QST NFL

Newsletter for the Northern Florida Section

Come join the FUN!

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From the Shack of the Section Manager

Scott Roberts, KK4ECR (kk4ecr@gmail.com)

Welcoming 2026: The ARRL Year of the Club — Building Connections and Strengthening Our Amateur Radio Community

As we turn the page on 2025 and enter 2026, I want to take a moment to wish every one of you—dedicated Amateur Radio Operators in the Northern Florida Section—a very Happy and Successful New Year! Each new year offers a fresh start, fresh opportunities, and new ways to grow both personally and as a community of radio amateurs. This year, however, brings something truly special. The ARRL has designated 2026 as **"The Year of the Club."** That focus embodies what makes Amateur Radio great—working together, learning from one another, and building connections that carry across frequencies, friendships, and generations.

The Spirit of Togetherness

Amateur Radio has always been about more than technology and signals bouncing through the air—it's about *people*. It's the voice on the other end of the mic during a storm. It's the newcomer you help make their first contact. It's the team that shows up at a community event to demonstrate the value of ham radio in times of need. And it's the local club meeting where laughter, mentorship, and shared stories keep this great tradition alive.

That's why **"The Year of the Club"** is such an exciting theme for 2026. The ARRL recognizes that clubs are the heart and soul of Amateur Radio. They spark interest in new Hams, foster lifelong friendships, and provide the mentorship and encouragement that fuel long-term engagement in the hobby. Strong clubs equal a strong Amateur Radio community.

Celebrating the ARRL Year of the Club

The ARRL's "Year of the Club" isn't just a slogan—it's a call to action. Throughout 2026, ARRL will highlight initiatives that empower clubs to thrive, grow, and make a lasting difference. Here are some key elements that every operator and club should be excited about:

1. **Club Revitalization and Growth Initiatives** ARRL will be focusing on helping clubs attract new members, encourage Technician licensees to upgrade, and ensure existing members remain engaged. Expect to see new resources for recruiting, training, and retaining members—tools that help ensure clubs stay vibrant and strong.
2. **Educational and Mentorship Opportunities** Many of us can remember that one Elmer who took us under their wing. The "Year of the Club" will shine a light on the power of mentorship—helping clubs develop programs to guide new Hams through licensing, operating practices, and technical projects.
3. **Recognition and Celebration of Club Achievements** ARRL will be spotlighting outstanding clubs across the country throughout the year. Whether it's through public service, technical innovation, youth involvement, or leadership, clubs will have more opportunities than ever to share their stories and inspire others.
4. **Support for Club Leadership and Sustainability** Running a club takes heart, commitment, and sometimes a little help. The ARRL will offer new training and resources for officers and committee chairs, empowering them to manage with confidence and efficiency.

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5. **Expanding Club Connections and Collaboration** The ARRL will encourage inter-club cooperation—regional partnerships, combined activities, and shared training events that help bring our community closer together. We are all part of something bigger than our local repeater network—when clubs collaborate, everyone wins.
6. **An Exciting "Work All States" Opportunity** To add even more fun and connection to the year, ARRL will be activating **W1AW/x portable stations** across the country throughout 2026! This special operating event will give you the opportunity to "**Work All States**" by connecting with these portable W1AW/x stations as they move from state to state. It's the perfect way to celebrate the spirit of the hobby and highlight the unity that defines our community. Don't miss this exciting opportunity—it's a once-in-a-generation chance to get on the air, make new contacts, and represent your club and Section on a nationwide stage!

What excites me most about all of this is the potential it unlocks right here in Northern Florida. We are home to some of the most active, skilled, and service-minded clubs in the nation. Together, we can make sure the "Year of the Club" becomes something truly special—an unforgettable milestone that strengthens our community for years to come.

Looking Ahead: ARRL Southeast Division Town Hall – January 9, 2026

While I was running for the position of SE Division Director, I made a campaign promise to gather information on issues and concerns our members had within our Division and the ARRL. Even though I did not win the election, I will keep that campaign promise. Your opinions and concerns matter – Each one of our members matters! With that in mind, I'm thrilled to announce that the ARRL Northern Florida Section will be hosting a Town Hall Meeting for all Amateur Radio Operators in the SE Division, on Friday, January 9th, at 8:00 PM (Eastern). I invite every licensed Amateur Radio operator across our Division to attend.

This Town Hall is much more than a meeting—it's a chance for you to be heard. It's your opportunity to share your perspectives, ideas, and concerns before the ARRL Board of Directors Meeting on January 16th and 17th. The feedback we gather will be compiled and presented directly to the Board, ensuring that the voices of our members here in the Southeast Division—our clubs, ECs, ARES volunteers, educators, and everyday operators—are represented at the highest level.

We want to know:

- What issues matter most to you as a club member or independent operator?
- What support do you need from ARRL to grow your club?
- How can we make ARRL a stronger advocate for you, your section, and the Amateur Radio Service as a whole?

Your participation in the Town Hall means your voice will help shape the future direction of Amateur Radio policy and engagement. Don't miss out—put this event on your calendar now, tell your club members, and plan to attend. Just to let you know, registration is required. Here is the Zoom link to register for the Town Hall - https://us02web.zoom.us/meeting/register/lySjiZ-CSYuT-efc9Uymag. After registering, you will receive a confirmation email containing information about joining the Town Hall.

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The Power of Clubs in Action

When I talk to Hams around the Section—whether at Field Day, outreach events, or local nets—I am always struck by the passion and spirit that defines this community. Every successful public service event, every newly licensed operator, and every emergency activation begins with teamwork. That's the club difference.

From small-town ARES teams keeping communications open during storms, to youth programs introducing the next generation to radio science, to digital enthusiasts experimenting with new modes—clubs bring the magic of Amateur Radio to life. They are where learning happens, where SKYWARN volunteers train, where ideas are turned into antennas, and where friendships form that last decades.

In 2026, I encourage every operator to get involved with a local club. If you've been absent for a while, stop by a meeting. If you're new, reach out and connect. These are the connections that turn a hobby into a lifelong passion.

Honoring the Tradition, Embracing the Future

As we celebrate the ARRL Year of the Club, we're not just reflecting on where we've been—we're building on that foundation to create an even brighter tomorrow. The technology may evolve, the bands may change, but the heart of Amateur Radio—public service, education, friendship, and innovation—remains as strong as ever.

Let's embrace the digital modes that bring international QSOs to our fingertips while still cherishing the thrill of a CW contact or a voice signal bouncing off the ionosphere. Let's continue to mentor, teach, and share so that Amateur Radio stays accessible and vibrant for generations to come.

A Call to Action for Every Operator

As your Section Manager, I'm honored to serve you and represent the Northern Florida Section. My goal is to help make 2026 the best year in Amateur Radio yet. But I need your help. Here's how you can make a difference:

- **Support Your Local Club:** Renew your membership, volunteer for a project, or help recruit new members.
- **Be an Elmer:** If you have technical skills or institutional knowledge, share it with someone newer to the hobby.
- **Attend the Town Hall:** Your input on January 9th matters!
- **Reach Out and Connect:** Make a contact each day, check into a net, or visit a club you've never been to before.
- **Celebrate the Year of the Club:** Share what your club is doing in the ARRL Newsletter or on social media—let's make Northern Florida shine nationally.

Every operator—from the quiet CW aficionado to the field-day diehard—has something valuable to contribute. When we work together, there's no limit to what we can achieve.

Looking Forward with Hope and Energy

As we enter this new year, I want to thank each of you for your continued dedication, volunteer spirit, and commitment to the values that make Amateur Radio such a meaningful part of our lives. Your contributions—large and small—make a difference every day.

Let's make 2026 a year to remember. Let's celebrate our clubs, elevate our community, and boldly shape the future of this great hobby we share.

Here's to you—the operators, mentors, builders, and leaders who make the ARRL Northern Florida Section a beacon of excellence. Together, we'll make 2026 the strongest, most connected, and most exciting year yet in Amateur Radio.

73 and Happy New Year!

From the Section Emergency Coordinator

Arc Thames, W4CPD

As we wrap up this season, I want to take a moment to sincerely thank every one of our ARES volunteers.

This year was a welcome change of pace with no hurricanes impacting our area, and that is something we can all be grateful for. Quiet seasons are a blessing, but they are also a testament to the countless hours of preparation, training, and readiness that happen behind the scenes. The work you all put in does not go unnoticed, even when the radios stay mostly quiet.

While hurricanes may have spared us this year, we know that emergencies do not always come with wind and rain. Power outages, infrastructure failures, and other communications disruptions can happen at any time. Staying prepared, staying trained, and staying connected remains just as important as ever.

Thank you again for your dedication, your professionalism, and your willingness to serve when called upon. It is an honor to work alongside such a committed group of volunteers, and I am proud of what we continue to build together.

Here is to continued preparedness and hopefully more quiet seasons ahead. I hope you all have a wonderful new year ahead!

Monthly Radiogram Challenge

Want to practice using the national traffic system (NTS)? instructions on using the NTS on our website at arrl-nfl.org/nts/ For the month of January, please send me (W4CPD located in Pace, FL) a radiogram via the NTS with your answer to this question "What would you tell a non-ham our primary function is during a communications outage?"

Thanks to the following hams for participating in last month's challenge:
Susan-KG4WVI
Adrienne-AJ4D
Mike-W4BZM
John-AD4D)

Website updates

If you find information that is out of date on the section website (arrl-nfl.org), please fill out the online form and one of the team will take care of it as soon as possible.

Monthly EC Reports

Out of the 33 appointed ARES Emergency Coordinators we have in the section, we only received monthly reports for 15 last month. If you're an EC and are having trouble submitting your reports, please reach out to me. This information is so critical to knowing who of our teams are still out there and also hearing about the incredible work that's being done. Last month ARES volunteers provided 1,026 hours of service to our communities. Thanks to the following counties for providing their reports: Alachua, Bay, Citrus, Columbia, Duval, Escambia, Gadsden, Gilchrist, Seminole, St. Johns, Santa Rosa, Sumter, Walton, Washington

	Number	Person-Hrs
Exercises this month:	1	2.00
Training events this month:	9	132.70
Public service events this month:	3	145.00
Community service events this month:	8	286.00
Emergency events this month:	0	0.00
SKYWARN events this month:	3	25.00
Meetings this month:	21	380.60
Unclassified events this month:	16	54.80

Call signs of DECs reporting:
K4BJS, K4SOP, KB4HAH, KD4EZW, KD4IMA, KF4ZZ, KM4QQO, KO4YGV, KO4YOL, KX4LEO, N5CBP, W4UFL, WA4MN, WE4MJ

NFL Officials

Section Manager
Scott Roberts KK4ECR

Assistant Section Managers
Kevin Bess KK4BFN
Helen Straughn WC4FSU
DJ Stewart KI4ZER
Joe Bassett, W1WCN

Section Emergency Coordinator
Arc Thames W4CPD

Section Public Info Coordinator
Jim Bledsoe, KI4KEA

Section Technical Coordinator
Frank Haas KB4T

Section Affiliated Club Coordinator

Section Traffic Manager
Helen Straughn WC4FSU

Section Official Observer Coordinator
Robert Leasko WB8PAF

Section State Government Liaison
Darrell Brock N4GOA

NFL Committees

Webmaster, www.arrl-nfl.org
Kari McClure, NW4R

Newsletter, *QST NFL*
Earl McDow, K4ZSW

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: Earl McDow earl.mcdow@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/uploads/2021/12/2021QSTNFLIndex.pdf

What's Inside…

NFL Section Member of the Month!

We are always accepting nominations for the NFL Section Member of the Month. To submit a nomination, please email 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 contact you with any questions

Digital Library of Amateur Radio & Communications

Marty Brown, N4GL

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.

