



FEEDBACK



Web Site k3dn.org

Warminster Amateur Radio Club

May 2020

Next Meeting **MAY MEETING CANCELED**

President's Message

We have survived another month of stay at home and I have worked several SES reminding us to do just that including OH6STAYHOME. This just reminds us that we are not alone in this effort to beat this silent killer and as hams we do have the ability to communicate with others either locally via repeater or around the world. Even though we are at the bottom of the sunspot cycle the bands are still open during the day and 40, 80 & 160 are open for both local and DX. Recently a group of us got together on 80 meters. It was nice to connect with fellow hams. Get on the air.

Historically May is election month but the board has decided to delay elections until we are able to meet in person. The first month back the nominees will be announced and the next month the election will be held. If you are interested in running please reach out to the nominating committee, Bill K3FMQ, Irwin KD3TB and Tony W3FLH. At this time it is not known when we will be able to meet in person but I look forward to seeing everyone soon.

At this time it is not known if we will be able to hold Field Day at the Shrine. That decision is out of our hands and the ARRL has recommended operating from home as 1B, 1D or 1E. If we are not able to hold Field Day at the Shrine let's all operate from home and hold a club competition to see who can score the most points, work the most sections and we would have separate categories to make it competitive for all. The categories would include contester, rookies, single band and a few others.

Finally when we are able to get together the club will hold a picnic and Special Event Station just to celebrate and enjoy each other's company. I look forward to seeing everyone

Hope to see you all soon, please stay healthy.

73,
Marty NR3Z

FIELD DAY

Well the nation is still in a turmoil thanks to COVID-19. That little critter, at this stage, is creating more questions than answers for everyone and, in particular, the usual summer activities. Those activities include ARRL FIELD DAY 2020. There are many of you looking forward to the time together at the radio, putting up antennas and being able to say "I DID IT and IT WORKS". The community meals have always been a time to catch up on each other's activities and the time on the radio is always fun.

WARC is not what you would call a big gun contest club but, whether you consider FIELD DAY a contest or, as it is intended, a public demonstration of preparedness for what may come in the future, is your personal choice. Irrespective of that choice FIELD DAY is important. The ARRL does not classify FIELD DAY as a contest at all but provides recognition to all that stations that submit the requisite paperwork and attached the needed proofs of performance to create a non-competitive aggregate score.



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© Tom Mills 2018

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That being said; we need to move forward with planning for FIELD DAY 2020 as if there were no questions about it being a familiar reality and simultaneously prepare for the possibility that local regulations will prohibit WARC from gathering for the weekend. The ARRL is looking at the “WHAT IF’s” and there may be a few modifications to the rules to accommodate the extended lockdown. If FIELD DAY 2020 is cancelled due to the lockdown you can still submit your logs with WARC listed as your Affiliated Club.

In the interim we are trying to solidify the plans for FIELD DAY 2020 to be in the traditional style with a multiple station effort at the Shrine of Our Lady of Czestochowa in Doylestown. I would like to hear from everyone who would like to help with the operation for FIELD DAY 2020, captain a band, help with setting up and putting all the gear away, just operating or one of the myriad of other opportunities that make for a successful club activity.

Since late June is likely the earliest restrictions will be lifted, I encourage each club member, to reflect on his responsibilities as a club member and step up to the plate to participate in some way to make this the best “COMING OUT PARTY” any of you could imagine.

As a reminder: If you have emergency power and can operate using your generator you are 1A. If you would rather use batteries or solar power you are class 1B. Activation of a station at an EOC makes the station 1E and if you use the commercial power you are class 1D.

I can be reached via e-mail: w3gad@arrl.net and I monitor 147.09 repeater on my way to and from work between 8 and 9 in the morning and 5 and 6 in the evening. I will put my call out there for those wishing to chat.

Looking forward to the best FIELD DAY 2020 no matter how we ultimately experience the weekend.

