





Providing timely and interesting information to Radio Amateurs in North Florida

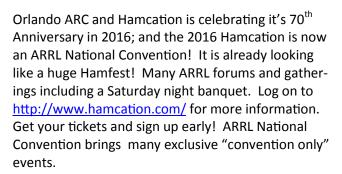
Volume 2, Issue 11 November 2015

Steve's Take:

NFL Section Manager Steve Szabo, WB4OMM

Greetings to you all!

Lotsa' important things coming in 2016!



Also this coming in 2016 –The ARRL "Parks on the Air" event - http://www.arrl.org/NPOTA. This is patterned on the success of the 2014 W1AW/Portable and ARRL "Red Badge" events of 2014. Looks like it will be a fun challenge!

The "Florida Fall" is pretty much here...along with contests, portable operations, and holiday events. Get "radioactive"- find a friend, join a group, go on your own! Enjoy the greatest hobby in the world!

Stay safe, get on the air, and have fun!!

EVERYONE COUNTS!

73, Steve WB4OMM

QST NFL welcomes....

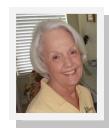
Madison County Amateur Radio Club **Bob Downey, WA1TCC**

https://www.facebook.com/groups/MadisonARES/www.madisonares.net

to our www.arrl-nfl.org listing.



Once again I thank everyone for their contributions, suggestions and good words.



This month features an excellent article by Contributing Editor, **John Ellis, NP2B**, The Villages ARC, on Arc Fault Circuit Interrupters, and the issues that they pose to Ham operators.

Carl Zelich, AA4MI, Lake Monroe ARS, **QST NFL** Field Corespondent, has a couple of articles on things he's done recently.

Pat McDonnell, W4VKD, Suwannee ARC, submitted a great collage of pictures from their clubhouse antenna farm.

Ted Luebbers, K1AYZ reports for Lake Amateur Radio Association Hams on the 41st Mt Dora Bicycle Festival .

Hal Helms, WA4QLA, Gainesville ARS, provided an article on their Boy Scouts JOTA event.

Marv Feldman, K4KEW, North Florida ARS, has a very interesting article on his SteppIR antenna.

New features include a **For Sale** section and an **FCC Testing** section.

Coming in the December Issue! *The History of Ham Radio*. Byron Engen, WN4R, The Villages ARC, will be joining the *QST NFL* team with a series of articles starting next month.

To submit your input to **QST NFL**:

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ARC FAULT CIRCUIT INTERRUPTERS



John, NP2B here again. I almost feel like the prophet of doom here with another article on something that threatens ham radio.

When we first moved to the Villages back in May of 2012, I had never heard of anything called an arc fault circuit breaker (also called "arc fault circuit interrupter"), hence the nomenclature "AFCI". We never had them down in the U.S. Virgin Islands, (the USVI is a 3rd world country in more ways that one!)

At any rate, the first time I set up an HF rig here (an FT -897 to a dipole in the attic) I tripped all 8 of them in the house.

Only to find out that these things are becoming more and more common and pose a substantial problem for ham radio operators. They are also becoming required in certain areas of new construction and renovation per the National Electrical Code. A little bit of background might be in order here.

There are basically 3 kinds of circuit breakers that you will find in a normal residence being built today.

The first type is a standard bi-metallic breaker which actually works very much like an old fashioned thermostat. Inside that individual circuit breaker is a contactor which keeps the circuit closed. There is a spring behind that contactor that wants to turn it off, but in front of it is this "bi-metallic strip that holds the circuit breaker on.

The current flowing in that particular circuit flows thru or in very close proximity that strip, If too much current flows, the strip gets warm and changes shape, much like what happens in the old fashioned thermostat that you used to have (or may still have) in your house. When this strip changes shape because of the heat, it releases the spring which turns off the circuit.

