QST NFL

Providing timely and interesting information to Radio Amateurs in North Florida

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Escambia County Hurricane Exercise 2019, After Action Report

Joe McLemore KF4DVF
Assistant Emergency Coordinator – Escambia County ARES

Summary

- On Wednesday, May 8, 2019, Escambia County Amateur Radio Emergency Service (ARES) participated in the annual Escambia County Hurricane Exercise.
- 31 Amateur Radio Operators and stations.
  - 21 Escambia County ARES, 4 Santa Rosa County ARES and EOC, 1 Okalossa County EOC, 4 non-ARES.
- ARES room in the EOC was activated and staffed by 9 ARES members (5 staff and 4 trainees)
  - Additionally, 2 ARES members helped staff other agencies desks at the EOC.
- Escambia County Emergency Net (local ARES net) was activated.
  - In addition to the ARES members already at the EOC, 20 additional stations checked in on the local net.
- Statewide communications
  - Checked into the Northern Florida ARES section wide net via HF on 3.950 MHz.
- Multiple VHF/UHF frequencies used, including digital modes.
- First exercise where the new DMR repeater was used. DMR repeater is accessible with HT radio from inside the EOC.
- Assisted Santa Rosa County ARES with their Radio Checks from various shelter locations in their county.
- 10 digital messages sent and received.
  - Successful testing of using digital modes (Winlink) for sending/receiving messages:
    - Long-distance on HF.
    - Locally on VHF using the Winlink gateway station.
- Training of additional ARES members to staff the ARES room including two net control operators.
- Configured two ARES members laptops and radios for Winlink communications.
- Responded to WebEOC tasking.
- Estimated 45.3 person-hours for the exercise itself.
- **Radio Modes used**
- Tactical nets –
  - VHF – Escambia County Emergency Net (Local ARES net) on 146.76 repeater
  - UHF – new DMR repeater on 444.325 MHz.
- Statewide net - HF
- Digital modes
  - APRS monitored.
- E-mail using HF and VHF freq (Winlink) –
  - 10+ Winlink messages sent and received.

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Email your QST NFL input to
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Marty Brown, N4GL, Editor

Broadband Antenna for Portable Emergency Use

Tim Linn, KD5SSF, KD5SSF@ARRL.NET

This article describes a broadband antenna as part of a portable station used to establish emergency communications, including WinLink connectivity.

I selected an inverted "V" antenna based on its simplicity and success in using this kind of antenna previously. The "tower" chosen is a 30-foot aluminum telescoping flagpole. The pole when retracted is approximately 74 inches long, short enough to be transported in a pickup, SUV, and many sedans with creative positioning.

To make the pole portable I designed a base to stabilize the pole. Two 2x4s each five feet long connected with bolts keep them at a right angle in an "X" shape. The bolts also hold a 3 inch threaded PVC plug to the top 2x4. A threaded coupling glued onto a five foot length of PVC pipe three inches in diameter and screwed onto the plug on the 2x4 complete assembly of the base (Figure 1).

Figure 1. Base for pole, PVC separate.

The pole stands inside this PVC pipe and extends to its full height by raising and twisting each section. Weights placed near the ends of the 2x4 base provide additional stability. In windy conditions you can guy the pole for added stability.

I inserted an approximately 5 foot long semi rigid PVC pipe one inch in diameter into the top (smallest diameter) section of the pole. About four feet of the PVC pipe sticks out above the top of the pole and is secured by a screw. A hole drilled through this PVC pipe near its top accepts a rope that hoists the antenna into place after the pole is erected. This PVC keeps the wire antenna from contacting the metal pole. Seventy-four foot lengths of 17 AWG aluminum electric fence wire connected to wires coming off a BNC bulkhead connector complete the antenna. Seven turns of the coax about six inches in diameter near the feed point of the antenna act as a choke. As with most broadband antennas, an antenna tuner is desirable.

One person can assemble and erect this antenna. I have successfully deployed it in a car park in the space between two rows of parked cars (Figure 2).

Figure 2. Pole in base.

