ARC-SHORTS

May 2021

Club Repeaters: 147.315 (PL 107.2), 444.6 (PL107.2), 224.82 (PL107.2), 53.13 (PL107.2) 927.6 (-25Mhz, PL107.2), and 1282.600 (PL 107.2), DSTAR 145.38Mhz, 442.060, and 1284.

: DMR IS UP AND RUNNING 442.4125 +5Mhz Color Code 1.

PLEASE USE OUR REPEATERS.

Presidents Corner

On April 30 the ARC Leadership Group made the decision out of an abundance of caution to again conduct a virtual Field Day in 2021. This difficult decision was made by the club leadership group consisting of elected officers, committee chairs, and presidents emeritus. Prior to the final decision, inputs from all board members present were discussed as pros and cons regarding conducting a conventional in-person Field Day versus a virtual Field Day. The need for club members to work in close proximity during an in-person Field Day with uncertainty about safety precautions such as vaccinations and mask wearing were the decisive factors. Work on final details for the virtual Field Day are underway. At the April 30th meeting, ideas for updating the ARC Officer's Guide were also discussed. The status of purchasing ARC patches, shirts, safety vests, and sweatshirts was reviewed. Other items discussed included strategies for membership building and retention, maximizing the value of new at-large-Board Directors to ARC, and fundraising ideas. The survey results of the tech-talk topics were discussed, including the establishment of a new start date for tech-talks, the first Tuesday in June.

Virginia continues to be under a state of emergency based on COVID-19, but effective May 15, will again reduce restrictions under amended Executive Order 72 to allow the maximum number of individuals permitted in a social gathering to increase to 100 people for outdoor settings, while remaining at 50 persons for indoor settings. Because of pandemic trends, the governor expects more lifting of restrictions in June as work continues with significant increases in vaccinations. However, the Commonwealth will continue to mandate mask-wearing and social distancing, even as commercial restrictions are further eased. Given the remaining set of uncertainties about safety related to reopening the economy and the continued presence off COVID-19, Alexandria Radio Club leadership has not elected to recommend resumption of in-person club activities; we will continue with our virtual meetings using Zoom.

The April 9th ARC monthly meeting featured a presentation by Mark Siegesmund (W9WMR) of

<https://urldefense.com/v3/ http://www.westmountainradio.com/ ;!!KfGNmQmE!y</pre> FHYmpn0rUi-e0sx8rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upHDiQqXG\$ > West Mountain Radio. Mark is the current president of West Mountain Radio and head of engineering; he has done hardware design for many of the company's products. The presentation featured DC power technologies, distribution, batteries and solar power sources, and covers special considerations involved with low voltage high current DC power as is used in amateur radio. Cable loss as well as connector suitability were discussed. Mark highlighted a relatively new West Mountain product, the computerized battery analyzer. West Mountain Radio has been at the forefront in the ham radio community for many years, being first one of the first to popularized sound card hardware for the new digital modes, and the first to popularize Anderson powerpole connectors for ham radio. The company specializes in products for amateur radio, DC power distribution and control, as well as R/C hobbies, West Mountain Radio manufactures RIGrunner DC power strips, voltage monitors and tools, and precision battery analysis hardware and software; in addition to RIGblaster sound card interfaces.

The May 14th meeting will feature Barry Feierman (K3EUI) discussing Antenna Tuners: When do you need one, and how do they work; and other antenna matching techniques.

Licensed in 1958 (KN3EUI) as a teenager, Barry notes that his knowledge of electronics was nil back then, but he could memorize hundreds of questions and answers to pass FCC tests. He confides that it took him decades to really understand radio concepts, which he would now like to share with others. He is a retired physics teacher/professor with a background in astrophysics. He loves to tinker with sound card digital modes and build and test antennas. He is the net manager of the Pennsylvania NBEMS (EMCOMM) net and active in ARES/RACES in Chester County PA. His presentation abstract:

* Why antennas have reactance (phase errors) and how to correct the situation with a "tuner" at the antenna, or in the shack.
 * Detailed discussions of how the tuner provides a conjugate match, zeros out reactance, modifies impedance back to 50 ohms, and so the tuner provides a "REFLECTION GAIN" to offset the antenna mis-match loss.
 * Antenna-feedline matching devices, including delta matching, gamma matching, stub matching, etc.

