frequency, amplitude or phase to transmit information. The faster the baud rate, the more data that can be exchanged over a given time period.

The FCC announced its initiative in a Report and Order in October, setting the stage for a pivotal discussion scheduled for later this month. If adopted, the rule change would allow operators to transmit data at significantly higher speeds. The Amateur Radio Relay League (ARRL) has been lobbying to remove speed restrictions since 2013.

During natural disasters and other crises, amateur operators play a crucial role in maintaining communication when conventional infrastructure fails. By removing these limits, operators could quickly transmit essential information, such as weather updates, emergency alerts, and medical data, in a more timely and reliable manner.

Additionally, the proposal is seen as a way to encourage innovation. With higher data transmission speeds, operators could explore more advanced technologies and expand the use of digital modes for various purposes, including contests, experimental projects, and educational outreach.

While many hams are enthusiastic about the proposed changes, others express concerns about potential interference issues and the need for better regulation. The upcoming FCC meeting will provide a platform for operators and interested parties to voice their opinions and influence the decision-making process.

As the FCC’s consideration continues, many hams eagerly anticipate the potential removal of baud rate limits, recognizing that this change could lead to a new era of communication capabilities that could significantly enhance their role in emergency situations and push the boundaries of what can be achieved through amateur radio technology.

The Commission is scheduled to take up the proposal at its November 15 meeting.

73,

Lee Hall
KB4KDX



Contesting

Contest Season Is Here, Do I Even Care

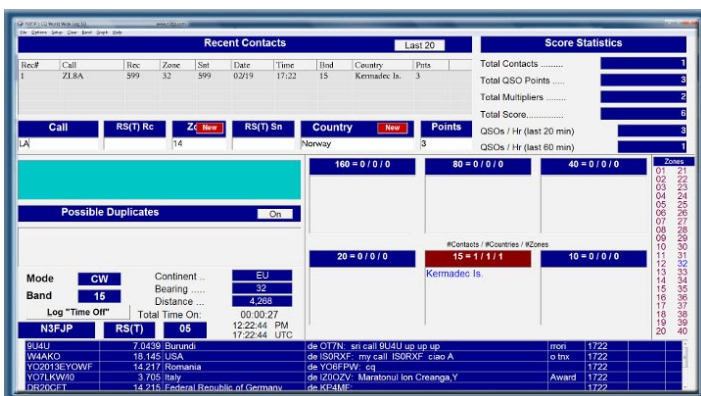
Whether you are a veteran contester or a newly licensed ham, contest season has something to offer. While the veteran contester is already making room on the wall for another plaque or certificate, a newly licensed ham may find him or herself wondering where to start. As with every other aspect of amateur radio, you must first decide what interests you. If you are the competitive type and like to challenge yourself, contesting is exactly what you need. At the same time, maybe you are working towards your DXCC Award and need to add a few more countries to your log. With as many as 35,000 stations on the air worldwide the new countries are there for the taking. You may be interested in ARES and emergency communications wondering why you are reading an article about contesting. During an EMCOM situation you will need to accurately copy information in less than favorable conditions. Contesting will offer you just that. Maybe you are only interested in gaining experience on the air. If you are like me, in the beginning, you were only focused on trying to remember the other stations' call without asking for five repeats.

be used. You will also find operating classes for each contest. The operating classes level the playing field for the 100 watt and a wire station. Entering the low power class means you won't be competing against the 1500-watt station with a quad stack antenna array on a 100 foot tower.



Now that you have picked a contest and studied the particular operating information for said contest, you will need to fine tune your plan to meet your goals and objectives. One consideration is logging. While many of us start off using QRZ as our main logbook, you may want to look into other options such as N3FJP or N1MM. These logging programs have options that are designed specifically for individual contests. A few of the many advantages to these logging programs include easy data entry, information exchange fixed on the screen, qso tracking, point tracking, UTC time tracking as well as the ability to prepare the cabrillo file for submission. You will want to download, install and become familiar with your logging program well before contest day. There are a multitude of videos online covering every major contesting software to allow you to choose the option that fits your needs.

