The Ham Arundel News





Providing Fellowship and Community Service through Amateur Radio Since 1951

July 2019

40th Year of Publication



Keith Miller, AE3D

The Prez Sez

Hard to believe I've been President of the Anne Arundel Radio Club for 6 months! The year is whizzing by, and even Field Day is now in the rear view mirror. There are several events still creeping up on us, like the Maryland DC QSO Party, a Fox Hunt and the Club Picnic, and only a few months left to get our outside work completed at the club

house. Who knows, we might paint the exterior of the club house yet this summer.

So we have a lot of work ahead of us. Wallace, N3ADF has taken over the Maryland DC QSO Party and should have the new Ham Shack and at least 3 operating positions working in time for the event. We should have one of the two Field Day Mosely Classic triband beams up on the North tower by then too, complete with new rotor and rotor cable. The two other stations will likely operate using the two off center fed dipoles that are currently up and running. Inside the Ham Shack our acrylic table tops have been installed, monitors will be mounted soon and various other equipment installed as needed to host the Maryland DC QSO Party for 2019. At this point it is questionable as to whether we will have a second rotor, along with 6 meter, 2 meter, meter and a quarter and 70 centimeter antennas up to give us UHF/VHF capabilities for the event. I hope we can make that happen too. If not, we still need to finish up the UHF/VHF antennas before summer ends.

Meanwhile I am trying to assemble a committee to design the remainder of the antenna system needed to operate all bands between 160 meters and 70 centimeters from our new Ham Shack. We have the rig capacity just waiting. The idea would be to replace the two off-centerfed dipoles with a group of antennas that will not only meet our needs, but won't interfere with mowing, grounds maintenance and our DFRC neighbor's use of the grounds. If you have any interest at all in being part of the discussion, see me so I can add your name to the list. Remember people good common sense about our neighbors and what they will and won't like may be just as important as having persons who can design antenna systems.

After the QSO Party the Club Picnic, on September 14th, is not far off. I'd like to jazz it up a bit this year by holding a club Fox Hunt the morning of the picnic.

My plan is to first run a presentation on how to build suitable antennas in July or early August, then a workshop in late August to actually build tape measure beams for use in hunting the proverbial Fox. Then the morning of the Picnic we all get together at someplace that serves a good breakfast, eat, and when the time comes, hit the road in teams of 3 or 4 to hunt the fox. If we do it right, that will take two hours or so, as we use the repeater to chat with the other teams of fox hunters along the way. When it is over, a winner is declared, and we radio back to get the burgers and dogs put on the grill, and head for the DFRC's Picnic Pavilion for our yearly picnic and mini-hamfest. Sounds like a great day to me! But then a bad day of ham radio beats a good day at work any time.

Meanwhile I'm trying to update the General Class Test Prep PowerPoint presentation to reflect the new test questions added on the first of this month. Its first showing should be on the 13th prior to 1pm testing. Finally I am working on a series of PowerPoint presentations to teach the proper use of the patch panel, the Winkeyer, the 5 ham shack rigs, and our logging software, HRD and N1MM. I'm exhausted just thinking about all this.

One thing for sure, in the past 6 month's I've learned a lot. And one of those things is that the more we do, the more fun it gets to be, and the better we become as a club. And so far we've done a lot. We ran classes for Technicians and Generals, we held a Sale and Auction, we held a very successful Field Day, we reorganized rooms and built a workshop. We got a Boy Scout to build stairs to the Storage Building, we got two Mosely Classic tri-band beams ready for operation, we inventoried all sorts of stuff, cleaned the club house and the list goes on and on. What a year, and its only half over!

THE HOLLY NET

Net Control Radio Operators ARE NEEDED

during the work-weekdays -

Contact: Jim Wallace, N3ADF

Learning About Batteries

By Dan Romanchik, KB6NU

I often say that getting an amateur radio license is as much getting a license to learn as it is getting a license to operate on the amateur radio bands. Lately, I've been learning about batteries, LiPo batteries to be exact.

It all started when I purchased a Morserino (http://morserino.info/). The Morserino is a Morse Code learning aid that has a number of unique features. For example, in addition to helping you learn the characters, it's also supposed to help you learn how to copy in your head. It also has a built-in touch keyer function, and a LoRa interface that lets you send and receive code from other Morserino units.



I'll be writing more about the Morserino in a future column, but let's get back to batteries. The kit did not come with a battery. Instead, it was suggested that one purchase a 600 mAh LiPo battery commonly used for powering drones. I found this battery on Amazon, and purchased a six pack of them, thinking that I'd find uses for the other five in some project or another.



Well, sooner than expected, I did find another application for one of the batteries. I'm building a little

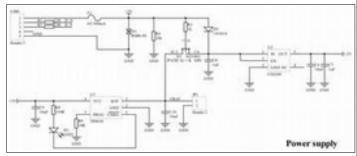
Arduino project for a client, and I reckon that this, or one with more capacity, will make a great power source for the project.

Now, I have two immediate challenges:

- 1. Figure out how to charge the battery.
- 2. Figure out how to connect it to the Arduino.

On the Morserino, the battery plugs directly into a connector on the bottom of the computer board (the white board with the LED display). I knew that connecting the 5V line from the USB connector directly to the battery was a no-no, but I'd lent out the Morserino to a friend, and I didn't have the schematics for the board. So, how they managed to charge the battery from the USB port was a bit of a mystery.

I emailed Willi, OE1WKL, the designer of the Morserino, and he sent me a wealth of information. There actually is a battery-management IC, the TP4054, on the board:



He also gave me the part number for the battery's mating connector. He said, "The mating connector for the Molex connector on the battery is a Molex 51006. It is sometimes referred to by vendors as 51005 female, but 51005 is the connector on the battery." You can, of course, buy pre-made cable assemblies on Amazon (https://www.amazon.com/gp/product/B07P54QTR8).