73 de Doc Whitticar -W3GAD Field Day coordinator



© Tom Mills 2018



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FOR SALE

Nine (9) aluminum military mast sections sold by the MAST COMPANY, high quality aluminum, each section about 3.75 feet once overlapped on each other for a total height of approximately 34 feet. Brand new in shipping carton. I can bring them to one of the meetings if you are interested. Contact, Bob, K3SRO at dlrwild1@verizon.net

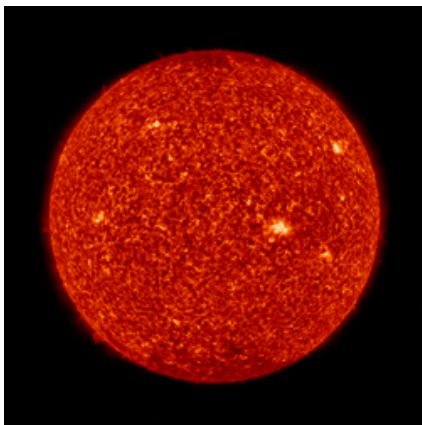
267-535-9189 cell ASKING: \$110 cash or check

Kenwood TS-570D HF Transceiver. 10-160 meters. Automatic Antenna Tuner. SSB and CW (500hz) filters. Includes hand mic, power cord, and original box.
PS-40 Power supply for the radio.

Asking \$550.00 for both.

Marty NR3Z
Skitch@SkitchFamily.net
NR3Z@ARRL.net

The K7RA Solar Update



Tad Cook, K7RA, Seattle, reports: Several sunspots put in appearances this week. Sunspot numbers on April 25 - 29 were 11, 14, 12, 0, and 24, for a weekly average of 8.7. Average daily solar flux barely moved -- from 69 to 69.2.

Geomagnetic activity remains quiet, with average daily planetary A index declining from 7.3 to 5.6.

Predicted solar flux is 70 on April 30 - May 6; 69 on May 7 - 16; 70 on May 17 - 31; 69 on June 1 - 12, and 70 on June 13.

Predicted planetary A index is 8 on April 30 - May 2; 5 on May 3 - 17; 10 and 8 on May 18 - 19; 5 on May 20 - 23; 8 on May 24 - 27; 5 on May 28 - 31; 12 on June 1, and 5 on June 2 - 13.

Sunspot numbers for April 23 - 29 were 0, 0, 11, 14, 12, 0, and 24, for a mean of 8.7. The 10.7-centimeter flux was 68.7, 69.7, 68.9, 69.2, 69, 69, and 69.9, for a mean of 69.2. Estimated planetary A indices were 4, 8, 5, 6, 7, 6, and 3, with a mean of 5.6. Middle latitude A index was 4, 6, 5, 5, 6, 6, and 4, with a mean of 5.1.

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. [Monthly charts](#) offer propagation projections between the US and a dozen DX locations.

[Share](#) your reports and observations.

Courtesy of the ARRL Newsletter

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Temporary Q-Codes by Walter/K5EST :

QLD: I am locked down.

QTP: I have toilet paper.

QFC: I am flattening the curve.

QSH: I am sheltering in place.

QHS: I have hand sanitizer.

QSD: I am observing social distancing.

Sent by a good friend of mine from Tennessee, W4TZB Wayne

[The following is part of a promotional item from Valparaiso University featuring our very own Laura, KC3WGL. The old guy there beside her is not a Valpo student – you might recognize him. This was provided by Mark, N1MDF (Laura's proud papa).]

Valpo Students and Alumni Fulfill Aspirations with NASA

NASA came to Laura Floyd '23, by way of a flyover by the International Space Station (ISS). Laura inspired a group of her high school classmates to start an amateur radio club. While a freshman at Valpo, Laura facilitated an event with NASA for the club to speak with an astronaut on the ISS. The students were able to have a two-way conversation with astronaut Drew Morgan to learn about his personal experiences as an astronaut, what it's like to fly on the ISS, and how his education and training led to him being selected as an astronaut.



The following is a link to the entire web page:

https://www.valpo.edu/college-of-engineering/news-features/?type=post&site=239&id=11255&utm_source=newsletter&utm_medium=email&utm_content=Valpo+Students+and+Alumni+Fulfill+Aspirations+with+NASA&utm_campaign=CoE+Fall+2019+Newsletter

Emergency Ventilator Designed and Constructed by Hams Going to FDA

Radio amateurs have succeeded in providing a complete, working ventilator system to University of Florida researchers who are in the process of applying to the Food and Drug Administration for an Emergency Use Authorization (EUA). A successful submission would blaze the way for volunteers and manufacturers around the world to create low-cost, highly functional Intensive Care Unit (ICU) or anesthesia-care ventilators that offer many of the features of modern ventilators at a fraction of the typical cost. Dr. Gordon Gibby, KX4Z, who is associated with the project, said efforts to further improve the device are ongoing.

