



QST NFL

Newsletter for the Northern Florida Section

Come join the FUN!

Volume 11 Issue 2

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February 2024

From the Shack of the Section Manager

Scott Roberts, KK4ECR (kk4ecr@gmail.com)

Amateur Radio, or Ham Radio as we affectionately call it, is both a fascinating and enriching hobby that connects people across the globe. In Northern Florida, we're fortunate to have a vibrant community of radio amateurs. Today, let's dive into the fun aspects of our hobby and explore some activities that make Amateur Radio thrilling and fulfilling.

1. Hamfests: The "Ultimate Gathering" for Radio Aficionados

You have been to them: a place buzzing with energy, where radio enthusiasts from all walks of life converge. Welcome to a Hamfest, the ultimate social event for Amateur Radio enthusiasts. These festivals are not just about buying and selling equipment; they're about community, learning, and sharing our passion. They are about workshops where you can listen to guest speakers, and see demonstrations of the latest radio technologies. It's a perfect opportunity to meet fellow hams, exchange ideas, and get inspired. Remember, each conversation is a doorway to a new aspect of our hobby.

2. Parks on the Air (POTA): Merging Nature with Radio

Amateur Radio takes on an adventurous twist with Parks on the Air. This activity combines the tranquility of nature with the thrill of making contacts on your radio. Set up your portable station in one of our beautiful state parks and reach out to fellow hams. POTA is not just about making contacts; it's about appreciating our natural surroundings and promoting environmental awareness. It's a fantastic way to enjoy the great outdoors while practicing and enhancing your radio skills.

3. Contests: A Test of Skill and Strategy

Contests in Amateur Radio are exhilarating. They challenge your operating skills, knowledge of radio propagation, and strategic planning. Whether it's a sprint contest over a few hours or a weekend-long marathon, each contest is a unique test of your abilities. You could be racing to make as many contacts as possible or trying to reach distant and rare locations. Participating in contests also helps improve our emergency communication skills, an essential aspect of Amateur Radio.

4. Building and Experimenting: The DIY Aspect

Amateur Radio is not just about operating radios; it's also about understanding and building them. Many hams enjoy the DIY aspect of the hobby, constructing antennas, tinkering with radio



kits, or even building a radio from scratch. This hands-on experience is invaluable, offering a deeper understanding of how radio technology works and the satisfaction of using equipment you've built yourself.

5. Educational Outreach: Inspiring the Next Generation

As seasoned Amateur Radio operators, we have the opportunity to inspire and educate the next generation. Getting involved in local schools, clubs, and youth groups to demonstrate the magic of radio can spark interest in STEM fields. We can offer mentorship, share our experiences, and guide young enthusiasts in their Amateur Radio journey.

6. Emergency Communication: Serving the Community

A crucial aspect of Amateur Radio is emergency communication. In times of crisis, when other forms of communication

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Newsletter, *QST NFL*

Marty Brown, N4GL

QST NFL is a monthly publication of the ARRL Northern Florida Section. *QST NFL* is intended for wide distribution within the NFL Section, including club Leaders and all licensed Amateurs in Florida. A current issue of this publication can be found at the ARRL Southeastern Division web site, Northern Florida Section.

www.ARRL-NFL.org Opinions expressed by contributors are their own, and may not express the positions of the ARRL.

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)

may fail, Amateur Radio operators step in to provide vital information and connectivity. Participating in emergency drills and being part of a local Amateur Radio Emergency Service (ARES) team not only enhances our operating skills but also allows us to serve our community in meaningful ways.

Amateur Radio is a multifaceted hobby that goes beyond the simple joy of communication. It's about community, continuous learning, adventure, and service. Whether you're browsing through a Hamfest, setting up your station in a park, competing in a contest, building your own equipment, educating the youth, or providing emergency communications, you are contributing to a rich, dynamic, and vital hobby.

Let's reignite our passion for Amateur Radio in Northern Florida. Let's explore, learn, and grow together in this fascinating world of Amateur Radio. Embrace the opportunities, share your experiences, and most importantly, enjoy every aspect of this wonderful hobby.

So, grab your gear, join in these activities, and let's continue this amazing journey in Amateur Radio!

Also, I hope to get a chance to see you at Hamcation. Arc and I will be hosting 2 sessions. First, at 11:45, we will have our All-Florida Section meeting and then at 2:15, we will host the ARRL ARES Meeting. Both are scheduled to be in CS2. We hope to see you at these sessions.

If you would like me to come to any hamfests or meetings for your clubs or organizations, please let me know. It would be an honor 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.

QST NFL is Looking for an Editor

Marty Brown, N4GL

After 9+ years at the helm of this project, I am ready to move on. **The March 2024 issue will be my last.** If you want to make a difference to the Section, and be part of whatever's going on, this is a great job for you. The structure is in place, and the editor's position is "move in ready." I will remain as an advisor and consultant.

If you would like more information, contact Section Manager Scott Roberts, KK4ECR kk4ecr@gmail.com, or Editor, Marty Brown, N4GL n4gl.marty@gmail.com

From the Section Emergency Coordinator

Arc Thames, W4CPD



January 9 brought to us an un-expected activation of many of our county EOC's, along with the State EOC, for a severe weather system that moved through our area. While no major communications outages were experienced, many counties saw damage from multiple tornadoes that impacted the state. Many of our amateur radio operators provided support to their local National Weather Service office through the SkyWarn program; operating nets to provide weather warnings and take damage reports. I want to extend a special thanks to Garrett Langston-KO4KKX for staffing the radio room at the State EOC for nearly 18 hours as the storms moved through the state. Garrett did an excellent job at providing net control duties on SARNET!

Scott Roberts, our Section Manager, and I will be at Orlando Hamcator at the ARRL booth February 9-11. Please be sure to stop by and say hi! For those interested in Emergency Communications, there are several sessions I wanted to highlight:

- Friday 9:15-10:30 AM Florida AUXCOMM Updates
- Friday 12:00-1:00 PM Net Control Operations Training for Emergencies
- Saturday 2:15-3:00 PM ARES Forum
- Sunday 10:00 AM – 12:00 PM NWS SkyWarn Class

Please note that the NFL ARES Net has moved to 7198. Hopefully this frequency will remain clear and available moving forward. We apologize for the inconvenience of having to move it around.

In December, our ARES teams reported 782 hours of volunteer service. Thanks to all who submitted their reports.

	Number	Person-Hrs
Exercises this month:	6	38.00
Training events this month:	11	186.00
Public service events this month:	4	79.00
Community service events this month:	3	125.00
Emergency events this month:	0	0.00
SKYWARN events this month:	2	12.00
Meetings this month:	11	158.00
Unclassified events this month:	54	184.00

Call signs of DECs/ECs reporting:

K4SOP KX4LEO W4CJB N5CBP K4BJS KW4MO KC4NVU W4KKJ KC4NVU KO4KUS WE4MJ KN4PFZ W4UFL KB4HAH WA4MN KO4YOL



Amateur Radio on the International Space Station (ARISS) Celebrates It's 40th Anniversary

David Johnson, AA4KN, AMSAT
Ambassador in Central Florida

Visit our official celebration website at <https://www.ariss.org/overview.html> or by going to our ARISS website at <http://www.ariss.org> and choosing "40th Anniversary" in the dropdown menu section.



Loften High School ARC Prepares for Winter Field Day

Bob Lightner, W4GJ

[Loften High School Amateur Radio Club](#) student-operators are honing their operating skills in preparation for [Winter Field Day](#). Our club will be working alongside the [Gator Amateur Radio Club](#) from the University of Florida, using the call: W4DFU. We will be operating from our ECOMM trailer at the Natural Teaching Laboratory on the UF campus. All of our equipment is ready, the antennas are on our roof rack, and the generator is operational. We hope to have a successful operation and our students are looking forward to working with the University students!



Digital Library of Amateur Radio & Communications

Marty Brown, N4GL, Editor

Digital Library of Amateur Radio & Communications is now archiving **QST NFL** issues. DLARC is a project of the Internet Archive (the not-for-profit online library best known for The Wayback Machine.) DLARC is growing to be a massive online library of the past and present of ham radio and related communications. It is funded by a grant from Amateur Radio Digital Communications. You can see what we have so far at <https://archive.org/details/dlarc>.

