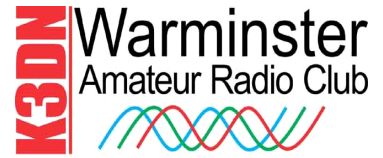




FEEDBACK



Web Site k3dn.org

Warminster Amateur Radio Club

September 2020

Next Meeting September 3rd via ZOOM - DX Engineering, Tim K3LR

President's Message

Hi everyone, and welcome to the end of Summer. For a year that seemed to start out by dragging on indefinitely, it sure has started to fly by lately!

The Ben Wilson Senior Activity Center is planning to open again on September 1, with new rules in place related to the ongoing Covid-19 situation. We will be monitoring their progress closely, and hope that this will enable us to gather again in person soon. The Board elected to continue with online meetings for at least September, due to several factors, one of which was having already scheduled Tim K3LR from DX Engineering as our guest speaker for a virtual presentation. However, we are planning to hold our September VE session in person at the Center as our first foray back into the building. The timing of this event will give the BWSAC a good opportunity to assess their guidelines and make any adjustments, if necessary. We will certainly keep everyone posted on this situation.

As you are all aware, there was a vote on the issue of increasing dues for the club, which was conducted electronically. The results are in, and we will be discussing them as part of the September meeting. We were extremely happy with the number of responses that were received, and it's great to see so many of you involved and taking part in the discussion of such a critical issue – the Board would like to thank everyone for their participation.

We also conducted a survey on the status of the club station and received a good number of responses on that topic, as well. We will be discussing the results of that survey, and the options that we have, at a more in-depth level as time permits.

I hope many of you have found time recently to get on the air, perhaps make station improvements, and continue to enjoy our hobby despite the restrictions currently in place. Be safe, I look forward to seeing you at the next meeting!

Tony W3FLH
73

MINUTES FOR THE AUGUST 6th GENERAL MEETING

Attendance:

Call to Order
Introductions - pass mic

Minutes from last Meeting

Additions/Corrections - Motion and minutes approved as written in the Feedback

Committee Reports

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

Programs: *Tony N3YNH*
September – DX Engineering – no topic yet chosen; waiting on topic list from them
October – Battleship NJ
November – ARRL Night w/George W3GWM (EPA SM)

Membership: *Kathy KC3FBY*

(Continued from page 1)

108 active members

2 new members

N3QBZ - Brain Dietrick

Pending - Andrew Teitelman

Public Service: *George N3HBT*

Warminster Twp/5 Ponds golf outing – Columbus Day in October 8:30am start

Classes: *George KA3WV*

Next classes: Fall – Tech & General (Online?) George not in attendance. Will need to determine how to proceed.

VEC Testing: *Larry WA3ELQ*

Next session: Sept. 28 (at BWSC?) {No session in August} – Currently scheduled to be at the BWSC

Repeater: *Brian N3EXA*

Repeater went down with a power outage this week with the storm. Brian was able to get in and reset everything, but still has work that needs to be done on it.

Good and Welfare: *Ken K9KJL*

Sent out a condolence card

If anyone knows of someone who needs a card sent please let Ken, Tony or Kathy know

Other Committees

Radiosport: *Irwin KD3TB*

Last week CW contest

CW work all Europe contest this weekend

MD/DC QSO party is this weekend

Virtual HamFest this weekend

Hamfest: *Tony W3FLH*

Not too much to report

We will be at the college next year; our deposit carries over to 2021

Field Day: **Doc W3GAD**

Need someone to take over Field Day from Doc

If someone is interested, please let Tony and Doc know

Old Business

Finance Committee (Herb KB3VMN)

Finance committee, Bruce WA3ZPC, Ken K9KJL, and Herb KB3VMN, met and discussed various income and expense reduction items. The committee has reviewed dues structures of various other local clubs and has recommended that our club dues be increased to \$25 annually. The board discussed at their last meeting, agreed, and decided to bring it to the membership for their approval. We will allow members to pay their 2021 dues at the current level at \$20. The new rate will go into effect on January 1, 2021. Chris Trotter made the motion and Herb KB3VMN to approve the increase in dues. Since we do not have a quorum in the ZOOM Meeting, we will take the vote to Constant Contact. Further discussion ensued and the motion was amended to change the vote giving members the option to vote on dues at either \$25 or \$30.

