



# QST NFL



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

Volume 4, Issue 7

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

July 2017

## Steve's Take:

NFL Section Manager  
Steve Szabo, WB4OMM



Greetings North Florida Hams!

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

Hi folks,

I'm kinda' sneaking this in between Field Day, after action stuff, and my work - so it's gonna be short!

Field Day was this month. I hope you got to go out there and get experience! The propagation conditions were not good, but it is still a fun time. I also thank you and your groups if you sent me a SM Message during Field Day. I received about 15, and they were much appreciated! I am hearing that 6M has been open here and there with some interesting propagation.

Nothing new on the Parity Act, and summer doldrums are setting in here from the heat and thunderstorms. Hydrate, hydrate, hydrate! And use sun screen!

The Milton Hamfest is July 7<sup>th</sup> and 8<sup>th</sup>. I will be there both days, and will have my card checking materials with me. Stop by and say hello! Get more info at:

<http://www.miltonarc.org/>

Check out our fabulous NFL Section Web Page and read our spectacular Newsletter (July issue) QST NFL. <http://arrl-nfl.org/>

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@arrl.org](mailto:wb4omm@arrl.org)

## "Night of Nights" Coming Soon

Tony Hackenberg, N8SK, TVARC

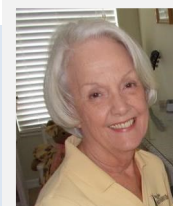
July 12th every year  
from 3 pm to midnight  
at the Historic RCA Coast Station KPH

In the annual "Night of Nights", historic Morse code radio station KPH returns to the air in commemoration of the closing of commercial Morse operation in the USA.

Frequency and reception report information for all stations appear at the [Maritime Radio Historical Society](http://MaritimeRadioHistoricalSociety.com) website.

KPH, the ex-RCA coast station located north of San Francisco, returns to the air for commemorative broadcasts every year on July 12 at 5:01 pm PDT (13 July at 0001 GMT). On July 12, 1999, the last commercial Morse transmission in the U.S. was thought to have been broadcast at 5 pm PDT (13 July at 0000 GMT). Transmissions are expected to continue until at least midnight PDT (0700 GMT).

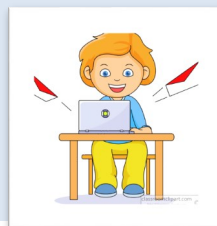
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Email your QST NFL input to  
[WB2VYK@gmail.com](mailto:WB2VYK@gmail.com)  
Marty Brown, WB2VYK, Editor

SM Message, Continued

## Silver Springs Radio Club (SSRC) Receives Proclamation for Amateur Radio Week, June 20-26, from Ocala Mayor

Carl Berry, KC5CMX  
AEC Marion County FL ARES



Kent Guinn, Mayor of Ocala, FL presents proclamation to Carl Berry, KC5CMX.



**Check out SSRC Promoting Field Day .....**  
**WOCA FM Ocala**

<https://www.youtube.com/watch?v=kPxOUmfSxME>

**And..**

[The Voice of South Marion](#) pages 1 & 12



## 2017 Alachua County ARES Hurricane Test After Action Report Now Online

by Gordon Gibby KX4Z NCS521

Our after action hurricane test report is now available and for sale on Amazon and CreateSpace.

<https://www.amazon.com/gp/aw/d/1548062200/>

<https://www.createpace.com/7251520>

The report is close to HSEEP format. I get these very cheaply, and I ordered 15 copies that we can use as we begin to reach out to agencies and groups in our county, etc.