Three years of [QST NFL are now online](#), and I am working with the curator, Kaye Savetz, K6KJN, to eventually get all the issues that I have edited since 2014. DLARC can also scan paper issues. So if you have any stashed in your attic, let me know.

TARS Holiday Luncheon 2023

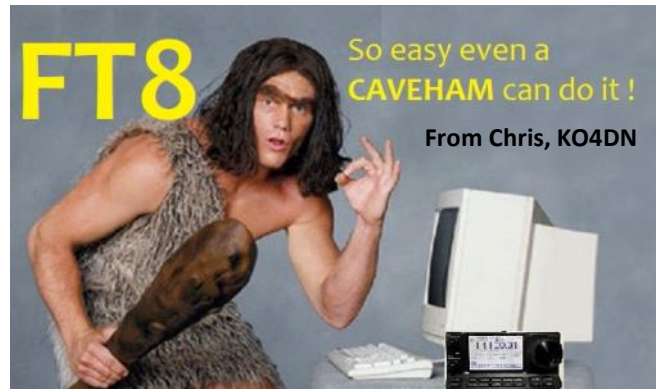
Christopher Pandolfi KO4DN

On December 16th, The Tallahassee Amateur Radio Society (TARS) held their annual holiday luncheon inside the American Red Cross Building.

Over 40 members attended the luncheon. Everyone enjoyed the food which was provided by Mission BBQ. Fun, stories, and great friendship was had by all.

Congratulation to Tom Brooks, K4TB for being the recipient of the TARS and Feathers award. Tom has been a long-time member of TARS. He has put on satellite demonstrations for Field Day, and program concerning Amateur Radio Satellite communications for the TARS club meeting.

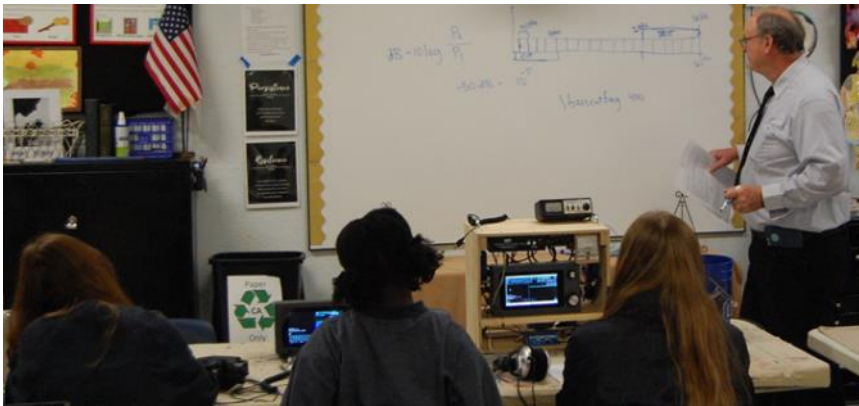
Happy New Year from TARS!! We're looking forward to 2024!



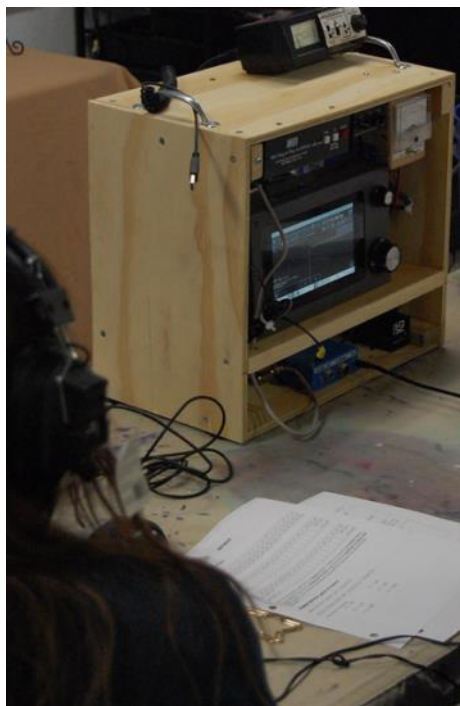
Ham Radio Allows High School Students to See Real Life Math in Action

by Gordon Gibby KX4Z

High school advanced math students may be very conversant with *logarithms, sine waves, amplitudes and phase shifts*....but have little grasp of how these are used in real life to serve humanity and solve real problems. At Cornerstone Academy in Gainesville, Florida, (<https://cornerstoneacademy.school/>) we made a huge dent in that weakness using the innovative sBitx ham radio transceiver, which is based largely on mathematics. This "software-defined-radio" carries out its modulation and demodulation of radio signals using a built-in Raspberry Pi single-board computer. With free public-domain software created by Ashhar Farhan VU2ESE, (<https://www.youtube.com/watch?v=tQ2gv7IascI> <https://github.com/afarhan/sbitx>), it makes a perfect platform for high school math students to encounter math in real life!



AP PreCalculus young ladies learning about the discrete Fourier Transformer



Simple "go-box" allows easy transport of transmission equipment

The project goal was to create software to pre-emphasize certain audio frequencies that are important for speech intelligibility, to enable the transmitted signal to cut through noise more effectively. This is especially important for older users who may have some higher-frequency hearing loss. It creates a built-in "equalization." The sBitx software made it easy to create a high-frequency boost, and also a low-frequency cut, to reduce power spent on less-important audio frequencies for intelligibility. At the same time, for the purposes of the science fair experimental entry, adjustable impulse (wide band) **noise** can be added. All of these can be controlled with simple commands from a keyboard attached to the radio's Raspberry Pi. That allows the system to be used to send voice to any normal high frequency radio receiver to test intelligibility of random words with prospective equalization improvements, in the presence of variable amounts of noise. All the fancy digital work is done in the sBitx transmitter.

With their understanding of logarithms, piece-wise linear functions, sine waves, amplitudes and phase shifts, the students quickly grasped the meaning of decibel gains and losses, the Fourier Transform and its ability to represent any signal as a summation of many sine waves. They moved on to the Discrete and Fast Fourier Transform and very simple audio filters carried out in the frequency domain.

With simple keyboard commands such as `"/basscutfreq 400"` the students were able to configure the de-emphasis and pre-emphasis filters, and use `"/noise 2000"` to add graded amounts of noise, using specially modified software on the transceiver's Raspberry Pi. It was a huge help that the transmitter presents an "oscilloscope" view of the audio waveform in the time domain. A second sBitx used as the *receiver* in the experiment, presents a "waterfall" view of the frequency domain of the received signal, helping the students correlate the two math representations and understand the effects their filters are causing.

The sBitx transceiver made it possible for these students to see math in real life, which can be used to help people overcome the common little impacts of aging.

Building a Simple Electromagnetic Interference Measurement Antenna

Gordon Gibby, KX4Z

Alachua County is in the process of drawing up contracts for the construction of a new Emergency Operations Center. Our *existing* EOC was plagued with enormous switching-mode-generated harmonics that **severely damaged HF reception**. We had to go to great lengths to move HF antennas a good distance from the building, in order to get workable reception. We therefore wish to create advisory electromagnetic compatibility (EMC) specifications for the construction and equipping of the new EOC that will be valuable and understandable by both those writing the contracts and potential vendors of power backup and HVAC equipment.

RF Radiation Units

Professional and scientific communications regarding electromagnetic interference (EMI) / EMC noise levels usually are written in units that specify the **E-Field** (*electric field* of the electromagnetic wave), rather than units of *voltage* from a ham radio antenna typically utilized by hams. The units of E-field are typically microvolts/meter or the related dBmV/meter, rather than microvolts.

FCC Part 15.107 ("Conducted limits") allows unintentional radiators (e.g., HVAC system) to place as much as 50 dBuV onto power lines (measured using a Line Isolation Stabilization Network) -- or 0.3 millivolts of RF -- between 5-30 MHz. Our group has not yet studied this impact of this level of conducted noise energy. However, energy conducted onto the power wiring of a building creates a mammoth transmission antenna (the AC wiring) and we measured very large radiated RF throughout our building.