“We made a stunning improvement in accuracy of the system and measuring volumes last night at about 1 AM,” he told ARRL. “Accuracy of that particular alarm measurement went from about 300%, down to about 10%. The FDA submission is being readied, but we keep making engineering improvements.”

Gibby credited some of the primary volunteers. “Bob Benedict, KD8CGH, has provided incredible volunteer testing, now exceeding 1.6 million cycles on one crucial valve and 300,000 on another. Jack Purdum, W8TEE, is the main ‘code-cleaner’ for one of multiple

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The ventilator controller circuit board, designed by Michael Stapleton, WD4LHT. [Courtesy of Gordon Gibby, KX4Z]

teams building software, following the initial lead of Marcelo Varanda, VA3MVV. Ashhar Farhan, VU2ESE, not only created the ventilator controller schematic but the printed circuit board layout that will be part of an expected University of Florida submission." Farhan was among the founding code writers of what we now know as Voice over Internet Protocol (VoIP).

Other hams worked on mechanical designs for flow measurements and retooled potential manufacturing capabilities otherwise used to produce transceivers. In another example of ham radio ingenuity, Marc Winzenried, WA9ZCO, modified a readily available lawn sprinkler to serve as a durable expiratory valve. This development enabled the ventilator to go more than 1 million breaths before significant valve issues developed, and the part can be replaced for less than \$15.

The completed prototype in Florida was built using typical tools by a radio amateur, and assembled boards provided by LifeMech, a manufacturer working with the project. Farhan crafted an extendable menu structure for the Arduino Nano-based controller, and gas-flow measurements are made every few milliseconds by an I2C-based differential pressure transducer that can measure down to tiny PSI fractions, allowing the design to accurately track patient-induced variations in the volume of delivered gasses.

"Using Winzenried's expiratory valve, electronic on-off control at the rate of 30 Hz allows modulation of the valve to set the continuous airway pressure used to keep the patient's lung alveoli open against virus-induced water-logging of the connective tissue," Gibby explained. An improved software design allows faster monitoring that accurately measures patient breaths despite gas flow perturbations, with the only valve component showing wear after nearly a million cycles is the nitrile diaphragm.

"Perhaps the most surprising development was the addition of the ability to sense patient effort to take a breath and immediately switch to assisting the patient with that breath, known as 'assist-control' ventilation," Gibby said. "This is expected to allow far lighter sedation of patients — potentially even no sedation — and allows patients' crucial respiratory muscles to keep up their strength." He said the current design goes far beyond the FDA's guidance document for emergency ventilator development.

Radio amateurs delivered the operational control system, basic manufacturing instructions, software, and software explanation to the University of Florida on April 24.



Airway components of the emergency ventilator. [Photo courtesy of Gordon Gibby, KX4Z]

Courtesy of the ARRL Newsletter

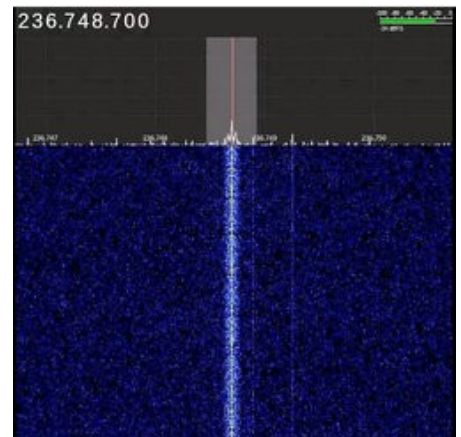
Radio Amateur Finds Another "Zombie Satellite"

British Columbia radio amateur Scott Tilley, VE7TIL, has found another "zombie satellite," as he calls them. This time, he tracked and identified radio signals from the experimental UHF military communication satellite LES-5. Tilley says he found the satellite in what he called a geostationary "graveyard" orbit after noting a modulated carrier on 236.7487 MHz.

"Most zombie satellites are satellites that are no longer under human control, or have failed to some degree," Tilley [told](#) National Public Radio (NPR) earlier this month. It's not clear whether LES-5 is still capable of receiving commands.