Parts List

for broadband antenna

Tim Linn, KD5SSF

(all available at hardware stores except for flagpole)

- Yeshom 30 ft Telescopic Flag Pole Kit 16 gauge aluminum (I found it at Amazon)
- 3/8"x3 1/2" bolts, washers, and nuts
- 3" flat PVC cleanout plug
- 3" PVC female adapter slip-on to female pipe threads
- 3" schedule 40 PVC pipe 5 feet long
- 1" PVC conduit 5 feet long

Field Day…The Days Before and the Day of!!!

By Scott Roberts KK4ECR – Northern Florida Section PIC

Field Day will be here before you know it! Field Day is not just a day for us to set up radios and see who can make the most contact. It is an OPEN HOUSE for how we as Amateur Radio Operators support our communities.

As the PIO for your ARES Group or Amateur Radio Club what should we be doing to help promote our great hobby? Here are a few things that we can do, not only as a PIO, but as an EC, AEC, Club President, etc. to help make Field Day a real success in our counties, cities, or towns:

- Make a list of every:
  - News anchor, reporter, meteorologist, and station manager in your area.
  - Public official – Mayor, School Board Director, Police Chief, Fire Chief, Emergency Manager, Town/City Council Member, etc.
  - Pastor, Youth Pastor, Kid's Cub Director, etc.
  - *Make sure your list has first and last name, name of the organization they are with, and email address.*
- Send everyone of these people a personalized email.
  - *I use Google Sheets and then install a plug-in called "Mail Merge with Attachments." This will allow you to create a template sheet and send "bulk" personalized emails.*
- Visit your local TV and Radio stations to promote Field Day to reporters (take food with you!)
- Ask local radio announcers and TV reporters to promote your Field Day event on the air.
- Find every online Community Calendar in your area and submit your event. You will be surprised at how many online community calendars you can find.
- Put up Field Day Flyers everywhere you can (with permission).
  - Local Grocery Stores
  - Baber Shops
  - Beauty Salons
  - Churches
  - Schools
- Be sure to reply to every inquiry that you receive. People will want more information.

Now that we have done the work to invite the public, the media and public officials, we need to be ready for guests on Field Day. What do we do on Field Day?

- Have a sign in sheet for guests – you want Name and email address at a minimum.
- Have brochures to give them. You want them to have something in their hands to take with them.
- Be presentable.
  - Be dressed decently
  - Look refreshed – you may be tired and hot, but you need to look refreshed.
  - Have fresh breath
- Know how you will greet your guests – have an idea of what you will say.
- Give guests an opportunity
- Take time with each guest that comes to visit on Field Day.

This, by far, is not everything that you need to do to prepare for Field Day, or do on Field Day, but hopefully it will get the wheels of creativity turning. Be creative…this is our hobby and we are passionate about it. Field Day is our day to show our communities what we do and how we are there to support them. Let's make it a huge success.

BECOMING A HAM!

By An Accomplished Radio Operator (not amateur radio)
Guy Johnson/N4DEL, DeLand, FL

A few days ago I was tuning 40 meters, I heard some slow CW, about 8 wpm. As I mentally copied the CW, my mind drifted back to 1956 when I first became a ham. Back then, to be a Novice, you had to know CW at 5 wpm and pass a written test. Well, the anticipation of being able to communicate with people by radio from your home was a tremendous turn-on for me.

At an early age, I built crystal radios, and would listen far into the night, sliding my contact arm on the home wound coil and using a cat whisker to peck around in the crystal. My earphones gave just enough volume to hear baseball games, story tellers and even picked up some stations with languages foreign for a ten-year-old.

Later, I would pull my red wagon up and down alleys, and gather anything that was remotely connected to electricity. Motors from washing machines, junked radios, and on one occasion I hit the jackpot with a television!

With an old coal bin in the basement turned into my "shack", I would spend hours tearing apart motors, radios, vacuums and getting them running. My greatest accomplishment was repairing a TV, as at that time my parents did not have one! What a surprise when they returned home from work and found me watching a RCA 9" TV with Howdy Doody!

