

# Cross Link

April 2023

64 Years Of Service To Our Community Issue 64:04



## 2023 Club Officers

<b>President :</b>	<b>Jonathan Pearce, WB2MNF</b>	<b>Trustees - 4 year term</b>	
<b>Vice President :</b>	<b>Ronald Block, NR2B</b>	<b>Mark Gottlieb, KK2L</b>	<b>(2020-2023)</b>
<b>Treasurer :</b>	<b>Alan Arrison, KB2AYU</b>	<b>Robert Fields, KC6AOH</b>	<b>(2021-2024)</b>
<b>Recording Secretary :</b>	<b>Karl Frank, W2KBF</b>	<b>Charles Lanard, KD2EIB</b>	<b>(2022-2025)</b>
<b>Corresponding Secretary :</b>	<b>Frank Romeo, N3PUU</b>	<b>John O'Connell, K2QA</b>	<b>(2023-2026)</b>

### Board of Directors - 3 year term

<b>Charles Colabrese, WA2TML</b>	<b>(2021-2023)</b>	<b>Jeffrey Garth, WB2ZBN</b>	<b>(2022-2024)</b>
<b>William Price, NJ2S</b>	<b>(2021-2023)</b>	<b>Chris Prioli, AD2CS</b>	<b>(2023-2025)</b>
<b>James Clark Sr, KA2OSV</b>	<b>(2022-2024)</b>	<b>James Wright, N2GXJ</b>	<b>(2023-2025)</b>

### General Membership Meeting

Wednesday, April 5, 2023 @ 1930 Hours

**In-Person & ZOOM - Mantua Masonic Lodge**

### Tech Saturday Forum

Saturday, April 8, 2023 @ 0900 Hours

**W2MMD Clubhouse**

### GCARC TechNet ZOOM Meeting

April 3 & 17, 2023 @ 2000 Hours

### GCARC HelpNet ZOOM Meeting

Sporadic Mondays @ 1930 Hours

### License Testing Session

Thursday, April 13, 2023 @ 1900 Hours

**W2MMD Clubhouse**

### Board of Directors Meeting

Wednesday, April 19, 2023 @ 1900 Hours

**W2MMD Clubhouse**

### Dinner @ The W2MMD Clubhouse

Wednesday, April 26, 2023 @ 1800 Hours

### Tuesday Noon Day 2 Meter Net

Every Tuesday @ 1200 Hours

### Tuesday & Thursday Night 10 Meter Net

1930 Hours - 28.465 or 28.475 MHz

### Thursday Night 2 Meter Net

Every Thursday @ 2000 Hours

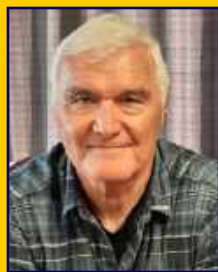
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**The above photo was taken by Jim Wright, N2GXJ “Antennas in the sky at sunset. A beautiful sight”  
The photo (below) was edited by Jon Pearce, WB2MNF using Adobe Lightroom Software  
This picture below clearly shows the wire for the 160M loop antenna.**





## *President's Letter*

### *Jon Pearce, WB2MNF*



#### **April 2023**

What could be more exciting than combining ham radio with rockets? Several months ago we were contacted by **Nicholas Kreuz KC3RFB** who is an electrical engineering student at Rowan University and is the architect of the avionics suite for a rocket being constructed by students to compete in an American Institute of Aeronautics and Astronautics rocket competition in June. Nick and his team were looking for some help in designing the antenna to be used with the radio telemetry and module that controls ignition and parachute deployment of the rocket. We spent several hours at the Clubhouse working with him to get an antenna that would handle the 29g acceleration (even more than Tom Cruise in Top Gun) when the engine fires. At our March meeting **Nick, Daniel Millar**, and **Thomas Stanek** from that team presented the overall concept of the rocket including the basic design, propulsion and avionics programs – and they brought along the rocket! Judging from the crowd surrounding them at the end of the presentation it was one of the more interesting sessions that has occurred at our meetings. We're continuing to work with those guys and hope we can build an ongoing relationship with the Rowan EE department.

It's always exciting to hear and see Club members working together on projects, and these cooperative activities continued through March. **Len Rust W2LJR** hosted a successful Tech Saturday event in March with a presentation on DMR radios, which filled the Clubhouse with more than 20 participants. The usual ad hoc discussions followed with some participants wandering into the HF room while others watched the latest satellite passes. Tech Saturday is turning into a great collaboration event, so be sure to put it on your calendars (the first Saturday following the General Membership Meeting) and come out when you're available.

As a result of Len's presentation there are now two digital radio hotspots at the Clubhouse for use by Yaesu System Fusion and DMR radios. Frequencies and modes will be listed on the Clubhouse whiteboard so bring your radio and check them out.

The April Tech Saturday session will occur on April 8, 2023 with a presentation by **John Zaruba Jr K2ZA** on Yaesu System Fusion and Wires-X technology. Don't miss it, especially if you have a Yaesu radio!

**Jim Wright N2GXJ** who was one of the primary architects of the 160 meter loop antenna at the Clubhouse presented his successes at the March General Membership meeting. Jim reported making 132 contacts during the CQ 160 meter SSB contest, working 33 states and provinces as well as stations in the Caribbean, northern South America, and central Europe. A great result for a project that was initiated only a few weeks ago.

The Tech Nets are continuing on alternate Monday nights with **Gary Mirkin WA3SVW** to present several sessions on amateur slow-scan TV software in April. Check the [w2mmd.org](http://w2mmd.org) website for Zoom connect info.

*President's Letter - Continued on page 4*

*President's Letter - Continued from page 3*

About a dozen hams came out to participate in the hidden transmitter “Fox Hunt”, which is always a fun-filled event. Fox hunts pit the direction finding skills of the participants against each other in locating a tiny transmitter that's hidden in an unknown location by the previous winner - sometimes in diabolically difficult and creative places.

The ARRL Field Day event occurs in the fourth weekend of June, and is one of the two major group events for the Club (the other being the Hamfest in September). Since the “Winefest” that occurs on the 4H property adjacent to the Clubhouse will be held on the same weekend as Field Day this year, Field Day chair **Tony Starr K3TS** announced that all of our operations will need to occur within the Clubhouse boundaries, and will probably operate several fewer stations than in the past. Field Day represents a great opportunity for new members and newly licensed hams to get a great taste of contest operating while working closely with other Club members in our largest event of the year. If you're a new ham and haven't worked at Field Day please consider volunteering to operate one of the stations for at least part of the scheduled time period.

The GreenCube satellite quest continues as described on page 20 of this CrossTalk issue. GreenCube provides a fascinating opportunity to explore a different type of satellite operating along with solving many small but annoying problems that inhibited success. Check out that article if you're interested, and come down to the Clubhouse some Saturday when there are active GreenCube passes to see if we can pick up some additional countries. Late news - we just worked Japan and Korea on GreenCube, marking the longest-distance satellite QSO that may be possible from our location.

Progress is also being made on the acquisition of a VHF tower to replace some of the functionality of the tower that was lost to the tornado several years ago. Stay tuned for more info as details get worked out.