You can also buy lithium battery charging modules (https://www.amazon.com/gp/product/B01LZSC7I8). These modules have a TP4056 on them, which is similar to the TP4054. It's amazing to me that you can purchase ten of these things for less than seven bucks.

So, that's where I'm at right now. Once I get the modules and cables, I'm going to hook it all up and get the Arduino system running from the battery. The next step will be to integrate a small solar panel and run the whole thing from solar power, hopefully.

Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the "No Nonsense" amateur radio license study guides (KB6NU.Com/study-guides/), and one of the hosts of the No Nonsense Amateur Radio Podcast (NoNonsenseAmateurRadio.Com). He often wonders if he can learn things fast enough.

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Third Saturday of each month - 9AM - Laurel ARC -John Creel, 301-572-5124

Fourth Tuesday of each month - 6PM - MMARC -Mike Montrose / KA2JAI 443-310-4907 web site is tinyurl.com/marylandmobileers

To all exams bring:

- Picture ID
- Social Security Number or FCC Registration Number (FRN)
- **ORIGINAL** and a **COPY** of current FCC amateur radio license

ORIGINAL and a COPY of all element credits (eg., FCC letters, old licenses or unexpired Certificates of Successful Completion of Examination-CSCE)

Magnetic Loop Antenna Designs Multiply

Magnetic loops have become popular as effective and compact antennas for traveling and stealth applications. An HF magnetic loop design by John Chappell, W3HX, was an honorable mention in the 2018 *QST* Antenna Design Competition. Chappell's mag loop offers coverage on 80 - 20 meters, and he runs FT8 at 50 W. See his article on page 39 of the June 2019 issue of *QST*.



The magnetic loop for 40 and 20 meters designed by Richard Robbins, WA8RR. [Photo courtesy of DELARA News]

Richard

Robbins, WA8RR. wanted to build one of his own for 40 and 20 meters. and described his efforts in a recent edition of his club's newsletter. DELARA News. online calculator helped him come up with the basics, and he decided 10-foot on а circumference dool constructed from half-

inch copper pipe that would handle 100 W. His prototype, constructed from a piece of pipe "hand bent into an approximate circle," a Dayton Hamvention flea market capacitor, and a coax drive loop, would tune the two bands -- although, as expected, tuning was very sensitive and affected by body capacitance.

He worked up a reduction drive and remote motorized tuning, and was able to make several FT8 contacts, using his antenna analyzer to tune the loop. "The tuning would shift as I was transmitting," Robbins recounted. "This is a result of a very high circulating current and heating of the separate components." Encouraged, he went for a higher-end design constructed

around a 5 - 500 pf vacuum variable capacitor, the project's most expensive

component (these go for \$150 or more on eBay). "It is big and heavy," Robbins said. He had a metal fabricator bend a



new piece of thin-wall copper tubing into a more aesthetically pleasing circle.

"To drive the capacitor, I obtained a stepper motor and driver, an Arduino controller board, and a four-channel remote," Robbins explained. "I used some sample programs to develop the code that would move the capacitor at different speeds depending on how long the remote was pressed. I added markings on the capacitor, so I could quickly move to different bands." -- Thanks to DELARA News

Used with permission ARRL Letter, May 2019

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Ohio ARES Activates in Wake of Tornadoes that Badly Damaged Hara Arena

Hara Arena, in Trotwood, Ohio, which served as the home for Dayton Hamvention[®] for more than 6 decades, was among the structures extensively damaged when tornadoes swept through the Dayton area on Memorial Day. WHIO-TV drone video showed that the roof and side of the structure had been blown off in several places by the EF3 (severe-scale damage) event. Ohio Section Emergency Coordinator Stan Broadway, N8BHL, said ARES counties and districts activated after nearly 40 tornado warnings were issued across the state. He said Ohio ARES was in the process of announcing a partnership with the Ohio Emergency Management Agency Watch Desk, in which some 2,000 Ohio radio amateurs will feed situation awareness to the state.

"Our plan was to use the Ohio DMR statewide talk group along with our normal HF 80-meter voice and digital"



nets -- depending on storm noise," Broadway said. "We got to launch that system under pressure [on] Memorial Day." Broadway said information received from radio amateurs during the all-night effort was fed directly into the state's *WebEOC* software to help the Watch Desk determine the need to assist county EMA directors requests for aid. The Ohio AuxComm's W8SGT was on the air continuously, receiving reports from county ARES groups, he added.

The severe weather struck after dark, causing widespread damage in and around Dayton and elsewhere in the Miami Valley. Multiple injuries and one fatality have been reported. It appears that at least two tornadoes were responsible for most of the devastation, which was called "catastrophic." The NWS office in Wilmington, Ohio, estimated that at one point, storms and tornadoes left some 5 million people without electrical power.

Snow plows were repurposed to remove debris from Interstate Route 75, and the American Red Cross set up shelters to accommodate displaced residents.

"First-tier communications remained solid in most of the affected areas," Broadway recounted, "but amateur operators were able to provide situational awareness that enhanced the response." Most ARES activities in Ohio wrapped up on May 29.

WHIO-TV reported on June 5 that structural engineers were still assessing the damage at Hara Arena, but Michael Heitz, the Kentucky developer who now owns the building and the surrounding 120 acres, has expressed confidence that the main arena can be saved, although an attached section will have to be demolished.

Used with permission The ARRL Letter, June 7, 2019

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Tuning Electrically Short Antennas for Field Operation

An article, "Tuning Electrically Short Antennas for Field Operation," by two well-known amateurs, appeared in Microwave Journal. Authored by QEX Editor Kai Siwiak, KE4PT, and award-winning researcher Ulrich Rohde, N1UL, the article points out that both Amateur Radio and military applications exist for 20 W battery-powered radios equipped with whip antennas. "In general, the whip antenna [that] makes the radio portable is not optimized for signal propagation: A whip antenna has no ground return or proper counterpoise," the article notes. "While some users drag a wire of up to 8 meters behind, this is not an ideal solution."

