THE HAW ARUNDEL NEWS





Providing Fellowship and Community Service through Amateur Radio Since 1951

December 2019

41st Year of Publication



Keith Miller, AE3D

The Prez Sez

Happy Holidays! December is here, let the Holidays begin! We start with *Cyber Monday* on the 2nd, with Tuesday the 3rd being more serious. It's the *International Day of Persons with Diabetes*. One of my favorite holidays comes next, *National Cookie Day,* Wednesday the 4th, though why they put it right after a holiday about diabetes I'll

never known. The 5th is *International Veterans Day*. What better day to hold our *Anne Arundel Radio Club Elections*. We have many veterans within our ranks. And while the 6th draws a blank, we get double teamed on Friday the 7th with *International Civil Aviation Day*, and *Perl Harbor Remembrance Day*. Maybe next year we can vote on the 9th. It is *Anti-Corruption Day*. Then comes *Human Rights Day* the 10th, *Mountain Day* the 11th, *International Universal Health Coverage Day*, or for those who can't get behind that one, the 12th you have *International Neutrality Day*. Are you bored yet?

But of course the real holidays aren't Boxing Day on the 26th, *National Maple Syrup Day* shared with *Wright Brothers Day* on the 17th, or even *International Migrants Day* on the 18th, but rather the big one's like *Christmas* on the 25th, *Hanukka the* 22nd thru 30th, and *Kwanzaa* starting on the 26th. We'll be celebrating those on Sunday December 15th at the Boy Scouts facility just down the hill from our club house. We'll share lots of good will towards men, and women too, not to mention the kids. Remember if kids are 12 or under, and we know they're coming they'll be on Santa's list.

And with Thanksgiving just behind us, perhaps it's a good time to be thankful for all that we've accomplished at the Anne Arundel Radio Club in 2019. I started out the year at that very first Membership Meeting saying that in a committee system the committees and teams do most of the real work. The Board, meanwhile, has to set some goals for those groups, provide a little oversight, and more important provide support so they can get their jobs done. If the Board doesn't communicate with the committees and teams, the committees lose focus and generally find they are always short on help. Communication is the key. You'd think people who's whole hobby is about communicating would know that. But its not necessarily so.

So in 2019 I set out to improve Board to committee communication. Step one was to see that every

committee or team had a Board member, who's job is was to ensure that what the committee had to say, made it back to the Board. This led some Board members to push for big organizational charts, and putting each Board member in charge of specific committees. Sounds good, until you realize you are putting an extra layer of management into place that usurps power from the committee chairpersons and team leaders. And lets face it, people volunteer to be committee chairpersons and team leaders because they want to feel like they are in charge of something, and can provide leadership. When that goes away, so do the people who fill those job. So I'm still trying to promote the idea that we need Board members to do only the basic job of better facilitating communications with committees and teams without actually being in charge.

Speaking of teams, in 2019 I decided to differentiate teams from committees, so we would all better understand how things work. So far I don't think most people understand why, but I could be wrong. For those who haven't heard this, a committee is run by a That chairperson holds meetings. chairperson. Committees vote on things, and they make sure someone takes minutes to provide a record of their doings and votes. In a committee, the majority wins. In our Bylaws it says anyone may join any committee they choose to. Therefore a chairperson does not decide who is or isn't on a committee. Meanwhile a team has a team leader. That leader is the boss. He or she makes all decisions. including who is or isn't part of that team, and assigns work to the individual team members. The team leader is in charge and is therefore responsible. Some jobs, especially those requiring specific skills or training, need to be run as teams. Other groups which need new ideas and outside the box thinking beg for a committee structure. We need both, and we need to know the difference.

We also started 2019 with a number of projects approved and underway. Of those a couple have gone nowhere, while a few others like the bolts on the north tower and charger replacement for the generator are completed. The workshop is coming along nicely, and the Ham Shack Renovation project is moving along, but it's spreading out into new areas like instructional video production, more advanced networking than originally planned, and an antenna system that can give us access to every band 160 meters through 70 cm.

Speaking of antennas we now have 2 full time refurbished Field Day Mosley Tri-Band CL-33 beams, a log periodic for 50 MHz. through 1296 MHz., and a Cruscraft A3S tri-bander for 20-15-10m with a 40 meter rotating dipole too. Plus we have a second A3S and rotor donated

to the club, which will go up on a tower adjacent to the pedestal. Of course we don't have a tower yet, but lke is working on that. In case you don't know the Boy Scouts are helping us with that tower project, having already cleared all the brush from around that pedestal. Another group of Boy Scouts built us steps to the storage building. A third group of Boy Scouts will be pouring concrete for us as a base for the West Tower and support for our propane tanks, while a 4th group is making us a smaller lighter podium for our club house. Meanwhile Eric Berman (KC3GDV), who arranged those Boy Scout projects, donated a larger podium that once retailed for \$1000 with a lot of built in extras. Thank you Eric.

In 2019 we made slow but steady progress, on various rules and policies. Expecially the policy with regard to the Trustee. And I am happy to say that our outgoing Secretary, Steven Grimaud (W3SWG) is planning to help out next year by scanning various Rosters and older editions of the Ham Arundel News into our Google Drive. Once we have a complete set of newsletters from 1993 to 2004 in digital format, giving us 1993 to the present electronically, then we start looking for a volunteer to extend the club history, currently 1951-1992 to the present day. Thank you Steven.

