FEEDBACK

K3DN Warminster Amateur Radio Club

Web Site k3dn.org **Warminster Amateur Radio Club** **October 2020**

Next Meeting October 1st via ZOOM - DX Engineering, Tim K3LR

President's Message

Hello WARC, and welcome to Autumn. Summer left us quickly, and now it's time for sweaters, campfires, and working on antennas!

For the first time in many years, the club has voted to raise our annual dues. Effective as of January 1, 2021, dues will increase to $25.00 per year, up from the current rate of $20.00; any club members wishing to renew (or new members joining) prior to that date will still be able to do so at the current rate. The decision to increase dues was nearly unanimous; the tough part was deciding between a new rate of $25 or $30. We received a record number of responses to our electronic ballot for this Motion, with the final tally being 30-29 in favor of the smaller increase. It was great to see so many of you taking the time to vote on this, and most of those included some form of comment on the discussion. While no one likes to implement any increases, this was long overdue and very necessary in light of the budget situation for 2020-21.

As we've previously announced, the Board made the difficult decision to cancel this year's Holiday Dinner. With restrictions on gatherings still in place in PA, and the likelihood of sporadic interest due the ongoing pandemic, we felt it was in the best interests of all to take this action now and allow our members to plan accordingly. We're working on ideas for a club activity that night (Thursday, Dec.1), most likely a virtual gathering of some sort, so that we can still share the Holiday spirit together. Stay tuned….

Although the Holiday Dinner has been cancelled, we will once again bestow our annual WI3Y Dave Simpson Outstanding Ham of the Year Award (OHOTY) in December. Please think of someone in the club whose contributions to WARC, and Amateur Radio in general, deserve to be recognized, and give that name to one of our Board members for nomination. The recipient will get a customized plaque suitable for display in their shack, and WARC will make a $100.00 donation in their name to the ARRL Spectrum Defense Fund.

The Ben Wilson Senior Activity Center re-opened on Sept. 1 and things appear to going very well for them, with no major setbacks or issues presenting themselves. WARC will be having our first foray back into in-person gatherings with our VE session at the Center on Monday, Sept. 28 (our first in over 6 months). Hopefully, this is a sign of things to come, and we can get back to live meetings again soon – although the October meeting will still be held via ZOOM, in large part due to DX Engineering's Tim K3LR having re-scheduled as speaker after his late cancellation last month.

OK, that's a lot of stuff for one month, so let me wrap up by saying: Be smart, be safe, and be warm!

Tony W3FLH
73

MINUTES FOR THE SEPTEMBER 3rd GENERAL MEETING

Attendance:
Call to Order

Minutes from last Meeting
Additions/Corrections - Motion to approve/approve as amended? – motion made and approved as posted in feedback

Committee Reports

(Continued from page 1)

Treasurer's Report: *Herb KB3VMN*

As reported at the meeting

Programs: *Tony N3YNH*

October – Battleship NJ program fell through; Tony is looking for anyone who has any ideas of a program, please email him at N3YNH@arrl.net

November – ARRL Night w/George W3GWM (EPA SM)

December – Holiday dinner cancelled; Tony is thinking of a topic for the meeting

Membership: *Kathy KC3FBY*

109 members

Introduced Larry Mogil KC3PVZ

Public Service: *George N3HBT*

Warminster Twp/5 Ponds golf outing (Oct. 12) – 8:30am start time and everything will be outside. We have 10 operators and 1 control op already signed up

Classes: *George KA3WXV*

Not scheduling any in person classes at this time. Planning on scheduling some elmering time with new hams to get them on the air.

VEC Testing: *Larry WA3ELQ*

Next session: Sept. 28 at the BWSAC in the large room so we can social distance unless we hear otherwise from the senior center.

Repeater: *Brian N3EXA*

Repeaters are functioning. Haven't gone to the township building and will still need to put in the new amplifier

Good and Welfare: *Ken K9KJL*

Sent a condolence card. If you know of someone who needs a card, please let us know

Other Committees

Radiosport: *Irwin KD3TB*

September starts contest season, lots of options to get on the air. Several US state QSO parties as well as CQ DX Riddy contest and OH Parks on the Air.

