



QST NFL

Newsletter for the Northern Florida Section

Come join the FUN!

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September 2023

From the Shack of the Section Manager

Scott Roberts, KK4ECR (kk4ecr@gmail.com)

Amateur radio is more than a hobby; it's a lifeline that binds us all together. The resilience and camaraderie exhibited by ham radio operators in the NFL Section during Hurricane Idalia underscored the importance of community preparedness and cooperation. Your selfless actions remind us that in times of crisis, it's not just about individual accomplishments, but the collective strength that enables us to overcome challenges.



To each and every operator who played a role in supporting our section during Hurricane Idalia, I extend my heartfelt thanks.

Your dedication serves as an inspiration to us all, and your commitment to service is a testament to the unbreakable spirit of the amateur radio community.

Checkout the ARRL News from this past week - <http://www.arrl.org/news/hurricane-idalia-arrl-amateur-radio-volunteers-serve>

Courtesy in the time of emergency

While this may be "preaching to the choir" of those who read this article, it is important that we all keep this fresh in our minds and pass this on to other amateur radio operators we interact with.

In the realm of amateur radio, the HF bands serve a crucial role in emergency communications, connecting us when traditional methods might fail. Keep in mind that no one person or group "OWNS" a particular frequency or band. Priority should be given to priority and emergency communications and/or nets. While sharing the HF bands for emergency purposes requires more than technical expertise; it demands a commitment to courtesy and cooperation among operators. Let's explore how we can amplify the impact of our emergency communications by prioritizing these principles.

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Comprehending the HF bands and frequencies is the foundation of effective emergency communications. From 160 meters to 10 meters, each band brings unique capabilities in reaching affected areas. Mastering the art of sharing involves not only identifying suitable frequencies but also adhering to the band segments allocated for emergency communication. This approach ensures that vital information flows seamlessly without interference.

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Newsletter, *QST NFL*

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Submissions may be made to the editor: Marty Brown N4GL.MARTY@gmail.com.

All submissions are subject to editing prior to publication.

Looking for Something?

Gordon Gibby, KX4Z, has taken the time to index the articles from all the 2021 issues of *QST NFL*!

<https://arrl-nfl.org/wp-content/>

[up-loads/2021/12/2021QSTNFLIndex.pdf](https://arrl-nfl.org/wp-content/uploads/2021/12/2021QSTNFLIndex.pdf)

In the context of emergency situations, politeness and kindness take on added significance. Picture the HF bands as a lifeline connecting communities during disasters. Just as we offer a helping hand in dire times, practicing civility on the airwaves becomes crucial. Using clear call signs, providing concise updates, and observing pauses to allow for urgent transmissions all contribute to a cohesive and efficient network.

Furthermore, cultivating a sense of unity among operators can make a world of difference. By sharing strategies, resources, and insights, we amplify the effectiveness of our emergency communications. Displaying patience and empathy, especially when coordinating with less experienced operators, fosters an environment where everyone feels empowered to contribute their skills for the greater good.

As ambassadors of Amateur Radio and the NFL Section, our actions on the HF bands carry immense weight. Demonstrating professionalism and respect not only elevates our reputation but also underscores our commitment to supporting our community during critical moments. By embodying these principles, we showcase the strength of our unity in the face of adversity.

To sum up, sharing the ham radio HF bands during emergencies while upholding politeness and collaboration is the bedrock of effective disaster communications. Our proficiency in frequency allocation, combined with our commitment to courteous conduct, can make a substantial impact when lives hang in the balance. Each transmission becomes a lifeline, and each interaction shapes the outcome of the crisis. Let's continue to be unwavering advocates for unity and resilience, knowing that our actions on the airwaves can make all the difference.

I am available to speak at your meetings. Although, I may not be able to attend in person, I can attend by Zoom or Teams. Please let me know if you would like me to attend.

NFL Section Member of the Month!

We are accepting nominations for the NFL Section Member of the Month. To submit a nomination, please send an email to Section Manager Scott Roberts at kk4ecr@gmail.com. Include the nominee's name, call sign, county, reason for the nomination, and a photo of the nominee. Arc and I will review the nominations and reach out to you if we have any questions.



A Year-Long Operating Event Recognizing Volunteers

From the Section Emergency Coordinator

Arc Thames, W4CPD



ARES volunteers are a remarkable group of individuals who share a passion for amateur radio and a strong commitment to community service. When Hurricane Idalia made landfall, these volunteers were already prepared, equipped, and organized to respond swiftly to the impending crisis. Their dedication to preparedness and their extensive training made them invaluable assets during this challenging time.

We directly know of at least 12 counties that activated their ARES resources to support operations at shelters and emergency operations centers in preparation, during, and after Hurricane Idalia. Volunteers from both Leon and Bay counties provided support to the State EOC radio room. The volunteers at the State EOC operated a closed net on SARNET, the Florida statewide repeater network, and monitored HF frequencies.

In addition to our direct support of EOC's (emergency operation centers), volunteers from inside and outside of Florida staffed an emergency HF net that monitored for any counties that might have lost their ability to communicate using traditional methods such as cellular, landline, and the internet. We stand these nets up shortly before a hurricane is to make landfall and work to stand them down as quickly as possible. These nets are stood up at the request of the Florida State Division of Emergency Management.

Our emergency HF nets are always a challenge due, unfortunately, to some that believe they "own" certain frequencies. The frequencies we chose for our nets aren't random. They are actually listed in several FOG's (field operations guides) such as the AUXFOG and FLCOMUFOG. This continues to be an issue for us year after year. During Hurricane Michael, rogue operators would record the net control station and play them back to cause confusion. We've had rogue operators play recorded lectures or music over top of our net control stations as well. I will continue to work with our teams throughout the state and the State Division of Emergency Management to find solutions to ensure that emergency communications are able to occur without hinderance.

I would like to extend a deep, heartfelt thanks to everyone involved in the response to Hurricane Idalia and for those amateur radio operators that were kind enough to share the airways with us as we responded when called upon. From our net control stations to those staffing emergency operations centers, your work does not go un-noticed and we are thankful for everything you do to support your communities.

Section ARES Report

In July our section reported 693 hours of volunteer time to various ARES duties within our section. Thanks to the counties and EC/AEC's for reporting their time. The information provided by our team is consolidated and then forwarded to the ARRL.

	Number	Person-Hrs
Exercises this month:	4	8.00
Training events this month:	11	171.00
Public service events this month:	4	44.00
Community service events this month:	0	0.00
Emergency events this month:	0	0.00
SKYWARN events this month:	9	60.00
Meetings this month:	17	206.00
Unclassified events this month:	63	204.00

Call signs of DECs/ECs reporting:

W4CPD K4SOP N2HAY KK4ECR W4UFL KN4PFZ WE4MJ W4CJB KX4LEO KB4HAH KO4YOL KO4KUS W4KKJ KA3OGG

Seven Principles of Effective Ham Radio Communication

Joe Bassett, W1WCN, Assistant Section Manager for Training

Few methods of communication carry the historic relevance and resilience of ham radio. When modern networks fail due to natural and manmade disasters, we ham radio operators step up to bridge gaps, share information, and provide a lifeline for those in need. Sending and receiving ham radio messages plays a pivotal role in connecting people across vast distances; when we do so skillfully we honor the longstanding tradition of service to others. As such, effective ham radio communication relies on 7 principles.

1. Craft the Message:

The image of a "craftsman" conjures the image of someone who has honed and refined a particular skill. The art of creating, listing, and sending ham radio messages begins with crafting a clear and concise message. This applies to tactical, informal, and written messages. Given the limitations of radio frequency bandwidth, it's essential to distill information to its core. Use plain language, omit unnecessary details and jargon, and prioritize critical information. A well-structured message ensures efficient transmission and accurate reception. In short, establish what the other station needs to hear, not what you want to say. In essence, ignorance is unable to say in a novel what wisdom says in a sentence.

2. Follow Established Protocols:

Effective ham radio communication depends on established protocols that ensure seamless interaction. Before sending a message, familiarize yourself with standard practices like using call signs, proper phonetics, and acknowledgment procedures. Adhering to these protocols enhances communication efficiency and reduces the chance of errors. One such protocol is to establish contact with their receiving station before communicating information. Another is the consistent use of appropriate prosigns/prowords and phonetics.

3. Choose Appropriate Frequencies:

Selecting the appropriate frequency is paramount for successful message transmission. Different frequencies serve distinct purposes or support varied propagation, so choose the one that aligns with your message's urgency, intended recipient, and geographic location. Avoid interference from other signals by monitoring the frequency before transmitting or securing net control's permission before transmitting.

Radio wave propagation varies with time and atmospheric conditions. To optimize your chances of successful message delivery, pick a time when signal strength is optimal. Early mornings and evenings often provide favorable propagation conditions, enhancing the chances of your message reaching its destination.

4. Practice and Master Skill:

Sending ham radio messages is a skill that improves with practice. Many stations hesitate or even refuse to participate out of fear. The best way to overcome fear is by practicing during training nets or simulated emergencies. Before deploying in emergency situations, practice message transmission with fellow operators or as part of radio drills. Regular practice hones your skills and builds confidence in relaying messages accurately and efficiently.

However, practice DOES NOT make perfect. Practice makes permanence. When we don't practice appropriately or without a goal bad habits are imbedded and hard to break. Submit your practicing to consistent evaluation. Learn to accept constructive feedback from experienced operators and incorporate that feedback into improvement. As an old proverb says, "Those who disregard discipline despise themselves, but those who heed correction gain understanding."

5. Prioritize Efficiency:

Given the finite airwaves and time available, it's crucial to prioritize message efficiency. Keep transmissions concise, avoid unnecessary repetition, and eliminate vocal disfluencies such as "um," "ah," "hmm." An effective strategy is to think about what needs to be said before you say it. It helps to jot down a quick outline or script for informal traffic before you transmit. Pay particular attention to the last sentence you want to say. This helps avoid "run-on mouth." Efficient communication respects others and allows them to communicate effectively as well.

6. Acknowledge Receipt:

Acknowledge receipt of messages when you receive them and when your message is received, expect an acknowledgment from the recipient. This ensures that message have been successfully transmitted, received, and understood. Acknowledgments also help identify potential issues in transmission and reception.

7. Embrace Adaptability:

Ham radio operators often face changing conditions, including interference, changing frequencies, and unexpected challenges. Being adaptable is key to overcoming these obstacles and successfully delivering messages. "Be gaseous because flexible is too rigid."

Continued on next page...

Communicating by ham radio messages is both an art and a science. It's a skill that connects individuals, communities, and even countries through the power of radio waves. When we follow established protocols, practice regularly, and prioritize efficient communication, we become invaluable communicators, especially in times when "all else fails."



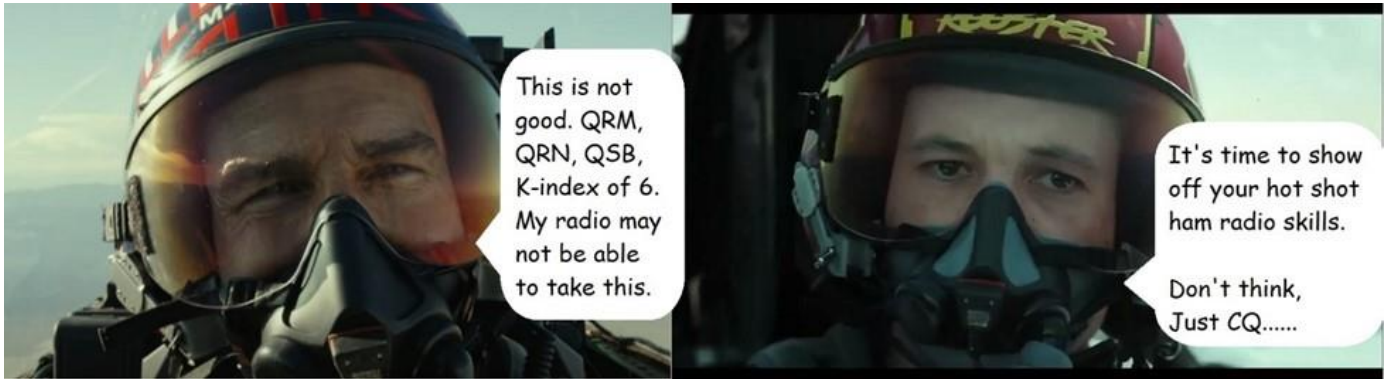
Tallahassee Amateur Radio Society Visits the Consolidated Dispatch Agency

By Chris Pandolfi KO4DN

On August 3rd the Tallahassee Amateur Radio Society held their meeting at the Public Safety Complex. The Public Safety Complex is home to Leon County EOC, Traffic Engineering, the Consolidated Dispatch Agency (CDA), and administration offices for Tallahassee Fire and EMS.