On the Sunday just after the Cold Turkey 10K, I came back to the club house for kit building. There must have been 7 or 8 of us on hand. And it reminded me of just how much ham activity the AARC has generated in 2019. Just think about the last few months. We finished the Maryland DC QSO Party in record time. "Wrecking Crew" did miracles in the club house and with our storage facilities. We held a club picnic on a day with an antenna parts giveaway. We manned a booth at the Emergency Preparedness Expo. We held a 6 week Technician Class, 3 VE Testing sessions, ran 4 days of STEM program for South River High, had a tower climber in the air on multiple days, ran several kit building sessions, worked on club rules and policies, retrieved donations of parts and ham equipment from multiple sources, hosted the Able Archer special event station, and even educated ourselves on the care and feeding of honey bees. I can never remember a year when the Anne Arundel Radio Club did more. And doing more, is what makes us great!

So thank you for making us great. Yes you! I want to thank each and every member who took part in any of those events, or one of a dozen more. There are many I could thank individually. But one really stands out. Eric Berman (KC3GDV), and it's not just because he's a good friend. He's a Boardmember. He's worked on Shack Renovation. He formed the "Wrecking Crew" to work on making our facilities work better for us. He ran food for Field Day. He promoted our Technician Class at the Expo. taught one lesson, and did administrative work during the others. He's a VE Team member. He set up and administered our participation in the STEM program with South River High School. He helped retrieve parts donations, and just recently bought a truck to make those trips easier. He has worked Public Service Events. He set up all four of the Boy Scout projects, and arranged for use of their hall for the Holiday Party of which he is now Team Leader.

So thank you Eric. Thank you everyone. I know most aren't retired like Eric and I, and don't have that kind of time. So let me thank all who volunteer whenever they can spend the time. Applaud yourselves. You are the ones who make the AARC great.

^^^^^^^

Seasons

Greelings



From the President and officers of the Anne Arundel Radio Club

ANNE ARUNDEL RADIO CLUB

Slate of Officers for 2020

In accordance with the bylaws, this serves to notify AARC members of the upcoming Election of Directors.

The slate for the upcoming election is as follows:

Please vote for only ONE candidate for each office.

President: Keith Miller, (AE3D)

Vice Pres: Jim Wallace, (N3ADF)

Secretary: Bernarr Coletta, (NK3PS)

Treasurer: William W Muzlera-Mooney, (KA3UQQ)

Directors: (Vote for 3)

Eric Berman, (KC3GDV)
Doug Ellmore, (NA1DX)
Scott DeMatteo, (W3GTR)

Information on each candidate should be available on the web site via a link on the page where the nominee list is. Provision will be made for write-in candidates when the election is held.

The election will be held at the "Annual Meeting", December 5, 2019, at 7:30 p.m. at the AARC Clubhouse

Holiday Party RSVP Now

Sunday December 15th we hold our annual holiday dinner event, where we thank the old Board, meet the new Board, give the kids presents, and hand out some holiday door prizes. Its also a great time to renew your membership for 2020! RSVP now!

There is a NEW Holiday Party Venue. We will meet at the Scout Hall (to the right as you go into the gate). Set up will start at 3:00 pm and Guests can start arriving at 4:30 pm

As ususal the club will provide ham and turkey, soft drinks and bottled water, and those attending will be asked to bring a side dish or desert to share. We moved the party to Sunday this year to avoid the huge traffic jams that seem to occur every Friday night this time of year. The plan is to open the doors at 4pm, and serve dinner about an hour later. This way the kids will be home before 9pm. After all, its a school night.

If you plan to attend, please fill-in and submit the RSVP so we know how many chairs and tables to provide, and of course so we know the names and ages of everyone attending under the age of 18.

2019 Holiday Party RSVP

Here is a tentative schedule for the Holiday Party:

3:00pm - 5:00pm Set up

4:00pm - Secretary, Membership Secretary & Treasurer arrive

4:30pm - 6:00pm Check in and socializing

6:00pm - 7:00pm Dinner

7:00pm - 8:00pm Program and Door Prizes

8:00pm - 9:00pm Clean up

Instructions for RSVP:

Children of club members are always welcome at the Holiday Party.

As well aach club member may bring one adult as their invited guest

As you complete each entry a new line will apper for an additional entry. This will happen for up to 6 entries. For 7 or more a second entry will be required.

Stuff to Do as You Renew

Last year we instituted a door prize at the Holiday Party just for those who took part in filling out the Yearly Survey. At the party, a large number of members all of a sudden wanted to fill in the form, and since we had computers online, they were able to do so, and participate. This year, we won't be having Internet Access at the Holiday Party. So if you want to take part, you must (assuming you haven't done so, and most haven't) please go online now, and fill out the Yearly Survey for 2019.

A year ago we realized the club's mandatory waiver had overstepped. So we removed the section that said the club can use your image and can even share it with the ARRL who under the old language could share it with advertisers. But to completely get rid of the old language, we need two things to happen.

- We need everyone to actually fill in a Renewal Form this year, and sign or digitally sign it. This means you agree to the new waiver language which is less onerous. Just sending in a check won't get it.
- 2) We need you to fill in a photography release form too. And before you say I don't need to sign it, I don't want anyone to use my image.... be aware... that is exactly why you need to sign it. If you say no to both photo policy guestions on the form, then the AARC can't use your image or give it to anyone. If you say yes we still can't give it to anyone, but can use it on the web site, etc. Meanwhile If you don't sign one at all, then the policy from the old waiver stays in effect, and we can use and share it. Not what you want, I'm sure.