As you can see there's lots happening at the GCARC so find your niche and come out and be part of the fun!

This month we welcome the following new members :

- **Jacqueline Blanch KD2JBY, of Manchester Township, NJ**
- **Keith Evans KC3PAA, of Wilmington, DE**
- **Daniel Lenco WA2BPH, of Pedricktown, NJ**
- **James McCullough, Associate Member, of Sewell, NJ**
- **Edward Scheidts KC2QFB, of Riverside, NJ**

**73 de Jon WB2MNF**

**President, GCARC**







## General Membership Meeting

Wednesday, April 5, 2023 @ 1930 Hours

Mantua Masonic Lodge  
45 Mantua Boulevard, Mantua Township

Simulcast Live Via ZOOM

Dr. Bob Heil, K9EID

Our special guest speaker this month is **Dr. Bob Heil, K9EID**, a sound and radio engineer most well-known for creating the template for modern rock sound systems. He founded the company [Heil Sound](#) in 1966, which went on to create unique touring sound systems for bands such as *The Grateful Dead* and *The Who*. Dr. Bob has been an innovator in the field of amateur radio, manufacturing microphones and satellite dishes for broadcasters and live sound engineers.

He has won multiple awards and honors, and in 2007 he became the first manufacturer to be invited to exhibit at the Rock and Roll Hall of Fame. Dr. Bob is an avid amateur radio operator and hosts the weekly [Ham Nation](#) podcast, the most watched and listened to ham radio podcast in the country where he loves to share some of the 'science' of this great hobby.

On Wednesday, April 5, 2023 via Zoom Dr. Bob will discuss :

- Why the initial telephone did not work and how it applies to our transmitters
- Making your transmitted audio more understandable and cutting through the pile-ups
- Audio, filters, and antennas
- Attic and low-profile antennas
- How Bob Heil became an expert in audio

We can all benefit from a little more clarity in our communications. Be sure to attend.

Go to : [www.w2mmd.org](http://www.w2mmd.org) to download the ZOOM log-on instruction PDF for this meeting

# Good Friday

April 7, 2023

April 9, 2023





**Tech Saturday Forum**  
**April 8, 2023 @ 0900 Hours**  
**W2MMD Clubhouse**

**John Zaruba Jr, K2ZA : Introduction To Yaesu System Fusion  
Equipment, Software, and How To Use It!**

**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 DMR technology, 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.

Every One is welcome - Hams and Non-Hams - Club Members and Non-Club Members.

**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>**



**Gloucester County Amateur Radio Club  
YouTube Channel**

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

## Welcome New Club Members :

**Jacqueline Blanch, KD2JBY**, who has a Technician Class license and lives in Manchester Township, NJ.

**Keith Evans, KC3PAA**, who has a Technician Class license and lives in Wilmington, DE.

**Daniel Lenco, WA2BPH**, who has an Advanced Class license and lives in Pedricktown, NJ.

**James McCullough, Associate Member** and lives in Sewell, NJ

**Edward Scheidts, KC2QFB**, who has an Amateur Extra Class license and lives in Riverside, NJ.

We are glad to have you as members of the Club and hope to see you regularly at Club meetings, events, and activities. Hope to see you at the April 5<sup>th</sup> General Membership Meeting , either in-person or on ZOOM, the April 8<sup>th</sup> Tech Saturday Forum, and the Dinner @ The Clubhouse on the 4<sup>th</sup> Wednesday of the month.

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.
- The TechNet ZOOM Monday Net held semi-monthly on April 3<sup>rd</sup> and 17<sup>th</sup> @ 2000 Hours.
- The HelpNet ZOOM Net, a sporadic Monday meeting @ 1930 Hours.
- Tuesday Noon Day 2M Rag Chew Net @ 1200 Hours.
- Tuesday & Thursday Night 10M Rag Chew Nets on 28.465 or 28.475 MHz.
- Thursday Night 2M Rag Chew Net @ 2000 Hours.

All 2 Meter nets are on our 147.180 MHz repeater and on EchoLink W2MMD-R.



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## GCARC Monthly VE Exam Testing Summary

March 9, 2023

**Gary Reed, N2QEE** reports : The monthly VE session was held on March 9, 2023 with no candidates.

The participating VE's were :

- ♦ **Chris AD2CS**
- ♦ **Rich W2RHS**
- ♦ **Jeff WB2ZBN**
- ♦ **Mike N2WOQ**
- ♦ **Mike KG4JYA**
- ♦ **Earl KC2NCH**
- ♦ **Steve W2SEF**
- ♦ **Gary N2QEE**
- ♦ **Jerry K2EAB**

The next VE session will be held Thursday, April 13, 2023 at 7 PM at the W2MMD Clubhouse.

## 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](mailto: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 Witting, 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**

W2MMD



[www.facebook.com/W2MMD](https://www.facebook.com/W2MMD)



[twitter.com/w2mmd\\_gcarc](https://twitter.com/w2mmd_gcarc)

Facebook





## DA's and DIT's

>> Condolences to **Greg Ciraula, W5DO** and family with the loss of his father.

>> **Jim Wright, N2GXJ**, reports, "There was a radio contest on March 4<sup>th</sup> and 5<sup>th</sup> where people all over the world were encouraged to try and make contacts to stations in North America on HF. This guy (**Christian Diemoz IX1CKN**) in Italy had great success on 10 meters and 15 meters, operating from his parked car, using just 15 watts, and a car roof mounted antenna. He made a short video of his experience. Man, if he can do this, so can you! This kind of stuff is freakin' amazing!" <https://youtu.be/qMtv8SVnsmE>

>> **Bill Mollenhauer, N2FZ**, reports, "This just popped up on the LICW forums and I thought it might be something for CrossTalk. It was very interesting to me because I have been struggling with trying to learn to head copy CW for a long time. <https://n6ev.com/articles/phonic-method>

>> **Karl Frank, W2KBF**, reports, "I just found this interesting website. If you enter your call, it will mark your location on a map and show all the hams in your neighborhood! I never cease to be amazed by the number of licensed Radio Amateurs that are all around me and who I have never met."  
<https://haminfo.tetranz.com/map>

>> **Mike Thompson, KG2JYA**, reports, Pretty good video on FM modulation and deviation."  
<https://youtu.be/4HSuytEYHyM>

>> Congratulations to **Norm Coltri, K2NRC** (ex.WA2UUP) for his new vanity callsign.

>> Condolences to the family and friends of Club member **Robert Derderian N2IPH** who passed away on November 16, 2022.

>> The popular ham license training website **HamTestOnline** (<http://www.hamradiolicenseexam.com>) is going QRT on June 30, 2023. **John Cunningham, W1AI**, the creator, owner, software developer, and course master of HamTestOnline is retiring after 20 years.

>> The February 1, 2023 General Membership Meeting presentation about Remote Flex Radio by **Jim Wright, N2GXJ** and **Sheldon Parker, K2MEN** is available as a PDF to download on our website at : <http://bit.ly/3JNjFzd>

>> The website [www.k9ya.org](http://www.k9ya.org) has a links page for ham radio. They have added our Club website to their list. K9YA publishes the monthly **K9YA Telegraph** newsletter. Go to : <http://www.k9ya.org/index.php/links/ham-radio> . If any Club member would like to write an article about our Club for the **K9YA Telegraph**, please contact **Mike N9BOR** at [k9ya@k9ya.org](mailto:k9ya@k9ya.org).