Hamfest: *Tony W3FLH*

Watching BCCC closely, they are not allowing any outsiders on any of their campuses at this point. Our deposit from 2020 is being held for 2021.

Field Day: **Doc W3GAD**

Doc is looking to turn over the reins. We need someone to take over, Doc is willing to work beside the new person.

Old Business

Finance Committee (Herb KB3VMN)

Sent out a survey regarding membership dues. We had 72 votes and 67 said yes and 7 said no. 30 voted to raise dues to $25 and 29 voted to raise dues to $30. Based on this vote, the membership has approved raising dues to $25 beginning 1/1/2021. Members will be allowed to pay for their 2021 dues prior to December 31, 2020 at the old rate of $20. All other member levels will be increased accordingly.

Contract renewal w/BWSAC (Kathy KC3FBY)

We are still waiting on the renewal contract. The senior center reopened September 1 and we will evaluate the meeting situation as the month progresses. We do know that there will be a limit on the number of people who can be in the large meeting room and we will be required to clean the meeting room and bathrooms.

Elmer Program – Looking to use Zoom to make contact with hams who need some elmering to get them on the air.

Online Auction (Andy KD3RF) – 61 bids on the items totaling $1,194. Looks like we have sold everything. The auction ends tonight. Auction started slow but picked up momentum today after final email that went out today. Members thanked Andy for his hard work getting this auction together.

Club Station: Interest/Activity? (Marty NR3Z & Andy KD3RF) – Club put out a survey and we received lots of great information and we will be digesting all the information and it will take some time to review and evaluate the results. We will get a committee together to see how we need to move forward.

OHOTY Award (Tony W3FLH) – Nominations – We are awarding this again this year. Please send nominations to the board. The board will award in December.

New Business

FCC Proposed fee increases for Amateur Radio – Raising fees to $50 for license renewals and vanity plates. WARC members should let their voices being heard. W3FLH@arrl.net

Motion to Adjourn

Presentation: DX Engineering/Tim K3LR – Antenna Building – Rescheduled for October

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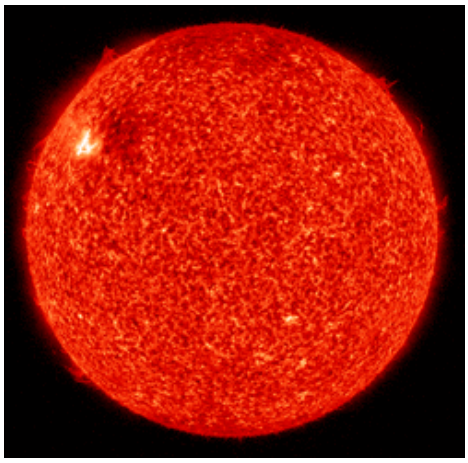
The K7RA Solar Update

Tad Cook, K7RA, Seattle, reports: Up until September 23, we saw 32 consecutive days with no sunspots. Then new sunspot group AR2773 came into view, with a magnetic signature indicating that it's part of new Solar Cycle 25. According to Spaceweather.com, AR2773 is a weak sunspot group and may not persist for long. The daily sunspot number for September 23 was 13, indicating three sunspots visible in that group.



Average daily solar flux rose from 69.2 to 71.1 over the reporting week of September 17 - 23. Geomagnetic indicators were about the same, with average daily planetary A index declining from 5.3 to 5.1.

Predicted solar flux for the next 45 days is 73 on September 24 - October 1, and 70 on October 2 - November 2.

Predicted planetary A index is 12, 15, 12, 25, and 15 on September 24 - 28; 8 on September 29 - 30; 5 on October 1 - 10; 10 on October 11; 5 on October 12 - 19; 10, 12, 16, 28, 18, and 10 on October 20 - 25; 5 on October 26 - November 6, and 10 on November 7.

The *SciTechDaily* article "How NASA & Scientists Around the World Track the Solar Cycle" is an interesting read.

