FEEDBACK

Warminster Amateur Radio Club

Web Site k3dn.org **Warminster Amateur Radio Club** **March 2021**

Next Meeting March 4th via ZOOM - Home Brew

President's Message

Hello everyone, I hope we're all staying healthy and safe as the season grinds on. We Pennsylvanians haven't had a serious Winter in several years – I think it's made us all a little soft for this kind of stuff! Well, that, plus a few additional years on us probably didn't help…still, hope you all are well and at least enjoying how beautiful and peaceful the snow makes it when it's first fallen.

On the club front, this is normally our slow time of the year, and the same holds true for this year (at least some things are "normal"). There's not too much going on as far as club business is concerned, although a few things are in the works: the Board is still exploring ways to conduct an online Club Auction, and Tony N3YNH has been busy filling the presentation schedule with some very interesting guests, including our very own Brian N3EXA for April (Repeater/RFI) and Carl Leutzelschwab K9LA in May (Understanding Solar Indices), among several others, into the Fall. These promise to be very interesting and informative topics, and well worth the price of admission. {Yes, it's still free…!}

As the weather begins to warm up, we will try to plan some outdoor activities, keeping a close eye on any restrictions still in place, and taking proper precautions as necessary. As Doc W3GAD, our Field Day Chair, had pointed out to us, ARRL has once again amended the rules for FD 2021, and will again allow Class D-to-Class D QSO's to count for points this year, although they have restricted max power for all Class D & E stations to 150W. With no telling what conditions will be like at the end of June, or if any public location will allow a significant gathering for us to be able to operate as a group, it appears that working from home may be the best option for many of us to take part in FD. Although we will certainly explore getting together in a more traditional style if possible, the ARRL is allowing club aggregate scoring again this year, so no matter how you take part in the event, please be sure to submit your logs under "Warminster ARC" to help add to WARC's total score.

That's it for me this month. Once again, please keep everyone who has been affected by this situation in your thoughts, and continue to be active, involved, and on the air!

Tony W3FLH
73

Warminster ARC General Meeting Minutes

February 4, 2021

Attendance:
Call to Order

Minutes from last Meeting

Additions/Corrections - Motion made and the January minutes were approved as printed in Feedback

Committee Reports

Treasurer's Report: *Herb KB3VMN*
As reported at the meeting

Programs: *Tony N3YNH*
March – Home Brew Night
April – Contesting or RFI, TBD
May – Understanding and Applying Solar Indices w/Carl K9LA – his website is http://www.k9la.us
June – RFI or Contesting, TBD

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Membership: *Kathy KC3FBY*

We have 89 active or alumni paid members for 2021

We still have 31 members who need to pay their 2020 dues. I will be sending an email communication and a few regular mail reminders to those members.

Public Service: *George N3HBT*

Nothing scheduled at this time

Maybe will be needed for the Memorial Day parade

also waiting to hear about the golf outing in June

Classes: *George KA3WXV*

Next classes: TBD

George has been in contact with a few folks who are interested in classes

VEC Testing: *Larry WA3ELQ*

Cancelled the January session

Next session Will be Monday, February 22 and will require preregistration – there is a limit to 6 registered and 5 on the waiting list

Penn Wireless is referring inquiries to WARC for testing

Repeater: *Brian N3EXA*

The interference seems to have been resolved. Make sure your mics are not keyed and if you are not using your radio, think about turning it off. Most radios have a timeout feature and make sure it is set.

Good and Welfare: *Ken K9KJL*

Nothing requested or sent out this past month.

Send requests to either Ken or Tony

Other Committees

Radiosport: *Irwin KD3TB*

Irwin posted a listing of upcoming contests on WARCTalk groups.io

The list is also in the latest edition of Feedback

Hamfest: *Tony W3FLH*

Hamfest is postponed at this time and we will not be holding the EPA ARRL Section Convention. Hopefully, 2022 will be a good year. There are several virtual Hamfests: Dayton Hamvention, Hamcation, and QSO Today are a few.

Field Day: **Doc W3GAD**

Still looking for a chair. We will need to stay tuned to see if ARRL will allow home stations again this year. Please, if you are interested reach out to Tony W3FLH or Doc W3GAD.

Old Business

Elmer Program – Online/Zoom? – tabled

Mike KC3QLU commented that while there is not a formal program in place, several club members have stepped up to help him out and get on the air.

Club Station: Interest/Activity? (Marty NR3Z & Andy KD3RF) – nothing to report – tabled

Director/Appointed for 2021 –We still have an open appointed director position. Please contact Tony W3FLH if you are interested.

Annual Club Auction/Online (Board/Andy KD3RF) – The board will be working on a similar format like the silent auction in March or April. Stay tuned for more information. Start gathering your items.

New Business

Zoom Swap Net is happening twice a month on the first and third Tuesday of the month. Look for an email from Mark WA3QVU.