Contract renewal w/BWSAC (Kathy KC3FBY)

We are in discussion with the Senior Center regarding our contract renewal for the next two years. The contract will include COVID guidelines for social distancing and cleaning. The center will be reopening in September and we are waiting to receive occupancy guidelines, cleaning instructions and other measures we will need to follow. The board decided to still hold our September meeting via Zoom to give the center time to work out all COVID related issues. We plan on returning to the center for VE testing at the end of September and hopefully will have our membership meeting there in October.

Elmer Program – Online/Zoom?

Tabled for the evening

Online Auction (Andy KD3RF)

An online auction will start tomorrow. Run in more of an eBay style. Watch for a Constant Contact email with links to the auction.

New Business

Inspiring newcomers to Amateur Radio (Andy KD3RF)

Tabled for the evening

Club Station: Interest/Activity? (Marty NR3Z & Andy KD3RF)

Based on the discussion on our Groups.io WARCTalk which brought up interest in a remote station. We will

(Continued on page 3)

(Continued from page 2)

be sending out a survey to gauge further interest.

Holiday Dinner – Board had a discussion regarding the holiday dinner and how we should handle the dinner. The board has voted to postpone the dinner. There are too many unknowns and we felt it best to postpone the dinner and that when the dust settles from COVID, we may try to do something in the spring.

OHOTY Award – Nominations – We will award this again this year. Brandon is confident that we can get the plaque made. We are seeking nominations. Please send your nominations to any board member.

Motion to Adjourn

Motion made and second – 8:35pm

Presentation: Chris Trotter KB3CET – Civil Air Patrol

[Ed. Note: The following is an article in the IEEE monthly Magazine “Spectrum”. Written from the viewpoint of a non ham and presented to non-ham technologists. Good food for thought.]

The Uncertain Future of Ham Radio

Software-defined radio and cheap hardware are shaking up a hobby long associated with engineering

By [Julianne Pepitone](#)



Photo: John Anderson John Anderson (AJ7M), from Marysville, Washington on the air from home for the 2020 ARRL Field Day event, held June 27-28. Field Day is ham radio's largest on-air annual event and demonstration.

Will the amateur airwaves fall silent? Since the dawn of radio, amateur operators—hams—have transmitted on tenaciously guarded slices of spectrum. Electronic engineering has benefited tremendously from their activity, from the level of the individual engineer to the entire field. But the rise of the Internet in the 1990s, with its ability to easily connect billions of people, captured the

(Continued on page 4)

(Continued from page 3)

attention of many potential hams. Now, with time taking its toll on the ranks of operators, new technologies offer opportunities to revitalize amateur radio, even if in a form that previous generations might not recognize.

The [number of U.S. amateur licenses](#) has held at an anemic 1 percent annual growth for the past few years, with about 7,000 new licensees added every year for a total of 755,430 in 2018. The U.S. Federal Communications Commission doesn't track demographic data of operators, but anecdotally, white men in their 60s and 70s make up much of the population. As these baby boomers age out, the fear is that there are too few young people to sustain the hobby.

"It's the \$60,000 question: How do we get the kids involved?" says Howard Michel, former CEO of the [American Radio Relay League](#) (ARRL). (Since speaking with *IEEE Spectrum*, Michel has left the ARRL. A permanent replacement has not yet been appointed.)

This question of how to attract younger operators also reveals deep divides in the ham community about the future of amateur radio. Like any large population, ham enthusiasts are no monolith; their opinions and outlooks on the decades to come vary widely. And emerging digital technologies are exacerbating these divides: Some hams see them as the future of amateur radio, while others grouse that they are eviscerating some of the best things about it.