The year before I entered High School I took my Novice test and passed and became a Novice. With money from my paper route I had bought a used SX-99 Hallicrafters receiver and a Heathkit transmitter. I strung a dipole between my neighbor's house and mine. With a few fixed crystals I was ready to talk to the world. Hour after hour I would send out CQ's and tune up and down for reply's. I made hundreds of CW contacts from all over the US and even some DX!

I was now ready for the big time. Phone! Voice! AM! Time to get my General. Aha! 13 wpm CW and a technical test on vacuum tubes, power supplies, receivers, transmitters, rules, and operating procedures. Well I had read, studied, used, and practiced CW till I was blue in the face. Test time came and as I set in the cold, dreary FCC testing room in St. Louis, my palms sweated and my hands trembled. What was this 13-year boy trying to do? Fourteen other adults and me. Then came the CW test. We had to copy 13 words error free out of a 5-minute test. The tape was turned on. The first sounds were like the blast of a machine gun. Just one continuous stream of dits and dahs. After about one minute I had a jumbo mix of letters and numbers that made little or no sense. Trying to focus I let my mind start leading my fingers with little or no thinking about what I was copying. I did not look back at the words, I just kept copying and writing.

Suddenly, the tape ended. The silence was almost deafening. Out of the 15 in the room, Four got up and left without turning in their CW copy. I quickly scanned the crooked letters on the paper. There were words! Real words five letters long. Did I have 13 in a row? The monitor quickly gathered the papers. He said that we could not take the written test unless we passed the CW portion. Two more got up and walked out!

Time passed as I watched the second hand on the clock seemingly stop, and at one point it appeared to actually click backwards! The monitor called each individual up to the front. He mumbled a few words and the individual either returned to his seat or if he had failed he would walk out. Then with a thundering roar like God from Mount Sinai, I heard my name! This was the do or die, the beginning or the end, to fly like an Eagle or sink like a rock. I slowly rose, my knees felt weak, a sicken feeling rose from stomach. Did I pass? Would I have to do this all over in 3 months? He looked in my eyes and raised the test paper. Here it comes. "You managed to pass." he mumbled. "Return to your seat for the written portion."

I had not really let it sink in. I had actually passed! I had actually passed! As I fell limply into my seat I knew that I was going to be a General Class Amateur. The technical test would be a no brainer. In about an hour, he said the magic words. "Congratulations K9LLY"

Today I am still active with an Extra Class License and former President of A radio club in Florida. I still love the hobby and find the new technical modes exciting. We are getting young people involved again, despite the competition from cell phones, games and PC's.

Generous Gifts To Emergency Communications

by Gordon Gibby KX4Z

Two *very generous* gifts were recently made toward the general cause of emergency communications in Alachua County, by Dan Tompkins W4PJI and CarolAnn Garratt KE4HBO.

Dan is moving out of state, and had a two-section extending Alumatower that weighs only 95 pounds and is capable of being mounted to a trailer and providing a nice perch for an emergency VHF/UHF repeater antenna up above 35 feet, as well as the top attachment for an HF inverted vee. When his moving company balked at transporting it – he just gave it to us! As well as a very stout rotor and controller! We immediately got a trailer and drove over to pick this fantastic gift up and have begun work on creating a trailer mount for it based on the work of N6NB (see: http://n6nb.com/twrtrlr.htm). Mike Ridlon K4MVR is ably heading up that effort.

CarolAnn Garratt experienced a family tragedy as her mom succumbed to a chronic neuromuscular disorder and Carol made a round-the-world trip to raise awareness for ALS in a single engine Mooney---*by herself*! Long distance communications are required for air traffic control and she used an ICOM transceiver for that purpose – and then wrote a book to raise funds for ALS (see: https://www.amazon.com/Upon-Silver-Wings-Global-Adventure/dp/0975345753). Amazingly she was doing PACTOR email and position reports from the air! My wife (Nancy, KM4YGI) is almost finished with the book and describes it as ***gripping***. Carol Ann no longer needed that radio, and she donated the radio, two power supplies, two VHF transceivers and several other items to a good use – which we will certainly find!