So please fill in both forms as you renew this year. And please do.... renew. 2020 is going to be a banner year for the AARC and you won't want to miss it.

73 Keith Miller, AE3D President

2020 Field Day Chairman: Brian Mary K3HMX

After taking some time to think about it, Brian Mary, K3HMX has accepted the position at Field Day Team Leader for 2020. Last year's Team Leader David



Rawley N3AT has already signed on as First Mate. But, we need many more volunteers.

Brian has competed with the AARC at a number of Field Day's, setting up and operating one of the Digital Station for several years. He led the Digital effort in 2018 when Chuck Tanner, K3ACT was unable to attend, and did a marvelous job. For those of you

who have been here a while you may remember that Brian has served the AARC as a Board Member and as club President in 2015 and 2016.

If you want to help with Field Day, now is not too soon. Get in touch with Brian either at the club house or via email at field.day@w3vpr.org

501(c)(3) Reinstated

As of October 24, 2019 the IRS has once again declared the Anne Arundel Radio Club to be a tax exempt organization.

Thank you to the several Club Treasurers who have worked on this project.

More Than 1 Million Contacts Logged **During 2019 ARRL Field Day**

ARRL Contest Program Manager Paul Bourgue, N1SFE, reports that nearly 1.1 million contacts were made during the 2019 ARRL Field Day -- the most popular operating event in North America. Bourque reported the 2019 ARRL Field Day results, which are available starting on page 64 of the digital edition of the December 2019 issue of QST. Bourgue says in his article that more than 36,000 radio amateurs took part in 2019 Field Day across all 83 ARRL/Radio Amateurs of Canada Sections, up slightly from the 35,250 reported last year. The total number of contacts was down by about 7% from 2018's 1.18 million contacts.

"This year, 3,113 entries were received from local clubs and emergency operations centers (EOCs), as well as individual portable, mobile, and home stations," Bourgue wrote in QST. Most entries were in Class A -- club or non-club groups of three or more.

1.1 million contacts, approximately 46% were made on phone, and 456,000 (42%) of 138,000+ (12%) of the WG4F, photo] contacts were made on digital modes, such as FT8 and RTTY.



The Williamsburg Area Amateur Radio Of the nearly Club (WAARC) operated Field Day 2019 from Virginia using the club's call sign K4RC. GOTA Station operator Solana Stevenson beams, with her mother Mari Ann Stevenson in back at the left and and 456,000 (42%) of grandfather Randy Altona, KM4YSN, in contacts were made on back at the right, with GOTA Coach CW. The remaining Chuck White, Al4WU. [Dan Ewart,

"This is a substantial increase compared to 2018, when total QSOs on the digital modes numbered just over 56.000." Bourgue reported. "With the late 2018 release of WSJT-X (which now supports Field Day exchanges), many participants made use of FT8's ability to communicate when band conditions weren't being cooperative."

Top 10 scores ranged between W3AO's Class 14A entry from Maryland-DC, with 32,356 points, to W1NVT's 14,876-point Class 2A entry from Vermont.

Bourque said that 95% of the 3,113 entries received came through the Field Day web applet.

"Not only is ARRL Field Day an opportunity to sharpen operating skills in temporary and portable locations, it's also an occasion to showcase amateur radio to the local community," Bourque wrote.

Soapbox comments for Field Day 2019 are available on the ARRL website. ARRL Field Day 2020 will take place June 27 - 28.

Used with permission The ARRL Letter, November 14, 2019 ^^^^^^^

Radio Amateur's "Tribute to a Century of Broadcasting" Video Debuts on YouTube

Donahue. W1AWX. Art of Franklin. Massachusetts, has posted his "Tribute to a Century of Broadcasting" video in recognition of the centennial of formal radio broadcasts. The video features a complete scan of the AM broadcast band (530 - 1700 kHz), with station IDs for all 118 AM radio channels.



Donahue ARRL he recorded these off the air using two long-wire antennas in the trees. Each slide highlights one station on each frequency with location, call sign, power, day/night/grayline reception, distance,

and year of first broadcast, accompanied by audio of an actual station identification.

"If you ever spent evenings when you were a kid trying to hear long-distance radio stations on your AM radio, this video has what they all sound like today, Donahue said. "I wanted to do something in honor of the KDKA broadcasting centennial next year and thought I'd try to get every single channel recorded. It took a lot of time, patience, and good luck. You'll hear a lot of surprises on the video."

Donhaue added, "It was a fun project to work on."

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Course EC-001-S is Now Available On Demand

ARRL Self-Guided Emergency Communication Course EC-001-S is Now Available On Demand ARRL's EC-001-S online "Introduction **Emergency** to Communication" course is now available to students in an on-demand format, allowing students to register for the course and begin work at any time. This course is



designed to provide basic knowledge and tools for any emergency communications volunteer. In response to the great course demand and to expand access to EC-001, ARRL developed a self-guided version of the course, EC-001-

S, which launched in June. This version of the course is designed for those who prefer to work independently and who do not need guidance from an online mentor. EC-001-S was previously offered only during specific sessions along with the traditional mentored version. The course opened for general enrollment on November 6. Visit the ARRL Online Course Registration page for more information and to register.