As the article explains, electrically short antennas -- typically 0.1 î» or shorter -- look like a capacitor, with a typical capacitance of 25 pF per meter of length. "At 2 MHz, where the wavelength is 150 meters, an inductor of 84 μH is required for resonance," the article says. But just getting a good VSWR is not all there is to it.

Rohde told ARRL that loading coil placement in a short vertical antenna is critical, and "the greater the elevation of the coil, the better the radiation. He said that "center loading" -- he considers the "best compromise" to

be more on the order of twothirds' loading dramatically affect both the antenna's transmitting and receiving performance, opposed to base loading, as found with popular so-called screwdriver antennas. Radials of some sort also are essential.

As the article points out, "With center loading, both the radiation resistance integrated surface are larger, which are better for radiation." Inductors the lossy components of an antenna tuner, while capacitors "are infinitely better." The authors conclude Rohde's al fresco test stand that, for optimal operation, antenna radials should be 0.25

for short HF antennas. [Photo courtesy of Ulrich Rohde, N1UL] λ, with one sufficient for tuning, and up to four producing a



symmetrical azimuth. "Connecting the HF radio ground to a large metallic object is a good choice," the article said.

Ulrich told ARRL that optimizing an antenna in the manner the article describes will produce "significantly better" signal reception, although a short antenna will also have a narrower bandwidth. The objective should not be to get a good VSWR but to keep in mind that there's a difference between resonance and radiation.

"These requirements for optimum antenna performance make HF manpack radios somewhat complicated and unattractive," the authors concede. "Nonetheless, the well matched and radiating antenna provides the most success, and some of these highly portable radios provide vital communications in disaster areas -recently in Puerto Rico and South Florida."

Used with permission The ARRL Letter, June 13, 2019

Emergency Messaging Demonstration for Red Cross, FEMA is a Success

On May 23, with Red Cross and Federal Emergency Management Agency (FEMA) officials monitoring, dozens of radio amateurs along the US east coast demonstrated Amateur Radio's ability to deliver messages without commercial power, infrastructure, or permanently established stations. The event took place in coordination with ARRL, as a mock response to a simulated disaster scenario -- a major hurricane with mass casualties. During the event, radio amateurs at portable stations from New England to the Carolinas delivered message traffic to W1AW, which coordinated and delivered the information to officials attending a joint Red Cross-FEMA meeting in Baltimore.



W1AW Station Manager Joe Carcia, NJ1Q (front), and ARRL Emergency Preparedness Assistant Manager Ken Bailey, K1FUG, working the mics while Red Cross volunteer Rosty Slabicky, W2ROS, looks on. [Michelle Patnode, W3MVP, photo]

"About a dozen stations participated in the demonstration, including operators in Maine, Rhode Island, Massachusetts. New York. northern New Jersev. western Pennsylvania, Delaware, South

Carolina and Virginia," ARRL Communications Manager Dave Isgur, N1RSN, said. "Red Cross officials were onsite at W1AW and at the receiving station Baltimore. At both sites.

they indicated that were impressed with Amateur Radio's ability to deliver messages digitally so that could be displayed on a computer screen and in a format that matched the format for messages that the Red Cross uses." Isgur said ABC, CBS, and Fox TV affiliates sent reporting teams to W1AW.

A few stations, including W1AW and stations in Baltimore, generated local media coverage of their participation, much of it tied into the notion of "Amateur Radio operators and the partner agencies they serve are getting ready for the 2018 hurricane season," which begins on June 1 and continues through November 30.

W1AW Station Manager Joe Carcia, NJ1Q, said the exercise went well overall. "Conditions were a bit tepid at best, but we were able to establish voice contact first. and then proceed with the digital traffic (MT63-1KS) during the roll call," Carcia said. "Digital signals were good. I needed just one retransmit. We used *fldigi* with *flmsg*. This made life so much easier."

Used with permission The ARRL Letter June 6, 2019 ^^^^^



W1AW 2019 Spring/Summer Operating Schedule

Morning Schedule:

| Time | | Mode | Days | |
|------|--|------|----------|--|
| | | | | |
| | 1300 UTC (9 AM ET) 1300 UTC (9 AM ET) | CWs | Wed, Fri | |
| | 1300 UTC (9 AM ET) | CWf | Tue, Thu | |

Daily Visitor Operating Hours:

1400 UTC to 1600 UTC - (10 AM to 12 PM ET) 1700 UTC to 1945 UTC - (1 PM to 3:45 PM ET)

(Station closed 1600 to 1700 UTC (12 PM to 1 PM ET))

Afternoon/Evening Schedule:

| 2000 UTC | C (4 PM ET) | CWf | Mon, Wed, Fri |
|----------|--------------|---------|---------------|
| 2000 " | ıı . | CWs | Tue, Thu |
| 2100 " | (5 PM ET) | CWb | Daily |
| 2200 " | (6 PM ET) | DIGITAL | Daily |
| 2300 " | (7 PM ET) | CWs | Mon, Wed, Fri |
| 2300 " | " | CWf | Tue, Thu |
| 0000 " | (8 PM ET) | CWb | Daily |
| 0100 " | (9 PM ET) | DIGITAL | Daily |
| 0145 " | (9:45 PM ET) | VOICE | Daily |
| 0200 " | (10 PM ET) | CWf | Mon, Wed, Fri |
| 0200 " | " | CWs | Tue, Thu |
| 0300 " | (11 PM ET) | CWb | Daily |

Frequencies (MHz)

CW: 1.8025 3.5815 7.0475 14.0475 18.0975 21.0675 28.0675 50.350 147.555

DIGITAL: - 3.5975 7.095 14.095 18.1025 21.095 28.095 50.350 147.555

VOICE: 1.855 3.990 7.290 14.290 18.160 21.390 28.590 50.350 147.555

Notes:

CWs = Morse Code practice (slow) = 5, 7.5, 10, 13 and 15 WPM

CWf = Morse Code practice (fast) = 35, 30, 25, 20, 15, 13 and 10 WPM

CWb = Morse Code Bulletins = 18 WPM

CW frequencies include code practices, Qualifying Runs and CW bulletins.