Sunspot numbers for September 17 - 23 were 0, 0, 0, 0, 0, 0, and 13, with a mean of 1.9. The 10.7-centimeter flux was 69.7, 69.9, 70.6, 70.2, 71.3, 72.4, and 73.3, with a mean of 71.1. Estimated planetary A indices were 4, 5, 3, 4, 3, 6, and 11, with a mean of 5.1. Middle latitude A index was 5, 4, 4, 4, 3, 5, and 10, with a mean of 5.

A comprehensive K7RA Solar Update is posted Fridays on the ARRL website. For more information concerning radio propagation, visit the ARRL Technical Information Service, read "What the Numbers Mean...," and check out K9LA's Propagation Page.

A propagation bulletin archive is available. For customizable propagation charts, visit the VOACAP Online for Ham Radio website.

Share your reports and observations.

Courtesy of the ARRL Newsletter

IARU Region 1 President Sounds Alarm on Wireless Power Transfer for Vehicles

International Amateur Radio Union (IARU) Region 1 President Don Beattie, G3BJ, wants to raise greater awareness regarding the interference potential of Wireless Power Transfer for Electric Vehicles (WPT-EV). He is urging IARU member-societies to contact national regulators to make them aware of the technology's potential for "RF pollution." Beattie notes that WPT-EV chargers can run as much as 20 kW.

WPT-EV was on the agenda for World Radiocommunication Conference 2019 (WRC-19). The International Telecommunication

Union (ITU) Radiocommunication Sector (ITU-R) conducted studies to assess the impact of WPT-EV on radiocommunications and suitable harmonized frequency ranges. Those ITU-R studies identified the 19 - 25 kHz band, as well as bands in the 50 kHz and 60 kHz range, for high-power WPT-EV, and the 79 - 90 kHz band for medium-power WPT-EV. The consensus of WRC-19 delegates was to make no changes in the ITU *Radio Regulations* with respect to WPT-EV.

The Netherlands' IARU member-society VERON has posted the text (translated into Dutch) of Beattie's remarks on the subject.

"The discussions about WPT-EV have reached a point where they are moving from the technical to the political arena," Beattie said. "Discussions with a national regulator indicate that we must now take action at the national level. The amateur service, but

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also other telecommunication services, will experience the consequences of WPT-EV."

Beattie urged member-societies in Region 1 to contact national regulators, preferably in person, to explain why radio amateurs are so concerned. He pointed out that long charging times in populated areas could generate harmonics that make radio communication very difficult. "Models show that this also applies to the wider environment of a WPT-EV installation," Beattie said. "Broadcasters, stationary, and mobile services share these concerns" and provided input to CEPT Electronic Communications Committee Report 289.

Beattie noted that the WPT-EV discussion has been going on for a long time. The technology is similar to that used for wireless charging of cell phones.

"The wireless charging of electric cars is done with large coils," he explained. "One of them on the ground under the vehicle, the second in the car. Typically, about 22 kW is transferred wirelessly through those coils. This is done using frequencies between 79 and 90 kHz. Technical and operational standards for WPT-EV are under development."

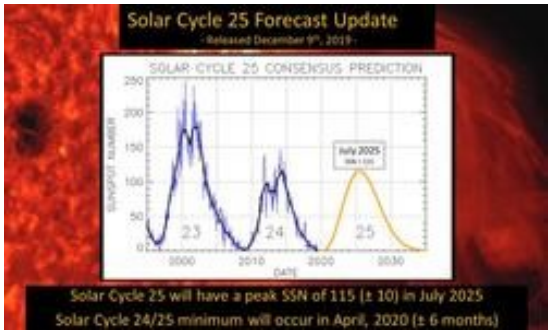
WPT-EV developers are seeking noise level limits that are some 30 - 45 dB above current noise levels, Beattie said. "Limits that have a serious negative effect on the radio spectrum," he asserted.

"In the interests of the future of amateur radio, we need to get the attention of national regulators," Beattie concluded. "This is about the future of amateur radio!"

Courtesy of the ARRL Newsletter

Analysis Determines We Are in Solar Cycle 25

It's now official. The solar minimum between Solar Cycles 24 and 25 -- the period when the sun is least active -- occurred in December 2019, when the 13-month smoothed sunspot number fell to 1.8. This is according to the Solar Cycle 25 Prediction Panel, co-chaired by the National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA). We are now in Solar Cycle 25, with peak sunspot activity expected in 2025, the panel said. The panel expressed high confidence that Solar Cycle 25 will break the trend of weakening solar activity seen over the past four cycles.