No matter where they land on these battle lines, however, everyone understands one fact. The world is changing; the amount of spectrum is not. And it will be hard to argue that spectrum reserved for amateur use and experimentation should not be sold off to commercial users if hardly any amateurs are taking advantage of it.

Before we look to the future, let's examine the current state of play. In the United States, the ARRL, as the national association for hams, is at the forefront, and with more than 160,000 members it is the largest group of radio amateurs in the world. The 106-year-old organization offers educational courses for hams; holds contests where operators compete on the basis of, say, making the most long-distance contacts in 48 hours; trains emergency communicators for disasters; lobbies to protect amateur radio's spectrum allocation; and more.



Photo: ARRL Former ARRL CEO Howard Michel (WB2ITX) at headquarters station, W1AW.

(Continued on page 5)

Michel led the ARRL between October 2018 and January 2020, and he fits easily the profile of the “average” American ham: The 66-year-old from Dartmouth, Mass., credits his career in electrical and computer engineering to an early interest in amateur radio. He received his call sign, WB2ITX, 50 years ago and has loved the hobby ever since.

“When our president goes around to speak to groups, he’ll ask, ‘How many people here are under 20 [years old]?’ In a group of 100 people, he might get one raising their hand,” Michel says.



Photo: Ronny Risinger (KC5EES) Members from the LASA High School Amateur Radio Club, K5LBJ, in Austin, Texas participated in School Club Roundup, a twice-yearly on-air event that encourages participation from ham radio school groups.

ARRL does sponsor some child-centric activities. The group runs twice-annual [Kids Day](#) events, fosters [contacts with school clubs](#) across the country, and publishes resources for teachers to lead radio-centric [classroom activities](#). But Michel readily admits “we don’t have the resources to go out to middle schools”—which are key for piquing children’s interest.

We need to “convince them there’s more than getting licensed and putting a radio in your drawer and waiting for the end of the world.”

Sustained interest is essential because potential hams must clear a particular barrier before they can take to the airwaves: a licensing exam. Licensing requirements vary—in the United States no license is required to listen to ham radio signals—but every country requires operators to demonstrate some technical knowledge and an understanding of the relevant regulations before they can get a registered call sign and begin transmitting.

For those younger people who *are* drawn to ham radio, up to those in their 30s and 40s, the primary motivating factor is different from that of their predecessors. With the Internet and social media services like WhatsApp and Facebook, they don’t need a transceiver to talk with someone halfway around the world (a big attraction in the days before email and cheap long-distance phone calls). Instead, many are interested in the capacity for public service, such as providing communications in the wake of a disaster, or event comms for activities like city marathons.

“There’s something about this post-9/11 group, having grown up with technology and having seen the impact of climate change,” Michel says. “They see how fragile cellphone infrastructure can be. What we need to do is convince them there’s more than getting licensed and putting a radio in your drawer and waiting for the end of the world.”

New Frontiers



Photo: Sateesh Nallamothu Dhruv Rebba (KC9ZJX) with memorabilia from his ham radio contact with astronaut Joe Acaba (KE5DAR) onboard the International Space Station.

The future lies in operators like Dhruv Rebba (KC9ZJX), who won Amateur Radio Newsline’s [2019 Young Ham of the Year](#) award. He’s the 15-year-old son of immigrants from India and a sophomore at Normal Community High School in Illinois, where he also runs varsity cross-country and is active in the Future Business Leaders of America and robotics clubs. And he’s most interested in using amateur radio bands to communicate with astronauts in space.

Rebba earned his technician class license when he was 9, after having visited the annual Dayton Hamvention with his father. (In the United States, there are currently three levels of amateur radio license, issued after completing a written exam for each—technician, general, and extra. Higher levels give operators access to more radio spectrum.)

“My dad had kind of just brought me along, but then I saw all the booths and the stalls and the Morse code, and I thought it was really cool,” Rebba says. “It was something my friends weren’t doing.”

He joined the [Central Illinois Radio Club](#) of Bloomington, experimented with making radio contacts, participated in ARRL’s annual Field Days, and volunteered at the communications booths at local races.