Loften High School

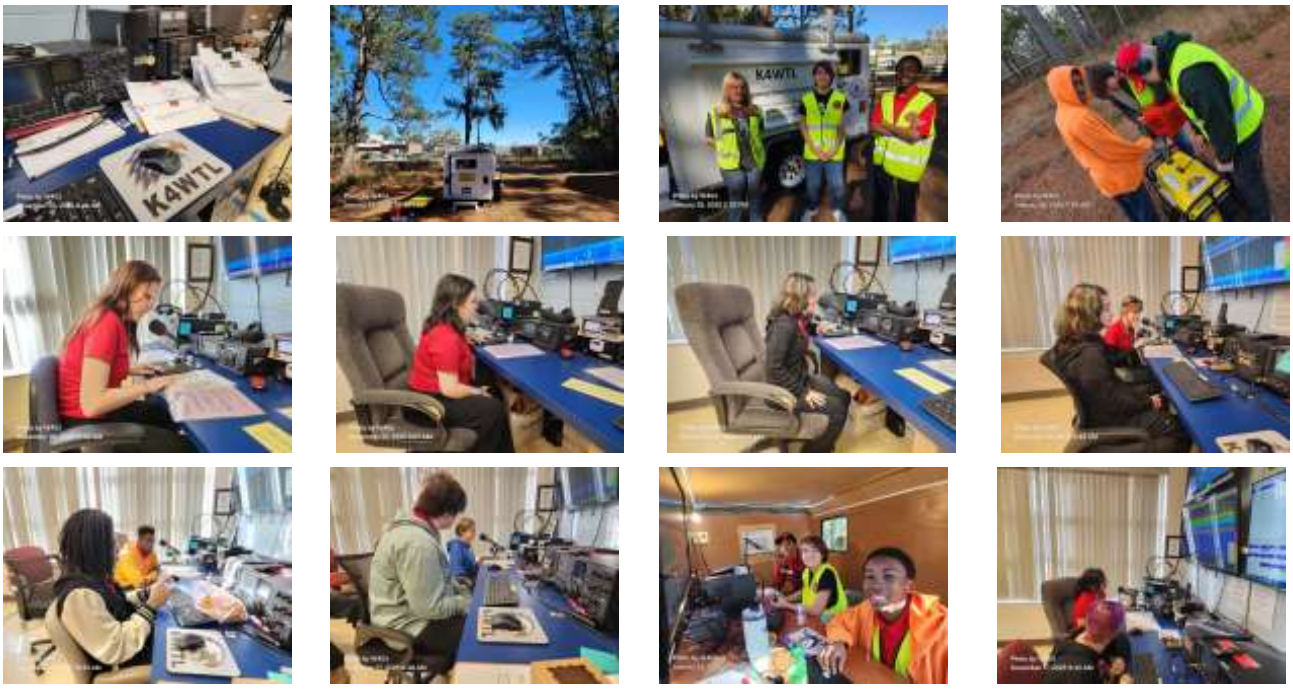
Bob Lightner W4GJ

HAM Radio students at K4WTL just made their last QSOs for 2025 prior to the Christmas break. They will have HAM Radio withdrawal for the next few weeks!

While 10-meters had an opening, they made the most of DX contacts. They also were on 20 SSB trying to find clear frequencies between Nets and POTA operations.

We continue to get massive QSL requests for our October National Fire Prevention Week and are awaiting the printed cards so we can start filling up the SASEs we have received.

Our club will be participating in Winter Field Day again this year. We will have fun setting up our ECOMM trailer again this year!



Our plans for Winter Field Day are progressing at light speed!

Jan 24 we will start setting up the site at the Fire Station #25 off of 441, south of Alachua, at 10 AM. The event begins at 2 PM. We will operate two or three stations along with the MARC/ACFR (**Mutual Aid Radio Communications)** units using our ECOMM trailer and two of their mobile units with 100-foot towers. They have a 5kW generator!

Alachua County Fire Rescue Station #25

GARS K4GNV Santa Delivery Event

Mike Martell KK4KRZ

GARS had a great showing at the Santa Delivery event. We had kids talking to Santa with Sheryl Conner (new member) helping the kids with the radio (we used 146.440 MHZ). Barbara Mathews (aka Mrs Claus) and Scott Crosly playing Santa). I learned two important facts. Barbie doll comes with purple hair and Santa should know all kid names by the sound of their voice over the radio.

Lorilyn Roberts helped kids send their name using Morse Code. We where blasting the code (using a loud speaker) until I moved the amplifier and as Susan put it "Smoke came out". I had built a metal case to hold the audio amplifier I assembled but did not do a good job insulating the circuit board from the metal case.

Susan organized the security landing zone to include assembling cones and barriers around the landing area. However, the copter did not show and Santa came by ambulance.

We spent a good deal of time explaining amateur radio demonstrating VHF, UHF, and HF equipment. Andy Brysons set up a 20 meter station and connected a loud speaker so visitors could here him make contacts. I know at least contact were made in Kentucky, North Carolina and Connecticut. Thanks to Mark, in I believe Melrose, using his HT we demonstrated the 82 repeater to several visitors. I also showed them the digital radio and could hear Germany and South America.

We got three people to sign up for more information with one couple wanting to join GARS and get their amateur license.

Thanks to Karyn Shander for the use of her Shack in the box (portable VHF, UHF and GMRS radios) we had great reception. We alternated antennas to the shack in the box and had good contacts on VHF and UHF. Karyn was not able to attend do to illness but her equipment and Christmas decoration where a welcome addition.

Dean Covey, KV4RL	Bill Sewell, KR4EKZ	Scott Crosly, KR4HMP
Sheryl Conner	Andy Bryson, KO4MLY	Barbara Mathews, KO4TWZ
Susan Halbert, KG4VWI	Mike Martell, KK4KRZ	Lorilyn Roberts, KO4LBS

We set up three Pop-ups which came in handy since a heavy mist made us position the table near the middle of the pop-ups to avoid getting equipment wet.

Thanks to all those that assisted in providing a GREAT event;

We setup early so not to miss Santa.

Lorilyn Roberts, KO4LBS Assisting a young boy send his name in Morse Code

Susan Halbert, KG4VWI and Andy Bryson, KO4MLY explaining HF to visitors

Suwannee County ARES News

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

CHANGES

The last few months has been a period of change as the Suwannee County Commissioners have decided to set up a stand-alone Emergency Management organization in place of the current arrangement where the County Commission has tasked the Sheriff's Department to administer the Emergency Operations Center (EOC). A ninety day notice to transition the functions of the EOC from the Sheriff to the County Commission was issued and an interim emergency management organization plan is being developed. Several County Commissioners have expressed their continuing support for the existing ARES, CERT and other volunteer functions under Emergency Management. Further, our existing relationship with the current Emergency Management Director has been solid and so the outlook for the future is good.

As things are changing, each member of the ARES team is preparing an "EMCOMM Resume" in order to help facilitate a better understanding of the team's overall capabilities and credentials by those charged with organizing the new Emergency Management team. Such documentation is something that should be updated routinely, but more importantly, this documentation needs to be reviewed with Emergency Management officials, to make them aware of our skills and to identify training opportunities that would strengthen the response capabilities of the county.

OPERATIONS

The basic functions of state and section net attendance have been met, but not yet every week. Our local SARNET repeater and the two VHF FM repeaters were operational during the month.
Our local Suwannee County ARES Net on Sunday evenings at 8:30 ET on 145.27 (tone 123.0 Hz, offset -0.600 kHz) has been running weekly, but with minimal attendance. Several local hams have expressed interest in joining our ARES team, but have equipment and antenna issues that we are working to address. 2m FM and coaxial cable donations are being sought and would be welcome.

CLOSING

As we close 2025, we are grateful for a quiet hurricane season and in 2026 we hope for another quiet season as we help support the reorganization of our county's Emergency Management Office.

Reid Tillery K9RFT - GARS Ham of the Year

Reid is the Energizer Buddy for smaller and rural cities in Alachua County. Using Ham and GMRS systems, cities East of Gainesville have developed communications systems in case of an emergency. Congratulations Reid!

Quarter Century Wireless Association—QCWA

Ken Simpson, President W8EK

Ocala Chapter 62 of the Quarter Century Wireless Association, held its regularmeeting on December 11 at the China Lee Buffet on East Silver Springs Blvd. In December, the meeting is moved from the regular fourth Thursday to the second Thursday, in order to avoid the Christmas holiday.

In the course of the meeting, a contribution was sent to the Florida Sheriff's Youth Ranch, as the chapter has done every year for quite some time.

The next meeting will be held on Thursday, February 27 at noon at the China Lee Buffet.

Chapter 62 holds a net every Saturday morning at 9 AM local time on 3940 KHz. Everyone is invited to check in.

NF4RC.CLUB WEBSITE HACKED!

Gordon Gibby KX4Z

Some years back, Steve Panaghi KC2ASY looked at the sad 70's retro-web site I was keeping up for the local ARES(R) group and tried to bring me into the 21st Century with a wonderfully new WordPress web site. It has been great! Didn't take me long to get the hang of their way of organizing information and files into "posts" and "pages" and Steve set us up with nice graphics.

A few days ago when I logged in to add some new material, I was shocked to find some "posts" in a Cyrillic alphabet that I hadn't put there.... I quickly changed my own password to this site, and looked into other users, finding we had two other "administrators" who had never really been involved in the site, and therefore may not have changed "easy" passwords -- I deleted both of them.

A few days after that -- the entire website went dark! I had no idea what was going on.

Steve Panaghi had to dive back in, with conversations with the web hosting company. He concluded that the site had been hacked, with machine code added to use it for nefarious "bot-net" operations. Apparently some of the protective checks that he had installed had detected the operations and pre-emptively shut the site down. Steve was able to resurrect our site (https://www.nf4rc.club/) from backups and again get rid of the extra accounts. My new-password again worked fine, and we were back "on the air."

Moral of the story? Watch over your administrator accounts on a high-performance site such as one based on WordPress. Use good passwords. And have a bright guy like Steve around to fix things!

WCJB TV 20 Repeater Site Gets Emergency Power Upgrade

The Gainesville and nearby areas are very fortunate to have the WCJB TV 20 repeater site available. WCJB TV 20 plays a key role in our community, and their support in hosting our communication equipment demonstrates their commitment to supporting the well-being of the Gainesville community and surrounding areas. Several of these repeaters are utilized for communications during emergency situations such as hurricanes. The Gainesville Amateur Radio Society (GARS) has antennas from 415 feet to as high as 682 feet. Jim Carr, KC4MHH, has been instrumental in maintaining a great relationship with the WCJB TV 20 management and engineering staff over the years.

The repeaters at the WCJB TV 20 location have been moved from normal utility power to an Uninterruptible Power Supply (UPS) panel. An emergency generator provides backup power for UPS power panel. By connecting these repeaters to UPS power and an emergency generator, we can maintain local communications even during utility power outages. This benefits Gainesville and nearby areas in the event of a disaster that could cause power outages.

Recently, Jim Carr, KC4MHH, a GARS repeater committee member and club technical advisor, and Larry Lambert, KQ4ZZM, who is both a GARS club member and station engineer at WCJB TV 20, participated in a site maintenance inspection. During the inspection Larry offered to allow GARS to connect the equipment to the building UPS power. The offer was too good to pass up, so Jim reached out to the GARS board of directors to initiate action.

Once the board gave its consent, a plan was developed, necessary materials were gathered, and work began. We enlisted several volunteers to assist with the installation, and everyone checked their garages and workshops for items they could contribute to help minimize expenses. Andy Bryson, KO4MLY, 2026 GARS President, generously donated wire and Jim Carr, KC4MHH donated the conduit. WCJB TV20 provided spare breakers, saving us from buying them. There were other donations such as screws, and conduit connections. We had originally estimated it would cost around $600 but with all the donations the actual cost was about $200.

The work took three afternoons to complete. We had a great time installing conduits, pulling wire, and wiring the outlets.