Karl K3KH posted this link to a YouTube channel with videos helpful for elmering https://www.youtube.com/channel/UCU9SoQxJewrWb_3GxeteQPA

Motion to Adjourn at 8:02 pm

Presentation: *DX Engineering's Tim Duffy K3LR, Grounding and Bonding*

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FOR SALE

Drake TR-4C, RV-4C, AC-4 with Harbach modes by WB4HFN, Drake desk mic 7075, original Drake manual for TR-4C, a few spare Drake parts. All in excellent electrical and physical condition. New matched finals replaced a few years ago. No issues. Great back up set-up or set up for new ham.

ASKING: $495 with local pick-up at my home or nearby local to be discussed.

Contact Bob Wilderman a WARC member at dlrwild1@verizon.net or 267-535-9189 cell

K3SRO

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A message from Doc W3GAD, WARC Field Day Chair

The ARRL is not optimistic for Field Day gatherings for 2021; therefore, they have extended the **special rules from 2020 to the 2021 FIELD DAY.**

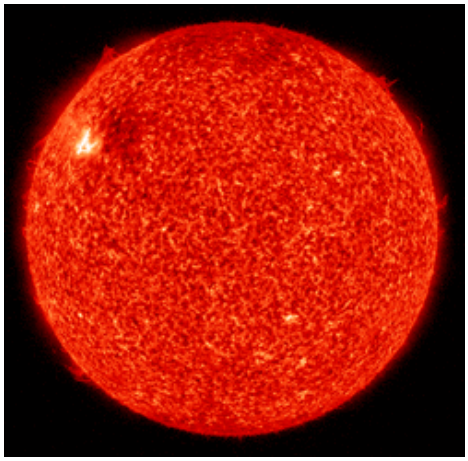
This "Temporary" modification of the rules for the event will allow WARC to once again enter a club aggregate score for all participants whether they are "on site" or operating from their home.

The additional changes are limiting output power to 150Watts PEP for the class 'D' and class 'E' stations.

WARC will continue to pursue the possibility for a club station event at the SHRINE but we are encouraging all members to get on the air and operate from home and submits the log for your efforts.

We will be sending out more information as Field Day 2021 gets closer – Mark your calendar for June 26th and 27 for FIELD DAY 2021 and plan on being part of the fun.

The K7RA Solar Update



Tad Cook, K7RA, Seattle, reports: Sunspots have returned, and solar activity increased on every day over the reporting week. On Thursday evening, **Spaceweather.com** reported that sunspot group AR2804 had doubled in size in a single day.

The total sunspot area was 200 millionths of a solar hemisphere, a level not seen since the end of last year. It actually took 2 days to double — Tuesday through Thursday — covering 100, 150, and then 200.

The average daily sunspot number increased from zero to 19.6, while average daily solar flux rose from 72 to 75.7. Geomagnetic activity was also higher, with average daily planetary A index increasing from 7.7 to 16, and average daily mid-latitude A index rose from 5.6 to 12.4.

Predicted solar flux for the next 30 days is 80 on February 26 – 28, 78 on March 1; 74 on March 2 – 5; 73 on March 5 – 6; 74, 70, 74, and 76 on March 7 – 10; 72, 71, 72, and 70 on March 11 – 14; 71, 72, 71, 73, 76, and 75 on March 15 – 20; 72 on March 21 – 22; 76 on March 23 – 24; 74 and 73 on March 25 – 26, and 74 and 73 again on March 27 – 28.

Predicted planetary A index is 5 on February 26 – March 1; 18 and 12 on March 2 – 3; 10, 8, and 15 on March 4 – 6; 5 on March 7 – 11; 15, 10, and 5 on March 12 – 14; 15, 5, 8, and 18 on March 15 – 18; 20 on March 19 – 20; 10 and 8 on March 21 – 22, and 5 on March 23 – 27.

The University of Bradford in the UK has **an article**, "Automated Solar Activicty Prediction (ASAP)" on its website. While this looks interesting, so far I have been unable to download any data more recent than 2009 or 2011.

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Here's the geomagnetic activity forecast for February 26 – March 23 from F.K. Janda, OK1HH, and the Czech Propagation Interest Group, which has been compiling these weekly forecasts since January 1978.

The geomagnetic field will be:

- quiet on March 9 – 10, 14
- quiet to unsettled on February 26 – 27, March 4 – 5, 13, 16 – 17, 20
- quiet to active on (February 28,) March 2 – 3, 7 – 8, 11, 15, 18 – 19, 21 – 23
- unsettled to active March (1,) 6, 12
- active to disturbed nothing expected

Solar wind will intensify on February 28, March 1 – 3, (4 – 9, 12,) 13, (14, 16 – 22,)

Parentheses mean lower probability of activity enhancement. Predictability of changes remains low, as some indications are ambiguous.

The Space Weather Woman Tamitha Skov, WX6SWW, has posted this **new video**.

An **article** in Forbes magazine describes recent space weather as "spicy:"

An **article** on the Weatherboy site predicted "potent solar wind" for Monday, February 22, and included some interesting graphics.