As contest day nears, spend some time in your station listening to what locations you are hearing. Everyone in the world will be spending more time on the air doing the same thing as kick off time



Once you have narrowed your focus and goals in contesting, it's time to pick a contest and make a plan. The first step should always be a visit to the contest website. You will find all needed information to successfully build your plan. Each contest has a set operating period, operating mode(s), exchange of information as well as bands or frequencies that may

Contesting



approaches. This will give you a good idea of what bands and propagation conditions are working for your station. This will also allow you to identify any issues that may be present and correct them before the fun starts.

This is a good time to test each antenna you plan to use as well as other items in the shack. A few items to test and verify include antenna tuner, power supply, mic, logging software as well as headphones you may be using. I'm a firm believer in the saying "one is none". Having a backup for every item possible may just save contest day.

At this point you have picked your contest, become familiar with the operating rules, set contest goals, and tested your station operation. The next consideration is your operating style. Most operators new to contesting will use the hunt and pounce method. This allows you to work at your own pace as you become more comfortable with contest operating. Simply start at the low end of your operating privileges on the chosen band and turn the dial. As you pass by a station try and make a contact. After logging the contact, turn the dial and find another. Once you have reached the top of the band start over and watch the points begin to accumulate. While this method lets you choose your pace it will limit your points. Another option is to post up on a frequency and let the hunters come to you. This method will maximize your contacts and points; however, it is certainly more work and a greater challenge. A good pace for this method is upwards of five contacts per minute.

When contest day arrives, during your planned operating timeframe it is important to set aside time for regular breaks. The more comfortable you are the more successful you will be on the air. Plan breaks to eat, drink and rest. Depending on your goals, you may only spend a few hours on the air and a break won't be as important. If you plan on operating for more than a couple of hours it is important to take regular breaks, if nothing else to walk around and use the restroom.

Once the contest is over it is time to submit your logs in Cabrillo format and review your performance. If you chose one of the mentioned logging programs the submission file is quick and easy. Did you reach your goal, did you learn anything, did you add a new country to your log, did you discover your operating position needs to be changed or did you improve as an operator? I'm sure you probably picked up multiple new countries and are already planning what you will change for the next contest. The most important thing is to get on the air and have fun. I would encourage you to give the next contest a try and see how you do. As always, thank you for being the best part of CARS. I'll be looking for you during the next contest.

73,
Chad
KY4KP





Contesting

Contest Corner

November 2023

ARRL Sweepstakes Contest, CW

2100Z, Nov 4th to 0300Z, Nov 6th
160,80,40,20,15,10m CW

ARRL Sweepstakes Contest, SSB

2100Z, Nov 18th to 0300Z, Nov 20th
160,80,40,20,15,10m SSB

ARRL EME Contest

0000Z, Nov 25th to 2359Z, Nov 26th
50 MHz and above CW, Phone, Digital

CQ WW DX Contest, CW

0000Z, Nov 25th to 2400Z Nov 26th
160,80,40,20,15,10m CW

DXpedition News

TJ9MD, Cameroon



From November 2nd-15th, a team of 13 operators will be QRV on all HF bands using CW, SSB and Digital. They will also be operating an EME station.

5H3MB, Tanzania



IK2GZU will be active from Tanzania November 8th thru December 8th. He will operate 80-10m using CW, SSB and Digital.

Cherokee County ARES / RACES



Cherokee County conducted the Annual ARRL SET- Simulated Emergency Training Exercise on October 14, 2023, starting at 06:00am EST. The SET is a nationwide exercise which provides us an opportunity to test our personal equipment, emergency-operating skills, and the readiness to serve our community in a simulated emergency-like deployment.

The purpose of the Cherokee County SET this year was to check our readiness for an activation. We validated our activation processes, methods of communicating with members, confirmed contact information on file is accurate, and members were able to follow our standard operating procedures.



We initiated our exercise from the EMA- Emergency Management Agency in Cherokee County using our WA4EOC Repeater. We had 20 personnel join our voice net. We then provided instructions and guidance to our members to perform various tasks, then asked all members to deploy to the William G Long Senior Center for additional mobilization and training activities. Personnel trained on Winlink, DRATS, APRS, passed traffic on a voice net, as well as demonstrating the ability to program their own radio manually while adding the WX4AUX repeater.

