



# QST NFL



*Providing timely and interesting information to Radio Amateurs in North Florida*

Volume 6, Issue 9

[www.arrl-nfl.org](http://www.arrl-nfl.org)

September 2019

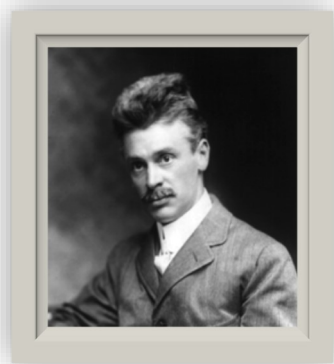
## Hiram Percy Maxim Birthday Celebration!

Stan Zawrotny, K4SBZ

This year marks the 150th anniversary of the birth of the ARRL's first president and cofounder, Hiram Percy Maxim, W1AW. The **Happy 150! The Hiram Percy Maxim Birthday Celebration!** operating event is open to all amateurs, and the goal is straightforward: Find stations operating in the event, many adding "/150" to their call signs, and contact as many as possible during the 9-day celebration which starts the last day of August and continues into September (0000Z, Aug 31 to 2359Z, Sep 8). All ARRL members are eligible to append /150 to their call sign during this event. Anyone may participate in the contest. Contacts with stations with the /150 suffix count double. Multipliers are the ARRL and RAC (Canadian) sections. All modes may be used.

Scott Davis, author of the N3FJP suite of logging software, has made a version of his contesting loggers available **for free**. This is an opportunity to try his software without cost. (TARS uses the N3FJP software for Field Day.) See the following:

<http://www.n3fjp.com/hpmaxim.html>



Hiram Percy Maxim,  
W1AW

ARRL Operating Event

[Hiram Percy Maxim 150th Birthday Celebration Rules](#)

## NFL Section has New Webmaster

Marty Brown, N4GL, Editor

After five years of faithful service as NFL webmaster for [www.arrl-nfl.org](http://www.arrl-nfl.org), Bert Garcia, N8NN, has stepped down. On behalf of the entire Section, I extend our thanks and best wishes to Bert. **Brian McClure, NW4R**, has assumed webmaster responsibilities. Our thanks to Brian for stepping up.

All input to for the website should go to: [nw4r@arri.net](mailto:nw4r@arri.net)

6th ANNUAL  
**TechCon** 2020  
WCF Country  
West Central Florida Section  
February 21 & 22, 2020  
[6th Annual TECHCON](#)

## What's Inside....

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Email your QST NFL input to [n4gl.marty@gmail.com](mailto:n4gl.marty@gmail.com)  
Marty Brown, N4GL, Editor

## NEW W4IZ Jacksonville 146.7 Receiver Option

Billy Williams, N4UF

The downtown W4IZ/R secondary receiver now operates continuously. With lower antenna height, it is not quite as sensitive. The main receiver is on top of the Dames Point Bridge and can be disrupted by power outages, etc.

The Dames Point receiver requires users to transmit a 127.3 Hertz CTCSS tone and W4IZ's transmitter adds the same frequency tone to outgoing signals. Operators using a 127.3 Hz tone only access the Dames Point receiver.

To use the downtown receiver instead, transmit a 103.5 Hertz CTCSS tone (tone encode). Remember that the repeater transmitter will continue to use 127.3 Hz. If your receiver uses tone decode squelch, program it to accept 127.3 during receive--not 103.5 Hz. when using downtown. Or turn receive tone decode off.

Program a separate memory slot for 146.1 MHz plus 103.5 Hz CTCSS during transmit and 146.7 MHz plus 127.3 Hz CTCSS during receive to use the downtown receiver.

## Jacksonville 146.7 Free Hamfest October 26

Billy Williams, N4UF

The 19th Jacksonville FREE Hamfest is Saturday, October 26th at Terry Parker Baptist Church, 7024 Merrill Rd. Activity starts at sunrise when the tailgate area opens. Look for bargains and sell your radios and other electronic equipment. Bring tables and chairs. See [nofars.net/home/hamfest](http://nofars.net/home/hamfest) for more.

