

CrossTalk

October 2023

64 Years Of Service To Our Community

Issue 64:10



A 2023 Club Officers

President :	Jonathan Pearce, WB2MNF	Trustees - 4 Year Term	
Vice President :	Ronald Block, NR2B	Mark Gottlieb, KK2L	(2020-2023)
Treasurer :	John O'Connell, K2QA	Carl Wittig, N2CRW	(2021-2024)
Recording Secretary :	Karl Frank, W2KBF	Charles Lanard, KD2EIB	(2022-2025)
Corresponding Secretary :	Frank Romeo, N3PUU	Open Position	(2023-2026)

Directors - 3 Year Term

Alan Arrison, KB2AYU	(2023)	Jeffrey Garth, WB2ZBN	(2022-2024)
William Price, NJ2S	(2021-2023)	Chris Prioli, AD2CS	(2023-2025)
James Clark Sr, KA2OSV	(2022-2024)	James Wright, N2GXJ	(2023-2025)

General Membership Meeting

Wednesday, October 4, 2023 @ 1930 Hours
In-Person & ZOOM

Tech Saturday Forum

Saturday, October 7, 2023 @ 0900 Hours
W2MMD Clubhouse

GCARC TechNet ZOOM Forum

Monday, October 9, 2023 @ 2000 Hours

License Testing Session

Thursday, October 12, 2023 @ 1900 Hours
W2MMD Clubhouse

Board of Directors Meeting

Wednesday, October 18, 2023 @ 1900 Hours
W2MMD Clubhouse

Dinner @ The W2MMD Clubhouse

Wednesday, October 25, 2023 @ 1800 Hours

Tuesday AfterNoon Net

Every Tuesday @ 1200 Hours

Tuesday & Thursday Night 10 Meter Net

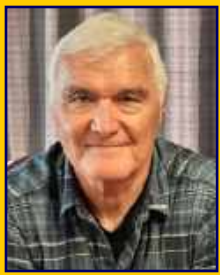
1930 Hours - 28.465 or 28.475 MHz

Thursday Night Rag Chew Net

Every Thursday @ 2000 Hours

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President's Letter

Jon Pearce, WB2MNF



October 2023

September was a busy month for our Club with several events that catered to the different interests and skill levels of our members. We had a great presentation on radio propagation by **Carol Richards, N2MM** at our general meeting, and an interactive session on advanced DMR radio techniques by **Len Rust W2LJR** on Tech Saturday. We also learned how to solder surface mount components with **Chris Prioli AD2CS** in a hands-on workshop. These sessions are a good way to engage members who may not attend the regular meetings, and to offer a large variety of activities for our Club.

Hamfest

Then came the hamfest... For those of us who have wondered what the “worst case scenario” for a hamfest would look like, this was it. Rain was forecast well in advance of the event, allowing potential attendees to make alternative plans. And the forecast came true - rain poured down throughout most of the morning, creating so much noise in the presentation shed that most presenters had to abandon the PA equipment and sit closer to the audience to be heard. Nonetheless we had about 270 attendees throughout the course of the day, and attendance at the educational seminars was reasonable. The financial results will be presented at the October General Membership Meeting but were actually better than expected considering the weather.

The Tower Project Moves Forward

Another major event was the final approval for the building permit to erect the two VHF towers behind the Clubhouse. Although the Harrison Township zoning officials were extraordinarily helpful and quick in their processing, it still took several months to prepare and obtain the documents that were necessary for approval. With that approval in place, though, we can now begin installation of the towers.

Some history about the towers may be useful. As most of us know, on September 1, 2021, a tornado ripped through Mullica Hill and knocked down our HF and VHF towers. A GoFundMe initiative was started by **Al KB2AYU** that yielded about \$14,000 to be used for tower replacement. Fortunately a replacement for the HF tower was identified quickly and transported to the Clubhouse site where **Al, Frank N3PUU**, and many others spent countless hours refurbishing the tower, replacing the cables, getting broken pieces welded, and repainting it. They also had to assemble the massive beam antenna, including 2 elements on 40 meters. With all of that completed and the tower erected in September 2022 the HF station was once again fully operational. About \$2,800 remained of those donated funds. No other Club funds were used on the HF tower.

Replacing The VHF Tower

The remaining funds were not sufficient to replace the VHF tower but fortunately we were able to secure an ARRL grant for \$25,000 that put us on the path to regain VHF station functionality. In the interim **Al** loaned his “tower trailer” to the Club, allowing the erection of 2 meter, 220, and 440 antennas as a temporary solution. In addition, a grant of \$11,600 was obtained from the ARDC to purchase new VHF equipment that would allow the W2MMD VHF station to be one of the best in the country.

President's Letter - Continued on page 3

With partial funding in place the team began evaluating various tower replacement options that would support antenna configurations commensurate with the equipment provided by the ARDC grant. Unfortunately the wind load from the desired configuration exceeded the capacity of most towers that were affordable. In a stroke of luck, **Al** identified a ham selling two crank-up towers of the exact type that we were considering (the use of crank-up towers was deemed essential to allow for ongoing maintenance and upgrades). Using two towers would allow erection of the desired antenna configurations, and both towers came with thousands of dollars' worth of additional components that would otherwise have to be purchased separately. For \$22,000 plus \$2,000 for transportation we were able to obtain tower components worth about \$60,000 if purchased new. The towers arrived at the Clubhouse on April 3, 2023 and have been sitting on the ground waiting for approval of the required Township permits.

Tower Funding

Now that construction can begin, we needed to identify the additional funding that will be needed to place them into operation. **Frank N3PUU** produced a detailed bill of materials for the installation of both towers, ending up with an estimated figure of \$10,000. This will cover purchasing the reinforcing bars required for the foundation, digging the holes and filling them with concrete, replacing the cables on one of the towers, adding fencing to avoid unwanted access and other related expenses. The antennas currently on **Al's** tower trailer will be moved to these new towers and will later be augmented with additional antennas that were salvaged and rebuilt from those on the demolished VHF tower. Construction will largely be done by Club members with professional help for tasks such as excavating the 8-foot-deep foundation holes. As is true with all ham radio stations these towers will never be "finished", and further plans exist to mount additional antennas and microwave devices.

Obviously the remaining donated funds are not sufficient to complete this project, so additional funding will be necessary. In discussing this issue at the September 20, 2023 Board Meeting the board decided to limit Club contributions to the tower project such that the remaining funds in the Club treasury would cover one year's expenses, about \$14,000. This allows a contribution from Club funds of \$2,200 to partially defray the expenses of the tower. The board also agreed to remove a previous commitment of approximately that amount that had been allocated for the construction of furniture in the VHF room. These amounts offset each other, meaning that the Club hasn't actually allocated more funding for VHF activities than it already had done.

Donations Needed

Combined with the \$2,800 remaining from the tower donation funds, results in a total of \$5,000 to be applied to the \$10,000 cost of the tower construction. The obvious shortfall will need to be made up from donations, primarily from Club members although several other fundraising opportunities have been suggested and are in the works. We hope that members will recognize the "sweat equity" that has been invested by **Al**, **Frank**, and many other members of the team and will contribute to the "financial equity" that will be necessary to complete the project. More details on opportunities for donations will be discussed at the October General Membership Meeting and thereafter.

But on your upcoming visits to the Clubhouse start looking for the delivery of materials for the tower foundations followed by two large holes appearing in the ground, subsequently filled with concrete with bolts sticking up from the concrete. While it may be impossible to get both towers erected before winter cold sets in, we hope that one tower might be standing by winter. Early next year we'll begin a significant initiative to acquaint or reacquaint members with various types of VHF operation available, and how they can utilize the new state-of-the-art VHF station at the W2MMD Clubhouse.

Nominating Committee : Officer, Director, and Trustee Nominations

The GCARC Nominating Committee is tasked with developing an initial slate of candidates for elected Club positions. This Committee is composed of the current and all previous presidents, plus the two directors whose terms end in the current year. These nominations are presented at the October and November meetings, at which nominations from the floor can also be proposed. The election will occur at the December 6th meeting.

The committee's nominees are :

- **Jon Pearce, WB2MNF - President**
- **Ron Block, NR2B - Vice President**
- **John O'Connell, K2QA - Treasurer**
- **Frank Romeo, N3PUU - Corresponding Secretary**
- **John Zaruba Jr, K2ZA - Recording Secretary**
- **Al Arrison, KB2AYU - Director**
- **Bill Price, NJ2S - Director**
- **Carl Wittig, N2CRW - Trustee**
- **Sheldon Parker, K2MEN - Trustee**
- **Len Rust, W2LJR - Trustee**

October Presentations

There will be several excellent educational opportunities presented at the October 4, 2023 General Membership Meeting and the October 7, 2023 Tech Saturday Forum. At the general meeting **Jim Wright N2GXJ** will describe the process for designing and constructing the 160 meter loop antenna at the W2MMD Clubhouse. This project was an outstanding example of the synergy that occurs when several Club members get together with an idea and figure out how to implement it. Jim will follow that session on Tech Saturday by describing how antenna modeling software was used to design the antenna. If you're not familiar with this type of software be sure to attend this session. Jim is an outstanding presenter and his sessions on many topics are always illuminating.

73 de Jon WB2MNF
GCARC President

GCARC TechNet ZOOM Forum

Monday, October 9, 2023 @ 2000 Hours

**Go to : <https://gloucestercountyarcs.weebly.com/gcarc-technet.html>
for TechNet Information Resources and ZOOM Instructions**

Need a ride to a Club meeting, event, or activity?

Just send a message to the Club's e-mail reflector asking if a member can pick you up

GCARC <at> MAILMAN <dot> QTH <dot> NET

All Club members have access to this FREE e-mail service

General Membership Meeting

Wednesday, October 4, 2023 @ 1930 Hours

Pfeiffer Community Center

Simulcast Live Via ZOOM

Go to : www.w2mmd.org for the ZOOM log-on instructions for this meeting



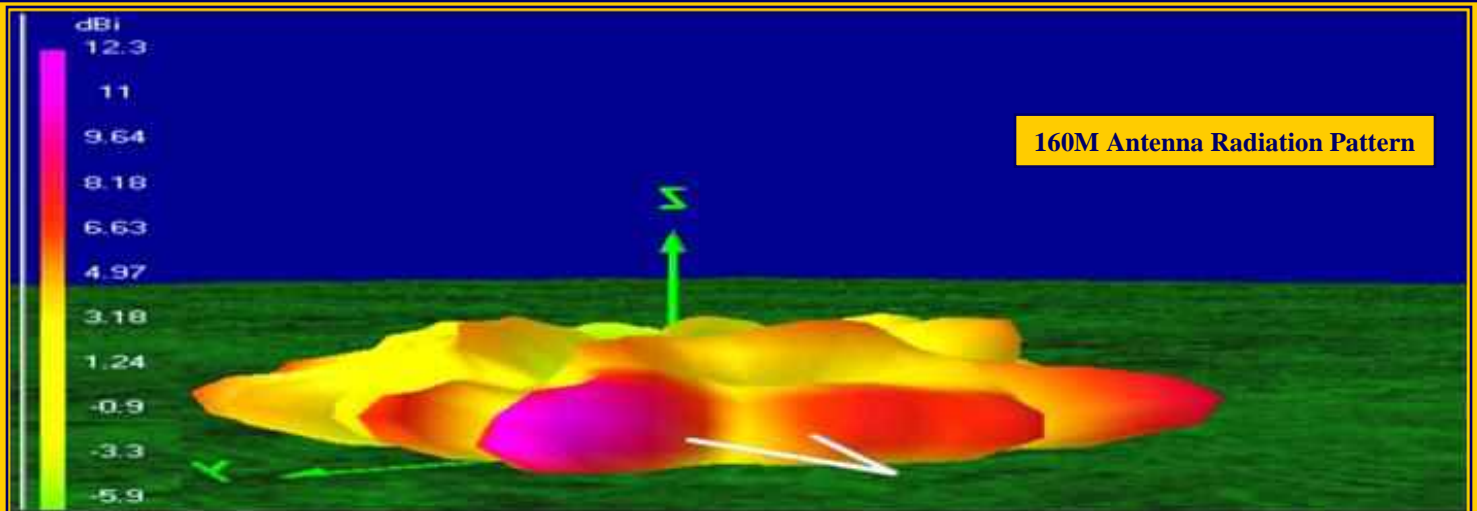
160M Wire Loop?

This month, **Jim Wright, N2GXJ**, will delight us with a true story about the creation of a 160M loop antenna. He will start with the genesis of the idea and his desire to participate in some upcoming 160M contests from his home in an antenna restricted community.

So, one Tech Saturday afternoon he posed the idea to the assembled group. Citing that we have the space, supports, capability, desire, and, by the way, the contest is in three weeks.

Please join us at this month's General Membership Meeting where Jim will relate the serendipitous addition to our Club's antenna collection and relate the fears, doubts, challenges, and surprises.

Oh, and contest results.



Gloucester County Amateur Radio Club
YouTube Channel

<https://www.youtube.com/@W2MMD>

“Dinner @ The Clubhouse”

Wednesday, October 25, 2023 @ 1800 Hours

W2MMD Clubhouse



Tech Saturday Forum October 7, 2023 @ 0900 Hours W2MMD Clubhouse

Forum Presentation : *Jim Wright, N2GXJ : Antenna Modeling & Simulation*

Try antenna modeling at the October 7, 2023 Tech Saturday Forum!

Bring your laptop to the **October 7, 2023 Tech Saturday Forum**, and together we'll go through the basics of setting up and running a tutorial using the amazing free antenna modeling software **4NEC2**. Want to download the software in advance? Go to : <https://www.qsl.net/4nec2> . The latest version at time of this writing is **5.9.3**
<https://qsl.net/4nec2/4nec2.zip> .

What is **4NEC2**? It is a tool for designing 2D and 3D antennas and modeling their near-field/far-field radiation patterns. From end-feds to dipoles to inverted V to beams and more, for any frequencies from kHz to GHz, not just Ham frequencies, and with lots of example to tweak and copy from, this free NEC implementation for Microsoft Windows is a great tool for any ham to have.

Want to see some of the things it can do? Here's a favorite : <https://www.qsl.net/kk4obi/index.html> . See what **KK4OBI** has done using **4NEC2** to answer the question "what happens when you bend the ends of a half wave dipole?". From horizontal dipoles to vertical dipoles to off center fed dipoles to end-fed half waves, he examines them all. It will amaze you. I think you'll enjoy!

Hope to see you out at Tech Saturday with your laptop on October 7th!

Q & A Session About All Things Ham Radio and Socializing The HF Station Will Be Available For Local Operation

Tech Saturday sessions are held at the W2MMD Clubhouse on the first Saturday of the month following the Wednesday Night General Membership Meeting and are designed to be hands-on collaborative events focused on using the Clubhouse resources to demonstrate various aspects of Amateur Radio and related technical areas. Previous sessions have covered USB software-defined radios, Raspberry Pi and Arduino devices, satellite operations and other similar topics.

We would like to invite all of our new members as well as our veteran members to our Tech Saturday Forums to help answer any questions and discuss any and all issues the new members have come across as they progress through the *Amateur Radio Experience*.

The Discussion Theme is a QSO starting point - a way to initiate a conversation. All Tech Saturdays are an open QSO of all subjects of Amateur Radio interest. All questions are welcome as well as a venue for hams to show off their latest ham radio projects or gadgets. Have a problem programming that HT, we can help! Not sure what radio or antenna to buy, we can help!

All Club Members who would like Clubhouse access to use its radio equipment would have to have some brief "Elmering" on the Clubhouse rules, such as using the alarm system, the A/C and heaters, the antenna system, and the radio equipment. The Club's HF station is reserved for local use on Tech Saturday.

All are welcome - Hams and Non-Hams - Club Members and Non-Club Members.

Welcome New Club Members :

Lance Appel, KE2UC, who has an Amateur Extra Class license and lives in Vineland, NJ.
Jim Foster, W3JNF, who has a General Class license and lives in Springfield, PA.
Jack Gordon, WA2RHJ, who has an Amateur Extra Class license and lives in Tabernacle, NJ.
Glen Guenther, KE2BUO, who has a Technician Class license and lives in Sewell, NJ.
Melissa Guenther, KE2BWZ, who has a Technician Class license and lives in Sewell, NJ.
Derrick Hollis, KC3UEE, who has a Technician Class license and lives in Wilmington, DE.
Stephen McGarry, WS2C, who has an Amateur Extra Class license and lives in Sewell, NJ.
Jim Ricketts, KC3TYH, who has a General Class license and lives in Media, PA.
William Wood, KD2OSJ, who has a General Class license and lives in Sewell, NJ.

We are glad to have you as a member of the Club and hope to see you regularly at Club meetings, events, and activities. Hope to see you at the October 4th General Membership Meeting , either in-person or on ZOOM, the October 7th Tech Saturday Forum, the GCARC TechNet ZOOM Forum on October 9th, and the Dinner @ The Clubhouse on October 25th.

We also hope to “**SEE**” you on the “**AIR**” on the following nets :

- Sunday Night Skywarn Net @ 1930 Hours and the Sunday Night ARES Net @ 2000 Hours.
- Tuesday Afternoon Net @ 1200 Hours.
- Tuesday & Thursday Night 10M Rag Chew Nets @ 1930 Hours on 28.465 or 28.475 MHz.
- Thursday Night Rag Chew Net @ 2000 Hours.

All 2 Meter nets are on our 147.180 MHz (PL 131.8) repeater or on EchoLink W2MMD-R.