DIGITAL = BAUDOT (45.45 baud), BPSK31 and MFSK16 in a revolving schedule.

Code practice texts are from QST, and the source of each practice is given at the beginning of each practice and at the beginning of alternate speeds.

On Tuesdays and Fridays at 2230 UTC (6:30 PM ET), Keplerian Elements for active amateur satellites are sent on the regular digital frequencies. A DX bulletin replaces or is added to the regular bulletins between 0000 UTC (8 PM ET) Thursdays and 0000 UTC (8 PM ET) Fridays.

Audio from W1AW's CW code practices, and CW/digital/phone bulletins is available using EchoLink via the W1AW Conference Server named "W1AWBDCT." The monthly W1AW Qualifying Runs are presented here as well. The CW/digital/phone audio is sent in real-time and runs concurrently with W1AW's regular transmission schedule.

All users who connect to the conference server are muted. Please note that any questions or comments about this server should not be sent via the "Text" window in EchoLink. Please direct any questions or comments to w1aw@arrl.org.

In a communications emergency, monitor W1AW for special bulletins as follows: Voice on the hour, Digital at 15 minutes past the hour, and CW on the half hour.

FCC licensed amateurs may operate the station from 1400 UTC to 1600 UTC (10 AM to 12 PM ET), and then from 1700 UTC to 1945 UTC (1 PM to 3:45 PM ET) Monday through Friday. Be sure to bring your current FCC amateur license or a photocopy.

The complete W1AW Operating Schedule may be found on page 93 in the March 2019 issue of QST or on the web at, http://www.arrl.org/w1aw-operating-schedule.

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Radio operators are need for three Public Service Events this month:

- Sunday, July 7th, METAvivior Triathlon. Hillsmere Community next to Quiet Waters Park, Annapolis. 0700 - 1100 Sponsored by Bluepoint timing.
- Sunday, July 21st, Rosaryville 50k. Rosaryville State Park. 0700-1500 (half day shifts available). Sponsored by Bluepoint Timing.
- Saturday, July 27th, Endless Summer 6hr Run. Greenbury Point, Annapolis. 0630 - 1400 Sponsored by Annapolis Striders.

Contact myself by return email (<u>erick.wa3g@gmail.com</u>) to sign up!

Thank you for your support!

The Essence of FIELD DAY June 2019











New FT4 Beta Release "Leaps and Bounds" Better than Earlier Iterations

The WSJT-X Development Group released yet another new beta version of the FT4 protocol this week, and WSJT-X 2.1.0-rc7 is now available for testing. Developers point out that the FT4 included in this "release candidate 7" version is not compatible with any previous releases. A short mock contest session to wring out the contesting features of FT4 took place on June 4.



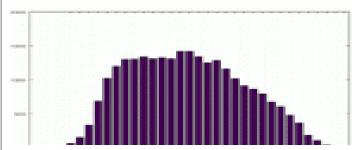
"Thanks to all who participated in yesterday's FT4 mock-contest practice session -- and especially to those who provided useful feedback. It is much appreciated!" said developer Joe Taylor, K1JT. "Everyone likes the 7.5-second T/R sequences,

which provide operators with significantly more human interaction time than in previous revisions of FT4. Users also appreciated the sensitivity improvements and a larger range of acceptable time offsets (DT)." DT represents the combined clock difference for the transmitting and receiving computers, he explained.

Based on data compiled by Steve Franke, K9AN, Taylor said that it appears developers have the *WSJT-X* timing behavior under good control on all supported platforms, and the range of measured signal-to-noise values extended down to -21 dB.

"I operated for about 3 hours using 100 W and a dipole," Taylor recounted. "I copied transmissions from 263 unique call signs and made 143 QSOs in 29 states, 5 Canadian provinces, and 15 DXCCs."

Taylor said the developers anticipate addressing



Steve Franke, K9AN, of the WSJT-X Development Group spent most of his time observing during the mock contest on June 4, decoding some 25,300 FT4 transmissions. This chart represents signal-to-noise ratios reported.

all remaining issues they're aware of. "I believe we are on a good path toward a General Availability (GA) release of WSJT-X 2.1.0 by mid-July," he said.

"This new version of FT4 is leaps and bounds better than before," said Mike Black, W9MDB, in a June 4 post to the Yahoo <u>WSJT Meteor Scatter and Weak Signal Group</u>. "I worked almost everybody I could see without any repeats. Seems like we have a winner here."

Changes, improvements, and bug fixes that have been made since *WSJT-X* 2.1.0-rc5 include:

• T/R sequence length increased from 6.0

to 7.5 seconds.

- Signal bandwidth decreased from 90 Hz to 80 Hz.
- Improved sensitivity: Threshold S/N is now -17.5 dB.

Release candidate *WSJT-X* 2.1.0-rc7 will be available for beta-testing through July 21, and it will *permanently* cease to function after that date. It will *not* be usable during the ARRL June VHF Contest or during ARRL Field Day. Taylor advised using *WSJT-X* 2.0.1 and FT8 for these events.

<u>Downloadable installation packages</u> for *WSJT-X* 2.1.0-rc7 under Windows, Linux, and macOS are available on the *WSJT-X* web page.