Used with permission The ARRL Letter, November 21, 2019 ^^^^^^

AARC STAFF - 2019 Officers

President Keith Miller / AE3D president@w3vpr.org 240 758 0423

Vice President

Tim Nagel / KB3YQK

Secretary

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Treasurer

Bill Mooney / KA3UQQ treasurer@3vpr.org

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Eric Berman / KC3GDV eric.board19@w3vpr.oprg

Director B

Larry Booth / AA3AU larry.board19@w3vpr.org

Director C

Bernie Coletta / NK3PS bernie.board19@w3vpr.org

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Membership Secretary

Information Officer

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Resident Agent

Justin Leishman / KC3BJT ra@w3vpr.org

Trustee

Dick Mayo / WW3R trustee@w3vpr.org

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Ike Lawton / W3IKE club.sale@w3vpr.org

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Ted Ruddy

Facilities

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Field Day

(TBD) field.day@w3vpr.org

Station Manager

(TBD)

Holly Net Jim Wallace / N3ADF holly.net@w3vpr.org

HSMM-MESH

MDC QSO Party

Newsletter

Program

Repeater Ops

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Milford Craig / N3WYG 301 218 8867 newsletter@w3vpr.org

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Packet Radio Jonathon Grafe / AE2JG packet@w3vpr.org

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Rules Chuch Tanner / K3ACT rules@w3vpr.org

Jim Wallace / N3ADF **Service Hours** 301 538 6233

service.hours@w3vpr.org

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training@w3vpr.org **VE Team** David Rawley / N3AT testing@w3vpr.org

Webmaster Mark Bova / W2PAW 240 274 6294

webmaster@w3vpr.org Wed. Nite Net Jamison Phipps / W3KNH wednesday.night.net@w3vpr.org

Rick Steer / AB3XJ

winter.field.day@w3vpr.org

Groups

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Board of Directors

Winter Field Day

board19@w3vpr.org

Kit Building Committee

kitbuilding@w3vpr.org

Rules Committee

rules.com@w3vpr.org

VE Testing Schedule Second Saturday of each month

- Noon - AARC -

David Rawley, N3AT testing@w3vpr.org

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:

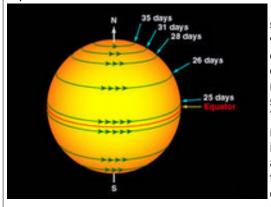
- Picture ID
- Social Security Number or FCC Registration Number (FRN)
- ORIGINAL and a COPY of current FCC amateur radio license

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

Examination-CSCE)

Why Propagation Repeats About Every 27 Days

The sun rotates in about 27 days, but different solar latitudes rotate with different periods. This is why propagation repeats roughly every 27 days, as NASA explains.



The sun's rotation was first detected by observing the motion of sunspots.

The sun's rotation axis is tilted by about 7.25° from the axis of Earth's orbit. so we

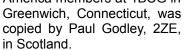
see more of the sun's north pole in September and more of its south pole in March. Because the sun is a ball of gas/plasma, it does not have to rotate rigidly, as solid planets and moons do. In fact, the sun's equatorial regions rotate faster -- taking only about 24 days -- than the polar regions, which rotate once every 30+ days.

The source of this "differential rotation" is an area of current research in solar astronomy. -- Thanks to The ARRL Contest Update and NASA

Used with permission The ARRL Lette, Nove, ber 21, 2019

W1AW to Commemorate 98th Anniversary of First Amateur Radio Signals to Span the Atlantic

December 11 marks the 98th anniversary of the success of ARRL's <u>Transatlantic Tests</u> in 1921, organized to see if low-power amateur radio stations could be heard across the Atlantic using shortwave frequencies (i.e., above 200 meters). On that day, a message transmitted by a group of Radio Club of America members at 1BCG in





While the first twoway contact would not take place until 1923, the 1921 transatlantic success marked the beginning of what would become routine communication between US radio amateurs and those in other parts of the world -- the birth of DX.

To commemorate this amateur radio milestone, Maxim Memorial Station

W1AW will be on the air through the day on December 11 with volunteer operators. The goal is to encourage contacts between radio amateurs in the US and Europe

while showcasing the significance of the transmissions that pioneered global communication and laid the groundwork for technology widely used today.

The event will run from 1300 until 0000 UTC. Some details are still being worked out, but operation will focus on 40 and 20 meters (SSB).

<u>Contact</u> Clark Burgard, N1BCG, for more information.

Used with permission The ARRL Letter for November 7, 2019

Southern California Hams Support Major Terrorist Attacks Response Drill

On November 6, seventy southern California hams deployed to thirty local hospitals, clinics, and city EOCs to support Public Safety and EMS functions during a mock terrorist response drill, an exercise that tested law enforcement and medical treatment facilities in San Diego County, California.

The scenario was a coordinated attack at two locations 50 miles apart that resulted in mass casualties and inundated local Emergency Departments with 1,000 volunteer actors with simulated injuries and frantic families, also actors, trying to locate loved ones. One of the simulated attacks occurred at Legoland, California, which closed for a half day to support the exercise, and the other simulated attack occurred at a 20,000 seat amphitheater. During the five-hour exercise, hams relayed hundreds of formal ICS 213 messages by Winlink and voice nets from hospital to hospital and from hospitals to the County Medical Operations Center (MOC).

Participants included hams aboard the 1,000-bed US Navy Hospital Ship USNS *Mercy* and HF net check-ins from across the southwestern United States.