Gloucester County Amateur Radio Club Elmers

We are still looking for some more Club Elmers. If you would to add your name to the Elmer's List, send your specialty to w2mmdgcarc@gmail.com. Here is what we have so far :

- **Tony Starr, K3TS** : Antenna Construction; Contesting; CW Help and Training
- **Ken Bozarth, KN2U** : Antennas
- **Jeff Welsh, KD2AZI** : Boat Anchor Repair & Operation; Raspberry Pi; Arduino; Python; POTA; Mobile Installation & Operating
- **Karl Frank, W2KBF** : Digital Messaging (FLDIGI, WinLink)
- **Lenny Rust, W2LJR** : DMR Radios & Programming
- **Ron Block, NR2B** : Lightning protection & grounding
- **Chris Prioli, AD2CS** : Kit Building; Antenna Building; Radio Programming; PC and Electronic Troubleshooting; ham radio licensing & studying
- **John Zaruba Jr, K2ZA** : Yaesu System Fusion Radio Programming
- **Jerry Barnish, K2EAB** : Radio Astronomy
- **Mike Thompson, KG4JYA** : Radio Astronomy; VARA (HF and FM); WinLink
- **Steve Farney, W2SEF** : WSJT-X; FT-8; LoTW; TQSL; Grid Square
- **Carl Wittig, N2CRW** : Audacity® Audio Editor
- **Gary Mirkin, WA3SVW** : FLDIGI; MMSSTV
- **Jon Pearce, WB2MNF** : Satellite Communications
- **Frank Romeo, N3PUU** : Toilet Installer; Jack-Of-All Trades - Master Of None
- **John Hill, W2HUV** : Local & Remote W2MMD HF Station Operation, Training & Support

New Club Constitution

By Ron Block, NR2B

As you are undoubtedly aware, the Constitution Committee has been working for several months on updating our Club Constitution so that it better aligns with our needs. We have presented the new Constitution to the Board of Directors, and they have authorized us to present it to you for consideration and a vote.

The current Constitution amendment process is by design deliberately slow and somewhat cumbersome. This is a serious document and therefore changes need to be well considered before being incorporated. The current Constitution amendment process requires that any amendment be published to the Club Membership, read at two consecutive General Membership Meetings, and then voted upon. This process is appropriate and necessary to protect the integrity of the document since it governs the operation of the Club.

The new Constitution, while based on the current Constitution, has numerous changes throughout the entire document. The changes range from spelling, punctuation, and format to clarification, addition, and deletion of role responsibilities. Such wide sweeping changes make it difficult, but not impossible, to read the current ten-page document at the General Membership Meeting.

What I propose to do is to provide each of you with the required copy of the new Constitution along with a summary of the changes. In lieu of reading the new Constitution at the November and December General Membership Meetings, the Committee will present and discuss the major changes. Our current Constitution amendment process uses CrossTalk to publish and communicate such changes. Since this is an entirely new Constitution, it is not practical to publish it verbatim in CrossTalk, so instead we will use a separate e-mailing using the CrossTalk / Roster mailing list to publish the new Constitution along with a separate document highlight the major changes.

The Constitution Committee members are :

- **Chris Prioli, AD2CS**
- **Chuck Colabrese, WA2TML (SK)**
- **Jim Wright, N2GXJ**
- **Jeff Garth, WB2ZBN**
- **John O'Connell, K2QA**
- **Karl Frank, W2KBF**
- **Ron Block, NR2B**



Fox Hunt XXIX - September 17, 2023

By Marc Federici, WM2Y

Fox Hunt 29 was held on the **George Eldridge Trail** just off East Pine Street in Wenonah, NJ. The weather was perfect, you could not have asked for a nicer afternoon. We had seven hunters and additional family members participating in the transmitter hunt. It was nice to see that we had some new hunters join in on the day's festivities :

- **Aimee Ortiz, KE2BPJ**
- **Glen Guenther, KE2BUO**
- **Melissa Guenther, KE2BWZ**

Thanks for attending and thanks to everyone else who was able to attend Fox Hunt 29.

The **George Eldridge Trail** is a ¾ Mile loop with a kind of hidden second entrance off to the left if you are looking at the trail head entrance sign. The Fox was just a short walk down a hilly path and was located next to Comeys Lake near the fountain. This location turned out to be a challenging spot to find even for the locals. Since this location is in a valley of sorts below street level, RF reflections made finding the transmitter that much harder. Because this location was a little difficult to find we extended the typical one-hour hunting period to a little under two hours, so everyone had a chance to find the transmitter.

Congratulations to **Jim N2GXX** for being first to find the Fox and a bonus Fox. Order of finish :

- **Jim Wright, N2GXX and XYL**
- **Aimee Ortiz, KE2BPJ - First to find the bonus fox**
- **Doug Dersch and puppy, KD2VQA**
- **Glen Guenther, KE2BUO and Melissa Guenther, KE2BWZ**
- **Rich Federici, KD2WDN and Karen**
- **Bruce Canino, KD2LBU**
- **The Fox for Hunt 29 : Marc, WM2Y**

This Fox hunt had two additional transmitters for bonus points that were broadcasting on 147.450 FM simplex. The transceivers were remotely activated Baofeng UV5R's connected to an Arduino microcontroller for some additional RF shenanigans. The hunters needed to listen very carefully to the morse code ID to make sure they were going after either Fox 1 or Fox 2. The transmitters were hidden in such a way that if you did not hear the morse ID correctly you would end up just walking back and forth between the two transmitters causing you much grief and confusion. The UV5R's were remotely activated by DTMF tones, and those tones were transmitted on a different simplex frequency so as not to broadcast out the super-secret activation code.

These bonus transmitters were a test run for Fox Hunt 30. I'm happy to report that the prototype Arduino controlled UV5R's that I designed and built worked great. I have a couple of additional items that need to be done like adding a real time clock, isolating the UV5R's grounds from the microcontroller's electrical ground and shielding the circuit board from RF interference but that's for a different article.

Fox Hunt 30 is just right around the corner, let's make that one a big one! I'm looking forward to Fox Hunt XXX and you can expect to hear the Arduino controlled UV5R's next time. With a little more programming they are going to be downright evil.

Until next time.

DE

WM2Y

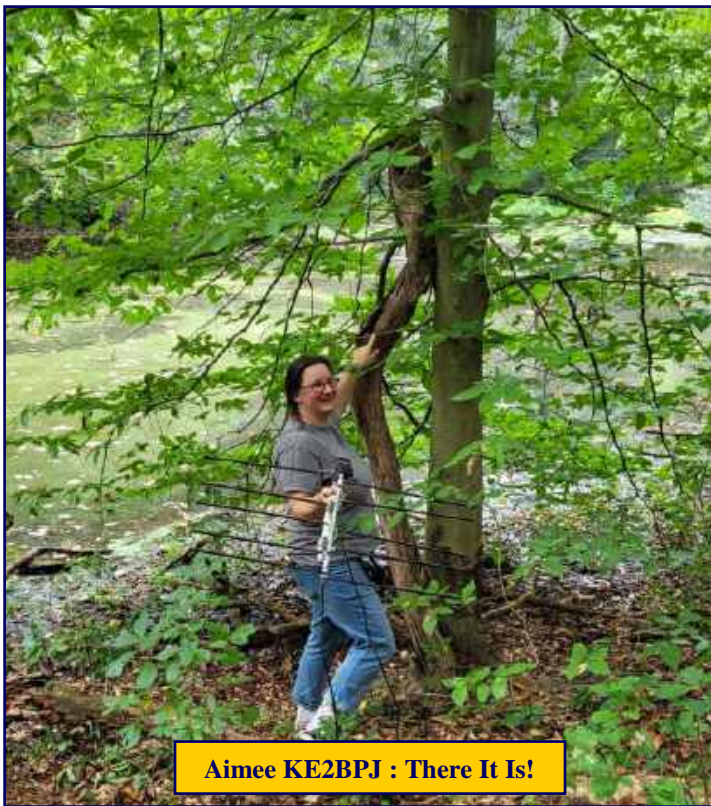
73

Marc

Fox Hunt XXIX Highlights



Fox Hunt XXIX Participants : Marc WM2Y (The Fox); Rich KD2WDN; Doug KD2VQA & Puppy; Jim N2GXJ; Aimee KE2BPJ; Bruce KD2LBU; Melissa KE2BWZ; Glen KE2BUO



Aimee KE2BPJ : There It Is!



Marc WM2Y : Fox Hunt 30 Tech Preview



For more information on fox hunts, call Jenny @ 867-5309



ARRL Learning Center

<https://learn.arrl.org>

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GCARC Monthly VE Exam Testing Summaries

September 10, 2023 & September 14, 2023

Gary Reed, N2QEE, reports : On September 10, 2023 the Hamfest VE session had seven candidates with six achieving a new license or upgrades. At the session we had two candidates who were upgrading to General that were eleven and fifteen years old. Both passed the General, the fifteen year old tried the Extra exam getting 22 questions of 50 right. Since they are both under 18 they are eligible for the reduced exam fee of \$5. The league will also reimburse the \$35 FCC new license fee for candidates under 18.

Lucas Teague KC3SCY of Glenmoore, PA, the 11 year old was the youngest upgrade we have had for any of our VE sessions. He has a ICOM IC-718 and has been active on the Technician CW portion of the 40 and 80 meter bands with the help of his Elmer Joe Fell W3GMS. He also works DX on the 10 meter band. His father James holds a Technician license KB3HNU. It's good to see that there is interest from the younger generation for Amateur Radio especially CW.

The remaining candidates were :

- Brady Cowden KD2ZWM, General (15 years old) of Collingswood NJ
- Darren Hoffman KE2BWG, Technician of Jackson NJ
- Romulus LoCollo KE2BWL, Technician of Raritan NJ
- Christopher Thompson N2WFK, Amateur Extra of Runnemede NJ
- Andrew Gliddon KC3WSH, Technician of Springfield PA

There were some issues with the electronic file transfer but it was corrected by Monday afternoon.

The participating VE's were :

- **Steve W2SEF**
- **Rich W2RHS**
- **Jeff WB2ZBN**
- **Alex K3CIM**
- **Earl KC2NCH**
- **Mike N2MHO**
- **Mike N2WOQ**
- **Jerry K2EAB**
- **Gary N2QEE**

I'm glad to see the interest in the testing at the Hamfest since last year we had no candidates.

The regular monthly VE session was held on September 14, 2023 with three candidates. Two were Technician candidates who passed their exam and the third a former General who had left his license expire. For a former licensee to regain their license, they must pass the current Technician exam and show proof of a former license to obtain their former class of license.

The successful candidates were :

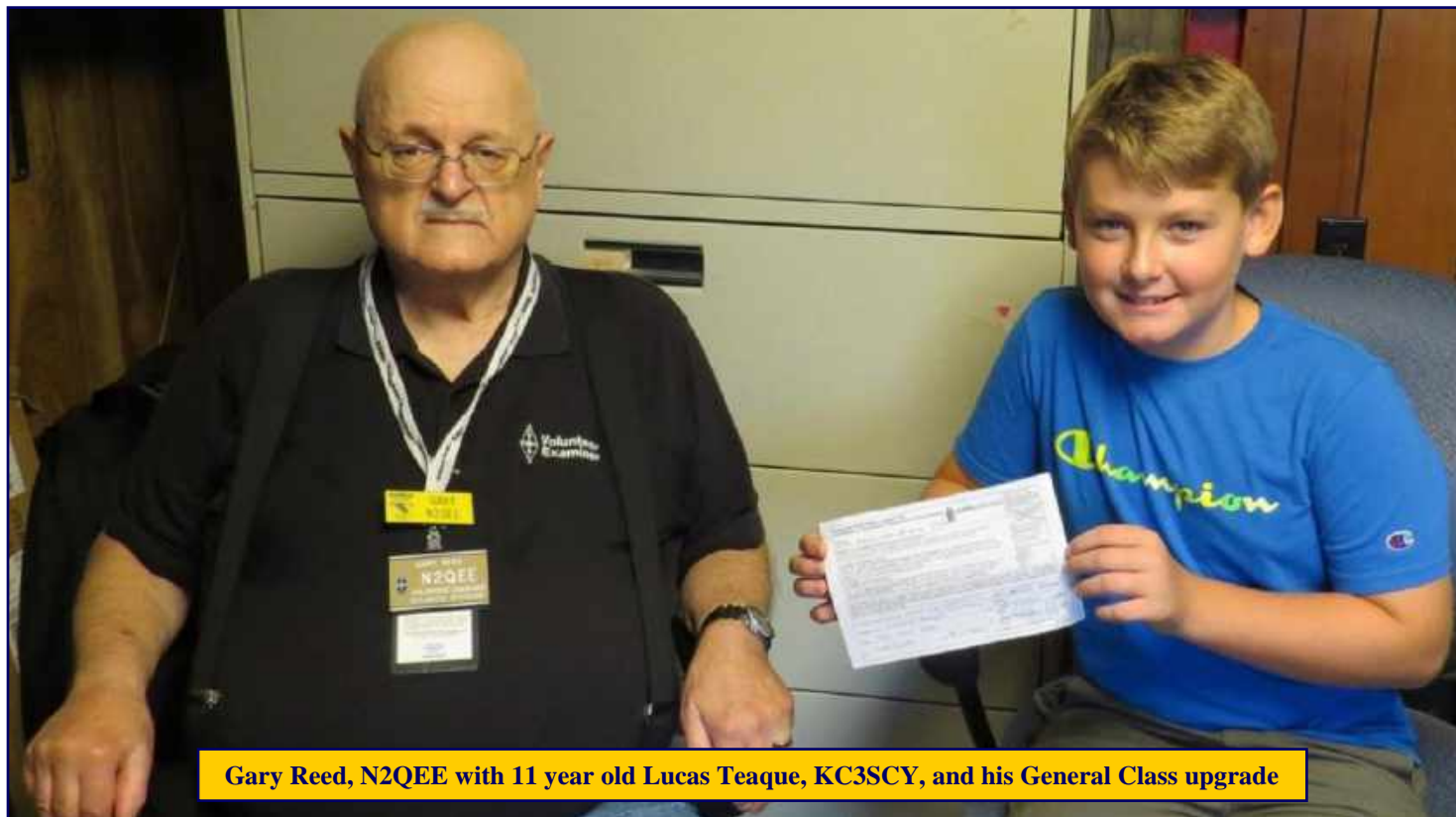
- **Michael Colgan KC3WSM Technician of Marcus Hook PA**
- **Melissa Guenther KE2BWZ Technician of Sewell NJ**
- **Sean Pratt KE2BWZ General (formerly N1ZQU) of Runnemede NJ**

VE Exam Testing Summary - Continued on page 13

The participating VE's were :

- **Chris AD2CS**
- **Court KD2SPJ**
- **Rich W2RHS**
- **Mike KG4JYA**
- **Gary N2QEE**

A big thank you to the participating VE's for both sessions. The next VE session will be held at 1900 Hours on October 12, 2023 at the W2MMD Clubhouse.



Gary Reed, N2QEE with 11 year old Lucas Teague, KC3SCY, and his General Class upgrade



Bike MS : City To Shore Ride 2023
September 30, 2023 & October 1, 2023

Bike MS : Bike To The Bay (Delaware) 2023
October 7, 2023

N3MSS Amateur Radio Communications
Bike MS Volunteers
www.n3mss.org

DAs and DITs

>> Congratulations to Club member **Holden Correia-Fisher, KD2JPV**, for being awarded **The Dayton Amateur Radio Association Scholarship**.

>> **Home Town Boy Makes It Big Time LMAO!** Club member **Bill Szkromiuk, W4WCS**, reports, "My newly founded club from last year. **PFC William Hunter Kilburn American Legion Radio Club Aiken SC W4RTO**, is co-sponsoring a Ham Radio Tailgate on October 14, 2023 at the Post 26 property in Aiken, SC. Side note : We actually had contacts in our Veterans Day Special Event station last year from hams that saw it in Crosstalk! Thanks and good luck on your hamfest." See their flier on page 53.

>> **Karl Frank, W2KBF**, reports, "The latest iPhones can send emergency texts via satellite when WiFi cellular networks are down. The best part is, you don't need Frank, Jonathan, or a Raspberry Pi to orient the antenna! I may have to get one the next time my venerable iPhone 6S needs battery replacement." How to use Emergency SOS via satellite on iPhone 14 : <https://www.youtube.com/watch?v=V35jHAKpUIk>

>> **Adam Duncan, W3DUN**, offers an interesting article about ham radio being the perfect hobby : <https://bit.ly/48khfna>

>> Congratulations to Club member **Kenny Denson, WB2P**, on his recent wedding to **XYL Elle!**

>> **Tom Preiser, N2XW, ARRL SNJ Section Manager**, reports, **Ron Fish, KX1W**, has been appointed as the SNJ Section Affiliated Club Coordinator. Ron will be contacting all the clubs in SNJ to make sure their information is up-to-date. Ron can be contacted at : kx1w@arrl.net.



>> **Sheldon Parker, K2MEN**, reports, "The W2MMD guardian angels must have been working overtime yesterday (09/10/2023). Although we had rain, a falling tree located strategically at the gate entrance happened after we left."

Current Website Updates : Go to this page to find out the latest changes & updates on our W2MMD Website

<https://gloucestercountyarcs.weebly.com/current-website-updates.html>

W2MMD



www.facebook.com/W2MMD



twitter.com/w2mmd_gcarc

Facebook





The Education Connection

By Chris Prioli, AD2CS - cpprioli@gmail.com
www.ad2cs.com



October 2023

We are now two weeks into the new session of Ham Exam Preparation Classes - Session VI, with a total of sixteen enrollees. We have three potential new hams in the Element 2 class, five potential upgrades in the Element 3 class, and eight potential upgrades in the Element 4 class.

The class sizes aside, our program is doing its usual level best at providing the students with the knowledge and information needed to score well on their FCC exams. Last week (as of this writing), our Element 2 class had just been introduced to the chemical process by which electricity is produced. We used a series of copper and zinc electrodes and a bag of lemons from the grocery store as batteries, lighting LED's with the current produced. This experiment went a long way towards explaining the electrochemical generation process as found in storage batteries commonly used in ham shacks.

It is interesting to watch the reactions of the students to seeing electricity coming from a piece of fruit. What is even more interesting is their responses to the teaching points developed from such a demonstration. In that class meeting, we went on to demonstrate the action of transistors, specifically the 2N3904 NPN silicon transistor, being operated as a switch in one simple circuit, and as an amplifier in another. This is done through use of a powered breadboard, a signal generator, and an oscilloscope, as well as a digital voltmeter, thus demonstrating the use of some basic test equipment as well. Classes like this one are fun for me.

I also had a lot of fun this past Saturday (23 September) in our SMD soldering class. We had about a half-dozen students, and the instruction was aided by the presence of **John Zaruba Jr K2ZA**, who did a great job of helping out with the soldering and the testing of completed circuits. Each student was given a small circuit board and a handful of surface-mount components, together with a schematic sheet of the circuits to be built. The students did a great job of assembling the circuits, with every student successfully completing at least one of the two project circuits. What is important is that they learned some key skills in dealing with SMD components - both what to do and what not to do.