Cherokee ARES deployed Advance-Party teams to the William G Long Senior Center to establish coms and take over the NET from W1JKU, so W1JKU could relocate to the Mobilization Site.

1. **KM4IEH-David** and **N4RFC-Bob** deployed to William G Long and established field expedient VHF/ UHF capability and took over the Cherokee ARES NET.

2. **WB9GFA-Stan** deployed to William G Long and established a field expedient 40-80m HF Capability using NVIS End Fed Antenna 3 feet off the ground.

3. **KO4UQF-Bill**, **KO4PWB-Rod**, **KJ4UC-Don** deployed to William G Long to continue DRATS communications and provide additional assistance as needed and prepare to assist in Mobilization inspections of the remaining members that would be arriving between 08:30 and 09:50.

4. **KO4IFY-Mark** deployed to William G Long as the Mobilization Officer ensuring ALL personnel arriving on site, were signed in/out, and that we had 100% accountability of all contact information, licenses, ICS training records, etc on file. Information that was out of date was corrected and individuals not a member of ARES and wanted to be, were given an opportunity to register and join the team.

An After-Action Review (AAR) was prepared for this exercise and is available on the news page of Cherokee-ARES.ORG. As we do with all exercises, we look for areas to sustain and areas to improve. We look forward to our training opportunities in 2024, while ensuring we are prepared any time we are called upon from our county. If you are not a member of ARES and would like to be, please visit our website for more information <http://cherokee-ares.org>

Rob Bruderer

ARES Emergency Coordinator-Cherokee County



GEAR

by Dave Jensen – W7DGJ

Radio History

An interesting part of radio history is the story of the first full amateur station marketed commercially to the public. The inventor and marketer of the “Telimco Complete Outfit” was an early enthusiast by the name of Hugo Gernsback. Gernsback packaged up this transmitter, receiver, and antenna and sold the entire package into the consumer market, advertising it in the pages of Scientific American beginning in the fall of 1905. The Telimco was exclusively for sending and receiving telegraphic dots-and-dashes, as it included a spark gap transmitter and a tapping-coherer receiver. His “outfit” also included four batteries to power the gear. The price? An astounding \$8.50, shipped. While (of course) that amount meant a great deal more at a time when you could buy an egg and cheese sandwich for a nickel, it still represented an incredible buy. Just imagine being one of those curious young men who got their hands on one of these back in that era (sorry YL’s – the club was almost exclusively boys at that time in history). Fifty years later, crystal sets and shortwave radios were the bridge for my generation into the radio hobby, but Gernsback was clearly the one who brought the idea of an amateur radio hobby to young people a couple of generations earlier.



WIRELESS TELEGRAPH

The “Telimco” Complete Outfit, comprising 1 inch Spark Coil, Strap Key, Sender, Sensitive Relay, Coherer, with Automatic Decoherer and Sounder, 4 Ex. Strong Dry Cells, all necessary wiring, including send and catch wires, with full instructions and diagrams, \$8.50. Guaranteed to work up to one mile. Send for Illust. Pamphlet & 64-page catalogue. **ELECTRO IMPORTING CO., 32 Park Place, New York**

Gernsback was also a dreamer and writer about far-off scientific achievements, other solar systems, and topics like robots. Through that secondary passion of his for his science writing, Gernsback became well-known and is considered to be the father of science fiction. His role at the time was editor and publisher of the famous sci-fi magazine, *Amazing Stories*. As a publisher, he was also first to produce a quality magazine for the radio enthusiast, which pre-dated QST, called *Modern Electrics*. While Hugo Gernsback’s radio exploits were significant, he’s best remembered today through the award given annually for the best science fiction writing, the Hugo Award.



Dave Jensen, W7DGJ, was first licensed in 1966 as WN7VDY (and later WA7VDY). Dave loved radio so much he went off to study broadcasting and came out with a BS in Communications from Ohio University. After working his way through the microphone business of Audio-Technica, he moved to

*Arizona and was later re-licensed as W7DGJ (Scottsdale). His column, **Tooling Up**, ran for more than 20 years in the website of the leading scientific journal, *SCIENCE*, and his column **Trials and Errors: Ham Life with an Amateur** continues to be a popular read each month on *QRZ.com*.*

Read Dave’s column at <https://www.qrz.com/trials-and-errors>

ITU



When Words Aren't Enough

How many times have you heard something like this on the radio?

