



# FEEDBACK



Web Site [k3dn.org](http://k3dn.org)

Warminster Amateur Radio Club

April 2023

## Next Meeting April 6th - The Other Guys(Other Radio Services)

### President's Message

Greetings,

As we now move into April, things are starting to heat up for our club. We will be hosting the ARRL EPA convention again at our Hamfest. Last year we had some great speakers and interesting topics. I hope that we can top that if it is even possible to do. We always need help with the Hamfest so please extend your hand and a little of your time to make this year's event great. The Hamfest will be held at the Bucks County Community College in Bristol on Route 413. As I speak of our Hamfest, the Field Day Event is just around the corner too. It will be held at the Shrine once again. A big thank you to the shrine for allowing our club to set up and participate in this emergency preparedness event. I know most of us think of this as a contest, but, it is not meant to be a competition. As with everything we do, please, lend a hand to make this another great event for our club. We need people to transport equipment and set up as well as operators and support staff for the event. If you can give a little time please do.

The bands have been wide open. Reminds me of the 1980's, when the bands were open every day completely around the world. If you can, please take advantage of the openings and talk to other hams around the globe. I know that there are some club members who are not able to talk on HF due to one reason or the other. With the advent of the digital modes things have changed dramatically. There is DStar, Fusion, and DMR. These modes are mostly affordable and do not need towers, big vertical antennas or the such. A simple handheld can connect you with the world. So if you want to contact other hams around the planet, the answer may fit in your hand.

As always please have a safe and nice spring and good DX

73's  
Ray – KA3TRU

### Warminster ARC General Membership Meeting Minutes March 2, 2023

Call to Order 7:30pm

#### Minutes from last Meeting:

*No minutes submitted. Last month's Minutes will be reconstructed and submitted to the next Feedback Newsletter.*

#### Committee Reports:

Treasurer's Report: Tom (K3PLA) *As Given*

Programs: Dave (KC3RAT)

*April- Mike (K3MJN) "The Other Guys" Other Radio Services.*

*May- Eric Fleischer "Bucks County History"*

*June- "Philo T Farnsworth" by Coxey Toogood*

*June- Pizza Night Returns*

Membership: Tony (W3FLH) *No Report*

Public Service: George (N3HBT) *Golf Outing June 1, 8:00am start to 2:00pm.*

*Breakfast and Hot Buffet Lunch will be served.*

Classes: Dan (K3GMQ) & Dave (KC3RAT) *On-Line Zoom classes now into week three with one student.*

VEC Testing: Larry (WA3ELQ) *Last session; one new Tech, one upgrade to General.*

Repeater: Brian (N3EXA) *Working*

Good and Welfare: Regina (KC3RLF) *No Report*

(Continued from page 1)

Other Committees:

Radiosport: Irwin (KD3TB) *No Report*

Hamfest: Tony (W3FLH) *ARRL EPA Convention secured.*

Field Day: Herb (KB3VMN) *No Report*

Refreshments: Arlene (KA3PLA) *No Report*

Old Business:

Club Station: Interest/Activity: *Open for use before each club meeting.*

Elmer Program: *Ongoing*

Website: *Being updated by Kathy (KC3FBY)*

New Business:

Elections: *Put your hat in the ring*

Allow Members to sell items on the WARC Website: *Open to club members as a member benefit. Disclaimer- all transactions will be between the buyer and seller. The club has no involvement with the transactions.*

Create an Elmers Corner on the Website: *Have experts segregated by equipment manufacture and /or areas of expertise for those that are looking for help in a particular area of interests. Elmer's Corner would be open to all hams including non-members.*

Zoom Meetings: *The board has decided (for a variety of reasons) that starting in April and until further notice, all club meetings will be held live-only with no Zoom.*

Meeting Adjourned 7:50pm

Presentation: *Auction*

### The K7RA Solar Update



Solar activity increased this week. The average daily sunspot number rose from 68 to 112.6, and the average daily solar flux changed from 145.6 to 156.1.

Due to solar wind at the beginning of the reporting week, average daily planetary A index increased from 10.6 to 23.3, while average middle latitude A index went from 8.4 to 13.7. Many reports of aurora came in this week, some down to lower latitudes in North America.