Director David Odom gave a very informative presentation on how the CDA works. The CDA is a central location where 911 calls come in and radio traffic is dispatched to Sheriff, Police, Fire, and EMS. Sheriff deputies and Tallahassee Police share common talkgroups which make nearest available units a realism.

The club was very enthused, and asked many questions on the process on how a 911 call get dispatched. A great time was had by all.



tnx Chris Pandolfi KO4DN



Alachua County ARES®/NFARC FUN!

by Gordon Gibby KX4Z

August was a very busy month for the ARES(R) crew, and our supporting club NFARC! Three efforts dominated the month: (a) working to build, and then extend an HF "triplexer"; (b) beginning to tackle re-badging of our Alachua County volunteers; and (c) our 2023 Technician License Class.

We've reported in a separate article (in this issue) our success in building VA6AM's fantastic high-band Triplexer. This device allows us to use ONE antenna to service three HF transceivers, without damage to any of them. It passes 20 meters to/from one port; 15 meters to/from a different port, and 10 meters to/from a 3rd port -- all going and coming from ONE antenna. It does it with minimal SWR change or impedance change for each transceiver on their working band, and with > 30dB isolation of each transceiver from the powerful signal of another transceiver. 30dB isolation by itself is inadequate -- so use of this device requires additional bandpass filters (readily available or kit-able) to boost the isolation to >50 or even >60 dB.

We started the effort with a "Tech Nite" [First Thursday night of the month, 7PM] zoom session explaining how high-pass filters, low-pass filters, and bandpass filters work. That was very warmly received and helps our members as their work toward higher level licenses. It is all in how the L's and the C's are combined! Pavel, VA6AM, designed his Triplexers to have one of each -- a high-pass filter (for 10 meters) and bandpass filter (for 15 meters) and a low-pass filter (for 20 meters).

Then we held a LabNLunch session where our members got to physically push and prod the #16 solid windings on the T-130-6/17 toroids and watch what happened on an inexpensive VNA (vector network analyzer) that displayed both loss vs. frequency and SWR at the same time. The crew was VERY impressed and had a LOT of fun at this work and we ended up with a very workable triplexer!

Stewart Reissener KK4DXF

At our monthly meeting we honored Stewart Reissener KK4DXF, who was the driving force behind our trailered 30+ foot alumatower! All of our members have their "niche" where they are best suited, and building and welding is definitely Stewart's domain!

Stewart Reissener KK4DXF welding together our tower trailer

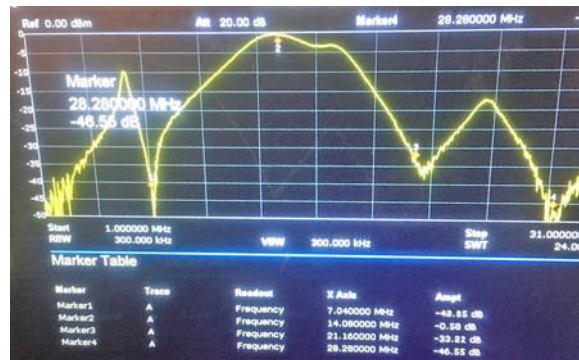


Rebadging for Sensitive Locations

We also tackled the delicate subject of what to do with Alachua County badged volunteers who have somewhat "dropped out" of training with our larger group. Group attrition is normal, and we've just added 4 new go-getter badged volunteers. Everyone is different, peoples' life circumstances change, interests and focus change also with time. Alachua County personnel had asked that we use two criteria in making our recommendations for their consideration: (1) ongoing training with our group, and (2) actually willing to serve. We settled on a unanimous view that in order to be considered "still training" with our group, attendance at 3/12 meetings per year and one special effort (e.g., a formal exercise, or a LabNLunch or similar) would be the standard. We decided to send an information letter to all current badged volunteers advising them that their 5-year renewal badging would be coming up and these were our views on whom to recommend. We don't make final decisions; we merely follow the requests of Alachua County emergency management.

**NEW Alachua County
Badged Volunteers**
Bob Lightner W4GJ
Steve Panaghi KC2ASY
Craig White KO4ZRZ
Eric Pleace KO4ZSD

Since our meeting, more work has gone into the TRIPLEXER and now we can report that converting the 20-meter low-pass filter into a 20-meter bandpass filter **has succeeded**. This is the first step toward inexpensively expanding this useful device into a QUADPLEXER (covering 4 transceivers) or QUINTPLEXER covering 5 transceivers. More will be published in an upcoming issue of that work.



Early 20-meter bandpass results showing "traps" on 40/15/10 meters and wide bandpass at 20meters. Since this plot, loss

Technician License Class

Finally, we wanted to get in a Technician License Class as early in the hurricane season as possible, and as quickly following our very public and very successful **ARRL Field Day** exercise -- so we planned and carried out the class during 15 hours of Sat/Sun August 19/20. We use a Google Form for sign-up, and we also contacted people who had taken an earlier course as well as those who signed up at our Field Day.

We had a BUMPER CROP of participants! 15 people, as young as 6th grade, filed into the Alachua County EOC conference room (which unfortunately is uncontrollably freezing) and we did possibly the best course we have ever done! Our instructors included:

On a 5-point Likert scale our instructors were so enthusiastic, our "labs" so fascinating, and our hands-on so engaging that we hit 4.93/5 -- all but one participant rated us "excellent." The hands-on with HF and VHF were very much appreciated, and our 1/4 wave vertical antenna (built on an SO-239 connector with 4 sloping radials) was a huge hit.

Our instructors thought tuning the VHF antenna was very effective in showing students that shortening the antenna (by rolling up the ends) raised the resonant frequency. Almost all of our antennas maintained 1.4:1 SWR over the entire 2-meter band. Solid AWG #12 was used for the vertical section, which with care would go into the SO-239 center conductor, and AWG #14 for the 4 sloper ends.

This was one of our most engaged classes ever, and the "group consensus" on a hamstudy.org practice test at the end was a resounding 97% score.

What brought students to our course? We were surprised to find that **WORD OF MOUTH from friends was the #1 draw**. And our number one member mentioned by those participants, was Lorilyn Roberts, KO4LBS! Go, Lorilyn! She also teaches our Morse Code "flex" class at Cornerstone Academy in Gainesville.

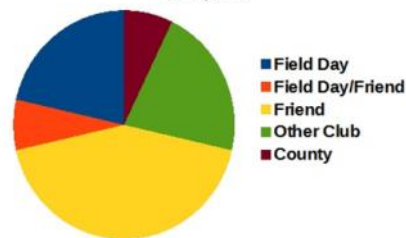
2023 Alachua County Technician Faculty

- Rosemary Jones KI4QBZ - T1 Regulation
- Leland Gallup AA3YB - T2 Operating, T8 Signals/Emissions, T9 Antenna/Feedline
- Eric Pleace KO4ZSD - T3 Radio Waves, T5 Electricity
- Susan Halbert KG4VWI - T4 Practices & Stations
- Gordon Gibby KX4Z - T6 Electronics, T7 Practical Circuit, Lab: Antenna
- Earl McDow K4ZSW - T0 Safety (AC & RF)



Rosemary Jones KI4QBZ goes over T1 - Regulations

How Participants Learned of Course
15 Responses



Sumter County ARES® Emergency Communications Trailer

Mark Newby, KX4LEO, Emergency Coordinator



The ability to respond to a location and quickly establish temporary emergency communications became a top priority for Mark Newby KX4LEO, the ARES Emergency Coordinator for Sumter County. Made possible by a contribution from a local business, Integrated Data And Communications Systems, Sumter County ARES can now deploy a self-contained trailer to where ever emergency communications is needed. There is no set up time required. It remains ready to deploy upon request from Emergency Management and local public safety officials, as well as any ARES organization through mutual aid.

This trailer provides a climate-controlled environment from which emergency and non-emergency activities can be comfortably coordinated. This asset

has its own internet capability and is equipped with three individual workstations with network-connected computers, two wall-mounted televisions that receives internet and over-the-air broadcasts, a pushup telescoping mast, and an array of modern amateur and non-amateur analog and digital communications equipment.

The installed amateur radios allow operators to communicate on HF, VHF and UHF on analog and all popular digital modes. The trailer is also equipped with its own UHF repeater. From within the trailer operators can use Winlink to send and receive emails, radiograms and ICS forms over the air or through the internet. To see pictures and read more information about this trailer, go to www.sumterares.org/trailer



Loften High School Makes Good Use of Hurricane Days

Bob Lightner, W4GJ

Students and staff at W.T. Loften High School (K4WTL) got two "hurricane days off" for hurricane Idalia. Chief Mark Smith (W4EFO) of our Fire/EMS Academy, nested our Force 12 XR-5 antenna to keep it safe from the storm. We will crank the tower up next week and resume normal HF operations. Our 15 new freshmen operators are gaining on-air experience in preparation for our upcoming National Fire Prevention Week October 8-14. We will be using the special event call: **N4F**. QSO for us on 20 Meter SSB during the day and on 40 Meter CW at night. We also held a "Club Day" to introduce our HAM club to new students in the school's other five Academies. Our club brochures were a big hit and we obtained many additional potential operators.



Suwannee & Madison ARES® Activities

J. Gordon "Gordie" Beattie, Jr., W2TTT

W2TTT@ATT.NET

Storms are Ramping Up

This was a busy ARES month here in Suwannee and Madison Counties. The weather heated up as is normal for this time of the year and several significant, but short wind and rain events occurred in the middle of the month to remind each of us that the Fall will likely bring heavy weather as the Hurricane season reaches its peak. This caused ARES members to spontaneously reach out to each other on the local simplex frequency of 146.55 MHz and the local repeaters 145.19 MHz with a tone 123.0 Hz in Madison County and 145.27 MHz with a tone of 123.0 Hz in Suwannee County. Some activity also was observed on the club's GMRS repeater on the water tower in Madison.

Such planning and operations have worked well for routine heavy weather, but once you get into the 80 mph sustained winds of a hurricane, things will degrade rapidly.

And Along Came Idalia

This event was a game-changer with the eye wall ripping through eastern Madison and western Suwannee Counties with winds of 80-100 mph and gusts up to 115 mph.

Mike Meador KM4BTW, our Suwannee County EC staffed the EOC starting early in the event and found himself alone in the EOC after the rest of the staff relocated to a local school because the EOC building is rated only for a Category 3 storm. Once the storm passed, Mike headed home around midday and did not require relief. No further ARES resources were contacted by OEM after Noon on Wednesday.

With over 95% of our counties without electricity and with many unable to leave their homes or neighborhoods for hours or even days, communications were all powered by backup systems. Suwannee Valley Electric, Tri-County Electric, Florida Power and Light, and Duke Energy immediately got to work restoring services. Seven days later, only 23% of SVEC customers are without service and other companies have made similar progress with the influx of "cut and toss" tree crews and electrical crews from as far away as California!

Fortunately, only one AT&T Wireless and FirstNet site was impacted in Suwannee County, but service remained online. We were able to maintain situational awareness through the use of cellular "go boxes" augmented by longer life battery boxes containing 30 AH 13.3 VDC LiFePO4 batteries. The cellular



"go boxes" include a Netgear LM-1200 modem, a Mikrotik hAP router with AREDN mesh software, 9 AH LiFePO4 battery, and an external 5.8 GHz AREDN mesh node and a DMR hotspot. We ran a second LiFePO4 battery with a SiriusXM boom box and phone charging station. We had backup batteries for each setup and that gave us two days of operation before swapping batteries. We also had other LiFePO4 batteries supporting our 145.27 MHz repeater and other radios. Mercifully, many homes were spared, although shingle loss was an issue for those without metal roofs. Small buildings where air could circulate inside seemed to be at higher risk of loss. These structures, along with those crushed by falling trees accounted for the most damage.



One of four 30 AH battery boxes.



Netgear LM-1200 cellular modem with Mikrotik hAP AREDN mesh router.

Note the totally compromised W2TTT/N2FWI RV pole barn that will need to be replaced. The RV, owned by KO4LFB, was undamaged.



The metal garden shed was ripped from the concrete foundation. No-

The metal garden shed now rests across the road embedded in KO4LFP's fence.