FCC Part 15.109 ("Radiated emission limits") very unfortunately for us, places NO restrictions on radiation by unintentional radiators (other than CB radios) below 30 MHz. This is a huge problem for volunteer ham radio groups such as ours. Other specifications, such as those put out by CISPR, do include radiated limits. We would like to specify radiated limits. However, professional antennas to measure noise radiation below 30 MHz and allow calculations of the E-Field are in the \$3000 class.....somewhat out of our league as volunteers!



Calibrated professional EMI/EMC measurement antenna for HF - \$3000 This paper explains how to avoid this cost.

Simple, Cheap Calibrated Antenna.

I worked to create a **simple antenna** that can be built by any ham radio group, and then to calibrate it so that it delivers approximate electrical field measurements in the typical professional units.

The antenna is a simple center-fed dipole of total length 2 feet, fed by 10 feet of RG8X coaxial cable, terminating in a BNC connector suitable to connect (with adapters) to a Siglent spectrum analyzer. Because we typically use *horizontal* antennas for NVIS communications, I typically use a **horizontal test antenna**, while CISPR and other standards often use a vertical.

Calibration of a test antenna develops a figure known as "Antenna Factor" that allows immediate conversion from *voltages* measured by a spectrum analyzer, into *electric field* strengths.

$$\text{Antenna Factor} = E / V \quad (\text{Eq. 1})^1$$

Of course the short 2-foot dipole is horribly mismatched to the 50-ohm spectrum analyzer input, but this weakness (and mismatch loss) is simply folded into the Antenna Factor and does not detract from its usefulness for measurements. Spectrum analyzers measure in dBm (referred to 1 milliwatt); conversion to voltage (assuming 50 ohm system) and



Simple Antenna

¹See, for further information: https://en.wikipedia.org/wiki/Antenna_factor

mathematical manipulation yields a very useful formula that allows the dBm measured by the spectrum analyzer at any frequency to be converted into the desired dBmV/meter:

$$E \text{ dBmV/m} = 107\text{dB} + \text{dBm}_{\text{spectrum analyzer}} + \text{AF (dB)} \quad (\text{Eq 2})$$

Our goal to calibrate the simple homemade antenna is to compute the AF for various frequencies. The most important frequencies are the 80/40/30 meter bands, both for NVIS communications to state agencies, and because harmonics of power-line related noise radiators often become less bothersome at frequencies higher than 10 MHz (in our experience, but not necessarily always!).

It turns out that if the **gain** of any antenna is known, there is a formula for calculating the AF for that antenna.

$$\text{Antenna Factor} = 9.72 / (l * G^{(1/2)}) \quad (\text{Eq 3})^2$$

where G = gain

For any full-size HF dipole, the broadside "gain" can be assumed to be in the range of 2dB. However, if we use *received background noise* as our signal source, we enjoy the tremendous advantage that it arrives from ALL DIRECTIONS and therefore the directivity of the antenna is offset and gain becomes unity (0 dB). This allows us to do a straightforward comparison between any full size HF antenna, and our 2-foot dipole. Obviously the *noise E-field* is the *same*, no matter which antenna receives it! We can then take received power measurements from a (tuned) full size antenna....and compute the AF for the 2-foot antenna that would indicate the same E-field. By this procedure we calibrate the simple antenna easily.

I computed the implied AF³ for a full size dipole using Eq 3, for background noise measurement with results as follows:

Frequency (MHz)	Wavelength (meters)	Antenna Factor (linear) for isotropic background noise signal = 9.72 / (l)	Antenna Factor (dB = 20 log())
3.560	84.3 m	0.114	-18.86 dB
7.050	42.6 m	0.228	-12.8 dB
10.125	29.6 m	0.328	-9.68 dB

Introductory Calibration

This is an introductory paper and design. For my calibration estimate, rather than creating three separate full size dipoles, I utilized a center-fed non-resonant antenna of approximately 100 ft length, fed by 300 ohm balanced transmission line antenna, through a low-loss manual T network tuned individually for each band to an SWR between 1.0 and 1.5. Although this antenna will certainly have "lobes" on the higher frequencies, since noise is isotropic, this is inconsequential. Later, more precise work, can be carried out with individually constructed resonant dipoles.

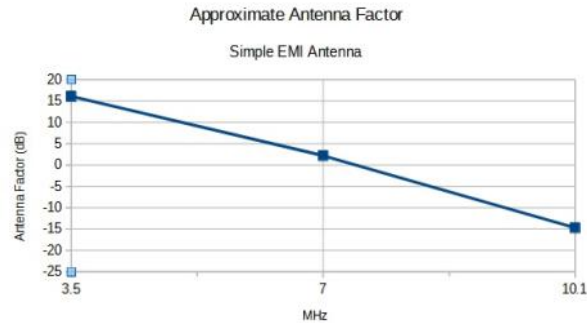
Exposing my 2-foot dipole to approximate the same region of space (by pushing it out 8 feet onto a roof overhang) during daytime hours, I was able to do the following calibrations:

Frequency (MHz)	Spectrum Analyzer noise floor (for reference) (dBm)	Full Size Dipole Noise Measurement (dBm)@ 1kHz Receiver Bandwidth	Full Size Dipole Antenna Factor (dB) (Receiver Bandwidth 1 kHz)	Simple EMI Antenna Noise Measurement (dBm) (Receiver Bandwidth 1kHz)	Resultant Simple EMI Antenna AF (db) =
3.560	-136 dBm	-89 dBm	-18.9 dB	-124 dBm	16.1 dB
7.050	-134.8 dBm	-97 dBm	-12.8 dB	-112 dBm	2.2 dB
10.125	-140 dBm	-102 dBm	-9.7 dB	-97.5 dBm	-14.2 dB

²This equation for AF comes from: https://en.wikipedia.org/wiki/Antenna_factor

³The antenna factor is a physical property of the geometry and independent of the receiver bandwidth; the latter impacts how the receiver will report the signals received.

The approximate AF are graphically presented, and **show the expected shape** for a short-for-wavelength antenna Antenna Factor:



With the Antenna Factor now calculated for each of the three most important frequency bands, usage to measure noise in dBuV/meter is simple:

Power the spectrum analyzer from a noise-free AC source⁴.

1. Place the simple antenna in the area to be measured.
2. Set the frequency range of the spectrum analyzer
3. Set the bandwidth to 1kHz, if reporting your noise in that bandwidth, reduce any attenuation in the spectrum analyzer and add any necessary preamplification until your device internal noise floor allows measurement down to -120dBm or lower.
4. Connect the 10 foot transmission line to the spectrum analyzer input
5. Verify that you now see *more signal* than with no antenna connected
6. Collect data for 3.5, 7 and 10 MHz, and use the Antenna Factor and Eq. 2 above to calculate the noise E-Field in dBmV/m.

Be certain when reporting your measurements, to indicate the bandwidth at which they were measured. Since noise is typically evenly spread, additional bandwidth will automatically see a higher noise measurement.

Future Work

Future work and publications may involve calibration using specific dipole antennas to increase accuracy, and comparison to published expected wide band noise to compare measurements with the simple antenna, and presentation of baseline data for the proposed new Alachua County EOC location.

⁴Be very careful how the spectrum analyzer is powered. I have seen 20dB of spurious noise created by powering from a 12-volt inverter. Either use extension cords from a utility 120-volt power source, or possibly a filtered diesel generator output. Avoid inverter generators completely.



WFD Greetings From an EOC

Barbara Mattherw, KO4TWZ

The Gainesville Amateur Radio Society (GARS) operates a volunteer Radio Room, under the club call sign K4GNV, for the City of Waldo. So many Winter Field Day (WFD) participants embody the absolute “grid is down” reality that the event calls for, but our club “drills” within the event using the (potentially) generator powered location we man. WFD manager for us was Mike Martel, KK4KRZ, and his planning was key to a great event, getting so many club members involved.