Both of these incredible donations will benefit many people and we're very grateful for them, and for some assistance that we suspect Rick Palm K1CE provided.

The Alumatower getting ready for its trip to Alachua County.

Alachua County: What To Do When Your EOC HF Antenna is Full of Noise? (Part One)

By Gordon Gibby KX4Z

Big progress on a long-standing backup amateur radio communications problem has been happening in Alachua County. Those with longer memories tell me that it has been a decade that everyone recognized the HF antenna at the EOC "didn't work." But no one quite knew what was the problem. There was one of the "miracle base-transformer verticals" on an 8 foot fence, largely shielded by the building and tower, but everyone noticed "you don't hear STATIONS!" An antenna tuner was a necessity to get any reasonable SWR.

HF Comms Important?: While VHF/UHF communications reign supreme in intra-county emergency communications due to their smaller antennas, more suitable for vehicles and officials on foot, HF provides infrastructure-independent communications around a State or region when there is widespread damage to the telecommunications infrastructure. Florida is blessed with the SARNET (https://www.sarnetfl.com/), a linear interconnection of many analog voice repeaters that acts like a giant UHF "party line" – but it has limited throughput as a result, and our connection in Alachua County is currently non-functional.

Jump forward several years and huge progress was made with the installation of a Buckmaster off center fed antenna between a 90-foot tower and a newly installed telephone pole. But not quite the way it was designed...leading to interminable tangles between the supporting rope and the antenna. Strangely, for a commercial antenna that many have used, SWR's were *cuckoo*, and although now a few stations could be heard, it still seemed like most of what you heard was NOISE on any band below 20 meters. ***How to investigate?***

First Effort: S-meters are notoriously different from one radio to another. One single receiver was hand-carried between the EOC and a semi-rural ham station with a comparable antenna. Result: *far lower background noise* on 80/40 meters – and SIGNALS heard and contacted at the semi-rural station. Sounds like a NOISE problem.

Second Effort: An entry level spectrum analyzer (Siglent SA3021) was then purchased partly to assist in this project This allowed calibrated ("dBm") measurements of signals. A homebrew "E-Field" probe was constructed, basically a non-tuned 2-foot dipole on a wooden frame that could be physically placed near a suspected source. Part 15 of the FCC Regulations for "incidental radiators" (e.g. big computer systems) was reviewed. Note that your EOC radio expert may well already have a fantastic spectrum analyzer – so if you have S-meter readings that strongly suggest a problem, *enlist their help with your data collection.*

Figure 1. *Homebrew small dipole to measure E-fields.*

Noise (Continued)

Two sets of measurements were taken at the semi-rural ham shack. With the ham antenna tuned for 40 meters, a wide band capture of signals received from 3-8 MHz was screen-captured. Then using the home-brew 2-foot probe, signals in the 2nd floor ham shack were sampled – loudest near the house wiring in the floor, and likely related to televisions, cable-decoders, or the solar power installation's switching systems connected to the house wiring. Results: **The ham antenna clearly captured a wealth of signals, including both amateur radio and short wave broadcasts** (one was tuned in on a communications receiver – a 100kW station in Tennessee). Noise floors on the ham antenna were approximately -85 dBm on the 80 and 40 meter bands at 3 kHz bandwidth.