An **article** in the UK tabloid *Express* describes a solar "canyon of fire," but you need to page through a lot of other stuff to read the whole article.

Sunspot numbers for February 18 – 24 were 12, 12, 12, 11, 26, 31, and 33, with a mean of 19.6. The 10.7-centimeter flux was 71.1, 72.9, 76.4, 75.3, 75.9, 78.1, and 80.5, with a mean of 75.7. Estimated planetary A indices were 5, 17, 20, 20, 17, 12, and 21, with a mean of 16. Middle latitude A index was 2, 13, 15, 18, 13, 10, and 16, with a mean of 12.4.

Courtesy of the ARRL Newsletter

British Columbia Radio Amateur Copies Signal from Mars-Orbiting Satellite

As reported on Spaceweather.com, Canadian radio amateur Scott Tilley, VE7TIL, of Roberts Creek, British Columbia, has snagged another signal from deep space. His latest conquest has been to copy the signal from China's Tianwen-1 (pronounced "tee -EN-ven") probe, which went into orbit around Mars on February 10. Tilley told Spaceweather.com that the probe's X-band signal was "loud and audible."

"It was a treasure hunt," Tilley told Spaceweather.com. He explained that while the spacecraft did post its frequency with the International Telecommunication Union (ITU), it was too vague for precise tuning (X band is between 8 GHz and 12 GHz).

Launched last July, Tianwen-1 represents China's first Mars mission. It consists of an orbiter and a rover, which will land on the Martian surface in May or June 2021. It is able to photograph the planet's surface while in orbit.

Finding signals from deep space is a sub-hobby for Tilley, who seeks what he calls "zombie satellites" among other signal sources. In 2020, he tracked and identified signals from the experimental UHF military communication satellite LES-5. Tilley said he found the satellite in what he called a geostationary "graveyard" orbit after noting a modulated carrier on 236.7487 MHz. Launched in 1967, LES-5 was supposed to shut down in 1972, but it continues to operate as long as its solar panels are facing the sun, Tilley explained.

In 2018, while hunting for an undisclosed US government spacecraft lost in a launch mishap, he spotted the signature of IMAGE (Imager for Magnetopause-to-Aurora Global Exploration), a NASA spacecraft believed to have died in December 2005. The **discovery** delighted space scientists.

Tilley has also picked up signals from NASA's Mars Reconnaissance Orbiter, and the United Arab Emirates Hope probe, both orbiting Mars some 124 million miles away. He uses a homemade 60-centimeter dish and relies on software-defined radios (SDRs) to

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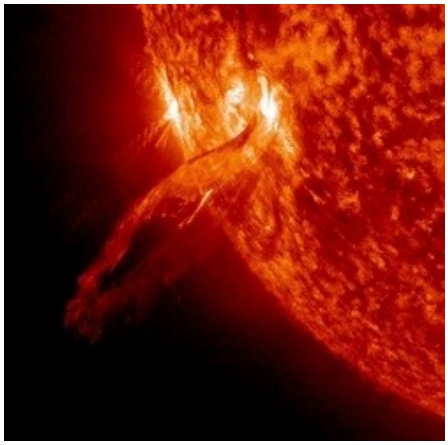
accomplish the task.

Radio amateurs have been listening for signals from space since the 1957 launch of Sputnik 1, which transmitted at around 20 MHz.

Courtesy of the ARRL Newsletter

A "Perfect Coronal Mass Ejection" Could Be a Nightmare



A new study in the research journal *Space Weather* considers what might happen if a worst-case coronal mass ejection (CME) hit Earth -- a "perfect solar storm," if you will.

In 2014, Bruce Tsurutani of Jet Propulsion Laboratory (JPL) and Gurbax Lakhina of the Indian Institute of Geomagnetism introduced the "perfect CME." It could create a magnetic storm with intensity up to the saturation limit, a value greater than the Carrington Event of 1859, the researchers said. The interplanetary shock would arrive at Earth within about 12 hours, the shock impingement onto the magnetosphere would create a sudden impulse of around 234 nanoteslas (nT), and the magnetic pulse duration in the magnetosphere would be about 22 seconds. Orbiting satellites would be exposed to "extreme levels of flare and interplanetary CME (ICME) shock-accelerated particle radiation," they said. The event would follow an initial CME that would "clear the path in front of it, allowing the storm cloud to hit Earth with maximum force."

The CME's 12-hour travel time would allow little margin for preparation. The CME would hit Earth's magnetosphere at 45 times the local speed of sound, and the resulting geomagnetic storm could be as much as twice as strong as the Carrington Event. Power grids, GPS, and other services could experience significant outages.

More recent research led by physicist Dan Welling of the University of Texas at Arlington took a fresh look at Tsurutani and Lakhina's "perfect CME," and given improvements in spaceweather modeling, he was able to reach new conclusions.