The 2nd edition of the Digital & Voice Emergency Communications book (which includes new material on MESH, projects, Easyterm and our possible S.E.T. project) is now correctly linked between paperback and KINDLE editions on Amazon: <https://www.amazon.com/dp/B072N5H8TC>



## Capital District Annual Hurricane Exercise

Dave Davis, WA4WES, Assistant Section Manager, NFL

The Capital District ARES had its annual hurricane preparedness exercise on Saturday June 3. Hurricane Zebra, a simulated storm, roughly followed the track of 2016's Hurricane Hermine. 11 stations participated, and as the storm progressed on a North westerly path from Carrabelle to Quitman, they reported on the wind and rain conditions at their locations, giving them a "Green," "Yellow," or "red" rating. The problem lasted about an hour and as might be expected, as the storm moved in-

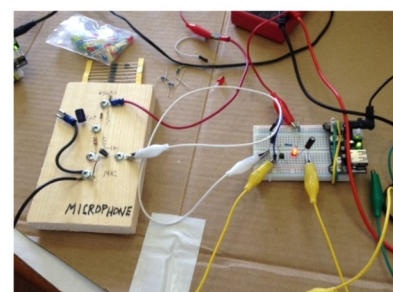
land, stations in Jefferson, Leon, Wakulla, and Madison changed their ratings. Pins on a Google map of the Big Bend changed color as the storm passed through the area. At the end of the exercise, the maps were emailed to the participating stations. It was a good learning experience, and changes were suggested, and modifications made. Thanks to the following stations for participating: K4NRD, W4SKG, KM4BRR, AI4KA, KM4SAC, N4KGT, K4ARQ, K4GKJ, K4KFQ. Dave WA4WES Assist. SM North Florida Section.



## Successful General / Extra Class “Bootcamp” Style Course in Gainesville, Florida

by Gordon Gibby KX4Z

A dozen ambitious ham radio operators took on a two-weekend, “bootcamp-style” combined General/Extra Class course May 13/14 & 20/21<sup>st</sup> and finished both exhilarated and exhausted. A total of 34 hours of training were completed in marathon sessions of **videos, demo's, hands-on experiments**, and frequent breaks with refreshments.



*(Left) Participants waterproofing a newly constructed antenna's connections; (Center) The whole group; (Right) Transistor Amplifier experiment.*

We completely took over the ground floor of our home to provide an “auditorium” for videos, with multiple tables of ham radio gear. Although we've done this twice before for a Technician course, this was our first try at a General/Extra-level course. The formal dining room table became the *solid state circuitry lab*. A special 10 meter dipole with accessible feedline taps at center, 1/3 and 1/5 length was strung across the living room. Balanced line feeder from an outdoor random-length dipole was routed inside for experiments & demos. On the 2<sup>nd</sup> floor, 2 HF and 2 VHF digital automatic stations continued unabated 24/7/365 service to provide digital radio email service via the WINLINK and SHARES systems,

We used the excellent Dave Casler *YouTube* license course videos as our basis, skipping back and forth between general and extra class sections, covering about 2/3 of his total playlist. (I purchased a USB with his Extra Class videos, but the Internet turned out to be less jerky.) Some sections were covered by simply reviewing the published Question Pool for that area, others by the Casler videos + directed questions, others by demo/whiteboard talks. (See Table below)

Since most of the participants were primarily VHF/UHF operators with little experience or understanding of the unique characteristics of HF bands, a prime goal of the course was to give them hands-on experience with everything needed to succeed at HF ham radio. (Additionally, each went home with an impressive “goody-bag” designed to help set them up on HF – necessitating a course cost of \$50.) One of the drivers for the course was a sense that our local ARES group needed more skills and HF assets to be better prepared for true “comms-down” disasters. It takes some *real effort* to learn enough to pass these exams and put together strong HF stations, so cementing the “benefit” was important.

At the very beginning, we listened to the always-active 40 meter SouthCars net, and checked the Eglin Air Force Base radio-ionosonde critical and maximum usable frequency plots every few hours to get a “feel” for how the ionosphere works. Just as with VHF, **geometry is key** – but HF uses a free, passive reflector hundreds of kilometers above

## Alachua County (continued)

us! A tour of the WINLINK automated stations, stepping continuously through five ham bands, made it obvious which bands were “open” (busy, with lots of signals) or “closed” (silent).