The volunteers that participated in the installation were:

Jim Carr, KC4MHH
David Beatty, KD4DRP
Andy Bryson, KO4MLY
Dave Dockus, KO4GGZ
Pete Winters, W4GHP
Terry Gordon, K4TMG
Larry Lambert, KQ4ZZM

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WCJB TV 20 Site

Analog

146.64	123.0 PL	DMR
146.82	123.0 PL	GARS Primary
444.59	123.0 PL	AllStar, Echolink
444.84	123.0 PL	DMR
444.99	123.0 PL	AllStar
444.93	123.0 PL	SARNet
224.16	123.0 PL	GARS

DMR

146.64	cc 1
TS1 91	World Wide
TS2 313136	Kansas City Wide
TS2	GNV1, GNV2, GNV3
444.8375	cc 1
TS1 3100	Nationwide
TS2 3112	Florida Statewide
TS2	G NV1, GNV2, GNV3

Yaesu Fusion

444.05	Kansas City Wide
444.53	KC4NWK

Winlink and Packet Digipeaters

144.99	GNV Winlink
145.07	GNV Packet

P25

442.01	Analog and P25 Digital

TV 20 Tower

There is more information regarding the WCJB TV 20 site at https://fireline.org/repeaters/home/index.html
The Gainesville Amateur Radio Society (GARS) website is https://gars.club

Sumter County ARES
Amateur Radio Emergency Service
501(c)(3) Tax-Exempt Non-Profit Organization

Sumter County ARES Supports the Lake Panasoffkee Christmas Parade

December 6, 2025

Sumter County ARES, in cooperation with the Hog County Amateur Radio Association, provided communications for the annual Christmas parade in Lake Panasoffkee, Florida on Saturday, December 6th, 2025. Amateur radio operators were paired up with event organizers to facilitate communications among parade officials while others helped coordinate the parade's line-up. Other amateur operators were positioned along the parade route to report any incidents and provide updates on the progress of the parade.

The event's Incident Commander was the Emergency Coordinator from Sumter County ARES who coordinated road closures with local public works crews and local law enforcement. Amateur radio support for this event was coordinated by Gene King, KI4LEH, the Sumter County ARES Planning Section Chief and President of the Hog County Amateur Radio Association. The Sumter County ARES EmComm trailer's UHF mobile repeater was used as the primary repeater for this event.

We want to thank the following amateur radio operators who helped make this event safe and enjoyable for all who attended:

Gil Chapin – WB2UTI
Hank Dupont - KQ4DAF
Gary Roth - KD0RIS
Gabe Leon – KG4LEO
Jeff Taffuri - KO4NCC
Gail King - KJ4GEK
Gene King - KI4LEH
Paul Koch - KD2HQV
Rusty Blankenship – WV1TPR
Eric Turner – N1QKO
Michael "Spike" McKenzie - N4EBF
John Spoonhower – NX2I
Greg Madore - K1MGR
Bob Smith - KC8KCM
Mark Newby - KX4LEO

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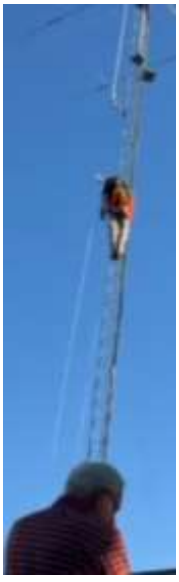
PARC—Merry Christmas and Happy New Year!

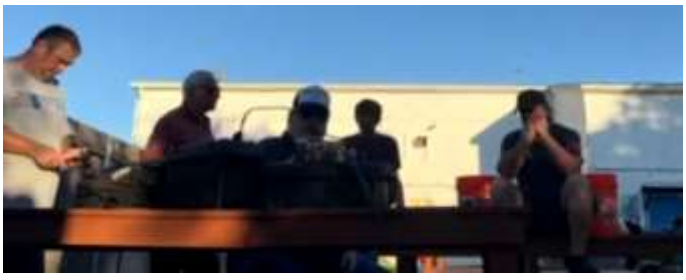
What a month December has been! There has been great action no matter where you look! Ham Radio is most certainly alive, well, and most importantly, friendly! This wonderful month we have been celebrating with each other. The strides we make, the assistance we provide, the teaching and learning coupled with the experimentation, and most importantly, our fellow Amateur Radio Operators and Communication Enthusiast! We have seen new developments in technology, and the release of new capabilities in firmware, software, hardware, radios, and more! This is truly a golden era of our beloved hobby. In recognizing that, it is important to recognize the efforts everyone puts forth. No voice [or key] is too weak (even on QRP), nor too strong with full PEP! December has brought many people together to participate in a multitude of events, outings, gatherings, and excursions in the name of enhancement in skill, experimentation in unfamiliar areas, and in broadening the bands!

In the beginning of December, we had a wonderful technical Night put on by the Playground Amateur Radio Club of Fort Walton Beach showcasing the Organizations communication capabilities in preparation for Winter Field Day in January 2026 on the 24th and 25th!

Immediately following that the Team at PARC gathered at their regularly scheduled Sunday Pile-Up and temporarily hung a reworked fan diploe (repaired by AC5LT & WA4BOZ)! The intent? To train newer Amateur Radio Operators in safety, how to deploy such an antenna, how to overcome potential obstructions or signal interference, the frequency range capabilities of the antenna, and operation of the asset on both commercial and noncommercial power sources. This exercise and practice resulted in skill learning for all license classes and enhanced team building. What was the first contact on the antenna was installed in its temporary home. Portugal on 40 Meters! True story!



NOARC aided the City of Crestview with the Annual Christmas Parade! NOARC handled communication for safety, route direction, liaison to Parade Officials, and float position reporting and direction! This event called for flexibility as the planned date was rained out, and the city moved the event to the very next day with better weather! The ability of NOARC's Ham Volunteers to modify their own schedules and adapt quickly shows the ability to overcome adversity and operate as a holistic team with buying in from all members!



As if the Ham journey could not get better, the fine folks at the North Okaloosa Amateur Radio Club in Crestview Florida held their monthly meeting! What a great time this was as they finalized plans for the openly welcomed and aptly named "Ham for the Holidays" Christmas Party! But that's not all! NOARC has been volunteering consistently with the Live Oak Baptist Church assisting with the Food Pantry directly supporting the local community! Does this sound familiar? It should! Earlier this year, NOARC reported that they were assisting with this very effort during the federal shutdown. Plans were made to support this endeavor through the holidays. NOARC members have even donated to the cause to ensure the shelves are stocked to keep the frequency of visits and needs request ongoing!

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Wait! More NOARC action! Plans are underway for their in-shack Clubhouse Winter Field Day! Oh, the excitement and the enjoyment! The NOARC Team is working to ensure that Winter Field Day is a great experience and ready to teach everyone how to communicate effectively via the clubhouse! Winter Field Day is more than a contest! It is a chance to teach, learn, develop, deploy, and test capabilities of equipment in unique operational conditions! Everything operates differently when it's a little cooler out. Here in Florida's Panhandle, cooler out means South of 70 degrees, we get our coats out! Be sure to check in with team NOARC and operate with them!

The following Saturday we met back up with the Playground Amateur Radio Club and the city of Valparaiso Florida for the "Yule of Yesteryear" festival! This annual Holiday Event bolsters local craft makers, museum tours, food trucks, demonstrations of dance, song, choirs, and STEM leaning environments! Included in that was a telescope display showing the surface of the sun! How neat it was to observe the surface of the sun in magnified form! Guess what other environment was there operating and teaching interested parties? You got it! Amateur Radio from the Team at the Playground amateur Radio Club! What's more, it was during the December 10 meter contest! Liscensee's, students, and non-licensed interest parties took in the chance to communicate all over the world and boy howdy they sure did! Multiple people from all walks, children, adults, and seniors all took the time to see how to operate, learn about what Amateur radio is and view in real-time the advances that the hobby has had over the years! It is moments like this which define the characteristics of an organization and the willingness to teach while learning from visiting inquisitors that set the bar high for community involvement!


So how does the Playground Amateur Radio Club go deeper into the welcoming hobby?! They hold, as mentioned, weekly Pile-Ups on Sunday's at 3 PM and invite every down to the Clubhouse to learn more! Let's just say that is exactly what happened the very next day! From lessons on new emerging tech, to Wires-X, Digital Communication Modes [JS8 / FT8], Bluetooth programmable HT's, models of antennas, mobile radio choice and reviews, and more! Moreover, the Team at the Playground is planning a multitude of upcoming events! Some sooner than you think and surprise announcements sure to pique your interest will be coming soon! Be sure to check their website news page at WWW.W4ZBB.Org and their calendar! You'll not want to miss the plans the teams come up with to encourage more Amateur radio activity in the area!

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Jingle Bells, Jingle Bells, Jingle all the way to the Annual Holiday Party!

Social Hour, Dinner, Festivities, Special Guests, White Elephant Gift Exchange, Dessert, and Ho Ho Ho, Santa Claus!

What a great assembly of Amateur radio Operators, their families, guests, honored visitors, distinguished guests, and aspiring members this was! If you have not made it to a Holiday Dinner with the multitude of Amateur Radio Operators in Okaloosa County and beyond, YOU, yes YOU, and your family, friends, colleagues, and like-minded parties are missing out! This event bolsters class and epitomizes the year establishing the capstone on the efforts of all who support this hobby and continue to inspire future generations while recognizing the past and rewarding the current supporters of all things' communication!

Did you go to the Ham for the Holidays dinner?! If so, it was great to have you! If not, you sure missed out on a wonderful area wide Holiday Party that sets the bar each year with no power limit! There was a Social Hour, a joyous meal, Ham of The Year Presentations, a White Elephant Gift Exchange, and comradery as represented by multiple Clubs, Organizations, Elected Officials, City Representatives and most importantly, Family and Friends of Hams! Keep your radios tuned and your ears perked for the next Ham for the Holidays Dinner in 2026! Congratulations to John, N8JDD of

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We conclude the month of December with teasers for events and the announcement of another major affair! First, The Playground Amateur Radio Club cordially invites YOU and all your friends to the Clubhouse on Saturday January the 17th 2025 starting at Noon and going until 5 pm for the Playground Amateur Radio Club Garage Sale! If you're looking to get, find a gem, item, needed component, or product to enhance your shack, this is your chance to get in and get it early before the next major event!

Information: Saturday 17 Jan 2026, Noon to Five at 17 First ST SE Fort Walton Beach Florida!

Admission: FREE!

So do not hesitate, STOP what YOU are doing right now, pencil it in on your Calendar and plan on making the trip to see the Team! We are willing to bet that even if you just show up, they may be able to teach you something or learn from you! Idea exchange is the staple of Amateur Radio and the Team at PARC is more than happy to be the student, just as much as they are to be the teacher!

What is WFD? Winter Field Day is an exciting annual event for amateur radio enthusiasts, taking place on the last full weekend of January. It offers a unique opportunity for radio operators to set up field operations in remote locations, enabling them to connect with other participants worldwide. You may choose to participate solo or get your friends, family, or whole club involved. Winter Field Day is organized by the Winter Field Day Association. The association strongly believes that ham radio operators should practice portable emergency communications in winter environments. This is because freezing temperatures, snow, ice, and other hazards pose unique operational concerns. The Winter Field Day event aims to help participants improve their preparedness for disasters and enhance their operational abilities in adverse conditions. Amateur radio operators have the freedom to use frequencies on HF, VHF, or UHF bands while employing voice, CW, and digital transmissions. The event designates specific objectives to encourage a diverse range of activities, including the use of non-commercial power sources, the deployment of multiple antennas, establishing satellite contacts, and more.

Winter Field Day! Playground Amateur Radio Clubhouse!

PARC will be operational at the club on Saturday 24 Jan starting at 1300 and going until 1900. We will return on Sunday at 1000 and go through the Pile-Up until 1700.