Hospitals used this full scale exercise to fulfill their annual accreditation training requirement. Recent changes in California hospital regulations require smaller medical clinics to conduct annual certification drills, and that expansion of clinic participation has led to a flood of requests for trained radio operators at hundreds of day surgery clinics and group homes not covered previously by ARES. Because demand far exceeds the availability of ARES operators for mid-week, daytime drills, ARRL San Diego Section Manager Dave Kaltenborn, N8KBC, encourages smaller clinics and medical networks to consider developing their own internal Amateur Radio capability. Several people involved at the smaller clinics have taken classes and training provided by ARES.

The exercise included cross-border participation by members of Club de Radio Experimentadores de Baja California (CREBC) at Tijuana General Hospital in Tijuana, BC, Mexico. CREBC hams maintain an extensive Winlink and repeater network used by amateurs on both sides of the border. -- Dave Kaltenborn, N8KBC, Section Manager, ARRL San Diego Section, California

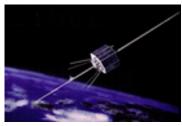
Used with permission The ARES E-Letter, November 12, 2019



Happy 45th Birthday, AMSAT-OSCAR 7!

Happy 45th Birthday, AMSAT-OSCAR 7! The world's longest-lived satellite, AO-7, turned 45 years old this month. It was <u>launched</u> on November 15, 1974, from Vandenberg Air Force Base in California. After nearly 7

years of service, AO-7 was thought to have reached the end of its life in June 1981 due to battery failure, and a premature obituary appeared in the AMSAT Satellite Report. In an interesting footnote, although AO-7 was thought



to be nonfunctional after 1981, it's been reported that the Polish Solidarity movement used AO-7 to pass messages in 1982, while Poland was under martial law. Twenty years later, on June 21, 2002, G3IOR reported hearing "an oldstyle CW beacon" from an unknown OSCAR near 145.970 MHz. It didn't take long to identify the satellite as AO-7, which remains operational and well-used while it's in sunlight. To celebrate AO-7's 45th birthday, AMSAT plans to auction a set of gold-plated AO-7 cufflinks and a 50th Anniversary AMSAT lab coat (size 42R). The auctions are now live on eBay and will conclude shortly after 0200 UTC on November 26, 2019. AMSAT reports that 100% of the proceeds will go toward Keeping Amateur Radio in Space. -- Thanks to AMSAT News Service

Used with permission The ARRL Letter, November 21, 2019

60 meter

Access to 60 meters continues to expand. According to the latest edition of $\it The~5~MHz~Newsletter, regulatory$



agencies in an expanding list of countries have granted amateur radio access to a 60-meter band. A secondary allocation of 5.351.5 - 5.366.5 MHz was released to radio amateurs in Kuwait, where they will adhere to the World Radiocommunication Conference 2015 (WRC-15) allocation, permitting a maximum power of

15 W EIRP. Indonesian and Greek hams recently gained access to the same allocation. Meanwhile, Israel has extended authorization of 5 MHz amateur permits to the end of December 2023 and added a Channel 0 to the existing eight channels, where hams may run 100 W PEP on several modes, depending upon the channel. Still under discussion is ham radio access to a 5 MHz secondary band in Australia, where the band is used by some emergency services and law enforcement. Nearly 80 countries offer some level of amateur access to the 5 MHz band. In the US, ARRL petitioned the FCC shortly after WRC-15 to allocate a secondary 60-meter band and to permit 100 W PEP, as already authorized on the existing channels there.

Used with permission The ARRL Letter, November 14, 2019

Family Reunification - A New Frontier

One of the clear messages from the 2013 Boston Marathon Bombing After Action Report is the importance of family reunification. There were many worried families missing loved ones in the bombing's aftermath, and anxiety continued for several days. The Red Cross provided their web site "Safe and Well," but the report noted that you had to register online to use it -- runners often did not have mobile data equipment with them to use the service.

At our marathon, the *Medtronic Twin Cities Marathon*, we have an excellent bond with our Medical Team. We serve right alongside them at every station. We register in the Medical Volunteer System and use the medical software. To paraphrase the old advertising slogan "They don't leave home without us." I explain, mostly seriously, we are the Medical Director's "Private Army." Our focus is health and safety and related duties as assigned.

The most attention I see from leadership on race day is with missing persons. If a runner is reported overdue, a huge pressure from family is placed on top officials who appear in our Medical Operations Center. We have approaching 80 hams reporting in from the course and we are entering the runner location data in our homemade Linux database. We are asking our on-course operators to also record queries from family about runners - (11:47 AM "please call your wife on this #" etc.)

Family reunification cannot be accomplished only by technology. Tracking runner RFID chips is part of the answer, but can't help missing or injured family members or spectators. This latter function requires the human element -- in our case, hams in yellow shirts. We also integrated non-ham volunteers in our mesh data network and Family Reunification Center. A few of the public officials I briefed were impressed that we had a wide area six megabit mesh network and microwave data backup network with 40 radio repeaters online. We are adding new repeater/mesh sites every year.

Perhaps the ultimate measure of trust was in evidence at some recent events where ham volunteers were tasked by top Fire and EMS leaders to coordinate and host non-911 rig dispatching and hospital capacity tracking, under the careful supervision of their professionals elbow to elbow.