SMD class attendees, clockwise from the foreground, are Beth Kraus KE2BPE, Bruce Canino KD2LBU, Mike Thompson KG4JYA, Greg Ciraula W5DO, Court Smith KD2SPJ, and Earl Moore KD2NCH.

My thanks to all those who turned out as students, to John for his instructional help, and to **Jon Pearce WB2MNF** for taking some photographs of this event. I hope to be able to put on similar educational and informative training events as time goes by. What I need is for you folks - the GCARC members - to let me know what you want to see or learn. I am open to suggestions from our membership.

See you next month.

Regional (Atlantic & Hudson Divisions) Hamfests & Events

October 1, 2023 : Columbia Amateur Radio Association, CARA Fest, Howard County Fairgrounds, 2210 Fairgrounds Road, West Friendship, MD. www.carafest.org

October 7, 2023 : Ocean-Monmouth Amateur Radio Club, Fall Hamfest, The Spring Lake Heights Fire Company No 1, 700 Sixth Avenue, Spring Lake Heights, NJ. www.n2mo.org

October 7, 2023 : Red Rose Repeater Association Hamfest, Garden Spot Fire & Rescue Station 1, 339 East Main Street, New Holland, PA. www.w3rrr.org

October 14, 2023 : Bergen Amateur Radio Association, BARA Fall Hamfest, Westwood Regional High School, 701 Ridgewood Road, Township of Washington, NJ. www.bara.org

October 14, 2023 : St. Mary's County Amateur Radio Association, 2023 Southern Maryland Tailgate Fest, Hollywood Volunteer Fire Department, 24801 Three Notch Road (MD Route 235), Hollywood, MD. www.k3hki.org

October 15, 2023 : Splitrock Amateur Radio Association, Splitrock ARA 2023 North Jersey Tailgate Hamfest, Landing Park Recreation Complex, 165 Landing Road, Landing, NJ. www.splitrockara.org

October 22, 2023 : Carroll County Amateur Radio Club, Carroll County, MD Hamfest, Door To Virtue Masonic Lodge, 46 Monroe Street, Westminster, MD. www.k3pzn.net

October 22, 2023 : RF Hill Amateur Radio Club, RF Hill Hamfest 2.0, Upper Bucks Campus - Bucks County Community College, 313 Blooming Glen Road, Perkasie, PA. www.rfhillarc.club

October 28, 2023 : Harrisburg Radio Amateurs Club, Oktoberfest, Vietnam Veterans of America, 8000 Derry Street, Harrisburg, PA. www.w3uu.org

Tuesday & Thursday Nights 10M Rag Chew Net @ 1930 Hours
Net Control Host : Jim Clark, KA2OSV
28.465 MHz or 28.475 MHz

CrossTalk Submissions

This is your Club Magazine. Make use of it.

If you have stories or photos of your hobby that you would like to share with the Club, please do so!

We will keep covering all of the GCARC events, but it is also nice to get those personal perspectives to include in every issue. Connecting through experiences is what makes the Gloucester County Amateur Radio Club a *REAL* Club.

All submissions, queries, comments, and editorials should be addressed to :
Jeff Garth, WB2ZBN at [djgrath1 <at> gmail <dot> com](mailto:djgrath1@gmail.com)

Submission deadline for the November 2023 issue : Friday, October 20, 2023

Club Website www.w2mmd.org

Club E-Mail Reflector: GCARC <at> Mailman <dot> QTH <dot> net



Gloucester County ARES Net

The Gloucester County ARES Net is held every Sunday @ 2000 Hours on the 147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

All are welcome to participate


Net Control Stations : Steve Farney W2SEF, Greg Ciraula W5DO, Bob Keogh KD2NEC, Karl Frank W2KBF, Al Arrison KB2AYU, Gary Mirkin WA3SVW, Todd Woodward KD2ESH, & Jim Wright N2GXJ


Net Control Station Schedule

October 1, 2023 : Al Arrison, KB2AYU
 October 8, 2023 : Jim Wright, N2GXJ
 October 15, 2023 : Steve Farney, W2SEF
 October 22, 2023 : Karl Frank, W2KBF
 October 29, 2023 : Bob Keogh, KD2NEC

November 5, 2023 : Gary Mirkin, WA3SVW
 November 12, 2023 : Todd Woodward, KD2ESH
 November 19, 2023 : Jim Wright, N2GXJ
 November 26, 2023 : Al Arrison, KB2AYU

December 3, 2023 : Steve Farney, W2SEF
 December 10, 2023 : Greg Ciraula, W5DO
 December 17, 2023 : Karl Frank, W2KBF
December 24, 2023 : Christmas Eve
December 31, 2023 : New Year's Eve






Grid: FN31w
 (TU Zone: 8)
 (QZ Zone: 5)
 New London County

Historic Ship USS NAUTILUS SSN 571
www.usснаutilus.org/

N1S Q. MICHAEL NC1V



Submarine Force Library and Museum

Confirming QSO With	Date Month / Day / Year	UTC	MHz	RST		Mode
				Sent	Rec'd.	
W5DO	JUN. 4, 2023	1846	7.250	59	59	PH



Tuesday AfterNoon Net @ 1200 Hours



**Net Control Stations : Steve Farney W2SEF,
Chris Prioli AD2CS, & Mike Thompson KG4JYA**

Alternate Net Control Stations : Greg W5DO, Gary WA3SVW, & Jeff WB2ZBN

147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

Here is the schedule for the upcoming weeks

Steve Farney, W2SEF : October 3, 2023

Chris Prioli, AD2CS : October 10, 2023

Mike Thompson, KG4JYA : October 17, 2023

Steve Farney, W2SEF : October 24, 2023

Chris Prioli, AD2CS : October 31, 2023

Steve Farney, W2SEF : November 7, 2023

Chris Prioli, AD2CS : November 14, 2023

Mike Thompson, KG4JYA : November 21, 2023

Steve Farney, W2SEF : November 28, 2023

Steve Farney, W2SEF : December 4, 2023

Chris Prioli, AD2CS : December 12, 2023

Mike Thompson, KG4JYA : December 19, 2023

Chris Prioli, AD2CS : December 26, 2023

If you would like to be a control operator for this net, please contact Steve, W2SEF



Gloucester County Skywarn Net

**The Gloucester County Skywarn Net is held every Sunday @ 1930 Hours on the
147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R**

All Are Welcome To Participate

**Net Control Stations : Steve Bromhead KB2RTZ, Greg Ciraula W5DO,
Bob Keogh KD2NEC, Charlie Wahl KC2STO & Jeff Garth WB2ZBN**

October 01, 2023

NCS : Jeff Garth WB2ZBN

Weather Report Recorder & Weather Forecast : Greg Ciraula W5DO

October 08, 2023

NCS : Bob Keogh KD2NEC

Weather Report Recorder & Weather Forecast : Steve Bromhead KB2RTZ

October 15, 2023

NCS : Greg Ciraula W5DO

Weather Report Recorder & Weather Forecast : Bob Keogh KD2NEC



Thursday Night Rag Chew Net @ 2000 Hours

Net Control Stations : Steve W2SEF, Chris AD2CS,
Mary W2TDS, & Gary WA3SVW



Alternate Net Control Stations : Greg W5DO & Jeff WB2ZBN

147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

Here is the schedule for the upcoming weeks

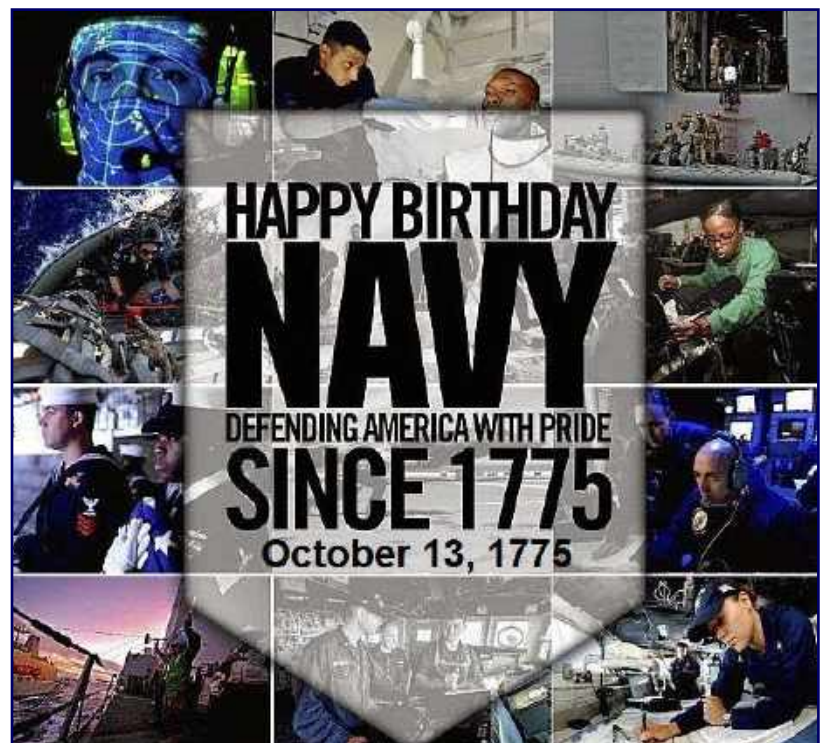
Chris Prioli, AD2CS : October 5, 2023
Mary Delemarre, W2TDS : October 12, 2023
Gary Mirkin, WA3SVW : October 19, 2023
Steve Farney, W2SEF : October 26, 2023

Chris Prioli, AD2CS : November 2, 2023
Mary Delemarre, W2TDS : November 9, 2023
Gary Mirkin, WA3SVW : November 16, 2023
Happy Thanksgiving : November 23, 2023
Steve Farney, W2SEF : November 30, 2023

Chris Prioli, AD2CS : December 7, 2023
Mary Delemarre, W2TDS : December 14, 2023
Gary Mirkin, WA3SVW : December 21, 2023
Steve Farney, W2SEF : December 28, 2023

Chris Prioli, AD2CS : January 4, 2024

If anyone would like to be a net control operator, please contact Jeff, WB2ZBN



“DMR Topics” - Tech Saturday Forum, September 9, 2023

By Jon Pearce, WB2MNF

About 20 GCARC members gathered at the W2MMD Clubhouse on Saturday, September 9th for **Len Rust W2LJR**'s presentation on advanced DMR radio techniques. Len covered the process used to make “private calls” to a particular station on the same DMR network without needing to know the repeater or hotspot at which the distant station was located. He also covered SMS messaging, APRS transmission and receiving, and the proper setup to use the local **Interstate Repeater Service** (<http://www.interstatedmr.com>) DMR repeaters. DMR radios have extensive capabilities that are unfamiliar to many users, and participants left with a far greater understanding of these new features. As usual, multiple conversations followed, and the HF and satellite stations are generally available for operation during these times. Tech Saturday is a great event at which to get together with other members in an informal setting and to collaborate and learn about ham radio topics.



Upcoming Tech Saturday Forums

In planning educational events for the Club we particularly enjoy the “Lecture and Lab” approach that ties a group presentation at a Wednesday night General Membership Meeting to a more hands-on Tech Saturday session on the same topic. This will occur at the October meetings at which **Jim Wright N2GXJ** will present a session on developing the Clubhouse 160 meter loop antenna at the Wednesday night General Membership Meeting and will follow it up with a technical session on antenna modeling software on the following Tech Saturday. For those of us not familiar with the mysteries of advanced antenna design these sessions promise to be quite enlightening. Jim is an outstanding speaker who makes every presentation interesting and fun, so be sure to plan to attend both events.

If you’ve heard about the “Raspberry Pi” microcomputers but don’t know anything about them, then you won’t want to miss our November 4, 2023 Tech Saturday Forum. This session is designed for beginners who want to set up their own Raspberry Pi and with the popular “HamClock” program.

HamClock (<https://www.clearskyinstitute.com/ham/HamClock>) is a program that displays various information such as time, date, location, weather, sun and moon data, propagation information and more. We will guide you through the steps of installing the Raspberry Pi operating system, flashing the SD card, entering basic commands, and installing the HamClock program. The session is titled “**Raspberry Pi - From Zero to HamClock**” and it will be a fun and easy way to get started with this versatile device.

September 2023 Tech Saturday Forum - Continued on page 21

Raspberry Pi computers are available again from various sources including **Adafruit** (<https://www.adafruit.com/product/4296>) (cheaper but currently out of stock) and **Amazon** (<https://bit.ly/3PtJely>) (more expensive but currently available). You'll also need a micro SD card (32 GB or smaller) and a power source with a USB-C cable for a Pi 4 (micro-USB for a Pi 3). We'll post links to additional software to download and install on your computer closer to the event.

Tech Saturday Forum events are designed to be informal and collaborative group learning experiences, and we're always looking for interesting topics to cover at these sessions. If you have a particular interest in learning or presenting on a particular topic please let me know and we'll figure out a way to do it.



Gloucester County SkyWarn Group : October 2023 Update

By Greg Ciraula, W5DO

Welcome and thanks for following as I learn more about the implementation of SkyWarn® here with the Gloucester County SkyWarn Group. There has been lots of exciting news since last month as the SkyWarn® leaders continue to advance the program.

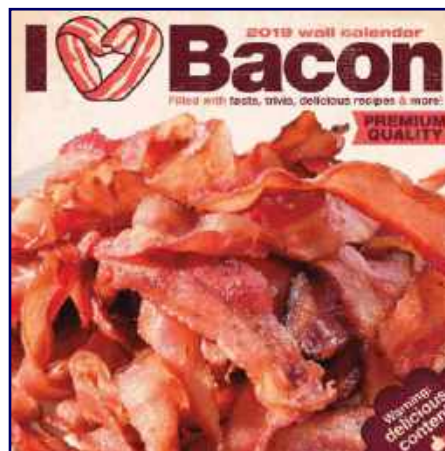
On September 18, 2023, multiple Emergency and SkyWarn® Coordinators in Southern New Jersey met virtually to discuss how they have implemented SkyWarn® support to the National Weather Service (NWS) in Mount Holly, NJ. The intent of this meeting was sharing of knowledge and good practices. The information from the meeting is under review by the coordinators to determine improvements that can be made to individual programs.

A Net Control Station schedule has also been implemented and posted on the W2MMD.org website. It can be found under the **“Club Radio Nets”** tab and on page 18 of this CrossTalk issue.

Lastly a meeting is scheduled with the Warning Coordination Meteorologist in Mt. Holly to get a better understanding of how we can support the NWS and how they use the information we supply them.

If you are a weather enthusiast or have an interest in weather or public service to come join us at the Gloucester County SkyWarn Group. We meet on Sunday evenings at 1930 on the GCARC repeater 147.180 MHz (131.8) and EchoLink W2MMD-R. You don't have to be a member of SkyWarn® or a trained spotter to check us out! A weather station is not required either. Just check into the net and let us know what you see outside.

I'm looking forward to talking with you on the air!



2023 Hamfest Forum Highlights



**Jim Wright, N2GXJ
160M Wire Loop?**

Getting up close and personal with his small audience so that he could be heard. With the rain on the tin roof (QRN) it was almost impossible to communicate more than a few feet inside the building.



**Carol Richards, N2MM
HF Propagation Basics**

Also up close and personal.

2023 Hamfest Forum Highlights



**Bob Famiglio, K3RF, ARRL Atlantic Division Director, addressing an overflow audience.
The rain had abated and the sound system was usable.**



Chris Prioli, AD2CS, Presenting Soldering Done Right

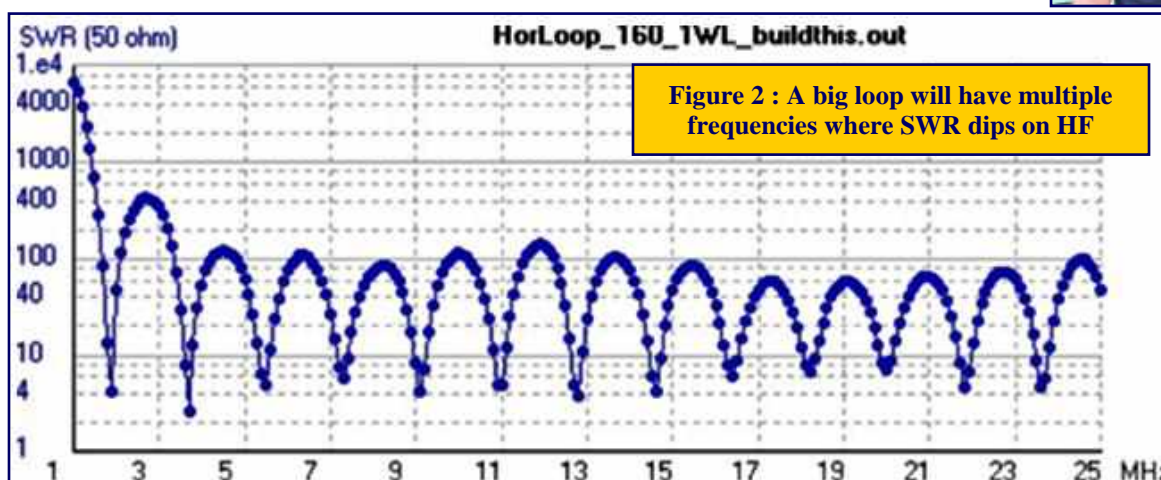
160M Wire Loop Can Do What? : Part 2

By Jim Wright, N2GXJ

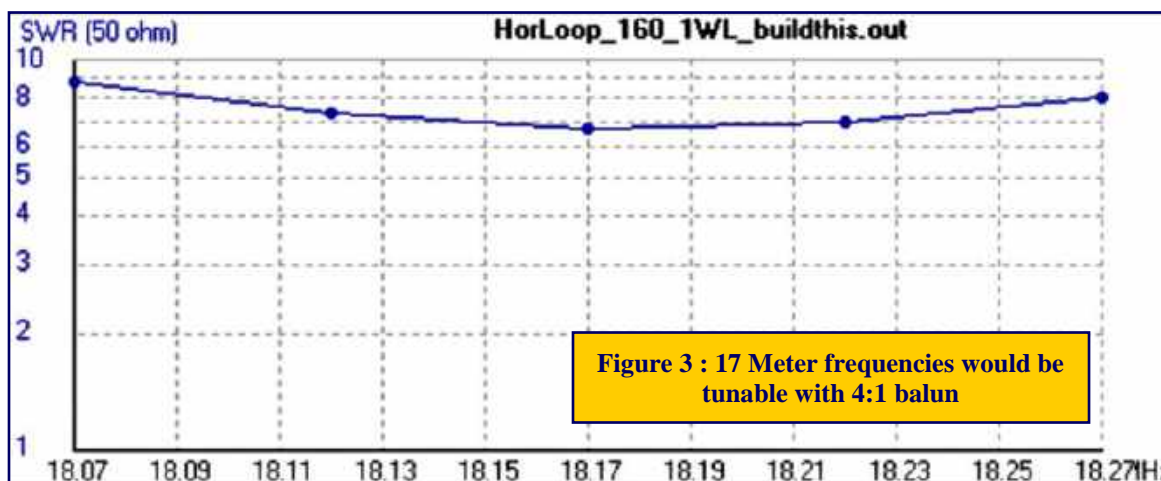


Refining The Details - Really Multi-Band With Just This One Loop?