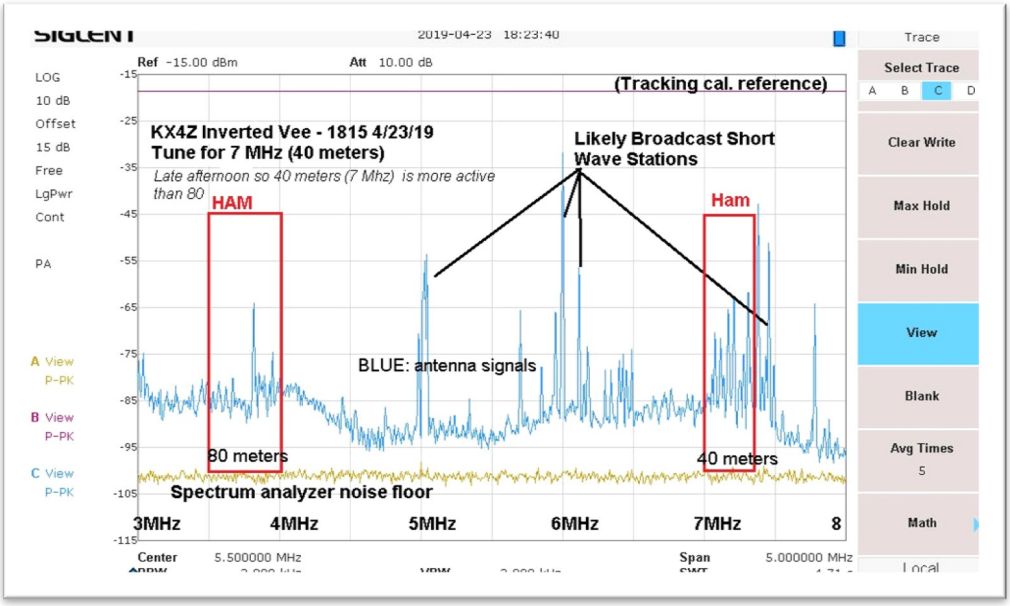


Figure 2. *Ham radio signals detected from non-resonant inverted Vee antenna at semi-rural location. Low ionospheric noise*

Comparison: The same measurements were repeated at the EOC and were **stunningly different**. Measurements were affected by which band the auto-tuner was set for, but showed vast amounts of broad-based noise (-70 dBm 80 meters, -75 dBm 40 meters) , with ***almost no signals visually obvious*** from the EOC HF Buckmaster.

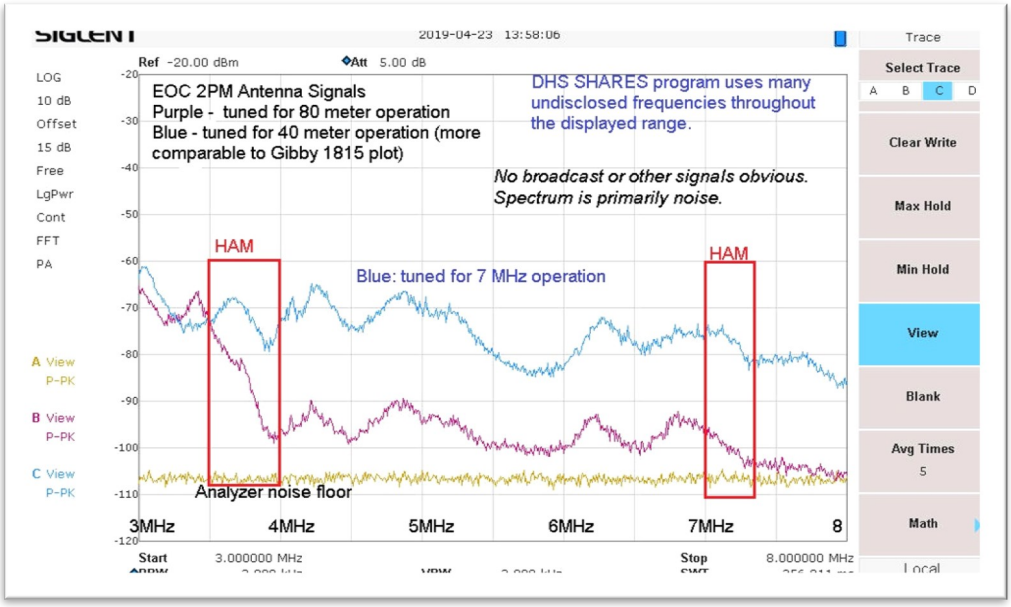


Figure 3. *EOC Antenna pickup 3MHz-8MHz, Blue trace when auto-tuned for 40 meters. Ham bands marked with red outlines. Yellow is noise floor of the analyzer setup*

Noise (Continued)

Noise signals captured by the homebrew probe were tens of dB stronger inside the EOC (and strongest beside the metal supports of the raised flooring, despite a grid of flat copper straps bolted to the concrete. Stunning differences compared to the semi-rural station. Those plots gained the attention of the radio experts at the EOC, who did their own probing and discovered a wealth of spikey harmonics from switching power supplies in massive computer and uninterruptible power supplies supporting the building.