Advice on Working Runner Events, from Lessons Learned

Build on the relationships you have. Do your best--be humble and reliable. Listen for new opportunities to serve. Take feedback seriously. Disown those who insist on stirring the political pot. If there is a toxic relationship evolving, back away quickly and quietly as things can change; bridge burning is never good. -- Erik Westgard, NY9D, Medical Communications Coordinator, Medtronic Twin Cities Marathon, Red White and Boom TC

Half Marathon

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W1AW 2019/2020 Winter Operating Schedule

Morning Schedule:

Time Mode Days ------1400 UTC (9 AM EST) CWs W

1400 UTC (9 AM EST) CWs Wed, Fri 1400 UTC (9 AM EST) CWf Tue, Thu

Daily Visitor Operating Hours:

1500 UTC to 1700 UTC - (10 AM to 12 PM EST) 1800 UTC to 2045 UTC - (1 PM to 3:45 PM EST)

(Station closed 1700 to 1800 UTC (12 PM to 1 PM EST))

Afternoon/Evening Schedule:

2100 UTC (4 PM EST) Mon, Wed, Fri CWf 2100 " **CWs** Tue. Thu 2200 " (5 PM EST) **CWb** Daily 2300 " (6 PM EST) **DIGITALDaily** 0000 " (7 PM EST) **CWs** Mon. Wed. Fri 0000 " CWf Tue, Thu 0100 " (8 PM EST) **CWb** Daily 0200 " (9 PM EST) **DIGITALDaily** 0245 " (9:45 PM EST) VOICE Daily 0300 " (10 PM EST) Mon, Wed, Fri CWf 0300 " **CWs** Tue, Thu 0400 " (11 PM EST) 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 2330 UTC (6:30 PM EST), 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 0100 UTC (8 PM EST) Thursdays and 0100 UTC (8 PM EST) Fridays.

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

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.

All licensed amateurs may operate the station from 1500 UTC to 1700 UTC (10 AM to 12 PM EST), and then from 1800 UTC to 2045 UTC (1 PM to 3:45 PM EST) Monday through Friday. Be sure to bring your current FCC amateur radio license or a photocopy.

The W1AW Operating Schedule may also be found on page 100 in the November 2019 issue of QST or on the web at.

http://www.arrl.org/w1aw-operating-schedule

High Speed Data Networks

The high speed Amateur Radio Emergency Data Network (<u>AREDN</u>) was employed to monitor wildfires in California.

The Mariposa Area Amateur Radio Organization (MAARO) used the Amateur Radio mesh to stream -- via microwave -- video from the Briceburg Fire near Yosemite National Park.

The Pleasant Valley Amateur Radio Club (PVARC) employed the AREDN mesh to <u>stream</u> video from the Saddle Ridge Fire near Los Angeles from a repeater site overlooking San Fernando Valley.

The Briceburg and Saddle Ridge fires are now under control, but archived streams are still available. This is the same network that was used to stream video from the Thomas and Woolsey fires in 2017 and 2018, respectively. -- Thanks, Ben Kuo, Al6YR, Newbury Park, California

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Early History of Amateur Emergency Communications

To fully appreciate anything, it's helpful to understand its history. For amateur emergency communications, that is certainly true; however, it is also simply fascinating. Not much has changed in over a hundred years of the radio amateur's role in the disaster and emergency communications arena, except for everadvancing technology and technique. The following are some gold nuggets I found from reading -- and re-reading and highlighting - ARRL Assistant Secretary Clinton B. DeSoto's classic 1936 book, *Two Hundred Meters and Down--The Story of Amateur Radio*.

On just the second page of the book, DeSoto, in describing the typical radio amateur of 1936, offers up an adventurous band of free spirits involved in the radio art for the simple love of it, but turning serious about altruistic service to humanity when it came time to "saving a hundred lives in a fever-ravished Alaskan village . . ." Technical advancement of the art is their contribution to humanity, too, but with an unparalleled service "of matchless heroism in flood and disaster, . . . with their great emergency system of communications carrying on when all others have failed. In many years no community in distress in this country has been without valiant aid from Amateur Radio."

DeSoto called emergency communications by amateurs the "Flower of the Art."

Early history of amateur communications also involves the handling of traffic, upon which, among other things, the ARRL was formed in 1914. Traffic handling by relaying is the essence of emergency communications, of course. "Floods, hurricanes, earthquakes - disasters of all varieties provide a large part of the amateur message total in the form of emergency traffic. Amateurs almost invariably form the last line of communication in times of natural emergency; this has been true in more than forty major and a large number of minor disasters in the past twenty years [that's from 1916 to 1936 - ed.] . Tragedy, drama, human interest incidents of all kinds, provocative of both laughter and tears, have all been logged in these hard-worked amateur radio stations."

DeSoto described the predominant characteristic of the amateur is his altruism: and that certainly is still true today, a hundred years later.

In 1913, on the heels of the research and development of radio design of the time, the primary interest had become application and practice, namely communication and the handling of messages. Amateurs occasionally handled traffic for third parties.

In March, 1913, "a possible new activity for amateur radio made itself apparent when amateur stations successfully bridged the communications gap surrounding a large isolated area left by a severe windstorm in the Midwest. Amateur stations at the University of Michigan at Ann Arbor and at Ohio State University, in conjunction with numerous individual amateurs in and around the stricken area, handled widespread communications . . ."

Message handling, especially the organized relaying of those messages, for fun, friends, and in time of emergency formed the basis of the ARRL, which was to be founded the following year as the needed national organization to represent the amateur's interests. Operating speeds increased with the resulting increased proficiency, and advantages of national representation were manifest.