*Antenna Measurement Crews & Great Room converted into darkened Auditorium/Experiment Center (note the experimental antenna, right side of photo)*

### Take Home Loot

Multimeter  
HF SWR Meter  
Custom-built Antenna  
Gas Discharge Tube



As we worked our way through the considerable expanse of knowledge required by the FCC exams, participants received their own multimeters, and began measuring all sorts of voltages and resistances in hands-on practice. The MFJ antenna analyzer was introduced as an “AC Ohmmeter” and was used to measure the same 50, 25, and 100 ohm resistors – showing how it can measure resistance, but also display the associated “SWR” (assuming a 50-ohm  $Z_0$ ). Switching to the multi-tapped antenna, the 10-meter band resonance was demonstrated, with a low SWR and near 50-ohm resistance. Then measurements at the off-center taps visibly showed the increase in the impedance & SWR as you move farther from the center. “Impedance” was one of the **key themes** of the course – *always equal to voltage divided by current*, though they might be complex values! As participants became more familiar with the Smith Chart, we showed (with a real demo) that the simple 25 ohm resistor could be made to become all manner of reactance and even a much larger resistance when placed at the end of a transmission line, as we wound around an equi-SWR circle on the Smith Chart.

Divided into two teams, participants did hands-on connections of radio gear to make a 10 meter station and call CQ (more “radio procedures” practice). Then same antenna, different feedline, different band, manual tuner-- Team B calls CQ. Then connect an auto-tuner, repeat. Connect to well-placed outside antenna and participants were immediately seeing European and South American PSK31 on 20 meters with the radio gear they had just mastered. Reaching the “circuits” portion of their studies, teams worked at the dining room table using inexpensive breadboard kits to build and study simple diode, LED, and microphone preamplifier (common-emitter) circuits, using their multimeters to make lots of measurements as they gained familiarity with the solid state devices in circuits they built by themselves.

## Alachua County (continued)

For many, the *coup de gras* was when the entire class built individual HF antennas including feedline --- each participant choosing from four different types of antennas, feedlines (coax or window line), and bands. We made our own insulators with drill and jigsaw from PVC tubing, stripped coax, soldered antenna wire, tied ends. Working as a well-oiled team, antenna after antenna was quickly hoisted high above, stretched taut from a slingshot-placed line over an oak tree, to a fence post. Center frequencies were measured, and any required corrections were quickly calculated (but left to exact adjustment when installed in the final location). Most of the group chose 40 meters, and their antennas all were right around 7.050 on the first cut.

When our time was up, everyone took an online random General or Extra Class practice test – a humbling and sobering moment. There just isn't any way to completely cover all the material even in two jam-packed weekends. But people were surprised at just how close they came, and how much they had learned. Another key theme of the course --- **Read The Questions!** – was hammered home, as participants resolved to go home, read through their license question question pool, pick up the right answer for the easy ones to learn, go read books on the ones that were more confusing – a much faster way to prepare for the real test.

The participants then jumped in, to help carry the lion's share of the gear and props back out of Nancy's first floor and back to the 2<sup>nd</sup>, where they belong – that help was greatly appreciated!

The entire list of hands-on demos/whiteboard talks follows, and the entire curriculum in approximately the right order can be found here: <http://www.qsl.net/nf4rc/May2017GeneralExtraCurriculum.pdf> We'll know within a couple of months how many participants went on to pass licensure exams. It takes time to develop candidates for these higher classes, so this course probably won't get offered again for at least a year. However, I'll be happy to help however I can to assist other groups to put on similar such courses.

## HANDS-ON DEMOS / WHITEBOARD / WEB DEMOS

Eglin AFT Crit Freq Plot	Link Budgets – calculate dBm of 0.5 uV and 50 Watts	Measure wires, cut & strip coax
SouthCars 7.251 LSB net	Measure SWR of test dipole – center, and off-center points	Solder center connections
PSK31 on 20 meters morning	Demo 4:1 balun – corrects off center nearly to 50 ohms	Demo of PL259 crimp
RTTY on 20/40 meters	Demo insides of SWR meter	Demo slingshot oak tree
Listen to JT65 if possible	Discuss SSB demodulation – BITX40 demo	Teams hoist antennas, coax segments to analyzer
Walk-thru tour of 4 WINLINK automated stations	Pass out gas discharge tubes – discuss ESD, Lightning, EMP	Measure every constructed antenna (a dozen)
Demo LDG auto tuner	Discuss how amps are damaged	Demo auto-tuning of newly created balanced fed antenna
Demo BITX40 DDS radio	Explain controls on simpler ICOM radio (728)	Pass around older crystal filter, demo in BITX40
Distribute multimeters, demo “danger area”	Team A: set up 10 meter coax station, call CQ	Multi-diode circuit, measure VI curve, plot