“This is WB4LGH, ‘WE-BRAKE-FOR-LITTLE-GRUBBY-HOBOS.’” It’s hard enough sometimes to pick meaningful words out of the static without the other operator’s trying to be cute.

There’s a reason we use—well, should use—the standardized phonetic alphabet supported by the International Telecommunications Union (ITU). An advisory from the Amateur Radio Relay League (ARRL) states simply that “(t)he phonetic alphabet is helpful when the other station can’t hear you well or when the operator is not a fluent speaker of English. Don’t make up your own phonetics.”

B – Bravo	K – Kilo	T – Tango
C – Charlie	L – Lima	U – Uniform
D – Delta	M – Mike	V – Victor
E – Echo	N – November	W – Whiskey
F – Foxtrot	O – Oscar	X – X-Ray
G – Golf	P – Papa	Y – Yankee
H – Hotel	Q – Quebec	Z – Zulu
I – India	R – Romeo	

The International Telecommunications Union

It’s the final six words of the ARRL statement that bear repeating: Don’t make up your own phonetics. What’s clever to us may be totally lost on the person at the other end of the QSO.

Not long ago, I was listening to a group of Australian hams conversing on Echolink when a fellow from the States chimed in: “This is WA3BMS, that’s ‘W-A-THREE-BUY-MORE-SAUSAGE.’” While the Aussies chuckled at the solecism, they responded to the call appropriately with ITU-sanctioned clarity.

The preamble of the club’s Thursday night net requests that late or visiting stations check in “using standard ITU phonetics,” and most hams do. Other nets in which I have participated are more lax in enforcing the guidelines.

Perhaps the most compelling reason to stick to the standards occurs during emergencies when it can be a matter of life or death that a distress signal or critical information be transmitted or received.

Sure, it can be fun to blurt your call as “NOT-4-TERRIBLY-SMART-CHILDREN,” but in a hobby in which intelligibility is important, we’re better off sticking with what works. Even if it takes two seconds longer.

Lee Hall

KILO-BRAVO-FOUR-KILO-DELTA-XRAY



QRP

The Joys (and Realities) of QRP

Operating QRP can be a satisfying endeavor for anyone wanting a little more challenge in their ham radio hobby.

What is QRP?

Operating QRP simply means using low power in the HF bands. 5 watts or less is the general rule. Depending on who you ask, and what contest or event you're in, it may be up to 10 watts for voice. But in general, we usually associate QRP with 5w.

There are a few QRP variants you may hear about as well. QRP+ is QRP plus some, like the 20 watt Xiegu G90. Not quite QRP, but also not "high power". You may also hear about QRPP, which is super low power under 1w. And even QRPPP, which is working under 100 milliwatts! This is seen in small rigs like the Pixie and other single band (even single frequency) CW transceivers running on a coin cell battery and pushing out a whole tenth of a watt or less!

Many QRP transceivers accept a range of input voltages, not just a fixed 12V. The input voltage for these will dictate the power going out. For example, the (tr)uSDX will put out about .5 watts when run at 5V, or about 5 watts when run at 13.8V. The rig can be pushed higher with higher voltages, though around 16V will start putting out more power than it's designed for. QRP-Labs suggest their rigs, such as the QCX and its family, be run at 9V for optimal input-to-output transmission ratio, though it can be run with any power input from 7 to 16 volts. This type of range lets an operator work off smaller non-12V batteries, such as putting two, three, or four 3.7V lithium batteries in series to get a voltage meeting their desired output power needs.

While there are dedicated QRP transceivers, this doesn't mean that you have to be using one to operate QRP. Many folks will simply turn down their normal 100w rigs to 5w. This is fine and follows the rules and spirit for any event requesting operators go QRP.