Now with both in-house and ham curiosity, a day of measurements was planned, prior to professionals coming to re-hang the roof-top Buckmaster. Physical ohm-meter and antenna-analyzer tools were first used to confirm the continuity of the coax cable all the way to the antenna feed point – EOC's have a huge number of identically-appearing cables, and it wouldn't be difficult to get them confused, or have a faulty coax connector or two – in fact, one was replaced during that effort.

Since a length of transmission line dramatically alters the measured impedance a distance away from an antenna feedpoint, a MFJ antenna analyzer was placed on a 2 foot coax from the Buckmaster and SWR and impedance measurements made right near the antenna. These showed much higher SWR's and much lower impedances than would be expected. The likely cause is coupling to the grounded metal structures and lightning rod wiring of the roof, which was only 5 feet below the sagging center of the antenna on the day of measurement.

Perhaps the most striking measurement was to take the homebrew E-field probe and hold it a few feet above the roof. It demonstrates a plethora of noise signals enveloping our precious HF antenna, with high intensity blanketing the NVIS-usable portion of the HF spectrum.

So now we have good documentation of why no one has been able to make 80/40/30 meters perform for a decade. Further tests were then made to discovered to what distance from the building all this noise propagated, hoping to find a near-field decay that would allow us to position a receiving (or totally new) antenna outside the effective noise blanket of the EOC. Results of those tests will be discussed in a later Part Two.

Northern Florida Section SEC Report for April 2019

Karl Martin KG4HBN, ARES Amateur Radio Emergency Service, Section Emergency Coordinator, North Florida Section

Northern Florida Section SEC Report		April 2019
Report	Counties Reporting	Counties in NFL
Number of Counties Reporting	14	43
Total Number of ARES Members		407
	Number of Events	Hours
Exercises & Training Sessions	87	596
Public Events	5	157
Emergency Operations	0	0
Skywarn Operations	12	179
Total	104	932
Comments		
It's June, and this marks the beginning of Hurricane season. Hurricane Michael was updated to a Cat 5 with 160 MPH winds at landfall. It's a good reminder to start preparing now. Let's hope for a quiet 2019 season. Karl KG4HBN kg4hbn@arrl.net		

Emergency Communications Training Expands

By Gordon Gibby KX4Z

Two initiatives to improve emergency communications training are ongoing in Florida—and there are others not covered in this brief article, as well. Florida Baptist Disaster Relief is re-activating ham radio communications after a "wake-up call" at Hiland Park, in Panama City during Hurricane Michael response efforts. And a newly-revised ARRL EC-001 in-person and webinar course is ongoing in Alachua County.

Florida Baptist Disaster Relief is a non-governmental organization ministering to the needs of disaster victims without cost, highly-renowned, and allied with many other State Baptist disaster relief organizations. Florida leadership were able to call on other states' teams to dramatically ramp up their meal production as needed; one meal unit can provide as many as 20,000 meals per day, which are transported en mass to feeding stations. This year, introductory volunteer training was provided at five different geographically dispersed locations.

During Hurricane Michael response, a team in Panama City went several days without communications – and they have an absolute need to order enormous supplies to keep up safely preparing thousands and thousands of meal per day! A ham team from Alachua County reached them at one point and assisted with their radio difficulties. Out of that came a desire to re-activate ham radio support. **Michael Crisler N4IFD** from Miami Florida was tapped to develop this resource, due to his extensive background in HF communications, tower systems, and emergency management. A nuclear engineer by training, Crisler has a vast breadth of emergency-related knowledge and has some fantastic stories about how ham radio benefited a nuclear power station in a previous hurricane response. But his experience was a bit short on recent digital ham radio advances, and on current training, procedures, and exercises in the North Florida Section. Gordon Gibby KX4Z was a "sub" for him at an Apopka, Florida ham volunteer organizing meeting, and subsequently sent several emails, including a spreadsheet of volunteers, right from a parking lot at the training facility, by ham radio.