We swept the simulation on other bands, to see if we'd do better to tune to the lower, mid, or higher end of the 160 Meter band. The simulation confirmed our hypothesis that a properly sized single wavelength loop for 160M could be tuned to be used as a multi-wavelength antenna on other bands as well. See Figure 2.



Focusing in on the 17M band, which is a very narrow band, we saw in Figure 3 that we could get a predicted SWR dip to occur in band if we set the 160M point of resonance to be low in the 160M band. The software showed us we might expect better than 8:1 SWR match with a 1:1 balun, which meant that with the 4:1 balun we'd already picked, we'd also be benefiting on 17 Meters with an SWR that might be closer to 2:1 across the whole of the 17 Meter band. Even if our tuning prediction were off by a bit, we would be well within the 10:1 tunable range of the ATU at 800 watts on this band.



This was great news! The goal of filling in missing bands with this same antenna now appeared achievable!

We had some concerns about what to expect for performance with this antenna. What about the gain and directivity for this antenna on 160 and 17 Meters? While we had the simulation available, it was easy enough to check to find out.

160M Wire Loop Can Do What? - Continued on page 25

On 160M, we found the pattern to be mostly omni-directional, with high angle of take-off probably most suitable for NVIS type communications up and down the East Coast. As one might see with a low mount dipole, as seen in **Figure 4**, this is not that exciting of a pattern to look at. Though it may be possible to make some DX contacts with this antenna, with that pattern, this was clearly not going to be a DX antenna. Still, it looked like it could end up working well for NVIS distance contacts, and with it being simple to build, we should be able to get it up in time to experience what it is like to make contacts during the upcoming 160M contest.

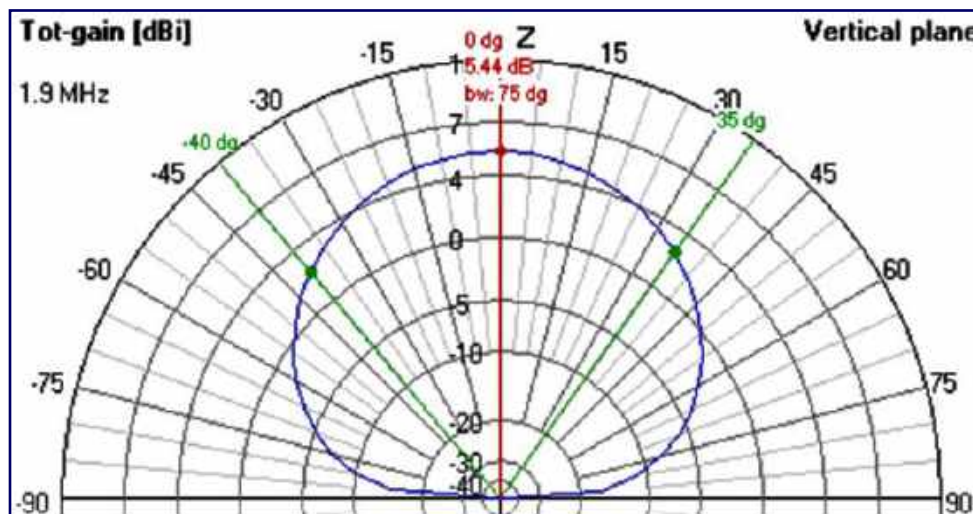


Figure 4 :
Predicted gain
pattern for 160M
loop operated at
1.9 MHz

On 17M, the predicted pattern was pretty wild, with high gain spikes at low angles in many directions. We'd be looking at spikes of up to 12dBi at low 15 degree take off angles with this antenna. Yes, this might be fun. See **Figure 5**

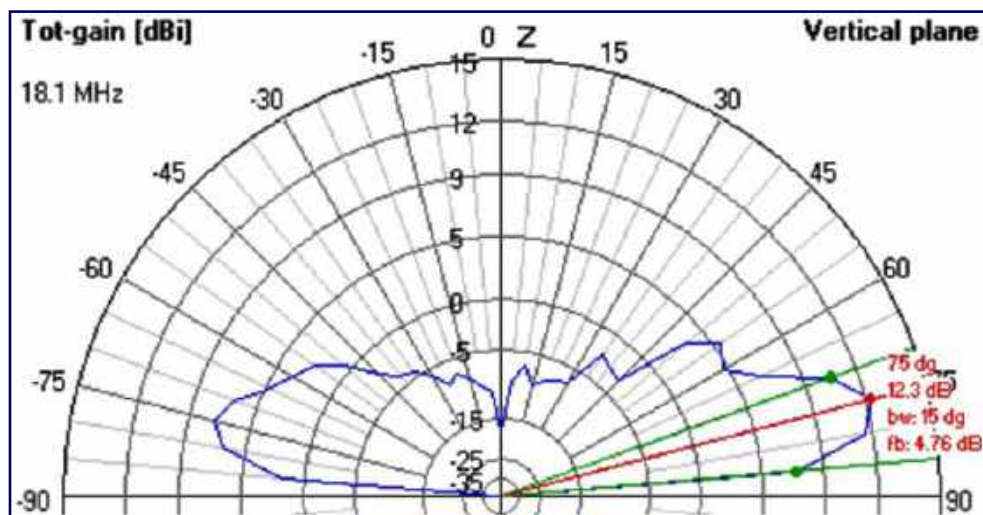


Figure 5 :
Predicted gain
pattern for 160M
loop operated at
18.1 MHz

In the big picture, we really did not know if having an omnidirectional high angle pattern like this would be any good for 160 Meters. But we theorized that if there is anyone out there to make a contact with, out to several hundred miles, we probably would be able to. It looked like it could work. And in addition to being able to operate on 160M, it appeared that this antenna would have the ability to fill in some of the missing bands we had for operating on too, with some level of exciting performance.

Good enough we declared. We had our plan. Time to move forward with implementing it.

Strain Relief At Support Corners

As a tip for others maybe considering putting up a similar loop, we knew we wanted to use some kind of tubing for the rope to tie off to, with the insulated wire allowed to slide freely through it for strain relief (**Figure 6**). This proved very useful when lifting the loop, as we could raise the feed point triangle corners and another corner to their intended positions and then just leave them there, using the third point as the single point we would then adjust for lifting and tensioning the whole of the triangle to its final operating height and position.



Figure 6 : Allowing the insulated wire loop to slide natu-

How Well Did It Work?

On the weekend of February 24, 2023 I got to try out the loop during a 160M SSB contest. Operating the Clubhouse station remotely on sideband, over an 8 hour period, I was able to selectively hunt-and-pounce to make over 130 confirmed contacts. Collectively, the contacts spanned 36 different states and 3 DX countries. As the Clubhouse station is located in New Jersey, it was not surprising that most of the contacts made were here on the East Coast, from Florida up to Maine, and then out through PA to Ohio and down to Tennessee, with a few further out contacts made to Arizona, Kansas, and Colorado. For the DX, surprisingly to me were that none of the DX contacts made were to Canada. Instead, two of the three were to the Caribbean, with the third contact being made with a station in Italy. That was a very difficult contact, certainly at the limit of what might be possible. But post-contest, I can see it was confirmed as a valid contact. So there it is, in the log and confirmed. Kind of exciting!

Overall, operating on this band had similarities to my previous experience operating on the 80 Meter band. There really was nobody to make contacts with until after the sun went down. And then most that I could hear were not very strong, despite the massive amount of wire up in the air in the loop antenna. When it came to DX, this configuration was clearly not a good DX antenna, with most contacts being from within a footprint spanning just a few hundreds of miles from New Jersey. But then there was the interfering noise. Thankfully, the band is quite wide, and this problem did not ruin the whole band. So it was possible to tune around it. But there were these two swatches of frequency ranges on the band that were virtually unusable to me due to a constant S9+ man made noise in those ranges. I suspect that this is noise originating from within the Clubhouse itself, though it would take some effort to isolate to confirm this. And now that it is summer, I'm finding it more fun to chase DX on the higher bands.

Speaking of the higher bands, it is very nice to have the ability to get on 17M now. In the past few months I've had fun making contacts all throughout Europe on this antenna, with an occasional contact further out, including at least one contact with Japan in the West, and Israel in the East.

Lessons Learned, And A Chance To Learn More

As always with any project, there are things that if had to do it again, you might do a little differently. There are always lessons to be learned with 20/20 hindsight. As learning more about antennas is generally something of interest to many hams at one time or another, we've scheduling time in some upcoming forums to share these learning's, and discuss this further.

For those of you interested in learning more, on **Wednesday, October 4, 2023**, as part of the program that follows the business portion of the **General Membership Meeting**, we'll be taking a deeper dive look into some of the antenna modeling used to help us in getting to this solution to try. Computer modeling of antennas is a very broad topic, and this will just scrape the surface of what is possible, but may be of great interest to anyone else who may be interested in duplicating a similar antenna, just maybe at a smaller scale, for use at their own QTH.

Also, come out to the **October 7, 2023 Tech Saturday Forum** @ 0900 Hours at the W2MMD Clubhouse. I will be giving a presentation on **Antenna Modeling & Simulation** using the **4NEC2 Software**.

Bring your laptop and together we will go through the basics of setting up and running a tutorial using this amazing FREE antenna modeling software.

Hope you enjoyed this article, and look forward to seeing you at one of these upcoming presentations!



2023 FALL FESTIVAL
AT OWENS PARK
OCTOBER 21ST FROM 10AM TO 2PM

PUMPKIN DECORATING

HAYRIDES **SLIDE** **PONY RIDES**
GAMES & PRIZES **FOOD VENDORS**
BOUNCE HOUSES

BOO! BOO! BOO!

sponsored by:
The Monroe Township Parks and Recreation Commission

The poster features a festive Halloween theme with a dark purple background. At the top, the text "2023 FALL FESTIVAL" is in large, bold, orange letters. Below it, "AT OWENS PARK" and "OCTOBER 21ST FROM 10AM TO 2PM" are also in bold orange. The activities are listed in bold black text: "PUMPKIN DECORATING", "HAYRIDES", "SLIDE", "PONY RIDES", "GAMES & PRIZES", "FOOD VENDORS", and "BOUNCE HOUSES". A decorative border at the bottom includes pumpkins, skulls, and the word "BOO!". The bottom section is orange with a black zigzag pattern, containing the text "sponsored by: The Monroe Township Parks and Recreation Commission".



Hack The ARRL? : August 2023

By Dan Romanchik, KB6NU

A couple of weeks ago, I attended DEFCON (<https://defcon.org>), which is arguably the premiere hacking conference in the world. DEFCON hosts a number of **special interest groups** they call “villages” (<https://forum.defcon.org/node/244771>), which organize their own sub-conferences on topics ranging from artificial intelligence to voting. One of those villages is the Ham Radio Village, and as I did in 2022, I taught a **one-day Tech class in the Ham Radio Village on Thursday, August 10, 2023** (<https://platform.hamvillage.org/collect/description/315307-u-def-con-31-ham-in-a-day>).



So, what does this have to do with the ARRL? Well, one of the more popular Amateur Radio sub-hobbies is to complain about the ARRL. I won't list all the complaints here, but I think that most of you will agree that there are more than a few complaints out there.

Well, part of the hacker ethos is to not just complain about things, but to do something about it. The **Wikipedia entry on hacker culture** (https://en.wikipedia.org/wiki/Hacker_culture) puts it this way, “[hackers enjoy] the intellectual challenge of creatively overcoming the limitations of software systems or electronic hardware (mostly digital electronics), to achieve novel and clever outcomes.” It seems to me that we could creatively overcome some of the limitations of the ARRL, i.e. hack the ARRL, if we put our minds to it.

I think that **Parks On The Air (POTA)** (<https://parksontheair.com>) is a good example of this. The ARRL actually gave birth to POTA with their year-long **National Parks On The Air program** (<http://arrrl.org/npota>) in 2016, which celebrated the 100th anniversary of the U.S. National Park System. It was a very popular activity, but the ARRL dropped it like a hot potato once the year was over.



Fortunately for ham radio, a dedicated group of ham hackers stepped up and created the current POTA program. POTA is wildly popular and has been a real boon to amateur radio.

Get Your Hacking Hats On

So, what else can be hacked? One thing that I can think of off the top of my head is **Logbook Of The World** (<http://arrrl.org/lotw>). At one time, there was talk about making it a more real-time system. I'm not sure whatever happened to that project, but my guess is that the programming was a lot more complicated than originally anticipated, and it got put on the back burner.

Another possible ARRL hack would be to do something about the ARRL's digital magazines. This hack is particularly needed now that fewer and fewer members are going to be getting the print versions of QST, QEX, and the National Contest Journal. Making the information more easily accessible I think would end up being beneficial for the ARRL as well as ham radio in general.

KB6NU's Ham Radio Blog - Continued on page 29

Can You Hack A Hamfest?

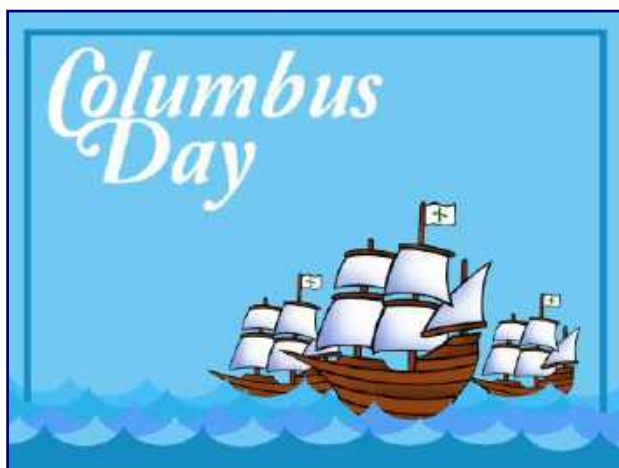
This isn't strictly an ARRL thing, but one aspect of ham radio that I would love to see hacked is hamfests. Recently, on the social media platform Mastodon, someone wrote :

"Researching local hamfests, and they're still such an old man thing. 7 am open gates. Grange fair. Fire house. Greasy breakfast cart. Noon close.

"Can we get like a 3 pm start time at a farmer's market with snacks, kombucha, and chiptune DJ?"

My reply was, "There's nothing that I know of that stopping anyone from starting something new." I would love to see someone come up with something like a hamfest that's more relevant for younger hams and easier for them to attend. It wouldn't be easy to do, but life's not easy, is it?

Ham radio needs the hacker ethos now more than ever. Hackers take on difficult challenges because they are difficult, don't they? So, let's get to it.



Monday
October 9, 2023



The Club Recently Donated
These A/V Carts To The
Pfeiffer Community Center.

Thank You To Mark Gottlieb,
KK2L For Supplying The
Carts.



Amateur Radio Emergency Services - October 2023 Resources - News - Updates

By Bob Keogh, KD2NEC - kd2nec@qsl.net
Gloucester County Emergency Coordinator



Federal Emergency Management Agency (FEMA) Upcoming Events and Webinars

FEMA issues a weekly bulletin via email, with upcoming events and webinars that are of interest to individuals as well as organizations. The bulletins cover topics related to Emergency Preparedness and many of them are very relevant to Amateur Radio Emergency Services. To subscribe, go to this link : <https://bit.ly/48nEpZH>

Last week's Webinar Presentation was from a company called *"Information Technology Disaster Resources Center"*. They have local resources that we might be interested in, such as mobile satellite communications equipment, which is available at no cost to their clients and partners.

Here is the link to their website : <https://www.itdrc.org>

All FEMA webinars are recorded and eventually put onto the FEMA website. Here is an example : <https://bit.ly/3rpJG2l>



The ARRL is another vast resource of information regarding the Amateur Radio Emergency Service (ARES). In case you haven't subscribed to the ARES Weekly Newsletter, here is the link : <https://bit.ly/3Ry9FiF>

- ARES® Briefs, Links
- Hurricane Idalia Response
- Winlink ShakeOut Exercise Next Month
- Open Letter from the National Hurricane Center's WX4NHC Operators
- September Is Emergency Preparedness Month - Perspective from a Pennsylvania County
- Mississippi Conducts Its SET on Hurricane Scenario
- Amateur Radio Helps Air Show Fly High
- Northern Florida SEC W4CPD for a Final: Hurricane Idalia Response
- ARES® Resources
- ARRL Resources

SNJ ARES Update - Continued on page 31



**American
Red Cross**

AMERICAN RED CROSS NEW JERSEY REGION AMATEUR RADIO EMERGENCY COMMUNICATIONS

In the September Crosstalk we talked about the initial Emergency Communications Plan and Memorandum of Understanding (MOU) between the American Red Cross NJ Region and the NJ ARRL/ARES.

We are now finalizing the plans for our Joint, Statewide, **Simulated Emergency Test (SET)** to be held on **Saturday, October 14, 2023** between **0830 Hours** and **1200 Hours**.

The purpose of the SET is to determine what we are doing well and areas that we need to strengthen.

Gloucester County ARES has selected Rowan College in Sewell for our Simulated Shelter. We made sure that the Director of Campus Security understands ARES will be setting up Radios and Antennas on their grounds, to provide Emergency Communications with the NJ Red Cross. They were very supportive to have us on campus, to test our Disaster Relief Operations, alongside the Red Cross.