### 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

## That's One High Tech Way Of Chasing DX!

By Jim Wright, N2GXJ

ADIF logs from the Satellite station at W2MMD through mid-March were recently uploaded to LoTW and eQSL. Oh my! Check out all the new countries confirmed now towards SAT DXCC at LoTW!

Recently confirmed :

- KP3V (Puerto Rico)
- IK3ITB (Italy)
- FG8OJ (Guadeloupe)
- EA3B (Spain)
- XQ3SA (Chile)
- PY2RN (Brazil)
- LU3FCA (Argentina)
- HC2FG (Ecuador)
- G0ABI (England)
- 4A7L (Mexico)
- S57NML (Slovenia)
- RA9DA (Asiatic Russia)
- DK9JC (Germany)
- 4J6D (Azerbaijan)
- XE2YWH (Mexico)
- VA7TF (Canada)
- OZ9AAR (Denmark)
- CO8LY (Cuba)

And that's just in the last month!

LoTW DXCC SAT total: 21 (as of 3/17/23).

*That's one high tech way of chasing DXCC!*



eQSL card received from Italy, for a recent 2-way Satellite contact made from the W2MMD Clubhouse



## *The Education Connection*

*By Chris Prioli, AD2CS*



### **April 2023**

Session IV of the GCARC Ham Exam Preparation Classes is now over the hump - it is more than half-way completed. We did a practice test last week (as of this writing) in the Technician class and four out of the five students passed it handily - they would have scored well enough on the real thing to have attained their licenses.

Practice tests are in store for the other classes as well in the coming weeks, but I heartily encourage anyone who is seeking or even considering a new license or an upgrade to log into : <https://hamexam.org> and register with the site. There is no cost, and if you are registered, the site will tailor delivered content to you as regards to practice tests and flash cards. The site will keep track of your progress, and you will see the questions that you keep getting wrong until you start getting them right! I use this website in my classes, and it is well-received by the students. It is a great site for anyone with an interest in moving forward in amateur radio.

Session V is shaping up to have enough attendees to make it worthwhile holding the classes again this Spring. The starting dates for that session will be 1 May (Technician), 2 May (General), and 5 May (Amateur Extra). These sessions will run through the end of June.

I attended a web conference last night (22 March) that dealt with makers and hams, drawing the similarities between these two hobby groups and exploring the ways that makers and hams overlap. It was a well-attended conference with over seventy reported attendees, presented by **Maker Magazine** (<https://makezine.com>) with a panel of hams and makers to offer commentary. Some interesting points were brought out, especially in the arenas of amateur radio applications and ways and means to entice new folks into the ham population... especially young people. There were six members of our Club in attendance. I imagine that there may have been other club groups attending as well, which really increases the attendance count. A recording of the conference was made and will become available at some point in the future for those who may want to view it.

TechNet returns on 3 April with the scheduled topic being MMSSTV. My thanks to **Carl Wittig N2CRW** for the yeoman's job he did on the Audacity session on 20 March. **Gary Mirkin WA3SVW** will both host and present the MMSSTV meetings, which are posted on the **Club's website** (<https://gloucestercountyararc.weebly.com/gcarc-technet.html>) with full ZOOM information listed there.

**That just about does it for this month... see you all next time!**



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

Philadelphia/Mt Holly Skywarn : [www.weather.gov/phi/skywarn](http://www.weather.gov/phi/skywarn)

State College, PA Skywarn : [www.weather.gov/ctp/skywarn](http://www.weather.gov/ctp/skywarn)

Pittsburgh, PA Skywarn : [www.weather.gov/pbz/skywarn](http://www.weather.gov/pbz/skywarn)

Skywarn Forum : Skywarn Storm Spotter and Weather Discussions :

<https://www.skywarnforum.com>

## Skywarn Spotter Training - Virtual Classes National Weather Service - State College, PA <https://www.weather.gov/ctp/skywarn>

Thursday, April 27, 2023

1800 - 2000 Hours

Virtual Basic Spotter Training

<https://register.gotowebinar.com/register/2185631633152394334>

Monday, May 8, 2023

1800 - 2015 Hours

Advanced Spotter Talk - Storm Science

<https://register.gotowebinar.com/register/8357481770596692824>

Thursday, May 25, 2023

1800 - 2015 Hours

Advanced Spotter Talk - Radar

<https://register.gotowebinar.com/register/3432970400416028758>

Registration is required. Classes are free and open to all.



*Celebrating 64 Years Of  
Service To Our Community  
& Amateur Radio*

*ARRL Affiliated & Special  
Services Club*

*ARRL Field Day 2023*

## Ham Radio Open House!

## Come Visit During The Greatest On-Air Event Of The Year!



## Regional (Atlantic & Hudson Divisions) Hamfests & Events

**April 15, 2023** : Chenango Valley Amateur Radio Association, 2023 CVARA Bullthistle Hamfest, St. Bartholomew's Parish Center, 81 East Main Street, Norwich, NY. [www.cvara.net](http://www.cvara.net)

**April 15, 2023** : Sussex Amateur Radio Association, Sussex Amateur Radio and Electronics Expo, ARRL Delaware State Convention, Cheer Community Center, 20520 Sand Hill Road, Georgetown, DE.  
[www.radioelectronicsexpo.com](http://www.radioelectronicsexpo.com)

**April 16, 2023** : Two Rivers Amateur Radio Club, TRARC 51<sup>st</sup> Hamfest / Computer Show, Elizabeth Volunteer Fire Department Bingo Hall, 101 South 1<sup>st</sup> Avenue, Elizabeth, PA. [www.trarc.net](http://www.trarc.net)

**April 22, 2023** : Splitrock Amateur Radio Association, 2023 North Jersey Tailgate Hamfest, Landing Park Recreation Complex, 165 Landing Road, Landing, NJ. [www.splitrockara.org](http://www.splitrockara.org)

**April 22, 2023** : Drumlins Amateur Radio Club, 36<sup>th</sup> Annual Drumlins Hamfest 2023, Palmyra VFW Post 6778, 4306 Route 31, Palmyra, NY. [www.drumlinsarc.us](http://www.drumlinsarc.us)

**April 23, 2023** : Maryland Mobileers Amateur Radio Club, MMARC 2023 Spring Hamfest, Odenton Volunteer Fire Department, 1425 Annapolis Road, Odenton, MD.  
[www.sites.google.com/view/marylandmobileers](http://www.sites.google.com/view/marylandmobileers)

**April 29, 2023** : York Hamfest Foundation, 2023 York Hamfest, Elicker's Grove Park, 511 Roth Church Road, Spring Grove, PA. [www.yorkhamfest.org](http://www.yorkhamfest.org)



**May 19 - 21, 2023**  
**Greene County Fairgrounds & Expo Center, Xenia, OH**  
[www.hamvention.org](http://www.hamvention.org)

*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 car warranty calls!)*



## Fox Hunt XXVII - Sunday, February 26, 2023

By Frank Romeo, N3PUU

We could not have asked for a better day for a February Fox Hunt! It seems a lot of folks agreed as we had a terrific turnout for Fox Hunt XXVII in the Deptford area of Gloucester County. In addition to our usual group of hunters, we were joined by several new hunters including XYLs, Harmonics, and even some 2<sup>nd</sup> Harmonics!