Enter the second type of breaker, the "GFCI" or the "ground fault circuit interrupter." This does the same thing as the bi-metallic breaker but adds a new twist. Look at a conventional power cord like you have on a typical table lamp. Simplifying it, current comes in one lead and back out the other, completing the circuit. The amount of current should be EXACTLY the same in

both conductors, and if it isn't, it means that the excess current is going somewhere else. (Perhaps thru you, in the form of an electrical shock!) The breaker has circuitry within it that senses any imbalance between the two conductors and trips if it sees such an imbalance.

Invented by a person named Charles Dalziel in 1961, some of us remember the demo where he threw an operating toaster into a bathtub full of water with his daughter in the tub. She received no shock. Not long after this, GFCI's (aka "GFIs") were required by the National Electrical Code to protect any AC power outlets near water (i.e. in a kitchen, bathroom, laundry, etc.).

Now we have a third kind of breaker entering the mix, the "arc fault" breaker or otherwise known as the "arc fault circuit interrupter" or the "AFCI."

Basically it works like this. When a conductor in a circuit starts to break down, the first indication is a very short duration low current arc, spark or disturbance on the line. When we talk about short duration, we are talking about less than a microsecond, and often less than a tenth of a microsecond in duration. The AFCI breaker is designed to detect this little disturbance on the line, and trip when it sees it.

The problem is that ham radio transmitters operating in the high frequency shortwave spectrum often generate signals that have similar periodic waveform durations as the arcs that the AFCIs are designed to detect and protect against. The ham radio transmitter is going to inductively couple some of its signal back to the power line solely because of its close proximity to the line, and that's where the problem comes in. The detection circuitry in the AFCI can't tell the difference between a legitimate fault and a ham radio signal.

The current supplier of electrical panels and breakers here in the Villages is Eaton Electric. Eaton is a division of Cutler Hammer, a large well respected firm that has been in the electrical business for decades. Eaton recognizes the problem and developed a version of their breakers that, while not perfect, has proven itself to be RF resistant in most cases. I cannot speak regarding other manufacturers, but I would not be surprised if they are experiencing the same problem.

The important thing to recognize here is that sooner or later, many of us are going to either buy a new house where these units are installed, or purchase a

Arc Fault Circuit Interrupters (Continued)

resale in a neighborhood from which no ham radio operator has ever operated. And understand there are cases on record where these breakers have been tripped by hams 500 feet away with only 100 watts to a simple antenna.

So, we have to be prepared when our neighbors ac-

cuse us of tripping their breakers that were working perfectly before we moved in and/or got ham radio involved.

Next month we'll try to talk about coping with those issues and what is being done about the problem.

73, John, NP2B

Suwannee Amateur Radio Club (SARC) Completes WARC Band Tower Pat McDonnell, W4VKD

The Suwannee Amateur Radio Club (SARC) is taking advantage of this cooler WX and is once again at work on its clubhouse antenna farm. On 10/17 our WARC Band Tower was completed, placing a dipole for 30 Meters with Yagis for 12 and 17 at roughly 75

feet above ground on a Trylon Titan. Seven of the nine planned towers are now complete and we have a dedicated antenna for all bands from 160 to 70cm. For more information on SARC see www.suwanneearc.org



GARS GOES ALL OUT FOR JOTA

Hal Helms, WA4QLA

GARS Public Information Officer

The Gainesville Amateur Radio Society (GARS) invited Gainesville area Boy Scouts to attend the club's annual picnic and participate in the Boy Scouts' Jamboree on the Air, a national event that encourages scouts to contact each other using amateur radio. GARS members set up a portable HF station for the scouts.

The scouts in attendance operated the portable station under the watchful eye of control operator, **Larry Rovak, WB2SVB**.

In addition to the Jamboree activity, GARS members taught a radio merit badge course, and twelve of the scouts earned their radio merit badges at the event. Two more scouts came to the next GARS meeting and also completed their radio merit badges. The scouts' response was so enthusiastic that GARS is already planning to do the event again next year.



Word just in from WA4QLA... One of the participating scouts passed his Tech on October 24th!



Recent Ramblings: Platinum Coast Hamfest

Carl Zelich, AA4MI, Lake Monroe ARS Field Correspondent

Well the BIG event was the Platinum Coast hamfest on Oct 9 and 10. The aisles were filled with eager

hams and the tailgate spaces and tables were absolutely filled with irresistible ham radio goodies.