Welling's team found that geomagnetic disturbances in response to a perfect CME could be 10 times stronger than Tsurutani and Lakhina had calculated, especially at latitudes above 45 to 50°. “[Our results] exceed values observed during many past extreme events, including the **March 1989 storm** that brought down the Hydro-Québec power grid in eastern Canada, the **May 1921 railroad storm**, and the Carrington Event itself,” Welling summarized.

A key result of the new study is how the CME would distort and compress Earth’s magnetosphere. The strike would push the magnetopause down until it’s only 2 Earth-radii above Earth’s surface. Satellites in Earth orbit would suddenly find themselves exposed to a hail of energetic, and potentially damaging, charged particles.

Other research has indicated that phenomena such as the Carrington Event may not be as rare as once thought. A much weaker magnetic storm brought down the Canadian Hydro-Québec system in 1989.

Scientists believe a perfect CME will happen someday. As Welling *et al* conclude, “Further exploring and preparing for such extreme activity is important to mitigate spaceweather-related catastrophes.”

In July 2012, NASA and European spacecraft watched an extreme solar storm erupt from the sun and narrowly miss Earth. “If it had hit, we would still be picking up the pieces,” said Daniel Baker of the University of Colorado at a NOAA Space Weather Workshop 2 years later. “It might have been stronger than the Carrington Event itself.”

Courtesy of the ARRL Newsletter

FT8 and the Other *WSJT-X* Digital Modes are "Tools," K1JT Says

According to *WSJT-X* software co-developer Joe Taylor, K1JT, the very popular FT8 and the other digital modes in the software suite "are tools, freely available to hams who want to use them. They are very good at some things, not so good at others." Nonetheless, FT8 -- and, by extension, its contest-mode variation, FT4 -- especially have become game-changers on the HF bands, although, as Taylor has explained, FT8 "was explicitly designed" for making contacts during weak, multi-hop, sporadic-E openings on 6 meters.

"It's extremely good at that," he added, and noted that transcontinental and intercontinental DX on 6 meters has greatly benefited from the use of FT8 over the past several years. Developed in 2017, FT8 is named after its developers -- Taylor, and Steven Franke, K9AN. The numeral designates the mode's eight-frequency shift-keying format.

Taylor said that while the development team knew that FT8 would be very useful for weak-signal DXing on HF as well as on 6 meters, it did not foresee that it would have the sort of impact it's had on HF operating.

Taylor agreed that FT8 is "a mature mode," with the protocol's details published in *QEX*. "Details of message structure, in particular, will not change in a way that is not backward compatible," he said.

Although some FT8 fans may feel the mode is running out of room on some bands, Taylor said that as far as he and his fellow *WSJT-X* developers are concerned, the 3 kHz slices of spectrum suggested for FT8 use are just that -- suggestions.

"There is no reason why additional slices should not be used when over-occupancy requires it," he told ARRL. "We don't attempt to dictate such usage patterns; band planning is best done by committees created for that purpose."

Many radio amateurs are taking advantage of the FT8 and FT4 modes all the time. FT8 watering holes are sometimes the only places to find signals on bands that otherwise might be considered dead.

The *WSJT* Development Group this week announced the general availability release of *WSJT-X* Version 2.3.0. It includes a new Q65 mode but does not involve any changes to the FT8 protocol. A summary of new features can be found in the *WSJT-X 2.3 User Guide*. The *Release Notes* offer additional information, including a list of important program changes since the *WSJT-X 2.2*. Upgrading from earlier versions of *WSJT-X* should be seamless. Installation packages for Windows, Linux, and Macintosh are available.

Courtesy of the ARRL Newsletter

ARISS and Partners Investigating Ham Radio Anomaly Following Spacewalk

Amateur Radio on the International Space Station (ARISS) and its partners are troubleshooting what's keeping the NA1SS amateur station off the air. ARISS became aware of the problem after an attempted contact with a school in Wyoming, between ON4ISS on Earth and astronaut Mike Hopkins, KF5LJG, at NA1SS, had to abort when no downlink signal was heard. ARISS has determined that the problem is not with the radio equipment on board the ISS *Columbus* module.

ARISS-International Chair Frank Bauer, KA3HDO, explained that during a January 27 spacewalk to install exterior cabling on the ISS *Columbus* module, the coax feed line installed 11 years ago was replaced with another built by the European Space Agency (ESA) and Airbus. It included two additional RF connectors to support the Bartolomeo payload-hosting platform installed last spring on *Columbus*.

"On January 26, prior to the EVA [extravehicular activity], our *Columbus* next-generation radio system was shut off and the ISS-internal coaxial cable to the antenna was disconnected from the ARISS radio as a safety precaution for the EVA," Bauer said. During the spacewalk, an external four-connector coax feed line replaced one with two RF connections.

"This change was made to allow ESA to connect ARISS and three additional customers to Bartolomeo, as compared to ARISS and one additional RF customer," Bauer explained.