Predicted solar flux is 150 on March 30 through April 1; 140 on April 2 - 3; 130 on April 4 - 5; 132 on April 6 - 8, then 130, 132, 135, and 135 on April 9 - 12, then 140, 145, and 148 on April 13 - 15, then 150, 150, 155, 155, and 158 on April 16 - 20; 160 on April 21 - 23, then 155, 145, and 145 on April 24 - 26, and 135 on April 27 through May 1.

Predicted planetary A index is 18 on March 30 - 31, then 16, 12, 10, and 8 on April 1 - 4, then 5 on April 5 - 9, then 15, 12, 8, and 5 on April 10 - 13; 8 on April 14 - 15, then 12, 20, 15, and 5 on April 16 - 19, then 20, 15, and 10 on April 20 - 22; 8 on April 23 - 24; 5 on April 25 - 26, then 12, 15, 10, and 8 on April 27 - 30.

Sunspot numbers from March 23 through 29, 2023, were 73, 108, 105, 125, 128, 114, and 135, with a mean of 112.6. 10.7-centimeter flux was 151, 157.5, 160.3, 159.4, 158.2, 158.7, and 147.8, with a mean of 156.1. Estimated planetary A indices were 60, 66, 15, 8, 3, 5, and 6, with a mean of 23.3. Middle latitude A index was 28, 40, 12, 6, 2, 4, and 4, with a mean of 13.7.

Send your tips, questions, or comments to [k7ra@arrl.net](mailto:k7ra@arrl.net).

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](#) the Propagation Page of Carl Luetzel-schwab, K9LA.

A propagation bulletin [archive](#) is available. For customizable propagation charts, visit the [VOACAP Online for Ham Radio](#) website.

(Continued on page 3)

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[Share](#) your reports and observations.

A weekly, full report is posted on [ARRL News](#).

*Courtesy of the ARRL Newsletter*

[The following was originally published in the Packrat newsletter Cheesebits, March 2023]

### **Write or QSO: Applying Econometrics to Ham Decision Making**

I have been sitting on these ideas for a while meaning no disrespect to the literate.

I hope you find some humor in this.

I'd like to stop writing this sentence so I can get back on the air. I'd like to write an article about why you should stop reading this article and get back on the air. The value of this article will be qualified by our next QSO.

If we are still here, let me continue. I mean to say, while you chose one activity (for example, reading this article) you are delaying the opportunity for our next QSO. With this theory, the opportunity cost of a particular activity is the value or benefit given up by engaging in that activity, relative to engaging in an alternative activity.

The optimal radio-activity is the one that, net of its opportunity cost, provides the greater return compared to any other activities, net of their opportunity costs. In basic equation form, opportunity cost can be defined as: "Opportunity Cost = (returns on best Forgone Option) - (returns on Chosen Option)."

My personal theory is that:

1. if telecommunication is required, RF voice communication conveys greater quality than the written word.
2. if telecommunication between licensed hams is required, the use of amateur radio increases the value of amateur radio in general, relative to using commercial telecommunications.
3. if one considers other hobbies, the first commandment of amateur radio will be broken: thou shall have no other hobby before amateur radio.

That is all

Jim KC3BVL

### **Amateur Radio Included in FEMA Guide for National Emergency Preparedness**

The Federal Emergency Management Agency (FEMA) has released a final version (March 2023) of the National Incident Management System (NIMS) Information and Communications Technology (ICT) Functional Guidance. The guidance, which provides a framework for communications resources within incident management, officially includes support from amateur radio operators. The expanded Communications Unit (COMU) structure now includes the Auxiliary Communicator (AUXC) role, which covers personnel from services that provide communications support to emergency management, public safety, and other government agencies. This includes amateur radio.

NIMS guides government, non-governmental organizations, and the private sector to work together to prepare for, respond to, and recover from disasters and other emergencies. "This is a major step in the recognition of the need and usefulness of amateur radio and other communications services in our national preparedness," said Josh Johnston, KE5MHV, Director of Emergency Management for [ARRL The National Association for Amateur Radio](#)®. "It also gives official guidance to pave the way for future training and education of volunteers in ARRL's [Amateur Radio Emergency Service](#)® (ARES®)," Johnston added.

