



QST NFL



Providing timely and interesting information to Radio Amateurs in North Florida

Volume 5, Issue 2

www.arri-nfl.org

February 2018

Steve's Take:

NFL Section Manager
Steve Szabo, WB4OMM



Greetings North Florida

Hams! **Welcome to the GREATEST HOBBY IN THE WORLD!**

Yes, it's 2018 HAMCATION TIME IN ORLANDO! <https://www.hamcation.com/> Friday Feb 9th thru Sunday Feb 11th.

I am DEFINITELY at the Orlando Hamcation all day Friday, Saturday, and Sunday! Our SE Division/NFL Section Forum is in the back tail gate area (the HIPPS tents) on Saturday morning at 11:15 am. Come join us!

I know there has been much ado with the League (the Board) in the last few months. However, it appears all of the issues in contention have been removed/rescinded at the Board Meeting held recently. I urge you to read the ARRL Board Actions at <http://www.arri.org/news/arri-board-of-directors-agrees-to-review-of-conduct-code-for-directors>. If you haven't, read ARRL President Rick Roderick's earlier comments at <http://www.arri.org/news/a-note-to-members-from-arri-president-rick-roderick-k5ur>. I support Rick as he has been accessible and responsive to me on several occasions.

It appears – at least to me - that the members' voices have been heard at this recent Board meeting. I hope these "complaints" are resolved for good. I hope this goes away. It is divisive and bad for our image at the least. Let's hope the Board continues to "listen". If you have concerns, please make your thoughts, comments and "complaints" known to our SE Division Director, Greg Surratt W4OZK, in a tactful and meaningful manner – he is our "voice" on the Board! w4ozk@arri.org.

ARRL CEO Tom Gallagher has retired too – I am personally sad to see him leave, as it was my belief he was a stand-up fella, and straight shooter. He, too, has been accessible and responsive to me on the numerous occasions (including the hurricanes) I had contact with him. I understand he was trying to maintain two homes (one here in Florida), and the costs were prohibitive. In his two years at the helm, he

seems to have "shored up" finances and operating costs. He will be missed! (by me at least!).

I know there are also many questions on the ARES group registrations and the Official Observer Program. Please be patient! I have been told there is more information forthcoming soon. If I get it, I immediate forward it. Yes, I agree the information should have been put out before they initiated the changes. I believe this complaint was heard by the Board, too!

Please continue to send in the EC Monthly Reports to the NFL Web Page http://arri-nfl.org/?page_id=4787 unless otherwise notified by me. It's important to document our activities.

Get involved, get active, get happy! Stay safe, get on the air, and have fun!!

EVERYONE COUNTS!

73, Steve WB4OMM

Steve Szabo WB4OMM
NFL Section Manager

ARRL, The National Association for Amateur Radio™
386-566-2085, wb4omm@arri.org

Note from Wayne Brown, N4FP: It was my distinct privilege to nominate Steve Szabo, WB4OMM, to become a member of the CW Operator's Club. Steve received the three other nominations required and was offered and accepted membership. Steve's CW Ops number is 1943. More information available at:

<https://www.cwops.org>

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Email your QST NFL input to
WB2VYK@gmail.com

[Check out the new Operating Events link on the last page!](#)

ORLANDO HamCation® 2018

CENTRAL FLORIDA FAIRGROUNDS AND EXPO PARK
February 9th, 10th, & 11th



Host of the 2018 ARRL Florida State Convention

Start the 2018 Hamfest season by visiting the 2nd largest Hamfest in the United States. Come check out the latest in amateur radio electronics, accessories, and gear. Stroll thru the largest tailgate in the Southeast. Find great deals in our swaps building with more than 200 swap tables. You can even catch a great lecture or forum while you're here. Bring the family and spend some time before or after HamCation at one of our area attractions. Attending is so easy because we partnered with a select group of preferred hotels to provide you with great accommodations at special rates. So make HamCation your next vacation destination!

- Special Guest Speakers
- Over 150 Commercial Booths
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- Largest Tailgate in the Southeast
- ARRL Testing on Friday and Saturday
- Forums on Great Topics
- Onsite Scooter & Wheelchair Rentals
- Guest Friendly Florida Atmosphere
- RV Camping on Premises
- Free & Convenient Parking
- Visit Nearby Theme Parks
- Casual or Fine Dining Nearby

WWW.HAMCATION.COM

Friday/Saturday 9am - 5pm, Sunday 9am - 2pm
Tickets purchased before December 31st, 2017 are \$15
Tickets after December 31st, 2017 and at the gate are \$17