N2FWI Nancy's shed damaged by fallen tree branch.



Towers and most antennas, survived intact with the exception of those where trees failed or had long spans. Wire antennas here at W2TTT/N2FWI were rocked with only half surviving. The big OCF dipole and 80m loop did not survive, but are repairable. The short 40M OCF dipole and the Tennadyne SS-90 folded, terminated dipole did survive, although one lost its coaxial cable feed. The 145.27 MHz repeater antenna was damaged, but remains on the air. The 145.19 MHz repeater ran out of backup battery power and Dan W1JXG ran a generator to bring it back online.

The KI4TRR and his wife Robin sheltered at the QTH of W2TTT and N2FWI, and KO4LFB sheltered with relatives in the eastern part of Suwannee County. Several neighbors had started to study for their ham licenses before the storm and several more have expressed interest after the storm. Time will tell.

In the aftermath of Idalia, our group was able to congregate on 146.55 MHz and start the recovery process including wiring electrical panels for impromptu generator connections, sharing water, getting rid of trash, fetching food and fuel and relocating generators.

Florida Communications Unit in Suwannee County

Around Noon on Sunday, W2TTT had a chance QSO on 146.52 MHz simplex with N4FCU, the Florida Communications Unit which was located near the school where the EOC function had relocated. They were very interested in local Amateur Radio communications resources and were struggling for useful information. They expressed some disappointment in not having a local ham interface and had lots of questions (on Sunday) that they would have liked to have known on arrival or shortly thereafter.

I filled them in with helpful local information and invited them to participate in the Suwannee ARES Net that evening. Jason K4AUS from Lake County checked-in a team of nine operators including K4AUS, KK4KMO, KN4UXF, KO4GTB, N4KVL, N2ENC, KO4QPT, W4CGX and KO4VTI. On behalf of Suwannee County ARES, and our Emergency Coordinator Mike Meador KM4BTW, I want to thank them for coming to Suwannee County and apologize for the lack of coordination. Sadly, Mike and I had not been informed by the EOC staff of their deployment. They had operators in a variety of roles including two in AUXCOMM. Mike and I will be discussing this oversight and the relocation issue in the future with the Emergency Management team.

ARES Preparedness Activities

Preparations for the building storm season has included getting our personal and communications go-kits refreshed, good participation on our weekly Sunday night county ARES nets (Suwannee 2030 ET and Madison 2100 ET on our respective repeaters), and solid individual participation in the North Florida ARES and Phone Nets on 7.265 MHz at 0900 ET and 3.950 MHz at 1930 ET respectively. We also each have good participation in the weekly SARNET County and Served Agency Nets on Wednesdays. During August, the Suwannee County EOC was activated each Wednesday morning and Madison County had their monthly meeting at their EOC. Madison County also operates a weekly GMRS net at 1930 ET.

Both counties share 146.55 Simplex as a backup channel if one or both repeaters should fail. The standing rule is to not self-activate, but to "self-alert" when conditions are threatening by checking these repeaters, simplex and the SARNET system. This provides an enhanced level of situational awareness for all interested operators and helps the ARES groups in each county to "ramp up" more rapidly, if required.

Madison County Coverage Test

On Saturday, August 19th, members of the Madison and Suwannee County ARES performed a coverage test across a wide number of locations in Madison County. This included the 145.19 MHz and 145.11 MHz repeaters in Lee, the 145.27 MHz repeater in western Suwannee County and the GMRS repeater in Madison.

Jim K4DBC started in Pinetta, went to Cherry Lake both in the northeastern part of the county and then worked his way over to the extreme northwestern part of the county. Once there he tried the GMRS repeater with a handie-talkie and made a contact with Dan W1JXG. This was a pleasant surprise and will inspire more testing.

Bob KF4JPI traveled out the length of I-10 through Madison and Jefferson Counties and turned around in Leon County. All that time, Bob thought he was running 50 Watts, but was surprised to learn that he was running only 10 Watts. His misunderstanding ended up being a valuable data point in the coverage study.

Aaron KQ4BDC was operating from Jefferson County and Bryan KQ4FMY was operating from Hamilton and Madison Counties. Bill AA4TM went south to the county line on Rt 14 and Gordon W2TTT went from Suwannee to Jefferson Counties on US Rt. 90.

Additional fixed station support was provided by Dan W1JXG, Junior KC4VPJ and Pat K4NRD. It was quite the team effort and was completed inside of three hours. Jim K4DBC is collecting the reports and will be summarizing them soon. This will likely inspire further testing of additional repeaters in Suwannee and adjacent counties and a discussion of how coverage may be improved.

ARES Meeting in Lake County

On Saturday August 5th, our SEC Arc Thames W4CPD and Section Manager Scott KK4ECR held an informative Emergency Coordinators' meeting hosted by Lake County in their EOC. Attendance was divided about equally between those attending in-person and on ZOOM. A variety of topics were covered and information distributed, but the overarching message from Arc and Scott was to ask how they could help us in our respective counties. This type of "servant leadership" was refreshing. While the meeting went a bit longer than planned, it was worth the time. Further, while ZOOM attendance was helpful to many, in-person attendance was better and worth the trip from the Suwannee-Madison County border to Tavares in Lake County. After the meeting we were given a tour of the station including a visit to the rooftop to see the antennas on the building and nearby structures with additional antennas used by Lake County and the City of Tavares.



K4A 911 Special Event

Bob Beaudoin, WA1FCN, Alabama Contest Group

The Third Annual Special Event to Honor the Victims of 911 in New York City, Shanksville PA, and Washington DC, sponsored by the Alabama Contest Group, will be September 8, 2023, from 00:01 GMT through September 12, 2023 at 23:59 GMT. The title for this year's event will be "9-11 Still in Our Hearts and Minds."

Many members of the Alabama Contest Group (ACG) will activate K4A, operating all modes, SSB, FT8, CW, and RTTY. We will try to be on all bands 160 through 10 meters.

A special QSL will be available. For those who contact K4A on 3 bands, using any combination of modes, we will offer a full color glossy certificate mailed postage paid in a full size manila envelope. This includes DX stations. Put each QSO information on your QSL card. We request a \$2.00 donation to help cover costs.

Send QSL requests to:

Robert Beaudoin
970 Mountainview Road
Cordova, AL 35550

<https://alabamacontestgroup.org/>



Marion County Emergency Radio Team

Harlan Cook, KN4VRM, Coordinator

MERT



MERT's primary role is to support all open Evacuation Shelters throughout Marion County during declared Emergency events. We also support EOC and emergency personnel along with Community Emergency Response Teams (CERT) with voice, image and data communications resources. "Call MERT.... When all else fails!"

School Shelter Radio Room Checks



(L-R) Gray Moffett (KC3DWY), and Heidi Gibson (Marion Co. Public Schools Support Coordinator for EMCOMM)

Leon Jurczynsyn (K8ZAG) led members Gary Neron (KS4TSX), Bill Davis (KQ4ILZ), and Gray Moffett (KC3DWY) to three school shelters to check out the readiness of their radio rooms.

All three radios and antenna systems checked out well – Liberty Middle School, Horizon Academy, and Hammett Bowen Elementary.

(L-R) Sharon Malik (KM4SMM) and Mike Condon (W9MNC) manned the EOC to respond to incoming

More school shelter visits are to scheduled.



(L-R) New MERT Member Bill Davis (KQ4ILZ) and Leon Jurczynsyn (K8ZAG)



Replacing the Weather STEM Cameras at the EOC.

The tower at the EOC had to be lowered in order for the two WeatherSTEM cameras to be replaced with newer (and operating) weather cameras. The tower operated perfectly! (Visit KG4NXO.com and click the "Florida Weather" tab, then click the "[Weather Stations in Marion County](#)" button.)



[Check out the Website](#)

ARRL North Florida Section

Scott Roberts KK4ECR - Section Manager

VA6AM Kit: High Frequency Antenna Triplexer Adventures

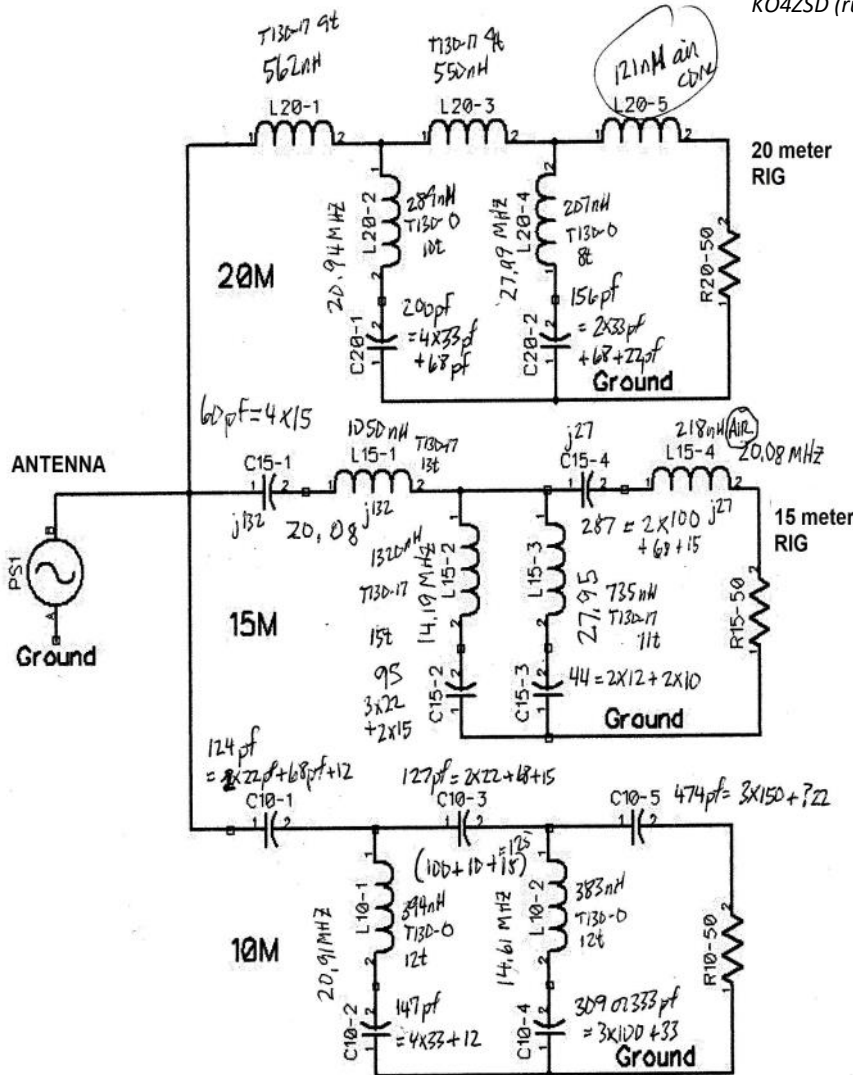
or "How to run multiple transceivers simultaneously at the EOC"
by Gordon Gibby KX4Z

Our club (<https://www.nf4rc.club/>) had SO much fun this last Field Day, in large part because we were able to run 4 transmitters simultaneously---but the work of putting up five HF antennas almost did some of us in! And our EOC is stuck with a severely limited HF antenna situation due to limited coaxial cables. The solution to BOTH problems was suggested by the Gainesville Amateur Radio Club's (<https://gars.club/>) purchase of an HF Triplexer from VA6AM.

Intriguing! **Could we really run multiple transceivers at our EOC -- or at Field Day -- on the same antenna?** Our calculations agreed with Pavel Perchine VA6AM that >40dB isolation from a 100W transmitter is essential for safety; >50dB is needed, and >60dB isolation makes for successful operation. (Use of reduced RF gain or receive attenuation may be



Susan Halbert KG4VWI, David Huckstep W4JIR, Eric Pleace KO4ZSD (running nanoVNA), Earl McDow K4ZSW and me,



used as part of this.) His LC-based HF triplexer designs provide >30dB isolation between 20/15/10 meter bands, and adding bandpass filters as well (such as our "paint-can" 5-pole filters) can make the required isolation. The isolation provide by the VA6AM triplexer alone is similar to what we measured from our 65-100 foot physical separation f antenna Field Day efforts.

A 20/15/10 meter kit was ordered, the Hammond enclosure, and SO-239's and metal standoffs were located. This article is the story of what we learned in the process and how much FUN and learning we experienced.