Used with permission The ARRL Letter, June 7, 2019

Proposed WRC-23 Agenda Items Causing Concern

Two proposals under discussion in Europe as possible World Radiocommunication Conference 2023 (WRC-23) agenda items "could impact important Amateur Radio frequencies," IARU reported this week. Included is a proposal from France to consider the 144 - 146 MHz band as a primary allocation to the Aeronautical Mobile service, as part of a broader consideration of spectrum allocated to that service. IARU also cautioned the amateur community against overreacting to the

France will submit a paper containing a proposal for an agenda item for "new non-safety Aeronautical Mobile applications" at the June 17 - 21 Conference Preparatory Group meeting of the European Conference of Postal and

news.

Telecommunications Administrations (CEPT) in Prague. The 144 - 146 MHz segment is a primary global Amateur and Amateur Satellite allocation. IARU said it "views with grave concern any proposal to include this band in the proposed study" and pledged to "energetically" promote this viewpoint in the appropriate forums "to seek to obtain assurances that the spectrum will remain a primary allocation for the amateur services."

Another proposal has been raised to study the 23-centimeter amateur allocation, 1240 - 1300 MHz, following reports of interference to the Galileo navigation system -- Europe's GPS system. IARU said it's aware of "a handful of cases" of reported interference to the Galileo E6 signal on 1278.750 MHz. According to IARU, joint studies have been carried out to assess the vulnerability of the system and, based on these, it considers the proposal to initiate an Agenda item for WRC-23 premature.

IARU asked its member-societies to "refrain at this time from making speculative public comments about the situation until further progress has been made in regulatory discussions," and said it's ready to discuss the issue with other non-IARU societies.

One European Amateur Radio organization already has called for radio amateurs to "occupy" 2 meters on June 15 for 1 hour in protest of the French proposal. Used with permission The ARRL Letter, June 13, 2019

AARC Repeaters and Nets

2 Meter Repeaters

| Location | Frequency | Tone | Notes |
|------------------|-----------|-------|--|
| Davidsonville | 147.105+ | 107.2 | AARC Repeater with morning traffic net. |
| Glen Burnie | 147.075+ | 107.2 | AARC repeater Located in Northern AA County. |
| BrandyWine | 147.150+ | 114.8 | SMARC Repeater. |
| Prince Frederick | 145.350- | 156.7 | SPARC/CARC Repeater. |
| Laurel | 147.225+ | 156.7 | Laurel ARC Repeater. |
| Millersville | 146.805- | 107.2 | Repeater. |

1.25 Meter Repeaters

| Location | Frequency | Tone | Notes |
|--|-----------|--|--|
| Davidsonville | 223.880- | 107.2 | AARC 1.25M repeater *check to see if tied into 7.105 |
| Millersville 224.560- 107.2 AARC repeater Located in Northern AA Cou | | AARC repeater Located in Northern AA County. | |

70cm Repeaters

| Location | Frequency | Tone | Notes |
|----------------|-----------|-------|------------------------------|
| Davidsonville | 444.400+ | 107.2 | AARC 70 cm Repeater. |
| Annapolis | 442.300+ | 107.2 | AARC 70 cm repeater |
| Laurel | 442.500+ | 156.7 | Laurel ARC 70 cm Repeater. |
| Millersville | 449.125- | 107.2 | Maryland Mobileers Repeater. |
| Upper Marlboro | 443.600+ | 103.5 | SMARC 70 cm Repeater. |

Packet Stations

| Location | Frequency | Call | Notes |
|---------------|-----------|----------|------------------------------------|
| Davidsonville | 145.050 | W3VPR | AARC Club packet node running JNOS |
| Davidsonville | 145.010 | W3VPR-5 | Digipeter Relay to EOC Winlink |
| Millersville | 145.010 | W3AAC-5 | Digipeter Relay to EOC Winlink |
| Glen Burnie | 145.010 | W3AAC-10 | EOC Winlink system and digipeter |

Amateur Radio NETS

| Name | Frequenc | y (in Mhz) | Day | Time |
|----------------------------------|----------|------------|------------|---------------|
| The "Holly Net" | 147.105+ | PL 107.2 | Weekdays | 0700 |
| AARC Talk Net | 147.105+ | PL 107.2 | Wednesday | 2000 |
| AA County ARES Net | 146.805- | PL 107.2 | Sunday | 2000 |
| Baltimore Traffic Net | 146.670- | | Daily | 1830 |
| Boating Net | 146.805- | PL 107.2 | Wednesday | 1930 |
| Maryland Emergency Phone Net | 3.920 | | Daily | 1800 |
| Maryland-DC-Delaware Traffic Net | 3.643 | | Daily | 1900 and 2200 |
| Maryland Slow Net | 3.563 | | Daily | 1930 |
| React Net | 442.300+ | PL 107.2 | 1st Sunday | 1930 |

We use **simplex 146.430 Mhz** frequently enough that you should probably program that into your HT or mobile. This is the go-to frequency for many 5K race/walk volunteering efforts, local communication, Field Day setup, and the like when we're not using a repeater.

CONGRATULATIONS

Hess Jr., Richard L

Taylor, Samantha G

Jones, James C

Dorffner, James E

Kemper, Brian J

Gragsone, Tarsha K

Blackwell, Andrew L

Myers, Devin T

Byrd, Rebecca

Ross, Eric A

KC3LPG Upgrade to General

KC3NGW Upgrade to General

KI5FCM New Technician

KC3NPL New Technician

KC3NPM New Technician

KC3NPN New Technician

KC3IFN Upgrade to General

KC3NPP New Technician

KC3NPO New Technician

KC3NAA Upgrade to General

Good job! well done.! Welcome to the Amateur Radio.

Please join us in all the activities of the Anne Arundel Radio Club.