Orlando HamCation®
P.O. Box 574962
Orlando, FL 32857
(407) 841-0874



ALACHUA ARES DEVELOPS UNIQUE EMP-HARDENED HF TRANSCEIVER FOR EMERGENCY OPERATIONS CENTER

by Gordon Gibby KX4Z

Electromagnetic pulse is often the “elephant in the room” of emergency planning. There is so much mystique and rumor that people fail to realize that **planning for it is possible**. Decades ago QST published four articles documenting communications gear that sailed through simulated EMP testing. Alachua ARES has taken advantage of that knowledge and prepared a 100-watt hardened HF transceiver that can be utilized for SSB, digital or CW communications even right through an EMP attack, based on the QST data. (See 4 part QST series archived here: <http://qsl.net/kx4z/QST-Electromagnetic Pulse and the Radio Amateur.pdf>)

The “short version” of how we're doing this is:

1. Purchase an old Heathkit SB-100/101/102 or HW-100/101 vacuum tube rig and power supply.
2. Replace all electrolytic capacitors, replace bad tubes, clean up contacts on switches etc.
3. Install gas-discharge tube protection in feedline system.
4. Use commercially available digital “Raduino” as a near-perfect external VFO, with EMP protection as described.
5. Add a good quality UPS for mains power protection.

The QST series included suggested protection techniques and testing with EMP-simulators to verify several transceivers that were able to survive the E1/E2 wide-band nano-second high amplitude radio frequency pulse from a high-altitude detonation of either a fission or fusion nuclear weapon. Because the field strength can reach 50kV/meter, anything connected to long wires (think: HF antennas and transmission lines) gets an incredible jolt of RF (kilovolts/kiloamperes, but for nanoseconds). With gas discharge feedline protection (basically what is used for high quality lightning arrestors), vacuum tube transceivers were essentially unaffected and even some solid state gear survived.

To meet this communications challenge, Alachua ARES refurbished a Heathkit SB-100 vacuum tube transceiver and power supply to working condition with volunteer help, involving two of our “LabN'Lunch” educational sessions. Electrolytic capacitors that had dried out



were replaced or paralleled with newer capacitors, oxidized switches and tube sockets treated, and a couple tubes replaced. The venerable transceiver once again put out full power and received perfectly. Full details on how to do this are documented here:

<http://arri-nfl.org/wp-content/uploads/2018/01/CreatingAnEmpHardenedTransceiver.pdf> To protect against wild power line variations that might also occur as a result of EMP (before your EOC generator kicks in) we will also utilize a high quality UPS system that disconnects in over- or under-voltage conditions.

And then the real fun began! The Silicon Labs si5351 chip has made it easy to generate almost any desired frequency within a few hertz, with near-crystal-like stability. QST articles have explained how to use this chip to replace cranky inductor-capacitor VFO's in older rigs. HFSignals, an Indian company manufacturing a novel new short-kit SSB transceiver, includes an integrated VFO with Arduino-controller, digital frequency display, using the si5351 chip. Relatively minor reprogramming of the publicly available software allowed the “Raduino” digital VFO to generate a replacement VFO signal for the Heathkit transceiver. (Software: <https://github.com/ggibby1/HeathkitRaduino>) By measuring all the crystal oscillators in the Heathkit, the software creates perfect tailor-made VFO signals for 80/40/20/15 meters—calibration is right on. The power level of the HFSignals VFO was just about perfect for the Heathkit.

Alachua Ares, (Continued)

The new VFO signal was injected in an existing selector switch for an unused optional crystal oscillator-- so either internal or external VFO can be utilized, adding redundancy. The new digital VFO even has A and B VFO's and other features. And it allows the rig to move a bit outside the "normal" bands to potentially handle MARS or receive CHU time/frequency signals.

But how to protect the digital VFO from EMP currents arriving from the cables from the Heathkit & a 9volt wall wart? This was accomplished with a combination of redundant brute force voltage limiting and signal filtering (see construction article previously referenced) including gas discharge tubes, TVS (transient voltage suppression) diodes, extensive capacitive filtering, and low-pass filtering.

Additionally, back-to-back diode arrays similar to what is used to protect QRP receivers and allow instantaneous T/R switching were added. A printed circuit board was created to allow easy replication of this protection circuitry.



Computer-control of a vacuum tube rig? Yes! As an additional benefit – the digital VFO is actually computer controllable, emulating the frequency control capabilities of the popular FT-857 transceiver. This allows the Heathkit to be electronically steered across modest sections of any one band, which would allow it to perform the functions of a WINLINK RMS server or ALE system on one band. (Caution: EMP-protection of a high speed USB port is quite another matter—while the antenna input EMP can be handled, to use the computer control features, the driving computer and external VFO would need to be inside a Faraday shield.)

ARES volunteers plan to donate the new EMP-hardened rig to the Alachua County EOC once their long-awaited HF antenna refurbishment is completed this spring.