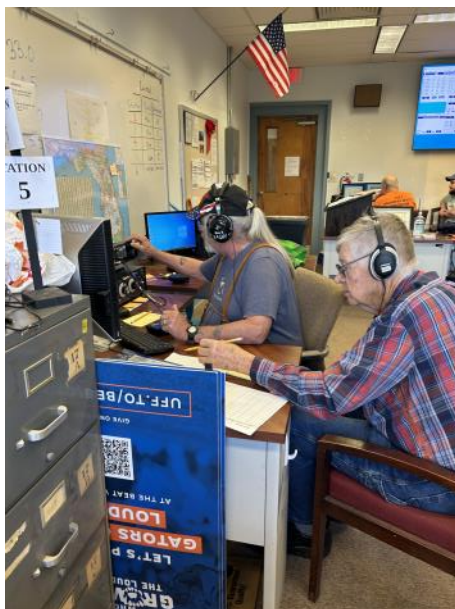
We used social media to promote the event and had people new to Ham radio come by to see the action. We had a 10th grade student who has been licensed since August 2023 (just got his General) on the air for his first episode of continued contacts. Experienced members utilized our “buddy” monitoring headphones to coach him through the routine of contesting, as we used for many of our operators throughout the day (sometimes the buddy listener was also the logger). The student, Robert, spent a couple of hours on air and did a fantastic job. There was great mentoring from our experienced members and it was fantastic so see cross-generational team work.

In a post-event email to the club, GARS president Terry Gordon, K4TMG, said “The club radio room had 4 stations operating. We had 11 CW QSOs, but mostly phone. We operated on 40M, 20M, 15M and 10M. We tried 6M but it was not successful. We did have a few 2M simplex contacts. There were several newly licensed operators operating and they did great! We have several club members that are really getting familiar with the club IC 7300s and the logging software. I enjoyed watching several of our members operate a “running station” when just last year they were timid about even trying to make a contact. These events are helping all of us to become better operators.”

Key skills were sharpened when operating those “running stations” and folks had to quickly learn how to log on the keyboard and verbally manage the pile up as folks came back to us. Early Sunday morning, when the 10m had no WFD replies, newer Hams had fun contacting many operators doing DX and got greetings from Russia, Sweden and the Caribbean.

Lessons learned: We need printed instructions at each station regarding radio set up, as well as reminders for updating the logging software for each new operator to properly credit contacts (mostly for fun). We do need train more members on quick room set up. Lastly, having the club call sign phonetically spelled out on a card right on the screen helped all of us not fall into using our own, well-practiced call signs (although much on-air hilarity ensued when we caught ourselves mid-call sign!)

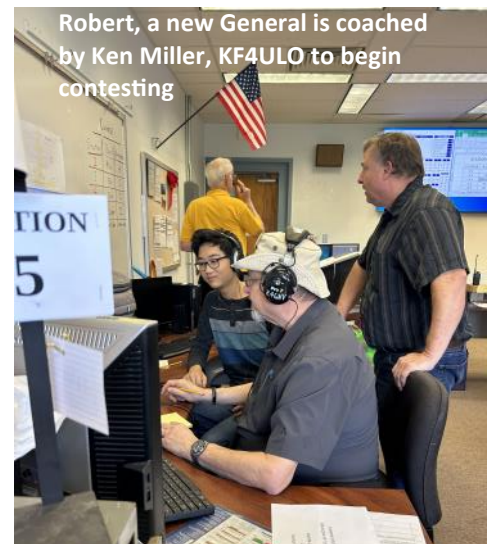
Overall, there was such a grand comradery in the radio room that we had to prompt some exuberant background conversations to settle down so operators could hear accurately (there is no loss for words among Hams!). Ultimately, we did what our volunteers needed to do, which is practice a start to finish set up and had a great time doing it. Thanks to all those on the air that day, making WFD work.



Dave Dockus, KO4GGZ and Stewart Reisener, KK4DXF logging.



John Troupe, KM4JTE working CW, along with Tom Gause, W4YGT



Robert, a new General is coached by Ken Miller, KF4ULO to begin contesting



WFD Coord. Mike Martel KK4KRZ sets up radio



Larry Rovak, WB2SVB, our GARS Network Engineer, working 20m

What's Happening - ALACHUA County Style!

by Gordon Gibby KX4Z

Alachua County ARES(R)/North Florida Amateur Radio Club have so many **irons in the fire** that we are hard-pressed merely to keep track of them! The first thing to "get away" was a 49:1 balun and *the end of our EOC 130-foot end-fed halfwave antenna*, which volunteers helpfully moved to the accessible side of the EOC fence.....**but the wind put a branch on the antenna**, and that pulled the balun up about 35 feet....and my efforts only resulted in getting it jammed at 70 feet!.....

So we scheduled a new-antenna-installation party and Wow! Did WE Have Fun! We have to snake our antennas across a boatload of tree limbs so a BUNCH of people -- **Manish Sahni KQ4KTE, Craig White KO4ZRZ, and Rosemary Jones KI4QBZ** come to mind -- got to *take turns shooting lead weights* with Earls' impressive air-powered contraption. Wow! We have a new antenna, and now with a low-loss MyAntenna special-core balun. Great work, Gang! We counted NINE PEOPLE to put up ONE antenna! (There is enough extra space for a 160m!!)

Our group has had so much FUN doing simple contests like Field Day, that we decided (for the first time ever) to do **WINTER Field Day**....at the EOC, using only the EOC antennas. That's quite a stretch, because the EOC has only ONE high-frequency coax line (albeit a better selection of VHF/UHF antennas).

Group Growth

Contests centered on deployable or field-operations communications have just been fantastic growth-builders for our group. Loads of learning. In order to run three HF stations simultaneously on that one coax and one antenna.....we have built our own "Quint"plexor by massively altering VA6AM's excellent Triplexor... and we have also been building BANDPASS and HIGH PASS and LOWPASS filters. (**Go, Wendell KN4TWS!!**) We want to be able to go anywhere from 160meters all the way to 6meters with 3 stations simultaneously transmitting...same coax.

LabNLunches

THAT got a lot of interest from our volunteers. We scheduled TWO Saturday LabNLunches in January at the EOC to help people get stations and equipment ready. People said (once again), "*it is like drinking from a firehose!*" We have our own GPS/RaspberryPi-based NTP (time) server, now on WIFI and with its own portable battery system (**thanks Earl, K4ZSW!**)

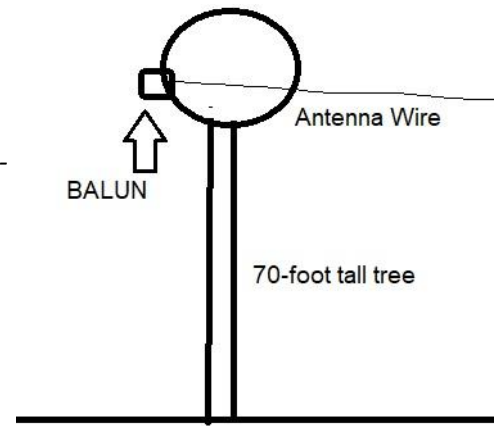
Radios: Dave Huckstep W4JIR, myself, Lorilyn Roberts KO4LBS and Rosemary Jones KI4QBZ are providing HF radios for the event. We got out one of the "Shelter Go-Boxes" to use its VHF/UHF radio for 2meter/70cm voice/data/cw (using FLDGI).

Learning Modern Group Signups

Our members also learned how to use Google Docs to do their Signup (first time ever), and Google Forms to register cellphones and vendors. We have never had a cell phone registry for Winlink text messaging before.

County Growth

There's quite a bit of *Alachua County competitiveness* showing up, and we might have stoked some of that! The **Loften High School** ham radio group (led by **Bob Lightner W4GJ**) is joining forces with the UF college club (GARC <http://gatorradio.org/>) led by **Matthew Self KN4EDG**. The Gainesville Amateur Radio Society (GARS, <https://gars.club/>) has fantastic new equipment and much much better antennas than NFARC/NF4AC EOC and they plan a



I was too embarrassed to take a photo, but this is an illustration of where my efforts got our Balun...with no rope attached. Stuck completely fast, not ever coming down.



Learning How To Connect Up Radios @ EOC; left to right - Manish Sahni, Leland Gallup, Craig White, Eric Pleace, Wendell Wright, Rosemary Jones & David Huckstep-- more hidden elsewhere!