A large assortment from the estate of a deceased NOFARS member is up for bids before the hamfest auction at 10:30. Offers are now being accepted for presentation to administrators. Minimum bids are heavily discounted. To see a listing, access [nofars.net/sales](http://nofars.net/sales)

The W4SNN group will serve free refreshments and Laurel VEC offers free FCC exams at 10 AM. And of course, admission and tailgate spots are free. Your items can be put up for bids at the auction with no commission charge.

Drawings for prizes are at 11AM. For a small donation, you can put tickets in the barrel. Proceeds go to the W4IZ repeater system.

## QCWA Chapter 62, Ocala, (Fl)

Rhyne Killian, KA1CX President

Members of chapter 62 QCWA Ocala met at the China Lee buffet restaurant in Ocala on August 22. Sixteen members were present.

There was no old or new business. After a good Chinese meal Rhyne Killian KA1CX chapter President, gave a historical talk on James Millen W1HRK who founded the James Millen Mfg Company. Earlier when he worked for National Radio Co He helped design many of Nationals receivers.

The next meeting will be on October 24th at the China Lee Buffett.

Chapter 62 holds a net on 3940Khz Saturday mornings at 9 AM local time.

## The James Millen Society

W1HRX



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[Organization](#)

[Membership](#)

[Join Now!](#)

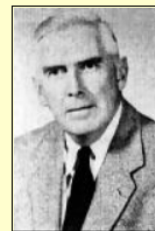
Millen Equipment [Serial Numbers!](#) [Send](#) us your info.

[Listen](#) to a vintage Millen station! (90801 transmitter and 90831 modulator) Gary, WA4IAM, as recorded by Paul, WA3VJB

**Mystery Millen Amplifier - [what is it?](#)**

Millen restorations by Bob, WØYVA:  
[90700](#) - [90711](#) - [90801](#) - [90831](#) - [90881](#)

[Biography and Reminiscing](#) - [Society Articles and Events](#)  
[Equipment Pictures](#) - [Schematics and Mfg. Documents](#) - [Historical Articles](#)



July 11, 1904  
June 8, 1987

## Northern Florida Hurricane Exercise 2019, Escambia County ARES After Action Report

Joe McLemore, KF4DVF, AEC

### Summary

On Saturday, Aug 5, 2019, Escambia County Amateur Radio Emergency Service (ARES) participated in the 1<sup>st</sup> Annual Northern Florida Section Hurricane Exercise.

- 7 Amateur Radio Operators and stations.
  - \* 6 Escambia County ARES, 1 non-ARES.
- ARES room in the EOC was activated and staffed.
- Section-wide communications
  - \* Checked into the Northern Florida ARES section wide net via HF on 3.950 MHz.
  - \* Checked into the "State EOC" net on HF on 3.960 MHz.
  - \* Checked into the SARNet (on UHF) using the Crestview repeater.
  - \* Contacted Volusia County EOC on 40 meters.
- First exercise where the HF amplifier was used.
- 7 digital messages (ICS213) sent and received using Winlink
  - \* Long-distance on HF.
  - \* Locally on VHF using the Winlink gateway station.
- Configured one ARES member's laptop for Winlink digital messages communications.
- Jump Team deployed to northern area of the county to test the following:
  - \* Coverage on the new DMR repeater.
  - \* Winlink coverage on VHF Packet.
  - \* Repeaters coverage in the northern area of the county.
- First Escambia County ARES member to complete the new ARES Individual Task Book (for Level I qualifications)
- Estimated 35 person-hours for the exercise itself.