Some Confusion

Pavel's instructions can be slightly confusing because information is scattered among several pages. It helped to combine Pavel's multiple pages into ONE schematic (see illustration; available at: <https://www.nf4rc.club/how-to-docs/field-day-systems/va6am-20-15-10-triplexer-combined-schematic/>) that showed exactly how to combine all the little 6kV blue ceramic capacitors and also where the calculated resonant frequencies of each series-to-ground "trap" were supposed to be. That allowed soldering in the caps quickly and efficiently.

Continued on next page...

Toroids

Pavel provides all the toroids pre-wired! The "number" written on each core was the number of TURNS on that toroid. Comparing to his various pages allowed me to figure out "what gets soldered where." Here again, the accompanying annotated (and downloadable) schematic might be a big help to you. Two coils are user-created air-core. I used 1/2" dowel rod with some drilled holes to make a physically stable coil. To check them, I was able to measure them with a MFJ259 antenna analyzer using "inductance mode" -- using very short-short wires, and subtracting out the inductance of just my wires themselves. Careful measurement!

VA6AM's Triplexer Uses Three Different Types of LC Filers
Excellent Training Example for Hams!

Alignment

Once it is all soldered together properly, the real fun begins! This is the part that our group did as a LabNLunch, which helped all participants learn both filters and the nanoVNA and a spectrum analyzer. We had a great crowd of very interested participants, including **Jeff Capehart W4UFL (EC)**, **Susan Halbert KG4VWI**, **David Huckstep W4JIR**, **Wendell Wright KN4TWS**, **Earl McDow K4ZSW** and **Eric Pleace KO4ZSD**.

Pavel cautions that FIRST you should look for the trap frequencies (the deep dips that occur at the series resonances of the traps). At first I thought I should lift one end of each toroid and measure the series resonance with the antenna analyzer, but the inductance of even SHORT interconnecting wires discouraged me. It turns out there is a much easier way.

A simple nanoVNA can simultaneously measure S11 (a reflection measure, presentable either as return loss or more easily understood SWR) and also S21 (filter loss). Eric Pleace KO4ZSD brought over his nanoVNA and all the SMA connectors etc. He was easily able to pick out where the traps were on each filter. Pavel provides illustrative filter curves, which show actual trap resonances, which may be impacted by surrounding circuitry.

Kit Report

This article can be viewed in one sense as a "kit report" to indicate how easy or difficult this project is to successfully complete. Getting the traps right: Pavel provides resonances (that appear to be arithmetic calculations) for each trap. However, his published curves suggest there are some alterations from surrounding circuitry. We went with his published curves. Our estimations from Pavel's charts suggest the **trap resonances found by the nanoVNA in situ** should be approximately (~):

20 meter filter	15 meter filter	10 meter filter
~ 21.4 MHz	~ 14.2 MHz	~ 14.9 MHz
~ 28.5 MHz	~ 27.95 MHz	~ 21.2 MHz

Following his instructions, we first measured each of our actual trap resonances, identified the ones that were "out" and then compressed or expanded the windings to bring ours into agreement with Pavel's charts. Members of our team were amazed at how moving the windings would move the "dip." This resulted in a remarkable improvement in our isolation, and substantial improvement in passband losses and SWRs as well. We used simple 50 ohm BNC loads on all unused ports.

The Future QUADplexer

Pavel's design uses *three different types of filters*: a **high-pass filter** configuration for 10 meters, a **bandpass** configuration for 15 meters, and a **low-pass filter** setup for 20 meters.¹ Each filter also includes two "traps." As part of our LunchNLab, we spent thirty minutes at lunch carefully going over the characteristics of a **series resonant LC circuit**, and the implications when that circuit at resonance *shorts out the signal to ground* (a trap). The 20-meter low pass filter topology is sub-optimal for our eventual goal: we want a QUADplexer, handling 40/20/15/10.

¹ The variety of filters employed make it ideal for training volunteers working toward General or Amateur Extra Class

Pavel's designs require a 2nd (lower-frequency) triplexer (\$150 or \$300) PLUS an additional "diplexer" (\$300) to split between the two. We want to go a simpler (read: **cheaper**) route, and rebuild the 20-meter filter to be a bandpass design, add a 40meter trap, and then parallel a 40-meter band- or low-pass filter to create an inexpensive QUADplexer (40/20/15/10).

Limited Optimization

Because of our longer-range goals to rework the 20meter filter, we didn't pursue optimization perhaps as far as we might, but we still achieved very impressive and quite useful results (expecting the use of additional bandpass filters). Our traps initially tended to be "lower" in frequency than desired. We got all but one very close; our L10-2 15-meter trap in the 10meter filter made it up to 20.1 MHz rather than the desired 21.2MHz. (We may go back and remove a capacitor to push it to the desired frequency.) In the following chart the out-of-the-box initial measurements are provided in parentheses so you can see how accurate was even the initial construction, and then the final achieved values.

	BAND		
Measurement (beginning)-> end values	20 meters	15 meters	10 meters
SWR into 50 ohms on antenna terminal	(1.067)-> 1.03	(1.33)-> 1.19	(1.26)-> 1.1
Passband loss	(0.49)-> 0.2 dB	(0.28)-> 0.18 dB	(0.49)-> 0.29dB
Isolation from lower interfering frequency transmitter	(37)-> 38 dB	(37.5)-> 31 dB	(55)-> 42 dB
Isolation from higher frequency transmitter	(54)-> 57 dB	(-35)-> 40 dB	(15.6)-> 32 dB

These numbers are as reported by a nanoVNA calibrated (just before our session) for SWR and S21. As you can see, we made quite useful improvements in reducing passband loss, slightly improved SWRs and corrected a real problem with the 10meter port's isolation from the 15meter port (15.6dB improved very significantly to 32dB). A few parameters worsened but remained still very useful to us. More work per Pavel's instructions might yield even better results.

This only took us 2.5 hours and everyone was all smiles because everyone understood what was going on! We're very excited that this may allow us to operate multiple transmitters during Winter Field Day as well as from our EOC.

Antenna Impact

Triplexer designers uniformly urge excellent SWRs on multiband antennas to achieve the best results. This may be to reduce voltages and currents. However Pavel's 6kV capacitors seem quite conservative. We experimented with "worst case" antenna failures by removing the 50-ohm load on the antenna port and observing the port-to-port isolation on the transceiver side of the filters. We were very surprised to find little risk of damage at all in our observations, using either "open" or "shorted" worst-cases. Nevertheless, for Winter Field Day at our EOC we plan to use a known antenna with good SWRs on all relevant bands.

SHARES?

Pavel's design is for ham bands and doesn't look very SHARES/ALE-friendly. Since we operate SHARES as well, I also measured the "extremes" of useful range for each filter, based on meeting both of two criteria: passband loss <= 0.5 dB and SWR <= 1.6 into a 50 ohm load. Isolation from other bands wasn't studied under these conditions and may be significant reduced.

MAXIMALLY POTENTIALLY USEFUL RANGE BASED ONLY ON SWR & PASSBAND LOSS		
20 meters	15 meters	10 meters
< 3MHz to 15.5 MHz	18.3 MHz - 22.5 MHz	25.3 MHz - 35 MHz

What a Time it is to be a Ham!

DJ Stewart, KI4ZER, Assistant Section Manager, NFL , ARRL
President of W4ZBB, WF4X, W4AAZ, #HamOn!

We in Okaloosa and Walton Counties sure love what we do and supporting all of you out there! In the month's past we have done many amazing things! From invigorating tech Nights to Business meetings and hosting activities all the while in search of that next DX and QSO!

A point to ponder; sometimes, when your SWR jumps, it might not be a radio, antenna, or wire problem! Sometimes, just once in a while, it's a bird, eating a fish, on your beam! True Story! #GulfLife

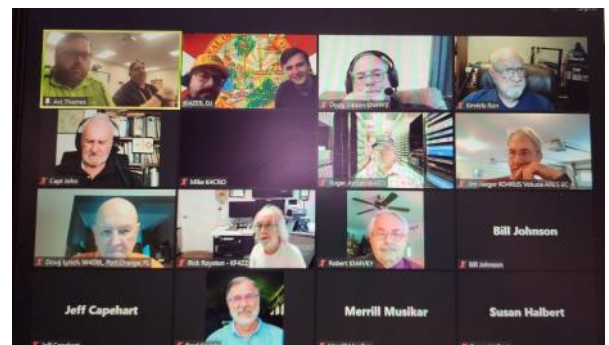
In the beginning of August, we started off in Defuniak Springs with the Walton County ARC! There, the meetings begin with "Fun in the Front" where members, visitors and guests get a few minuets to discuss as if on a net [but in person] about what they have been doing with Amateur Radio and how they are sharing their love of the hobby with all! These meetings occur on the 1st Tuesday of each month at the Senior Life Enrichment Center at 312 College Ave in Defuniak Springs. Show time 630-645 and the Fun in the Front begins at 7 pm! Be sure to make it out to their meetings as they plan for their upcoming Winter Tailgate in January! This annual event is on its 3rd year, and they always have a great number of tailgaters, food, and treasurers to pick through!

Did you know we have a multitude of visitors from around the world? True story! At the Playground ARC Tech night on Digital Communications, we had a special guest from Thailand in attendance! So, in true Ham Radio fashion, we contacted Thailand over the RF waves and had a great 10-minute QSO! Our visitor was exceptionally impressed with this, and it solidified a great bond! Our visitor has become an affiliated member and is anxious to contact us once she returns home from a Ham Radio Station near her [which we helped identify]!

That same week, the ARRL held a conference to discuss initiatives in Florida to increase participate at events, planned out more opportunities to communicate and coordinate, and bolstered many clubs which add too the overall enjoyment of fellowship! AUXCOMM strategies were also discussed as well were upcoming Solar Eclipse QSO Parties! <https://arrl-nfl.org/2023/08/06/solar-eclipse-qso-parties/> Stay tuned to <https://arrl-nfl.org/> for more!

Guess what?! A surprise appearance on camera was made during the ARRL meet up by the newly elected K4UCF ARC President KQ4ACS (pictured on the 2nd screen top left below)! That's the University of Central Florida amateur Radio Club if the call sign did not give it away! The student youth group there routinely sets up Fox Hunting and encourages development with Ham Radio and all thing's communication! If you are in the Orlando area, be sure to check them out or contact them for more information! <http://newton.i2lab.ucf.edu/wiki/ARCatUCF>

Okaloosa County ARES and the Boy Scouts of America! Radio Merit Badge at the Okaloosa EOC. As reported by Don KN4CGX!



10 More Radio Scouts are on the Air with conversations with Hams in West Texas, Philadelphia, Kentucky, and Maryland. We had 10 Scouts from Marianna, Pace, Pensacola, Fort Walton, Andalusia, Dothan, and Niceville. Another had taken the 1st Technician/Radio MB hybrid course this Spring and needed Airtime. (His Dad also sat in and got his Technician Ticket). New MB Counselor in the making. First time new course material from K2BSA Scout Radio as used at the National Jamboree courtesy of K2BSA and ARRL. They also got to tour the EOC mobile command post and the 911 center.

Their new SUPERPOWERS are:

- "I can Bounce Electromagnetic Waves off Energetic Free Electrons in the Upper Ionosphere to Achieve Worldwide Communication!!"
- "Wonder Scout Powers Activate!! Power of Solar Radiation to Free Electrons!!"
- "Power of the Scout Law to Make New Friends by Scout Radio!" Making S'mores the Radio Scouting Way!

Thanks to SARU, NOARC, and PARC mem-



bers helping put on the course and Okaloosa County EOC staff and Okaloosa ARES folks for operating the Radios for the Scouts. Thanks specifically to Shellie Gruenwald KO4YDX, David Hayden WB4EWES, Robert W Dallons

KM4VKY, Capt. John Johnston W4KKJ, Jim Drinkwater KM4AOR, David Hoffman, Craig Ross Young KK4WDQ and Don Snyder KN4CGX

#MeritbadgeUniversity #GCCScouts #Radioscouting #k2bsa Ken Lyons Arc Thames GCC Scout Leaders & Parents

Keep your dials tuned for the Jamboree On the Air!