We will have a Network Control Station (NCS) for voice traffic in the ARC NJ Region Headquarters in Princeton and Station Hubs in all three of the ARC District Offices, Fairfield, Titan Falls, and Pennsauken.

All reporting between the Shelters and the ARC Supporting Facilities will be accomplished using WinLink and its ARC Template Forms.

It's not too late to join our team and use your Amateur Radio License to provide service to our community. If you would like to participate, please don't hesitate to contact me by email.

ARES Resources

Download the ARES Manual [PDF] : <https://bit.ly/3iUhJLQ>

ARES Field Resources Manual [PDF] : <https://bit.ly/3QT4PtY>

ARES Standardized Training Plan Task Book [Fillable PDF] : <https://bit.ly/3wg5kVt>

ARES Standardized Training Plan Task Book [Word] : <https://bit.ly/3ZTNDbR>

ARES Plan : <https://bit.ly/3XLokXH>

ARES Group Registration : <http://bit.ly/3XodGpX>

Emergency Communications Training : <http://bit.ly/3J2gMMf>

2022 National Preparedness Report : <https://bit.ly/3EnvcTW>

Southern New Jersey Section EOP 2022.PDF : <https://bit.ly/3SbrXol>

The Amateur Radio Emergency Service® (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment, with their local ARES leadership, for communications duty in the public service when disaster strikes. Every licensed amateur, regardless of membership in ARRL or any other local or national organization is eligible to apply for membership in ARES. Training may be required or desired to participate fully in ARES. Please inquire at the local level for specific information. Because ARES is an amateur radio program, only licensed radio amateurs are eligible for membership. The possession of emergency-powered equipment is desirable but is not a requirement for membership.

If you are interested in learning more about the Gloucester County ARES Program or becoming an ARES member, please contact Bob Keogh (KD2NEC@QSL.NET)



At The Repair Bench...

A monthly column describing a recent repair bench event

By Chris Prioli, AD2CS - cpprioli@gmail.com - www.ad2cs.com

Heathkit® IM-5284 & IPA-5280-1 - October 2023

At this year's GCARC Hamfest, I picked up a pair of items for a very low price - a Heathkit® IM-5284 multimeter and a Heathkit® IPA-5280-1 power supply for the 5280-series test instruments. I never checked at all to determine the condition of these items - the price was right regardless the condition, and I was confident that I could repair anything that may have been wrong with the two items. It turns out that I was not wrong, but the challenge ended up being quite considerable.



Let's talk about condition first. The power supply was plugged in to the multimeter and could not be unplugged. It turned out that the -9VDC wire in the connector body had overheated and melted the connection together, leaving cutting the wires as the only means of removing the power supply from the multimeter. More about the power supply later.

The multimeter was a mess. This unit has two front-panel wafer-type rotary switches and two front panel potentiometers. All four of these controls were seized and would not turn at all. On the rear panel of the enclosure is the connector to which the power supply cable connects, which we already discussed, and also a slide switch that is used to select between the power supply as a power source and the internal battery bank as the power source. This switch was also seized and would not slide at all. When I opened up the enclosure, I found more damage.



While the two nine-volt battery snaps were unpopulated, they were none the less severely corroded, beyond saving. There was a leaking "C" cell in the holder for the ohmmeter power source. The alkali from this cell had leaked all over the inside of the enclosure, coating the bottom of the enclosure and soaking into the paint on the front panel. Several wires had corroded off their attachment points, and the battery contacts for the "C" cell were corroded beyond use, with one of them actually broken into two pieces and the other corroded so badly that there were holes through the metal.

I began by completely disassembling the unit and starting the clean-up of the various pieces. That was when I discovered that the alkali had damaged the front panel paint to the point where the paint all the way across the lower edge of the front panel washed off when I rinsed the panel under cold running water. I cleaned the enclosure sections with warm water and dish soap, removing all traces of the alkali and the corrosion. I cleaned the front panel the same way. Fortunately, the damage to the paint remained below the portion of the panel where there were markings for the various controls, so it turned out to be an easy fix with a rattle-can of the right color paint, first masking out the lettering on the panel to avoid overspray damage there.

At The Repair Bench - Continued on page 33

The rotary wafer switches required complete disassembly in order to free up the moving parts and to clean the wafers properly. I did this for both of the switches, restoring them to working condition. Next, I disassembled the two front panel potentiometers and cleaned and lubricated them in the same manner. DeoxIT is the best choice for cleaning and lubricating these components.

The next thing that I tackled was the rear panel slide switch, removing the original one and installing a new replacement switch in its place. Then I set about repairing the damaged wiring, including replacing the two nine-volt battery snap connectors. Once all of the damaged wiring was repaired, I had to fabricate two new battery contacts for the "C" cell position. This was done by cutting some 24-gauge copper sheet metal to the correct size, and then making two cuts in the bottom edge of each new contact, reaching up about three-quarters of the way to the top of each contact. The center strip, between the cuts, was bent forward to form a spring contact that projects forward from the plane of the contact. I soldered the contacts to their wire leads, and then slid them down into their proper locations in the "C" cell battery compartment.

Once the multimeter was fully assembled, I went through the calibration steps as detailed in the factory manual for this unit, successfully calibrating the multimeter. To complete the job, I made up a set of probe leads for the multimeter and put them into the storage compartment built into the upper enclosure half. Job done... and now it was time to turn to the power supply.

When tested, the power supply was dead. I opened it up and found that the fuse was blown. Digging deeper, I discovered that one of the full-wave rectifier diodes was shorted as was one of the 500 μ F filter capacitors. I replaced the failed diode and all of the polarized capacitors in the unit - two of the 500 μ F capacitors and a pair of 10 μ F capacitors at the outputs of the voltage regulator IC's. I then replaced the fuse and tested the unit. It came right up and operated correctly, so I placed it under a load to verify the voltage regulation. The unit held rock steady at +9VDC and -9VDC at the two outputs. I assembled the power supply enclosure and replaced the cut-off plug that was melted when connected to the multimeter, and the power supply was as good as new.

Ultimately, I listed the two units on eBay, and the multimeter sold within two days at my full asking price. The power supply, as of this writing, is still available there.

It may seem like a reckless thing to do, to purchase some equipment on a whim without knowing anything about the condition of the equipment. It may actually be foolish. However, as I said earlier, I didn't care what condition the items were in, as I was confident that I could restore them, and I did. Not only did I restore both items, I sold one of the two for considerably more than I paid for both of them together, and when the second item sells, as it will (it is a very rare piece of equipment), I will be that much further ahead. When you are sure of your abilities, and when you have the skills to overcome most problems, you can go out on a limb and take chances like this one was. And, when you are not so sure of your skills and abilities, there is no better way to learn and to build those skills than by trying.

WORD TO THE WISE

Iambic

As it pertains to ham radio, a description of a type of keying where characters are formed by causing dits and dahs to be generated by combinations of independent and simultaneous use of independent paddles with an electronic keyer. "Iambic" more generally means a rhythm or pattern of words where an unstressed syllable is followed by a stressed syllable.

New To Me!

By Bill Mollenhauer, N2FZ

If you have worked any special events stations in the US you are familiar with the calls used. Sometimes they are the regular issued calls like K3XXX or WA5XXX that belong to a ham who is putting on the Special Event. Other times the call can be a special issued call from the FCC that is good for a limited amount of time. These calls are 1X1 like W6X for the Route 66 Event. In other parts of the world, they can be different. They could be a normal length call or a longer call.

I like to work special events stations and a couple of nights ago I was listening to 20M at about 2:45 AM and heard a pretty fast station at about 35-40wpm. The station was working callers one after the other and at that a speed it is above my ability, so I have to get the call in pieces.

After a bit I had it figured it out to VI2HARG. Well maybe VI is India since I knew India was VU. I was puzzled at the suffix of HARG because I had never heard of a 4 letter suffix so I kept listening to make sure I had it right. Aha, the H is a 5. At that speed I have trouble with S, H, and 5, so now I have VI25ARG.

Now I listened again to make sure, and I thought the G was maybe P. With all the atmospheric noise and the weak signal, it was hard to tell but after a couple more rounds of him working stations I had pretty much decided the call was VI25ARG. Anyway, I was not going to let him get away, so I worked him and got a signal report figuring I would straighten it out later.

After working the station, I looked up VI25ARG on QRZ. No such luck although it did say it sounded like an Australian station. VI is new to me as an Australian prefix. The double number is not new. I have even worked 3 number stations.

Now where do I go. I was always thinking I was hearing something between the R and G. Maybe it was an E.

Ok now I have VI25AREG. Typing that call into QRZ gets me the Amateur Radio Experimenters Group and the 25th anniversary of their organization. The next day I used their link to club log and found I am in the log!



QRP Labs 20W 50Ω Dummy Load Kit Build - Part 1

By Chris Prioli, AD2CS

Recently, I was looking for buildable project ideas for a soldering class to be held at the W2MMD Club-house, and I came across a low-cost **20W 50Ω Air-Cooled Dummy Load (Figure 1)** in a very small form factor, perfectly suitable for use with the (tr) uSDX radio or others of its kind. I ordered in the kit and decided to put it together. That experience led to this article.

The kit comes from **QRP Labs** (<https://qrp-labs.com>) at a relatively low cost of \$8.50 (USD) plus shipping. Two shipping options are offered - FedEx/TNT at \$14.41 or standard postal shipping at \$8.53, both of these figures being in US dollars. I mention that because when it arrived, I saw that the kit had been shipped from Turkey (**Figure 2**).



Figure 1 : QRP Labs Dummy Load
(Photo Courtesy Of QRP Labs)



Figure 2 : Package From Turkey

In the kit package were a pair of identical printed circuit boards still attached at their join line, a tape of twenty-two 1kΩ 1% one-watt resistors, a BNC connector, a 1N4004 diode, and a 10nF monolithic capacitor (**Figure 3**). The two PCB's, as I mentioned, are identical and are used in sandwich form with the resistors placed in between the boards.

Assembly of the unit starts out with the separation of the two PCB's, and then the marking of one particular hole on one of the two PCB's. Locate the hole marked "W0" on one of the PCB's, and mark that hole on the non-screen-printed side of that PCB, which will then become the "upper" PCB in the assembled sandwich. Marking of the hole can be done with a fine-point Sharpie® marker. We will be using that marked hole later on in the build process, when we will need to locate the hole without being able to see the screen-printing on the PCB. An alternative, and possibly better (so long as no errors are made) approach is to solder-fill hole "W0" in the PCB that will become the lower board, and to solder-fill hole "W1" in the PCB that will become the upper board.

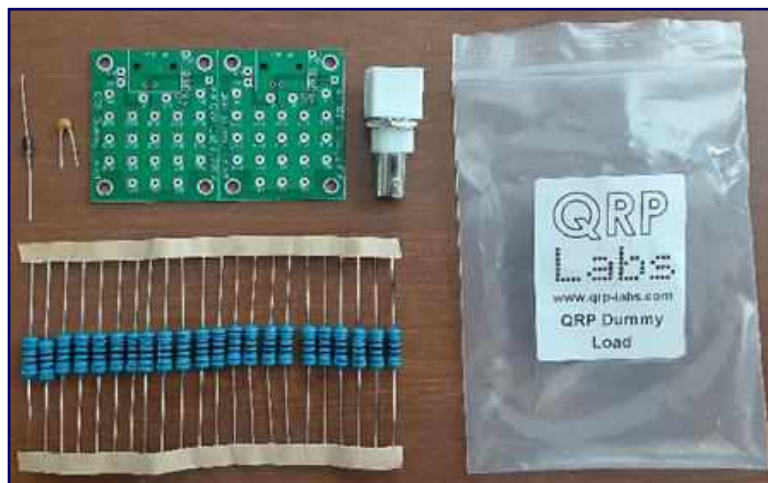


Figure 3 : Kit Contents

QRP Labs Dummy Load Kit Build - Continued on page 36

Now it is time for the installation of the 1N4004 diode and the 10nF capacitor to the screen-printed side of the unmarked one of the two PCB's (the one determined to be the lower board if solder-filling was done as described above), in the locations indicated on the boards. The diode polarity is not really clearly marked because the marking is crammed between two holes in the PCB. As it turns out, the instruction manual for the assembly does clearly show the diode orientation in the image of the **PCB (Figure 4)**. This diode is installed into those two holes, on end, with the holes spaced 0.100" apart. When bending the diode to fit the board, bend the anode lead (the end without the band) and then insert the cathode (banded) end into the hole directly adjacent to the "D" in the D1 location identifier screen-printed on the PCB. The anode lead will then go into the hole directly adjacent to the "1" in the screen-printed D1 identifier.

A quick word about the instruction manual. It is not included with the kit as shipped, apparently in a bid to keep the shipping costs as low as possible. However, the manual is readily available on the QRP Labs web page where the kit is described (<https://grp-labs.com/dummy.html>). These guys are pretty good. They offer the instruction manual in English, French, Czech, and Japanese. Take your pick.

After the diode and capacitor are in place, solder the BNC connector into place on the screen-printed side of the lower PCB. Next, a small jumper wire must be installed on the opposite PCB, which will become the upper board in the sandwich. A cut-off lead from the diode will work just fine for this jumper wire, which gets installed between the holes marked W2 and W3 on the screen-printed side of the upper PCB. Remember, this is the opposite PCB from the one that got the diode and capacitor (**Figure 5**).

Next up is to install twenty resistors in the holes marked R1 through R20 on the lower PCB, inserting them from the screen-printed side, placing them all the way down to the board. These resistors should be carefully installed, so that all of the resistor bodies are parallel to each other physically so as to give the best assembled appearance, as if of soldiers in ranks. I found that the easiest way to do this is to drop the resistors into place in the upper board, which I had secured in my PCB vise. Then, I lowered the lower PCB down onto the resistor leads, aligning them to the proper holes in the upper PCB. After tacking the resistors in place, I lifted the upper PCB off the lower board, and then touched up the positions of each resistor individually, arranging them into proper parallel ranks (**Figure 6**).

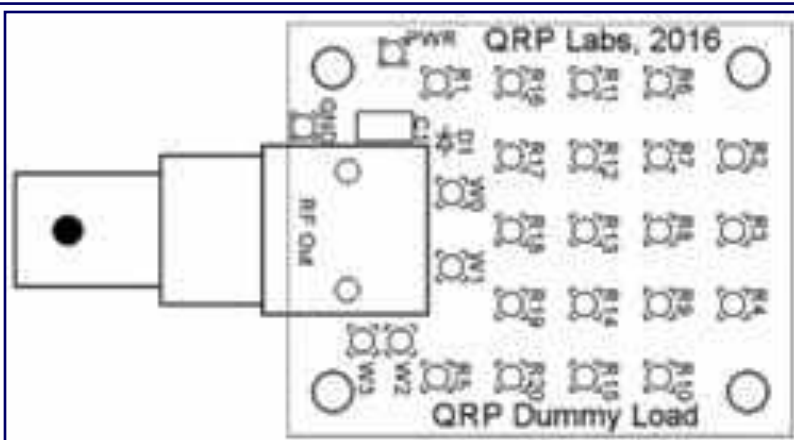


Figure 4 : PCB Drawing



Figure 5 : PCB's Ready For Resistors

In order to simplify the installation of the resistors' opposite leads into the upper PCB, modify the installed resistors as follows :

- In the far edge row of resistors (R2, R3, & R4), leave the leads full length
- In the next row of resistors (R6, R7, R8, R9, & R10), cut off about an eighth of an inch of each lead
- In the third row of resistors (R11, R12, R13, R14, & R15), cut off about one quarter of an inch of each lead
- In the fourth row of resistors (R16, R16, R18, R19, & R20), cut off about three-eighths of an inch of each lead
- In the final row of resistors (R1 and R5), cut the leads off the same as in the fourth row above, removing about three-eighths of an inch of each of those two leads

Staggering the lengths of the resistors by row in this manner (**Figure 7**) will make it much easier to align and insert the resistor leads into the upper PCB in the sandwich. Position the upper PCB over the cut-off resistor leads with the screen-printed side down (or towards the resistors) and begin inserting the resistors into the holes in the PCB, one row at a time and starting with the tallest row - the row in which no lead length was cut off. Once all of the resistors are inserted into the upper PCB, lower the PCB down against the upper surface of the BNC connector body, ensuring that the PCB is level. Solder one or two of the resistors to the upper PCB and stop to check the positioning of the upper PCB. Correct the PCB position as required by reheating the solder joint(s) and repositioning the board as needed.

For appearance's sake, it is important that the PCB's are aligned as nearly perfectly as is possible. All that it takes to achieve this alignment is to solder just a few of the resistors at first, adjusting the position and alignment of the upper PCB as you solder each lead. Once the upper PCB is positioned exactly as you want it to be, go ahead and solder the rest of the resistor leads to the upper PCB (**Figure 8**).

Once all of the resistors are soldered in place and the board is positioned level and in proper alignment to the lower board, it is time to make the final electrical connection of the upper resistor ends to the ground plane of the lower PCB. This is done by inserting a bare wire - one of the full-length cut-off resistor leads works well here - into hole W0 on the upper PCB, which is the hole that we marked with the Sharpie® marker earlier. This bare wire needs to continue straight down through the PCB sandwich until it enters hole W1 in the lower PCB. Solder this bare wire in place.