### Radio Modes used

- Local communications –
  - \* UHF – new DMR repeater on 444.325 MHz.
- Section wide (Statewide) Communications:
  - \* Statewide nets – HF
  - \* UHF using the SARNet system.
- Digital modes
  - \* using HF and VHF freqs (Winlink)

## Alachua County Extra Class Course Huge Success

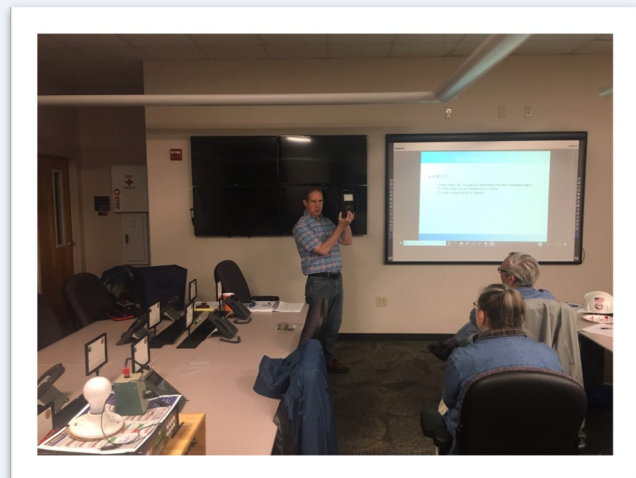
by Gordon Gibby KX4Z

We invited anyone to come to our every-two-year Extra Class Boot Camp Weekend Course, on August 17th and 18th -- *and they came!!* We had a dozen participants, sometimes 13, and 6 instructors who all put in an enormous effort on Saturday (8AM - 6PM) and Sunday (1 PM - 7PM) to finish up the entire Extra Class elements.

Because we could not find suitable power point slides for this course, our instructors had to make up their own entire slide sets -- often hundreds of slides. But now we have a full set covering everything in the current question pool. As that will change soon, some adjustments will be needed before our next class in 2021.



Show-And-Tell on Air Powered Weight Shooter



Van, AC4QS, with Analog Voltmeter Demonstrating Components

The Alachua County Emergency Operations Center graciously made their main "situation room" available for us all day Saturday, giving us two full screens of overhead projection. We filled another table with radio equipment to demonstrate as much as possible. Our speakers did TERRIFIC and kept pretty much to schedule, also! Participants got to see every ham radio mode we could do -- voice, CW, digital, the works -- some of them had just gotten their TECH/GENERAL and made their very first CQ on our radio bench. A slick new oscilloscope, old fashioned crystal radios, PSK-Reporter showing our own signals all over the world from our calls just minutes prior -- they were fascinated. Three Publix sandwich rings almost disappeared at lunchtime and we were *back at it*.

On Sunday we reassembled at KX4Z residence, with a uBitx radio and a spectrum analyzer, a large screen TV and 6 hours of instruction on how receivers and transmitter circuits work, and how antennas and transmission lines work. As people watched the signal from a VFO move up and down in frequency as it heterodyned the desired incoming signal from a 100kHz crystal calibrator to fit into the 45 MHz crystal oscillator, light bulbs began to go off as they realized how a superhet radio works. A 10-meter antenna with center and off-center taps and antenna impedances came alive through a MFJ antenna analyzer showing how feedpoint impedance rises off-center, and how Q changes. Believe it or not, *they were doing SMITH CHARTS and understanding them!* We did the parlor trick where the 150 ohm resistor load suddenly becomes 23 ohms at the other end of a coax line on a certain frequency -- and they understood why!

The day got very long and some had to leave, but we worked our way through a [hamstudy.org](http://hamstudy.org) practice test and PASSED! Normally students individually will hit in the 50's or 60's after a weekend boot camp, but I think our group was doing substantially better this time. We had encouraged pre-study and that might explain it.