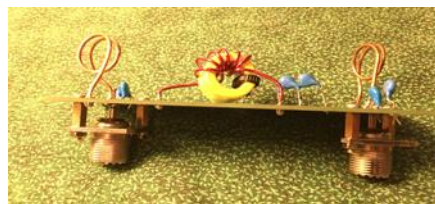
robust Winter Field Day effort under the guidance of **Mike Martell KK4KRZ**. Hooray! More learning in many, many quarters! Good for ham radio!

The New Alachua County EOC....sorta

Meanwhile the County is still working toward moving the EOC and the fellow they hired to be their key Radio Expert....*declined the job!* For our part, I've been working hard to try and write specifications in E-Field format for EMI (electromagnetic interference) limits on HVAC and power gear at their new facility. **Brian Schultheis K4BJS** has been absolutely heroic, sending me tons of literature and educational information -- first time I understood ferro-resonant and RF-isolation transformers! Go Brian!! Thanks a million! I concluded my initial EMI measurements at the facility were *fatally flawed* by the inverter power supply I used for the Siglent spectrum analyzer, so with Asst. EM Dave Peaton, we plan to re-measure in about 3 weeks, using our diesel generator.

East Alachua County Simplex -- **Reid Tillery K9RFT** is just the ENERGIZER BUNNY! With help from **Shannon Boal K4GLM** and **Terry Gordon K4TMG** of GARS, he already has one new antenna up at Melrose (contract) Fire Station, and working on two others. He is building up volunteers, and has revitalized our Neighborhood Ham Watch crew. We now have about 6 volunteers on that list--and we have a real list! Every Wednesday, Reid is on the move, testing simple connections from East Alachua County fire stations to the EOC. Go Reid! Meanwhile, the GARS folks have raised their 2-meter antenna and we now have good simplex connections between the city of Waldo EOC radio room, and Alachua County EOC radio room. Hooray!

Back to Winter Field Day, a huge area of growth for our volunteers has been enlarging their understanding of office computing environments -- necessary for efficient logging and data modes simultaneously on laptops. A bunch of learning on how to "extend" displays onto a 2nd monitor at our LabNLunches. And how to set Dimensions 4 to connect to just our internet-free NTP server....and to the logging system, and on and on and on. Our private MESH wifi continues strong thanks to **Earl K4ZSW** and **Susan KG4VWI**.



6m Filter, 2 air-core inductors and one on 2xT80-6



The 2024 Florida QSO Party will be held the weekend of April 27th – 28th.



Stay tuned for details. Since the re-introduction of the Florida QSO Party to the contest scene in 1998, the Florida QSO Party has become one of the fastest growing and most popular State QSO Parties around today. This is due, in part, to the tremendous effort by the mobile teams to activate as many counties as they can to allow those participating from out-of-state, to achieve a county "Sweep" (working all 67 Florida Counties). Florida stations operating from home are also valuable, since that increases the chances that stations will work all counties! If you are a serious or casual participant from Florida, or from outside of Florida, the Florida QSO Party was designed to be a FUN operating event. Why not give it a try?

<https://floridaqsoparty.org/>

MERT Update

Harlan Cook (KN4VRM) MERT Coordinator

MERT

Marion County Emergency Radio Team



Marion County Sheriff's Office

The Monthly Meeting was a real doozy! We heard from a great guest speaker (Rob Ethridge - MCSO Volunteer Coordinator) and updates from ARES and HEC. We also had ARES guest from Levy County too. Come and join us at the next meeting February 17th.

Radio Net's:

This week's Net Control Operator (NCO) is... **Harlan Cook KN4VRM**. Backup is... Bill Sobel K1WLS. (Please include sending Winlink Packet, Pactor, ARDOP and VARA digital transmissions too.)

- Thursday @ 19:30 L, MERT D-STAR Net will be on KK4DFC, FREQUENCY 146.790, followed by a discussion of the WINLINK Training Messages received.
- Thursday @ 20:00 L, CERT-MERT Net will be on KJ4CLL, Frequency 145.330. All area CERT/MERT/HEC/ARES and Guest Hams are invited to Check In!

Meetings Update:

Our weekly "Check In" meeting on Wednesday, January 24th at the EOC begins at 9:00 am. This week, Bill Gillespie, MERT Assistant Coordinator will be leading the meeting. All are invited to participate. What surprises will he have planned? Attend and find out!

WINLINK Challenge:

Let's enjoy testing our Amateur Radio knowledge. Good luck to all!

On a ICS-213 form, answer the following questions (General Class) in your message to the Net Control Operator - KN4VRM.

(Technician License)

1. What should be done to all external ground rods or earth connections?
 - A Tune them for resonance on the lowest frequency of operation
 - B Bond them together with heavy wire or conductive strap
 - C Keep them as far apart as possible
 - D Waterproof them with silicone caulk or electrical tape

(General License)

2. What usually happens to radio waves with frequencies below the LUF?
 - A They are attenuated before reaching the destination
 - B They are refracted back to Earth
 - C They are refracted and trapped in the ionosphere to circle Earth
 - D They pass through the ionosphere

WINLINK Bonus Questions (Extra Class License):

3. By how much does the VHF/UHF radio horizon distance exceed the geometric horizon?
 - A By approximately four times the distance
 - B By approximately 15 percent of the distance
 - C By approximately 50 percent of the distance
 - D By approximately twice the distance
4. What is one advantage of a Pi-matching network over an L-matching network consisting of a single inductor and a single capacitor?
 - A L-networks cannot perform impedance transformation
 - B Pi-networks provide balanced input and output
 - C Pi-networks are more stable
 - D The Q of Pi-networks can be controlled



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Orlando HamCation needs your help! It takes an army of Volunteers to make HamCation happen every year. If you volunteer for HamCation for just four hours, we will give you a ticket to get into HamCation all weekend. We need volunteers starting on Tuesday morning all the way through Sunday afternoon, after the show ends.

Just to highlight a few of the areas that are needing help right now, Tailgate, RV, Forums, IT, Logistics, On Site Ticket Sales, Security, and Talk-In.

For more information on volunteering for HamCation, including signing up, go to www.hamcation.com/hamcation-volunteer. Also on this page is the full list of volunteer areas and the description and duties of each area.

HamCation gives back Track your hours that you volunteer and HamCation will make a donation to your Ham Club/501 C 3 organization of your choice. (We'll provide you with the form)

Hunting Foxes in the Panhandle

Ed Underfinger (AA0EU)

The Playground Amateur Radio Club (PARC) hosted a fox hunt on January 20th. This was my second such event, the first time I was a hunter. This time I took on the role of the fox. Queenie (KQ4FRB) organized the event and planned a cookout to follow the hunt.

At 9 AM the hunters gathered at the PARC clubhouse, which is on the south side of town. They were given the fox frequency (146.565 mhz) and in a mad dash, the fun began. As the hunters split into 4 teams, I turned the incredibly powerful 5 milliamp transmitter on and the cooks got started.

Two and a half hours later, and 2.5 miles north, Selena and Dale (KQ4MVC) were the first to find the stuffed fox I had staged as the final step. The other teams were Ted (KO4NCL) and his dog Jaeger, DJ (KI4ZER) and Maria, and Rob (waiting on his callsign) and his son. The support team was Queenie, Rey (KM4DYA), and Randy (KJ4FNB). Over lunch the teams discussed their strategies and any difficulties encountered while I plotted a greater challenge for next time.

Congratulations to all participants for making this a fun event!



Suwannee County ARES® Activates EOC

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

W2TTT@ATT.NET

On January 8th and 9th a strong cold weather front extending from the Canadian border to the Gulf of Mexico advanced from west to east unleashing tornadoes, strong straightline winds and extremely cold temperatures in many places. In anticipation of this event, the State EOC was staffed by ARES operators and took over the Florida SARNET. This network of about thirty-five repeaters across the state provided a platform for the dissemination of weather-related damage impacts to both the EOC in Tallahassee and to other counties in the path of the advancing front.

Suwannee County ARES Emergency Coordinator Mike Meador KM4BTW put out a call to his team to staff the county's EOC Radio Room. Mike volunteered to open the EOC at about 0500 on the 9th. As it was anticipated that the worst time for Suwannee County would be between 1100-1300, it was decided to add another operator around 0900 to give Mike assistance, or to provide him with an opportunity to get home before the peak of the storm. Gordon Beattie W2TTT volunteered for the initial relief operator slot and Robert Abate KO4IJT and Nancy Beattie N2FWI were queued up behind him. Further, Joe Kelman KI4TRR was available from home in the west side of the county to act as a backup and to report any issues as the front entered the area.