Then **Tim Linn KD5SSF,** from Pensacola, kicked in with an amazing portable station and gave demonstrations of moving urgent traffic easily by WINLINK. That seemed to tip everything into full "go" mode as top leadership were very impressed that a combination of VHF/UHF and HF voice, as well as digital, was well within their reach for their emergency communications – so gear and antennas are being readied by Michael Crisler N4IFD. Meanwhile, Gordon Gibby KX4Z produced a draft "training manual" (see: https://www.qsl.net/nf4rc/2019/FBDRHamTraining.pdf) that would lead Florida Baptist hams toward better competency and integration with an ICS-based communications response. A major goal was to give them situational awareness of ALL the emergency communications opportunities available to them when in a disaster situation.

EC-001 is now required for higher ARES® levels of training and as there were few courses left available, Alachua County volunteer Gordon Gibby KX4Z made his way through all the prerequisites and was then able to offer a first-in-a-long-time 3-Saturday EC-001 training course. The ARRL has over two dozen PDF documents available for study. (see: https://www.dropbox.com/sh/29jvy6kowc10ghz/AABE-rNnHKcwYaV4y-bPyXava?dl=0) But the Alachua County course aims to provide "hands-on" to the reading material! At the first 7-hour training session, a ton of material of ALL the national communications emergency efforts was reviewed, and then the FUN began as ARRL had us jump into how "nets" work from the TOP-down, instead of the bottom up. Instead of studying radiograms first, we studied net management and net control procedures.

A paradigm for managing a busy traffic net right out of the ARRL Methods Procedures & Guidelines (see http://www.arrl.org/table-of-contents-nts-methods-and-practices-guidelines) was adopted and a busy net with 9 or more check-ins and at least that many messages – priority and emergency – to move commenced. (See: https://qsl.net/nf4rc/2019/NetControlPractice.pdf) One after another, new participants got to simulate running such a fast-moving HF traffic net over voice, using frequencies 5 and 10 kHz both up and down from "net frequency". There were even stations requiring "relay" to get their traffic through. Volunteer after volunteer took the "hot seat" of being the NCS (net control station) while other participants cycled around from 4th region net rep, to various EOC reps, state rep, NGO reps, and stations will with working telecommunications who could take outgoing traffic.

(Continued on next page…)

Training, (Continued)

Tim Linn KD5SSF and his water-bucket stabilized telescopic ham radio antenna mast.

Tim Lin KD5SSF teaching how all this new technology works

Tim has his WINLINK client connected to AJ4GU near Atlanta Ga, passing traffic on 40 meters. His go-box is assembled in a simple plywood box created by Stewart Reissener KK4DXF of the Alachua County ARES/NFARC group.

FCC Testing Information

4 Corners Radio Club, Davenport FL

- First Saturday
- 10:00 AM
- Polk County Firehouse, 50945 US 27
- Walk-ins welcome
- Info: WA2FRW@aol.com

LMARS FCC Testing

- Third Saturday every month
- 9:15 AM
- Seminole County Sheriff's Office
  Off SR 17-92, on 100 Eslinger Way in Sanford
- For more information and registration,
  contact Bob Cumming, W2BZY, 407-333-0690 or
  w2bzy@cfl.rr.com

North Florida ARS

- Weeknight testing for all grades of license in Feb., May, Aug. and Nov.
- Hogan Baptist Church at the corner of Hogan Rd. and Parental Home Rd. in Southside.
- Advance registration is required. See http://nofars.net/home/fcc_testing

Lake ARA

- Monthly on the 3rd Saturday, prior to monthly meeting. (Except December)
- 8:00 AM
- LARA Clubhouse (11146 Springdale Ave, Leesburg – off of CR 473)
- For more information and registration, contact
  David A. Pennell, NP2MR (352) 602-5164
  np2mr@yahoo.com in advance of the meeting.