The list of upcoming club activities and presentations planned for 2021 is listed below. The Club also welcomes any ideas from club members for programs and activities in 2021. Please send your ideas to mailto:president@w4hfh.org> president@w4hfh.org.

ARC recorded Zoom meetings with featured presentations are located at <https://urldefense.com/v3/ https://drive.google.com/drive/folders/1MG9VUqKO WeoWEWt0oBwychbzh4qILqbI?us ;!!KfGNmQmE!yFHYmpn0rUie0sx&rLOMO7QU80lpTyCn5cwJz3wc2vYI_6-8y5upPnDU603\$ p=sharing> https://urldefense.com/v3/ https://drive.google.com/drive/folders/1MG9VUqKOW eoWEWt0oBwychbzh4qILqbI?usp ;!!KfGNmQmE!yFHYmpn0rUie0sx&rLOMO7QU80lpTyCn5cwJz3wc2vYI_6-8y5upM9eQirP\$ =sharing.

Scheduled Activities and Presentations for 2021 updated as of May 1, 2020

January 8th - ZOOM MEETING, Pentagon Radio Club MARS Operations by Gary Sessums (KC5QCN), 2021 Plans & Programs, Voting Meeting February 6th - (CANCELLED) FROSTFEST, Richmond, VA February 12th - ZOOM MEETING, VA QSO Party, Gordon Miller (NQ4K) February 15th - (CANCELLED) George Washington Day Parade Participation March (Date) - License Classes begin, Ends May (Date) March 6th - (CANCELLED) St Patrick's Day Parade March 12th - ZOOM MEETING, How to Learn and Have Fun with Morse Code * by Long Island CW Club, Howard (WB2UZE) and Jim (W6JIM) March 20-21th - VA QSO Party Weekend April 7th - ZOOM MEETING, FIELD DAY 2021 planning committee kickoff * April 9th - ZOOM MEETING, West Mountain Radio, Mark Siegesmund (W9WMR) April 24th (VIRTUAL) WINTERFEST, Annandale, VA YOU ARE HERE!

* May 14th - ZOOM MEETING, Antenna Tuners: When do you need one, and how do they work?, Barry Feierman (K3EUI)

- May 21-23rd (CANCELLED) HAMVENTION, Dayton,
- * June 11th ZOOM MEETING, FIELD DAY 2020 final briefing
- * June 12th Manassas Tailgate hamfest.
- * June 26-27th FIELD DAY 2021 Weekend
- * July 9th ZOOM MEETING, AREDN, Joe Porcelli (KT3I)
- * August 1st Berryville HAMFEST, Berryville, VA
- * August 13th ZOOM MEETING, TBD

- * September 10th ZOOM MEETING, TBD
- * October 8th MEETING, History of ARC, Don Lewis (KI4D)
- * October 31st (CANCELLED) MARINE CORPS MARATHON
- * November 12th MEMBERSHIP MEETING, Elections
- * December 10th MEETING, Christmas party

Proposed Tech Roundtable Topics for 2021 (Panel of experienced club members and others discussing their experiences with Q&A.)

1. Ham Activities for New Technician Class Hams 2. Handy talkies (HT) options, what kind, how much? Pros and Cons 3. Building a Go-kit for ARES QRP (Reduced transmit power out) 4. 5. Portable ops (rigs, batteries, antennas, etc.) Mobile installations 6. 7. Starter Base Station Options 8. Stealthy Antennas for city dwellers 9. QSL Cards 10. Getting Started with ECHOLINK 11. Getting Started with Amateur Radio Satellite Communications Parks on the Air for Beginners 12. 13. Working with Repeaters 14. Using NVIS 15. Working with Digital modes 16. Radio Scanners for Beginners 17. Packet Radio 18. Raspberry Pi Applications Virtual Ham Shack Tour 19. 20. Ham Shack Hotline 21. Installation and Logging with N3FJP 22. Matching Antennas to Feedlines 23. Propagation and Sunspot Cycle 25 "Time" for new amateur radio operators 24.