With the spacewalk completed, the ISS crew restarted the ISS ham radio station on January 28, but no voice repeater or automatic packet repeater system (APRS) downlink reports were heard, and no downlink signal was heard during an attempted scheduled school contact either.

“Clearly, there is an issue,” Bauer continued. “More troubleshooting will be required. It may be the new external RF cable that was installed during yesterday’s EVA. It might also [have been caused by] the connect and disconnect of the interior coaxial (RF) cable. So, the interior cable cannot be totally discounted yet.”

Bauer said the crew photographed the coaxial cable and connector attached to the ARISS radio inside the ISS. “Because the exterior cable is a Bartolomeo cable and not an ARISS cable, we are working with ESA and NASA on a way forward,” he said. “NASA has opened a Payload Anomaly Report on this issue. We have talked to both the NASA and ESA representatives.”

Bauer said ARISS has asked its Russian team lead Sergey Samburov, RV3DR, if ARISS could temporarily use the RS0ISS radio in the ISS *Service Module* for school contacts that are already scheduled until ARISS can resolve the issue.

“On behalf of the ARISS International Board, the ARISS Delegates, and the entire team, I want to thank all of you for your tremendous volunteer support to ARISS,” Bauer said. We *will* get through this and be more resilient as a result.”

Courtesy of the ARRL Newsletter

ARRL Interview Explains Background of Ham Radio in Space Film Short

Josh Tanner, the Australian filmmaker who produced the thriller *Decommissioned* by Perception Pictures, has explained how he came up with the idea to develop the movie short. In the approximately 6-minute film, SuitSat returns in the future to haunt International Space Station commander "Diaz," played by Joey Vieira, who spots SuitSat, the surplus Russian *Orlan* spacesuit that Amateur Radio on the International Space Station (ARISS) turned into an amateur radio satellite several years ago .

An exclusive ARRL video interview premiering on Saturday, February 27, brings together Tanner, who directed the sci-fi horror film about an eerie ham-radio-in-space reencounter, and ARISS-International Chair Frank Bauer, KA3HDO. In the interview, conducted by ARRL volunteer Josh Nass, KI6NAZ, of the popular YouTube channel Ham Radio Crash Course, Tanner described the uniquely creative and technical aspects of the filmmaking involved in *Decommissioned* and its connection with the real-life *SuitSat-1.*

"My wife, Jade, who is also a co-writer of this short film, and I are both really obsessed with space, and we discovered SuitSat on Wikipedia," Tanner said in the interview. "It was an initial sort of two-pronged reaction. One, this is genius. It's amazing that they did this; I'd never heard this before. And the second one was, this is kinda creepy...that they had what looks like a stranded, dead astronaut floating around the Earth...and there were voices of children being transmitted from it."

SuitSat-1 transmitted a voice message, "This is SuitSat-1 RS0RS!", in several languages, plus telemetry and a slow-scan TV image on an 8-minute cycle as it orbited Earth.

Tanner said a lot of the films he produces involve "pieces of history that are rather quite odd or interesting that maybe a lot of people don't know about."

Bauer described the background of the 2006 SuitSat project, which involved ARISS's relationship with Sergey Samburov, RV3DR. Samburov was "the initial brainchild" behind the *SuitSat-1* concept, and ARISS ran with it, Bauer recounted.

"We had 3 weeks to pull it all together and get it ready for launch," Bauer said, and that included getting safety approvals. *SuitSat-1* operated for about 2 weeks, and a contest of sorts evolved to guess when it would burn up in the atmosphere, which wasn't until about 6 months later. A *SuitSat-2* was launched from the ISS several years later.

Tanner said the *Decommissioned* script was written about 3 years ago, but creating the realistic atmosphere and sets involved a number of complexities, which was "very expensive," he revealed. A big push toward using video game engine technology in feature-film development made it possible. *Decommissioned* was produced using a game engine called *Unreal Engine*, which was also used to produce the TV show *The Mandalorian*.

Grab your popcorn and avoid a spoiler. ARRL recommends viewing the short film before watching the 45-minute interview. The interview premieres on ARRL's YouTube channel, Saturday, February 27, at 1600 UTC.

ARRL reminds interested schools and educational organizations in the US that the latest window to submit proposals to host scheduled ham radio contacts with an ISS crew member opened on February 15. Contacts would be scheduled January 1 - June 30, 2022. Proposals are due to ARISS by 0759 UTC on April 1.

In the US, ARRL is a partner in the ARISS program, along with AMSAT, NASA, and the ISS National Lab, which has kept amateur radio on the air from the International Space Station for 20 years.

Courtesy of the ARRL Newsletter

"Whirlwind Boom" Emergency Communications Exercise Set in Northern Florida

The amateur radio communications team of the Florida Baptist Disaster Relief has created a multi-site radio communications exercise dubbed "Whirlwind Boom," designed to bring together volunteers and local agencies across northern Florida and throughout the southeastern US. The 2-hour drill is set for Friday, March 19. Invitations have gone out to Amateur Radio Emergency Service (ARES®) groups, county-level emergency managers, state communications experts, and federal **SHARES** HF radio program volunteers, and volunteers taking part in the 2021 Florida Baptist Disaster Relief on-site training the following day.