**The Martin County Amateur Radio Association presents the
ARRL Southern Florida Section Convention
At the 43rd annual Stuart Hamfest**

Florida's largest FREE Hamfest

Saturday, March 17, 2018 at the Martin County Fairgrounds

2616 SE Dixie Hwy (A1A), Stuart, Florida 34996

FREE Admission **FREE** Parking **FREE** Tailgating

Commercial Vendors (10'x10' space, 2-8' tables, 2 chairs - \$25)

Everyone at the hamfest will pass your booth at least twice during the day!

Inside Swap tables (10' space, 1-8' table, 2 chairs - \$20)

Good Food Forums ARRL VE License Exam Session

Acres of FREE tailgate space available.

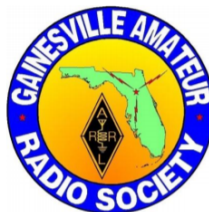
Great Prizes will be Awarded

<http://www.stuarthamfest.com/>



April 21st

Welcome to the Second Annual **Gainesville Hamfest 2018** held by the
Gainesville Amateur Radio Society.



The Gars Hamfest 2018 is an ARRL Fully Sanctioned event.

Talk-in on 146.82 -600 offset No PL

Located at the First Baptist Church of
Waldo, Florida 32694
14370 Kennard Street (SR-24) in Waldo
Saturday April 21, 2018



Vendor Setup Time: 6:45am – 8:00am / Show Time: 8:00am – 2:00pm

Advance Purchase Tickets \$5.00 Until April 7, 2018 Tickets at the gate \$7.00

Contact hamfestinfo@gars.club 352-317-2820



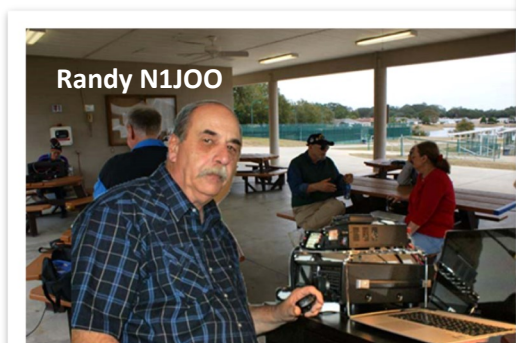
Winter Field Day from Summerfield, FL

January 27, 2018

Winter Field Day is an Amateur Radio on-the-air event held each year in January to test preparedness for disaster communications under adverse conditions. Amateurs throughout the United States and Canada test their equipment and operating procedures by communicating with each other during a 12-hour period on the high frequency (HF) radio bands.

The EWEphoria Radio Club K1EWE operated in the Winter Field Day event from Stonecrest in Summerfield, FL. Attending were Bob KC8MLB, Carol W8EWE, Randy N1JOO, Pete N4CQN, Bert N8NN, Kathy N8TKY, friends, and visitors.

Operating from a public picnic shelter, three HF stations were setup using two end-fed wire antennas and a Transworld dipole antenna. Operation was mostly on 40 and 20 meters, SSB and CW. The event allowed club members to test and demonstrate the rapid deployment of HF radios with improvised antennas capable of transmitting throughout the USA and Canada. The Stonecrest team contacted stations as far away as Colorado. The ability to provide rapid response long distance emergency radio communications may be vital to public safety during a disaster. Winter Field Day provided an opportunity to improve our operating skills.



Bob KC8MLB

Carol W8EWE

Escambia County ARES Annual Report for 2017

Joe McLemore, KF4DVF
Assistant Emergency Coordinator



Highlights

1. ARES was activated this year for emergency operations for Hurricane Nate in October.
2. Improvements:
 - a. The VHF 2 meter repeater (145.45) on top of Navy Hospital is operational again as of July.
 - b. Raising the antenna height by 100 feet on both our primary (146.76) and backup (146.85) VHF repeaters, improving our coverage in the county.
 - c. 146.76 repeater replaced with a Yaesu Fusion repeater. Also, we now encourage Fusion check-ins on the ARES net on Monday night.
 - d. Worked on upgrading and rearranging the antennas at the EOC.
 - e. Work continued improving our digital capabilities using Winlink Peer to Peer on VHF.
3. Continued making improvements to the ARES stations at the EOC and the COOP site at ESAR as time and Resources (people and equipment) allows.
4. Confirmed ability to access the Florida Statewide SAR Net via the new Milton repeater.
5. In the process of updating the ARES Emergency Communications plan and other documents.
6. Staffing changes:
 - a. Emergency Coordinator: KV4LY – Roy Wilkinson as of Jan 1, 2018, replacing AJ4NA – John Greene who stepped down due to health reasons.
 - b. Escambia Emergency Net Manager - KB4HAH – Gene Bannon as of March 20, 2017 since NR4DR has moved out of the area.

Escambia County ARES Upcoming Training in 2018

ARES Training – Everyone is encouraged to attend one of the following training sessions, in preparation for Hurricane season.