Suwannee ARC

- First Tuesday of the month prior to the meeting
- Saturdays available with advanced notice
- N4SVC, 9707 58th Street, Live Oak, FL 32060
- www.suwanneearc.org for more information

Silver Springs Radio Club

- 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.

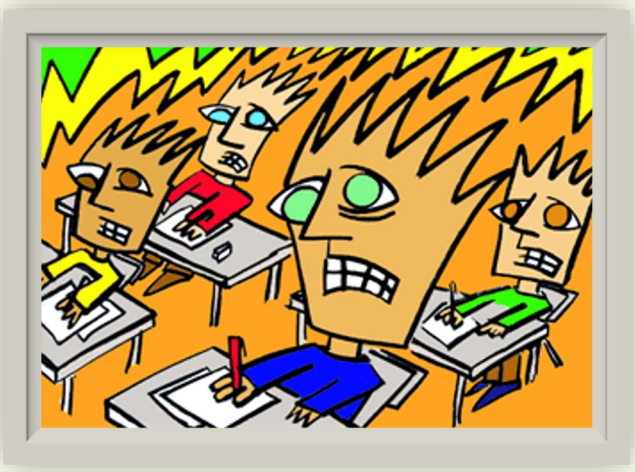
Hog County Amateur Radio Association

- First Saturday, 11:00 AM, starting September 1, 2018
- Cross Connection Church, 1451 West County Road 476, Bushnell, FL 33513
- Info: sumterVE@gmail.com

QCWA Chapter 45, Orlando FL

- Second Thursday
- 11:00 AM
- Golden Corral, 5535 S. Kirkman Ave, Orlando
- Walk-ins welcome
- Info: WA2FRW@aol.com

Remember: Bring photo ID, CSESs, copy of current license, exam fee in cash, exact change. Large print exams are available.



Links to the NFL Web Site

For net, hamfest and other events go to www.arrl-nfl.org or select the option below. Web Master Bert Garcia, N8NN, maintains an up-to-date and detailed listing of all NFL nets and activities. If you need to make a change to an existing net or activity, or add a new one, contact Bert at: n8nn@arrl.net.

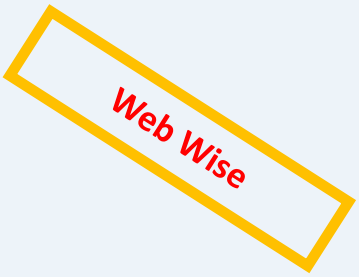
Section Nets

Northern Florida STM Report

Florida Hamfest/Convention Calendar

Operating Events

Emergency Communications Archive



NFL Officials

Section Manager – Kevin Bess, KK4BFN

Assistant Section Managers – Joseph D. Bushnel W2DWR, John C Reynolds W4IJJ, Dave Davis WA4WES, Jeff Capehart W4UFL, Neil Light KK4VHX, Ray Crepeau K1HG , Steve Szabo WB4OMM

Section Emergency Coordinator – *Karl Martin KG4HBN*

Section Public Information Coordinator— *Scott Roberts KK4ECR*

Assistant SE Coordinator – Robert A. Mitchell W4HKG

Section Technical Coordinator – Frank Haas KB4T

Affiliated Club Coordinator – *Appointment Pending*

Section Traffic Manager – Tom Housworth, KI0JO

Official Observer Coordinator – Robert Leasko, WB8PAF

State Government Liaison – Darrell Brock N4GOA

QST NFL

Newsletter of the Northern Florida Section of the ARRL

1. Spread the word about our website www.arrl-nfl.org and ***QST NFL*** on your club web-site, in a newsletter or at a meeting.
2. Send a write-up and picture of your next activity.
3. Make sure you, or the appropriate member of your club is on the email reminder list.
4. Contact: Marty Brown N4GL, n4gl.marty@gmail.com

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 writers are their own, and may not express the positions of the ARRL. Submissions may be made to the editor, Marty Brown, N4GL.MARTY@gmail.com.