The exercise scenario involved tornadoes coupled with the terrorist bombing of the telephone system, and large numbers of displaced residents seeking shelter. Only radio remains. During the exercise, volunteers will practice transmitting formal reports about the utility, water, and safety situations in their counties (**Incident Action Plan**). Many participants will communicate across hundreds of miles using portable radio gear powered by car batteries or small generators. Simulated outbound survivor messages to friends and family will also be sent by radio. Participating groups will receive secret messages advising them of unexpected handicaps that mimic what might happen during an actual disaster — complicating their tasks.

Core capabilities are mass care services and operational communications. Exercise objectives include antenna deployment, emergency power usage, communications planning, voice communication, establishment of a command net, preparing and handling formal status reports, tactical communications, survivor message handling, data communication, handling resource requests, efficient response times, promoting interoperability, and volunteer management.

These exercises are structured in accordance with Department of Homeland Security training guidelines.

Courtesy of the ARRL Newsletter

2021 Contest Calendar

March
6-7 **International DX– Phone**
0000 UTC Saturday and runs through 2359 UTC Sunday.

April
18 **Rookie Roundup – Phone**
1800 to 2359 UTC

QSO Parties
March

Oklahoma	1400Z, Mar 13 to 0200Z, Mar 14 and 1500Z-2200Z, Mar 14
Idaho	1900Z, Mar 13 to 1900Z, Mar 14 Wisconsin 1800Z, Mar 14 to 0100Z, Mar 15
Virginia	1400Z, Mar 20 to 0400Z, Mar 21 and 1200Z-2400Z, Mar 21

April

Louisiana	1400Z, Apr 3 to 0200Z, Apr 4,
Mississippi	1400Z, Apr 3 to 0200Z, Apr 4,
Nebraska	1300Z, Apr 10 to 0100Z, Apr 11, and 1300Z-2200Z, Apr 11
New Mexico	1400Z, Apr 10 to 0200Z, Apr 11,
Georgia	1600Z, Apr 10 to 0400Z, Apr 11,
North Dakota	1800Z, Apr 10 to 1800Z, Apr 11,
Michigan	1600Z, Apr 17 to 0400Z, Apr 18,
Florida	1600Z, Apr 24 to 0159Z, Apr 25, and 1200Z-2159Z, Apr 25

➢ ATLANTIC DIV. HAMFESTS
➢ 2021

June 20
Father's Day Hamfest at Arcadia
Arcadia Fairgrounds
16920 Carnival Ave.
Upperco, MD 21155
http://W3FT.com Facebook Baltimore Amateur Radio Club

July 4
Murgas ARC Hamfest and Computerfest
Polish American Veterans Club
2 South Oak Street
Plains, PA
http://hamfest.murgasarc.org

V.E. TEST LOCATIONS

Confirm all information, in advance, with the contact person. Licensed applicants must bring the original, and one photocopy of their license. All applicants, including children, must bring two forms of positive ID. Also bring the original, and a copy, of any Certificate of Successful Completion needed to prove current status. The ARRL VEC'S 2021 test fee is $**15.00**.

Warminster Amateur Radio Club, Monthly, Last Mon. 7:00 pm at the Wilson Senior Community Center 580 Delmont Avenue Warminster, PA 18974 George Brechmann (215) 443-5656.

Atco, NJ , The fourth (4th) Tuesday of each month, at 7 p.m. Winslow Township Senior Center, 33 Cooper Folly Road, 08004-2603.
Mark (K2AX) jtra@comcast.net

Levittown, PA, Monthly, 3rd Monday at 6:30. Falls Township Building - Ben Johns, K3JQH, 215-657-5994

Telford, PA, RF Hill ARC. Indian Valley Library. Held the third Monday of odd months (January, March, May, July, September, November)
Contact: Jim Soete 215-723-7294
wa3ylq@arrl.net.

Philadelphia, PA, Testing is done on the 4th, non holiday Thursday of the month at the, Community Ambulance Association of Ambler, 1414 E Butler Pike, Ambler PA 19002 at 7:00 PM We also are testing on Saturdays at least once per quarter at 9:00 AM. For further information contact James McCloskey at jmccloskey@msn.com and by phone 215 -275-2979.

Lansdale, PA Testing on the fourth non-holiday Thursday of the month starting at 7:00 PM. The Lansdale Library Community Room Vine St. and Susquehanna Ave. Lansdale, Pa. Registration is required 48 hrs. or more before the scheduled exam date. If there are no registrations the scheduled exam date will be canceled. NO WALK-INS. You can register by contacting:
Olaf N. Markert - Phone (610) 517-5074, E-mail w3pa@arrl.net
Alt Contact: Jim, 610-287-5630

CLUB INFO

PUBLIC SERVICE

CLUB STATION
The WARC club station is open to anyone with an interest, on the first Thursday of the month (meeting night) between the hours of 6:30 and 7:30 pm. with the exception of the December dinner meeting For further information, call George Brechmann N3HBT at 215-443-5656.