17 First St SE Fort Walton Beach Florida

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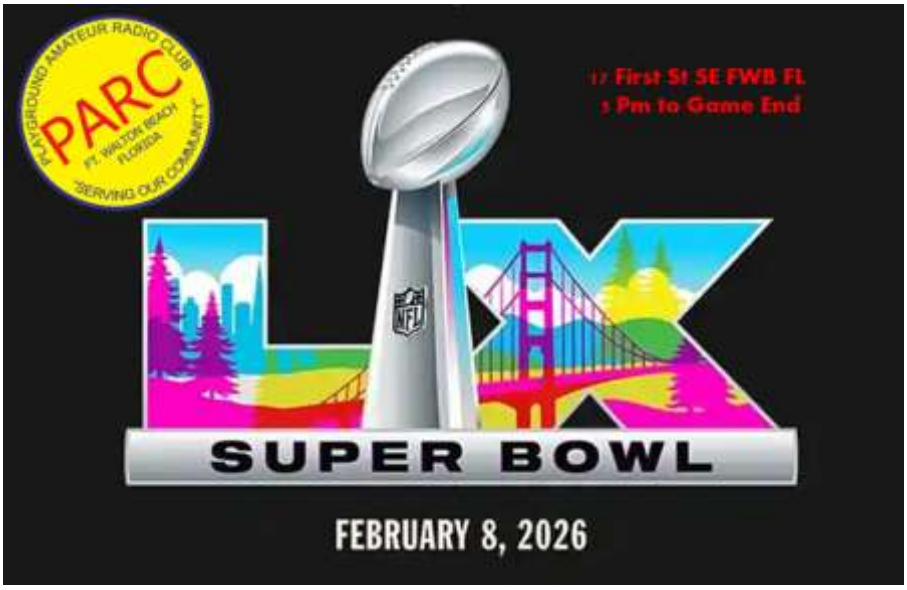
Winter Field Day at the NOARC Clubhouse!

In awesome fashion, NOARC will be hosting a Winter Field Day at their Clubhouse behind the Live Oak Baptist Church at 4565 Live Oak Church Road Crestview Florida! Be sure to participate with them by inquiring with their activities Director John, N8JDD via the W4AAZ.Org Website! NOARC love their shack and is ready to operate from there for WFD so come out, operate the gear, bring out your gear and let's make some contacts!

Coming in February!

Come out and watch the Big Game right after the weekly Playground Pile-Up! For more details, contact the Playground Amateur Radio Club Activities Director via PARCFWB@gmail.com There will be food, non-alcoholic drinks, snacks, hors d'oeuvres, and best of all, Amateur Radio! Come operate with us, eat, take in the game, and just have a fun time at this great annual event!



ARE YOU READY FOR THE BIG ANNOUNCEMENT! Silly us, we know you are!
ANNOUNCING THE 56TH PLAYGROUND AMATEUR RADIO CLUB ANNUAL HAMFEST!

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In Beautiful Downtown Fort Walton Beach Florida there is a long-standing tradition of putting on a Spring Amateur Radio Hamfest! Through the years the team at the Playground Amateur Radio Club has brought Amateur Radio Operators and Communication Enthusiasts from all walks of life together to participate in one of the Southeast's best shows!

Coming in 2026 with dates tentatively set for the third weekend in March on the 20th (Friday) and the 21st (Saturday), the Playground Amateur Radio Club, Inc. of Fort Walton Beach invites YOU to the Rigdon Center (formerly the Northwest Florida Fairgrounds) at 1958 Lewis Turner Blvd, Fort Walton beach Florida for its 56th consecutive and annual Amateur Radio tradeshow!

As we embark upon this journey together, watch this page for more information concerning prices for tables, admission fees, reservation instructions, prize notifications, and more! This hobby is great because YOU choose to be involved! We function as a team to proudly give back to the community and extend our handshake in welcoming you to the 56th Playground Amateur Radio Club Hamfest!

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Admission: $10.00
Scouts in Uniform: Free
12 and Under: Free
Over 85: Free

Tables: $15.00 each
Location:
1958 Lewis Turner Blvd Fort Walton beach Florida

Dates: Friday March 20 & Saturday March 21, 2026
Friday Show Information: March 20 Set Up 8 AM - 2 PM
Friday March 20 Pre-Show: Open 3 PM to 5 PM - **No Raffle**
Saturday Show Information: Saturday March 21 Set Up 6 AM - 8 AM
Saturday Full Show! 8 AM to 1 PM

Prizes To Be Announced!
Door Prizes During the Day - Must be present
Main Prizes - Need not be present to win!
Main Prize drawings at: 3rd Place: 1200 PM, 2nd Place: 1230 PM, Main Prize: 100 PM
RV Camping on site is available but no services (No Water, No Power) as the area is being refurbished and under repair.

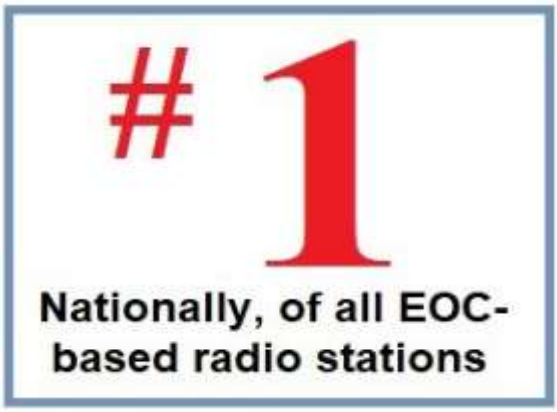
Register at:
W4ZBB.Org
PARCFWB@Gmail.Com

Wow Right! Listen, that was ands is a ton of information! 2026 is the Year of the Club! So, take your notes, tag your pictures, write down the names and call signs! Submit YOUR stories, share your innovation, and your Club's information! This is the time to show off YOUR organization and bring in new members from all ages! Be celebrated for all that you do and inspire others to participate with YOU! 2026 is here and it is going to be a wonderful year of Amateur Radio filled with joy, experimentation, and advancement! Be a part of the contribution, collaborate and add value to the RF Waves! DE – KI4ZER, Happy New Year!

Florida EOC-Based Club Sweeps F-Class for First Time Ever in 23 Years

Gordon Gibby KX4X

With so many hurricanes and deployments, one might easily believe that Florida EOC-affiliated clubs would be so strong that they would sweep the entire F-Class annual **ARRL Field Day** exercise every year. But history proves otherwise! The F-class first appears in ARRL Field Day results in the year 2003, when the Stanford Amateur Radio Club W6YX had the highest score of all F-class stations, achieving 15,610 points entering as 7F with 30 persons participating. The Stanford club would go on to establish a virtual "dynasty," taking the top score of all F-class stations for 8 straight years, and for 15 out of the 23 years this Class has existed. They achieved extremely high scores no matter how many transmitters they entered.



Only two other clubs managed even two-year sweeps of the entire F-Class: Williamson Co. TN ARES N4FR from TN, and West Jersey DX Group K2NJ from NNJ. And until 2025, *not a single Florida-based EOC club ever swept the F Class…*

Alachua County Starts Trying....And Trying....

The Alachua County team, operating under the NF4AC callsign of their Alachua EOC Radio Club (and sometimes using their other club callsign NF4RC as a GOTA station) first entered in 2020. We tried to create an Incident Command System (ICS) structure as a group, and managed only a measly 249 total contacts, for a total score of 2,322 -- far, far below the Stanford club's W6YX score of 11,246 that year. However, year after year, the Alachua County team consistently planned and reviewed their efforts, wrote up Incident Action Plans for the event, and After Action Reports/Improvement Plans and continued to improve their radio assets and their individual skillsets. Year after year, power systems, microwave mesh systems, antenna systems, bandpass systems and individual CW and Digital skills continued to grow and grow. That would eventually pay off!

The Stanford club has slowly decreased their number of transmitters and then stopped entering. Perhaps their membership or goals moved elsewhere? In 2023, KC1CUE swept the F-class from RI, and in 2024, AB5ER took those honors from AR.

Alachua County Team Rises to Top F-Class

Finally, in the 2025 Field Day exercise, the Alachua County NF4AC team achieved the highest score of any F-class station, no matter how many transmitters -- *the first Florida-based club to ever do so*. We had only 4 transmitters (+ 1 GOTA) and managed 9,093 points, a new high for our group, due to so many GOTA points, despite our total number of contacts being not much better than our 2024 effort. We also worked hard for every bonus point we could!

Some folks express disdain for the annual Field Day exercise, which is said to have begun in 1933, and attracts 30+ thousand participants. Some dislike the "semi-contest" nature of the event. However, for our Alachua County ARES(R) group, it has spurred on tremendous growth in capabilities, including:

- Acquisition of a 5kw diesel generator which produces no HF RFI
- Development of mobile travel trailers equipped to allow thru-wall RF connections
- Development of a portable tower trailer and refurbished 3-element beam
- Extremely well-developed 2.4 GHz MESH private networking system capable of operation even beyond the 1000-foot radius of Field Day, potentially able to support an ad-hoc EOC operation (thanks **Earl K4ZSW, Susan KG4VWI and Mark N4TEK**!)
- Development of a six-band Antenna Multiplexer/ Bandpass Filter system to cope with the extremely limited antenna opportunities at our current EOC
- Very significant improvement in operating skillsets of our team members, particularly in the CW and Digital modes
- Greatly improved systems for logistics and nutrition support (thanks **Earl Sloan KI4OXD**!)
- Continued appreciation by our Emergency Management staff
- Growth opportunities for new members, including Technicians, to try new bands and modes

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Our 2025 AAR/IP can be viewed here: https://www.nf4rc.club/historical-exercises/2025-arrl-field-day-aarip/

I like to think that participation has also improved our ability to work together as a group, but that's harder to quantify. Some of our participants have been with us the entire 10 years of our current group, and moving up in years, are now starting to decrease their Field Day involvement (we'll miss Leland AA3YB), while we've also had some notable new individuals join in (**Mannish Sahni KZ4KC and Brian Joy KQ4BWH are two great examples**). I strongly encourage the creation of written After Action Report/Improvement Plans, because I think candid reflection and written goals make a huge difference in the capabilities growth of emergency communications-oriented groups.

YEAR	1st Place F-Class Entry of all # transmitters / Score	Category / Participants	Section
2025	NF4AC 9,093	4F/34	NFL
2024	AB5ER 11,792	2F/32	AR
2023	KC1CUE 7,199	2F/20	RI
2022	W6YX 14,088	4F/26	SCV
2021	W6YX 19,766	4F/32	SCV
2020	W6YX 11,246	2F/6	SCV
2019	W6YX 9,230	2F/31	SCV
2018	N4FR 14290	5F/88	TN
2017	W6YX 17,420	7F/41	SCV
2016	W2GSB 11,316	6F/65	NLI
2015	W6YX 17,336	5F/38	SCV
2014	K2NJ 11,330	3F/26	NNJ
2013	K2NJ 14,500	3F/21	NNJ
2012	W6YX 18,102	3F/62	SCV
2011	N4FR 8556	3F/20	TN
2010	W6YX 14,260	2F/40	SCV
2009	W6YX 17,448	4F/30	SCV
2008	W6YX 17,108	4F/40	SCV
2007	W6YX 17,158	4F/40	SCV
2006	W6YX 21,106	5F/50	SCV
2005	W6YX 21,796	6F/35	SCV
2004	W6YX 22,694	8F/35	SCV
2003	W6YX 15,610	7F/30	SCV

WINTER FIELD DAY EMCOM Training Conference

Emergency Comms Talks PLUS Hands-On Experience in Winter Field Day

Sponsored by Alachua County ARES(R) / NFARC Saturday, Jan 24 2026 -- 1st Day of WFD 2026

FREE (except nominal $5 charge for lunch)

Alachua County EOC - 1100 SE 27th Street, Gainesville Florida Saturday January 24th

Starts: 0900 Local

Ends: Approx 1600 Local, but you can stay longer for more practice, or leave earlier at your pleasure.

We are much more "laid-back" in Winter Field Day -- so combining it with a TRAINING CONFERENCE made a lot of sense! Come Join In the Fun!

Combination of Expert Training Talks, fantastic HANDS-ON learning opportunities both setting up and operating stations. Open to both volunteers & Professionals! Even if you don't have a ham license, there will be plenty of options to learn, do and participate with mentoring!