LES-5 was built by MIT's Lincoln Laboratory and launched in 1967 as part of the military's Tactical Satellite Communication Program. It was supposed to shut down in 1972, but it continues to operate as long as its solar panels are facing the sun.

What intrigued Tilley about LES-5 was that it might be the oldest functioning geostationary satellite in space. After British Columbia went on lockdown due to the COVID-19 pandemic, Tilley found himself with a lot of free time for such a search. He located LES-5 on March 24.





From his home in Roberts Creek, British Columbia, Tilley, an amateur astronomer, routinely scans the skies for radio signals from classified objects orbiting Earth. Since he started, he's located dozens of secret or unlisted satellites.

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. NASA and another ham in the UK confirmed his finding. Launched in 2000 on a mission to monitor space weather, IMAGE mapped plasma patterns around Earth.

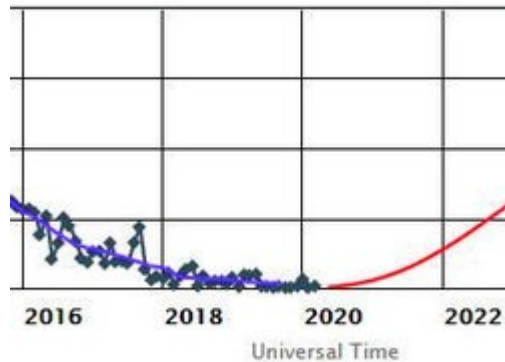
Courtesy of the ARRL Newsletter

LES-5 under construction.

NOAA Updates Solar Cycle 25 Prediction

Frank Donovan, W3LPL, notes that the National Oceanic and Atmospheric Administration (NOAA) Space Weather Prediction Center ([SWPC](#)) has published its official updated prediction of Solar Cycle 25 in new, interactive [Solar Cycle Progression graphs](#). The updated prediction is based on the results of NOAA's Solar Cycle 25 Prediction Panel.

"SWPC forecasts a solar maximum between 105 and 125, with the peak occurring between November 2024 and March 2026," Donovan said. "There is broad consensus that solar minimum is ongoing this year -- or may have already occurred -- and that Cycle 25 will have no major change in the level of solar activity compared to Cycle 24."



As Donovan explained, for many years the SWPC's solar cycle predictions have used the Royal Observatory of Belgium's International Sunspot Number. SWPC's official solar cycle prediction now uses the SWPC sunspot number. The International Sunspot Number is typically about one-third lower than the SWPC sunspot number.

"While this is SWPC's official Cycle 25 prediction, it's important to note there is still divergence among various forecasting methods and members of the space weather forecasting community," Donovan said. "Most forecasts and forecasters agree that the Cycle 25 peak is likely to be within $\pm 20\%$ of Cycle 24 and is likely to occur between 2024 and 2027."

Courtesy of the ARRL Newsletter

Welsh radio amateur copied the *Titanic* distress call, but authorities did not believe him.

April 15 marked the 108th anniversary of the *Titanic* disaster. As the passenger vessel was going down, frantic shipboard radio operators transmitted repeated distress calls. Arthur "Artie" Moore, MNX, near Pontllanfraith, Wales, heard one of the calls for help: "CQD CQD SOS de MGY Position 41.44N 50.24W. Require immediate assistance. Come at once. We have struck an iceberg. Sinking." At that time, operators used "CQD" (come quickly, distress) and "SOS" interchangeably. MGY was the RMS *Titanic*'s call sign. The then 26-year-old Moore picked up the distress calls from the stricken ship thousands of miles away, and, as [recounted](#) in *The South Wales Argus* newspaper, he raced to inform police about what he'd heard, but the authorities would not believe him. It wasn't until a day or two later that the grim news reached the shores of Great Britain. More than 1,500 people died in the tragedy, including some prominent individuals, on the voyage from England to the US on the *Titanic*'s maiden voyage.

Courtesy of the ARRL Newsletter

The Medical Net, a special COVID-19 net, is running Wednesdays, 0130 UTC, on 7.222 MHz.