Please stay safe with vaccinations, masks and keep up with your social distancing.

73 Don, KI4D

Next Meeting

Our next meeting will be VIA ZOOM on May 14th and the program will be

Amateur Radio Emergency Services (ARES) in Alexandria.

Last Meeting

Alexandria Radio Club Meeting Minutes April 9, 2021

At our April monthly meeting Mark Siegesmund (W9WMR) gave us a presentation on $% \left(\mathcal{M}^{2}\right) =\left(\mathcal{M}^{2}\right) \left(\mathcal{M}^{2}\right) \left($

DC Power Technologies, Distribution, Batteries and Solar Power Sources of the west Mountain Radio Club.

Committee Reports were accepted as given.

The Alexandria Radio Club has over 100 members in good standing.

All of the Alexandria's Radio Club repeaters are operational.

The Alexandria Radio Club Spring Training class begin March 23, 2021 for Technician and those wishing to upgrade to General License.

Net control operators for the following dates are:

- * April 15, 2021 Ian Keith (N8IK)
- * April 22, 2021 Richard Adamy (KA4GFY)
- * April 29, 2021 Rick Bunn (N4ASX)
- May 6, 2021 Bryan 'Grew" Pettigrew (WD4ADF)
- * May 13, 2021 Don Lewis (KI4D)
- * August 13th MEETING
- * September 10th MEETING, MCM Briefing, Howard Cunningham, (WD5DBC)
- * October 8th MEETING, History of ARC, Don Lewis (KI4D)
- * October 31st MARINE CORPS MARATHON
- * November 12th MEMBERSHIP MEETING, Elections
- December 10th MEETING, Christmas party

Please be advised that the above schedule is subject to change due to COVID-19 requirements.

ARES

The last two articles on ARES concerned themselves with preparation and the need to be committed to supporting the program when you volunteer.

In the past, we (ARES) have been amateur radio support. A served agency calls and we provide amateur radio support with operators. This is changing and we are now expected to provide our expertise and be able to interface with other radio systems. Some of this has to do with post 9/11/01 grants where served agencies have been funded to increase their own equipment inventories. At the last few G.W. Birthday Parades, we asked for an Alexandria Police Dept liaison so we could keep track of any issues on the parade route or to relay from our net to the APD any issues. The response was to provide our comm trailer with an APD handheld radio set up on the frequency being used by APD for the event.

At this point we only have 14 ARES volunteers in Alexandria ARES. SO, we need to recruit, and we need to interface with other groups. One group is the Citizens Emergency Response Teams (CERT). CERT's core mission is to be a neighborhood first response in a disaster until other first responders can arrive on site. Alexandria has a CERT program and is building it up. CERT members have been active in supporting the city's pandemic response and I am working with CERT to see how we can interface with them. In Fairfax, Fairfax CERT has over 220 active volunteers and many of them are amateur radio operators. Their primary communications is the General Mobile Radio Service (GMRS). Alexandria and Arlington use an app called Zillo (I have not done any research on this yet.) ARES working with CERT can allow us to better support the City, the Hospital and Red Cross.

Normally, Amateur Radio is known for being able to work without an established communications infrastructure, but we do make use of FM repeaters, WINLINK gateways and in the near future the Amateur Radio Emergency Data Network (AREDN). AREDN is a MESH network of 2.4GHz and 5GHz nodes that start out as high power WIFI hotspots but are reprogrammed to become a self-discovering network at WIFI speeds on AMATEUR frequencies just outside the normal WIFI channels. We are working on getting permission to place AREDN nodes on tall buildings around the city to establish such a network. Once we have that network, I will approach the city with a plan to connect via AREDN their important locations in the city. This would allow for backup to the internet should the internet go down in the city.

AREDN nodes are not that expensive, and we do have members of the club who have become adapt at reprogramming these commercial units. Amateur radio is

always a learning experience.

If you are interested in joining ARES, Give me a call.