PRE-REGISTRATION: https://forms.gle/fh27NmhMj4ox6Sfv6

SCHEDULED TALKS & ACTIVITIES

0900	Welcome / Introduction
	Jump into Team of Your Choice to Help Set Up Simulated Emergency Comms
	See & learn some of the secrets that made us #1 nationally in Class F 2025 ARRL Field Day
1100	Winter Field Day Rules/Hints Briefing Join in operating with a Station Team!
1200	Lunch / Working with FEMA ICS FORMS Help your county get REIMBURSEMENTS for your volunteerism!
1300	MESHTASTIC Text Messaging - Live!
1400	Developing Volunteer Radio Operators Team Use training, incidents & events to build!
1500	HotWash / Evaluation Discussion
	Stay longer as desired to make more contacts!

PLEASE PRE-REGISTER: https://forms.gle/fh27NmhMj4ox6Sfv6

If you would like more information you can check out our planning and Incident Action Plan here:

https://www.nf4rc.club/winter-field-day-jan-24-training-conference/

Our Club Website: https://www.nf4rc.club/

HVAC Protection From Solar Power Inverter

BONUS: Doubles As Solar Storm / HEMP E3 Equipment Disconnector

Gordon Gibby KX4Z

I started out trying to save myself $Thousands of dollars in HVAC repair bills -- and I ended up with a neat homebrew circuit that will possibly end my HVAC troubles, but it can also be used to provide inexpensive protection against the power-line wildness that can result from **GEO-MAGNETIC STORMS** (like the Carrington Event) or from High Altitude Electromagnetic Pulse (HEMP).

The Need: We wanted a comfy living arrangement in grid-down hurricane aftermath

Power to our neighborhood is very tenuous during hurricanes and we almost always lose it -- sometimes for several days. While we have a 9kW solar power system, it simply cannot start our 3-ton sized standard compressor AC systems....so in our little guest space, we went with a pricey "inverter-compressor" heat pump/ac HVAC system that has low startup currents and can easily be powered by our solar system. (Our other solution is 500-watt, 5000 BTU window AC units and we keep those around for storms.)

Comes with a New-Fangled Electric Motor

The fancy HVAC system had a fancy "electronic commutation" blower motor which has multiple push-pull MOSFET drivers sequentially powering three different DC windings to provide infinite speed control. If you have a "variable speed blower" you might have the same. These blowers are $300-$700 and the labor to change them isn't cheap either! (OEM ECM blower motor: $325 Amazon: https://www.amazon.com/dp/B07WC75772)

Ours started ***blowing up***. Again and Again. Toast! And very expensive! A full repair can easily be $1000.

After about the 3rd failure I blew up, too! We had paid extra $thousands of dollars to get this inverter compressor system, and now it was costing us WAY more than cheaper bigger systems. The dealer suggested it had to do with the fact we had solar power -- most of the failures he had seen were similar.

Apparently our solar power inverter kicks in *quickly* when utility power is lost -- but likely with a different PHASE, and that catches the fancy motor's MOSFET drivers with their pants down, facing unexpected L *di/dt* induced voltages from the still-fast-spinning blower.and just like an infinite SWR in a cheap transmitter, it blows the push-pull MOSFETs.

Trying to Find A Solution

In the beginning, I didn't realize I would also be developing a solution for the wild and wacky utility line voltages that can result from a **geomagnetic storm** that damages power line systems, may knock neutrals out and put amazing voltages on either phase reaching your house. All I knew was that a good solution would be to detect the loss of utility power **quicker than the inverter** and take the HVAC system off-line until the blower comes to a stop and the power is stabile again. I ended up solving BOTH problems!

Details are slim on the exact operation of my grid-connected OUTBACK inverter that is so smart that it can sell power to the grid every day. I looked through online forums and studied available literature, but the details of possible solutions involving inverter settings to prevent phase disruptions are MURKY. It is possible that setting the inverter to "0" cycles inspection might cause it to continuously synchronize and prevent phase changes during transition--but I can't easily test or guarantee that and the $1000 cost of a mistake is daunting. So I set it to at least make the inverter study the income AC for a longer period of time (20 cycles instead of 6) to give my circuit additional "space." However, in the case of loss of power, it appears to respond in just over ONE CYCLE (I don't know why).

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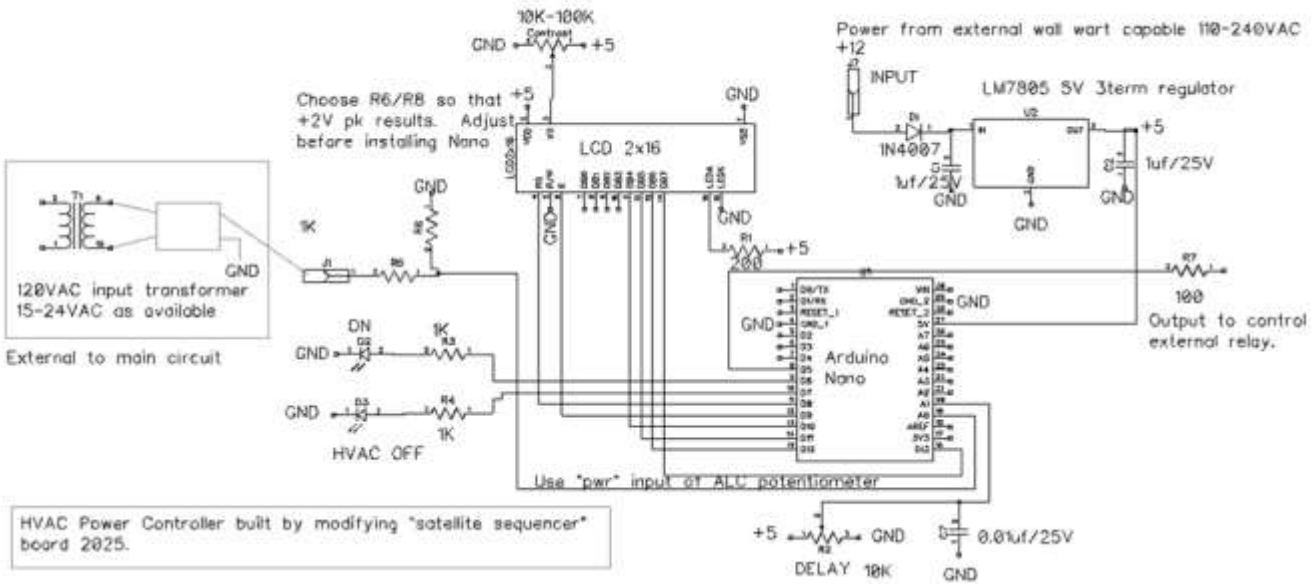
If you build in **solar backup power** and automated fast switchover and also have an **inverter-compressor HVAC system with electronically commutated variable speed motors**.....you may similarly be at risk of losing ECM motors due to abrupt phase changes. If you can't arrange for your solar inverter to perfectly track and align with utility power, this system may save your ECM motors.

I discovered the incredibly fast switchover, by doing a slow-speed storage scope tracing of rectified DC from a 15VAC spare transform and observed the switchover -- which is VERY VERY FAST. (See first photo in this paper.) I created this by flipping off the utility circuit breaker to that part of the house, simulating a power loss. There is basically only ONE CYCLE of complete loss. The available literature suggests the Outback Inverter switches in 10-16 mS -- less than one cycle of 60Hz power!

In order to succeed, I needed to detect power line abbe rations in under ONE CYCLE of 60 Hz AC. The same blinding speed could also save your gear from an E3 geomagnetic or HEMP event.

I realized that the same printed circuit board circuit that I was developing for time-sequencing duplex satellite transmitter / receiver and preamps, would be able to handle this project with its on-board Arduino Nano's A/D converters. So I built a modified unit for this project.



Catching The Event

Using full-wave (bridge-) rectified DC, I had quasi-sinusoidal pulses at 120Hz, each positive going sinusoid being one half of a full AC cycle. Using a resistive divider, I got them down to about 2 V peak, suitable for the A/D converters on the Arduino Nano. I tried multiple different algorithms to have an Arduino Nano catch failing power. Most failed miserably. Merely following filtered DC doesn't work because it is way too slow. I found you have to literally track individual periods of the full-wave rectified ripple.

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By carefully measuring how many measurements the Arduino could make in 8.3 milliseconds (about 74-75) I was able to reliably capture exactly one period of the 120Hz ripple without having to phase-lock. Thus, even if starting from a random point in the cycle, the peak and average remain relatively constant! That allowed me to develop multiple tests that could be carried out on each individual 8.3 mSec epoch. Failure of ANY of these causes the system to declare utility power anomaly:

- Variation of peak voltage by more than 6%
- Variation of DC-averaged voltage by more than 6%
- Lack of any significant voltage through the first 3.3 mSec of measurement (allows even quicker capture of complete loss of voltage if decline in last half-cycle missed)

Testing by flipping the circuit breaker in 7 different tests showed 100% capture by these tests -- and it is catching the FIRST half-cycle of abberant utility AC.

From there it was relatively easy to develop an Arduino algorithm that

- Tests for approximately 90 seconds of continuously good power before ever allowing the HVAC to be powered;
- Turns off AC power ASAP if an abberant cycle detected
- Keeps power off until a full 90 seconds of continuously good power exists
- (If the ciruit itself resets, it's "setup" routine will require the same 90 seconds of good power before allowing a restart -- so it isn't critical that it receive uninterrupted power.)

INPUTS to the Arduino Nano-based Circuit	OUTPUTS
Nominal 12VDC from a wall wart for power Full wave (bridge) rectified ripple AC from a 24VAC wall wart transformer to allow isolated monitoring of the AC voltage	DC output from the Arduino Nano controls a simple relay board, which is able to interrupt 240VAC power to the AC controller and blower motor. (https://www.amazon.com/dp/B085N49S79)

Those requirements allow power to be removed from the blower motor before the inverter comes back on line, and keep it off during the time that the motor is slowing down (reducing L di/dt induced voltages); then a normal power-on restart can occur.

> *In the process of the development, I tested a typical solid-state AC relay that is controllable by a 3V DC signal (works well with Arduino outputs). I was surprised to find that sudden application of new AC power to this relay would often result in a momentary conduction even though the DC control voltage was commanding NO CONDUCTION. The solid-state AC relay had to be scrapped in favor of a simple 10A-rated relay board.*

I can't guarantee this will always save my expensive ECM blower motor, because it is difficult (and risky) to test, and the actual utility failure profile may be different than my testing profiles -- but this is at least a very reasonable protection system.

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HOW THIS RELATES TO GEOMAGNETIC STORM PROTECTION / HEMP

Not everyone recognizes that geomagnetic storms can cause utility power voltages to go way UP or DOWN. Further, in a HEMP most people focus on the E1 high voltage electromagnetic wave, and forget that it too causes an E3 type utility aberration. These events may well escape typical "surge protectors" but still damage voltage-limited components in power supplies and gear built only for single-voltage (120 or 240VAC) power. My circuit can detect both high and low aberrations and shut down power very, very quickly to sensitive communications or other important gear. One or more outputs of the Arduino can be used to drive multiple relays to disconnect utility power.

Alternative techniques typically involve very high-dollar Uninterruptible Power Supplies that also monitor incoming voltage, or continuously do double-conversion power generation. Unless you are using a double-conversion UPS, I don't know for sure how FAST those UPS systems will respond; and I do know this circuit can respond VERY quickly to disconnect from utility power and save equipment.

To achieve Level 2 or higher EMP Protection, against the E3 (power line) component, DHS/CISA recommends either using double-conversion ($$$) UPS systems, or "line-interactive" high quality UPS (also $$$, see: https://www.fs.com/blog/comparison-of-ups-topologies-line-interactive-vs-online-vs-offline-3538.html). (See Table 1, Four EMP Protection Levels for Infrastructure and Equipment,(https://www.cisa.gov/sites/default/files/publications/19_0307_CISA_EMP-Protection-Resilience-Guidelines.pdf) This high-speed detection circuit likely fulfills the latter requirement.--and very inexpensively. Critical backup communications centers (such as EOC's) should use either the suggested UPS systems, or some protective system like this. I am not certain that the consumer line-interactive systems would protect adequately against a true E3 event. I believe this circuit could disconnect critical equipment in one cycle from the AC.