President and board of Directors Anne Arundel Radio Club July 2019

So Now What? Podcast

"Highlights from Hamvention" is the focus of the new (June 13) episode of the So Now What? podcast for Amateur Radio newcomers. It will feature segments from Tony Milluzzi, KD8RTT, and Andy Milluzzi, KK4LWR, of The Collegiate Amateur Radio Initiative (CARI); Teachers Institute instructor Tommy Gober, N5DUX, who was at the ARRL Learning booth Lifelona this Jurgensmeyer, KE0UWZ, of Last Man Standing, and Space Weather Woman Tamitha Skov, WX6SWW. Two aspiring hams -- Sarah Byrne, who works in emergency management, and Valencia Simpson, who has assisted ARRL at Dayton Hamvention A® for the past 5 years -- also will be quests.



If you're a newly licensed Amateur Radio operator, chances are you have lots of questions. This biweekly podcast has answers! So Now What? offers insights from those who've been just where you are now. New episodes will be posted every other Thursday, alternating new-episode weeks with the ARRL The Doctor is In podcast.

So Now What? is sponsored by <u>LDG Electronics</u>, a family owned and operated business with laboratories in southern Maryland that offers a wide array of antenna tuners and other Amateur Radio products.

ARRL Communications Content Producer Michelle Patnode, W3MVP, and ARRL Station Manager Joe Carcia, NJ1Q, co-host the podcast. Presented as a lively conversation, with Patnode representing newer hams and Carcia the veteran operators, the podcast will explore questions that newer hams may have and the issues that keep participants from staying active in the hobby. Some episodes will feature guests to answer questions on specific topic areas.

Listeners can find *So Now What?* on <u>Apple iTunes</u>, <u>Blubrry</u>, <u>Stitcher</u> (free registration required, or browse the site as a guest), and through the free Stitcher app for iOS, Kindle, or Android devices. Episodes will be archived on the ARRL website.

Used with permission The ARRL Letter, June 13, 2019

WSJT-X Developer Posts Observations on Using FT8 in June VHF Contest

WSJT-X developer Joe Taylor, K1JT, has tentatively concluded that there are good reasons to use both FT4 and FT8 in ARRL VHF contests. The latest beta version of FT4 was not available for the event, but Taylor noted that FT4 will be available for future contests.

The current -rc7 beta version will not be usable during ARRL Field Day either). Taylor, who was active in the VHF event over the past weekend, made the remark in a post to the



<u>Packrats</u> reflector. Taylor reported making 433 contacts (21 dupes) in 152 grids, all, by and large, on FT8.

"Most of the time there was enough sporadic E and tropo-scatter to keep things busy using FT8," Taylor observed. "In this event, meteor scatter using MSK144 was not, score-wise, time efficient."

Taylor said he operated from home only on 6 meters and only on digital, "mainly to see how FT8 plays in a June VHF Contest." He operated for 21 of the contest's 33 hours and left his receiver running on 50.313 MHz when not in the shack.

Day of the shack.

Joe Taylor, K1JT. [Bob Inderbitzen, NQ1R, photo]

"During the contest period, I decoded 45,375 transmissions from others in the 4 kHz window starting at 50.313 MHz," Taylor recounted. "That's an average of about 11 decodes per 15-second receive cycle."

Taylor said he seldom, if ever, found that a single 3 or 4 kHz window was "too crowded" with activity. "There were nearly always some open spots, even with nearly everyone in the first 2.7 kHz of the window," he said.

Taylor also speculated as to how the twice-as-fast FT4 might

have fared, being 4 dB less sensitive than FT8 and having an 80 Hz bandwidth instead of FT8's 50 Hz bandwidth.

"My guess is that something like 80 - 85% of my QSOs could have been completed using FT4, most of them in half the time than it took in FT8," Taylor said.

Used with permission The ARRL Letter, June 13, 2019

AARC Mesh Networking Group

1:00 to 4:00 PM monthly,

on the 3rd Sunday of the month

AARC Clubhouse, Davidsonville, MD

(Next Meeting will be July 21 2019.)

The Ham Arundel News is the monthly official publication of

The Anne Arundel Radio Club, Inc. (ARRL Club No. 0484).

Editor: Milford Craig / N3WYG

Send newsletter articles, questions and information to **Milford** at **newsletter@w3vpr.org**Deadline for submissions – The Saturday after the 3rd Thursday of the month

Mailing Address:

Anne Arundel Radio Club Post Office Box 308 Davidsonville, MD 21035

Meetings:

General Business 1st Thursday at 7:30 PM Board Meeting 2nd Thursday at 7:30 PM Program/Activity 3rd Thursday at 7:30 PM

Dues:

\$30 per year, payable December 1st Discounts available for family members and students

World Wide Web: www.w3vpr.org

AARC Supports The Maryland Slow Net: 3.563 MHz CW 7:30 P. M. Daily

^^^^^^^

<u>Free Money for AARC!</u> ARRL Membership Reminder

ARRL affiliated clubs receive a commission for every new ARRL membership and renewal they submit to ARRL Headquarters. Clubs retain a portion of the dues for each regular or senior membership submitted to ARRL Headquarters:

Clubs retain \$15 for each new membership OR lapsed membership (of two years or more).
Clubs retain \$2 for each renewal,
A RENEWING MEMBER can renew at any time, even before their current membership expires.

Send your application and payment (made out to AARC) to the club treasurer.



Mark Your Calendars

REGULAR ACTIVITIES

Club Meetings are held on the first and third Thursdays of the month from 7:30 to 9PM at the clubhouse located at the Davidsonville Family Recreation Center in Davidsonville, MD

Free License Exams every 2nd Saturday of the Month - Check in at Noon, Exams at 1PM - At the clubhouse - Contact David Rawley / AE5Z, testing@w3vpr.org

Weekly AARC 2-Meter Net on 147.105 (Typically linked to 147.075 and 444.400 with CTCSS tone of 107.2 Hz) every Wednesday at 8 PM - All Welcome

2 meter "HOLLY NET" on 147.105 (Typically linked to 147.075 and 444.400 with CTCSS tone of 107.2 Hz) every morning 7:00 am to 9:00 am. All hams are welcome.