North Okaloosa Amateur Radio Club (NOARC)
 W4AAZ C/O KN4CGX (DON)
 PO Box 2016, Crestview, FL 32536
 KN4CGX@gmail.com

Confirmed QSO with : _____

Name is: _____

Date: _____

UTC/GMT: _____

RST/Quality: _____

Freq. (MHZ): _____

Mode: _____

Power: _____

Observer/Scout: _____

Troop/Post: _____

Council: _____

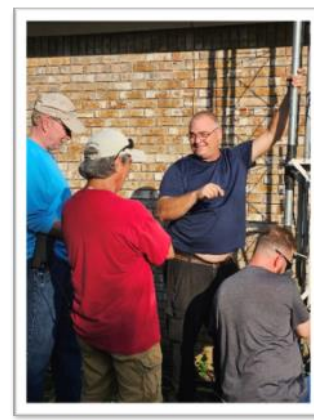
Latitude: 30.7907654, N Longitude: -86.5533212 E Grid: EM60rs

Place Stamp Here

The North Okaloosa Club in Crestview was up next! As they feverishly prepare their **October 14th Hamfest** at 1446 Commerce Drive Crestview Florida [0800 – 1400] they decided on the prizes! Let us tell you, these folks do not hold back and are there to give you your chance at great opportunities to win while also putting on a quality show! In its 3rd year, NOARC raises the bar and brings in multiple national vendors, tailgaters, flea marketers, testing, and more! Last year they neared 500 registered visitors and are hoping for more! Get you tables now at <https://w4aaz.org/noarc-hamfest/>



Multiple folks that same weekend representing the NWFL Hams gathered to assist with the removal and transportation of a tower in the Crestview area! There was plenty of participation and it just goes to show that you can beat the heat if you start early enough to make it happen! Great teamwork by all involved and those that came to learn and assist!



The fine folks at the Playground ARC met the next week! They are really putting things together there and have loads of fun doing it. This Organization has so much fun, they must meet once a week on Sunday's just to experiment with the great advances for the

Club that they discuss at their business meetings. Be sure to stop in, say hi, CQ some DX, bring in your project, as they are always there to help and advance your Ham Radio Desires!

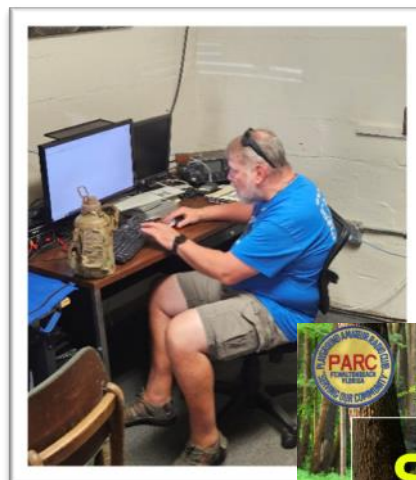
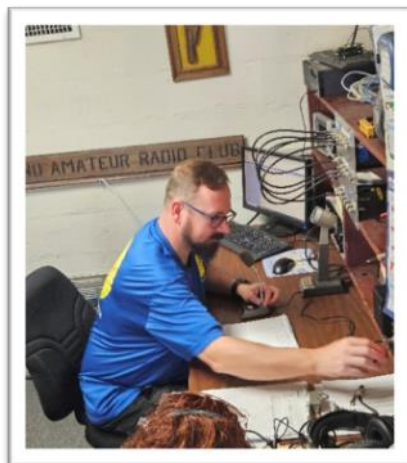


Want to know who else expands with the Community? NOARC, that's who! At their Tech Night the week following they had KQ4HDO present Severe Weather Reporting! If

this sounds familiar, it should! Aaron presented at the Playground Club and did such a great job that W4BZM heard of it and invited him up for a chance to interact with even more hams in Okaloosa County!



The following Sunday at the Playground ARC Sunday Pile-Up [Sunday's at 3pm] participated in the Kansas QSO Party! Showing off the capabilities from 5 watts to 100 and various types of antennas and modes, the Playground ARC demonstrated and gained interest! Their visitors took full advantage and made multiple QSO's as well and, by golly, they had just as much fun as the control stations! Pictured below is the setting up of the stations for use! Stop in on Sundays at 3 at 17 First ST SE Fort Walton Beach Florida! You will be glad you did!



Vara FM and Packet Winlink Gateway for Okaloosa and Walton Counties

Robert Dallons, KM4VKY

There is a new Vara FM and Packet Winlink Gateway set up covering Okaloosa and Walton Counties and possibly reaching into Santa Rosa County (untested). I've wanted to test Vara FM for at least a year but was frustrated by the lack of FM Gateways in the area. Finally decided, "I'll just make one." After getting it on the air with the help of Rick, KF4ZZ, I decided to add Packet to the Gateway. Both Vara FM and Packet are now working. Presently on a 40-foot tower, I hope to move it to a much higher tower sometime in the future. Now active 24/7.

Winlink Gateway: KM4VKY

Frequency: 145.090



Hurricane Idalia - Marion County

Hayden Kaufman N2HAY

Emergency Coordinator, Marion County ARES

MARION COUNTY, FL – The Marion County Emergency Radio Team was activated to support shelter operations for Hurricane Idalia on 8/29/23 at 1700L. With this activation, Marion County ARES was placed on standby to support the MERT team as well as any of our partner agencies who required communications assistance. MERT Coordinator Harlan Cook KN4VRM, MERT Communicator Bill Sobel K1WLS, and ARES Emergency Coordinator Hayden Kaufman N2HAY deployed to the Marion County Emergency Operations Center. After establishing contact with the state EOC in Tallahassee, these communicators provided points-of-contact for the shelter operators as well as amateurs in the county requesting information or reporting incidents. We were very fortunate to have had little to do, however the activation provided us some insight on factors that would impede communications in an emergency. Special thanks to our shelter operators MERT Communicator/ARES Assistant Emergency Coordinator Gray Moffett KC3DWY and MERT/ARES Communicator Pat Davis KQ4BRW for their perseverance and endurance throughout the activation.

In addition to this activation, the Marion County Hospital Emergency Communications Team (HECT) had planned to provide operators to our local hospitals to support communications. Ultimately, the decision was made to not activate the HAM operators by hospitals incident command. I'd like to personally recognize the efforts of HECT Coordinator Dave Welker W2SRP, and the amateurs who were ready to serve: Roger Ackley WA2CZR, Jim Burgess KN4MIV, Sharon Malik KM4SMM, Dee Seagraves KO4TMZ, Bruce Twiss KI4NFA, Kirk Brown W4CJ, Curtis Neuman KG4DW, and Harold "Woody" Wood W3HII.

In response to the disaster, Marion County Sheriff Billy Woods led a team of personnel and equipment to Madison County to assist with operations. Marion County's new Mobile Command Center was included in this mobilization, and I would be remiss in omitting the efforts of MERT Assistant Coordinator/ARES Assistant Emergency Coordinator Bill Gillespie KW5BG and MERT Technical Advisor/ARES Assistant Emergency Coordinator Leon Juncyszyn K8ZAG in ensuring that the on-board amateur communications equipment was in good working order before this deployment. The two have worked tirelessly in ensuring that MERT will be able to properly serve MCSO in a deployment situation.

Overall, I am personally proud to be a member of our increasingly tight-knit EMCOMM community, and I am looking forward for all three of our organizations working closely in the future.

Duval County ARES Supports City of Jacksonville Hurricane Idalia Response

Brian Schultheis, K4BJS, Emergency Coordinator, Duval County ARES

Beginning August 29, Duval County ARES prepared to provide backup communications support to the City of Jacksonville, Emergency Preparedness. As the Duval County ARES activation level was rising during the day. Roger Knight and Mike Robinson setup and tested the emergency radio system at The Legends Center, the city's primary evacuation shelter. Ron Snelling, established a resource net on a local repeater to recruit volunteer emergency communicators. After receiving a tasking from Emergency Preparedness, Health and Medical Branch requesting emergency communicators be assigned to all the open evacuation shelters beginning Wednesday. Duval County ARES staff coordinated assignments and scheduling with the volunteers throughout the afternoon of the 29th.

As Wednesday morning arrived and Hurricane Idalia came ashore. The staff of Duval County ARES managed the deployment of volunteer emergency communicators and establishment of amateur radio stations at the evacuation shelters and city Emergency Operations Center. Frank Dobson, Brandi Khiel, Rajesh Verma, Roger Knight provided communications support to shelter managers. Meanwhile, Clint Randolph and Ron Snelling deployed to the City of Jacksonville Emergency Operations Center to establish an Auxiliary Communications Unit. After doing comm checks with all the deployed teams and the statewide emergency net, everyone waited for Idalia to come our way. After Idalia moved past the city without causing significant communications infrastructure damage the shelter managers began winding down staffing. By 3pm all the shelter emergency communicators had been released and the Health and Medical Branch no longer required communications support. By 7pm all the evacuation shelters had closed and Duval County ARES transitioned to No Level at 7:30pm.

A big thanks to Miller Norton, Region 3 AUXCOMM Liaison for all of his assistance and expertise. And as always the W4IZ repeater team, RANGE, W4IJJ crew, SARNet team, and WJ4EOC crew who provide the amateur radio infrastructure our emergency communicators depend upon.



QCWA Chapter 62, Ocala

Ken Simpson, W8EK, President

Chapter 62 of the Quarter Century Wireless Association, based in Ocala, FL, met on Thursday, August 24 at the China Lee Buffet on East Silver Springs Blvd.

Members had a very interesting program, in that they were the program. Each member present talked about what rig they had when they first got there license, including antenna. There was quite a bit of variation, with some being 100% homebrew, while others were only partially home constructed. Many kits. Everyone enjoyed hearing about what others had!

The next meeting of Chapter 62 will be on Thursday, October 26, at 12:30 PM at the China Lee Buffet.

Chapter 62 has a net every Saturday morning at 9 AM local Eastern time, on 3940 KHz. All are invited, and encouraged, to attend.



TNX
Carl Berry, KC5CMX

W2TTT and N2FWI Go on a "Field Exercise"

J. Gordon "Gordie" Beattie, Jr., W2TTT

W2TTT@ATT.NET

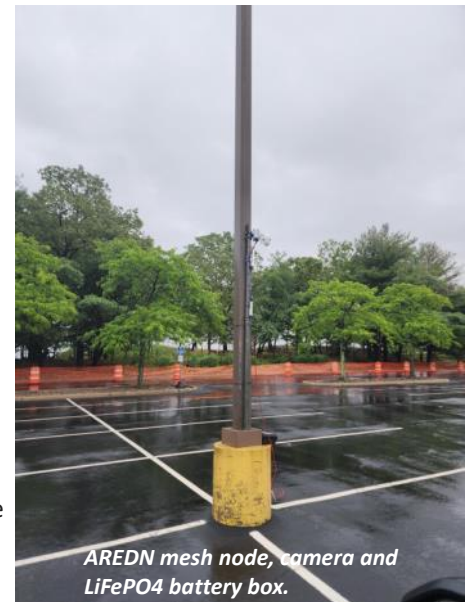
From August 8th to 14th, Nancy N2FWI and Gordon W2TTT went to Passaic County, New Jersey to once again to participate in a state-mandated field exercise with the Passaic County Sheriff's Department and Office of Emergency Management. The event is the Passaic County Fair and is treated as a scheduled event, somewhat like a weather event. A number of county agencies mobilize and deploy physical assets and personnel including the Sheriff's Department, Office of Emergency Management, the Health Department, the Parks Department and Buildings and Grounds. Additional assets are brought in from the Prosecutor's Office and various municipal agencies. The County Administrator and staff manage the Fair itself and operate from a trailer for a week.

Nancy and Gordon have participated in this event for over a decade and they along with several other members of the Sheriff's volunteer communications team provide both communications support and institutional knowledge. The core volunteer communications team is small, but well-trained and integrated with the Sheriff's Officers. The Deputy Emergency Coordinator Rob Scott KD2ION and the CERT Coordinator Jon Klos KE2BFC are both Sheriff's Officers and licensed hams. The team has four trained COM-L/COM-T with two being Sheriff's Officers and the other two volunteers Dave Henninger N3UXK and Gordon Beattie W2TTT. By having this level of training shared by sworn officers and volunteers within the same team, it creates a level of operational seamlessness and depth that enables success. While we each have varying levels of in-depth expertise, we can each generally cover a role for another within the limits of our training and authority. On the Radio Operator (RO) and Technical Specialist (TS) side of the team there is a similar interchangeability where you will see some of the volunteers such as Nancy Beattie N2FWI and Dave Henninger N3UXK handling dispatch of Fire and EMS assets while also backing up Rob Scott KD2ION who dispatches Law Enforcement and the Fair Ops frequency. We also had Aly Badawy ALOY, RJ Scott KE2BFE and Brian Hoeft KD2VYJ helping with deployment, maintenance and demobilization. In between those duties, they provided relief for Nancy and Dave and in the process obtained some cross-training. They also manned posts that needed a set of "eyes" and a radio.