Construction

I built a custom 3D printed enclosure and this system is now protecting my expensive HVAC system. It is able to interrupt the low-current 240VAC powering both the electronic control circuitry, and the expensive ECM blower. It now graces a wall in the garage of the guest house.

Implementing at your location would require a bit of custom work, to develop a full wave rectified voltage and observed the measurements the system prints out on the front screen during startup -- then setting the limit parameters in the circuit to the degree of "tightness" that your desire. However, anyone with a modicum of Arduino programming experience should be able to accomplish this. A bit of improvement in the software might automate this part, however. A treasure trove of construction information is provided below including

- Schematic
- Gerbers for the base board
- Arduino Nano .ino file (place in subdirectory of same name)
- STL 3D files for both parts of case

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Available Project Construction Information

STL files for custom 3D printed enclosure:
https://qsl.net/nf4rc/Tech/HVACController/my3rdboxwithoutsvg2.stl
https://qsl.net/nf4rc/Tech/HVACController/my3rdboxBOTTOMflangedwithoutsvg2.stl
(use M3 threaded brass inserts and M3 screws: https://www.amazon.com/dp/B0D5V3TZLB)

INO file for Arduino: (version 0.1) https://www.nf4rc.club/how-to-docs/hvac-controller-arduino-code/

Also: http://qsl.net/nf4rc/Tech/HVACController/ArduinoHVACController.ino

Schematic: https://qsl.net/nf4rc/Tech/HVACController/HVACControllerSchematic0.1.jpg

Circuit Board Gerbers: https://qsl.net/nf4rc/Tech/HVACController/SatelliteSequencer_gerberx2.zip

Building Hints:

1. Construct your external AC wall wart transformer and bridge rectifier first, and arrange resistors R6 and R8 anywhere you can on the board to arrive at close to 2.0 V peak DC. Note board error: the case of J1 phono plug jack is not grounded and needs to be jumpered to ground. The external AC transformer must be supplied by the circuit you wish to examine!
2. Next construct the 5V regulator assembly and use an external +9 to + 12 VDC wall wart or other supply to provide power. Verify that this works properly to produce 5VDC before soldering in the Nano. You may wish to add 470uf electrolytic (25V) to the input so that the circuit still receives power during the brief transistions between utility and inverter power, if your wall wart comes from the inverter-supplied circuit.
3. Add the remainder of the circuitry, power up and load software.
4. The system should print out a series of peak (bottom line) and averages (top line) measured values during SETUP. These should remain reasonable constant, within a percent or two. Adjust the software to allow +/- 6-10% of the median of those values by adjusting the values in the comparison statements in lines 294-304 of the code to suit your preferences. Recompile and re-load your custom code for your choice of external transformer and values of R6/R8 and you should be in business!
5. In order to use this to protect against E3 power derangements, set it up to disconnect power from sensitive equipment.
6. Output HIGH should cause your sensitive equipment to be CONNECTED; output LOW disconnects.

Building a "Poor-Man's" Amateur Radio Satellite Ground Station

Part VI: Receiver Preamp Relay Board for up to 70cm

Gordon Gibby KX4Z

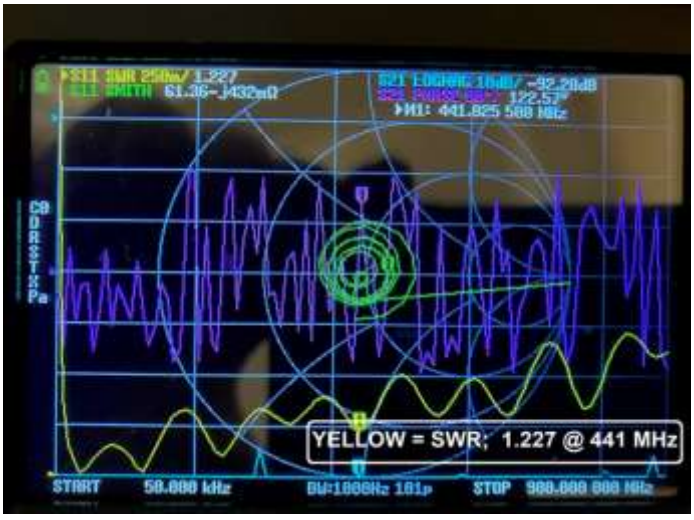
December 2025

Work on this project was interrupted by our big RV trip to Yellowstone National Park. The 2-meter receiver pre-amp relay board previously described worked adequately, provided a low pass filter was in series with the 16dB gain preamp to prevent oscillation due to inadequate input/output isolation at 900MHz (and possibly beyond) with the inexpensive relays utilized.

I had started work on using made-for-UHF HF3 smaller relays for the switching, which were recommended by W6PQL (https://w6pql.com/using_inexpensive_relays.htm) but my initial board design using microstrip transmission lines ended up with an unacceptable SWR for the path through the Bias T all the way to the antenna connector, > 2:1, measured with a nanoVNA. There the project sat until I had time to return to it.

Microstrip is a technique to create a desired impedance on a transmission line constructed by printed circuit board traces. It involves electromagnetic calculations to calculate inductance and capacitance of printed circuit board traces, just as they are calculated for coaxial or other transmission lines. Perhaps the most recognized form is a single fat trace on one side of a printed circuit board, above a large ground plane on the other side. Using online calculators, I estimated the size of the trace needed for 50 ohms on FR4 pcbs, and its pretty wide! It doesn't match the spacing of the surface mount pins on the HF3 relay, so I tried an alternative microstrip using two grounded guard-rails as well as the opposite-side ground plane. This suggests a narrower transmission center conductor will work. Unfortunately, the results on my board weren't very good, with the larger than useful SWR...

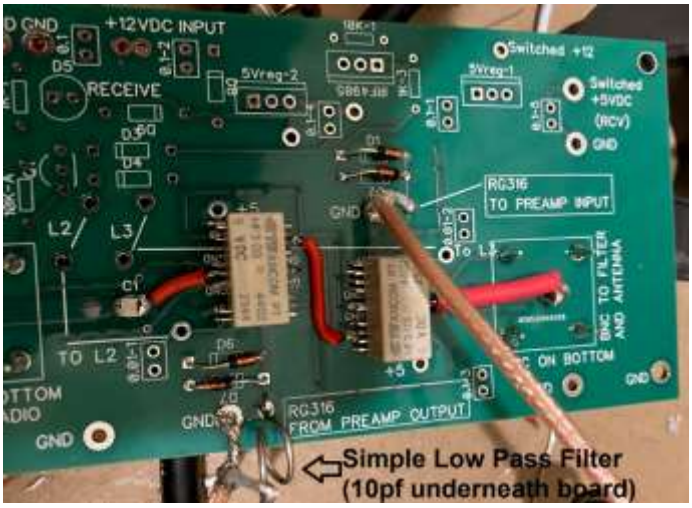
I theorized that the narrow trace had too large inductance and too small capacitance, leading to an excessive characteristic impedance, and that this might be improved by adding a larger wire on top. Soldering in an insulated wire on top of one of the traces indeed lowered the through-SWR, and this was followed by adding wires in parallel with each of the other narrow traces. The result was a useful SWR < 1.3 through the 70cm band, as shown in the figure below. (You can see the soldered wires in the board shown later.)



SWR from transceiver to antenna connectors (nanoVNA)

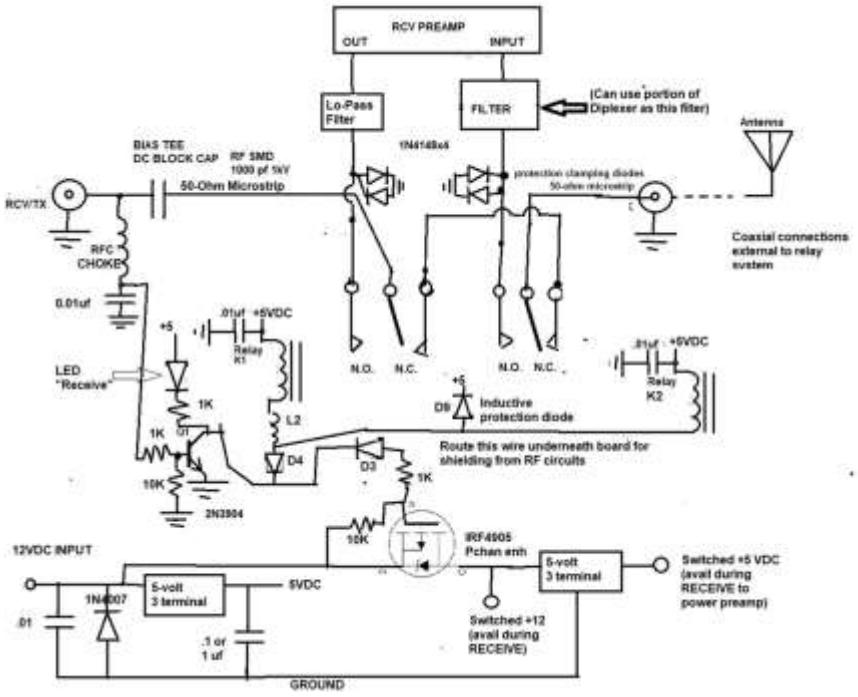
Continued Next Page

Attention then turned to the isolation between the pre-amp input connection and the preamp output connection. In the "transmit" condition (relays un-energized) these connections are not terminated in the relay. Capacitive coupling can reduce the isolation. If the coupling is greater than -16 dB the gain of the preamp will cause destructive oscillation. The newer board showed significantly better isolation, but I was concerned about possible decrease in isolation near and above the top of my spectrum analyzer (2.1 GHz) since the preamp has gain to 4GHz. I added a simple low pass filter on the output connection, using a 10pf capacitor and one turn of wire on about 0.25" diameter. (If there is a future revision, this could be built into the printed circuit board, along with much wider transmission line traces)



This appears to have resulted in a good outcome, with the isolation better than 30dB at least to 2.1 GHz and likely beyond. Compared to the isolation provided in the earlier board, there is a great improvement with the new relays and layout as shown in the figure on the right:

Attention has now turned to the Bias T circuit, which must separate the 10V DC signal on receive, from the 20-40W RF signal at 2m or 70cm bands. 40W of RF can be a considerable RF voltage! Measurement of a simple LC low pass filter of 8 -10 turns of wire around a ballpoint pen and a .01 uf capacitor suggested 35 dB of isolation was possible -- but this isn't enough to prevent a significant RF voltage applied to the 2N3904 switching circuit, so a 2nd state of filtering is likely in order to get a Bias T with adequate RF rejection. Future experiments will hopefully work this out!



The schematic of the current preamp relay switching board is shown here, and subject to improvement!

A Grand ARES(R) Learning Day in Alachua County!

by Gordon Gibby KX4Z

A simple, almost-ignored entry in our club Calendar led to one of the biggest LabNLunches we've ever had! Reid Tillery K9RFT had volunteered to teach some about WINLINK to the group, and the cryptic entry on a calendar got me to cast about for helpers, and Manish Sahni KZ4KC, David Huckstep W4JIR, and Earl Sloan KI4OXD rose to the challenge as well!

We had four different phases, 45-minutes each, starting at 0900 and expected only a handful of participants -- but people just kept showing up! Some of our recent Technician Class were in the mix and the attendance in our EOC conference room hit 15 before it was over!

Great Leadership For Winlink Training	
Getting Account & Telnet Messages	Reid Tillery K9RFT
Using Winlink on HF	Manish Sahni KZ4KC, David Huckstep W4JIR
Using Winlink on VHF/UHF FM	Earl Sloan KI4OXD
Winlink Forms & Catalog	Reid Tillery K9RFT

Reid Tillery explaining Winlink accounts

Earl Sloan shows how VHF VARA connections work

Probably the biggest LabNLunch crowd we've ever had!

Continued Next Page

Everyone was learning and having fun! Computer skills were quite variable in the group so a lot of mentoring and tutoring was also going on, with Brett Wallace NH2KW prominent in that regard.