Contests and Events

There are some fun events that are QRP-only. Even beyond those, most other events have a QRP class. That

way, QRP ops can participate and compare their scores to other QRP-ers and not just outright lose. You can find many QRP-ready events in the QRP section of the contest calendar: https://contestcalendar.com/contestcal_qrp.html

Out In The Field

While there are contests and other events around QRP ham operators participate in from their shack, most usage I've found tends to be enthusiasts playing radio while out and about. Particularly POTA (parks on the air), as it alone has grown to be a substantial hobby within the hobby. While I don't participate in SOTA (summits on the air), my observation is that QRP tends to be used almost exclusively due to size and weight of the rig, not to mention they are, by definition, working on the top of a mountain where radio propagation has a better chance of getting out.

Many SOTA and POTA ops use low power rigs for a lot of good reasons, however. Most of the good reasons are that QRP rigs are:

- Considerably smaller which makes them significantly easier to pack
- Lighter, which makes hiking with a radio way easier, especially when there's other gear
- Inexpensive, relatively. There are expensive models, but there are also lower cost rigs that can be about the cheapest way to get into HF
- Power sippers. Transmitting a small fraction of the power also draws a small fraction of the power, letting a substantially smaller battery be used. Small amounts of power also need smaller power cabling. So the whole kit just starts shrinking in size.
- Can be a nice challenge.

The Challenge

Someone who hasn't turned the power way down before, or who has and had a poor experience, may wonder what's the point. Sure, a smaller/lighter radio might be wonderful, but there's already enough challenge in radio already, right? Why add more unnecessary challenges for yourself for no reason, it's literally creating problems that don't need to exist. More power beats less power any day of the week right?

QRP



The Upsides

It's a fair point, but a few pros come to mind:

- A lot of the time, less power gets the job done almost as good. On a terrible propagation day, neither works. Remember, it's recommended to use as little power as possible to make the contact. That's a hard one to follow, though, when you hear pileups and the folks getting through are all high power. I've found the type of folks who like QRP aren't spending a lot of time in pileups anyway.
- CW and digital modes need significantly fewer watts out as they're, in general, more favorable weak signal modes than voice modes. Even so, trying DX contacts with QRP is more of a challenge than many operators want.
- Minimal power forces an op to think more about their antenna and transmission line. We all want a good SWR, but a good QRPer wants as much of their output power as possible hitting the air. That's a different goal than minimizing SWR. Especially if it means matching a crappy antenna, regardless of the SWR at the rig. Low power hitting the antenna where near 100% goes out versus a medium power rig with 40% or less going out, may perform with closer results than it seems!

The Downsides

As you could probably guess, with the pros also come plenty of cons.

- QRP HF rigs are not emergency radios. The less HF propagation simply doesn't get out as far, if getting out far is what the goal is. Sure there are times when 1w can work the world on a particular band, but if 1w can then 100w can almost assuredly do it way better.
- QRP tends to be better for calling CQ than answering CQ. If an op is calling CQ with any amount of power then they get answered by other ops who can hear them. The number of answering stations will usually be significantly less, but as long as there are stations answering, the mission can be considered accomplished. Ops do hunt with QRP, but in a pileup they're at a serious disadvantage because powerful stations deafen the operator to

weaker stations. This is much less of a problem if the QRP station is the CQer as they're leading the pileup rather than trying to get through it.

- QRP has a good chance of getting their frequency taken right out from under them from another station who can't hear the weak signal.
- Though there are exceptions (IC-705 notably, and to a much lesser extent Xiegu's 6100 & X106), QRP rigs tend to have fewer of the desirable bells and whistles as their larger high power counterparts. This can be seen as a pro to many who seek simpler rigs, but it's worth pointing out as a con to those who don't. While a few SDR-based rigs have a nice color waterfall display (the exceptions), most do not. The same is true with filters, more bands, ease of tuning around, memories, modes, configurable properties of the modes, and more.

Takeaway

Working QRP is an activity that's both fun and challenging. When it works, it's extremely satisfying and the op is rewarded by wanting to do it more. The expectation, however, should be that it's not going to work every time, and may even not work the first several attempts. This can be frustrating to a new ham that is just getting into the hobby and only has a few (or no) QSOs in their log before trying it. For that reason, many will suggest that a low power HF rig isn't a good first rig. Getting some successes with a fuller-featured higher-powered rig may be better before taking those luxuries away for the sake of challenge. After all, if there haven't been any successes yet, how do you even know what the challenge is?