This year was a milestone year in that management of the radio caches reverted back to CERT members and Sheriff's Officers for both Fair volunteers and law enforcement for their respective radio caches. The procedures and equipment worked out in prior years by the Sheriff's Volunteer Communications Team made that transition smooth.

During the week, the 146.61 MHz FM repeater was permanently relocated to the same site as the 440.950 MHz DMR repeater and now both were overlooking the fair grounds. The team used the DMR repeater to coordinate tasks and used the FM repeater as backup and for those "ad hoc" volunteer communicators. We also used the DMR repeater and the 442 MHz FM repeater for offsite coordination, situational awareness and weather.

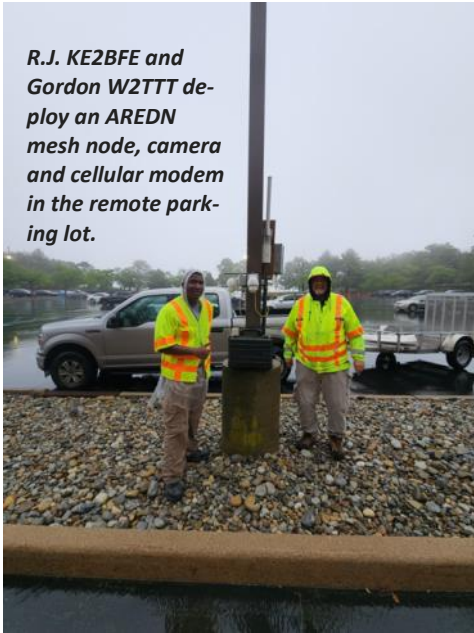
There are two days of setup, four days of Fair operations and one day of demobilization on-site. Many more days of planning and gear preparation and demobilization, rehab and write-ups followed. The AREDN mesh nodes and cameras were laid out in the entry screening area, the ATMs, ticket booths, other controlled access areas, the shuttle bus waiting area and the fair grounds. Additional nodes and cameras were located in a remote large parking lot used for public parking. Most nodes were operated from LiFePO4 batteries that would run a node and camera for over a day and had to be periodically cycled out for charging and replaced. Over time, the team has tried to simplify and make multi-functional the components used in these deployments. Certain mechanical and electrical conventions have emerged. Some of these such as our Anderson PowerPole and Ethernet cable color coding has been published in previous issues of this newsletter.



The team did deploy over twenty cameras in both the park where the County Fair was held, and in a second venue, a bank data center parking lot a bit over a mile away. Networking at each site was accomplished through the use of 2.4 and 5 GHz AREDN mesh nodes built on both Ubiquiti and Mikrotik hardware and a pair of cellular modems. The team's i7modems were set up on Verizon Wireless. The cellular modems at the fairgrounds and parking lot were each registered on two different cell sites which was a blessing of traffic load distribution. Over a period of years cellular coverage proved to be overloaded. Had the modems not worked well this year, we had cellular modems ready on the AT&T Wireless Network. We also had the means to deploy a multihop point-to-point AREDN network connecting the two locations. This last option while technically viable, would have created an additional maintenance burden managing battery power, AREDN mesh nodes and cameras on a popular public road. We were really well prepared.

Continued on next page...

R.J. KE2BFE and Gordon W2TTT deploy an AREDN mesh node, camera and cellular modem in the remote parking lot.



Cameras have evolved over time from some fixed VGA quality Foscam 9800 series cameras to some 4 Megapixel Baovision pan-tilt cameras. Several of our team members in New Jersey and Florida have deployable cameras, AREDN mesh nodes and LiFePO4 batteries. Over the last few years we have been blessed by Passaic County OEM with the purchase of seven cameras and three Ubiquiti 13 db MIMO antennas on 5 GHz. Along with donated Ubiquiti M5 Rocket nodes and panel antenna. The county now has a cache of AREDN mesh nodes that are maintained by members of the team.

BOAVISION Security Camera Outdoor, Wireless WiFi IP Camera Home Security System 360° View, Motion Detection, auto Tracking, Two Way Talk, HD 1080P pan Tile Full Color Night Vision <https://a.co/d/75t4Evh>

These cameras are \$49 each and we mount them on 4x4x2 inch electrical boxes that contain power over ethernet injectors, and external Ethernet and Anderson PowerPole connectors. This allows us to deploy them with an AREDN mesh radio node or a 12 VDC POE hardwire network switch. We can share that diagram, a parts list and photos to anyone who is interested.

In the Field Command post vehicle we had on-site weather monitoring, network management and a bunch of screens with camera images.

The diverse cameras in use were integrated using two copies of Blue-Iris software. This was done to reduce "blindness" in the event of a PC failure. One computer was an i7 NUC and the other an HP Z2 Mini G3. In most situations the Z2 will be fine running four monitors from its four DisplayPort interfaces although you might need adapters to HDMI for your monitors. The NUC has two HDMI ports.

Intel NUC 11 with Core i7-1165G7 Processor (Quad-Core & Up to 4.70 GHz), 4" Intel Nuc 11 16GB DDR4 RAM & 512GB SSD - Versatile Nuc 11 i7 with WiFi, Bluetooth, 8K Support - Built-in Windows 10 Pro

<https://a.co/d/1vza0IA>

HP Z2 Mini G3 (i7-7700 - 3.6GHz - 16GB RAM - 512GB SSD - Win10Pro - Quadro M620)

https://www.ebay.com/itm/225730988009?mkcid=16&mkevt=1&mkrid=711-127632-2357-0&sssp=htBIVNIT8e&sssrc=4429486&ssuid=lzy3d8GGR_a&var=&widget_ver=artemis&media=COPY



Nancy N2FWI and Dave N3UXK in FieldCom

All in all, our small team was able to deploy and integrate gear that normally rests in caches 1,000 miles apart with little difficulty because of the use of a consistent set of tools, shared expertise and training. We also have continued our process of educating teammates in each of the functions that we deploy. This will build in team resilience and allow for future operations to grow gracefully.



58th Annual Melbourne Hamfest and ARRL Florida State Convention

October 13, 2023 1PM-7PM
October 14, 2023 9AM-3PM

Melbourne Auditorium, 625 E Hibiscus Blvd, Melbourne, FL 32901

Scouts Looking for Funding for Camp LaNoChe Ham Radio Program

Ken Lyons, KN4MDJ

We're still working on getting funding for our STEM center at [Camp LaNoChe](#). We've applied for several grants but still need a lot more help. So I've creating a fund-raiser that can be easily shared among the ham community. <https://gofund.me/91ea7369> There are very few youth STEM programs with such a focus on radio, it's hoped that hams will help keep their hobby alive while we teach it to the next generation. In Sept and October this year we're preparing to display our program to over 12,000 scouts, in three locations, during 6 weekends. By the end of 2024 we'll be presenting before 40,000 youth each year in several locations across the US.



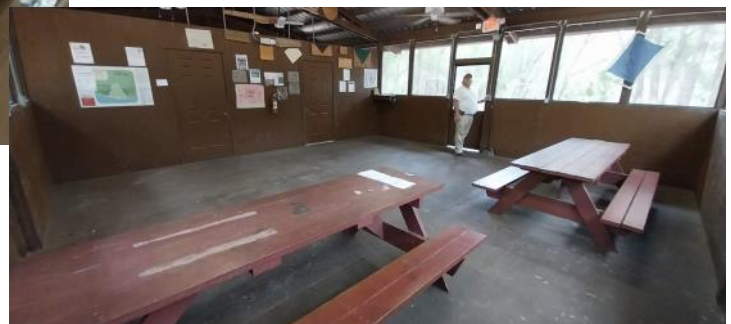
STEM-4A-Front-main-road



STEM-4A-Future-200ft-Tower-beyond-flagpole



STEM-4A-Future-Radio-Room



STEM-4A-Future-STEM-classroom

Alachua County ARES(R)/AUXCOMM Hurricane Idalia Response

by Gordon Gibby KX4Z



Alachua County EM held a "virtual" plan Early prediction of Idalia track - this changed significantly for the better for Alachua County

Idalia moved so fast that it seemed as if it "snuck up" on us. Alachua County Emergency Management has changed their organizational software to "monday.com." and in the process, apparently switched to sending only 1 copy of their "flash reports" -- to EC Jeff Capehart. Jeff dutifully began sending out a note on Saturday evening -- but we were slower to respond as we weren't getting the usual train of Announcements. Alachua County entered the 3-day predictive cone on Sunday Aug 27, so we held a VHF tropical weather net and Jeff gathered a list of eight potential deployment volunteers. The # of net participants was greatly enhanced by Leland Gallup AA3YB's provision of an **Everbridge** cell-phone announcement of the net, but the gravity of the predicted storm dampened the number of deployment volunteers. At that point weather forecasts were for tropical storm winds beginning on Tuesday in our county and 3-6" rains. We had been right in the path of the prediction.

Predictions were fairly dire for our county. At the Monday evening weather net, we firmed up our volunteers and shortly thereafter released staffing for three hurricane shelters, 2 reserves, and the Alachua County EOC. In accordance with our Communications Plan (<https://www.nf4rc.club/comms-plan-2/>), the information was sent carefully only to those affected (for volunteer security reasons). Tuesday 5PM was set as the "in-place" deadline.

Alachua County EM held a "virtual" planning meeting, noon, Monday Aug 28 and Gordon Gibby KX4Z was able to represent our team, publishing extensive notes to the groups.io site. (<https://groups.io/g/NF4RC>)

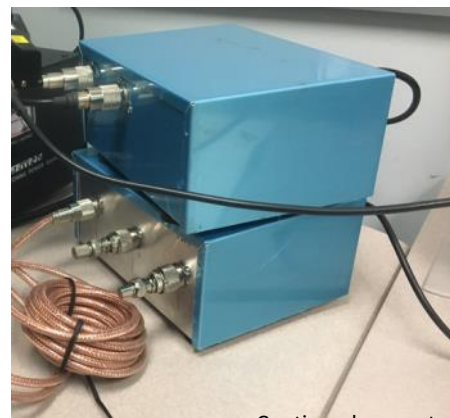
Everyone met the deadline; our radio gear was nicely delivered by the County, but we had forgotten to ask for the backup batteries. Eric Pleace KO4ZSD graciously handled much of that. Our staffing included:

Martin Luther King Shelter (pet friendly)	Susan Halbert KG4VWI
Easton-Newberry Center (pet friendly)	Brett Wallace NH2KW
Senior Center (special needs)	Lorilyn Roberts KO4LBS (assisted by Rosemary Jones, KI4QBZ)
EOC (setup) / (continuation)	Leland Gallup AA3YB / Gordon Gibby KX4Z
Reserves:	Jeff Capehart W4UFL / Rosemary Jones KI4QBZ
VHF Net Control	David Huckstep W4JIR

Emergency Management specifically asked our group to update/verify all of their satellite phones -- Leland AA3YB found a couple with problems and successfully solved those

with emergency help from the vendor. Gordon KX4Z spent Tuesday furiously working on creating the last filter -- an 80meters & below Low Pass Filter for what would become our QuintPlexor system for connecting multiple transceivers to our single HF feedline. Finally finding a complete solution for that filter on Pavel VA6AM's wonderful website, it was quickly and successfully finished.

At 5PM arrival to the shelters, Susan KG4VWI discovered a faulty external VHF/UHF antenna, and Brett NH2KW was confronted with the "mobile broadband kit" for which we had failed to provide adequate instruction. Both volunteers came up with solutions. At 6PM Gordon made it to the



(Right) QuintPlexor: Top section provides 40m / 80m&Below; Bottom section (with terminates ports) provides 20/15/10m ports. Roughly 30dB isolation achieved at this stage.

Continued on next page...

EOC to get briefed by Leland and the two switched places by 8PM so that their spouses had *one of them* "in the neighborhood" the entire storm.

At this point we were all still expecting to be inundated and "stuck" in our positions for potentially >36 hours...

The EOC began its repetitive cycle of "essential elements of information" / ESF brief-outs / Formal Briefings in a 3/5/7 12-hour operational period cycle; David Huckstep W4JIR headed up our VHF command net until we all headed for rest about 8-9PM, with radios audible in case of problems.

Idalia had reformed its eye-wall, changed directions, slowed up its approach, and instead of inundating Cedar Key and heading right for Alachua County, it went in at Keaton Beach and headed for Perry -- so Wednesday morning the emotions in the Alachua County EOC (with 52 representatives of every portion of Alachua County governance) were markedly brighter.