I had my eye on a very recent oscilloscope. But my wallet kept saying no-no. And now I have plenty of time to regret my decision.

The were many, many hand carts moving tons of equipment into and out of the main hall area. Fortunately the ARRL booth was set of in a separate wing. Just enough "out of the way" but close enough to the cafeteria to avoid a long walk. The usual over sized hot dogs and hamburgers kept the hungry souls fed and compatible. The padded chairs were a much welcomed comfort convenience.

The attendance numbers were not available as of this writing but I'm sure Eric Smitt, K9ES, hamfest Chairman, and his most capable crew, should have them available soon.

But the biggest good fortune was the weather! Finally a small low pressure event was spinning just offshore. All weather radars were promising good, clear weather but all eyes, especially the tailgaters, were constantly checking their mobile devices for wx conditions. At one point I thought that we were "done for" when I felt rain. But further investigation revealed that the air conditioners were creating an artificial weather front. Whew; that was close. Historically we rode golf carts as they spun fallen rain upon the riders.

And finally, many thanks to the Platinum Coast ARS for another successful event. Well done.

Lake Amateur Radio Association Hams Support The 41st Mt Dora Bicycle Festival Ted Luebbers, K1AYZ, Lake ARA

The Lake Amateur Radio Associations activated the Amateur Radio Emergency Service of Lake County Florida in support of the 41st Annual Mount Dora Bicycle Festival in Mount Dora, Florida from October 9 -11, 2015. The ham radio operators provided radio communications from each rest area as well as mobile radio units to patrol the various bicycle routes.

The Mount Dora Bicycle Festival is sponsored each year by the Mount Dora Chamber of Commerce and brings in bicycle riders from all over the country but predominantly riders from Florida. Despite a little early morning fog good weather prevailed for the three day event. Temperatures were moderate with some humidity.

For many of the riders this has become an event they look forward to enjoying each year. This is not a competitive race but a series of 12 separate bicycle tours of Florida's Lake County scenic country side. Lake County is blessed with 1400 named lakes and is considered to be Florida's hill country. Some of these hills offer a unique challenge for even the most experienced bicycle riders. The longest ride is 100 miles and the shortest is 12 miles. Riders choose which rides they want to take each day. This year 1325 signed up to ride in the festival.

The radio equipped mobile vehicles the hams provided transported a total of 30 bicycle riders and their bicycles back to the starting area over the three day period. The reasons were due to mechanical break downs, medical issues or just too tired to finish. We had a total of 5 medical problems to deal with. One eventually was taken to a local hospital with a broken collar bone due to a fall and another necessitated a call to EMS for treatment of heat exhaustion. The others were minor bumps and scratches. There were 16 situations that required assistance by our mobile radio vehicles that were handled in the field and did not require transportation.

The Club used one of their repeaters on the frequency of 147.255 MHZ to run the net keeping track of the rest area locations and the mobile radios units. They used the call sign of N4FLA and assigned all operators tactical signs.

LARA has been providing on course radio communications for the Mount Dora Bicycle Festival for almost 25 years. For this event we had 25 volunteer amateur radio operators. They use situations such as this to train their members to be ready to deploy and set up emergency radio equipment in case of natural disasters such as hur-

ricanes or tornados which are not unusual in this area. They also get training on how to properly communicate on emergency radio networks.

For more information about amateur radio activities in Lake County Florida you may go to the following web site. < www.k4fc.org >



The LARA Communications trailer pulls into down town Mount Dora to be set up and from which the net control station will operate.



(LtoR) Carl DePoy-K8BBT, Dave Pennell-NP2MR, Paul Branch-K3NON and Steve Asay-KJ4FAE manned their vehicles with mobile radios to patrol some of the routes the riders would be taking.



(L to R) Joan Luebbers-K2JDL Assistant P.I.O. and Anne Keller-KM4BVH were involved with seeing that help got to cyclist who suffered from heat exhaustion .