For an experienced ham, it's a good way to operate at least every once in a while. Turning the power way down and not making any contacts may expose deficiencies in their system. Working on them can help improve their normal working and get even more contacts.

And who doesn't want more contacts?

—

Jason KO4NDP

Resources



WX4CAR Resource Links

Website - <https://www.wx4car.org>

Contact Us - <https://www.wx4car.org/contact-us.html>

Membership - <https://www.wx4car.org/membership-form.html>

CARS Club Technical Programs - <https://www.wx4car.org/technical-monthly-programs.html>

Club Activities - <https://www.wx4car.org/club-activities.html>

POTA Corner - <https://www.wx4car.org/pota-corner.html>

ARRL FIELD DAY - <https://www.wx4car.org/field-day.html>

Ham Fests - <https://www.wx4car.org/amateur-radio-events.html>

CARS Groups.io - <https://groups.io/groups>

ARRL Testing Info - <https://www.wx4car.org/testing2023.html>

New Ham Kit - https://www.wx4car.org/uploads/8/3/7/7/83773582/wx4cars_intro_to_new_hams-7apr2021.pdf

Ham License Upgrading - <https://www.wx4car.org/obtaining-a-license.html>

Technician Ham Cram Study Guide - https://www.wx4car.org/uploads/8/3/7/7/83773582/2022-2026_technician_pool_study_guide.pdf

Club Apparel - <https://www.hamthreads.com>

CARS Club Badges - <https://www.thesignman.com/clubs/carsga.html>

POTA Supplies - <https://www.clubgearonline.com>

Contesting Links

ARRL Contest Calendar - <http://www.arrl.org/contest-calendar>

Contesting Calendar - <http://www.contesting.com/>

CQ Contest Calendar - http://cq-amateur-radio.com/cq_contests/cq_annual_contest_calendar/cq_annual_contest_calendar.html

SolarHam Site - <http://www.solarham.net/index.htm>

Space Weather - <http://www.spaceweatherwoman.com/>

Contest Calendar - <https://www.contestcalendar.com>

Other Links

ARRL - <http://www.arrl.org>

Sky Warn - <http://skywarn.org>

QSO Today - <http://qsotoday.com>

Cherokee EMA - <http://cherokeega-ema.org>

Georgia ARES - <https://www.gaares.org>

Ham Radio Work Bench - <http://hamradioworkbench.com>

On All Bands - <https://www.onallbands.com>



WX4CAR

CARS Officers for 2023:

President:

Martin Buehring – KB4MG

Vice President:

Chad Cone – KY4KP

Secretary:

Mark Schulze – KO4IFY

Treasurer:

James James – KE4HMS

Cherokee County

Emergency Coordinator:

Rob Bruderer – W1JKU

Email–club.wx4car@gmail.com

Time & Location of Meetings:

Meetings are the second Saturday of each month at 10:00 am Eastern Time.

William G. Long Senior Center

223 Arnold Mill Road

Woodstock, Georgia 30188

Our meetings are open to all visitors. You do not need to be a member or have a license to attend. Come for the fellowship and technical programs.

We also have a combined ARES meeting at the same time. ARRL FCC Testing is at 1:00PM following the meeting.

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Mission Statement

The mission of the Cherokee Amateur Radio Society is to promote the hobby of amateur radio to the Cherokee County residents and surrounding communities. It primarily serves to provide education, FCC testing, public service, and fellowship to people with the common interest of amateur radio.

Cherokee Amateur Radio Society is an organization of FCC licensed amateur radio operators (also called Hams) that meet and share the hobby, educate people about amateur radio, as well as support our local community in times of disaster. We are located in Cherokee County, Georgia and have club call sign **WX4CAR**. We are an ARRL Affiliated Club.

The club also participates with ARES, and the Cherokee County EOC when severe weather gets close to the area, and we help with local public service projects. The members of the club also dedicate some of their time to promote and help new hams to develop their skills and knowledge on Amateur communications modes and to be better operators. We are a very active club and participate in ARRL Field Day every year. If you are located in Cherokee County or the surrounding area, we would like to invite you to participate.