## Extra Class (Continued)

Getting a schedule together for this course was one of the hardest parts (other than creating hours worth of power point slides and props) -- here is the schedule we used:

FCC Element Section	Slide Show Section	Instructor	Hands On	TIME REQUIRED
<b>SATURDAY BEGINS AT 0800</b>				
0810 E0 Safety	11 questions	Earl McDow K4ZSW	Demos of safe techniques, photos of safety issues. Exposure calculator	13 minutes
0825 E1 Rules	75 questions	Leland Gallup AA3YB		84 minutes
<b>0852 BREAK</b>				
0900E1 Rules				
<b>0955 Break</b>				
1003 E2 Operating Procedures	73 questions	Leland Gallup AA3YB	Demonstrate SSB, CW, Digital, FM systems and usage. Show PSK31, JS8, MT63; If possible listen to the 9AM net for a few moments, in the earlier session;	82 minutes
<b>1115 BREAK</b>				
1125 E3 Propagation	46 questions	Susan Halbert, KG4VWI	Demonstrate critical frequency plots for radio ionospheres Live PSKReporter Listen to different bands (80 40 30 20) Australian government sites <a href="http://hflink.com/propagation/">http://hflink.com/propagation/</a>	52 minutes
<b>1215-1245 LUNCH</b>				
1245 E4 Practices, test eqpt	78 questions	Jeff Capehart W4UFL	Demonstrate frequency counter, spectrum analyzer. Use simple VSWR instrument with transmitter to measure SWR	88 minutes
<b>1415 BREAK</b>				
1425 E5 Electrical Principles	65 questions	Van Chesney AC4QS	Ohms law demonstrations. Crystal radio prop Resistor and capacitor demos	73 minutes
<b>1540 BREAK</b>				
1555 E6 Circuit Components	87 questions	Van Chesney AC4QS	Demonstrate resistors, capacitors, inductors, transistors, vacuum tubes.	98 minutes
<b>BREAK APPROXIMATELY 1700 Continue..... with E6 and move into E7</b>				
E7 Practical Circuits		Gordon Gibby KX4Z	uBix and Spectrum Analyzer -- show oscillators and mixers. Tune vacuum tube amplifier	First 30 min
<b>END OF SATURDAY</b>				

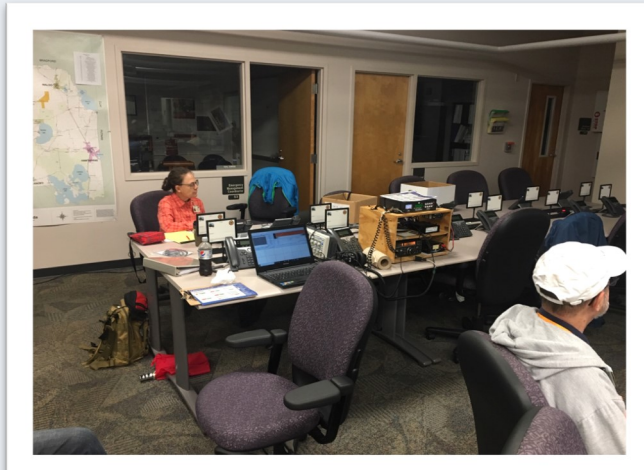


Extra Class (Continued)

SUNDAY BEGINS 1 PM				
1300 E7 Practical Circuits	117 questions	Gordon Gibby KX4Z		131 minutes (100 minutes on Sunday)
BREAK 1440				
1450 E8 Signals & Emissions	47 questions	Gordon Gibby KX4Z	Use the waterfall of FLDIGI to look at SSB, CW and other signals. Use spectrum analyzer to show upper and lower and CW signals from transmitter	53 minutes
GET INTO E9 SOMEWHAT BREAK AT 1545 CONTINUE E9 @ 1555				
E9 Antennas, Tr. Lines	112 questions	Gordon Gibby KX4Z	Use antenna analyzer and the "tapped 10 meter antenna" to show the different impedances at different feed points. Demonstrate SWR measurements. Demonstrate Balun effects of transformer. Demonstrate ¼ wave transmission stub flipping shorts to open, vice versa.	125 minutes
TAKE PRACTICE TEST SUNDAY ENDS 1900				



Intense Concentration!