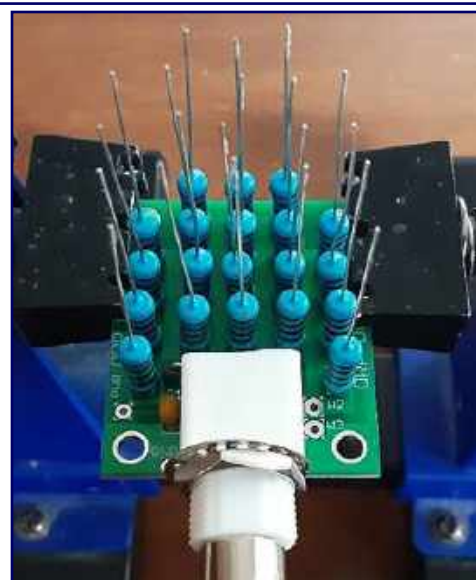


Figure 6 : Resistors Installed In Lower PCB

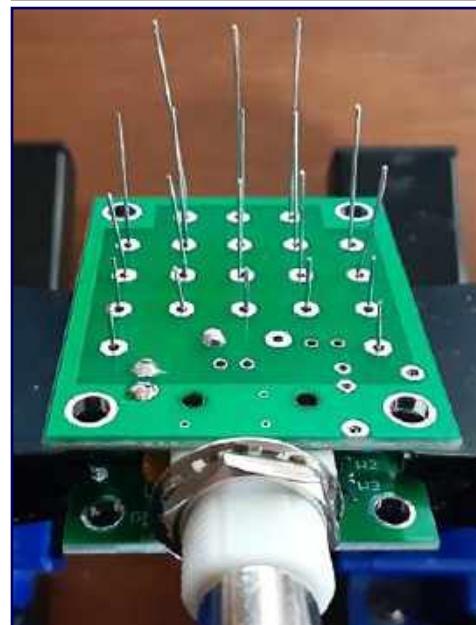


Figure 7 : Staggered Lead Lengths



Figure 8 : All Resistors Soldered And Clipped

Note that when the dummy load soldering is complete, hole W0 in the lower PCB and hole W1 in the upper PCB will not be populated. This is by design, and is a result of the desire to use two identical PCB's in the design for simplicity. Of course, if the solder-fill method of PCB marking was used, these holes will be blocked with solder already.

Cut off the excess lead length from any leads not already clipped, making the finished appearance as clean and close as is possible. Then, using a small smooth file, clean up each clipped lead solder mound (**Figure 9**) to remove any and all peaks, hooks, and snags that may exist, aiming for a nicely smooth finish, as this will be the final exterior surface of the finished device. Repeat this process with the underside of the lower PCB in the sandwich (**Figure 10**).

I chose to finish my kit with an insulating coating on both boards. I accomplished this by applying three coats of clear nail polish over the entire foil side (**Figure 11**) of each PCB in turn, allowing the polish to dry completely between coats. Then, using some acetone on a cotton swab, I removed the polish from the PWR and GND hole areas on the lower PCB. You could accomplish the same result using a clear aerosol spray enamel, but you would have to mask the two holes to prevent coating them. These two holes are power measurement points that we will discuss shortly.

Part 2 will be in the November 2023 CrossTalk Magazine
The full version and a downloadable PDF can be found at :
<https://gloucestercountyarcs.weebly.com/qrp-dummy-load.html>

Figure 9 : Upper PCB



Figure 10 : Lower PCB



Figure 11 : PCB With



Honorary Donation As Payment?

By Chris Prioli, AD2CS

A while back, in early February of this year, I received an e-mail from a Pitman resident who has a passing interest in ham and short-wave radio. I believe that he was sent to me by **Jim Clark KA2OSV**, but I am not one hundred percent sure about that. Anyway, his main SWL radio had developed a problem and was unusable for him. Now, he is an older shut-in gentleman whose only real contact with the wider world is via his short-wave listening hobby, so the SWL radio being inoperable was a big deal to him.

In his e-mail, he described the problem with the radio. It sounded fairly simple, so I told him that I would take a look at it for him. He had the radio dropped off to me by an ex-wife, and I went to work on it. The fix was relatively simple once I got the radio's case open without doing any damage to it. What I needed to do was to re-secure the telescopic whip antenna to the RF input point in the circuit, and then re-mount the base of the antenna to its mounting boss inside the case. The whole repair, including tightening the antenna pivot point, putting a fresh set of batteries, in and testing the radio, probably took me ten minutes. I called him and told him that his radio was ready for pickup, and I did not charge him a penny for the job. His ex-wife again came to my house, this time to pick up the radio, which I had packaged up into its factory carton (he had sent the carton with the radio), just like a new radio.

He was quite happy to get his radio back, as it is his daily companion and window on the world. He called me and said that it worked like it did when it was brand new. The biggest visible difference, apart from the fact that the antenna was back where it belonged, is that the antenna no longer flopped around loosely. Because I had tightened the pivot point screw, the aerial now stayed where it was placed. I felt good about doing a favor for a senior citizen, and that was the end of it as far as I was concerned.

That was then... and I have not thought much about it since... until today, that is. You see, today I received a letter from the ARRL that relates to this repair. I am attaching a copy of the letter to this article for your reading pleasure, but the gist of it all is that he went and made a donation to the League in my honor, and the League was writing to tell me so.

It is funny how one random act of kindness turns into another act that reaches farther and impacts more people. I have no idea how much was donated, and it really does not matter. It is the thought process behind the donation that encourages me, and that is the reason that I am writing this... to share that encouragement.

Keep on doing good deeds. The good that we do is returned when we least expect it and often in ways that we would never have imagined. Read the letter on page 40.



Honorary Donation As Payment - Continued on page 40



ARRL HEADQUARTERS
225 Main Street
Newington, CT 06111-1400
T 860.594.0200
F 860.594.0259
www.arrl.org

August 3, 2023

Mr Christopher Prioli, AD2CS
648 W Holly Ave
Pitman, NJ 08071-1306

Dear Mr Prioli,

This letter is to inform you that a donation has been made on your behalf as follows:

Robert Bagienski,
418-D Crafton Ave
Pitman, NJ 08071

With the following note:

IN HONOR OF
Chris Prioli – "Do you fix Grundig YB 305 radios?"

The work of ARRL – to promote Amateur Radio, to secure its future for all hams and their communities, to provide public service, including vital emergency communications training to protect our communities in times of disaster and crisis, and to educate the next generation in the fascinating world of Amateur Radio – will continue thanks to their generosity.

73,

 K8EAL

Kevin T. Beal, K8EAL
Director of Development

OFFICERS

Rick Roderick, K5UR
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Second Vice President

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Treasurer

Rodney Stafford, W6ROD
International Affairs Vice President

2020-2024 Element 4 Amateur Extra Class License Question Quiz

**This month we start Subelement E4 Amateur Practices (5 exam questions out of 5 groups)
(Answers on 'Last Page Calendar')**

E4A01

Which of the following limits the highest frequency signal that can be accurately displayed on a digital oscilloscope?

- A. Sampling rate of the analog-to-digital converter
- B. Amount of memory
- C. Q of the circuit
- D. All these choices are correct

E4A02

Which of the following parameters does a spectrum analyzer display on the vertical and horizontal axes?

- A. RF amplitude and time
- B. RF amplitude and frequency
- C. SWR and frequency
- D. SWR and time

E4A03

Which of the following test instruments is used to display spurious signals and/or intermodulation distortion products generated by an SSB transmitter?

- A. A wattmeter
- B. A spectrum analyzer
- C. A logic analyzer
- D. A time-domain reflectometer

E4A04

How is the compensation of an oscilloscope probe typically adjusted?

- A. A square wave is displayed and the probe is adjusted until the horizontal portions of the displayed wave are as nearly flat as possible
- B. A high frequency sine wave is displayed and the probe is adjusted for maximum amplitude
- C. A frequency standard is displayed and the probe is adjusted until the deflection time is accurate
- D. A DC voltage standard is displayed and the probe is adjusted until the displayed voltage is accurate

E4A05

What is the purpose of the prescaler function on a frequency counter?

- A. It amplifies low-level signals for more accurate counting
- B. It multiplies a higher frequency signal so a low-frequency counter can display the operating frequency
- C. It prevents oscillation in a low-frequency counter circuit
- D. It divides a higher frequency signal so a low-frequency counter can display the input frequency

E4A06

What is the effect of aliasing on a digital oscilloscope caused by setting the time base too slow?

- A. A false, jittery low-frequency version of the signal is displayed
- B. All signals will have a DC offset
- C. Calibration of the vertical scale is no longer valid
- D. Excessive blanking occurs, which prevents display of the signal

Element 4 Amateur Extra Class Quiz - Continued on page 42

E4A07

Which of the following is an advantage of using an antenna analyzer compared to an SWR bridge to measure antenna SWR?

- A. Antenna analyzers automatically tune your antenna for resonance
- B. Antenna analyzers do not need an external RF source
- C. Antenna analyzers display a time-varying representation of the modulation envelope
- D. All these choices are correct

E4A08

Which of the following measures SWR?

- A. A spectrum analyzer
- B. A Q meter
- C. An ohmmeter
- D. An antenna analyzer

E4A09

Which of the following is good practice when using an oscilloscope probe?

- A. Keep the signal ground connection of the probe as short as possible
- B. Never use a high-impedance probe to measure a low-impedance circuit
- C. Never use a DC-coupled probe to measure an AC circuit
- D. All these choices are correct

E4A10

Which of the following displays multiple digital signal states simultaneously?

- A. Network analyzer
- B. Bit error rate tester
- C. Modulation monitor
- D. Logic analyzer

E4A11

How should an antenna analyzer be connected when measuring antenna resonance and feed point impedance?

- A. Loosely couple the analyzer near the antenna base
- B. Connect the analyzer via a high-impedance transformer to the antenna
- C. Loosely couple the antenna and a dummy load to the analyzer
- D. Connect the antenna feed line directly to the analyzer's connector



Gloucester County Amateur Radio Club

General Membership Meeting Minutes

Wednesday, September 6, 2023



President Jonathan Pearce WB2MNF opened the General Membership Meeting @ 1930 Hours with the Pledge of Allegiance to the Flag.

ATTENDANCE :

- 36 In-person
- 17 via ZOOM

VISITORS :

- Jim Ricketts KC3TYH, Media, PA
- Lance Appel KE2UC, Vineland, NJ
- Glen Guenther KE2BUO, Sewell, NJ
- Carol Richards N2MM, Shamong, NJ
- Chris Van Winkle AB3WG, Reisterstown, MD (ZOOM) ARRL MD/DC Section Manager

NEW MEMBER :

- Sergei Nenasheff KE2BLO, Vineland, NJ (ZOOM)

ANNOUNCEMENTS : Alan Arrison KB2AYU is resigning as Treasurer in order to fill the Director position vacated by **Silent Key Chuck Colabrese WA2TML**. John O'Connell K2QA is resigning as Trustee in order to serve as Treasurer. This leaves one Trustee position vacant until the December elections. **Recording Secretary Karl Frank W2KBF** will not be running again so the Club is looking for a replacement candidate.

Tech Saturday Forums begin 9 AM at the W2MMD Clubhouse on the Saturdays following the monthly General Membership Meetings. The August Tech Saturday was conducted by **Tony Starr K3TS** on Mobile Radio Installation. This overlapped with the Perseid Meteor Shower and several contacts were made on 6 Meters from the Clubhouse via Meteor Scatter using the FLEX-3000 and Elecraft amplifier. The Leonid Shower will take place November 17, the Geminid Shower on December 13, and the Quadrantid Shower on January 3.

Tech Saturday Forum, September 9, 2023 : Len Rust W2LJR will conduct a DMR session, including DMR techniques that you might not know. Jon would like a list of DMR IDs from potential participants.

Tech Saturday Forum, October 7, 2023 : Jim Wright N2GXJ on Antenna Modeling and Simulation

Tech Saturday Forum, November 4, 2023 : Jonathan Pearce WB2MNF on "Raspberry Pi, From Zero to Ham-clock"

We have a number of events in September :

- September 10 : GCARC Hamfest
- September 16 - 17 : NJ QSO Party
- September 17 : GCARC Fox Hunt
- September 18 : TechNet (8 PM Zoom Meeting)
- September 20 : GCARC Board of Directors Meeting
- September 23 : Surface Mount Soldering Course

September 2023 General Membership Meeting Minutes - Continued on page 44

- **September 27 : Dinner at the Clubhouse**
- **September 30/October 1 : Bike MS City To Shore Ride**

Jonathan Pearce WB2MNF asked Club members about their current activities :

- **Lance Appel KE2UC** has been exploring the use of Web SDR.
- **Karl Frank W2KBF** donated a dozen small power resistors (5-watt, 2700 Ohm, non-inductive) to the Clubhouse inventory. These are suitable for testing the 49:1 impedance transformers used for end-fed half-wave wire antennas.
- **Carol Richards N2MM** is clearing out a collection of resistors, capacitors and other parts, all for free!
- **John Zaruba Jr K2ZA** is working on a QMX SDR QRP transceiver KIT that covers 5 bands and transmits CW and data.
- **Marc Federici WM2Y** is working on an Arduino-based DTMF controller that will allow him to use the keypad of his HT for remote control.
- **Jerry Barnish K2EAB** is repairing a WW2 vintage RVC Series RCA receiver on the Battleship New Jersey and is looking for a way to test 410 voltage regulator tubes.

The minutes of the August General Membership Meeting were approved.

TREASURER : Alan Arrison KB2AYU (who is transitioning responsibilities to **John O'Connell K2QA**) reported YTD Budgeted items :

- **Income : \$8,718**
- **Expenses : \$6,512**
- **Net Gain : \$2,206**

Approximately \$4,000 is in the Rebuilding Fund and \$2,500 is budgeted for furniture. The Treasurer's Report was approved.

CLUBHOUSE : Alan Arrison KB2AYU reminded us that we need to get going on several projects including the VHF room, grounding and the new towers. A call will go out for work parties. **Jonathan Pearce WB2MNF** announced that the building permit for the VHF Towers has just been approved. Recent problems with Echolink have been resolved following an observation by **Mike Thompson KG4JYA** that RF and computer cables for the Echolink and Winlink stations were too close together. The Echolink and Winlink equipment was relocated and ferrite beads were installed. Echolink is now "rock solid" according to **Chris Prioli AD2CS**. Chris used a receiver to determine that RF noise was coming from bulbs in one of our overhead light fixtures. This was resolved by replacing the offending bulbs with LEDs. Lots of old stuff that the Club will never use has been identified and a list of this surplus equipment will be sent to Club members. A Club auction date will be set. The Club received notice that a collection of old amateur radio gear is available. Contact Jonathan after the meeting if interested.

FUTURE PROGRAMS : Ron Block NR2B provided a slide summarizing topics for the upcoming General Membership Meetings :

- **Tonight, September 6 : Carol Richards N2MM on HF propagation**
- **October 4 : Jim Wright N2GXJ on design of the Club's 160-meter loop antenna**
- **November 1 : Mike Thompson KG4JYA on Radio Astronomy**
- **December 6 : Len Rust W2LJR on logging**
- **January 3 : Robert Welsh N3RW on Astronomy and Amateur Radio**

DX and CONTESTS : Tony Starr K3TS noted the following contests :

- **September 9 - 11 : Worked All Europe DX SSB Contest**
- **September 16 - 17 : NJ QSO Party**
- **September 23 - 24 : CQ WW DX RTTY**
- **October 1 - 2 : California QSO Party**

PUBLIC SERVICE : Bob Keogh KD2NEC announced that the Simulated Emergency Test (SET) on October 15 will be a joint exercise between ARES and the New Jersey American Red Cross (NJ-ARC), with an emphasis upon the use of Winlink. This follows the renewal of the Memorandum of Understanding between ARRL and ARC on August 25. Jonathan Pearce WB2MNF noted that the Bike MS City to Shore event on September 30 and October 1 is still short approximately 40 volunteers. A link for information is available on the Club's website and signup can be done on the www.n3mss.org website.

TECHNICAL COMMITTEE : Jonathan Pearce WB2MNF wants to expand the Technical Committee to more than the current handful. In particular, he needs interested members to :

- **Plan Technical Sessions**
- **Coordinate Interesting Projects**
- **Plan for New Resources**
- **Design Projects suitable for Grant Applications**

The TechNets will resume on September 18 as Zoom sessions at 2000 Hours on the 1st and 3rd Mondays of each month. Zeroretires.org is a good online newsletter recommended by John Zaruba Jr K2ZA. Hackaday.com has a good article on dipole antennas. QST had a recent article on Digital Voice for HF and we may want to try this at the Clubhouse. A new, improved RTL-SDR has been released and is available for about \$30. Also, the software SDR Connect is available as replacement for SDR Console.

EDUCATION : Chris Prioli AD2CS announced that Licensing Classes will resume the week of September 11 and will run for 9 weeks, followed by a exams the week of November 14. Technician classes will be held on Mondays, General classes on Tuesdays, and Extra classes on Fridays.

HAMFEST : Sheldon Parker K2MEN said we are well staffed for the Hamfest on September 10 and thanked members for volunteering to help. Forum speakers will be :

- **8 AM : Jim Wright N2GXJ on design of the 160 Meter wire loop antenna at the Clubhouse**
- **9 AM : Carol Richards N2MM on HF Propagation**
- **10 AM : Robert Famiglio K3RF with an ARRL update**
- **11 AM : Chris Prioli AD2CS on Soldering Done Right**

CLUB NETS : Greg Ciraula W5DO reports that participation in Club nets has been good lately with 14 check-ins to the recent Tuesday Noon Net and 12 to 13 for the Skywarn Nets. The Thursday evening Ragchew Net has been popular too.

CONSTITUTION COMMITTEE : Ron Block NR2B said the Committee has made several changes and the current draft of the Constitution is under review by the Board of Directors. A final draft will be presented to the General Membership for adoption.

OLD BUSINESS : None

NEW BUSINESS : The Nominating Committee is looking for a candidate to replace **Karl Frank W2KBF** as Recording Secretary for 2024.

MISCELLANEOUS : **Jim Wright N2GXJ** said that **Marc Federici WM2Y** may have a few surprises including a second hidden transmitter for the September 17 Foxhunt.

The Business Meeting concluded @ 2034 Hours and was followed by a presentation by **Carol Richards N2MM** on HF Propagation.

Karl Frank W2KBF,
GCARC Recording Secretary



Regional Skywarn Websites For On-Line And In-Person Training Classes

Philadelphia/Mt Holly Skywarn : www.weather.gov/phi/skywarn

State College, PA Skywarn : www.weather.gov/ctp/skywarn

Pittsburgh, PA Skywarn : www.weather.gov/pbz/skywarn

Skywarn Forum : Skywarn Storm Spotter and Weather Discussions :
<https://www.skywarnforum.com>

Central Pennsylvania Skywarn Training - On-Line Webinar Classes

Virtual Basic Spotter Training

- Thursday, October 5, 2023 @ 1800 - 2000 Hours
- Click this link to register : <https://bit.ly/3EEdyek>

Advanced Spotter Training

- Thursday, October 19, 2023 @ 1800 - 2000 Hours
- Click this link to register : <https://bit.ly/3RkanA9>

Go to : State College, PA Skywarn : www.weather.gov/ctp/skywarn

Any questions, please contact :

Warning Coordination Meteorologist Jonathan Guseman : jonathan.guseman@noaa.gov

Meteorologist John Banghoff : john.banghoff@noaa.gov

Gloucester County Amateur Radio Club

Board of Directors Meeting Minutes

Wednesday, September 20, 2023



Meeting opened @ 1900 Hours by President Jonathan Pearce WB2MNF.