73

Rick

N4ASX (<mailto:N4ASX@cox.net> N4ASX@cox.net)

ELMER'S INPUTS

Let's talk about connectors.

Soon after you go from your first radio, which in the last few years has been a handheld VHF radio. Nice thing about the handheld VHF radio is it's a complete station including the power supply, antenna and in a simple package. But there are limitations. Running on a battery the power output is limited to usually 5 watts. The antenna is also less then idea. The standard 'rubber ducky' antenna is an electrically short antenna with a poor ground plane. VHF is also LINE OF SIGHT you're your height above ground is how high you can hold it. Soon most new amateurs come to the conclusion that the handheld is not sufficient.

If you need more range there are two basic approaches. Adding an amplier like the BD-35 can provide 35 watts output, but then you need an antenna, a place to put the antenna, coax cable, a power supply for both the amplifier and the handheld. This can be very handy in the mobile, but at home it can just be a mess. Another alternative is to purchase a mobile radio but again add to the cost an antenna, cable, power supply and a place to operate. While a basic 2-meter / VHF radio can be had for less then \$200, an antenna, if you can put one outside may add \$50 to \$100 plus coax cable. Here is a time to suggest looking for a used VHF radio. Some can be had for \$50 to \$100 and will do what you want in terms of a step up.

So, if you take that next step, you will see that all these new parts need to be connected together. Your handheld may have a SMA connector or if it's older a BNC connector. Both can be a pain to put onto a piece of coax. For this reason, it may be better to buy an adapter to go from SMA or BNC to an SO-239 connector (sometimes called a UHF female), For the coax run to the antenna you have four choices. RG-174 which is the real thin stuff that will not take great power and has a great deal of loss at VHF, RG-58 is what most CB installations use. It works, it's inexpensive, A step is RG-8X/LMR-240, much better performance but slightly larger than the RG-58. Next step up is RG-8 or RG-213 (mil spec RG-8). Each different diameter

will require a different version of the PL-259 (UHF male) connector. All of these connectors are easy to install on the cable and you have two options. The first is a standard PL-259 sized for RG-8 / RG-213 / LMR-400. Once the connector is fitted to the cable, you solder the braid to the outer shell and the center pin to the in on the connector. For RG-58/8x/240 you would add an adapter which adds soldering issues for most of us. The second approach is to use a crimp connector, the coax is prepared the same way, but rather then soldering the braid to the outer part of the connector you us a crimping tool to connect the braid to the shell, you can get connectors that the center pin is crimped, but its easier to solder the center pin. The Crimping tool can be a simple type that looks like a pair of plyers, or a true crimping tool. They can be more expensive, but they pay for themselves quicky. If you do a lot of these connectors the crimp on will pay for itself. If you start to play on 440MHz (70cm) you will find that you start to use the N Connector not different but a little more involved.

Now you have the antenna up and running how about that power supply, could be a car battery and batter trickle charger. But here you need to connect the power supply to the radio and the amp or the mobile radio. There are many different types of power connectors. Most mobiles come with a T-connector and you can add rings to the other side of the power cables to attach to your power supply. Another solution is to with the Anderson Powerpoles, inexpensive and easy to deal with. You can crimp or solder the PowerPoles. Crimp is better and faster. If your powering two or more items, a Powerwerks rigrunner is a good way to go. Other power connectors can be banana jacks, Jones Plugs, Molex. PLEASE don't do the twist and tape method.

As you get more into the hobby, you will find audio cables, interface cable, and other wires needing connectors. But this is a start.

73 Rick

Hamfests -

The spread of COVID-19 (AKA Corona Virus) has put a major damper on hamfests.