Susan Halbert and all our HF demo radio gear

Picture submitted by  
David Corral, KN4MQQ



## Alachua County: The CHIGGER ANTENNA (Part IV)

By Gordon Gibby KX4Z

In July we proved that a temporary antenna just tens of yards away from the RFI-infested Alachua County EOC had far less electromagnetic interference (noise) than even our improved rooftop antenna. So we set to work to put in a permanent antenna, and happily, the County succeeded in purchasing a bit over an acre of the land just south of them, on the other side of their existing fence.

On Sunday August 11th, at what must have been the *hottest part of the day*, five of us assembled and waded into the thick underbrush to put up the 270-foot long off-center-fed homemade inverted vee, using our standard Alachua County 4:1 Balun. The bazooka-like bicycle-pump-powered device that Leland Gallup AA3YB used to place our line over the desired tree limb (on the first try) is absolutely amazing! Getting the long #14 stranded house-wiring through the dense woods was quite an effort, and I almost passed out from dehydration (true story -- drank 2-3 liters of water to recover). Once we got it up, the noise measurements were just as excellent as we had hoped, and setting up one of our HF go-boxes on the spot, we proceeded to make **day-time 80meter** digital connections to 2 winlink gateways on 80 meters that were in NVIS range. That has never happened with the rooftop antenna due to 20dB excess noise at those frequencies.

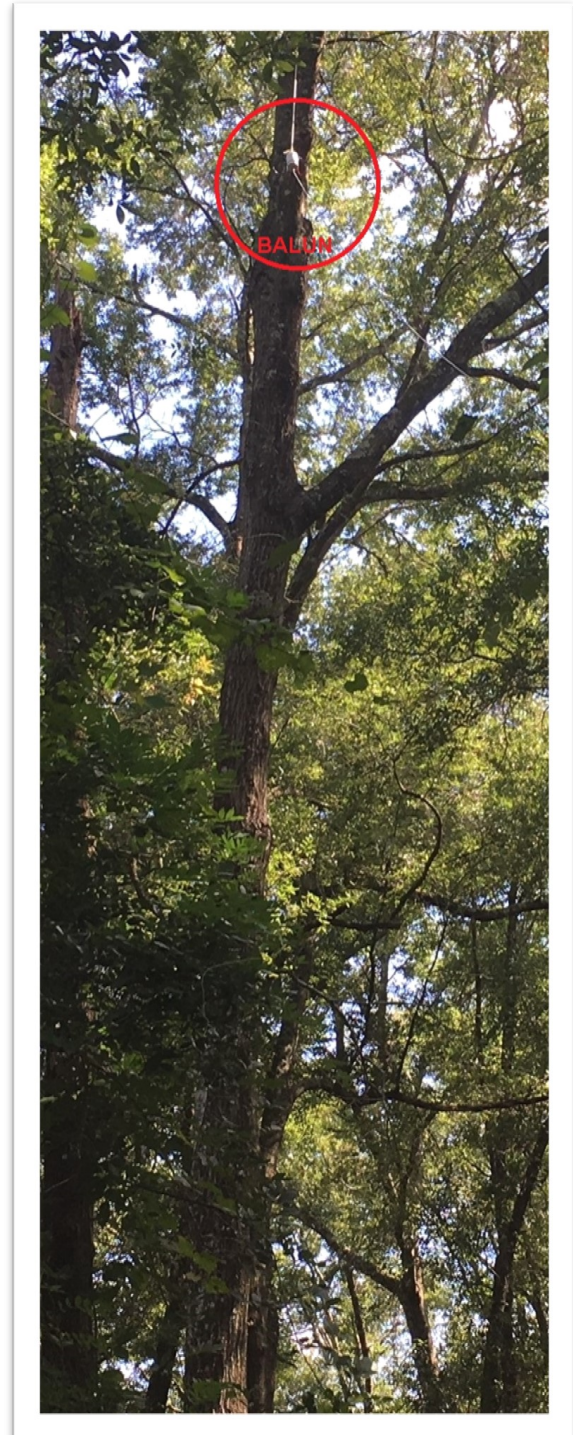
Thanks to the amazing work of Ryan Lee's radio crew, soon a tension line was established from the EOC building to a suitable tree, and the coax penetration to our radio room was rerouted using coax to our new antenna.