With significant service with proficiency already provided in times of emergency, the government and the ARRL worked together to prepare for war and the necessary radio operators to support it. In 1917, amateurs were ordered off the air, and as the US went to war, thousands of amateurs with the requisite emergency and message handling experience served the war effort until the Armistice in 1918.

Amateurs were back on the air in late 1919, and a year later, had turned to a new activity, the precursor to many services rendered today to law enforcement and emergency management: "amateur police radio," assisting the police with major crime solving efforts, including stolen automobiles.

In 1922, State governors hailed Amateur Radio operators as a "reserve of radio minute men for national emergencies."

In 1929, a new Army-Amateur Radio System organized networks across the country to assist the Army and American Red Cross for disaster relief communications.

In 1931, after years of experimentation to promote long distance communications, relative to the five-meter band, a few hams realized that there was a place for communications of just a few miles, or "line of sight," a realization that would serve as the bedrock for countless ARES groups forever more.

In 1933, new regulations permitted mobile operation at UHF; informal portable operation was also permitted.

Early Emergency Responses

Amateur Radio disaster responses from 1919 to 1936 are summarized in chapter twenty - "Emergencies." DeSoto wrote "Since 1919 Amateur Radio has been the principal if not the only communication link following nearly forty major and a great number of less consequential disasters." He cites the Great Flood of March 1936 as the greatest amateur emergency public service of the time. As flooding expanded, normal communications were cut off, and amateur communication systems expanded flexibly spontaneously to meet the need in the disaster that affected the entire eastern US. Many were based on the Army-Amateur, Naval Reserve and the ARRL Emergency Corps, forerunner of today's ARES program. At the peak of activity, it was estimated that a thousand amateur stations were engaged in providing effective emergency communications for prompt warning of authorities, immediate evacuation of threatened areas, and expedient supply of relief and rescue assistance. By the end of 1936, amateurs had earned nationwide recognition for effecting communications where all other means had failed.

Conclusions

In the last chapter of his book, DeSoto expresses what still rings true today: The right of Amateur Radio to exist comes from its public utility. Operators perform a continuing public service in that they train themselves in a highly-specialized and difficult field to be of use to the nation in time of emergency.

Used with permission ARES E-Letter, Sept 18, 2019

Taking Advantage of Coaxial Cable Capacitance

Jeff Blaine, ACOC, had a bad capacitor in the 15-meter filter section of his 5B4AGN multiband band-pass filter, because as he puts it, "they have been treated terribly over the years." One way to damage a filter is to use power levels at the limit of the filter into a load that presents a high SWR -- especially a high duty cycle mode like RTTY. He didn't have the required small 14 pF capacitor, so he trimmed a piece of



Jeff, AC0C, used a small length of RG58 about (about capacitor in a bandpass filter. [Jeff reports.]
Blaine, AC0C, photo]

RG-58 to the required value - coaxial cable exhibits a certain amount of capacitance per unit length.

"The repaired 15-meter filter runs 1.10:1 or better SWR across the band with an insertion loss of about 0.65 dB," he reports. Blaine advises that the RG-58 "can be coiled up

and secured with some tie wraps" and that it should be kept away from the toroid to minimize interaction -- a half-inch is probably sufficient. This approach may work well for other applications where a low-value capacitor is difficult to obtain and space is available.

Blaine uses an L/C meter to measure the capacitance as the piece of cable is trimmed to approach the target value, and he leaves the cable about a quarter of an inch, then trims the braid back to increase the distance between it and the center conductor. He puts shrink wrap over the end, and measures the passband of the filter section with the chassis cover in place. -- Thanks to the ARRL Contest Update

Used with permission The ARRL Letter for October 31, 2019

SKYWARN Recognition Day Celebrates 20 Years on December 7

SKYWARN Recognition Day (SRD) will mark its 20th anniversary on December 7, 0000 to 2400 UTC. This

is the day each year when radio amateurs operate from National Weather Service (NWS) forecast offices across the country, celebrating the long relationship between the amateur radio community and the National Weather Service SKYWARN program. The purpose of the event is to



recognize amateur radio operators for the vital public service they perform during times of severe weather and

to strengthen the bond between radio amateurs and their local NWS offices.

Developed in 1999, SRD is cosponsored by ARRL and the NWS. Traditionally, radio amateurs have assisted the mission of the NWS through providing near real-time reports of severe weather and storm development. Reports received from radio amateurs have proven invaluable to NWS forecasters.

During SRD, participants exchange contact information with as many NWS stations as possible on 80, 40, 20, 15, 10, 6, and 2 meters, plus 70 centimeters. Contacts via repeaters are permitted. Stations should exchange call signs, signal reports, and locations, plus a quick description of the weather at your location (e.g., sunny, partly cloudy, windy, rainy, etc.). EchoLink and IRLP nodes, including the Voice over Internet Protocol Weather Net (VoIP-WX), are expected to be active as well.

<u>WX4NHC</u> at the National Hurricane Center will also be on the air for SRD, 1300 - 1700 UTC, for its 21st year of SRD participation.

Event certificates are electronic and printable from the main website at the conclusion of SRD. To learn more, visit the SKYWARN Recognition Day website.