With the ongoing COVID-19 situation, be sure to check the websites to make sure the hamfest has not been cancelled. 2020 was a lean year for hamfests, or any other activity where people gather in large numbers. Check any hobby/activity and we are all going through the same issues. Ole VA Hams will be holding a tailgatefest in lieu of their hamfest. The date is June 12 from 8 AM to 2 PM in the lot across from Signal Hill Park in Manassas Park. Here is the link: <<u>https://urldefense.com/v3/ https://w4ovh.net/wp-</u> content/uploads/2021/03/ovh-tail-gate-2021.pdf ;!!KfGNmQmE!yFHYmpn0rUie0sx8rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upPK7RLbm\$ > https://urldefense.com/v3/ https://w4ovh.net/wp-content/uploads/2021/03/ovhtail-gate-2021.pdf ;!!KfGNmQmE!yFHYmpn0rUie0sx8rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upPK7RLbm\$

At the present time, Berryville is still on the calendar. But that could change depending on whether hamfest-sized groups are permitted. Here is the link for the hamfest: <<u>https://urldefense.com/v3/ https://svarc.us/hamfest/ ;!!KfGNmQmE!yFHYmpnOr</u> <u>Ui-e0sx8rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upIgpjnPs\$ ></u> <u>https://urldefense.com/v3/ https://svarc.us/hamfest/ ;!!KfGNmQmE!yFHYmpnOrU</u> i-e0sx8rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upIgpjnPs\$

Whether it's Manassas or Berryville 2021, or Richmond 2022, once we are able safely to attend hamfests, let's be sure to all go to the first area hamfest.

Training -

We are finishing up our most recent class. We will be holding an in-person exam session. The exam is scheduled for Tuesday, May 25 at the Dunn Loring Fire Station, 2148 Gallows Road at 7 PM. If you are interested in taking an exam, please reach out to me before May 25 to let me know you are coming.

Starting May 20, 2021, FCC is no longer accepting applications without an FCC Registration Number (FRN). For many years, you could put your Social Security Number on the 605 form and the FRN would be issued then. ARRL and other VEC's are spreading the word to let people know before the implementation date.

This doesn't affect current license holders, but it does affect anyone just getting started in amateur radio. If you are not licensed, be sure to have the FRN BEFORE going to the exam site and take the number with you.

We are still working on getting our VE team up to speed so we can do remote
exams. Looking at
<https://urldefense.com/v3/ http://www.Hamstudy.org ;!!KfGNmQmE!yFHYmpn0rUi
-e0sx8rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upNiTiBhp\$ >

https://urldefense.com/v3/ http://www.Hamstudy.org ;!!KfGNmQmE!yFHYmpnOrUie0sx8rLOMO7QU801pTyCn5cwJz3wc2vYI_6-8y5upNiTiBhp\$, there appears to be a lot of interest in becoming licensed by the number of exam sessions that are full. It appears that VE teams are giving all the exams

If you are looking to take an online exam, ARRL has a link for finding
online exams:
<https://urldefense.com/v3/_http://www.arrl.org/findonlineexam__;!!KfGNmQmE!
yFHYmpn0rUi-e0sx8rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upPZaBxLd\$ >
https://urldefense.com/v3/_http://www.arrl.org/findonlineexam__;!!KfGNmQmE!y
FHYmpn0rUi-e0sx8rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upPZaBxLd\$

Contests -

they can handle.

* May 21 - Hamvention QSO Party. Exchange is RST and the 1st year you attended. If you have never been to Hamvention, use 2021.

* May 29 and 30 - CQ Worldwide WPX Contest, CW. Exchange is RST and serial number.

* June 5 and 6 - Kentucky QSO Party. Exchange is RST and state.

* June 12 through 14 - ARRL June VHF Contest. All bands 50 MHz and up. Exchange is 4-character grid square.

* June 19 and 20 - West Virginia QSO Party. Exchange is RST and state.

Every Sunday evening at 8 PM local time, the K1USN Radio Club sponsors the
"Slow Speed "Contest." The exchange is similar to a QSO. See the rules
here:
<https://urldefense.com/v3/ http://www.klusn.com/sst.html ;!!KfGNmQmE!yFHYm
pn0rUi-e0sx8rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upHcZsLji\$ >
https://urldefense.com/v3/ http://www.klusn.com/sst.html ;!!KfGNmQmE!yFHYm
n0rUi-e0sx8rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upHcZsLji\$.