March 10 or April 21– Saturdays – 0830 - 1230

Location: ARES room at EOC

Net Operator Training – once per month from 7pm until 7:45 pm

Dates: Jan 8, Feb 5, Mar 5, Apr 9, May 7, June 11, July 9, Aug 6, Sept 10, Oct 8, Nov 5, Dec 10

Location: ARES room at EOC

Escambia County Emergency Net (local ARES net)

Every Monday night at 1930 on 146.76 repeater.



[Check out the new Operating Events](#)
[link on the last page!](#)

The ARRL West Central Florida Section Presents:



4TH ANNUAL TECHCON

West Central Florida Section
Technical Conference

NEW! FRIDAY EVENING SOCIAL:

DATE: Friday February 23, 2018
TIME: 6:00 P.M. - 9:00 P.M.
PLACE: Sonny's BBQ Restaurant
4600 Recker Highway, Winter Haven, FL 33880
COST: Whatever you order on the menu.

MAIN CONFERENCE

DATE: Saturday February 24, 2018
TIME: ARRIVAL AND WELCOME - 8:00 to 8:45 A.M.
CONFERENCE OPENING - 8:45 A.M.
CONFERENCE CONCLUSION - 5:00 P.M.
PLACE: Polk County Emergency Operations Center
1890 Jim Keene Boulevard, Winter Haven, FL 33880
COST: No Admission Charge. Bring or buy your lunch
Facility provided for the conference by Polk County
Emergency Management. Coffee, Doughnuts, and Iced Tea
courtesy of Polk County Emergency Management.

**ARRL TECHNICAL PUBLICATIONS TO BE
GIVEN AWAY THROUGHOUT THE DAY.**

**SPECIAL GUEST SPEAKER FROM THE
ARRL LABORATORY - Bob Allison WB1GCM**

CONFERENCE REGISTRATION AND INFORMATION:

Please register if you plan to attend.

Website: <http://arrlwcfl.org/wcf-special-events/wcftechconference/>

This conference is a conference on all technical topics in amateur radio.
Topics that are included but are not limited to: Antenna Design, Mobile
Radio Installations, HF Digital Communications, Digital Voice Modes,
Microcontrollers, Digital Signal Processing, APRS, WinLink2000.

FCC Testing Information

LMARS FCC Testing

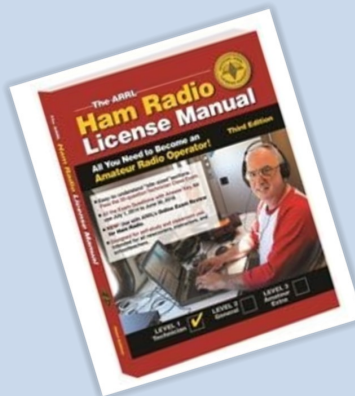
- Every month
- Third Saturday
- 9:15 AM
- Seminole County Sheriff's Office
Off SR 17-92, on 100 Eslinger Way in Sanford
- For more information and registration, contact Bob Cumming, W2BZY, 407-333-0690 or w2bzy@cfl.rr.com

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 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.



Upcoming QSO Parties

Alan Sewell, N5NA

<http://qsoparty.eqth.net/>

British Columbia	2/3/2018	2/4/2018	Orca DX and Contest Club
Vermont	2/3/2018	2/4/2018	Radio Amateurs of Northern Vermont
Minnesota	2/3/2018	2/3/2018	Minnesota Wireless Association
South Carolina	2/24/2018	2/25/2018	Columbia Amateur Radio Club
North Carolina	2/25/2018	2/26/2018	Raleigh Amateur Radio Society
Idaho	3/10/2018	3/11/2018	Idaho QSO Party
Oklahoma	3/10/2018	3/11/2018	Oklahoma DX Association
Wisconsin	3/11/2018	3/12/2018	West Allis Radio Amateur Club
Virginia	3/17/2018	3/18/2018	Virginia QSO Party
Louisiana	3/17/2018	3/18/2018	Louisiana Contest Club

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@arrrl.net.

Section Nets

Northern Florida STM Report

Florida Hamfest/Convention Calendar

Operating Events **New * New * New**



NFL Officials

Section Manager – Stephen W. Szabo WB4OMM

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

Section Emergency Coordinator – Steve Palmer W4LOM

Assistant SE Coordinator – Robert A. Mitchell W4HKG

Section Technical Coordinator – Frank Haas KB4T

Affiliated Club Coordinator – Steve Palmer W4LOM

Section Traffic Manager – Tom Housworth, KI0JO

Official Observer Coordinator – Rick A. Lloyd AA4W

State Government Liaison – Darrell Brock N4GOA



Newsletter of the Northern Florida Section of the ARRL



1. Spread the word about our website www.arrrl-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 WB2VYK, wb2vyk@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, WB2VYK, wb2vyk@gmail.com.