“We want to be making an impact... The hobby aspect is great, but a lot of my friends would argue it’s quite easy to talk to people overseas with texting and everything, so it’s kind of lost its magic.”

But then Rebba found a way to combine ham radio with his passion for space: He learned about the [Amateur Radio on the International Space Station](#) (ARISS) program, managed by an international consortium of amateur radio organizations, which allows students to apply to speak directly with crew members onboard the ISS. (There is also an automated digital transponder on the ISS that allows [hams to ping the station as it orbits](#).)

Rebba rallied his principal, science teacher, and classmates at Chiddix Junior High, and on 23 October 2017, they made contact with

astronaut Joe Acaba (KE5DAR). For Rebba, who served as lead control operator, it was a crystallizing moment.

“The younger generation would be more interested in emergency communications and the space aspect, I think. We want to be making an impact,” Rebba says. “The hobby aspect is great, but a lot of my friends would argue it’s quite easy to talk to people overseas with texting and everything, so it’s kind of lost its magic.”

That statement might break the hearts of some of the more experienced hams recalling their tinkering time in their childhood basements. But some older operators welcome the change.

Take Bob Heil (K9EID), the famed sound engineer who created touring systems and audio equipment for acts including the Who, the Grateful Dead, and Peter Dinklage. His company [Heil Sound](#), in Fairview Heights, Ill., also manufactures amateur radio technology.

“I’d say wake up and smell the roses and see what ham radio is doing for emergencies!” Heil says cheerfully. “Dhruv and all of these kids are doing incredible things. They love that they can plug a kit the size of a cigar box into a computer and the screen becomes a ham radio.... It’s all getting mixed together and it’s wonderful.”

But there are other hams who think that the amateur radio community needs to be much more actively courting change if it is to survive. Sterling Mann (N0SSC), himself a millennial at age 27, wrote on his blog that “[Millennials Are Killing Ham Radio](#).”



Photo: Sterling Mann Sterling Mann (N0SSC) is advocating that ham radio shift away from a focus on person-to-person contacts.

It’s a clickbait title, Mann admits: His blog post focuses on the challenge of balancing support for the dominant, graying ham population while pulling in younger people too. “The target demographic of every single amateur radio show, podcast, club, media outlet, society, magazine, livestream, or otherwise, is not young people,” he wrote. To capture the interest of young people, he urges that ham radio give up its century-long focus on person-to-person contacts in favor of activities where human to machine, or machine to machine, communication is the focus.

These differing interests are manifesting in something of an analog-to-digital technological divide. As [Spectrum reported in July 2019](#), one of the key debates in ham radio is its main function in the future: Is it a social hobby? A utility to deliver data traffic? And

who gets to decide?

Those questions have no definitive or immediate answers, but they cut to the core of the future of ham radio. Loring Kutchins, president of the [Amateur Radio Safety Foundation, Inc.](#) (ARSAFI)—which funds and guides the “global radio email” system Winlink—says the divide between hobbyists and utilitarians seems to come down to age.

“Ham radio is really a social hobby...Here in Mississippi, you get to 5 or 6 o’ clock and you have a big network going on and on—some of them are half-drunk chattin’ with you.”

“Younger people who have come along tend to see amateur radio as a service, as it’s defined by FCC rules, which outline the purpose of amateur radio—especially as it relates to emergency operations,” Kutchins (W3QA) told *Spectrum* last year.

Kutchins, 68, expanded on the theme in a recent interview: “The people of my era will be gone—the people who got into it when it was magic to tune into Radio Moscow. But Grandpa’s ham radio set isn’t that big a deal compared to today’s technology. That doesn’t have to be sad. That’s normal.”

Gramps’ radios are certainly still around, however. “Ham radio is really a social hobby, or it has been a very social hobby—the rag-chewing has historically been the big part of it,” says Martin F. Jue (K5FLU), founder of radio accessories maker MFJ Enterprises, in Starkville, Miss. “Here in Mississippi, you get to 5 or 6 o’ clock and you have a big network going on and on—some of them are half-drunk chattin’ with you. It’s a social group, and they won’t even talk to you unless you’re in the group.”