Hunting for the fox is always a fun and exciting challenge. This is, of course, why we go out and do it. Once you are the first to find the fox, you quickly learn that there can be another side to this challenge - hiding it! Scouring the map looking for a good hiding spot I came across what seemed like the perfect place in Deptford, Old Pine Farm Natural Lands - 36 acres, hidden away at the end of residential streets, containing a series of hiking trails that is not well marked on the usual maps. Checking the area I found several well-marked parks nearby which makes my hiding spot even less obvious. Pleased with my find, I outline a boundary map and send it off to the Club mailing list. We are ready to go, or so I thought!

The morning of the hunt rolls around and I'm once again checking out the maps, this time looking for a place to park where my car full of antennas won't give away the hiding spot. While reading I learn that while open to the public for hiking, Old Pine Farm is technically private property. Uh-oh! In order to avoid trouble, our foxhunting rules require us to stick to public property. Back to the map I go, selecting nearby Almonesson Park as a plan B. It's much more "obvious" than I would like, but the hunt is in a couple of hours and the boundaries are already set, so I can't be too picky! To avoid the need to hide my car, my wife agrees to drop me off at the park.

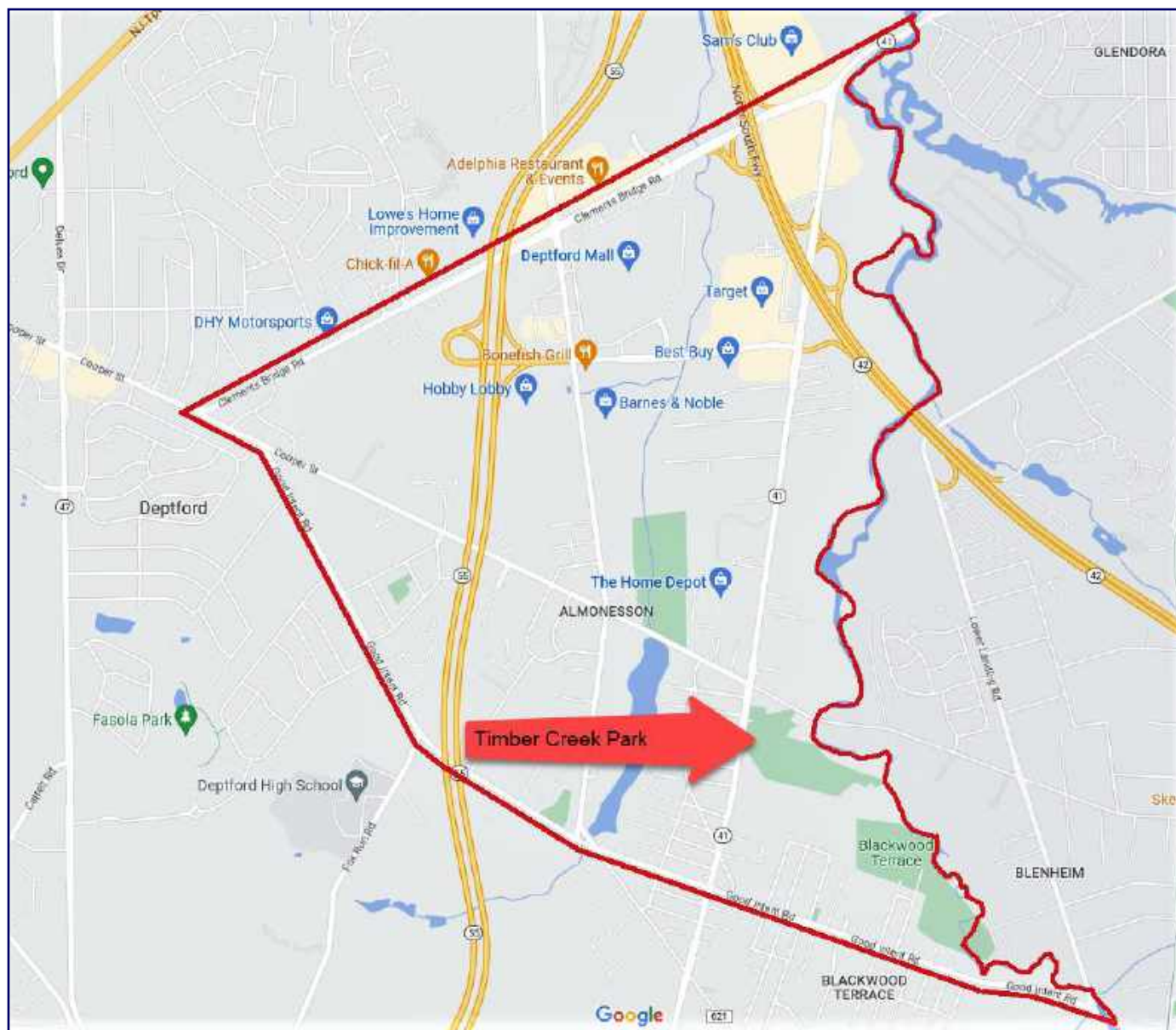
We all climb in the car and start heading towards Deptford, monitoring the Club repeater on my HT. A couple of minutes into the journey I hear **Jim N2GXJ** announce that he is on his way to the Deptford Home Depot where a bunch of other hunters are meeting up to start hunting. My heart sinks - Home Depot adjoins Almonesson Park! If I hide it there, they will be right on top of it - with just minutes to go I now need plan C! Scrambling to Google Maps on my cell phone shows the easiest solution is **Timber Creek Park**, just down the street from Home Depot, but at least not right on top of it.

In the end, it all worked out, with **Timber Creek Park** having a small trail network perfect for hiding the fox. Congratulations to **Al KB2AYU** for being the first to locate the fox this time! Big thanks to our hunt pack (in no particular order) :

- **Marc Federici WM2Y & Harmonic**
- **Rich Federici KD2WDN & XYL**
- **Marty Wilt W2ILT & 2<sup>nd</sup> Harmonic**
- **Al Arrison KB2AYU**
- **Rusty Rust K2LJR**
- **Lenny Rust W2LJR**
- **Joseph Gadoury KE2AKT, XYL & 2<sup>nd</sup> Harmonic**
- **Vinnie Sallustio N4NYY, XYL & Harmonic**
- **Jim Wright N2GXJ**
- **Sheldon Parker K2MEN**

More pictures at <https://gloucestercountyarcs.weebly.com/fox-hunt-xxvii.html>

*Fox Hunt XXVII - Continued on page 15*



**(L-R) Marc WM2Y; Frank N3PUU; Rich KD2WDN; Marty W2ILT; Owen; Al KB2AYU; Rusty K2LJR; Len W2LJR; Joe KE2AKT; Vinnie N4NYY; Jim N2GXJ; Sheldon K2MEN**





## **2023 Field Day CW Rule Changes Postponed**

**By Bob Famiglio, K3RF, ARRL Atlantic Division Director**

Many Atlantic Division members contacted me in the last few days with concerns about the new Field Day (FD) rule regarding points for CW contacts implemented by the ARRL Programs & Services Committee (PSC). Almost all of the comments I received were against the change equalizing contact points for any mode. Many of you writing took the time to explain your reasons for your concern which was helpful. Some of the respondents were writing as designated representatives of their ARRL club. I responded to as many of you as I could personally explaining why I agreed the change is unwarranted and I shared your concerns.