ANTENNA REVIEW: SteppIR Yagi

Marv Feldman, K4KEW, North Florida ARS

I have been a ham for over 50 years and have learned that the most important part of any station is the antenna. One can have a luxury super-duper rig with a poor antenna and have the frustration of not hearing DX. On the other hand, one can have a super antenna with an inexpensive basic rig and get the greatest signal reports on the band! It seems that I have tried them all—Quads, Delta Loops, Tri-banders (with traps), Monobanders, Log Periodics, etc. The SteppIR is a whole new world! While it is indeed the most expensive antenna I have ever had (costing a couple of thousand dollars), it is worth every penny!

My first experience was spent with SteppIR on the telephone with the company in Washington State. The salesman spent hours on the telephone with me, answering my many questions on which options to buy.

Here in Jacksonville, we have plenty of lightning storms, so it was well worth paying a few hundred extra dollars for their lightning protector board. Second, I liked the feature of the antenna automatically adjusting to the frequency of my rig (more on this feature later), so I bought the extra transceiver interface for a hundred bucks. Third, I wanted to avoid any potential of a poor soldering joint, and, I wanted the ease of connecting and disconnecting wires, so I bought their extra terminal strip header for twenty dollars. By the time I was finished with everything, including the 120 feet of 12 conductor control cable and UPS freight, the company had taken \$2,400 out of my bank account!

Since I am very active on six meters, I considered adding a 6 meter optional element, but the "big guns" on the magic band warned me that my Hy-Gain 4 element six meter monobander would outperform the SteppIR on this band.

Everything these days is computerized - so it seems! My car, the TV, even my telephone is full of computers and their operation is no simple matter. So it is with the SteppIR. The control box looks at my rig, sees the operating frequency, and its computer works the antenna's motors to give me monoband performance exactly on my operating frequency. No longer would I have to put up with the compromise of a tri-bander or choose the phone or CW part of the band as I had with my previously owned Cushcraft beam. Additionally, this antenna works both the 17 and 12 meter WARC bands as well as the standard 10, 15 and 20 meter bands.







If you never have operated with an antenna that is perfectly built for the resonant frequency, you are yet to enjoy perfection. The controller also has a 180 degree option; that is, a push of a button changes the antenna's director to a reflector and its reflector to a director so that within a few seconds I have electronically turned the antenna 180 degrees. One evening I heard a German (DL) station on 20 meter CW working an Australian (VK). The DL was coming in as an S 7. The VK was S 1. When I pushed the 180 degree button, it was reversed, that is, the VK came up to an S7 while the DL dropped down to an S 1. Amazing!

Another unexpected feature of this antenna happened when I was tuning for WWV's 15 MHz signal out of Ft. Collins, Colorado. Prop was not that great so I was receiving an S 2 signal which was good enough for my purpose. The SteppIR controller saw what I was doing, adjusted the antenna to maximize the signal and WWV's signal come up to S 7. I was not expecting this for an out-of-the band signal!

By the way, the XYL told me in rather stern words, "You are now old enough to collect a Social Security check so you are too old to build and put up that new antenna. You are going to hire someone to do that for you!" I have been building and putting up antennas since 1959, but the strong words of the XYL were unavoidable! I hired a pro to take down my Cushcraft tri-

bander (A-3S), build the SteppIR and install the new antenna onto my 50 foot tower.

I had mentioned SteppIR's wonderful customer service. Not only did they spend hours with me on the telephone, helping me understand their product, but their after-purchase service is also extraordinary. Frankly, I was disappointed when I first put the antenna on the air and it did not work. A call to their tech line resulted in the same quality service I had enjoyed when I purchased the antenna. The tech patiently talked me through the alignment and setup process of this computerized system. While on the telephone, the SteppIR tech had fixed everything! My first QSO with the new antenna was on 20 meter CW with a station in Belgium (ON). While it may not seem remarkable to have a 14 MHz QSO with Belgium, I received an RST of 599. Did I mention that I was only running 3 watts with my little TenTec QRP rig on this first SteppIR QSO?