Photo: Richard Stubbs Martin F. Jue (K5FLU), founder of well-known radio accessories maker MFJ, is developing new products to accommodate the shift towards digital radio communications in the amateur bands. “It’ll all be digital at some point, right at the antenna all the way until it becomes audio.”

But Jue, 76, notes the ham radio space has fragmented significantly beyond rag-chewing and DXing (making very long-distance contacts), and he credits the shift to digital. That’s where MFJ has moved with its antenna-heavy catalog of products.

“Ham radio is connected to the Internet now, where with a simple inexpensive handheld walkie-talkie and through the repeater systems connected to the Internet, you’re set to go,” he says. “You don’t need a HF [high-frequency] radio with a huge antenna to talk to people anywhere in the world.”

To that end, last year MFJ unveiled the [RigPi](#) Station Server: a control system made up of a Raspberry Pi paired with open-source

software that allows operators to control radios remotely from their iPhones or Web browser.

“Some folks can’t put up an antenna, but that doesn’t matter anymore because they can use somebody else’s radio through these RigPis,” Jue says.

He’s careful to note the RigPi concept isn’t plug and play—“you still need to know something about networking, how to open up a port”—but he sees the space evolving along similar lines.

“It’s all going more and more toward digital modes,” Jue says. “In terms of equipment I think it’ll all be digital at some point, right at the antenna all the way until it becomes audio.”

The Signal From Overseas

China’s advancing technology and growing middle class, with disposable income, has led to a “dramatic” increase in operators.

Outside the United States, there are some notable bright spots, according to Dave Sumner (K1ZZ), secretary of the [International Amateur Radio Union \(IARU\)](#). This collective of national amateur radio associations around the globe represents hams’ interests to the [International Telecommunication Union \(ITU\)](#), a specialized United Nations agency that allocates and manages spectrum. In fact, in China, Indonesia, and Thailand, amateur radio is positively booming, Sumner says.

China’s advancing technology and growing middle class, with disposable income, has led to a “dramatic” increase in operators, Sumner says. Indonesia is subject to natural disasters as an island nation, spurring interest in emergency communication, and its president is a licensed operator. Trends in Thailand are less clear, Sumner says, but he believes here, too, that a desire to build community response teams is driving curiosity about ham radio.

“So,” Sumner says, “you have to be careful not to subscribe to the notion that it’s all collapsing everywhere.”

China is also changing the game in other ways, putting cheap radios on the market. A few years ago, an entry-level handheld UHF/VHF radio cost around US \$100. Now, thanks to Chinese manufacturers like Baofeng, you can get one for under \$25. HF radios are changing, too, with the rise of software-defined radio.

“It’s the low-cost radios that have changed ham radio and the future thereof, and will continue to do so,” says Jeff Crispino, CEO of [Nooelec](#), a company in Wheatfield, N.Y., that makes test equipment and software-defined radios, where demodulating a signal is done in code, not hardwired electronics. “SDR was originally primarily for military operations because they were the only ones who could afford it, but over the past 10 years, this stuff has trickled down to become \$20 if you want.” Activities like plane and boat tracking, and weather satellite communication, were “unheard of with analog” but are made much easier with SDR equipment, Crispino says.

Nooelec often hears from customers about how they’re leveraging the company’s products. For example, about 120 members from the group [Space Australia](#) to collect data from the Milky Way as a community project. They are using an SDR and a low-noise amplifier from Nooelec with a homemade horn antenna to detect [the radio signal from interstellar clouds of hydrogen gas](#).

“We will develop products from that feedback loop—like for hydrogen line detection, we’ve developed accessories for that so you can tap into astronomical events with a \$20 device and a \$30 accessory,” Crispino says.

Looking ahead, the Nooelec team has been talking about how to “flatten the learning curve” and lower the bar to entry, so that the average user—not only the technically adept—can explore and develop their own novel projects within the world of ham radio.

“It is an increasingly fragmented space,” Crispino says. “But I don’t think that has negative connotations. When you can pull in totally unique perspectives, you get unique applications. We certainly haven’t thought of it all yet.”