The net deals with correct data on COVID-19 epidemiology care, care issues, and more. Net control will be Dr. Harry Przekop, WB9EDP, a past president of the Medical Amateur Radio Council Organization (MARCO) and now a director at large. Przekop is a specialist in infectious diseases and biomedical physics and is board-certified as an expert in HIV care. Participants do not need to be physicians or medical providers to check in, ask questions, and otherwise take part, but no diagnoses can be rendered. The regular MARCO Grand Rounds Net is held on Sundays, 1500 UTC, on 14.342 MHz.

Courtesy of the ARRL Newsletter

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

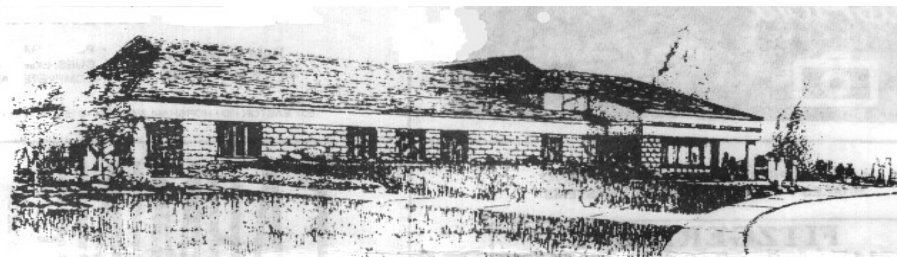
The Membership Committee can provide Club badges. Two types are available: an engraved plastic callsign and name badge for \$8 or a free, laminated plastic, photo ID badge/card. The photo id badge is included with your membership. Pictures for the club badge will be taken before club meetings on even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

June 4 - Pizza Night

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

June

13-15 [June VHF](#)

1800 UTC Saturday, runs through 0259 UTC Monday

20 [Kids Day](#)

1800 UTC through 2359 UTC

27-28 [Field Day](#)

800 UTC Saturday and running through 2059 UTC Sunday

July

11-12 [IARU HF World Championship](#)

1200 UTC Saturday and ending 1159 UTC Sunday

August

16 [Rookie Roundup – RTTY](#)

1800 to 2359 UTC

QSO Parties

Indiana QSO Party	1500Z, May 2 to 0300Z, May 3
Delaware QSO Party	1700Z, May 2 to 2359Z, May 3
Arkansas QSO Party	1400Z, May 9 to 0200Z, May 10

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@arrrl.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@arrrl.net
Alt Contact: Jim, 610-287-5630

➤ ATLANTIC DIV. HAMFESTS ➤ 2020

May 24

[Memorial Weekend Hamfest](#)

Howard County Fair Grounds 2210 Fairgrounds Road West Friendship, MD 21794
<http://www.marylandfm.org>

June 13

[Bloomsburg Hamfest](#)

Lime Ridge Community Center 6405 4th Street Lime Ridge, PA
<https://www.qsl.net/cm-arc/hamfest.htm>

June 21

[Father's Day Hamfest at Arcadia](#)

Arcadia Fairgrounds 16920 Carnival Avenue Upperco, MD 21155
<http://W3FT.com> & [Facebook](#)

July 4

[Firecracker Hamfest, ARRL Pennsylvania State Convention](#)

Shumaker public safety building
N Hall Dr (industrial Road)
Harrisburg, PA 17101
<http://www.w3uu.org>

July 11

[Valley Forge Hamfest](#)

Kimberton Fire Company Fairgrounds
762 Pike Springs Road
Kimberton, PA 19442
<http://www.marc-radio.org>

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:

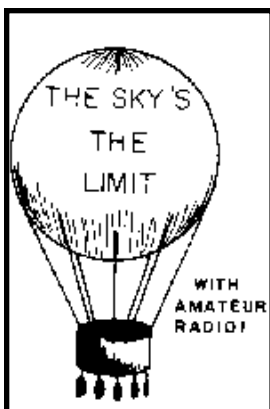
<https://www.weather.gov/phi/Info>

SKYWARN Basic Weather Spotter Educational Programs URL:

<https://www.weather.gov/phi/classes>

➤ 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



*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.

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

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.

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	Marty Squicciarini	NR3Z	215-872-9644
Vice-President	Tony Simek	N3YNH	
Secretary	Norm Miles	AB3ZZ	267-625-9117
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	Tony Cuttone	W3FLH	267-679-9297

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 20	Doc Whitticar	W3GAD	215-968-6397
Hamfest 20	Michael Shanblatt	W3MAS	267-491-5773
Hamfest 20	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