WARC ALUMNI MEMBERSHIP
An Alumni membership category is available for WARC members who are unable to attend meetings and club activities on a regular basis because of health considerations, travel impediments, or other hardships. Dues for the Alumni membership are $10.00 annually and are approved by the Board. Please contact the Membership Committee for more information if interested."

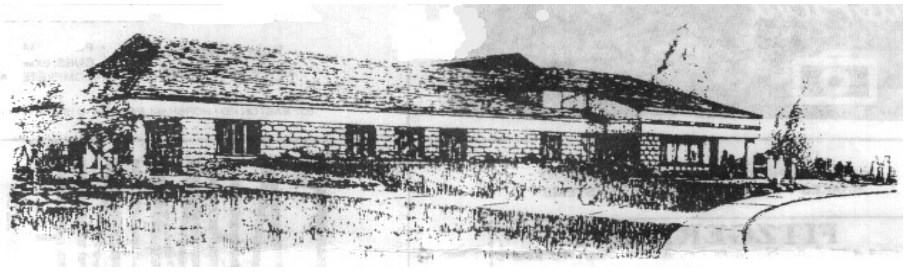
ATTENTION MEMBERS
The Membership Committee can provide Club badges. Two types are available: an engraved plastic callsign and name badge for $8 or a free, laminated plastic, photo ID badge/card. The photo id badge is included with your membership. Pictures for the club badge will be taken before club meetings on even numbered months. If you do not have at least a Warminster Amateur Radio Club badge with your picture on it, please contact your Membership Chairs at the WARC monthly meetings. Otherwise, please contact Membership by email at: membership@k3dn.org.

If you want to have your picture taken to be placed on the 'Members' Photos' section of the www.k3dn.org website, please contact Membership with your interest. When we get enough people who are interested we will post a notice in Feedback and have a camera ready at the following club meeting.

PROGRAMS 2021

March - Home Brew
April - The K3DN Repeater system
May - Understanding and Applying Solar Indices
June - Field Day Preparation
July - The Battleship New Jersey

The Club Station - K3DN - is located at the Benjamin Wilson Senior Center, Delmont Avenue, Warminster, PA. The station is open for club members and the interested general public on the first Thursday of the month (meeting night) between the hours of 6:30 and 7:30 pm. with the exception of the December dinner meeting . The station is fully operational on HF (80 meters through 10 meters) both phone and CW. There is an assortment of amateur radio shareware which may be copied under the shareware licensing agreement.



For additional information on the Club Station please call the Station Manager N3HBT - George at 215-443-5656.

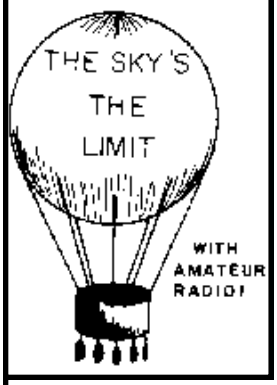
- **WARC Meetings are held the first Thursday of each month at 7:30 pm at the Benjamin Wilson Senior Center, Delmont Avenue, Warminster, PA. Talk in is available on the 147.09 & 443.950 repeaters.**

SKYWARN INFORMATION

Bucks County SKYWARN Weather Spotter PRIMARY FREQUENCY: 147.300MHZ (+ 131.8)
Fairless Hills, PA (many remote access locations throughout Bucks County)

Mount Holly NWSFO SKYWARN Homepage:
https://www.weather.gov/phi/Info

SKYWARN Basic Weather Spotter Educational Programs URL:
https://www.weather.gov/phi/classes



The Warminster Amateur Radio Club
Announces Free Ham Radio Instructional Classes

If you're interested in Ham Radio, or think you might be, this is your opportunity. Perhaps you'd like to learn about digital communications, VHF, UHF, satellite, or perhaps you'd rather sit down and chat with someone in South Africa, Russia, Great Britain or in the space station.

For further information contact George Brechmann, N3HBT at 215-443-5656.

Bucks County Amateur Radio Emergency Service (BCARES)
www.bucksares.org
Bucks County ARES will be on the air Wednesdays, at 9:00 PM . We will be using Warminster Amateur Radio Club's repeater on 147.090, pl 131.8. This net is linked as shown in the Net Schedule box for the Wednesday night net. It may also be linked to 147.300.

Winlink Gateway Stations:
Lower Bucks NY3J-10 145.530 Bensalem

Net Schedules

Sunday	2000	10 Meter Net	28.445 MHz
Wednesday	2000	2 Meter Net	147.09 Rptr.
Wednesday	2000	Linked w/ 2 Meter Net	443.95
Rptr.Wednesday	2000	Linked w/ 2 Meter Net	53.230 Rptr.
Sunday	2030	Informal Net	223.5 Simplex
Thursday	1900	Mont. Cnty RACES Net	146.835 Rptr.