## Alachua County (continued)

Measure battery voltages (1.5/9)	Team B: balanced line, manual tuner, CQ on 20 meters	Build dual LED common emitter DC circuit, observe hfe
Measure 120VAC	Team A: auto tuner on 40 meters, PSK	Build simple microphone preamp
Explain MUF geometry	Demo series/parallel tuned circuits	Test multiple SWR meters in series
Tour of 3 outside HF antennas	Demo of older radio tuned circuit receiver adjustment	Discuss coax traps
Measure resistors – series/parallel	Using outside antenna, listen to DX	Whiteboard on transistor biasing
Transition to “AC Ohmmeter” – measure same resistors	Build actual HF antennas.	Demo digital frequency counter
Demo relation between ohms and SWR	Drill/Cut insulators	AMSAT web site demo

- i Dave Casler General Class playlist:  
[https://www.youtube.com/watch?v=5CX6EFOLwQc&list=PL0R9jy9LZw\\_35KimLiSIOH0YdNtCeYcRe](https://www.youtube.com/watch?v=5CX6EFOLwQc&list=PL0R9jy9LZw_35KimLiSIOH0YdNtCeYcRe) Extra Class Playlist:  
[https://www.youtube.com/watch?v=JlUyP5UzpXg&list=PL0R9jy9LZw\\_3CHCH-5A8faelA-H3e4ZNC](https://www.youtube.com/watch?v=JlUyP5UzpXg&list=PL0R9jy9LZw_3CHCH-5A8faelA-H3e4ZNC)
- ii <http://www.arrl.org/question-pools>
- iii See several plots on this page: <https://www.txarmymars.org/resources/solarweather.php>
- iv Harbor Freight or similar model.
- v Participants chose from: coaxial RG8X center fed resonant dipole for any HF band; off-center 300-ohm window line fed dipole (would require 4:1 balun/ possibly tuner) ; center fed 300-ohm non-resonant dipole (requires tuner); and 2 meter Slim Jim homemade.
- vi Rated at peak 20,000 Amperes, this type of gas discharge arrestor is a prime (but inexpensive) component of many pricey lightning arrestors – and it can also provide significant protection against EMP: <https://www.digikey.com/product-detail/en/littelfuse-inc/CG2230L/F2735-ND/950216>
- vii Elegoo fun bundle for \$12 included most everything we needed – power it with a dc wall wart of about 9-10 volts: [https://www.amazon.com/Elegoo-EL-CK-002-Electronic-Breadboard-Potentiometer/dp/B01ERP6WL4/ref=sr\\_1\\_13?ie=UTF8&qid=1495547356&sr=8-13&keywords=elegoo](https://www.amazon.com/Elegoo-EL-CK-002-Electronic-Breadboard-Potentiometer/dp/B01ERP6WL4/ref=sr_1_13?ie=UTF8&qid=1495547356&sr=8-13&keywords=elegoo)
- viii <http://arrlexamreview.appspot.com/>



## Northern Florida STM Reports for June 2017

Tom Housworth KI0JO Section Traffic Manager

### Station Activity Reports

CALLSIGN	TOTAL
KI0JO	544
KZ8Q	164
KZ1V	104
WB4RJW	81
WC4FSU	64
N3JUY	38
AF2W	29
W4NFG	19
KJ4G	13
K4HGH	7

### Public Service Honor Roll

CALLSIGN	TOTAL
KF4DVF	138
KI0JO	120
WC4FSU	110
N3JUY	110
WD3B	110
KZ8Q	100
KZ1V	90
WB4RJW	90
KB4VOH	83
KJ4G	73
N9MN	70
AF2W	69
KJ4HGH	57