I knew I had made the right decision not to spend thousands of dollars on a KW amp, but it WAS the right decision to spend this on the best antenna I had ever owned in over 50 years of hamming!

Reprinted with permission from the NOFARS Newsletter, Balanced Modulator, September 2015.

FCC Testing Information

Amateur Electronic Supply

- Monthly on the second Saturday
- 9:00AM (Walk-ins allowed)
- 621 Commonwealth Av, Orlando, FL 32806
- Click: map
- For more information and registration, contact AES at orlando@aesham.com, 407-894-3238

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. The next session is Thursday, November 5, 2015 7PM.
- See http://nofars.net/home/fcc testing

Lake ARA

- Monthly on the 3rd Saturday, prior to monthly meeting. (Except December)
- 8:00 AM
- <u>LARA Clubhouse</u> (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.

Recent Ramblings: Saturday Ham & Eggs

Carl Zelich, AA4MI, Lake Monroe ARS

Field Correspondent

As the daily Summer rains fade away, we welcome the dry Autumn days. Why?

Because its "antenna weather". Time and opportunity to check for those leaky water logged baluns and traps that drive our SWRs wacky with daily dousings.

But even more so, the weather allows more hams to attend our "Saturday Hams and Eggs" gatherings. For the past 34, yes, thirty-four years, we meet weekly at 6:15 A.M. Say what? Yes, every week. Why?

Let meet explain. As hams we need to exchange our ideas...about anything.

Our health, wealth, politics, families and station. But the opportunity to actually speak about them is not available at local club meetings except at those brief coffee/donut breaks. Here at these weekly gatherings if you have a problem needing a solution(s), you will get many. And even more so, some willing hands to help!

Over 34 years, I cannot tell you of the spontaneous, impromptu solutions that we implemented. Just try and get those kind of results at a "club meeting". Now mind you, club meetings are vital for a host of agenda items but do they di-

rectly solve a specific problem of yours almost immediately? Just think about it.

And our attendees very in age from the teens to well into the senior years. A variety of solutions just waiting to actually be helpful. Our central Florida group is composed of several members from surrounding counties. A true exchange of "happenings" that is not available otherwise.

And, yes, we meet at 6:15 AM. Early-birds arrive at 5:50 AM. And of course our "after-nooners" arrive at 7:00 AM.

Why not try a group meeting in your area? It might just be helpful, fun and definitely not boring. But don't forget your local club meetings. They provide the backbone and structure of ham radio.

Good luck!

Videos By Mike Ramos, KK4KWZ

From Keyed Up, Newsletter of the Lake Monroe ARS

New amateur radio videos generously produced and contributed by our own Mike Ramos, KK4KWZ.

Alpha Magnetic Coaxial Loop Antenna Testing https://www.youtube.com/watch?v=jSb8GbyqUKw

Ultimate Bugout Mobile Portable Ham Radio Survival Setup

https://www.youtube.com/watch?v=veij7M7tZzk

How To Set Up A Yaesu FT 857D For 2 Meter Operation https://www.youtube.com/watch?v=bKmW2YYGLQM

Hurricane Joaquin With The Alpha Magnetic Coaxial Loop Antenna, Part 1 and 2

https://www.youtube.com/watch?v=K5T5Sht-Ofs https://www.youtube.com/watch?v=JwtFXEYS-7M



Upcoming Hamfests

- November 7 LARA's 2015 Annual Tailgate, Leesburg, FL http://k4fc.org NEW!
- November 7 LARC Annual Hamfest 2015, Lakeland, FL http://www.lakelandarc.org NEW!
- November 7 Link McGarity WV4I Memorial Free Flea, West Palm Beach, FLhttp://palmswestradio.org
- November 7 Peace River Hamfest, Punta Gorda, FL http://prra.club
- November 7 Cy Harris W4MAQ Memorial Free Flea, Oakland Park, FL http://browardarc.net NEW!