➢ **CLUB EQUIPMENT**
WARC has 2 Baofeng UV-5R dual band HT's and a Yaesu FT-2900 2M mobile that are available for use by members of the club. The radios are available on a month-by-month basis and have been purchased primarily to help new hams get on the air. However, they may also be used by any club member who is in need of a temporary 2-meter radio. They are also available for use by participants in WARC's public service activities.
DE, Tony Simek N3YNH

Area Repeaters

VHF

145.310	R.F. Hill
145.350	Doylestown R.C.
146.790	Penn Wireless
145.330	Hilltown
146.670	DVRA
146.685	Holmesburg
146.925	Willingboro
147.000	Ham Buergers
147.030	Phil-Mont
147.090	Warminster
147.270	Frankford
147.300	BEARS
147.390	CBRA

220

224.580	PackRats
223.76	K3NAL

UHF

442.650	DVRA
443.250	TAG
443.050	Metro-Comm
443.950	Warminster
444.200	BEARS
447.475	WR3B
448.225	Penn Wireless
444.759	RF Hill Analog/ Fusion

D-STAR

146.61000	K3PDR DV
445.18125	K3PDR DV
445.01875	AA3E Montco RACES

6 Mtr

53.030	WA3BXW
53.230	N3DQZ
53.320	K3MFI

Are you submitting an article for the Feedback ?

Contributions of articles to be published are always accepted for consideration. Please follow these guidelines:

- **E-Mail to:**
  wa4ywm@comcast.net
  Or via snail mail to:
  FEEDBACK EDITOR
  Warminster Amateur Radio Club
  Box 113
  Warminster, Pa 18974
- **Use both upper and lower case letters.**
- **Use your program's spell check.**
- **If you don't have a computer, then typewritten sheets are o.k, but please use both upper and lower case.**
- **Put your name and call at the beginning or end of the article, and show credits if you are using material from another source.**
- **Deadline for articles is the Saturday before the regular meeting.**

For general club correspondence:
k3dn@k3dn.org

Visit our Home Page at:
http://www.k3dn.org

The annual dues rate structure is as follows:

Full Member:	**$ 20.00**
2nd FamilyMember:	**$ 10.00**
Student:	**$ 10.00**
Alumni:	**$ 10.00**

- **Are your dues current ?**

2021 Officers

Executive Officers

President	Tony Cuttone	W3FLH	267-679-9297
Vice-President	Tony Simek	N3YNH	
Secretary	Kathy Acker	KC3FBY	215-815-7978
Treasurer	Herb Hickmott	KB3VMN	267-718-3601
Director (A)	Doug Becker	KC3MNQ	
Director (E)	Larry Abbott	WA3ELQ	215-704-3282
Director (A)	Brandon Penglase	N3UO	215-259-7255
Director (E)	George Brechmann	N3HBT	215-443-5656
Past President	Marty Squicciarini	NR3Z	215-872-9644

Committee Chairpersons

ARES/RACES Liason	Karl Harris	K3KH	215-264-1855
ARRL Liason	Irwin Darack	KD3TB	215-343-8170
Awards Manager	Vince Pironti	KD3TC	215-674-0446
Classes	George Altemus	KA3WXV	215-855-3856
Digital and APRS	Ron Wenig	NY3J	215-638-9257
Feedback Editor	Jim Elmore	WA4YWM	215-538-1889
Field Day 21	Doc Whitticar	W3GAD	215-968-6397
Hamfest 21	Michael Shanblatt	W3MAS	267-491-5773
Hamfest 21	Tony Cuttone	W3FLH	267-679-9297
Hamwear	Kathy Acker	KC3FBY	215-815-7978
Holiday Dinner	George Brechmann	N3HBT	215-443-5656
Membership	Mary Miles	KC3KJZ	267-625-8538
Net Manager	George Brechmann	N3HBT	215-443-5656
Publicity	Bernice Kraut	KB3PCX	215-884-8195
Refreshments	Brandon Penglase	N3UO	215-259-7255
RF Interference	Andy Vavra	KD3RF	610-287-3295
RF Interference	Bill Ballantine	K3FMQ	215-766-0764
Repeater Coordinator	Brian Taylor	N3EXA	215-257-6303
Safety Officer	Mike Malone	W3MJM	215-639-2175
Station Trustee	George Brechmann	N3HBT	215-443-5656
Sunshine Club	Ken Lichtenstein	K9KJL	847-697-1188
Township Liason	George Brechmann	N3HBT	215-443-5656
VE License Testing	Larry Abbott	WA3ELQ	215-704-3282
VHF/UHF/MW	George Altemus	KA3WXV	215-855-3856
Website Coordinator	Al Konschak	WI3Z	215-491-9941
Youth Programs	Steve Larson	WW3Y	215-822-1511