### Brass Pounders League

CALLSIGN	TOTAL
KI0JO	544



### Nets

NET	ABB.	QNI	QT C	QND	SESS	MGR
Florida Phone Traffic Net	FPTN	1217	194	794	30	WC4FSU/
Northern Florida ARES Net	NFARES	1827	21	856	26	W4NFG
Northern Florida D Star Net	NFDSN	72	4	72	4	W4NFG
Northern Florida D-Rats Net	NFDRN	39	0	74	4	W4NFG
QFN CW NET	QFN	262	31	350	30	KZ8Q
Gulf Coast VHF Training Net	GCVTN	741	39	416	29	K4QBH
Seminole VHF Traffic Net	SVTN	418	67	560	30	KG4QCD
Volusia County Traffic Net	VCTN	199	52	424	30	WD3B
North Florida Phone Net	NFPN	1840	3	837	30	AI4GF
Lake County ARES	LCARES	193	14	203	13	N4KXO



## Upcoming Hamfests

- August 12, 2017 – Fort Pierce Hamfest, Fort Pierce, FL <http://FPARC.org>
- August 19, 2017 – TARCfest, Tampa, FL <http://www.hamclub.org>
- September 9, 2017 – 3rd Annual Lakeland ARC Hamfest, Lakeland, FL <http://lakelandarc.org> **NEW!**
- September 23, 2017 – Pasco County HamFest, Odessa, FL <http://sarcfl.com>
- October 13, 2017 – Florida State Convention – 52nd Annual Melbourne Hamfest & 2017 ARRL State Convention, Melbourne, FL <http://www.pcars.org>
- October 28, 2017 – Fall 2017 Cy Harris, Oakland Park, FL <http://browardarc.net/free-flea/>
- October 28, 2017 – Jacksonville FREE Hamfest, Jacksonville, FL <http://nofars.net> **NEW!**
- November 11, 2017 – SPARC Fest, Pinellas Park, FL <http://sparc-club.org>
- November 18, 2017 – Flamingo Net/UMARC Free Flea, Coral Gables, FL <http://www.flamingonet.8m.net/>
- November 25, 2017 – Hamfest in the Woods, Okeechobee, FL <http://K4OKE.com>
- December 8, 2017 – Tampa Bay Hamfest, Plant City, FL <http://www.fgcarc.org/>



## FCC Testing Information

### LMARS FCC Testing

- Every odd month (January, March, May, July, September, November)
- Fourth Saturday
- 9:15 AM
- Seminole County Sheriff's Office
- Off SR 17-92, on 100 Bush Blvd in Sanford (across from Flea World)
- For more information and registration, contact Bob Cumming, W2BZY, 407-333-0690

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

## Section Nets.....

For net details go to [www.arrl-nfl.org](http://www.arrl-nfl.org) and select the Nets option.