As the morning progressed, the reports from Panama City and the Panhandle were concerning. Tornado-driven damage reports heightened our awareness and the importance of our operation. With the effects of Idalia fresh in our minds along with the on-going cleanup from that August hurricane still burdening our communities and families, concerns over weakened trees and infrastructure became elevated. As the day went on, and the front approached Suwannee County, the worst of its impact split to the north and south of the I-10/US 90 corridor and spared the area of much of its impact.

We kept a log of heard traffic on an ICS-214 form and sent an ICS-213 via Winlink summarizing our activity to our SEC Arc Thames W4CPD and SM Scott Roberts KK4ECR.

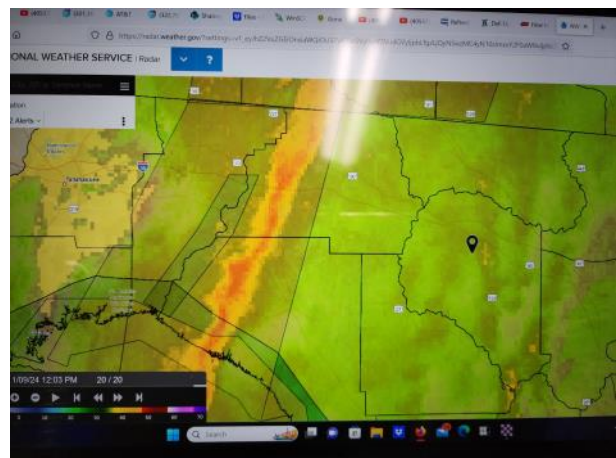
The Suwannee County EOC has a communications room equipped with an ICOM IC-7300 HF/6m radio and an Kenwood TM-D710 2m/70cm FM radio. We augmented the station with two laptops, an HP with a touchscreen for situational awareness and an Evolve III laptop for Winlink. With the addition of an HT, we were able to monitor the 145.41 MHz N4SVC repeater, the 145.27 MHz W2TTT repeater and the 443.700 MHz Live Oak SARNET repeater. Many thanks to John KD4AMP for making the N4SVC repeater available to the ARES team.

We also had at the ready another ICOM IC-7300, an ICOM IC-2730A, an Anytone AT-D578UV, antennas, coax, four foot military poles and a 200 AH LiFePO4 battery. If there had been a longer deployment, or a need to activate another location due to storm damage, we were ready to address it with equipment and personnel.

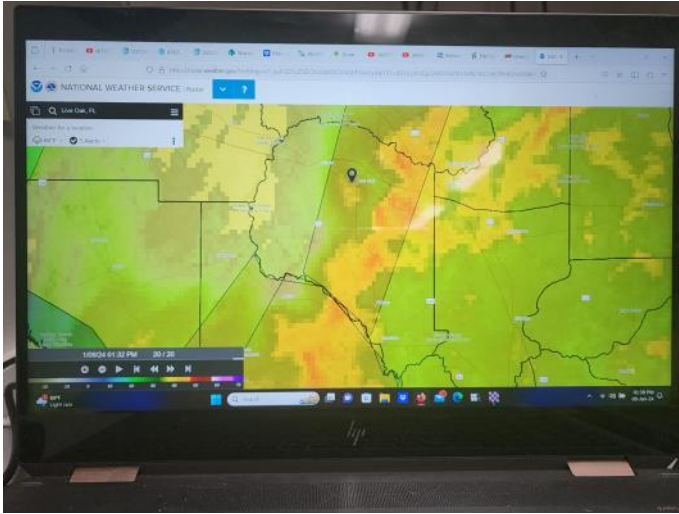
Fortunately, the severe weather had passed by mid-afternoon without significant impact to the lives and properties of Suwannee County. The operation commenced demobilization at about 1530 and everyone was home and unpacked before dinner. We were fortunate to have been spared the wrath of Mother Nature.



The Suwannee County EOC Amateur Radio operating position as set up for the January 9th storm.



The front looking strong as it approaches the counties to the west of Suwannee County.



The front as it was leaving Suwannee County was less strong and broken into pockets.



Gordon W2TTT and Mike KM4BTW explaining our observations to county Emergency Management staff.

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Sumter County ARES® & Hog County ARA Joint Event

Mark Newby, KX4LEO



Special Event Station K2S and POTA Activation

Members of Sumter County ARES and the Hog County Amateur Radio Association participated jointly in a Parks On The Air (POTA) activation and Special Event Station K2S on January 6th and 7th, 2024 to commemorate the start of the Second Seminole Indian War in 1835. The Sumter County ARES EmComm trailer was set up at the historic Dade Battlefield State Park in Bushnell, Florida, which was the site of the first battle.

While our operators were making contacts, the reenacted battle was raging between government soldiers and Seminole Indian actors in the park.



With rifle and cannon fire in the background, our operators made 343 contacts using CW, Digital and Phone. Our operation attracted the attention of several park guests. Some of the reenactors were even able to slip away from the battle long enough to make HF contacts themselves. We want to thank the Florida State Parks for allowing us to be a part of this annual event.

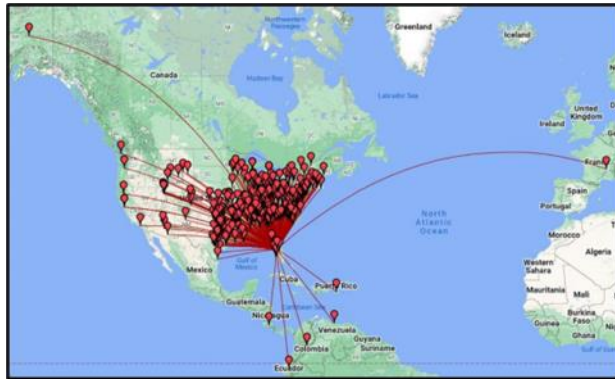
The first station used an Elecraft HF transceiver in a go-kit that was set up on a table outside the trailer under a pop-up tent. The Elecraft was connected to a Palomar BAS-71 end-fed wire. The antenna's matching unit was attached to the trailer's push-up pole elevated 30 feet, with the end of the antenna in a north-south slope configuration.

The second station was inside the trailer using a Yaesu FT-991A connected to an ATAS-120 vertical antenna attached to the roof of the trailer. We were pleasantly surprised by its performance.



All DC equipment was powered directly from a bank of four deep-cycle AGM marine batteries, while all AC dependent equipment was powered by a 3000w inverter connected to the same battery bank. The bank was periodically charged using roof-mounted solar panels or a generator.

This event not only allowed us to be part of an important community event, we also seized this opportunity to practice emergency communications deployment, plan for contingencies, test our equipment, and experiment with different antenna configurations to achieve maximum performance.



Images and statistics provided by Earl Hassemer - W9EJH, Dave Bushong - KZ1O and Mark Newby - KX4LEO.

**K2S
EL88WP**

log start	06-Jan-2024, 13:22
log end	07-Jan-2024, 17:28
operating period	1 days 4 hours 6 min
operating time	-20 hours -1148 min
off time	1 days 23 hours 14 min
Σ QSOs	341
CW	39
Phone	301
Digi	1

Band	QSO	CW	Phone	Digi
80m	1	0	1	0
40m	10	0	10	0
20m	302	24	278	0
17m	5	0	5	0
15m	18	15	3	0
10m	4	0	3	1
2m	1	0	1	0
Σ Gridsquares	145			
Σ Gridfields	15			
Σ Countries	9			

K2S - EL88WP

1	F	France	1
2	HC	Ecuador	1
3	HK	Colombia	1
4	KL7	Alaska	1
5	KP4	Puerto Rico	1
6	TI	Costa Rica	1
7	VE	Canada	7
8	W	USA	327
9	YV	Venezuela	1



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TVARC Holds Licensing Courses

Brad Castelli, KN9B

Amateur Extra Licensing Course on Monday evenings, Mar 4 - Apr. 8, 2024, in The Villages, Florida, The Villages Amateur Radio Club is holding an in person Extra license course. You will meet once a week for five weeks followed by exams on the last night. The course is free and open to the public. More class details and study resources are listed on the club website; www.K4VRC.com ("Interest in becoming a ham" tab).