The NIMS ICT guide (PDF) is available at [https://www.fema.gov/sites/default/files/documents/fema\\_ict-functional-guidance.pdf](https://www.fema.gov/sites/default/files/documents/fema_ict-functional-guidance.pdf)

*Courtesy of the ARRL Newsletter*

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## Tornado Season and Amateur Radio

Tornado season is fast approaching, and amateur radio operators will again play a key role in helping the National Weather Service (NWS) issue accurate and timely warnings. In fact, March through May is considered the most active period for tornadoes to develop.

The NWS reports there have already been 255 preliminary filtered reported tornadoes and 213 confirmed tornadoes in the United States in 2023. Worldwide, nine tornado-related deaths have been confirmed, all of them in the United States.

January saw the third-highest number of tornado watches and confirmed tornadoes of any January on record in the United States. Additionally, the first two months of the year saw the fourth-highest number of confirmed tornadoes for the first 59 days of any year on record.

The SKYWARN® ([weather.gov](https://www.weather.gov)) Storm Spotter Program is available to anyone interested in helping the NWS track and report potentially dangerous weather. Anyone can become a SKYWARN weather spotter, and the information is available at the SKYWARN website. Most states have amateur radio networks that are activated during severe weather. Trained volunteers use their radios to report rapidly changing activity and share the information with local weather offices. A list of the states that have scheduled special weather awareness activities can be found at the [NWS Awareness and Preparedness Calendar \(weather.gov\)](https://www.weather.gov).

The NWS Forecast office in Norman, Oklahoma, uses amateur radio as one method of communicating with spotter groups and emergency management organizations. For decades, amateur radio operators have provided invaluable service in support of the SKYWARN storm spotter program by using their unique communications capabilities to share critical information between the NWS, the local emergency management officials, and storm spotter networks.

In 1999, the NWS, along with ARRL, founded SKYWARN Recognition Day to honor the voluntary contributions of thousands of amateur radio operators who play a critical role in keeping the public safe and informed about severe weather conditions. The day is celebrated on the first Saturday in December, and amateur radio spotters can earn awards for participating.

The 2022 NWS Spotter of the Year Award was given to Bryan Loper, WX5CSS, of Atlanta, Texas. The award noted that Loper is very active with the amateur radio network and weather community within the Arkansas/Louisiana/Texas region, and is always reliably providing weather reports. Loper is an ARRL member.

To learn more about amateur radio licensing and SKYWARN visit [ARRL.org](https://www.arrl.org).

*Courtesy of the ARRL Newsletter*



## Amateur Radio Digital Communications Awards \$420,000 to the FreeDV Project

Amateur Radio Digital Communications (ARDC) has awarded a \$420,000 grant, one of the first for 2023, to develop and document FreeDV, an open-source amateur radio technology. The grant will be used to help advance the state of the art in HF digital voice and promote its use.

FreeDV is a graphical user interface application for Windows, Linux, and macOS that allows any SSB radio to be used for low-bit-rate digital voice. Speech is compressed down to 1600 bits/second, then modulated onto a 1.25 kHz wide 16 QPSK signal, which is sent to the microphone input of an SSB radio. The technology was initially developed by David Rowe, VK5DGR. Now, an international team of radio amateurs are working together on the project.

Among the many opportunities for FreeDV, the ARDC grant will also allow:

- Experienced digital signal processing developers to work with the volunteer staff to improve speech quality and low signal-to-noise ratio operation, making FreeDV performance superior to SSB over poor HF channels.
- Commercial HF radio companies to embed FreeDV into at least two commercial radios, greatly reducing set up effort and latency.

- Widespread adoption of a truly open-source, next-generation digital voice system for HF radio.
- A mature, open-source low-bit-rate codec that's useful for a variety of amateur radio and commercial applications.

A suite of high-performance, HF data modems for open-source data applications, usable by any radio amateur.

To learn more about the technical specifications of FreeDV, go to <https://www.freedv.org>.

[ARDC](#) is a California-based foundation with roots in amateur radio and the technology of internet communication.

*Courtesy of the ARRL Newsletter*



### AMSAT Recruiting Engineering Volunteers

AMSAT is looking for an electrical engineer with RF experience to join its FOX-PLUS team. The team will be a collaboration of up to 10 electrical, mechanical, software, and systems engineer volunteers.