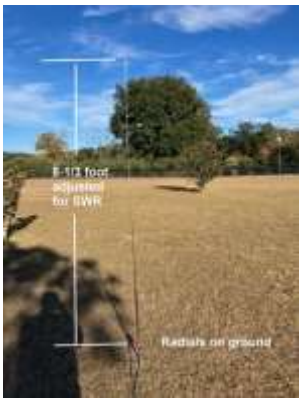
Mr. Murphy certainly made his showing as well, as our EOC Go-Box HF rig had some concealed bad connection to its antenna output. We were a bit frantic: because of an EOC coax cable cut, we had already laid out 250 feet of coax with multiple inter-connections to reach our antennas...so we didn't really know where the problem was. Measurement of SWR and substituting a different radio confirmed it was the go-box at fault, so we swapped out with our base EOC system -- discovering just how great was the entanglement of its power wiring. Ouch! The demo went on fairly well despite the scrambling!

Reid showed some really neat tricks about using position reports and Winlink Catalog options to discover nearby ham radio operators. Earl surprised us all with his recent discovery that you can list multiple recipients for even a peer-to-peer Winlink message -- and they can each retrieve the bulletin by simply connecting peer-to-peer at a convenient time! We never realized this could work, and we'll try this out at our next hurricane!

Lunch

After 3 hours of amazing Winlink training, eight of us joined for lunch at a nearby Sonny's at noon to talk shop about the upcoming EOC move and antenna issues there. It was a fun time of sharing about interesting job/ careers also! I had to leave early, because of our final extravaganza for the day --

ARRL 10-meter Contest & Antenna Experimentation



Four of us gathered in the Gibby little guest house at 1330 to check out the ARRL 10-meter activity -- and were amazed at the band being PACKED! I had set up the diminutive telescoping Amazon Vertical, with 8 radials laid out from the ribbon cable that came in the package. I expected it to be a modest performer, but WOW!! It was hearing (and reaching) EVERYWHERE! One of our recent Technician graduates showed up and made her FIRST CONTACT, actual DX at this event. Plus, we straightened out her settings on her Baofeng handi-talkie. Manish Sahni KZ4KC ran the radio and helped everyone make DX contacts.

Meanwhile, I was assembling an inverted V 10-meter dipole out of various insulators, some house wire, a bit of left-over coax and using electrician wire-nuts as an expedient way to connect up the feedline. I fully expected this to dwarf the performance of the little vertical. (Anita couldn't believe that little 8-foot telescoping rod was making all these connections!).

Using one callsign and FT8 on the vertical, and then another callsign and FT8 on the inverted vee up about 25 feet, we compared the signal strengths reported by https://pskreporter.info/ The results are shown, and the little vertical with 8 radials is doing at least as well as the inverted vee and maybe a lot better! The band was slowly dying but I tried the opposite orientation of the V later on and it didn't seem to help much. Experimentation confirms what Ron Lewis KN4ZUJ has been telling us -- this little adjustable Vertical is a really great antenna!

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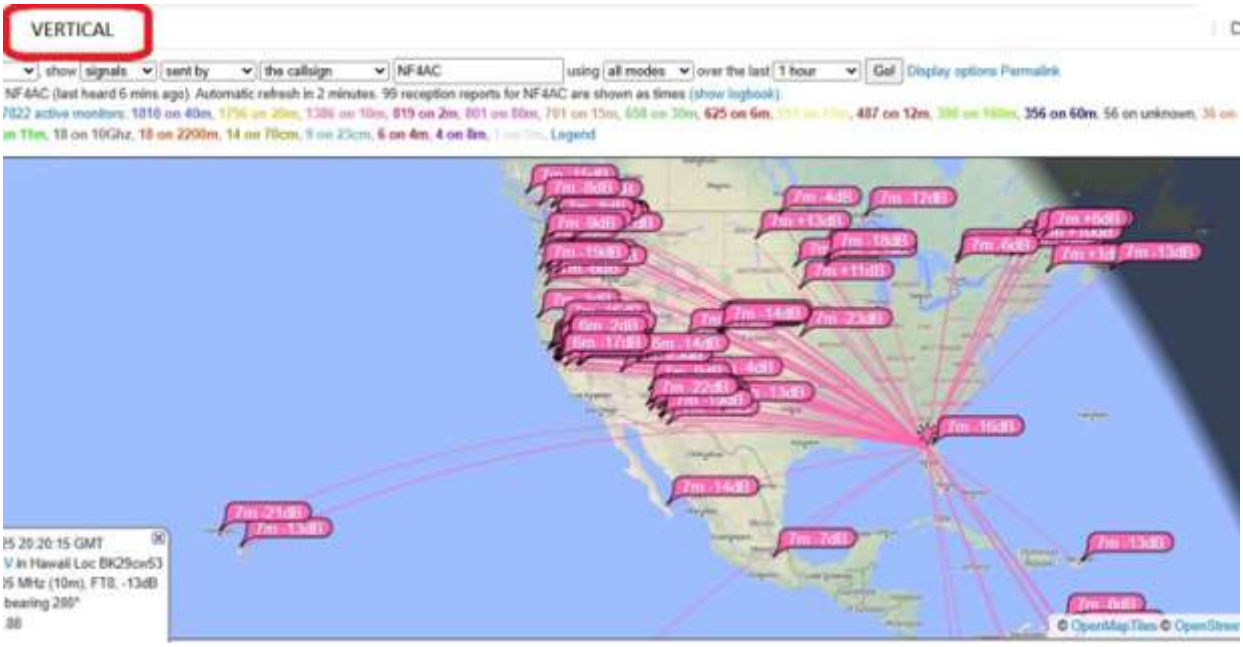
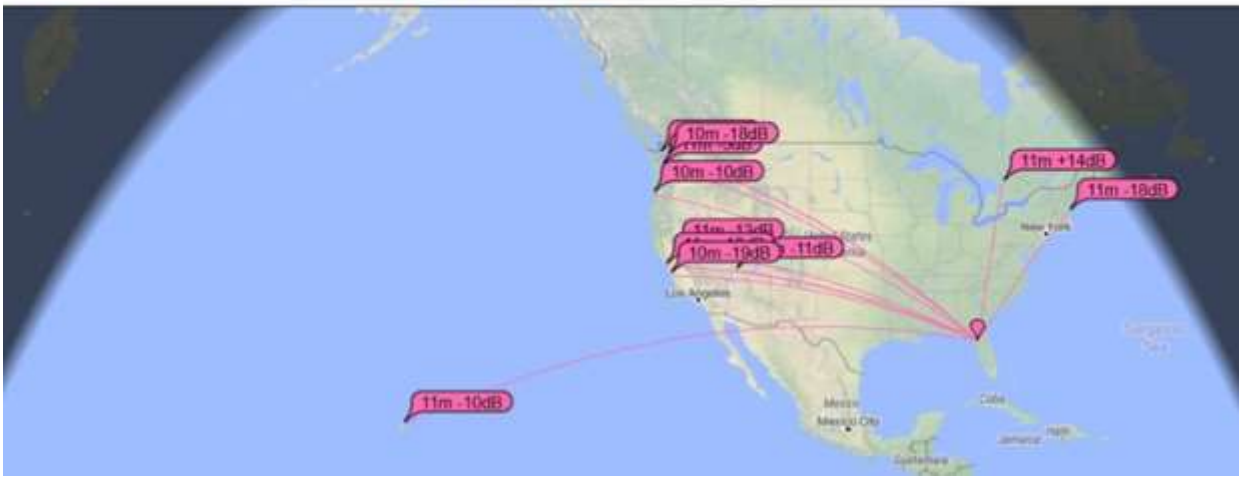
VERTICAL



INV VEE BROADSIDE TO NoRTH



MERT

Marion County Sheriff's Office
Division of Emergency Management

COMMUNICATIONS UPDATE

January 2026

MERT's primary role is to support all open Evacuation Shelters throughout Marion County (FL) during declared Emergency events. We also support the Emergency Operations Center Incident Commander & staff, all cities in the county and other EMCOMM groups (CERT, HEC, ARES, MBA) with voice, image & data communications locally, statewide and across the United States.

"Call MERT… When all else fails!"

Next Bimonthly Meeting

Saturday, January 17th, 10:00 am at the EOC

Annual Meeting Event.
All are Welcomed!

Meetings conducted in Jan, March, May, July, Sept. and Nov.

Moving Forward - Starting our 22nd Year of Service

Harlan Cook (KN4VRM)
MERT Coordinator

As we step into a new year, I begin by expressing my deepest gratitude to each of you. 2025 was a year of growth, a few "curve balls", and several remarkable achievements for MERT. Together, we trained with purpose, stayed ready for any possible activation, added Field Exercises to our regular events schedule, upgraded our reliability by replacing three repeaters, enhanced UPS backup capabilities powering two repeaters, added a hurricane rated antenna support lift tower to our EOC inventory and significantly expanded our knowledge about our primary mission – supporting the Shelters – with a new Shelter Resource manual.

I offer for your consideration we are better organized, our SHREK kits better equipped and other resources enhanced in small and big ways that will meaningfully serve our team for years to come. All of this was only possible by the unwavering support of Director Preston Bowlin and his entire team within the Division of Emergency Management, MCSO.

One of our proudest milestones was the activation of the Ocala National Forest repeater — a technical leap forward opening direct EOC communications with Atlantic coast county's which reflects your dedication, expertise, and teamwork. It's more than a piece of infrastructure; it's a symbol of what we can accomplish when we combine vision with action (along with some patience). [Note: I personally look forward to doing the same type of project in the *western portion* of Marion County opening direct EOC communications with Gulf county's one day!]

Looking ahead, we're focused on bringing our fulltime SHARES station online — a major step toward fully integrating MERT into the national emergency communications framework. Hopefully, with new HF antennas on the horizon, this goal is within reach, and it will significantly enhance our ability to support one major objective of keeping the Marion County EOC and its leaders connected 24x7 with federal and state agencies during all critical events. With your support this year, we will make it a reality!

"When we strive to become better than we are, everything around us becomes better too." - Paulo Coelho

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Our mission remains clear: to strengthen all our emergency communications capabilities, empower all volunteers towards more skills and knowledge, support the shelter leaders with unwavering emergency communications while supporting the Division of Emergency Management with excellence. Whether it's refining our systems, mentoring new members, or preparing for the next storm season, every effort you make matters. Let me also add the members who have stepped up to fill executive positions will be leading us to new skills, new levels of organization and new levels of readiness for whatever challenges we are assigned.

The result? Delivering on our mission… ***"Call MERT if all else Fails!"***

2026 will also bring new opportunities to innovate, collaborate, and lead. I encourage each of you to stay engaged, share improvement ideas, offer constructive feedback and support one
another to achieve new milestones in your life. MERT is more than a team — it's a wonderful community of serious AUXCOMM trained and certified amateur radio volunteers built on
service, shared purpose, and excellence.

I thank you for being the heart of this organization. Your support and meaningful commitment to our mission is inspiring, and I'm honored to walk this path with you. Let's make 2026 our most impactful year yet.

With sincere appreciation,

Harlan Cook
MERT Coordinator

***A Special PS*:**

All members and friends are invited to let MERT know when your community or organization schedules any event that we can participate in. MERT can share our mission by inviting new amateur radio operators to join us supporting the growing list of Marion County Shelters. New Member Manager Nick Kiddey welcomes your update!

Please share your event or activity by emailing : **KG4NXO@marionso.com**

MERT at HAMFEST 2025

Each year, the Silver Springs Radio Club (SSRC) hosts an excellent event where amateur radio
operators from multiple counties in the area can come together to see and purchase equipment, antennas, specialty hardware and surplus radio systems equipment for sale by the multiple "tailgaters" attending. That event was on Saturday, December 6th which included an invitation to MERT to promote who we are and what we do.

Kudos to New Member Manager Nick Kiddey (W4NFK) for organizing our excellent booth presentation. Joining Nick was Phil Lewis (W4EVV) and Royce Hagerman (KD7SNN).

We encourage all amateur radio operators to attend and thank the SSRC for their invitation.