Tonight (Thursday, March 2, 2023) the ARRL PSC held a special meeting for the purpose of reconsidering the changes in view of the members' strong interest. Though I am not appointed to the PSC, I attended as an interested director to provide comment and was allowed to do so. The rules for mode scoring will NOT change this year. Further, the PSC will be considering members input before next year. There may be formal electronic polling to assess the members comments further before next year's Field Day.

Also, the committee voted to conform FD rules with other contest rules by banning both robotic FT-x operations and the use of automated multi-streaming operations. Details are forthcoming.

This responsiveness demonstrates that the Committee heard all of the members expressing their thoughts. You had an impact. There will be time to debate changes over the next months and I urge you to make your thoughts known when that time comes. In the end, our League is a member organization and members interests should drive our direction whether major policy or simple rule changes for contests. If you disagree with this statement, please feel free to let me know. I will respond. After all, the ARRL is your League.

**73 & I will see you on the radio.**

**Bob Famiglio, K3RF**  
**ARRL Director - Atlantic Division**  
**k3rf@arrl.org**



## **ARRL Learning Center**

**<https://learn.arrl.org>**

**Discover how to make Amateur Radio your own.**

**Online courses from the ARRL Learning Center provide ARRL members with additional instruction and training for getting on the air, emergency communications, and electronics and technology.**



## DVRA 2023 Dayton Hamvention Club Of The Year

By Bob Famiglio, K3RF, ARRL Atlantic Division Director

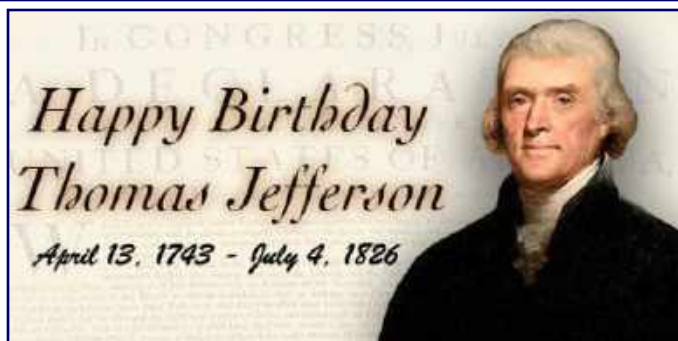
I have the pleasure in reporting that an ARRL affiliated club in our Atlantic Division, the Delaware Valley Radio Association (DVRA), has been selected as the 2023 club of the year by the Dayton Hamvention Awards Committee.

DVRA was formed in 1930 with its ARRL affiliation certificate signed by the old man himself, Hiram Percy Maxim. While DVRA is officially in the Southern New Jersey section of our division and serves the Trenton, New Jersey metropolitan area, with over 120 members, the club includes hams in the Eastern Pennsylvania and Northern New Jersey (Hudson Division) sections as well.

The DVRA has tripled in size over the last six years due to the wide range of amateur radio activities and events they offer. An all-purpose club, the DVRA's activities include public service events, operator training and mentoring, Scouting events, informational monthly meetings, POTA events, and the operation of a world class club station W2ZQ. See the whole club story at [www.w2zq.com](http://www.w2zq.com). Congratulations to all the members of the DVRA!

**73 & I will see you on the radio.**

**Bob Famiglio, K3RF**  
**ARRL Director - Atlantic Division**  
**k3rf@arrl.org**



## 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 May 2023 issue : Thursday, April 20, 2023

Club Website [www.w2mmd.org](http://www.w2mmd.org)

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



**ARRL Southern NJ Section News**  
**Tom Preiser N2XW SNJ Section Manager**  
**n2xw@arrl.org**



Congratulations to the Delaware Valley Amateur Radio Association for being named "Club of the Year" as part of the 2023 Dayton Hamvention Awards.

**Amateur Radio Club of the Year**

The Delaware Valley Radio Association (DVRA), an ARRL affiliated club formed in 1930, serves the Trenton, New Jersey metropolitan area. The club has tripled in size over the last six years due to the wide range of amateur radio activities and events they offer. An all-purpose club, the DVRA's activities include public service events, operator training/mentoring, Scouting events, informational monthly meetings, POTA events, and the operation of a world class club station.

The DVRA center of activity is club station W2ZQ, which operates a regular schedule. The station was renovated six years ago and currently houses two complete HF stations, a VHF repeater, an APRS digipeater and a WinLink VHF-RMS node. The recent addition of 1296 MHz EME capability has been optimized with the assistance of member Joe Taylor (K1JT). Station activities include an open house, hands-on seminars, contesting, and special event activations. Most importantly, the exchange of ideas that occurs within the walls of the building is priceless.

The DVRA's focus on training and its diversification of projects attract new and prospective hams and engage radio amateurs at all levels and with widely varying interests.



**Full Pink Moon - April 6, 2023 @ 0037 Hours**

This Moon heralded the appearance of the "moss pink" (*Phlox subulata*), also called wild ground phlox or creeping phlox—one of the first spring wildflowers. With spring thaws come the Algonquin Breaking Ice Moon and the Dakota Moon When the Streams are Again Navigable. When spring growth appears, so does the Budding Moon of Plants and Shrubs (Tlingit) and Moon of the Red Grass Appearing (Oglala). Animals returning to the area inspired the Lakota name Moon When the Ducks Come Back. Certain Dakota peoples chose the name Moon When the Geese Lay Eggs. Other names are Broken Snowshoe Moon (Anishinaabe), Frog Moon (Cree), and Sugar Maker Moon (Western Abenaki).

Appearing either in April or May, Sucker Moon (Anishinaabe) refers to a time to harvest sucker fish, which return to streams or lake shallows to spawn. According to legend, now is the time when this fish comes back from the spirit world to purify bodies of water and the creatures living in them. (This name may also be applied to the February Moon, to honor the sacrifice of the sucker fish in order to feed the Anishinaabe peoples, helping them to survive the winter.)