We named this antenna, "The Chigger Antenna" because all of our crew were scratching bites for days afterwards....

We are aware that this antenna, in the midst of an older forest of trees, is a prime target for going down with a tree fall. However we anticipate soon having a coax switch to switch between this antenna and the more sturdy roof-top antenna. Additionally, the homemade antenna is relatively easy to repair -- strip broken ends and twist, tie, or solder back together. In a pinch, at these frequencies, even coax can be spliced temporarily.

The SWR curve revealed that I made the antenna a touch on the "long" side and I'll have to go back into the woods to take off about 15 feet. In preparation for

that, I've now gotten a commercial product that woody-type people rave about to ward off the chiggers.



Leland's device for propelling weighted lines (2 oz. fishing weight) is just amazing. Here is the home-brew 4:1 Balun about 40 feet up, our desired height.



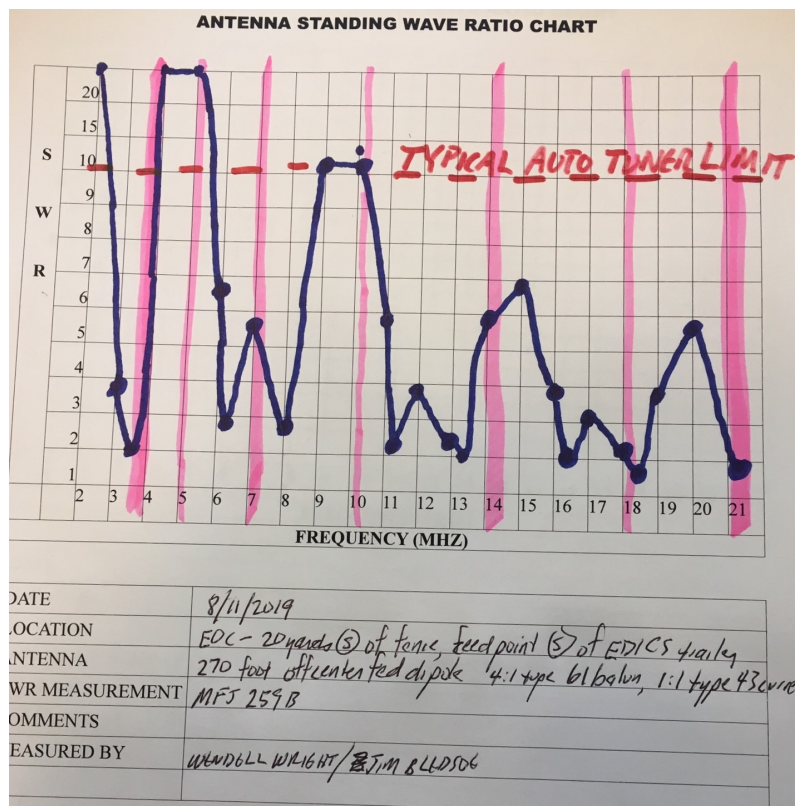
## Chigger Antenna (Continued)



(L-->R) Jim Bledsoe KI4KEA, Leland Gallup AA3YB, Chief Deputy David Huckstep W4JIR, Wendell Wright KN4MY



We didn't start scratching until later. Here the re-hydrated crew is checking SWR's.



SWR Curves suggest the antenna is a bit "long" and resonant just below the desired bands. 5 MHz is problematic and 30 meters isn't the best. Haven't yet measured 160m.



## Putting an End to a 2-Decade Wasteful Argument

by Gordon Gibby KX4Z

Because I'm relatively new to emergency communications (only a few years) I had no idea that there had been a *heated and wasteful argument* going on between pro-WINLINK and anti-WINLINK /anti-PACTOR amateurs for at least two, and possible three **decades**. Those opposing these digital techniques and systems (those are two different FCC-recognized levels, and that is important) alleged variously that these violated multiple FCC regulations, created significant interference on amateur bands with abandon, were a threat to national security and were used in all sorts of illegal ways, and were abetted by WINLINK development team.