QuintPlexor

The QuintPlexor was a huge success. We were able to check into the NFL Emergency Section net twice through it, despite literally running two other transceivers simultaneously on the same feed-line. We tested both transmission and reception on the 80 and 40 meter ports very successfully. *It is breathtaking, to see the flashing LED's of an LDG auto-tuner (in bypass mode) indicating full 100W of output power coursing through a feedline (roughly 100 VAC RMS of RF!) and simultaneously watching received audio on the spectrum scope of an ICOM 7300 proceed completely unperturbed on a different band, listening to a signal of a few microvolts on the same antenna and feedline!*



Subject of much mirth in our group, our "paint can filters" follow an ARRL QST article on Butterworth bandpass filters and generally add another 30dB of isolation. Paint cans were an inexpensive shielding.

With the VA6AM-based front-end design (see: <https://va6am.com/2017/01/25/first-blog-post/>, but we have made significant changes to Pavel's wonderful work) and an ARRL QST Butterworth filter (see: <https://www.arrl.org/files/file/Technology/tis/info/pdf/8809017.pdf>, our initial plans and photo of PCB layout at <https://arrl-nfl.org/wp-content/uploads/2020/06/00-QST-NFL-June-2020.pdf> and subsequent reporting page 12 of <https://arrl-nfl.org/wp-content/uploads/2023/06/00-QST-NFL-July-2023.pdf>) generally 50-60+ dB isolation is achieved even from "next band" transmissions. This allows us to safely transmit and receive simultaneously (on different bands) on the same feedline and multiband (well-behaved) antenna. This is similar to how VHF/UHF FM repeaters use high Q duplexer cans to allow the same effect.

Documentation via Radio

A significant training goal of our group has been to be able to provide all necessary documentation to our EM group, *by radio*, in preparation for the potential event that Internet is out. Alachua County EM is strongly built around Internet communications, so we are somewhat working "against the tide" but we felt it was important for a group providing backup comms in almost any scenario. Our last Improvement Plan (see: <https://www.nf4rc.club/historical-exercises/2022-alachua-county-auxcomm-volunteersresponse-to-hurricane-ian-ts-nicole/>) directed us to solve this problem and our training in January provided ways to move bit-mapped signatures (required by Alachua County auditors) over radio. Susan Halbert KG4VWI was up to the task and tested transfer of several documents by way of peer-to-peer or "regular" WINLINK on our VARA-FM high speed data network. We were surprised to find that word processing documents with embedded images refused to send the image and we also found a low "maximum size" setting on our NF4AC EOC preferences. Susan succeeded by sending a (larger than desired) PDF of an official ICS-214 document. Hooray!

However, we still lack data capabilities on almost all of our County-provided go-boxes....

Demobilization

By noon Wednesday Alachua County was out of any significant communications risk, and Emergency Management released our volunteers, after completion of ICS214 documentation. Our group decided to immediately meet on our Zoom channel and carried out an extensive Hotwash. Our AARIP at this time is not completed and not approved for public release, but the draft is available by way of our post on our new website courtesy of Steve Panaghi KC2ASY, at: <https://www.nf4rc.club/hurricane-idalia-draft-aarip/>

Florida Baptist Disaster Relief Comms Unit August Training

by Gordon Gibby KX4Z

Florida Baptist Disaster Relief comms group has held two significant trainings this summer. I was only able to attend the second training, Fri/Sat August 25/26 at their Lake Yale Baptist Campground/Warehouse location. I was one of about 15 volunteers there, with **Art Gibson AE4AG** doing much of the organizing, and **Mike Sprenger W4UOO**, teaching on Sat. after a church commitment Friday. These two did a great job! Many of those attending had traveled LONG distances to make it to this training, at significant fuel & time expense. The Baptists were great, providing retro-camp-style spring beds/mattresses with working A/C in the cabins (hooray!) and lots of GREAT food provided by their DR feeding crews (thanks Steve Norris!!).



Art Gibson AE4AG, always a friendly smile! Great job!

The two-half-days schedule was fairly informal with lots of *getting-to-know-each-other* time, a huge amount of normal ham show-and-tell (I learned a lot!) and then some organized teaching a LOT of hands on. The grounds in front of the meeting room looked like an antenna showroom! I've rarely seen *that many* HF and other antennas in such a small space! There were a multitude of verticals with various tuning arrangements, and some inverted V's as well. Most participants had some sort of "go-box" for various bands and there were batteries galore and even solar. (Florida Baptist generally brings a 20kW generator, so power is usually plentiful.) One of the coolest inventions was a carpenter's chalk line dispenser replaced with very flexible thin wire, and an attached end-fed Balun -- instant end-fed antenna! Dispense wire until you like the SWR!



Tim Lynn KD5SSF brought his 30-foot bumper-mounted collapsible fiber-glass vertical. Works via a wire up the center.

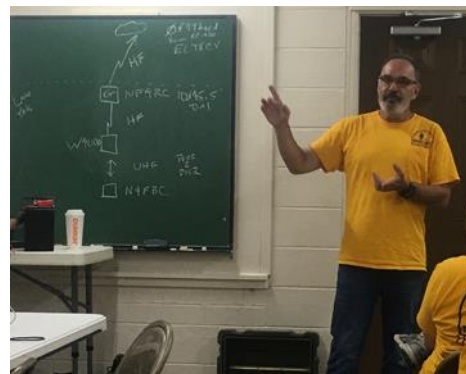
Art and Mike are very intent on getting people high up on the ARES(R) Florida Taskbook and there were active trainings and hands-on and I saw volunteers getting multiple accomplishments signed off. The order of the weekend appeared to include a healthy dose of WINLINK. That allows them to place their massive foodstuff orders if all else fails (which is frequent in their business), and when you're doing 10 or 20 THOUSAND meals a day....you order by the PALLET. So those orders are important & must be accurate.

In addition to the plethora of go-kits and systems, Mike Sprenger brought two ICOM



There were a LOT of volunteers there

9100s and set them up for hands-on WINLINK peer-to-peer. The group went over, in great detail, the ins-and-outs of peer-to-peer, "regular" WINLINK, and "radio-only." Once the test message transferred peer-to-peer, we had a working WINLINK HF RMS gateway right there for the volunteers to observe (NF4RC) and Mike showed how the message could be forwarded immediately by normal WINLINK. (This impressed me: I thought you would have to copy-and-paste the contents, but no, you could immediately forward!) So lots and lots of practice went on.



Mike Sprenger W4UOO, the group's leader, going over WINLINK details



Electric Hammer Dill makes short work of ground rod installation



What a great idea! Small modification of typical metal fence pole puller allows ground rods to be levered right up.



In addition, there was real hands-on pounding in, and then removing, an 8-foot ground rod beside the comms trailer. Not just the usual cylindrical weight technique-- they have both gas and electric HAMMER DRILLS and those make very short work of the task. Then a modified fence-post puller with a chained steel plate with an appropriate drilled hole made pulling the rod back out very possible. Great teaching! I want one of those!

I had a wonderful time and made several new acquaintances of very volunteer-oriented citizens willing to serve with this fine organization which is doing a great job with ARES(R) training standards.

Left—Lynn KO4QHJ practices peer-to-peer with advice from Mike Sprenger



HamCation Accepting Award Nominations

The HamCation committee is currently accepting nominations for the HamCation 2024 Carole Perry Educator of the Year Award and Gordon West Ambassador of the Year Award.

The **Carole Perry Educator of the Year** award is bestowed to an individual who has made an outstanding contribution to educating and advancing youth in amateur radio. For more information and the nomination form click here: <https://www.hamcation.com/award-carol-perry>

The **Gordon West Ambassador of the Year** Award is presented to an outstanding Amateur who represents and inspires others, embodies the amateur radio spirit, and has made outstanding contributions to the Amateur Radio community. For more information and the nomination form click here: <https://www.hamcation.com/award-gordon-west>

Nominations close November 1, 2023 - Join us at HamCation 2024, February 9-11, 2024
More information available at www.hamcation.com

Orlando HamCation has been sponsored by the Orlando Amateur Radio Club since 1946 which is held annually on the second weekend of February. HamCation has grown to become the second largest hamfest in the world.

Innovative Ham Radio Equipment Update II: sBitx Version 2

by Gordon Gibby KX4Z

Overview

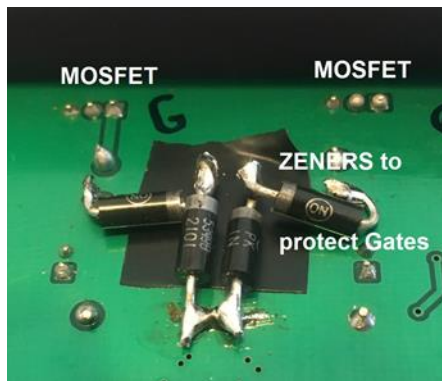
Since the February 2023 edition of this Newsletter (<https://arri-nfl.org/wp-content/uploads/2023/01/00-QST-NFL-February-2023.pdf> page 4), where I reported on the 150 initial "Developers' Edition" (DE) units of the SDR-based sBitx HF transceiver, the radio design has undergone significant hardware and software upgrades. As a result, the "Version 2" now offered at <https://www.hfsignals.com/> is now a very interesting modest-power (10-40W) HF transceiver with relay-less near-full break-in CW performance. It is a complete SDR design with software publicly available and modifiable by any user. Based on the Raspberry Pi, it includes built-in computing support for a variety of data modes, beyond ordinary SSB voice / CW. Ashhar Farhan's unique 7" touch-screen graphical user interface makes adjustment of the digital filtering seemingly easier than on my ICOM 7300. I'm still experimenting and using my DE unit, but can report on a lot of the improvements in the currently available Version 2, which appears to be much more resilient radio ready for portable action!

HARDWARE IMPROVEMENTS

The new Version 2 has a smaller, flatter form factor and more refinement. The original two-board arrangement was replaced by a single printed circuit board, rotated vertically 90 degrees, to become parallel to front and back panels. Now the final MOSFETS of this 20-40W unit extend through a cutout in the PCB directly to the rear heat sink. Box dimensions are 10" x 6" x 2" with a 7" diagonal touchscreen. This is just 44% more volume than the very popular 10-watt Icom 705 (which can additionally provide VHF/UHF).

A month ago, all owners of the Developer Edition were sent, free of charge, a packet of upgrade components and well-illustrated instructions (I was able to make all the upgrades). Hardware improvements in the Version 2 included those below, which furthered all the revisions sent to Developers' Edition owners:

- Change to the 2N2219 driver transistors from 2N2222 (higher dissipation capability)
- Removal of the unnecessary IRF510 stage (removed oscillation-inducing excess gain)
- Pre-driver 2N2222 to higher frequency range FR106 (I don't have this yet...)
- Switching +5VDC supply, **now with a 470 uf input capacitor** to remove a troublesome spurious emission
- NEW diode switching for everything --even including replacing the relays selecting the transmitter low pass filters (my DE still has relays for the LPF selection)
- Additional protection for the historically fragile 3.3VDC LMS1117 regulators in the form of pre-regulators between them and the incoming nominal +12VDC line
- New 3.3VDC zeners protecting vulnerable GPIO lines from the Raspberry pi



Above—Gate-protecting zeners on the final MOSFETS

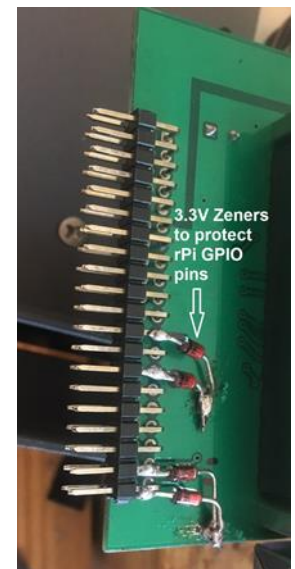


Above—My addition of a 5V pre-regulators to help protect the LMS1117

The Developer Edition community have already implemented many of these upgrades. I'm powering my raspberry from an external supply. I have added several protective changes to my unit to get it up to, and beyond the Version 2:

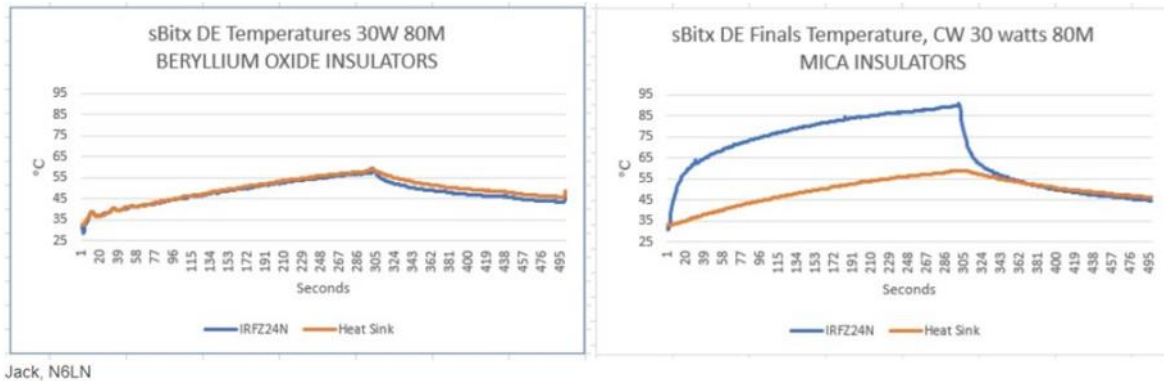
- +5VDC linear regulators to protect the LMS1117 3.3VDC regulators
- 12VDC back to back zener diodes on the gates of both power amplifier MOSFETS -- calculated to allow full power but prevent damage to the gates from any over-driving or parasitics (*This protection isn't included on the Version 2, but can be added with some homebrewing skills.*)
- 3.3VDC zeners on 4 vulnerable GPIO lines to the Raspberry pi
- I changed the original mica heat sink insulators to Aluminum Nitride (AlN) based on calculations that indicate far, far better heat transfer.