Used with permission The ARRL Letter for November 7, 2019

OH2BH to Be On the Air from Myanmar

OH2BH to Be On the Air from Myanmar The government in Myanmar has given limited amateur operating privileges to Martti Laine, OH2BH. He will use XZ2D. Laine reports that authorities in the Southeast



Asian nation have only permitted him to operate on 15 meters and higher, but he is hoping to obtain

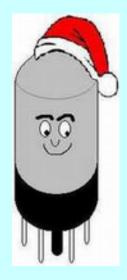
permission to operate on a spot frequency on 20 meters. "Getting 14.065 kHz temporarily for the duration of 48 hours would be magic," Laine said. Members of the worldwide amateur community wrote the Myanmar government to support Laine. "As Radio Arcala, OH8X remains at their Climate Park with more than 110,000 mangroves planted," he continued. "[O]ur dream remains to activate the Union of Myanmar from our own site from the noise-free Ayeyarwady Region of Myanmar." The XZ2D license is valid until April 17. Laine said he has been setting up his station and should be on the air on November 21. According to Club Log's DXCC Most Wanted list, Myanmar is #48.

Used with permission The ARRL Letter, November 21, 2019

Fourth Annual American Legion PGCERA "SantaFest"

December 7, 2019
Remember the Lives Lost in Pearl Harbor







Tables are \$20.00 Each (Includes one Admission per Table)

Tailgating \$15.00 Per Space (Includes one Admission per Space)

Information, Table and/or Tailgate Space

Contact: "selbynet@hotmail.com"

Admission is \$6.00

SantaFest 8:30 AM to 12:00 PM

American Legion Youth Camp 9201 Surratts Road Cheltenham MD 20623

VE EXAMS 0900 Hours to 1100 Hours
Walk-In Must Sign In No Later Than 1030 Hours
SantaFest will take place regardless of the weather.
Talk-In K3ERA Repeater 145.230 PL 110.9
Set-Up Starts at 7:00 AM

Want A Thrill Like No Other

Want a thrill like no other for less than \$16 and a few hours on a Sunday afternoon? Do what I did and read DeSoto's 200 Meters and Down - The Story of Amateur Radio. Published in 1936, it covers the discovery of radio physics. experimentation, application. and breathtaking development of Amateur Radio in the dawn of the art. The main takeaway, among many others, for me was the degree to which amateurs and Amateur Radio operators were involved in the development of all radio communications, including the broadcasting service. Pick up the book, and find yourself amazed of the early pioneering work of radio amateurs, the kind of pioneering that still goes on today.

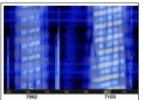
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OTH Radar

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OTH Radar is now reported to be "everywhere." The latest International Radio Amateur Union Region 1 Monitoring (IARUMS) newsletter System reports the Russian "Contayner" over-the-horizon radar (OTHR) A spectrogram of the has been active in the 7, 10, 14, and 18 MHz amateur radio allocations (amateur radio is primary on 40, 20, and 17 meters). The OTHR transmissions have been 40 sweeps/second, FM



Russian "Contayner" OTHR. [Image courtesy of Wolf Hadel, DK2OM]

on pulse, and 12 kHz wide. Additionally, IARUMS reports a significant increase in Russian military traffic using F1B, PSK, and orthogonal frequency division multiplex (OFDM) on 40, 30, 20, and 15 meters. IARUMS on November 13 reported an OTHR in northern Iran on 6.078 - 7.022 MHz, AM on pulse, 81 sweeps/second, 44 kHz wide.

Used with permission The ARRL Letter, November 14, 2019



Net Control Radio Operators

ARE NEEDED

during the work-weekdays from 0700 to 0900 am.

Contact: Jim Wallace, N3ADF

^^^^^^^

Major Station Burglary **Demonstrates Need for Building, Radio Room Security**

The Los Angeles Fire Department (LAFD) Auxiliary Communications Service (ACS) North Valley Station (old Fire Station 77) was burglarized recently. The thieves broke into the radio room and took virtually everything including the lights. While they were careful in removing the radios -- brackets and all -- they chose to vandalize the room after they were done. LAPD has taken a report and processed the area for fingerprints. The list of stolen items is available. Area amateurs were asked to watch ham radio classified ads and inform the LAFD ACS if any of the listed items are shown. Serial numbers for all radios are available. The members will soon begin to raise funds to replace the equipment and to better secure the facility. Donations to LAFD ACS are being accepted and appreciated. - Dan Tomlinson, NR6V, Los Angeles City Auxiliary Communications Service (ACS) Battalions 10 and 17 Communications Unit Leader [Thanks to Duane Mariotti, WB9RER, for forwarding this report to the ARES E-Letter --ed.]

Used with permission The ARES E-Letter, November 12, 2019 $\dot{\Lambda}$

The Anne Arundel Radio Club

is a registered 501C3 charity.

We are pleased to receive any donations over your yearly dues.

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, December 5, 7:30pm

Membership Meeting Election of Club
Officers

Saturday, December 7 8:30am
Santafest At the American Legion Youth
Camp, Cheltenham. MD

Sunday, December 15 4:00pm

AARC Holiday Party Boy Scout Hall on the

DFRC Campus

Sunday, December 22 1:00pm

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

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 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.

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 P	L 107.2	Weekdays	0700
AA County ARES Net	146.805- Mhz P	146.805- Mhz PL 107.2		2000
Baltimore Traffic Net	146.670- Mhz	146.670- Mhz		1830
Maryland Emergency Phone Net	3.820Mhz	320Mhz		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 Cod