Every Tuesday at 0000 (8 PM EDT Monday for us) is the Worldwide Sideband Activity Contest. Exchange is RS and age group (OM, YL, Youth YL or Youth). Here are the rules: <https://urldefense.com/v3/ https://wwsac.com/rules.html ;!!KfGNmQmE!yFHYmp n0rUi-e0sx8rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upBKd3NGQ\$ > https://urldefense.com/v3/ https://wwsac.com/rules.html ;!!KfGNmQmE!yFHYmpn 0rUi-e0sx8rLOM07QU80lpTyCn5cwJz3wc2vYI 6-8y5upBKd3NGQ\$ Don't forget, be sure to send in your log within 7 days after the contest ends for all ARRL sponsored contests. ARRL now uses a web application for contest log submissions. Here is the link: <<u>https://urldefense.com/v3/ http://contest-log-</u> submission.arrl.org/ ;!!KfGNmQmE!yFHYmpnOrUie0sx&rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upEDnPo3g\$ > https://urldefense.com/v3/ http://contest-logsubmission.arrl.org/ ;!!KfGNmQmE!yFHYmpnOrUie0sx&rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upEDnPo3g\$ Be sure to convert your file to Cabrillo format before submitting. Most logging programs support the Cabrillo format.

REMEMBER to support the CLUB'S score for contests by providing Ian, N8IK your info (Name, Call sign and Grid Square location) and submit your scores for the contests you play in. If the contest asks for a club affiliation, the Alexandria Radio Club is on the list of contest clubs. Contesting is one way we show that we are using our frequency allocations.

Contests may not be your thing, but contests are a great way to show outside interests we do use our valuable spectrum. By showing we use our spectrum, other services will have a hard time proving that we don't use our spectrum and it's up for re-allocation to someone else.

Contests can also be a great way to become introduced to HF communications. While it can be intense, pick the contest and jump in. Most contests have a limited exchange so it is usually easy to get what the other station needs.

State QSO parties are a great introduction to contesting. Most are low-key and the exchange is limited.

Speaking of state QSO parties, there is now a state QSO party challenge. You can start accumulating multipliers by submitting a log in any state or provincial QSO party to 3830scores.com QSOParty Groups.io.forum and State QSOParty.com.

Repeaters -

The club repeaters are all up and running. The DSTAR repeaters are seeing a lot of activity. We have been linking the 70 cm repeater to Reflector 001C, the world-wide reflector and the 23 cm repeater to Reflector 030C, another

busy reflector. If you want to link to another reflector, be sure to unlink the repeater first and then link to the reflector of your choice. All we ask is you return it to the reflector you found it on.

The DMR side is working normally with access to the DMR servers. If you use the DMRVA codeplugs, they have updated codeplugs on their website with some of the new DMR repeaters. The codeplugs include more than just the DMRVA system repeaters. Their website is <<u>https://urldefense.com/v3/_http://www.dmrva.org/_;!!KfGNmQmE!yFHYmpn0rUi-</u> e0sx8rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upKipPoCZ\$ <u>https://urldefense.com/v3/_http://www.dmrva.org/_;!!KfGNmQmE!yFHYmpn0rUi-</u> e0sx8rLOMO7QU80lpTyCn5cwJz3wc2vYI 6-8y5upKipPoCZ\$

DMRVA has announced on their website they will be partnering with the Hospital Emergency Amateur Radio Service (HEARS). HEARS operates linked repeaters primarily located in Southwest Virginia, North and South Carolina. New talkgroups will be added to the DMRVA system and at least one talkgroup will be deleted.

We have resumed (semi-regularly) the follow-on net on one of the other repeaters after the Thursday net on the 2-meter analog repeater.

Ian, N8IK, has started a Wednesday night DSTAR net on the 145.380 MHz repeater at 8 PM. We have linked the repeater to Reflector 62B so members and former members outside the local area can join in. Some time ago, I asked the folks who maintain the lists of DSTAR reflectors to create a Virginia perma-link reflector. Many other states have them. Be sure to put Reflector 62B in your DSTAR programming.

As always, ham it up and get on the air.

73, Rich, KA4GFY