"We predict the decline in solar cycle amplitude, seen from Cycles 21 through 24, has come to an end," said Lisa Upton, panel co-chair and solar physicist with Space Systems Research Corporation. "There is no indication we are approaching a Maunder-type minimum in solar activity."

At 11 years, Solar Cycle 24 was of average length and had the fourth-smallest intensity since regular record-keeping began in 1755, with what is considered Solar Cycle 1. It was also the weakest cycle in a century. At solar maximum in April 2014, sunspots peaked at 114 for the cycle, well below the 179 average.

Solar Cycle 24's progression was unusual. The sun's northern hemisphere led the sunspot cycle, peaking more than 2 years ahead of the southern hemisphere sunspot peak. This resulted in fewer sunspots at solar maximum than if the two hemispheres were in phase.

For the past 8 months, activity on the sun has steadily increased, indicating that we have transitioned to Solar Cycle 25, forecast to be a fairly weak cycle -- about the same as Solar Cycle 24. Solar Cycle 25 is expected to peak in July 2025, with a predicted 115 sunspots.

"How quickly solar activity rises is an indicator on how strong the solar cycle will be," said Doug Biesecker, the NOAA-NASA panel co-chair and a solar physicist at NOAA's Space Weather Prediction Center (SWPC). "Although we've seen a steady increase in sunspot activity this year, it is slow."

"While we are not predicting a particularly active Solar Cycle 25, violent eruptions from the sun can occur at any time," Biesecker added.

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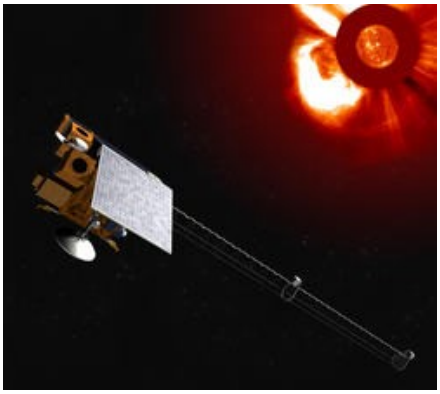


Before Solar Cycle 25 peaks in 2024, NOAA is slated to launch a new spacecraft dedicated to operational space weather forecasting. The Space Weather Follow-On L-1 observatory (SWFO-L1) will be equipped with instruments that sample the solar wind, provide imagery of coronal mass ejections, and monitor other extreme activity from the sun in finer detail than before. NOAA's next Geostationary Operational Environmental Satellite (GOES-U) is also scheduled to launch in 2024. GOES-U will carry three solar monitoring instruments, including the first compact coronagraph, which will help detect coronal mass ejections. Enhanced observations of the sun from these satellites will help improve space weather forecasting.

An artist's rendering of the Space Weather Follow-On L-1 observatory. *Courtesy of the ARRL Newsletter*

Air Force Research Laboratory Tracks Sporadic E

Researchers at the Air Force Research Laboratory (**AFRL**) in New Mexico have discovered a new way to track and characterize sporadic E, which occurs when large structures of dense plasma form naturally in the upper atmosphere. These plasma structures, which occur at mid-latitude locations around the world, can affect radio wave propagation in both positive and negative ways. VHF enthusiasts frequently take advantage of sporadic-E propagation (or E-skip) to work stations outside of their local area.

"Previous methods to observe these structures were insufficient for identifying and tracking these structures over large regions," said Ken Obenberger, a research physicist at AFRL. "It would be advantageous to actively identify where these structures are, where they are going, and how dense they are. And we thought we could find a better way."

The new method, developed by Obenberger and collaborators at AFRL and the University of New Mexico, leverages unintentional RF emissions from power lines, and using broadband radio noise, they can map and track dense sporadic-E structures.

"Since power lines are widespread, we can observe sporadic E over a very large region surrounding our observatory, the Long Wavelength Array (LWA), an asset of our collaborators at the University of New Mexico," Obenberger said. "This technique could be used anywhere in the world where there is an electrical grid and an instrument similar to the LWA, and we are lucky because there are not many."