ATTENDANCE :

- President Jonathan Pearce WB2MNF
- Vice President Ron Block NR2B
- Treasurer John O'Connell K2QA
- Recording Secretary Karl Frank W2KBF
- Corresponding Secretary Frank Romeo N3PUU
- Director Alan Arrison KB2AYU
- Director Bill Price NJ2S
- Director Jeff Garth WB2ZBN
- Director Jim Clark KA2OSV
- Director Chris Prioli AD2CS
- Director Jim Wright N2GXJ
- Member John Hill W2HUV
- Member Sheldon Parker K2MEN

NEW MEMBER APPLICATIONS : The following nine applications were approved (six of these were from the hamfest) :

- Lance Appel KE2UC, Amateur Extra from Vineland, NJ
- James Foster W3JNF, General Class from Springfield, PA
- Glen Guenther KE2BUO, Technician Class from Sewell, NJ
- Melissa Guenther KE2BWZ, Technician Class from Sewell, NJ
- Jack Gordon WA2RHJ, Amateur Extra from Tabernacle, NJ
- Derrick Hollis KC3UEE, Technician Class from Wilmington, DE
- Stephen McGarry WS2C, Amateur Extra from Sewell, NJ
- James Ricketts KC3TYH, General Class from Media, PA
- William Wood KD2OSJ, General Class from Sewell, NJ

TREASURER : John O'Connell K2QA reported the following :

Net income of \$1,707.20 from the Hamfest was below the budgeted expectation of \$3,600, probably due to the bad weather. Income from donations and dues is above budgetary expectations but by year-end other expenses, e.g. insurance, name badge blanks, and electricity, are now projected to require approximately \$700 beyond what was budgeted. This will require approval by the General Membership. The Treasurer's report was accepted.

THE TOWER PROJECT : Frank Romeo N3PUU provided an update of costs for the Tower Project. The initial estimate was \$8,700 but we should allow another \$1,000 or so for possible unexpected expenses. The following points were considered and adopted :

- a. A total of \$3,144 is already designated for the towers and we should ask the membership to approve an increase to \$5,000 for this purpose from Club funds.
- b. This would avoid spending down the treasury to below \$14,000, which is the annual cost of running the Club.
- c. This would leave a shortfall of \$4,000 to \$5,000 which would require fundraising or donations.

September 2023 Board of Directors Meeting Minutes - Continued on page 48

- d. Frank was authorized to proceed with plans that would limit spending at this time to \$3,144, pending additional funding.

CLUBHOUSE : Frank Romeo N3PUU is soliciting help from Club members to finish the ground work for the VHF room. This includes digging trenches and driving ground rods. **Chris Prioli AD2CS** noted that when an alarm went off at the Clubhouse on Sunday morning (probably due to an unlocked door blowing open) it took several calls from the alarm company before someone from the Club who was able to respond could be reached, and suggested a change in the notification process.

FOX HUNT : Jim Wright N2GXJ noted that several new members participated in the recent Fox Hunt. **Marc Federici WM2Y** is preparing an article with pictures for CrossTalk.

CONSTITUTION COMMITTEE : The BoD finalized review of the revised GCARC Constitution. **Ron Block NR2B** will incorporate feedback and circulate the final draft to the membership prior to the October General Membership Meeting.

MISCELLANEOUS :

- **Jonathan Pearce WB2MNF** took the opportunity to discuss a few issues, including liability and insurance, with **ARRL Atlantic Division Director Robert Famiglio N3RF** (who is an attorney) when the Director toured the W2MMD Clubhouse during the hamfest. We were advised that Club officers and directors are not likely to be held liable except in the case extreme negligence. Nevertheless, we should look into having general liability coverage thru our homeowners' insurance. Also, to protect directors of the GCAR Foundation, this will be added to the GCARC policy at a cost of \$150, which will be paid out of Foundation funds.
- Jon noted that newly licensed hams may have questions that are not addressed while studying for their licenses but that the TechNet ZOOM Forum could be used to address these questions.
- The Nominating Committee has completed its work and will present a slate of proposed candidates for office at the October General Membership Meeting.
- **Frank Romeo N3PUU** lead a discussion of ways to raise funds to complete the Tower Project. Among the suggestions were raising the membership dues, an equipment raffle, selling tickets to a Club Holiday Party and a Memorial Display with call letters of donors. The BoD favors having an indoor plaque that acknowledges contributions of \$100 or more. Frank will poll the membership to gauge level of interest in a Holiday Party.
- **John Hill W2HUV** would like to upgrade the remote interface for the FLEX radio. This will require future discussion.

The BoD meeting was closed @ 2058 Hours.

Karl Frank W2KBF, GCARC Recording Secretary

OPERATING TIP

It's Okay to Use Visual Aids

When using a club call sign, or when you're in a phone contest with an unfamiliar or complicated exchange, it's okay to write the call sign and exchange on a piece of paper to reference during the contest. Use painter's tape to stick it to the computer monitor just under the screen. Low-tech, effective, and easy to update.

IARU HF World Championship 2023**July 8, 2023****Call : AB2E****Operator (s) : AB2E****Station : AB2E****Class : SOAB (A) Mixed HP****QTH : SNJ****Operating Time (hrs) : 12****Location : USA****Summary :****Band CW Qs Ph Qs Zones HQ Mults**

80 :	14	7	4	6
40 :	92	24	11	28
20 :	521	77	32	37
15 :	217	45	19	25
10 :	10	0	5	21

Total : 854 153 71 104**Total Score : 667,625****Club : Frankford Radio Club****29****Comments :**

Rig : FTDX-9000D/OM Power 2000A+

Antennas :

80m dipole @ 95ft

75m dipole @ 90ft

40m dipole @ 80ft

10m/15m/20m Force 12 C3S @ 52ft on AB-577 military mast.

Hi all,

I only planned on just getting on to work the WRTC contestants. After an hour or so I was sucked in to the great conditions and operated as much as I could the rest of the day, about 12hours. QRTd at 0730Z but 20 was wide open at that time. Great to see a 10min max rate of 240/hour on CW! I entered Mixed thinking I would find a lot of WRTC contestants on SSB, but such was not the case. I only worked several on SSB. It did seem easier to find some of the IARU HQ stations on SSB. 40 and 80 were not very productive, 20m was the best for the times I was on.

After 9hrs, it appeared 1000 QSOs was possible in the time I had left, and I just made it by 0730Z with 1017 valid QSOs in the log, thanks to the great condx on 20m CW. Thanks for all the QSOs!

73 Darrell AB2E

Contest : IARU

Band	Mode	QSOs	Pts	ITU	HQ	Pt/Q
3.5	CW	14	26	4	6	1.9
3.5	LSB	7	9	0	4	1.3
7	CW	92	288	6	11	3.1
7	LSB	24	42	5	17	1.8
14	CW	521	2,209	25	8	4.2
14	USB	77	241	7	29	3.1
21	CW	217	833	13	8	3.8
21	USB	45	141	6	17	3.1
28	CW	10	26	5	4	2.6
Total	Both	1,007	3,815	71	104	3.8

Score : 667,625

1 Mult = 5.8 Q's

Ohio QSO Party**August 26, 2023****Call : WB2PJH****Operator (s) : WB2PJH****Station : WB2PJH****Class : Single Op LP****QTH :****Operating Time (hrs) : 4****Location : Out of State/Province****Summary :****Band CW Qs Ph Qs**

40 :	10
20 :	5

Total : 15 0 CW Mults : 13 Ph Mults : 0**Total Score : 390****Club : Frankford Radio Club****44****WAE DX Contest, CW****August 12, 2023****Call : WB2PJH****Operator (s) : WB2PJH****Station : WB2PJH****Class : Single Op HP****QTH :****Operating Time (hrs) : 12****Location : USA****Summary :****Band QSOs QTCs Mults**

40 :	19	21	30
20 :	114	100	64
15 :	102	106	51

Total : 235 227 148**Total Score : 68,376****Club : Frankford Radio Club****37****Comments :** No internet for most of Sunday, Old School CW.

North American QSO Party, CW
August 6, 2023

Call : AB2E
Operator (s) : AB2E
Station : AB2E

Class : Single Op Assisted LP
QTH : NJ
Operating Time (hrs) : 7
Location : USA

Summary :

Band	QSOs	Mults
------	------	-------

160 :	3	3
80 :	82	37
40 :	153	39
20 :	141	39
15 :	33	17
10 :	3	2

Total : 415 137
Total Score : 56,855

Club : Frankford Radio Club

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Team : FRC Team M Class Flare

Comments :

Rig : K3
Antennas :
160m Inverted L over 100ft tree
80m dipole @ 95ft
40m dipole @ 90ft
10m/15m/20m Force 12 C3S @ 52ft

Great fun but horrible condx all afternoon from the flare. Fastest run was 80m from 0000-0100UTC.

CU in NAQP SSB
73 Darrell AB2E



North American QSO Party, CW
August 6, 2023

Call : K3TS
Operator (s) : K3TS
Station : K3TS

Class : Single Op Assisted LP
QTH : SNJ
Operating Time (hrs) : 10:00
Location : USA

Summary :

Band	QSOs	Mults
------	------	-------

80 :	139	30
40 :	203	50
20 :	158	40
15 :	42	21

Total : 542 141
Total Score : 76,422

Club : Frankford Radio Club

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Team : FRC Team CME

Comments :

Grueling band conditions sucked out most of the fun from this, my favorite domestic contest. Some kind of solar flare, no doubt. The sun giveth, and the sun taketh away. So goes the propagation game. Hope to see you all in two weeks for the SSB version of this contest, perhaps under improved conditions. Until then, 73.

de K3TS

Maryland/DC QSO Party
August 12, 2023

Call : WB2PJH
Operator (s) : WB2PJH
Station : WB2PJH

Class : Standard LP
QTH :
Operating Time (hrs) : 2
Location : Out of State/Province

Summary :

Band	CW Qs	PH Qs	Dig Qs
------	-------	-------	--------

80 :	1	3	0
40 :	2	6	0

Total : 3 9 0 Mults : 7
Total Score : 252

Club : Frankford Radio Club

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MONSTER MARTIN'S HOUSE OF TERROR

Scaring Away Hunger Since 2001



~~FEAR FEAR~~
GROUND
THE FUN IS IN THE FEAR!



"No Scare Family Night"

Friday Oct. 20th 5:30 p.m. - 8:30 p.m.

No Scare Walk Thru, 4H Trunk or Treat & 4H Costume Contest (6:30 p.m.)

Admission: (1) canned food item per person

Refreshments available for purchase

Full Scare only on the following dates:

October 25th - 31st 6:30 p.m. - 10:00 p.m

Gloucester County 4H Fairgrounds

275 Bridgeton Pike (RT 77), Mullica Hill, NJ

**Admission: Adults:\$15 / 17 & Under: \$10
plus a canned food item each**

**Donations Benefit - Your Place At The Table (Mullica Hill)
& Pitman Food Pantries**

ISAIAH 58:10 - Feed the Hungry & Help Those in Trouble

Warnings: Enter at your own risk. Monster Martin's House of Terror utilizes FOG MACHINES and STROBE LIGHTS in our attraction. Patrons suffering from ASTHMA, EPILEPSY, NIGHT BLINDNESS, or other conditions which may hamper their ability to traverse our Haunt are discouraged from entering, however Monster Martin's House of Terror accepts no responsibility for those who choose to ignore these warnings. We have attempted to make our attraction as patron friendly as possible, but it is NOT WHEELCHAIR ACCESSIBLE, and there may be some places where the floor is not completely level, requiring you to step up or down in the dark. Please plan your Halloween activities accordingly.

OMARC The Ocean-Monmouth Amateur Radio Club

FALL HAMFEST



SATURDAY OCTOBER 7, 2023

7:30am - 12pm
(rain or shine)

Our New and Improved Location
**The Spring Lake Heights
Fire Company No. 1**
700 Sixth Avenue
Spring Lake Heights, NJ 07762

(1 block from Spring Lake railroad station on the Bay Head NJ line)

Coordinates: +040.1494 -074.0369

Parking on Street

Vendors arrive at 7am

Outside Tables: \$10

Tables under Pavilion: \$15
Electric Available

Club Table (with steep discounts)

FREE FOR ALL Table

Event Opens 7:30am

Admission Fee: \$5

Kids 12 yrs and under FREE

Food & Drinks Available

DOOR PRIZES



VE Session – 10am in Meeting Room
VE Contact: Ken Brockel WA2FPB
908-309-3436 KHBROCKEL@verizon.net
FRN # from the FCC at www.FCC.GOV/FRNREG
Is required prior to registration.

Call in on 145.110, -600 CTCSS 127.3

For additional info call
Co-Chairman Joe Kruszewski KC2SVS
Cell: 732-618-5328 joe kru1@hotmail.com

PLEASE VIEW WEBSITE www.N2M0.ORG for any COVID announcements

PFC William Hunter Kilburn
American Legion Radio Club
Aiken SC
W4RTO

&

North Augusta Belvedere
Radio Club
K4NAB



Bring to the CSRA Amateur Radio Community



AIKEN COUNTY HAM RADIO TAILGATE



October 14, 2023
8 am to 2 pm

American Legion Post 26
636 Old Airport Road
Aiken, SC 29801



FREE ADMISSION
FREE TAILGATING and INDOOR TABLES
AVAILABLE

WEB PAGE
[https://www.legionpost26aikensc.com/
about-6](https://www.legionpost26aikensc.com/about-6)

EMAIL
talarcpst26aiken@gmail.com

Set-Up Opens at 6:30 am

Contact for Info 803 624 3426

CHERRY VALLEY MODEL RAILROAD CLUB

Fall Open House!

Grace Church • 7 East Maple Ave.
Merchantville, NJ 08109

Saturday, October 28. 11am-3pm
Sat. & Sun, November 18 & 19. 12-3pm

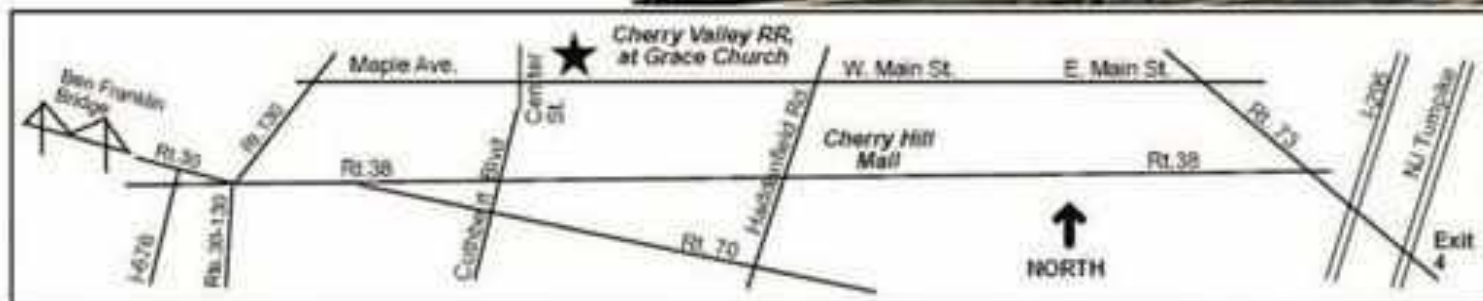
Free admission! Bring the Family.

For information, please contact: John Dunn Sr.
609-432-2871 • jdunn8888@comcast.net



Follow us on Facebook:

**Cherry Valley
Model Railroad**
for photos, videos,
events & news!



To be added to the DX HONOR ROLL,
Please contact Ernest Kraus, KD2EAV
meanddelcanotc@verizon.net



Name/Callsign	DXCC
Bill Grim, W0MHK	352
Dave Strout, W2YC	349
Edward De Fonzo, W2DE	339
Darrell Neron, AB2E	332
John Hill, W2HUV	266
Vinnie Sallustio, N4NYY	251
Ken Denson, WB2P	248
Tony Starr, K3TS	226
Jim Wright, N2GXJ	225
Sheldon Parker, K2MEN	208
Dennis Sandole, K2SE	204
Matt Wilson, K2MFW	201
Howard Marder, WA2IBZ	147
Christopher Wawak, KC2IEB	141
Phil Nunzio, WA3RGY	131
Eric Morris, N2BRJ	127
Rich Subers, W2RHS	124
Steve Farney, W2SEF	111
Bart Kleczynski, AC2PT	106
Chuck Capasso, WB2PGE	103
Curt Myers, K2CWM Silent Key	91
Harry Strahlendorf Jr, W3DNQ	87
Jim Clark, KA2OSV	71
Lee Marino, N2LAM	62
Updated As Of 09/25/2023	

Hmm...It's Saturday and you want to know if someone is at the Clubhouse? Why not call and find out! What!!!

W2MMD Clubhouse : (856) 244-6914

(Please, no solar panel sales calls!)