EVENT SCHEDULE

Thursday, July 11 7:30pm

AARC - board meeting

Saturday, July 13 12:00pm

AARC - Free License Exams

Thursday, July 18 7:30pm

AARC - Club meeting, newcomers always

welcome.

Sunday, July 21 1:00pm

AARC - Mesh Networking group, Every 3rd

Sunday, 1 to 4 PM at the clubhouse

Sunday, July 28 1:00pm

AARC Kit-building, troubleshooting and repair, at 1 to 4 PM at the clubhouse

1:00pm Open Shack Hours

Dayton Hamvention Attracts a Happy Crowd

Dayton Hamvention®, hosting the 2019 ARRL

National Convention, chalked up its third year at its new venue, the Greene County Fairgrounds and Expo Center in Xenia, Ohio. Amateur Radio's largest annual gathering took place May 17 - 19. Hamvention officials have not yet released a 2019 attendance figure, but last year's show drew 28,417 -- the third largest attendance ever. For many hams, Hamvention offers an opportunity each renew spring to acquaintances and make new ones. and for manufacturers to debut their latest and greatest gear.



ARRL President Rick Roderick, K5UR.

"These were some of the biggest crowds I've seen since

Dayton Hamvention relocated to Xenia," ARRL Product Development Manager Bob Inderbitzen, NQ1R, said.

Hamvention visitors enjoyed largely comfortable weather, with some drizzle on opening day. By all



accounts, the crowd was animated and amiable. This year marked the first that Hamvention offered free Sunday admission.

"Dayton Hamvention 2019 was a fantastic event



Members of the Nashua (New Hampshire) Area Radio Society received the Dayton Hamvention® Club of the Year Award. At ARRL's invitation, NARS hosted an interactive exhibit to serve as a model for other clubs to emulate. (L R) Scott Andersen, NE1RD; Jamey Finchum, AC1DC; Fred Kemmerer, AB10C; Brian McCaffrey, W1BP; Anita Kemmerer, AB1QB; Dave Merchant, K1DLM; Abby Finchum, AB1BY, and Charlie Dunn, W1CBD. [Bob Inderbitzen, NQ1R, photo]

and was a great setting for ARRL National Convention," said ARRL President Rick Roderick, K5UR. "Thank you to everyone for stopping by the ARRL exhibit area to visit with ARRL officials. staff, and volunteers. It's always a pleasure to be able to have a face-toface QSO with everyone. Isn't ham radio great? The greatest hobby in the world!"

free **ARRL** Dayton Hamvention mobile event app helped visitors navigate landscape of exhibitors and forums. Attendees also used the app to follow the hourly prize

drawings, connect with other visitors, and view maps of the sprawling fairgrounds. The new app got a positive reception.

The Nashua (New Hampshire) Area Radio Society (NARS) -- the 2019 Dayton Hamvention Club of the Year -led the "ARRL Spotlight on Radio Clubs and Mentoring" forum. NARS members described the ways the club builds and maintains a strong and active membership through its website, licensing classes, and programs that fit members' schedules. The success rate for licensing classes is 93%. and the club retains 70% of active members. Instructors from the ARRL Education & Technology Program shared resources available for introducing radio science and wireless technology.

In step with the shared ARRL Convention-Hamvention theme, "Mentoring the Next Generation," the 2019 Youth Forum moderated by Carole Perry, WB2MGP, drew attendees of all ages.

It was standing room only at Saturday's ARRL Member Forum, which featured a panel of ARRL Board members with ARRL Great Lakes Division Director Dale Williams, WA8EFK. moderating. Pacific Division Director Jim Tiemstra, K6JAT, who ARRL CEO Howard Michel, WB2ITX chairs Committee, photo] Advocacy addressed the Board's decision to hit the pause



Legislative Forum. [Bob Inderbitzen, NQ1R,

button on the Amateur Radio Parity Act. He said the Board intends to renew efforts to get a bill passed and will craft a new strategy to make that happen.

Riley Hollingsworth, K4ZDH, discusses the new Volunteer Monitor Program. [Allison McLellan photo]

Amateur" presentation. members audience expressed support for the new directions Michel is taking ARRL in terms of delivering more value to members.

Riley Hollingsworth, Volunteer Program. Hollingsworth

President Roderick and CEO Howard Michel, WB2ITX, stressed the need to attract more Technician licensees into ARRL. Roderick challenged forum attendees to make sure their clubs are welcomina newcomers and helping them to get active and engaged as radio amateurs. Αt Michel's "Engaging Radio Today's



The Youngsters on the Air (YOTA) delegation (L - R); Florian Zwingl, K4ZDH, OE3FTA; Larissa Rentmeister (SWL) headed up a Sunday Markus Grosser, DL8GM; Phillip forum on ARRL's new of IARU Region 1. [Bob Inderbitzen, Monitor NQ1R, photo]

explained how the program evolved out of an FCC request. Hollingsworth explained that he polled FCC District Directors to see which areas of the US needed the most attention. He said that's where most Volunteer Monitors will be deployed.

ARRL's Public Service Communications Panel Discussion drew a large crowd of Amateur Radio Emergency Service (ARES) members and other active volunteers.



Dayton Hamvention Radio Amateur of the Year Nathaniel Frissell, W2NAF (left), with Joe Taylor, K1JT, of WSJT-X renown. [Bob Inderbitzen, NQ1R, photo

Audience members expressed constructive concerns over the new ARES Plan and with reinforcing Amateur recognition nationwide.

"ARRL's team included 118 members supporting exhibits. activities. presentations to he p all radio amateurs become more active, involved. and engaged." Inderbitzen said. "Together we helped represent the very best of our Amateur Radio Service and ARRL."

At a Thursday Donors' Reception, President Roderick

presented the National Convention recognition award to Hamvention Chairman Jack Gerbs, WB8SCT, and Dayton Amateur Radio Association (DARA) President (and past Hamvention General Chair) Ron Cramer, KD8ENJ.