Old Farmer's Almanac - [www.almanac.com](http://www.almanac.com)

## **GCARC TechNet**

### **ZOOM Meeting**

**Meetings Start @ 2000 Hours**

**Check-ins start @ 1930 Hours**

**First & Third Mondays of the Month @ 2000 Hours**

**April 3 & 17, 2023**

**Training Class : MMSSTV**

**Training Instructor : Professor Gary Mirkin, WA3SVW**

**April 3, 2023 TechNet ZOOM Meeting Codes**

**Meeting ID : 883 8443 5476**

**Passcode : 843344**

**April 17, 2023 TechNet ZOOM Meeting Codes**

**Meeting ID : 817 5596 5371**

**Passcode : 457769**

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

## **GCARC HelpNet**

### **ZOOM Meeting**

**Sporadic Mondays @ 1930 Hours**

**HelpNets are unstructured Q&A sessions for members who would like assistance on a particular issue or project.**

**If you have a subject you would like to see discussed on the HelpNet, send a message on the Club's e-mail reflector**

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

# Building The GreenCube Satellite Station

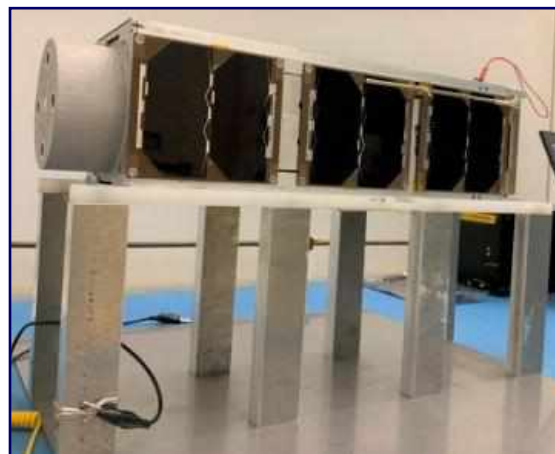
By Jon Pearce, WB2MNF



**GreenCube**  
Microgreens cultivation  
in a CubeSat

The Skunkworks team at the Gloucester County Amateur Radio Club is always looking for new projects to dig into, learn from, and build something new. So when we found that the “GreenCube” satellite had been launched and was a very different type of device we started figuring out how we could work it.

The GreenCube satellite is described in this **link** (<https://www.s5lab.space/index.php/GreenCube-home>), so we won't spend a lot of time covering it here. It has two primary differences from other ham satellites - first, it's in a medium earth orbit (MEO) about 3728 miles above the earth (by contrast, the International Space Station is about 250 miles above the earth). This means several things - its coverage footprint is far larger than any other current amateur satellites and its operating window over a particular point on earth will be measured in hours, not minutes.



The second significant difference is that it utilizes a “digipeater”, which is a digital repeater that receives digital signals from earth stations and retransmits them from the satellite. Given that the footprint of the satellite will cover an almost an entire hemisphere of the earth there may be thousands of operators trying to access it simultaneously; therefore only a communications protocol that involved short transmissions would be practical. GreenCube digital transmissions last about 1/4 of a second, so many stations can be transmitting over a short period of time and still be heard by the satellite.

Most other amateur radio satellites are “full duplex”, meaning that they transmit and receive on different frequency bands, and that users can hear themselves in the downlink of the satellite. This is important because of the “Doppler shift” present in satellite operations in which frequencies need to be adjusted to compensate for the speed of the satellite as it moves overhead. GreenCube differs in that it is “half duplex”, meaning the transmission and reception occur on the same frequency (435.310 MHz ). This meant several adjustments to the station configuration.

## GCARC Satellite Station

The satellite station at the W2MMD Clubhouse is close to being state-of-the-art. For receiving it uses an SDR Play software defined radio coupled with the SDR Console user interface that allows the operator to visualize the entire passband of the satellite and make adjustments where necessary. A Yaesu 847 transceiver is used as a transmitter. The satellite antennas are among the best available from M<sup>2</sup> - the 70 cm antenna is a 42 element 436CP42UG crossed Yagi and the 2 meter antenna is a 22 element 2MCP22 crossed Yagi. Antenna rotation is handled by a venerable Yaesu GS-232 rotator with an AMSAT LNB controller. Satellite mode switching for the antennas is usually handled by an Arduino-controlled relay switch, but because of the renovations at our satellite room it was temporarily replaced by two manual coaxial switches that switch the two antennas between the transmitter and the receiver.

*Greencube Satellite Station - Continued on page 21*



This configuration works well for full duplex satellites but had to be modified for GreenCube's half duplex operation. Initially we manually switched the 70 cm antenna between transmit and receive but later were able to add a MFJ 1708B RF-sensing antenna switch that would disconnect and ground the SDR radio when the transmitter was transmitting. That let both the 847 and the SDR Play connect to the 70 cm antenna.

Two other functions are necessary for satellite operations - the antennas must be rotated to continually point at the satellite as it moves through the sky, and the transmit and receive frequencies must be adjusted for the Doppler shift that occurs when working satellites that are moving thousands of miles an hour. Those functions are both handled by the PST Rotator program, which we've found to work extremely well with all satellites.

## **The GreenCube Software**

When we initially started looking at the GreenCube satellite the online references seemed to point us to a receiver that needed to be constructed from GNU radio, which was beyond our capabilities. This initially dissuaded us from pursuing that satellite until we located the [satblog.info](https://www.satblog.info/software) (<https://www.satblog.info/software>) site that contained the digipeater and telemetry software. We also tried different variations of the UZ7HO "Soundmodem" software trying to identify the proper version for GreenCube until we noticed a download link on their [website](http://uz7.ho.ua/packetradio.htm) (<http://uz7.ho.ua/packetradio.htm>) for "greentnc.zip" that contains the modem software written specifically for the satellite. Soundmodem audio is fed from SDR console through a virtual audio cable and it decodes the audio packets into raw data. That data is fed through a TCP port into the GreenCube decoder software that lets the operator view incoming packets, call CQ or respond, and also log the QSO. It's a really neat set of software.

The final program is the telemetry receiver, which updates about every 45 seconds from packets transmitted by the satellite. This displays current values for various telemetry fields from the satellite, with the new vertical bar appearing in the lower panel with each new set of telemetry. There's an accompanying program that will upload this data to the SatNOGS database but unfortunately I was not able to overcome a Windows error that occurs when I ran this program.

## **Initial Issues**

Initially we were somewhat successful with this configuration, working a number of stations throughout the middle of a pass. Two problems became quickly apparent - although we had a 42 element Yagi antenna we weren't able to decode signals near the beginning and end of the pass. Unfortunately, this is where the more interesting stations appear since they're also the more distant stations. Most other GreenCube stations appeared to have less sophisticated antennas but are also using preamplifiers mounted at the antenna, which we decided we needed.

The other issue was that the transmitted signal frequently didn't seem to be heard by the satellite. The FT-847 is only rated at 20 watts output on 70 centimeters and ours seemed to be putting out significantly less power, which doesn't appear to be enough to create a reliable and readable signal at the satellite. From some online research we found that some other stations appeared to be using Icom IC-9700 transceivers that run 70 watts on 70 centimeters, so we decided we needed to upgrade to a more powerful radio.

A confounding problem also appeared to be finding the correct base frequency for transmitting. Setting PST Rotator to the published frequencies required adjustment to make the received audio frequency center around 1500 Hz. But what about the transmit frequency? We didn't know exactly where the satellite would be listening, and being off by several hundred Hertz could make us unreadable. Finally, we found a reference telling us to set both frequencies lower by about 800 Hz, which put the received frequency perfectly in line for decoding by Soundmodem and also appeared to create the correct transmit frequency to be decoded by the satellite.