Right—Zeners to protect the Raspberry Pi GPIO pins



Heatsink

Jack Terrell N6LN did some absolutely fascinating work on improving the conductivity between the cheap MOSFETs and the hefty sBitx heatsink. He started with BeO (beryllium oxide) insulators, which are far more conductive than the stock mica insulators. After a bit, he switched to aluminum nitride (AlN) insulators which are in the same league of thermal conductivity as beryllium oxide and have less handling risks. See his thread starting here: <https://groups.io/g/BITX20/message/103800> He produced amazing graphs, such as:



After his initial work using Beryllium Oxide (BeO) we all switched to AlN (aluminum nitride) insulators, available over Ebay from China. With much less handling restrictions, the only caveat is to seal the insulators against water (hydrolysis reaction possible) with a bit of heatsink grease around the edges. I have been very impressed so far with my new insulators.

These changes appear to be **significantly decreasing problems** in the user base. I'm not seeing complaints now of "magic-smoke being released," like I used to.

GRAPHICAL USER INTERFACE ADDITION

The extensive hardware improvements were just the beginning of the V2 improvements. Although Ashhar has made his name as a hardware designer, he apparently was badly tempted by all that Raspberry Pi 4 computing horsepower! Ashhar has now come out with a completely new user interface (in addition to the previous touchscreen/mouse interface, which I found quite sufficient) -- now there is a touch-screen **web browser GUI** and it is also quite functional, and *specifically crafted for each transmission mode chosen*. Because this interface is implemented within a web browser, you can now control and operate the sBitx SDR from a remote computer, right out of the box! The "radio" now has a built-in web server.

Becoming CW Dream Unit

These updates solved some of the problems and provided the amazing CW capability for "near full break-in (QSK)" without relays. Latencies in the FFT system and audio transients between transmit and receive don't allow for "full" CW break-in (i.e. receive capability between dots and dashes) -- but in my view, having the receiver automatically come alive between letters and words, and without the clattering, delays, and arcs of relays, was a HUGE advance for a current-generation experimental SDR radio.

CONCLUSION

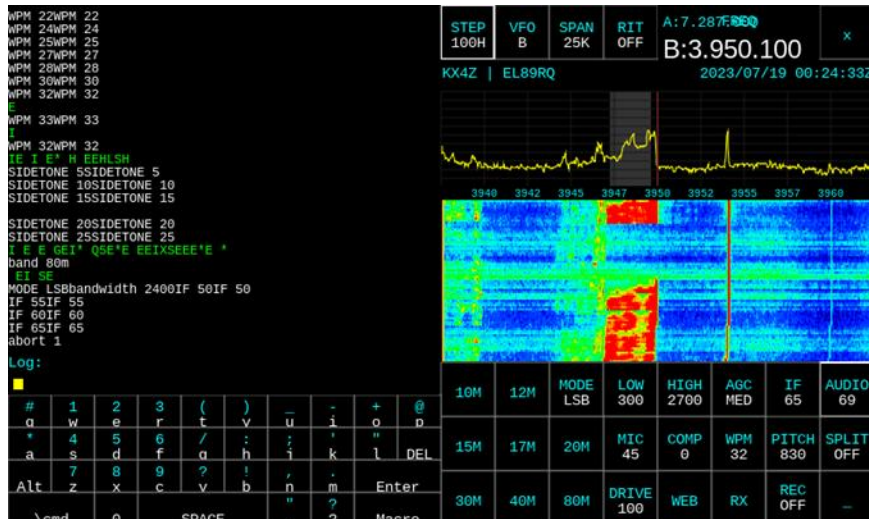
This update article merely details the advancement of the commercial units produced by <https://www.hfsignals.com/>. The software is still open source and available on github <https://github.com/afarhan/sbitx>. Both current-selling Version 2 and upgraded Developers' Editions (like mine) now provide not only the



New Web-Based sBitx Interface: Very strong voice signal on 75 meters with onboard keyboard for logging

original (GTK-based) sBitx interface, but also the rPi browser with a new graphical touch-screen interface, and also a version of FLDGI. Routines from FLDGI allow on-board generation, transmission and detection of a slew of digital waveforms -- on the same Raspberry that is powering the radio. Thus, without any external computer at all, the user can handle FT8, JS8, PSK type digital signals. Pick up the mic, send and receive SSB. Insert a straight key or paddle and away you go on near-full-breaking, **relay-free** CW. This is becoming a very, very interesting and capable radio!

In my next article, I'll go over some of my past and current efforts to tame some of the spurious emissions of the early versions of the sBitx and the various successes along the way.



Original GTK-based Interface: Wide panadapter showing very strong LSB signal. History to the left show some of the adjustments I had made to settings.



Panhandle Update

Gene Bannon, KB4HAH, Emergency Coordinator

Baldwin County ARES /Alabama State Simulated Emergency Test (SET) Exercise on Sept 11th from 08:00 AM till Noon. They ask our ARES members to please check into their Emergency Net on 147.09/69 (CTCSS - 82.5) repeater. I am NOT sure of all the details yet, but one of the things that they will be simulating is the opening and with their ARES folks manning of some of their shelters in Baldwin County. Baldwin ARES EC also asked that our EOC to please check in as well. I will be operating the Escambia County ARES room in the EOC for that purpose.

The **FFARA & Pensacola State College (PSC)** sponsored "**Introduction to Amateur Radio & Upgrade**" class starts Tuesday, Sept 12th from 6:00 PM- 8:30 PM (every Tuesday and Thursday evenings until Nov-16th). This is a 10-week course designed not just to get hams to pass their expected amateur radio FCC exam, but to get them on the air. At last check (2 weeks ago), we had only 4 students registered for the class of 25 maximum. So, let's see if we can encourage others to come to the class to either upgrade their ticket or to get their initial amateur radio technician license The FFARA & PSC has been sponsoring this course for over 15-20 years now, so let's keep the tradition going.

We (the FFARA) have been asked to help support the Tri Gulf Coast Mere Mortals Mini Triathlon on Sunday, September 24th from 05:00-11:00 (or when the last finisher completes) with Emergency Communications. We'll need a Minimum of 5-6 Hams for this event. An NCS, Swim Start/Finish Turn around, Run Turn around, Transition area; Director Shadow, and of course, the Course Caboose/Sweeper (Mobile One).

The Santa Rosa Island Triathlon will be on Sunday, October 8th from 05:00 -1100 (or when the last finisher completes the course). Again, we will need 5-6 Hams for this event as well. It will be the same positions/locations as the Mere Mortal's Tri.

The Fenner McConnell Ride. This will be a bicycle ride of various distances from 16 to 100 Miles. The course is laid out to cover many of the paved back roads/trails of Santa Rosa County – Blackwater Trail and going in and out of the Black Water Forrest area, including to the Alabama State Line. Thus, Cell Phone coverage in these areas is spotty at best. They asked that we have hams at the 4-5 Rest/Aid stations they have on the route. The Ride will start at 07:00 and last till at least 5 PM or when the last rider comes in. I will have a map to all the rest/aid stops and when they will be active.

OK Now for other news:

Since it was such a quiet summer, there isn't much to report other than it was HOT and STICKY, but what else would you expect in Pensacola during Summer? We did have one exciting bit of activity at the end of the official summer season (in the last weeks of August), by manning the Escambia County ARES room for Hurricane Idalia. We provided ARES support for the affected areas EOCs to ensure communication with the Florida State EOC by being the NCS during a Shift in the Florida State Emergency Net on 3.95 MHz. We also provide Alt NCS at the ending shift for that same said net as the net was secured.

FCC Testing Information

Hog County Amateur Radio Association, Bushnell FL

- First Saturday, 11:00 AM
- Cross Connection Church, 1451 West County Road 476, Bushnell, FL 33513
- Info: sumterVE@gmail.com

Lake ARA, Leesburg FL

- Monthly on the 3rd Saturday, prior to monthly meeting. (Except December)
- 8:00 AM
- LARA Clubhouse (11146 Springdale Ave, Leesburg – off of CR 473)
- For more information and registration, contact: Dave Templeton N4NG, 386-804-2806
n4ng@icloud.com in advance of the meeting.

Lake Monroe ARS FCC Testing, Sanford FL (LMARS)

- Third Saturday of every month
- Seminole County Sheriff's Office, 100 Eslinger Way, 1st Floor, Sanford, FL
- Registration Required
- For more information and registration, contact Bob Cumming, W2BZY, 407-333-0690 or w2bzy@cfl.rr.com

Milton Amateur Radio Club, Milton FL

- Check date at miltonarc.org
- Walk-in
- Bagdad United Methodist Church
- Info: Chuck, N4QEP, merlinman3@yahoo.com

Orlando Amateur Radio Club

- First Wednesday
- 5:30 PM, Walk-ins allowed
- ARRL/VEC
- Central Florida Fairgrounds Craft Building, 4603 W Colonial Drive, East Gate off Fair Villa Road
- Info: testing@orac.org, Robert Cumming, 407-333-0690

Santa Rosa County FL ARES Testing (Walk-in)

- Information and dates can be found at srcares.org

Seminole County

- Every month on the third Saturday
- 9:15 AM
- Seminole County Sheriff's Office off SR 17-92, on 100 Eslinger Way in Sanford, FL
- Info: Bob Cumming, W2BZY, w2bzy@cfl.rr.com

Silver Springs Radio Club, Ocala FL (SSRC)

- Go to <http://k4gso.us/class/> to signup for classes
- Go to <http://k4gso.us/test-signup/> for testing. Testing is held on the 2nd Tuesday of odd months at 7 PM.
- Note <http://k4gso.us/ncvec605/> is requested to be filled out before you show for testing. It is best to download the form and open it as a PDF so you can fill in the blanks.

Suwannee ARC, Live Oak, FL

- Last Saturday of the month
- Suwannee Regional Library
- Contact Gerald Guy, geraldguy@gmail.com

Tallahassee Amateur Radio Society (TARS)

The Tallahassee Amateur Radio Society (TARS) has begun limited License testing. Please refer to the following for the updated testing dates and requirements for individuals wishing to take exams. <http://www.k4tlh.org/getting-started/license-testing>

West Volusia Amateur Radio Society

- Second Saturday of each odd numbered month
- 6:00 AM
- St. Johns Lodge #37, 2557 N. Spring Garden Ave, Deland FL
- Info: <https://westvars.org/testing>

**This information is subject to change.
Check with the testing venue to confirm
the testing session and requirements.**

Statewide Digital Radio Resources

Did you know we have designated ARES DSAR Reflectors & a DMR Talkgroup?

- **DSTAR Reflector 046**
 - o REF046A – Florida Statewide
 - o REF046B – NFL ARES
 - o REF046C – NWS Mobile, AL SKYWARN
- **DMR Florida State ARES TG 31127**

Feel free to link your local repeaters to help create a digital repeater network through the state!