(L-R) Phil Lewis and Nick Kiddey. Not shown Royce Hagerman.

MERT was assigned a great location!

ot th g more." - H. Jackson Brown Jr.

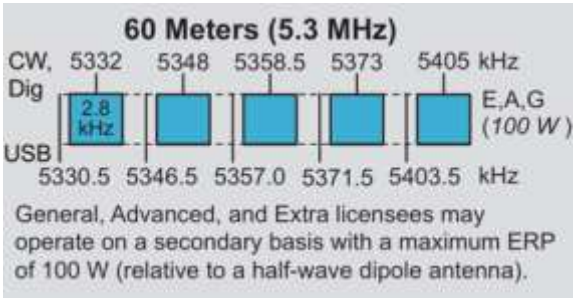
Continued Next Page

SSRC Note: Congratulations to the newly elected SSRC officers and board members for 2026

President - Ed Long	Board Members:
Vice President - Terry Strey	Wayne Millican
Treasurer - Andy Allen	John Norman
Secretary - Wayne Peterson	Mike Terracina
	Adam Parker

A special note: SSRC recognized their outgoing board member and former President, Bill Gillespie (KW5BG) with their Lifetime Member award. (Bill was also recognized for his decade of service to MERT recently.)

FCC Affirms…*and* Allocates new Spectrum in 60-Meter Band



ARRL | Published on 12/11/2025

The FCC on December 9, 2025, released a long-awaited Report and Order adopting a new amateur radio spectrum allocation in the 60-meter band.

Existing 60-Meter Allocations Codified

The Commission also agreed with the ARRL petition to continue to allow amateur operations on four existing 60-meter channels outside the international allocation with a full 100 watts. The new rules will go into effect 30 days after publication in the Federal Register, when amateurs may then begin using the allocation.

The 60-meter allocation is available to amateurs holding a General Class or above license.

For more details on the FCC allocation, visit: **https://www.arrl.org/**

For more details on the 60-Meter band, visit: **https://en.wikipedia.org/wiki/60-meter_band**

QRP – What is it?

QRP is the amateur-radio term for operating at low to very-low transmitter power levels, typically 5 watts or less for CW & digital modes; and, 10 watts or less for SSB voice. The term comes from the Q-signal "QRP?", originally meaning "Shall I reduce power?", but it evolved into a whole new operating style and, an entirely new hobby "subculture" in ham radio.

Amateur radio operators choose QRP operations for several reasons:

- The challenge — making long-distance contacts with very little power is a skillful pursuit.
- Portability — QRP rigs are small, light, and ideal for field work, SOTA, POTA, or emergency deployments.
- Efficiency — low power reduces interference and is easier on batteries in the field.
- The thrill — making DX contacts with "less power than a nightlight" is a badge of honor in the QRP world.

The "keys"to making QRP operations successful, especially since low power transmissions are **much harder to hear**,
usually relies on:

- Highly efficient antennas
- Good propagation awareness
- Modes that work well with weak signals (CW, FT8, etc.)
- Skilled operating techniques, and…
- Patience!

More about **QRP** at: **https://en.wikipedia.org/wiki/QRP_operation**

(Left) Member Kraig Pritts (KA2LHO) shares details on his custom QRP radio & antenna system he built at the August, 2024

"The best way to find yourself is to lose yourself in the service of others." – Mahatma Gandhi

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The third meeting of this Work Group was hosted by Jonathan Lord, Flagler County Emergency Management Director on Wednesday, December 10th at the Flagler County EOC in Bunnell, FL.

Vitor Mira, Flagler Emergency Management Planner shared his report the meeting provided a thorough over-view of the county's resources including:county's re-sources including:

+AuxComm contacts; +Amateur Repeaters; +GMRS Re-peaters; and, +Radio Antenna Coverage

Participants also discussed what capabilities the attending counties had in working together should conditions re-quire. Participants were also given a tour of the EOC and other Emergency Management facilities.

Member Mark Weible (N4GPA) represented MERT and SHARES:
Discussed using GMRS & Meshtastik technologies:
Flagler is using GMRS, Sumter is getting started with Meshtastic.
Discussed Flagler's capabilities:

- Flagler EM owns 3 - 4repeaters
- ARES & Palm Coast radio clubs very involved
- All towers are 100 ft except 1 @ 50 ft
- 145. 150 MHz is primary EMCOMM repeater
- Tow-hitched generators used for back-up power
- Monthly testing at towers

Above – Flagler County map of key re-peaters and Wires-X nodes available for emergency operations when needed.

Discussed:

- FLDigi and ALE capabilities among participating counties, including monthly tests
- Discussed SHARES - if you don't check-in in 6 months, your license gets deleted
- Discussed Alachua-Winter Field Day Jan. 24-25
- Received a tour of Flagler EOC
- Victor will send out his PPT slide. Received tour of Flagler EOC and local facilities

<u>Everyone participating sincerely thanked Vitor Mira and the entire Flagler County Division of Emergency Management staff for hosting this meeting and sharing more about Flagler County operations.</u>

<u>More information on the North Florida AUXCOMM Work Group</u>

The Work Group includes 11 counties (Alachua; Bradford; Citrus; Flagler; Hernando; Lake; Levy; Marion; Putnam; Sumter and Volusia) and is being created to build awareness, assist in development of procedures and/or processes, share best practices, create cooperative training resources, develop a EOC to EOC voice and digital network, and identify and conduct regular commu-nications tests implementing activities supporting the Emergency Management agencies in this region.

Participants included Directors and Managers of Emergency Management; County Communications Leaders responsible for AUXCOMM (or EMCOMM) programs; and the AUXCOMM (amateur radio) leaders responsible for supporting each EOC during declared emergency events.

<u>Mission</u>: This Work Group was established to provide the Emergency Management leaders from the 11 counties across North Florida (Gulf to Atlantic coasts) a telecommunications independent and uninterruptable resource providing <u>direct EOC to EOC</u> voice, image and digital communications during emergencies.

"Volunteer service is the rent each of us pays for living - the very purpose of life and not something you do in your spare time or after you have reached your personal goals." - Marian Wright Edelman

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Why is this Work Group necessary?:

The political environment around FEMA in 2025 is unusually turbulent, including some recommending it being abolished. Current reports are primarily focused on major overhauls of its objectives, goals, responsibilities, budget and staffing levels.

While a bipartisan bill, the Fixing Emergency Management for Americans (FEMA) Act of 2025, aims to dramatically reform FEMA and the federal disaster program, it is unpredictable to forecast what the changes will be and where the reforms will end. However, at this date almost 10% of its workforce has been terminated along with all SHARES applications, transfers and operations currently on hold.

In summary, there is strong evidence that FEMA will undergo significant restructuring, driven by both Congress and the administration with the impacts to the emergency management organizations within cities, counties and states undetermined.

The North Florida AUXCOMM Work Group will be a new resource supporting EOC to EOC communications during emergencies.

New Terms Explained:

What is Meshtastic? It is an open-source mesh networking platform designed for decentralized, long-range, and ad-hoc communications. It allows devices to connect directly with each other, forming a network where each node can act as a relay for others. The project enables low-power, long-range communication over unlicensed radio bands.

More about Meshtastik operations at: **https://en.wikipedia.org/wiki/Meshtastic** or, **https://meshtastic.org/**

What is WIRES-X? WIRES-X (Wide-coverage Internet Repeater Enhancement System) is an internet linking system developed by Yaesu for amateur radio operators. It allows analog and digital radios to connect across long distances using the internet as a bridge, enabling users to communicate with other amateur stations worldwide through a node connected to the internet. WIRES-X serves as the network backbone for System Fusion radios, extending the reach of amateur radio by linking radio systems via the internet.

More about WIRES-X at: **https://www.yaesu.com/jp/en/wires-x/index.php**
Here's an interesting MS Excel deck providing more information on WIRES-X and Fusion:
https://xarc.us/wp-content/uploads/2018/05/Having_fun_with_wiresx_May_2018.pdf

For more information on the Marion County Emergency Radio Team (MERT), visit:

KG4NXO.com

All amateur radio operators and the general public are welcomed to attend all MERT meetings every Wednesday from 9:00 am till Noon
at the
Emergency Operations Center (EOC)
located at 692 NW 30th Ave., Ocala, FL.

Suwannee County Testing Antenna Switches in Your Amateur Radio Station

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

Many of us develop our Amateur Radio stations to the point where we are blessed with choices of multiple antennas on HF or VHF-UHF. These could be for different bands or polarizations with omnidirectional or directional capabilities. Having options for one's HF or VHF-UHF antennas is wonderful and usually is solved with an antenna switch. Coaxial antenna switches of various sizes and qualities exist with between two and eight positions being common. Further, some are rated for HF and others for HF/6m or VHF-UHF. Ratings for frequency range and power level are key parameters to consider, but in the end, one needs to ensure that the port to port isolation is good enough to protect the receiver of one radio from the transmitted signal of the other.

Further, it makes no sense to select a yagi antenna to focus one's receiver signal while a "leaky" switch brings in a signal from your omni vertical 30 db down when your local noise floor that is S9+20 db. The "weak one" that you are hunting will be buried in the noise introduced from the omnidirectional antenna through the switch.

Of the two use cases, the more concerning situation is when one needs to share one antenna with multiple radios through that "leaky" switch. The use of an antenna switch as a radio switch presents some different challenges that are important to consider as the transmitted signal from one port can "leak" into the other port and into the receiver of the idle radio resulting in damage. A lack of port to port isolation is a big deal that can fry your receiver front end if there is insufficient isolation between ports.

Most hams will have an inline SWR or power meter, so rather than going through a detailed measurement process using nanoVNAs or more sophisticated instruments, I would recommend trying some basic tests before sharing your antenna with two or more radios. This little experiment will ease your mind and let you see if your switch has enough isolation to protect the radios from each other.

Using the highest frequency band supported by your radios and antennas do the following steps to test your switch.

1. Connect a radio to the "A" port.
2. Connect an antenna to the "C" port.
3. Put a through type SWR meter or wattmeter on the "B" port.
4. Connect a dummy load to the far end of the meter.
5. Set the switch to the "A" position.

Transmit with the meter sensitivity set high and gradually raise the sensitivity or switch to a lower power range. If the switch has poor isolation, you will see some power on the meter connected to the "B" port. If you have a watt meter, you'll know how much power would flow into a second radio, but a simple inline SWR meter is sufficient to detect leaky RF across the switch ports.

As a further test, leave the switch in the same position, but swap the antenna and the dummy load and see if you can be heard by another local operator or if on VHF-UHF, see if you can trigger a real local repeater. If you can, even though the majority of the signal is going to the dummy load, be concerned for the safety of a second radio's front end and consider not using the switch as a "radio" switch.

In summary, I am not a fan of using simple coaxial A/B switches to connect two radios to one antenna unless the switches are specified and tested in advance.

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In my shack, instead of switches, I have slowly but surely started to run antennas to the top row of a patch panel and radios and instruments to the lower row of the patch panel. This photo was taken after the patch panel was first mounted before any cables were routed through it.

Having antennas and radios on separate levels of the patch panel will reduce the tendency to connect transmitters to receivers.

Another related consideration is to make sure that your antennas are separated from each other and don't couple energy into another antenna and receiver when transmitting. Listening and watching the S-meter of the second receiver is a good start to giving you a warning of a potential overload issue. Often mistakes happen and damage occurs when new radios, antennas and amplifiers are introduced to a station. Carefully, testing of your station setup as it changes is essential to error-free operations. Hopefully, this article will give you some good ideas to help you along as your station grows in 2026!

Thoughts?

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

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

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.

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. https://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

Gainesville Amateur Radio Society
- 1st Saturday of even numbered months
- Tech day two weeks after testing
- https://gars.club/Testing.html

Hernando County Amateur Radio Association (HCARA)
2nd Thursday of each month at 6:00 PM
For details and to register—http://www.hamstudy.org and go to **Find A Session**
Exam cost is free. FCC charges do apply

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REF046A – Florida Statewide
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REF046C – NWS Mobile, AL SKYWARN
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