There will also be an opportunity to design and build the RF communications subsystems for a series of low-Earth orbit 1U - 3U CubeSats to support AMSAT's educational and engineering objectives.

Candidates should have working knowledge of analog and digital communications protocols (e.g., FM, PSK, and FSK) to provide digitally synthesized audio for FM modulated VHF/UHF/SHF voice and telemetry channels. Development opportunities can begin with modification of previous FOX designs and/or with an original design.



Mechanical engineers are also needed to join AMSAT's FOX and GOLF CubeSat teams. There will be a collaboration with an all-volunteer team of up to 12 electrical, mechanical, software, and systems engineers. The positions entail an opportunity to use structural design and analysis skills to develop a series of low-Earth orbit and highly elliptical orbit 1U - 3U CubeSats.

Contributions may include:

- The development of the space frame and deployable solar panel subsystem
- The analysis of the thermal characteristics of the CubeSat and the design of the thermal management system
- Preparation and oversight of the environmental testing procedure

Management of documentation of the CubeSat's adherence to the launch provider's and space vehicle owner's specifications

AMSAT volunteers typically spend 5 hours per week on their projects and attend a weekly meeting online. An amateur radio license and CubeSat experience are helpful, but not necessary. US citizenship or proof of permanent residency is required.

Interested persons should send an email with their resume/curriculum vitae to [volunteer@amsat.org](mailto:volunteer@amsat.org).

- Thanks to AMSAT Assistant VP, Engineering Jonathan Brandenburg, KF5IDY, for the above information.

## 2023 Contest Calendar

## April

**16 Rookie Roundup – Phone**

1800 to 2359 UTC

## May

**27-28 CQ WW WPX Contest, CW**

0000Z, May 27 to 2400Z, May 28

## June

**10-12 June VHF**

1800 UTC Saturday, ends 0259 UTC Monday

**24-25 Field Day**

1800 UTC Saturday and running through 2059 UTC Sunday

**QSO Parties**

Missouri	1400Z, Apr 1 to 0400Z, Apr 2 and 1400Z-2000Z, Apr 2
Mississippi	1400Z, Apr 1 to 0200Z, Apr 2
Louisiana	1400Z, Apr 1 to 0200Z, Apr 2
New Mexico	1400Z, Apr 8 to 0200Z, Apr 9
Georgia	1800Z, Apr 8 to 0359Z, Apr 9 and 1400Z-2359Z, Apr 9
Nebraska	1300Z, Apr 15 to 0100Z, Apr 16 and 1300Z-2200Z, Apr 16
Michigan	1600Z, Apr 15 to 0400Z, Apr 16
North Dakota	1800Z, Apr 15 to 1800Z, Apr 16
Florida	1600Z, Apr 29 to 0159Z, Apr 30 and 1200Z-2159Z, Apr 30

## 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 2023 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, 1st Monday at 6:30. Levittown Library - 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](mailto:wa3ylq@arrl.net).

**Philadelphia, PA**, Testing is done on the 3rd, non holiday Monday of the month at the Giant Supermarket, 315 York Rd., Willow Grove, 19090 at 6:30 PM in the Community Room. For further information contact James McCloskey at jmcloskey@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  
➤ 2023

## April

**15 Sussex Amateur Radio and Electronics Expo, ARRL Delaware State Convention**

Cheer Community Center 20520 Sand Hill Rd.

Georgetown, DE 19947

<http://www.radioelectronicsexpo.com/>**23 Maryland Mobileers Spring Hamfest**

Odenton Volunteer Fire Company 1425 Annapolis Road

Odenton, MD 21113

<https://sites.google.com/view/marylandmobileers/hamfest?authuser=0>**29 York Hamfest**

Elicker's Grove Park 511 Roth Church Road

Spring Grove, PA 17362

<http://yorkhamfest.org>

## May

**7 Warminster ARC Hamfest, ARRL Eastern Pennsylvania Section Convention**

Bucks County Community College-Lower Bucks Campus 1304 Veteran Hwy (Rte.413)

Bristol, PA 19007

<http://www.k3dn.org/hamfest/>**28 Memorial Day Hamfest**

Howard County Fair Grounds 2210 Fairgrounds Road

West Friendship, MD 21794



### CLUB INFO

#### PUBLIC SERVICE

Golf Outing June 1, 8:00am start to 2:00pm. Breakfast and Hot Buffet Lunch will be served.