Coming from a scientific background, I set to work to provide objective analyses, in addition to my commentary on this extremely serious allegations. The important points are listed in a table below. All have been published to the FCC comment site, as self-contained rigorous studies, with methods, data, results and conclusions provided. I really haven't seen anyone rebut any of their data.

But the most recent disclosure will end up being the most consequential. Self-proclaimed experts (some of whom really ARE experts) claimed that WINLINK's algorithms of compression (similar to that which every one of us uses constantly with our computers and cell phones) made it virtually impossible to monitor -- "effectively encrypted." But their claims were *poppycock* -- Jean Paul Roubelat F6FBB developed the original (compressed) systems beginning in 1986 and published source code through 1999. How to read them has been publicly available for at least two decades. Using that public information

and a ton of tenacity, John S. Huggins KX4O used cut-and-paste to decompress a winlink message after 17 weeks of the most recent argument, after a hint from me. ([https://ecfsapi.fcc.gov/file/108140794324824/KX4O\\_Demonstration\\_OTA\\_Decoding\\_Addendum.pdf](https://ecfsapi.fcc.gov/file/108140794324824/KX4O_Demonstration_OTA_Decoding_Addendum.pdf)) He was the first person ever to do so. But others wanted a **program** to do the same. On August 1st, I started on that effort, despite not having written significant code in decades. It took me 20 days just to learn how to read the USB serial 38.4kbaud output of a Pactor modem -- and then five days of furious trial-and-error with a C-coding book constantly at my side to write working code that allows a simple Raspberry pi 3B to read a compressed WINLINK message. I estimate that a real programmer would have done all of it in **TWO DAYS**.

Why argue for 20 years over two days' of work? Why not just do the work?? To stop this from happening again, I proposed "bright lines" of responsibility for providing examples and coding to maintain openness in amateur radio at the SYSTEMS level, where the FCC regulations had been murky, in addition to the level of techniques (like PSK31 or PACTOR). In the process I learned that many systems spoken badly of....had full disclosures written years ago You can read the whole sorry mess in my disclosure of Friday to the FCC --- who have already collected my code, as well. And there are **footnotes and references for everything** in all my papers.

This argument is now moot.

ISSUE	Study	Conclusion
Is winlink encrypted?	<a href="https://ecfsapi.fcc.gov/file/10410170249078/FCCRM11831-4.pdf">https://ecfsapi.fcc.gov/file/10410170249078/FCCRM11831-4.pdf</a>	NO. Because I demonstrated an uninvolved station capturing a message in a special case.
Do winlink 97.221(c) stations cause large amounts of interference?	<a href="https://ecfsapi.fcc.gov/file/10408063816674/FCCRM11831-2.pdf">https://ecfsapi.fcc.gov/file/10408063816674/FCCRM11831-2.pdf</a>	NO. The maximum possible interference (worst case) in a 14day sample was in the hundredths to thousandths of even 1 percent. This is a non-problem.
What was the level of hanky-panky being done via WINLINK?	<a href="https://ecfsapi.fcc.gov/file/10723230403421/IncidenceCalculations.pdf">https://ecfsapi.fcc.gov/file/10723230403421/IncidenceCalculations.pdf</a>	It was approximately 1.1% and if the opponents had answered my questions, I could have gotten an exact figure.
Can winlink be effectively self-policed?	<a href="https://ecfsapi.fcc.gov/file/10822196770221/ReAnalysisOfWinlinkObjectionableMessages.pdf">https://ecfsapi.fcc.gov/file/10822196770221/ReAnalysisOfWinlinkObjectionableMessages.pdf</a>	YES -- the rate of hanky-panky dropped by 90% in 3 months, and another 90% of that (2 orders of magnitude) after the 4th month, to only 1 objectionable item out of 15,000 transfers. Making WINLINK the cleanest part of all of amateur radio.
Does anyone REALLY want anything more than the winlink viewer?	<a href="https://ecfsapi.fcc.gov/file/1080509964054/ExParteCommunicationAug5.pdf">https://ecfsapi.fcc.gov/file/1080509964054/ExParteCommunicationAug5.pdf</a>	NO -- once the Viewer was out, there were almost No Persons on QRZ who requested the ability to personally read any of it.
Is WINLINK really impossible to read?	<a href="https://ecfsapi.fcc.gov/file/10830048730238/FreeSoftwareToReadWINLINK.pdf">https://ecfsapi.fcc.gov/file/10830048730238/FreeSoftwareToReadWINLINK.pdf</a>	NO -- the code to do so is now public knowledge and requires (for pactor) only a pactor modem and a raspberry pi. With suitable alterations, ARDOP and WINMOR can also be read.