## **Adding The Preamp**

**AI KB2AYU** came to our rescue on the receive issue with a mast-mounted preamplifier for 70 centimeters that he installed on the antenna boom. We installed the power injector at the feedline switch and found that the preamp significantly improved receive performance. That preamp was initially switched out of the line by sensing the RF; however we later were able to hard-switch it using a direct connection to the PTT output of the transceiver.

## **Replacing The 847 With The 991A**

The issue of low power output was solved by replacing the FT-847 transceiver with a newer FT-991a radio from my personal station. Initially we had some COM port issues which we traced down to having defined a virtual COM port at the same location that Windows assigned to the standard COM port of the 991. We also found that the 991 appeared to significantly reduce the high frequency component of the audio signal when set in USB-DATA mode (we found this by using the calibration function in Soundmodem and looking at the output from the low and high tones, finding the high tone output being significantly reduced). We solved this by operating the radio in USB mode, not USB-DATA mode. The complication with this arrangement is that there is apparently no adjustment on the transceiver for the audio level coming in through the USB port, so we had to adjust this in Windows for the maximum level that would not kick in the ALC. Finally we decided that we had everything working as well as we could.

## **How Does It Work?**

At this point the GreenCube station seems to work as well as we could possibly expect. We can decode signals virtually throughout the entire pass and can view our transmitted signals on the downlink most of the time. At this point we've worked 38 different countries on five continents, with the longest distance QSO being 11,000 kilometers between us and the station in Japan. We're hopeful to work satellite DXCC although we're not confident that there are actually 100 operational GreenCube stations within the potential footprint of the satellite from our location.

But so far working this satellite has been an exciting new challenge, allowing us to learn much about how our equipment operates and how to create success on a digital half duplex satellite. We are planning to continue active operation on this satellite, so if you see W2MMD please give us a shout.

GreenCube Digipeater - v0.26

KISS TNC Setup View Filter Show Log

CQ Answer CQ 73 QSL

MyCall W2MMD ToCall JJ3JHP ReTX Delay 5 Ch 0 Log QSO Clear Send

MSG QSL 73 tnx op Jon

ALL FILTERED PERSONAL UNIQUE

Date (UTC)	From	To	Message	Type
20.03.23 01:25	JA0FSB	W2MMD	RR73 TU	RX:0
20.03.23 01:25	N8MR	JJ3JHP	EN82hj	RX:1
20.03.23 01:25	JA1QJI	W2MMD	599 QM05	RX:0
20.03.23 01:25	JJ3JHP	N8MR	RRR 599 Logged TU 73	RX:0
20.03.23 01:25	W2MMD	JA1QJI	QSL 73 tnx op Jon	TX:5
20.03.23 01:25	JA0FSB	XE2NDB	599 PM97eg	RX:0
20.03.23 01:26	W2MMD	CQ	FM29jr New Jersey	TX:5
20.03.23 01:26	W2MMD	CQ	FM29jr New Jersey	TX:5
20.03.23 01:26	W2MMD	CQ	FM29jr New Jersey	TX:5
20.03.23 01:27	W2MMD	CQ	FM29jr New Jersey	TX:5
20.03.23 01:27	JF1PTU	KB1HY	599 PM95sp TOKYO	RX:0
20.03.23 01:27	7L1ETP	W2MMD	599 PM95ts	RX:0
20.03.23 01:27	W2MMD	CQ	QSL 73 tnx op Jon	TX:5
20.03.23 01:27	XE1UYS	CQ	EK19	RX:1
20.03.23 01:28	JA1QJI	W2MMD	599 QM05	RX:0
20.03.23 01:28	W2MMD	CQ	QSL 73 tnx op Jon	RX:5
20.03.23 01:28	JA0FSB	XE2NDB	599 PM97eg	RX:0
20.03.23 01:28	JA1QJI	W2MMD	599 QM05	RX:0
20.03.23 01:28	W2MMD	7L1ETP	QSL 73 tnx op Jon	TX:5
20.03.23 01:28	JJ3JHP	W2MMD	599 PM75xd Op Hiro	RX:0
20.03.23 01:28	W2MMD	JA1QJI	QSL 73 tnx op Jon	TX:5
20.03.23 01:28	W2MMD	7L1ETP	QSL 73 tnx op Jon	RX:5
20.03.23 01:28	W2MMD	JJ3JHP	QSL 73 tnx op Jon	TX:5

Digipeater Status: ON TNC: ON





**Thursday Night 2 Meter Rag Chew Net  
147.180 MHz Repeater  
EchoLink : W2MMD-R  
Every Thursday @ 2000 Hours**



Here is the schedule for the upcoming weeks

**Chris Prioli, AD2CS : April 6, 2023  
Mary Delemarre, W2TDS : April 13, 2023  
Gary Mirkin, WA3SVW : April 20, 2023  
Steve Farney, W2SEF : April 27, 2023**

If anyone would like  
to be a net control  
operator, please no-  
tify **Jeff WB2ZBN**

**Chris Prioli, AD2CS : May 4, 2023  
Mary Delemarre, W2TDS : May 11, 2023  
Steve Farney, W2SEF : May 18, 2023  
Gary Mirkin, WA3SVW : May 25, 2023**

***"Dinner @ The Clubhouse"*  
Wednesday, April 26, 2023 @ 1800 Hours  
W2MMD Clubhouse**

**Tuesday Noon Day 2M Rag Chew Net @ 1200 Hours  
Net Control Hosts : Steve W2SEF, Chris AD2CS, & Mike KG4JYA  
147.180 MHz Repeater & EchoLink - W2MMD-R**

Here is the schedule for the upcoming weeks

**Steve Farney, W2SEF : April 4, 2023  
Chris Prioli, AD2CS : April 11, 2023  
Mike Thompson, KG4JYA : April 18, 2023  
Steve Farney, W2SEF : April 25, 2023**

**Steve Farney, W2SEF : May 2, 2023  
Chris Prioli, AD2CS : May 9, 2023  
Mike Thompson, KG4JYA : May 16, 2023  
Steve Farney, W2SEF : May 23, 2023  
Chris Prioli, AD2CS : May 30, 2023**

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



## One Amateur Radio Operator's View of "Volunteers on the Air"

By Tom Devine, WB2ALJ, Southern NJ Section Emergency Coordinator

The ARRL 2023 "Volunteers on the Air" event coupled with solar cycle opening of HF propagation has provided increased amateur radio activity. It's been fun to share contact with other ARRL volunteers and DX stations, almost any time of the day on HF.

"Volunteers On the Air" (VOTA) is a year long event celebrating the recognition of the ARRL's abundant volunteers support and contributions. It has inspired and increased amateur radio activity on the air. The VOTA event can be viewed as a contest or just a fun operating activity.

Operators can accumulate points for each ARRL member and volunteer supporter they contact throughout 2023. Examples of points awarded : any ARRL member 1, Section Manager 175, W1AW ARRL HQ Station 100, and Section Emergency Coordinator 30. (Detailed list available at <http://www.arrrl.org/volunteers-on-the-air>). In order to acquire or grant points all operators must log contacts in ARRL Logbook of The World (LoTW) at <http://www.arrrl.org/logbook-of-the-world> . LoTW is utilized to calculate VOTA total contacts, qualified contacts for point, and total points accumulated on a daily basis. Your current points can be viewed on the "Leaderboard" at <https://vota.arrrl.org> .