- November 14 SPARCFest, Pinellas Park, FL http://sparc-club.org
- November 21 Flamingo Net/UMARC Free Flea http://flamingonet.8m.net
- November 28 Okeechobee Hamfest in the Woods, Okeechobee, FL http://www.k4oke.com
- December 5 Low Dough Hamfest, Silver Springs ARC, Ocala, FL http://k4gso.us/Hamfest
- December 11 West Central Florida Section Convention (Tampa Bay Hamfest)

http://www.tampabayhamfest.org

For Sale

Bill, WS1C, ws1c@arrl.net 386-283-4017 • Kenwood TS-480 SAT

\$750 \$300 Tentec 555 Scout with 10 & 20 M w / Tentec 937 Power supply Atlas 210X w / Atlas PS \$200 Extra study guide w/ Q&A ARRL \$10 HP 1722 Scope, \$75 excellent analog, no digital Tektronix 485 excellent \$150 Archer VSWR with cable in box \$15 Comet GP-3 \$80 Belkin 12v UPS- Charger w/new battery \$30 APC Backup RS-800 w/2 new battery

Send your Ham Radio related sale items to: wb2vyk@gmail.com Items will run in one issue only. If you want to continue an ad, please advise.

Wayne Brown, N4FP, n4fp.wayne@gmail.com 336-601-1317

- ICOM IC-7000 HF, VHF, UHF rig with HM-151 hand microphone
- ICOM IC-RMK-7000 Remote kit, cable and mounting brackets
- LDG AT-7000 Antenna Tuner
- W2ENY Ten-a-Tuner module (not used if using LDG AT-7000)
- Alinco DM-330MV, 32 Amp switching power supply with meters
- Excellent condition. All manuals, original boxes.

Package price: \$1150 shipped. Will deliver within 100 miles of The Villages.

Lou, Pensacola, Fla, nr2boss@aol.com

This is a third Ten Tec radio in my shack. Used only for rx. Use it to keep up with dx stations. It will TX the 100 watts. Use the Jupiter and omini 6+ as well for keeping up with other band openings. Don't have a mike. I operate only cw. Power supply and factory manual is available. Have upgraded to the gheli chip for improved operation of this radio.



It's in as good a condition as it was when I bought it. No scratches, no marks. In a non smoking air condx shack.

Ten Tec Paragon Price......\$600.00.

Section Nets.....

For net details go to www.arrl-nfl.org and select the Nets

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
Defuniak Springs Walton County ARC Net	147.285 (+), PL 100Hz	Monday, Wednesday, Friday, 1930
Florida Hurricane Net,	D-Star REF037C	Monday, 2100
Fort Walton Beach – Playground ARC Net	146.790, (-), PL 100Hz	Sunday, 2000
Madison County ARES Madison County ARC	145.190, Lee Repeater, PL 123	Weekly, 2100
Milton 2-Meter Net	145.490 (-), PL 100Hz	Monday, 2000
Milton Santa Rosa County ARES Net	146.700 (-), PL 100Hz	Tuesday, 2000
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	147.120, (+), PL 100Hz	Monday, 2030
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 Chapter 217 The Villages	443.150, PL 103.5 Echolink K4LFK-R	Friday, 1000
QFN CW Traffic Net	3547 Winter (7105 Summer)	Daily, 1900

Section Nets, continued......

Santa Rosa County Skywarn Net	146.700, K4SRC Repeater	Monday, 20:00
SAR NET	http://sarnetfl.com	Click 140614_FDOT_UWAVE_Map_with_UHF _coverage.16664435
Seminole VHF Traffic Net	147.090 MHz, offset of +600, PL of 103.5 147.450 Simplex	Daily, 19:15 First Monday, 19:15
The Villages Amateur Radio Club (TVARC) Ragchew Net	443.225, PL 103.5 Echolink K4VRC-R	Monday, 19:00
Traders Net	3.933	Sunday, 08:00
Valparaiso Twin Cities Amateur Radio	146.73, (-), no PL tone	Sunday, 20:30
Walton County ARES Net	147.375 (+), PL 100Hz	Wednesday, 19:00

NFL—Officially

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