Contact: George Brechmann N3HBT

#### 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](mailto:membership@k3dn.org).

If you want to have your picture taken to be placed on the 'Members' Photos' section of the [www.k3dn.org](http://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 2023

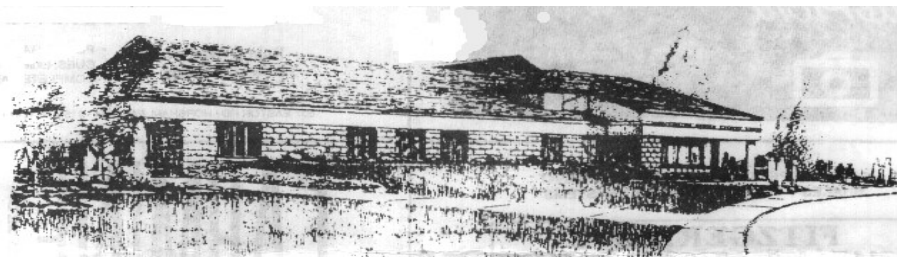
March - Club Auction

April - The Other Guys (Other Radio Services) by Mike Newman

May - Eric from Craven Hall, "Bucks County History"

June - The Life and Work of Philo T Farnsworth by Coxey Toogood

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



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

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

**SKYWARN INFORMATION****Bucks County SKYWARN Weather Spotter PRIMARY FREQUENCY: 147.300MHZ (+ 131.8)**

Fairless Hills, PA (many remote access locations throughout Bucks County)

**Mount Holly NWSFO SKYWARN Homepage:**

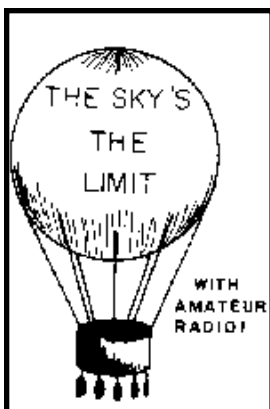
<https://www.weather.gov/phi/Info>

**SKYWARN Basic Weather Spotter Educational Programs URL:**

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

**➤ 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, Dave McGowan KC3RAT



*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](http://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:

[WARMrinfo@gmail.com](mailto:WARMrinfo@gmail.com)

### Visit our Home Page at:

<http://www.k3dn.org>

### The annual dues rate structure is as follows:

**Full Member:       \$25.00**  
**Student:             \$ 7.50**  
**Alumni:               \$12.50**

- Are your dues current ?

## 2023 Officers

### Executive Officers

President	Ray Oechslin	KA3TRU	267-269-3198
Vice-President	Dave McGowan	KC3RAT	215-850-5846
Secretary	Dan Myers	K3NXX	215-957-2343
Treasurer	Tom Newman	K3PLA	215-630-5965
Director (A)	Doug Becker	KC3MNQ	215-932-1370
Director (E)	Larry Abbott	WA3ELQ	215-704-3282
Director (A)	Bruce Farrington	WA3ZPC	215-262-4215
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	Dave McGowan	KC3RAT	215-850-5846
	Dan Clementi	K3GMQ	
Digital and APRS	Ron Wenig	NY3J	215-638-9257
Feedback Editor	Jim Elmore	WA4YWM	215-538-1889
Field Day 23	Herb Hickmott	KB3VMN	267-718-3601
Hamfest 23	Tony Cuttone	W3FLH	267-679-9297
Hamwear	Kathy Acker	KC3FBY	215-815-7978
Holiday Dinner	George Brechmann	N3HBT	215-443-5656
Membership	Tony Cuttone	W3FLH	267-679-9297
Net Manager	George Brechmann	N3HBT	215-443-5656
PA QSO Party	Mark Kempisty	AA3K	
Publicity	Herb Hickmott	KB3VMN	267-718-3601
Refreshments	Arlene Newman	KA3PLA	
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
Good and Welfare	Regina Litman	KC3LRF	
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	Kathy Acker	KC3FBY	215-815-7978
Youth Programs			