Contact: Brad KN9B, kn9b@arrl.net

What's Happening? Okaloosa & Walton Counties

DJ Stewart, KI4ZER, Assistant Section Manager, NFL, ARRL, President, W4AAZ, W4ZBB

Happy New Year and welcome to 2024! The start to this year has been off to a wonderful experience and the trend seems to be expansion in multiple areas of Amateur Radio! As we embark on this years journey, we find that we are testing many new people, licensing them, and they are joining up with their local clubs! Not only that, the technical capabilities and digital transitions are abundant and increasing each week! From Wires-X nodes to D-Star and VARA FM, Okaloosa County is pushing forward on answering the call from its Amateur Radio Enthusiast to expand on the in-place systems and devote time to explore emerging capabilities!

For example, N4CMR and AA0EU have a Wires-X node up on 146.400, room 91172 code 01172 in Fort Walton Beach! See if you can tap into it without the kerchunk and talk globally!

Another example is from KM4VKY and others making the KO4EOC D-Star gateways (plural!) sing! "D-Star" Digital Voice and Data Communications, is becoming a popular means of communication with Amateur Radio Enthusiasts. Think of it as the ever popular "Nextel". D-Star transfers both voice and data via digital encoding over the 2 m (VHF), 70 cm (UHF), and 23 cm (1.2 GHz) amateur radio bands. There is also an interlinking radio system for creating links between systems in a local area on 10 GHz. When connected to D-Stars repeaters the capability to communicate around the world is endless. The frequencies are 145.150 -600 KHz for 2 mtr, 444.600 + 5.000 MHz for 70 cm and 1291.3 -20.000 DV with 1251.3 MHz RPS DD for 23 cm. The call sign is "KO4EOC" and for now you only need to put "CQCQCQ" in your call sign programming. The D-Star repeater is located on the same tower as the Crestview Repeater (147.360). So, if you have the capability, dial up the 145.150, 444.600 or 1291.3 machines and check out your coverage. D-Star is operational locally in Okaloosa County and expansion is expected within the next several months.



D-STARusers.org
Your Source for D-Star [callsign](#) information!

Current Time is 01/28/2024 00:51:26 UTC [\[Click here to disable ref\]](#)

Callsign	Time Heard	Reporting Node	240 Unique callsigns here
K1VK D	01/28/24 00:51:18 UTC	REF050 Dongle User DVD	Boston, MA, USA
PY2NO D	01/28/24 00:51:18 UTC	REF018 Dongle User DVD	REF018, REF018, Brazil
KJ7RNY	01/28/24 00:51:18 UTC	KE7JFH B 440 MHz	Mesa, AZ, USA
KM4VKY ←	01/28/24 00:51:09 UTC	KO4EOC C 2 Meters	Crestview, FL, USA
KW2E	01/28/24 00:50:48 UTC	REF001 Dongle User DVD	USA
N3OUC	01/28/24 00:50:40 UTC	K3PDR C 2 Meters	Philadelphia, PA, USA
PY7SA	01/28/24 00:50:38 UTC	REF018 Dongle User DVD	REF018, REF018, Brazil
N9AWQ	01/28/24 00:50:33 UTC	REF058 Dongle User DVD	Auburn, AL, USA

Another effort by KM4VKY is the VARA FM! This is a WINLINK gateway on 145.90 simplex and is open for use and is also the same frequency as the local WINKINK packet KM4VKY-10. Check the weblink directory.

Apart from the successes of advancement in Okaloosa County, Hams here have been meeting, gathering, planning, and hosting meetings, nets, training nights, performing roles as ambassadors and Elmers, mentoring, testing, and actively working to enhance the Amateur Radio Experiences for all guests, visitors and members of organizations!

The Tech Nights at both the North Okaloosa and Playground Amateur Radio Club focus on member driven content in order to expand the hobby and outreach to new operators and devote time to enhance the skillsets of all who are currently members while celebrating those that have been here! Sharing vital information and passing on ideas, experiences and ensuring the continuation of the communications hobby!

In true form, each meeting, gathering, event and communications event is being broadcast open to the public! And let me tell you, the people that show up are not disappointed with the open doors and the chance to get involved on their terms and availability! We welcome all who wish to pick up a microphone and communicate around the world and into space!

Winter Field day as you know was this last weekend! Multiple visitors from multiple areas continue to show up to the clubs and see what the buzz is all about! Contacts were made on the air as well and operators have taken full advantage of communicating with multiple modes, and even made sure to set up secondary radios during storms to effectively practice their communications capabilities if primary equipment had gone down! Resilience is key alongside sharing the knowledge of how to utilize tools and skills to communicate with bare bones operations considering an actual impact to nominal conditions!

Continued on next page...

QST NFL February 2024

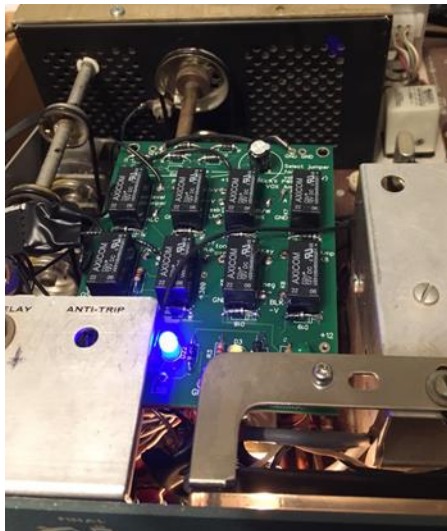
Be sure to take part in all things radio related and display your love of the hobby! You never know who you will inspire to continue the legacy! Your time is now, and the future of Amateur radio is today!



Retrofit for Venerable Heathkit HW-100 / SB-100 Series Failing Switch

by Gordon Gibby KX4Z

The "mode" switch (red-boxed in image) on the venerable Heathkit HW-100 /SB100 /101 /102 series tends to be one of the most complicated failure-prone points in these capable SSB/CW transceivers from the 1970's. This switch selects whether the radio operates in CW, or USB or LSB or goes into a "TUNE" (continuous carrier) mode for transmitter adjustment. This switch is a custom switch, and completely unavailable, of course. In order to continue refurbishing several units on hand, I came up with a **printed circuit board design** that uses miniature relays to replace the myriad functions of this impossible-to-find rotary switch. The design is available for anyone to use.



Mode Replacement Board In Position

Still A Worthwhile Radio

These 100-watt output tube-based radios can still perform admirably. With a Signalink and some patience, they will do FT8, JS8, Winlink, FLDGI, Voice and CW proficiently. Their frequency accuracy and stability do leave more to be desired, but the addition of various frequency counter work-arounds solves that, and I've even replaced their VFO at times with an Si5351 crystal-controlled chip.

What makes them significantly valuable to EOC-based volunteers and survivalist/preppers, is their documented invulnerability to simulated EMP attacks.

It is just *hard* to damage a tube based transceiver with EMP! They soldier on after minor little nanosecond arcs, etc! Many volunteers don't realize that while powerful, EMP is basically extremely strong radio frequency interference -- and our coax systems inherently limit the admitted bandwidth, and arc to limit the admitted voltage. In tests conducted by government agents and reported in QST, tube-type radios were just not damaged. (<https://www.nf4rc.club/how-to-docs/emp-resources/emp-the-radio-amateur/>)

They make it fairly easy to reach DHS EMP Protection Level 2. (See p 2, p 6ff of <https://www.nf4rc.club/how-to-docs/emp-resources/homeland-security-emp-guidelines/>)

Complex MODE Switch

The front-panel mode switch has four effective wafers of contacts, front and back of two different levels, and on each wafer there can be multiple different circuit-switching sections. This one switch controls: carrier oscillator crystal selection, carrier oscillator tube selection, connections for ALC, telegraph key, VFO (LMO) offset for upper/lower sideband; crystal selection for offsets during CW reception, and more.



Corroded and broken mode switch.