October Birthdays

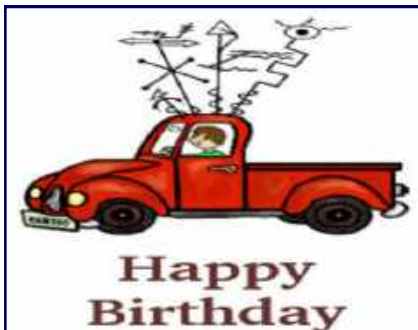
*Congratulations To Our Members Who Are
Celebrating A Birthday This Month*

Henry Ammon IV, KD2YZS
Jerry Barish, K2EAB
Jacqueline Blanch, KD2JBY
Harry Bryant, AA2WN
James Clark Sr, KA2OSV (President 2019-2020)
Mary Delemarre, W2TDS
Harry Elwell IV, K2ATX (President 2017-2018)
David Kappler, N3DRK
William Kardas, N2BK
James Lamanteer Jr, WB2KNR
David Mitchell, WB2PJH
William Mollenhauer, N2FZ
John Mostello, KD2ZKP
Alexander Rodriguez, N5MG
Dennis Sandole, K2SE
David Swartout, KC3TGB

In Memoriam : October Birthdays

Silent Keys :

Rose Ellen Bills, N2RE (President 1980)
Stephen Blasko Sr, W2TDS
Emil Busko Sr, WB2EOR
Paul Callaghan Jr, WB4FVY (President 1970)
Diane Direnzo, KB2RHL
James Doms, N2ATC
Keith Drake Sr, KB2YBR
Raymond Falk, N2ASX
George Gogstad, KB2GTM
Howard Hirst Jr, K2QGH
Robert Houck Jr, K2JOL
James Klupar, KB8WX
Edmund Kwiatkowski, K2QOK
Neil Nickerson Sr, K2NRN
Mario Nicosia, WB3KAG
Lewis Parker, N2LZS
Albert Roche, K2HHJ (Charter Member)
Michael Scanzello
John Stull Jr, N2SI (President 1972)
Preston Weil, WA2TSZ
John Zaruba Sr, K2ZA



Goliathon Obstacle Challenge

Saturday, October 14, 2023

Gloucester County 4-H Fair Grounds

<https://www.goliathon.com>

<https://www.facebook.com/Goliathon>



Full Hunter's Moon : October 24, 2023 @ 1624 Hours

This is the month when game is fattening up for winter. Now is the time for hunting and laying in a store of provisions for the long months ahead. Drying Rice Moon (Dakota) describes the next process in preparing rice for winter. Falling Leaves Moon is an Anishinaabe term. Freezing Moon (Ojibwe) and Ice Moon (Haida) refer to the increasingly cold temperatures of this period. Migrating Moon (Cree) refers to the time when birds begin to fly south.

Old Farmer's Almanac - www.almanac.com

October 2023 Contest Calendar

WA7BNM Contest Calendar : www.contestcalendar.com

UBA ON Contest, SSB	0600Z-0900Z, Oct 1
Peanut Power QRP Sprint	2200Z-2359Z, Oct 1
K1USN Slow Speed Test	0000Z-0100Z, Oct 2
ICWC Medium Speed Test	1300Z-1400Z, Oct 2
OK1WC Memorial	1630Z-1729Z, Oct 2
ICWC Medium Speed Test	1900Z-2000Z, Oct 2
RSGB 80m Autumn Series, CW	1900Z-2030Z, Oct 2
Worldwide Sideband Activity Contest	0100Z-0159Z, Oct 3
ARS Spartan Sprint	0100Z-0300Z, Oct 3
ICWC Medium Speed Test	0300Z-0400Z, Oct 3
German Telegraphy Contest	0700Z-1000Z, Oct 3
Phone Weekly Test	0230Z-0300Z, Oct 4
A1Club AWT	1200Z-1300Z, Oct 4
CWops Test	1300Z-1400Z, Oct 4
Mini-Test 40	1700Z-1759Z, Oct 4
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Oct 4
Mini-Test 80	1800Z-1859Z, Oct 4
CWops Test	1900Z-2000Z, Oct 4
432 MHz Fall Sprint	1900 local - 2300 local, Oct 4
UKEICC 80m Contest	2000Z-2100Z, Oct 4
Walk for the Bacon QRP Contest	0000Z-0100Z, Oct 5 and 0200Z-0300Z, Oct 6
CWops Test	0300Z-0400Z, Oct 5
CWops Test	0700Z-0800Z, Oct 5
SARL 80m QSO Party	1700Z-2000Z, Oct 5
NRAU 10m Activity Contest	1700Z-1800Z, Oct 5 (CW) and 1800Z-1900Z, Oct 5 (SSB) and 1900Z-2000Z, Oct 5 (FM) and 2000Z-2100Z, Oct 5 (Dig)
SKCC Sprint Europe	1900Z-2100Z, Oct 5
NCCC FT4 Sprint	0100Z-0130Z, Oct 6
NCCC RTTY Sprint	0145Z-0215Z, Oct 6
NCCC Sprint	0230Z-0300Z, Oct 6
K1USN Slow Speed Test	2000Z-2100Z, Oct 6
Collegiate QSO Party	0000Z, Oct 7 to 2359Z, Oct 8
Oceania DX Contest, Phone	0600Z, Oct 7 to 0600Z, Oct 8
TRC DX Contest	0600Z, Oct 7 to 1800Z, Oct 8
Microwave Fall Sprint	0800 local - 1400 local, Oct 7
Russian WW Digital Contest	1200Z, Oct 7 to 1159Z, Oct 8
IARU Region 1 UHF/Microwaves Contest	1400Z, Oct 7 to 1400Z, Oct 8
International HELL-Contest	1600Z-1800Z, Oct 7 (80m) and 0900Z-1100Z, Oct 8 (40m)
California QSO Party	1600Z, Oct 7 to 2200Z, Oct 8
SKCC QSO Party	1800Z, Oct 7 to 1800Z, Oct 8
UBA ON Contest, CW	0600Z-0900Z, Oct 8
K1USN Slow Speed Test	0000Z-0100Z, Oct 9
4 States QRP Group Second Sunday Sprint	0000Z-0200Z, Oct 9
ICWC Medium Speed Test	1300Z-1400Z, Oct 9
OK1WC Memorial	1630Z-1729Z, Oct 9
ICWC Medium Speed Test	1900Z-2000Z, Oct 9
10-10 Int. 10-10 Day Sprint	0001Z-2359Z, Oct 10
Worldwide Sideband Activity Contest	0100Z-0159Z, Oct 10
ICWC Medium Speed Test	0300Z-0400Z, Oct 10
DARC RTTY Sprint	1800Z-1929Z, Oct 10
NAQCC CW Sprint	0030Z-0230Z, Oct 11
Phone Weekly Test	0230Z-0300Z, Oct 11
A1Club AWT	1200Z-1300Z, Oct 11
CWops Test	1300Z-1400Z, Oct 11
Mini-Test 40	1700Z-1759Z, Oct 11
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Oct 11
Mini-Test 80	1800Z-1859Z, Oct 11
RSGB 80m Autumn Series, Data	1900Z-2030Z, Oct 11
CWops Test	1900Z-2000Z, Oct 11
CWops Test	0300Z-0400Z, Oct 12
CWops Test	0700Z-0800Z, Oct 12
EACW Meeting	1900Z-2000Z, Oct 12
NCCC FT4 Sprint	0100Z-0130Z, Oct 13
NCCC RTTY Sprint	0145Z-0215Z, Oct 13
NCCC Sprint	0230Z-0300Z, Oct 13
K1USN Slow Speed Test	2000Z-2100Z, Oct 13
QRP ARCI Fall QSO Party	0000Z-2359Z, Oct 14
Makrothen RTTY Contest	0000Z-0800Z, Oct 14 and 1600Z-2400Z, Oct 14 and 0800Z-1600Z, Oct 15
Nevada QSO Party	0300Z, Oct 14 to 2100Z, Oct 15
Oceania DX Contest, CW	0600Z, Oct 14 to 0600Z, Oct 15
Solar Eclipse QSO Party	1200Z-2200Z, Oct 14
SKCC Weekend Sprintathon	1200Z, Oct 14 to 2400Z, Oct 15
Scandinavian Activity Contest, SSB	1200Z, Oct 14 to 1200Z, Oct 15
Arizona QSO Party	1500Z, Oct 14 to 0500Z, Oct 15
Pennsylvania QSO Party	1600Z, Oct 14 to 0400Z, Oct 15 and 1300Z-2200Z, Oct 15
South Dakota QSO Party	1800Z, Oct 14 to 1800Z, Oct 15

October 2023 Contest Calendar - Continued on page 58

October 2023 Contest Calendar

WA7BNM Contest Calendar : www.contestcalendar.com

October 2023 Contest Calendar - Continued from page 57

PODXS 070 Club 160m Great Pumpkin Sprint	2000Z, Oct 14 to 2000Z, Oct 15
Argentina National 7 MHz Contest	2130Z-2330Z, Oct 14
Asia-Pacific Fall Sprint, CW	0000Z-0200Z, Oct 15
UBA ON Contest, 2m	0700Z-1000Z, Oct 15
Run for the Bacon QRP Contest	2300Z, Oct 16 to 0100Z, Oct 17
K1USN Slow Speed Test	0000Z-0100Z, Oct 16
ICWC Medium Speed Test	1300Z-1400Z, Oct 16
ARRL School Club Roundup	1300Z, Oct 16 to 2359Z, Oct 20
OK1WC Memorial	1630Z-1729Z, Oct 16
RSGB FT4 Contest	1900Z-2030Z, Oct 16
ICWC Medium Speed Test	1900Z-2000Z, Oct 16
Worldwide Sideband Activity Contest	0100Z-0159Z, Oct 17
ICWC Medium Speed Test	0300Z-0400Z, Oct 17
Phone Weekly Test	0230Z-0300Z, Oct 18
A1Club AWT	1200Z-1300Z, Oct 18
CWops Test	1300Z-1400Z, Oct 18
Mini-Test 40	1700Z-1759Z, Oct 18
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Oct 18
Mini-Test 80	1800Z-1859Z, Oct 18
AGCW Semi-Automatic Key Evening	1900Z-2030Z, Oct 18
CWops Test	1900Z-2000Z, Oct 18
Walk for the Bacon QRP Contest	0000Z-0100Z, Oct 19 and 0200Z-0300Z, Oct 20
CWops Test	0300Z-0400Z, Oct 19
CWops Test	0700Z-0800Z, Oct 19
NTC QSO Party	1900Z-2000Z, Oct 19
NCCC FT4 Sprint	0100Z-0130Z, Oct 20
NCCC RTTY Sprint	0145Z-0215Z, Oct 20
NCCC Sprint	0230Z-0300Z, Oct 20
Telephone Pioneers QSO Party	1700Z-2000Z, Oct 20 (CW/Dig) and 2200Z, Oct 20 to 0100Z, Oct 21 (SSB) and 1700-2000Z, Oct 21 (SSB) and 2200Z, Oct 21 to 0100Z, Oct 22 (CW/Dig)
K1USN Slow Speed Test	2000Z-2100Z, Oct 20
YBDXPI FT8 Contest	0000Z, Oct 21 to 2359Z, Oct 22
JARTS WW RTTY Contest	0000Z, Oct 21 to 2400Z, Oct 22
10-10 Int. Fall Contest, CW	0001Z, Oct 21 to 2359Z, Oct 22
YLRL DX/NA YL Anniversary Contest	1400Z, Oct 21 to 0200Z, Oct 23
New York QSO Party	1400Z, Oct 21 to 0200Z, Oct 22
Stew Perry Topband Challenge	1500Z, Oct 21 to 1500Z, Oct 22
Worked All Germany Contest	1500Z, Oct 21 to 1459Z, Oct 22
Feld Hell Sprint	2000Z-2359Z, Oct 21
Classic Exchange, Phone	1300Z, Oct 22 to 0700Z, Oct 23 and 1300Z, Oct 24 to 0700Z, Oct 25
Illinois QSO Party	1700Z, Oct 22 to 0100Z, Oct 23
K1USN Slow Speed Test	0000Z-0100Z, Oct 23
ICWC Medium Speed Test	1300Z-1400Z, Oct 23
OK1WC Memorial	1630Z-1729Z, Oct 23
ICWC Medium Speed Test	1900Z-2000Z, Oct 23
Worldwide Sideband Activity Contest	0100Z-0159Z, Oct 24
ICWC Medium Speed Test	0300Z-0400Z, Oct 24
SKCC Sprint	0000Z-0200Z, Oct 25
Phone Weekly Test	0230Z-0300Z, Oct 25
A1Club AWT	1200Z-1300Z, Oct 25
CWops Test	1300Z-1400Z, Oct 25
Mini-Test 40	1700Z-1759Z, Oct 25
Mini-Test 80	1800Z-1859Z, Oct 25
CWops Test	1900Z-2000Z, Oct 25
UKEICC 80m Contest	2000Z-2100Z, Oct 25
CWops Test	0300Z-0400Z, Oct 26
CWops Test	0700Z-0800Z, Oct 26
RSGB 80m Autumn Series, SSB	1900Z-2030Z, Oct 26
NCCC FT4 Sprint	0100Z-0130Z, Oct 27
NCCC RTTY Sprint	0145Z-0215Z, Oct 27
NCCC Sprint	0230Z-0300Z, Oct 27
Zombie Shuffle	1500-2400 local, Oct 27
K1USN Slow Speed Test	2000Z-2100Z, Oct 27
CQ Worldwide DX Contest, SSB	0000Z, Oct 28 to 2359Z, Oct 29
ARRL EME Contest	0000Z, Oct 28 to 2359Z, Oct 29
Ham Spirit Contest, CW	0600Z, Oct 28 to 0559Z, Oct 29
Classic Exchange, CW	1300Z, Oct 29 to 0700Z, Oct 30 and 1300Z, Oct 31 to 0700Z, Nov 1
K1USN Slow Speed Test	0000Z-0100Z, Oct 30
ICWC Medium Speed Test	1300Z-1400Z, Oct 30
QCX Challenge	1300Z-1400Z, Oct 30
OK1WC Memorial	1630Z-1729Z, Oct 30
ICWC Medium Speed Test	1900Z-2000Z, Oct 30
QCX Challenge	1900Z-2000Z, Oct 30
Worldwide Sideband Activity Contest	0100Z-0159Z, Oct 31
ICWC Medium Speed Test	0300Z-0400Z, Oct 31
QCX Challenge	0300Z-0400Z, Oct 31

2023 Club Committees

Standing Committees

Budget
 Constitution & By-Laws
 Education
 Field Day
 Hamfest
 Health, Welfare, & Silent Keys
 Hospitality
 Membership
 Membership Badges
 Nominations
 Publicity
Repeaters
 W2MMD Clubhouse Site

Committee Chairs

John O'Connell, K2QA
 Ron Block, NR2B
 Chris Prioli, AD2CS
 Tony Starr, K3TS
 Sheldon Parker, K2MEN and Bill Price, NJ2S
 Bill Price, NJ2S
 Jeff Garth, WB2ZBN
 Chris Prioli, AD2CS
 Chris Prioli, AD2CS
 Jon Pearce, WB2MNF
 Tony Starr, K3TS
Open Chair
 Al Arrison, KB2AYU

Activity Committees

Awards & Certificates
 Club Publications & Historian
 Contests
DX
GCARC Family Picnic
 GCARC Foxhunts
 GC-ARES Emergency Coordinator
Holiday Dinner Party
 License Testing/VEC Liaison
 Membership Roster Database
 Programs : General Membership Meetings
 Radio Nets
 Technical & Tech Saturday Programs
 W2MMD License Trustee
 W2MMD Special Event Station

Committee Chairs

Open Chair
 Jeff Garth, WB2ZBN
 Tony Starr, K3TS
Open Chair
Open Chair
 Jim Wright, N2GXJ
 Bob Keogh, KD2NEC
Open Chair
 Gary Reed, N2QEE
 Jeff Garth, WB2ZBN
 Ron Block, NR2B
 Jim Clark, KA2OSV
 Jon Pearce, WB2MNF
 Darrell Neron, AB2E
 Mark Gottlieb, KK2L

GCARC <at> Mailman <dot> QTH <dot> Net e-mail reflector guidelines

1. No attachments (e.g. pictures, files) are allowed on the reflector.
2. If you have Club-related pictures that you would like to share, you can send them to the webmaster, he will put them on the website and will send out a general e-mail to all the members.
3. Otherwise, the pictures will have to be sent to the members' addresses.
4. URLs/Hyperlinks are acceptable on the reflector.
5. Do not send any messages with e-mail addresses in the **BCC (Blind Carbon Copy)** field. The message will be rejected. Use only the **To:** or **CC:** fields.
6. Members are subscribed to the reflector using the member's e-mail address from the roster database. You must use that address when sending an e-mail via the reflector.
7. If you use another address on the reflector, the message will get rejected or "*bounced*", because the reflector does not recognize that address. Whenever a message sent to reflector is rejected or "*bounced*" for various reasons, the administrator has to log-in to the Mailman.QTH website and approve the message.

The W2MMD Repeaters

2 Meter Repeater

Output : 147.180 MHz

Input : 147.780 MHz

Offset : +600 kHz - PL : 131.8 Hz

(Conventional FM plus C4FM Capability)

EchoLink : W2MMD-R

70 cm Repeater

Output : 442.100 MHz

Input : 447.100 MHz

Offset : +5 MHz - PL : 131.8 Hz

(Conventional FM plus C4FM Capability)

The above repeaters are both
located in Pitman, NJ
GPS : 39.728481°, -75.131088°

1.25 Meter Repeater

Output : 224.660 MHz

Input : 223.060 MHz

Offset : -1.6 MHz - PL : 131.8 Hz

Location : Sewell, NJ

GPS : 39.746738°, -75.077094°

SKYWARN™ Net

Sunday @ 1930 : 147.180 MHz Repeater

Gloucester County ARES Net

Sunday @ 2000 : 147.180 MHz Repeater

GCARC TechNet ZOOM Forum

2nd Monday of Every Month @ 2000 Hours

GCARC HelpNet ZOOM Meeting

Sporadic Mondays @ 1930 Hours

Tuesday AfterNoon Net

Every Tuesday @ 1200 Hours

Tuesday & Thursday Night 10M Net

Every Tuesday & Thursday @ 1930 Hours

Tune in on 28.465 MHz or 28.475 MHz

Thursday Night Rag Chew Net

Every Thursday @ 2000 Hours

Meeting Calendar

General Membership Meeting

Wednesday, October 4, 2023

1930 Hours

Live & In-Person

Pfeiffer Community Center

Simulcast Live on ZOOM

Board of Directors Meeting

Wednesday, October 18, 2023

1900 Hours

W2MMD Clubhouse

*“Ask not what your Club can do for you,
Ask what you can do for your Club”
- KA2OSV*

*“The big thing about being in a club and
being a “Ham” is to help each other
when there is a need ”
- W2SEF*

***** Badges *****

**Need a new or replacement badge
Contact “The Badge Man”**

**Chris Prioli, AD2CS
ad2cs <at> arrl <dot> net**

Question Pool Answers : E4A01:A; E4A02:B; E4A03:B; E4A04:A; E4A05:D; E4A06:A; E4A07:B; E4A08:D; E4A09:A; E4A10:D; E4A11:D