Net	Frequency	Day/Time (Local)
Central Florida D-Star Training Net	REF046C. D-Rats nfl.ratflector.net	Wednesday, 0900
Clay County ARES Net	146.925, Tone 156.7	Sunday, 1930
Crestview Gulf Coast VHF Training Net (GCVTN)	147.360, (+), PL 100Hz	Daily, 20:00
Crestview SARNet	Statewide UHF Net on linked repeaters on 444.900, (+) PL 100Hz	Friday, 0900
Crown District ARES Net	145.925 (156.7)	First Wednesday, 2030
Defuniak Springs Walton County ARC Net	147.285 (+), PL 100Hz	Monday, Wednesday, Friday, 1930
Duval County ARES Net	146.70 (127.3)ALT:147.315(127.3)	Wednesday, 1930
Florida Hurricane Net,	D-Star REF037C	Monday, 2100
Fort Walton Beach – Playground ARC Net	146.790, (-), PL 100Hz	Sunday, 2000
Friendship ARC—Ocala	146.61, PL 123	Monday, 1600
Hog County Amateur Radio Assn Net , K4HOG, Bushnell FL	145.490, PL 123.0	Monday, 2000
Madison County ARES Madison County ARC	145.190, Lee Repeater, PL 123	Sunday, 2100
Milton 2-Meter Net	145.490 (-), PL 100Hz	Monday, 2000
Milton Santa Rosa County ARES Net	146.700 (-), PL 100Hz	Tuesday, 2000
Nassau County ARES Net	147.000 (-) (127.3)	Wednesday, 2030 (Except 1st Wed)
NFL ARES Net	7.242, Primary 3.950, Secondary	Monday-Saturday, 0900
NFL D-Star Net	REF046C, D-Rats on nfl.ratflector.net.	Wednesday, 0900
NFL Digital Net	3.590 PSK 31, USB	Sunday, 1900
NFL Phone Net (NFPN)	3950 Alt 7242 and 7247	Daily, 1930
Northwest Florida DX Net	147.555 (simplex)	Tuesday, 1930
Okaloosa County ARES Net WIRES-X System in FM (not digital)	442.950 (DCS023) North Area 444.800 (100 Hz) South Area	Monday, 1930
Orange County ARES Net and Skywarn	443.050	Thursday, 1900
Pensacola Escambia County ARES Net	146.760, PL 100Hz	Monday, 1930
QCWA Citrus Chapter 45	147.195	Tuesday, 1930, Echolink W2AS-L, #node 627152
QCWA Suwannee Chapter 62, Ocala	3940	Saturday, 0900
QCWA The Villages Chapter 217	443.150, PL 103.5	Friday, 1000
QFN CW Traffic Net	3547 Winter (7105 Summer)	Daily, 1900
Santa Rosa County Skywarn Net	146.700, K4SRC Repeater	Monday, 2000

**Section Nets, continued.....**

SAR NET	<a href="http://sarnetfl.com">http://sarnetfl.com</a>	Click 140614_FDOT_UWAVE_Map_with_UHF_coverage.16664435
Seminole VHF Traffic Net	147.090 MHz, offset of +600, PL 103.5 147.450 Simplex	Daily, 1915 First Monday, 19:15
St. Johns County ARES	147.210 (127.3) ALT:147.015 (127.3)	Wednesday, 2000
SSRC (Silver Springs Radio Club) Net SSRC Ragchew Net SSRC Skywarn/ARES SSRC MERT	146.610 pl 123 28453 146.610 pl 123 146.610 pl 123	Monday, 2100 Monday, 2200 Wednesday, 2130 Thursday, 2130
Suwannee ARES/Emergency Prep Net	145.270 PL 123 145/410 PL 123 FSQ— 3.594 MHz	Thursday, 2030
TARS News and Information Net	147.030+, PL 94.8	Thursday, 2000
TFN Tropical Florida Sideband Traffic Net	3942	Daily, 1800
The Villages Amateur Radio Club (TVARC) Ragchew Net	443.225, PL 103.5 Echolink K4VRC-R	Monday, 1900
Traders Net	3.933	Sunday, 0800
Valparaiso Twin Cities Amateur Radio	146.73, (-), no PL tone	Sunday, 2030
VCTN Volusia County Traffic Net	147.150, +.600, tone 127.3 145.330, -.600, tone 127.3 (Alt)	Daily, 2245
Walton County ARES Net	147.375 (+), PL 100Hz	Wednesday, 1900

**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** – Strait Hollis KT4YA**Assistant SE Coordinator** – Robert A. Mitchell W4HKG**Section Technical Coordinator** – Frank Haas KB4T**Affiliated Club Coordinator** – Steve Palmer KM4SDP**Section Traffic Manager** – Tom Housworth, K1OJO**Official Observer Coordinator** – Rick A. Lloyd AA4W**State Government Liaison** – Darrell Brock N4GOA**Newsletter of the Northern Florida Section of the American Radio Relay League (ARRL)****Spread the Word**

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 WB2VYK, [wb2vyk@gmail.com](mailto: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](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, WB2VYK, [wb2vyk@gmail.com](mailto:wb2vyk@gmail.com).