## 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

### Hog County Amateur Radio Association, Bushnell FL

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

### Lake ARA, Leesburg FL

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

### Lake Monroe ARS FCC Testing, Sanford FL (LMARS)

- 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](mailto:w2bzy@cfl.rr.com)

### Milton Amateur Radio Club, Milton FL

- Second Thursday of each even numbered month
- 6:30 PM
- Walk-in
- West Florida Hospital Rehab Institute, 8383 N Davis Hwy, Close to Johnson and N. Davis
- Info: Robert Speser, nb8s@icloud.com

### Orlando ARC FCC Testing (OARC)

- First Wednesday every month
- 5:30 PM
- Beardall Senior Center
- 800 Delaney Ave, Orlando, FL 32801
- Info: <https://oarc.org/events-ve-testing>
- Monthly Club Meeting follows at 7:30 PM

### QCWA Chapter 45, Orlando FL

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

### Silver Springs Radio Club, Ocala FL (SSRC)

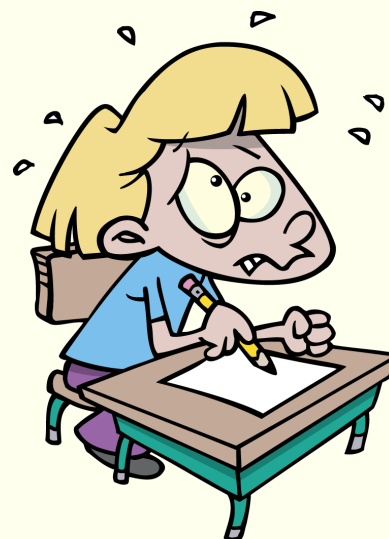
- Go to <http://k4gso.us/class/> to signup for classes
- Go to <http://k4gso.us/test-signup/> for testing. Testing is held on the 2nd Tuesday of odd months at 7 PM.
- Note <http://k4gso.us/ncvec605/> is requested to be filled out before you show for testing. It is best to download the form and open it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

### Suwannee ARC, Live Oak, FL

- 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](http://www.suwanneearc.org) for more information

### Tallahassee Amateur Radio Society (TARS)

- First Tuesday of each even numbered month
- 7:00 PM
- American Red Cross, 1115 Easterwood Drive, Tallahassee, FL
- Contact TARS : [tallyamateurradio@gmail.com](mailto:tallyamateurradio@gmail.com) with questions
- Info: <http://www.k4tlh.net>



**Remember:** Bring photo ID, CSEs, copy of current license, exam fee in cash, \$15 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](http://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](mailto:n8nn@arrl.net).

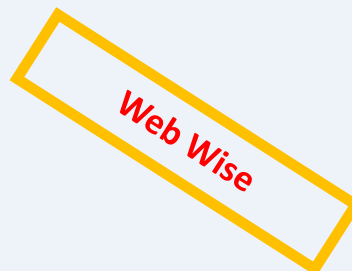
### [Section Nets](#)

### [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



### Newsletter of the Northern Florida Section of the ARRL

1. Spread the word about our website [www.arrl-nfl.org](http://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](mailto: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](http://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.