The ham universe is affected by the world around it—by culture, by technology, by climate change, by the emergence of a new generation. And amateur radio enthusiasts are a varied and vibrant community of millions of operators, new and experienced and old and young, into robotics or chatting or contesting or emergency communications, excited or nervous or pessimistic or upbeat about what ham radio will look like decades from now.

As Michel, the former ARRL CEO, puts it: “Every ham has [their] own perspective. What we’ve learned over the hundred-plus years is that there will always be these battles—AM modulation versus single-sideband modulation, whatever it may be. The technology evolves. And the marketplace will follow where the interests lie.”

About the Author

[Julianne Pepitone](#) is a freelance technology, science, and business journalist and a frequent contributor to *IEEE Spectrum*. Her work has appeared in print, online, and on television outlets such as *Popular Mechanics*, CNN, and NBC News.

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

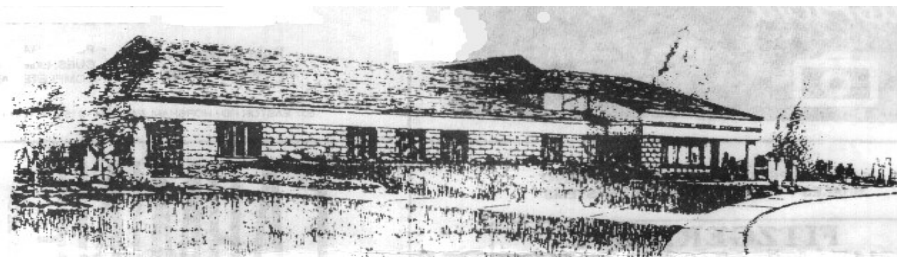
The Membership Committee can provide Club badges. Two types are available: an engraved plastic callsign and name badge for \$8 or a free, laminated plastic, photo ID badge/card. The photo id badge is included with your membership. Pictures for the club badge will be taken before club meetings on even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

September 3 - DX Engineering
October 1 - Battleship New Jersey
November 5 - ARRL Night
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

September

12-14 [September VHF](#)

1800 UTC Saturday and runs through 0259 UTC Monday

19-20 [10 GHz & Up - Round 2](#)

6:00 AM local Saturday through 12:00 midnight local Sunday

October

19-23 [School Club Roundup](#)

Monday through Friday from 1300 UTC Monday through 2359 UTC Friday

QSO Parties

Colorado	1300Z, Sep 5 to 0400Z, Sep 6
Tennessee	1800Z, Sep 6 to 0300Z, Sep 7
Texas	1400Z, Sep 12 to 0200Z, Sep 13 and 1400Z-2000Z, Sep 13
Alabama	1500Z, Sep 12 to 0300Z, Sep 13
Iowa	1400Z, Sep 19 to 0200Z, Sep 20
New Jersey	1600Z, Sep 19 to 0359Z, Sep 20
New Hampshire	1600Z, Sep 19 to 0400Z, Sep 20 and 1600Z-2200Z, Sep 20
Maine	1200Z, Sep 26 to 1200Z, Sep 27

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

➤ ATLANTIC DIV. HAMFESTS ➤ 2020

September 13

[Gloucester County ARC Hamfest, ARRL Southern New Jersey Section Convention](#)

Gloucester County 4-H Fairgrounds
235 Bridgeton Pike (Route 77)
Mullica Hill, NJ 08062

December 12

[SantaFest](#)

American Legion Youth Camp
9201 Surratts Road
Cheltenham, MD 20623
<http://www.pgares.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>

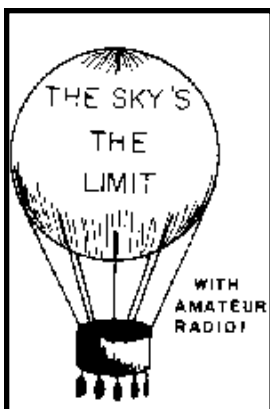
➤ CLUB EQUIPMENT

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	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 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