Contact cleaner can do only so much. On more than one unit I have in stock, the switch is just flaky.

Replacing these functions

After diagramming out all the functions of the switch, I was able to come up with a schematic that allows a very simple \$9 1-pole 4-position rotary switch (1P4T; <https://www.amazon.com/dp/B07JM3GWQ4>) to select which of 8 miniature AXICOM relays were energized. The total cost for relays and parts will run around \$30+. Somewhat complicated connections between all the relays were reduced to printed circuit board traces. Installation is basically moving all the multi-colored wires from the broken old mode switch to their respective new solder pads on the printed circuit board, and tapping into the 12.6VAC filament system to power the onboard 12V power supply. Many of the wires will need to be extended with #22 or #24 wire; none are carrying any significant current, but some have 300VDC on them.

Continued on next page...

Mounting is likely the most tedious part. The board including relays is thin enough that it can be mounted just above the shafts controlling the transmitter tuning capacitors, and still clear the case.

I included four LED indicators of different colors to allow immediate verification of which mode has been selected.

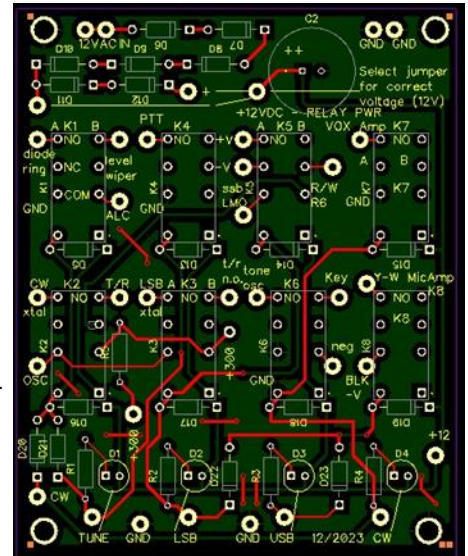
Results So Far

I installed the prototype board on my *most-failing* Heathkit transceiver in stock. One bottom trace seemed to lack connection and had to be replaced with a jumper wire. In my design I neglected to put a pad for one wire that needed to have a "home" but it was easy to add to the proper relay terminal. All the other wires connected up nicely after their colors were carefully verified. I created a document to assist me in knowing precisely which wire goes where! There was zero "magic smoke" released on prototype power up.

This particular Heathkit has several other "issues" that remain to be diagnosed... but so far, **the mode switch issues are now gone!** It happily switches promptly between modes and all connections appear to work well. Now I can continue with further diagnosis and alignment of this ancient specimen!

The board is available as a "shared project" on pcbway.com (<https://www.pcbway.com/>) so others can take advantage of my efforts. (See: https://www.pcbway.com/project/shareproject/Heathkit_SB_100_101_102_HW_100_101_MODE_SWITCH_REPLACEMENT_77f782fe.html) (Disclaimer: I may profit a tiny bit from those using the design.....maybe a hamburger worth?) The zipped Gerbers are also available here: https://qsl.net/nf4rc/2024/ModeSwitchLayout1_gerberx2.zip I will eventually have a little documentation package available on our club website, <https://www.nf4rc.club/>

It takes *work*, but this board may allow some otherwise un-fixable units to be brought back for service.



Suwannee County ARES® Making Winter Field Day Happen

J. Gordon "Gordie" Beattie, Jr., W2TTT, W2TTT@ATT.NET

Well, after waving goodbye to 2023 and the ravages of Idalia, we started January 2024 with a severe weather event on the 9th that has been chronicled separately. However, in addition to each of our county's weekly ARES nets on Sunday evenings, and participation in the weekly SARNET County Net on Wednesdays, we decided to run a joint Suwannee-Madison ARES Winter Field Day operation using the blank slate of Gordon W2TTT's shop as an indoor operating location.

Plans were pretty informal with those planning to participate sharing what radios, antennas, feedlines, batteries and logging methods they had to offer. The Madison ARES Club had frozen burgers leftover from the November tailgate and each team member brought plenty to share including a tasty pizza dinner from the Italian Pizzeria and Restaurant in Live Oak. Our semi-ad hoc simulated storm response communications operation was quite memorable!

Our operators were Bill AA4TM, Jim K4DBC, Bryan KQ4FMY, Joe KI4TRR, Randy "Pig*" KG7QNK, Gordon W2TTT and James KJ5CTS. James called Gordon on the phone (ON SATURDAY MORNING! :-)) after speaking with John KD4AMP and finding out about our planned operation. James is a heavy equipment operator from east Texas doing contract work and living in Columbia County. Our group welcomed him. He is a relatively new ham who has become enthralled with POTA which is an interest of Bill's and Jim's, so they had a lot to discuss! While here in Florida working, James upgraded to General, bought an ICOM IC-7300 for his truck and got a mobile mount and antennas for HF! He is active on HF POTA because he has noted a distinct lack of 2m FM simplex operation in our area**.

(**Note: Precious few of us in the Big Bend monitor our local repeaters or even 146.52 MHz. Perhaps that is something to work on as both a social and EMCOMM goal?)

(*Note: "Pig" - You'll need to meet Randy to get the backstory of his nickname.)

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Everyone arrived at Gordon's shop around 11:00 AM on Saturday and started to install antennas while Gordon moved stored "stuff" and set up tables. Jim's big long end-fed was hoisted into a tree. Bill's Chameleon and Bryan's Wolf River Coil verticals were planted on opposite sides of the building to help with isolation and Gordon's OCF dipole rounded out the antenna complement on HF and 6m. J-poles were used on 2m and 70cm. Our rigs were ICOM IC-7300s, an IC-705, a truSDX, an IC-9700 and a collection of Ubiquiti AREDN mesh nodes set up in point to point pairs.



For Winter Field Day we operated on HF, VHF, UHF and SHF bands all with an EMCOMM mindset. Our HF contacts were SSB and CW. 6m, 2m, and 70cm contacts were on FM and every contact was accomplished on battery power. Even our battery operated AREDN mesh nodes allowed us to make contacts on 917, 2400 and 5800 MHz using data and digital voice modes. We made Telnet and Winlink P2P connections to move data keyboard to keyboard and with messages between PCs. We then put the "cherry on top" when we made direct IP connections to make VOIP "phone" QSOs. Think how useful it would be for an evacuation shelter with an inside operator and a communications vehicle outside with another operator providing longer distance communications via HF/VHF-UHF.



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We did not operate overnight, but slept in our own homes comfortably in our own beds. On Sunday, we had a reduced crew of Bill, Jim, Randy and Gordon and again, a good time was had by all. As we were taking down antennas and packing equipment we had more grilled burgers courtesy of the Madison ARES club and took some ten minutes to disassemble an old electronics test fixture. This yielded a number of cool components including two sixteen position Type-N feed-thru bulkhead nineteen inch rack panels that will become the basis for the shack's antenna and radio patch panel system.

It should be noted that Randy, Bill, Jim and Aaron KQ4DCB had come by the shop two weeks earlier to trench and bury two inch conduit and then pulled cable to a subpanel for power which assured the team of light and environmental support during the event. Randy directed the whole operation and led by example with his role-model demonstration of "making things happen!" Randy is an energetic and talented new/old ham who while licensed ten years ago, has not been active until a recent chance meeting of Bill at Lowes here in Live Oak. We are in the process of acclimating Randy to the current opportunities in Amateur Radio and getting him on the air. He is our team's "next project" along with another unnamed member who is recovering from recent surgery and who also needs to get on the air. On that work day, Aaron came prepared to feed the crew with his grillwork. We were all blessed for his thoughtful gesture.



Once again, the growing team of Suwannee and Madison ARES operators came together for an operation that was fun, educational and full of developing teamwork and friendship. We are all truly blessed!



FCC Testing Information

Daytona Beach Amateur Radio Assn (DBARA)

- Monthly, third Monday, 5:30 PM, prior to meeting
- Lehman Building, Embry-Riddle Aeronautical University
- Registration Required
- Info: <https://dbara.org/testing/>

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 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
- William Beardall Senior Center 800 S Delaney Ave Orlando FL 32801.
- Info: testing@OARC.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 sign up 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>

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!

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