This kind of technology could be of interest to those who rely on HF and VHF frequencies, such as radio amateurs, mariners, broadcasters, and the military.

Radio amateurs have long taken advantage of sporadic E for long-range communication in the VHF bands, such as 6 and 2 meters. Climatology of sporadic E can provide a probability that it will occur, but the actual presence of sporadic E can only be determined through trial-and-error observations.

The Long Wavelength Array at Sevilleta National Wildlife Refuge is capable of imaging the entire sky at once, allowing AFRL scientists to track and characterize sporadic E. The facility consists of 256 dual-polarization dipoles. [Ken Obenberger, photo]

"This is similar to how meteorologists can predict how likely thunderstorms will occur in the afternoons above New Mexico during monsoon season, but use Doppler radar to identify and track specific thunderstorms as they occur," notes Chris Fallen, KL3WX, one of Obenberger's collaborators at AFRL. "Ken's technique basically provides weather radar for sporadic E, only using radio noise from power lines as the radar transmitter."

Having accurate "now-casting" of sporadic E could prove critical during disaster situations where hams may play a key role in supporting communication of vital information.

"Better understanding will lead to improved design and use of radio systems that mitigate the negative effects and take advantage of the good effects, thereby ensuring a stronger emergency communication network," Obenberger said. "We are interested in sporadic E and the effect it has on radio wave propagation, both good and bad." — *Thanks to Joanne Perkins, Air Force Research Laboratory*

First Element of ARISS Next-Generation Radio System Installed and Operating on ISS

The initial element of the Amateur Radio on the International Space Station (ARISS) next-generation radio system has been installed onboard the ISS, and operations using the new gear are now under way. The first element, dubbed the InterOperable Radio System (IORS), was installed in the ISS *Columbus* module. The IORS replaces the Ericsson radio system and packet module originally certified for spaceflight in mid-2000.

Part of the ARISS InterOperable Radio System -- the multi-voltage power supply -- being put through its paces during one of its many NASA tests. [Photo courtesy of ARISS]

"Finally! It's been a scramble the last few days with coordination over the weekend and yesterday with astronaut Chris Cassidy, KF5KDR," ARISS-US Delegate for ARRL Rosalie White, K1STO, said. "But the new ARISS radio system is now installed, set up, and functioning. What a long road we've traveled over the past 5 years!"

Initial operation of the new radio system is in FM cross-band repeater mode using an uplink of 145.99 MHz (CTCSS 67 Hz) and a downlink of 437.800 MHz. Special operations will continue to be announced, ARISS said.

Launched from Kennedy Space Center last March, the IORS consists of a "space-modified" JVC-Kenwood D710GA transceiver, an ARISS-developed multi-voltage power supply, and interconnecting cables. The design, development, fabrication, testing, and launch of the first IORS culminated a 5-year engineering effort by the ARISS hardware team of volunteers.

ARISS says the new system offers a higher-power radio, voice repeater, digital packet radio (APRS) capabilities, and a Kenwood VC-H1 slow-scan television (SSTV) system.

A second IORS will undergo flight certification for later launch and installation in the Russian Service Module. "Next-gen development efforts continue," ARISS said. "For the IORS, parts are being procured and a total of 10 systems are being fabricated

to support flight, additional flight spares, ground testing, and astronaut training." Follow-on next-generation radio system elements include L-band repeater uplink capability -- currently in development -- and a flight Raspberry Pi, dubbed "ARISS-Pi," still in the design phase. The ARISS-Pi promises operations autonomy and enhanced SSTV operations, ARISS explained.

This year, ARISS marks 20 years of continuous amateur radio operations on the ISS. The largely volunteer organization welcomes donations to the ARISS program for next-generation hardware development, operation, education, and administration. Read more.

Courtesy of the ARRL Newsletter

Hams Help Find Kids by Monitoring FRS Channel

Late on the afternoon of September 16, the police department in Post Falls, Idaho, received a 911 call that two juveniles -- ages 9 and 11 -- were missing from a Post Falls residence for about an hour. According to the report, the pair had left home intending to play in the neighborhood with some Family Radio Service (FRS) radios. Several patrol cars were dispatched to the area to conduct a visual search, and detective Neil Uhrig, K7NJU, responded as officer in charge due to his

training and experience with missing persons investigations. The initial search focused on a 2-mile radius from the missing kids' residence.