Used with permission ARRL Letter May 2019 ^^^^^^^^

QRZ.com Institutes Password Security. **Seller Verification Programs**

In an effort to combat fraudsters and password phishers, the popular QRZ.com Amateur Radio website is offering the option of establishing two-factor authentication (2FA) for its registered users. The site's founder and president, Fred Lloyd, AA7BQ, explains that 2FA secures a user's password on the site.

"With 2FA, your actual password becomes nearly moot, and revealing it to a crook has no detrimental effect," Lloyd told ARRL. "With 2FA, you need the one-time code, and that's the only thing that will work. It's a solid

technology that is rapidly gaining in popularity."

Lloyd said that when a user logs into the site with 2FA, the validation for the session is stored in the user's browser as an encrypted cookie that can live for up to 30 days. "If your IP address changes or the browser cleared, the cookie is



invalidated," Lloyd said. "You will also have to sign in separately if you have multiple computers or if you use multiple browsers on the same machine." Lloyd said QRZ.com staffers have been using 2FA successfully for a couple of years now.

A <u>video has been posted</u> that demonstrates how to get started with 2FA without using a cell phone to receive codes.

Although 2FA will not become a requirement in order to log onto QRZ.com, a separate seller verification system has been instituted for anyone marketing ham gear via the Swapmeet forum. As of July 1, only those enrolled in the Verified User program will be able to list in that forum. Users may opt out of the Verified User program for the rest of the site.

"While verification is available to anyone on QRZ,



QRZ Founder and President Fred Lloyd,

it is required only in Swapmeet section," Lloyd told ARRL. "Lately, there has been as many as a scam per day in the Swapmeet, sometimes a popular radio model will be sold several times before it comes to our attention. One false listing can net any number of

before it's discovered."

Lloyd explained that these fake listings are being placed using the accounts of users who have been tricked into giving out their log-in passwords though elaborate phishing schemes. "There is virtually nothing that QRZ can do to prevent phishing attacks, as a great many users never even know that they've been hacked," Lloyd allowed. "Scammers find it relatively easy to trick the users into supplying their actual passwords."

Setting up two-factor authentication is the first step to becoming a QRZ.com Verified User. Information on becoming a Verified User is available to those registered on the site via their Account page, accessible from the QRZ main page. Once they've secured their accounts with 2FA, members will have to submit photographic identification to QRZ in order to complete the Verified User process. Lloyd said QRZ will also accept a Logbook of The World certificate in lieu of a photo ID.

"A member can use 2FA without being verified, but, a Verified member must use 2FA," Lloyd told ARRL. "If a verified member removes 2FA from their account, their Verified status is lost and must be reset."

The QRZ site notes that, with the introduction of the new Verified Seller program, some Swapmeet rules crafted specifically to combat theft and embezzlement are being amended and updated. Among the changes, QRZ is proposing to drop the requirement to include a call sign in photos of gear for sale, but QRZ continues to recommend doing so. Photos generally will still be required for every listing, because, Lloyd said, "unless a photograph is well marked with a call sign, scammers could lift the photo from your ad and use it to entice a new victim on another website, using a different call sign."

Used with permission The ARRL Letter, June 13, 2019 $\dot{\Lambda}$

REPEATER FREQUENCIES

| Davidsonville | Millersville | Glen Burnie | Annapolis |
|---------------|--------------|-------------|-----------|
| 147.105+ | | 147.075+ | |
| 223.880- | 224.560- | | |
| 444.400+ | | | 442.300+ |

PL: 107.2 for all repeaters

The 147.105 and 147.075 repeaters are frequently linked. Please leave an extra second after the courtesy beep to allow the link to reset as well.

Visitors are welcome to all meetings and nets.

Meetings are held in the Clubhouse at the

Davidsonville Family Recreation Center,

Queen Anne Bridge and Wayson Roads off

MD Route 214 near Davidsonville, MD.

For en-route directions, make initial contact on the 147.105 repeater.

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Wednesday Night Talk Net -- All are welcome

8PM, On the AARC Repeater 147,105

Other Amateur Radio nets

| Name | Frequency | | Day | Time |
|------------------------------|-----------------|---------|------------|---------------|
| The "Holly Net" | 147.105+Mhz PL | 107.2 | Weekdays | 0700 |
| AA County ARES Net | 146.805- Mhz PL | 107.2 | Sunday | 2000 |
| Baltimore Traffic Net | 146.670- Mhz | | Daily | 1830 |
| Maryland Emergency Phone Net | 3.820Mhz | | Daily | 1800 |
| MD-DC-DE Traffic Net | 3.557Mhz | | Daily | 1900 and 2200 |
| Maryland Mobileers Net | 146.805 | PL107.2 | Monday | 1930 |
| Maryland Slow Net | 3.563 MHz | | Daily | 1930 |
| REACT Net | 442.300+Mhz | PL107.2 | 1st Sunday | 1930 |

The Radio Amateur Operator is...

CONSIDERATE

...He/[She] never knowingly operates in such a way as to lessen the pleasure of others.

LOYAL

...He/[She] offers loyalty, encouragement and support to other amateurs, local clubs, the IARU Radio Society in his/[her] country, through which Amateur Radio in his/[her] country is represented nationally and internationally.

PROGRESSIVE

...He/[She] keeps his/[her] station up to date. It is well-built and efficient. His/[Her] operating practice is above reproach.

FRIENDLY

...He/[She] operates slowly and patiently when requested; offers friendly advice and counsel to beginners; kind assistance, cooperation and consideration for the interests of others. These are the marks of the amateur spirit.

BALANCED

...Radio is a hobby, never interfering with duties owed to family, job, school or community.

PATRIOTIC

...His/[Her] station and skills are always ready for service to country and community.

- adapted from the original Amateur's Code, written by Paul M. Segal, W9EEA, in 1928The Radio Amateur's Code