One officer received information from witnesses that the pair was probably using FRS Channel 1 (462.5625 MHz). An officer returned to police headquarters to retrieve some FRS radios for distribution to the patrol officers, in the event they might be able to hear the youngsters talking.

Uhrig, meanwhile, pulled out his VHF/UHF handheld with the thought of setting up FRS Channel 1 as an auxiliary frequency, but without the manual at hand, he wasn't able to execute the channel setup. But Uhrig did hear the Northwest Traffic Net (NWTN) that had begun at 6:30 PM on the local 2-meter repeater.

Checking into the net at about 6:45 PM, Uhrig explained the missing persons situation to net control station Shannon Riley, KJ7MUA, and asked if net participants in the Post Falls area with FRS capability could listen for the youngsters talking.

A number of stations promptly checked in to say they had FRS radios and were monitoring FRS Channel 1. It was assumed that only stations located near the missing youngsters would hear them, given the limited range of FRS radios.

Not long after 7 PM, Jim Hager, KJ7OTD, reported hearing children talking on FRS Channel 1. Uhrig went to Hager's home to confirm his observation, and the patrol units were redirected to the new search vicinity. A short time later, the missing pair was found safe and returned home.

Uhrig said the most remarkable thing about the incident was that the missing youngsters turned out to be some distance from the original search area, and in the opposite direction from where they were thought to have been headed.

Net Manager Gabbee Perry, KE7ADN, said, "I'm so proud of what a superior job NWTN NCS Shannon [KJ7MUA] and all the operators did last Wednesday. It was a very unusual situation, but everyone had excellent focus and used their resourcefulness to help quickly find the missing kids." -- *Thanks to ARRL Assistant Idaho Section Manager Ed Stuckey, AI7H*

Courtesy of the ARRL Newsletter

"Foghorn" is Back on the Bands, IARU Monitoring Service Reports

The Chinese "Foghorn" over-the-horizon radar (OTH-R) is once again showing up in the logs of the International Amateur Radio Union Monitoring Service (IARUMS) in IARU Region 1 (Europe, the Middle East, and Africa). While the reports reflect what's being heard by stations primarily in Europe, the same interference can and does affect other parts of the world, often depending upon the time of day. Named by former IARUMS Region 1 Coordinator Wolf Hadel, DK2OM, because of its sound, the Foghorn was first reported in 2017 operating in amateur bands. The signal is frequency modulation on pulse (FMOP) with 66.66 sweeps-per-second bursts.

"In August, we found significantly more OTH radars from the Far East, especially the system known as 'Foghorn,'" said IARUMS Region 1 Coordinator Peter Jost, HB9CET, noting that the Foghorn facilities

generate a signal with a bandwidth of 10 kHz. "But also, the notorious Russian 'Contayner' radar still contaminated our bands, especially 20 meters, daily."

The Foghorn was being heard on 40 meters, in the vicinity of 7113 - 7123 kHz and 7165 - 7175 kHz. Other OTH-R signals tracked to, or believed to be in, China are showing up elsewhere on the band with equally broad signals. Some international broadcasters have also set up shop on amateur bands, including Voice of Broad Masses 1 on 7140 kHz, and Voice of Broad Masses 2 on 7180 kHz, both with 9 kHz-wide AM signals. China Radio International has been transmitting at the very bottom edge of 20 meters, its signal slopping over into the amateur band. Chinese OTH-R signals were also monitored at various places on 20 meters.

Russian "Contayner" OTH-R signals were spotted on several 20-meter frequencies in August. An idling signal on 14,221 kHz is believed to be coming from Kazakhstan, showing up every evening. A Foghorn OTH-R has been appearing in the 14,338 - 14,348 kHz range.

A radio war between Russia and Ukraine has generated signals on 40 meters (Russia on 7055 and Ukraine on 7060 kHz), airing what the monitor called "very loud" and persistent signals every day, with "plenty of abuse," propaganda, profanities, and agitation being passed back and forth.

AM radars with "huge signals" were reported to be taking up segments on 40 and 20 meters. A "monster" F1B signal has been heard on 14,301 kHz.

The role of IARUMS -- monitoring the amateur bands to search and identify transmissions sent by intruders -- is important, because the amount and variety of intruders is rapidly growing, IARU said. "A number of national monitoring coordinators and volunteers have been watching our bands for many years. But more needs to be done to raise awareness of societies and countries where no national monitoring team exists. Also, existing groups can still help by sharing detailed information worldwide with others. 'Monitoring is Teamwork!'"

IARU said it's also very important that as many member-societies as possible file interference complaints with national regulators when intruders are heard.

CLUB INFO

PUBLIC SERVICE
5 Ponds Golf Outing, Oct. 12 . For further information, call George Brechmann N3HBT at 215-443-5656.

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."

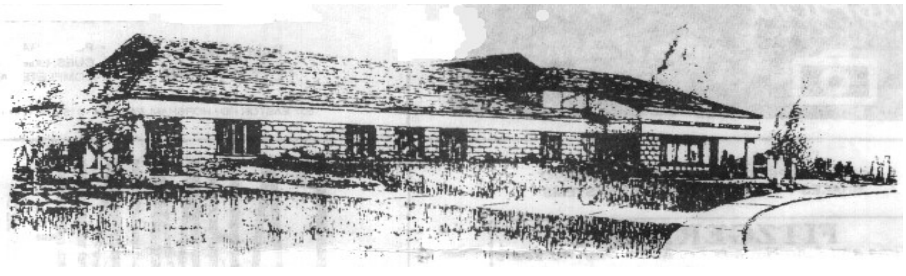
ATTENTION MEMBERS
The Membership Committee can provide Club badges. Two types are available: an engraved plastic callsign and name badge for $8 or a free, laminated plastic, photo ID badge/card. The photo id badge is included with your membership. Pictures for the club badge will be taken before club 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 2020

October 1 - DX Engineering
November 5 - ARRL Night, W3GWM
December 3 -

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.**

2020 Contest Calendar

October
19-23 **School Club Roundup**
Monday through Friday from 1300 UTC Monday through 2359 UTC Friday

November
7-9 **Nov. Sweepstakes – CW**
2100 UTC Saturday and runs through 0259 UTC Monday.
21-23 **Nov. Sweepstakes – Phone**
2100 UTC Saturday and runs through 0259 UTC Monday.

QSO Parties

California	1600Z, Oct 3 to 2200Z, Oct 4
Nevada	0300Z, Oct 10 to 2100Z, Oct 11
Arizona	1500Z, Oct 10 to 0500Z, Oct 11
Pennsylvania	**1600Z, Oct 10 to 0500Z, Oct 11 and 1300Z-2200Z, Oct 11**
South Dakota	1800Z, Oct 10 to 1800Z, Oct 11
New York	1400Z, Oct 17 to 0200Z, Oct 18
Illinois	1700Z, Oct 18 to 0100Z, Oct 19

➢ ATLANTIC DIV. HAMFESTS
➢ 2020

October 17
OktoberFest
Vietnam Veteran's of America
8000 Derry Street
Harrisburg, PA 17101
http://www.W3uu.org

December 12
SantaFest
American Legion Youth Camp
9201 Surratts Road
Cheltenham, MD 20623
http://www.pgares.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 2020 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.

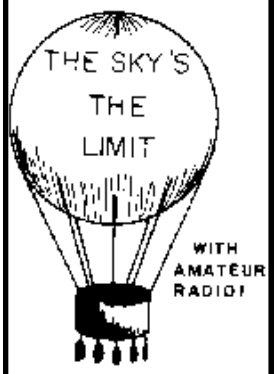
Lansdale, PA Testing on the fourth non-holiday Thursday of the month starting at 7:00 PM. The Lansdale Library Community Room Vine St. and Susquehanna Ave. Lansdale, Pa. Registration is required 48 hrs. or more before the scheduled exam date. If there are no registrations the scheduled exam date will 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

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 ?**

2020 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