A radio operator can have fun just by getting on the air and making contacts. VOTA operating bands include 160, 80, 40, 20, 15, 10, 6, 2, and 1.25 meters as well as 70 centimeters, VHF/UHF/SHF. Please note that Cross-band, Cross-mode, and repeater contact are not valid for points.

Each State is scheduled to be allocated to operated two W1AW/\* Portable Station for a week during the year. New Jersey's operating schedules start on April 26 and August 9 for more detail reference the "State Activity Schedule" on <http://www.arrrl.org/volunteers-on-the-air> .

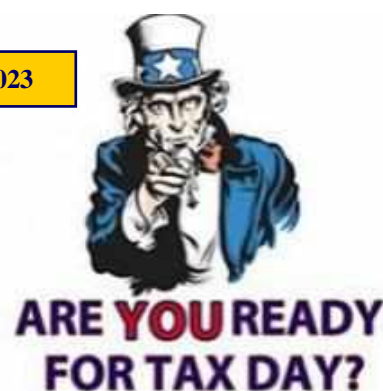
You are encouraged to get on the air and have some fun with VOTA, plus enjoy band openings throughout the world.

**Tom Devine WB2ALJ**

*"The VOTA event has simulated me to get on the air more, almost daily. My goal is to have fun with a few contacts and by recognize other ARRL volunteers. To date, I have given more VOTA points than accumulated which is fine. I am using indoor antennas and about 40 watts output with multiple modes and bands. I encourage all to try VOTA."*



April 18, 2023



## The GCARC ARRL Volunteers On The Air Contest

Yours truly has created a web page called VOTA (<https://gloucestercountycarc.weebly.com/vota.html>) where I would like to list Club member's scores during this year-long ARRL Volunteer-On-The-Air Contest.

This contest is something every ham can participate in. Even contacting our fellow ARRL members is worth 1 point.

All the information about this contest can be found on the websites below.

2023 Volunteers On The Air ARRL Website : <https://www.arrl.org/volunteers-on-the-air>

ARRL 2023 Volunteers On The Air Home Page : <https://vota.arrl.org>

2023 VOTA-2023 Volunteers Point Value Table : <https://bit.ly/3knSz9b>

2023 VOTA Briefing and Q&A : <https://bit.ly/3ktSCjS>

2023 VOTA W1AW Activation List : <https://bit.ly/3ZnPmW5>

So send me your scores and I will add them to the list : [w2mmdgcarc@gmail.com](mailto:w2mmdgcarc@gmail.com)

Thanks

73 de WB2ZBN

## Volunteers On The Air

VOTA, W1AW/2 will be operating from Southern NJ beginning April 26, 2023. The South Jersey Radio Association will be coordinating this event. Please contact Ken K2WB at the email address below to attend the planning session. He is looking for clubs or operators to help out.

There will be another activation for NJ coordinated by the Fairlawn Amateur Radio Club in August. I am hoping the Southern NJ Section will be successful in the first activation for the state.

*Message from Ken K2WB,*

*All,*

*Our VOTA activity will be here before we know it. Now is the time to get a plan of operations together. The first meeting will be this Thursday at 8:00 PM on WebEx*

*Pass this along to other clubs who may operators that are interested.*

*Thanks, Let's make New Jersey Radio Active.*

*73's*

*de Ken K2WB*

*ken@k2wb.com*

**ARRL Southern New Jersey Section**

**Section Manager: Tom Preiser, N2XW**

**[n2xw@arrl.org](mailto:n2xw@arrl.org)**



## *At The Repair Bench...*

*A monthly column describing a recent repair bench event.*

*By Chris Prioli AD2CS*

### **Icom ID-800H - April 2023**

Sometimes, finding the cause of a problem can be more than the repair technician is up to. At those times, the technician has to be careful not to do any harm to the equipment and cause further failures while trying to ferret out the root cause of the initial failure. Sometimes, like the infamous Zorro, the technician leaves his/her mark in the night, gives up, and moves on. That is when the failure becomes another technician's problem to solve.



A little while ago, I got an email from a ham out in Cleveland, Tennessee who asked if I would be willing and able to take on a "mystery" repair on an **Icom ID-800H** 2-meter/70-centimeter dual-band mobile radio (**Figure 1**). The unit had an intermittent fault that two other shops had attempted to repair and both gave up without finding the problem. In addition, one of the two shops caused an additional failure, which we will get into in a little while.



The original problem was related to the occasional and unpredictable blown fuse on the incoming power line. The ID-800H was vehicle-mounted in a **2022 Peterbilt 579 (Figure 2) Class 8** truck-tractor. The secondary problem was a lack of audio from the radio unless an external speaker was installed and connected. This problem showed up when the radio came back from the second repair shop. The owner is an over-the-road long-distance trucker who has historically had his radio - CB's and ham - all repaired at truck stop radio shops.

When the problem first appeared, the owner took the radio to a radio shop at a truck stop in Carlisle, PA. Of course, as nothing was actually repaired other than replacement of the blown fuse, the problem eventually re-occurred. At this point, the owner replaced the fuse himself, and the radio worked as it was intended to, for a while. At some point, the owner happened to have some time to kill while in Kenly, NC, so he took the radio to a radio shop at a truck stop there. This time when he reinstalled it in the truck, it worked again, except that there was no audio from the internal speaker. This was annoying, and the owner assumed that the repairman simply forgot to reconnect the speaker wire harness to the mainboard on re-assembly. However, due to the ambient noise level in the truck, he customarily used an amplified external speaker anyway, so he didn't fret too much about it. Needless to say, the radio was still blowing fuses at random times.

Fast-forward to the first of the year. As of 1 January 2023, the owner came off the road and began operating as a local, home-every-night driver, and the radio came out of the truck to be used in his shack at home, except that it still had that pesky fuse-blowing problem, which is where I entered the story.

*At The Repair Bench - Continued on page 28*

The owner explained the entire history to me, and after some judicious questions, I determined that the fuse most often blew while the truck was in motion, though it would occasionally blow when the vehicle was stationary. He wanted me to find and fix the fuse blowing issue once and for all... and oh yeah - plug in the speaker, too. He shipped the radio to me, but he did not include the power cable, so I had to use a bench cable with a fuse holder (**Figure 3**) to power the radio for testing, to which I added Anderson PowerPole® for my own convenience.



**Figure 3 : ID-800H  
Power Cable**

I put the radio on the bench and connected up the incoming power, a dummy load, and an external speaker... and the radio worked normally. I then decided to connect it to an antenna - my trusty Ed Fong J-Pole - and to use it on the Tuesday net. The radio worked flawlessly, albeit through the external speaker. I decided that I would try to emulate the rough ride of the truck where the radio used to live... I picked it up and I shook it while it was operating. I shook it, I banged on it, I bounced it on a stack of towels... and nothing. It never missed a beat. Next, I tried some “unusual attitudes” as we used to call it in flight school. I started twisting and turning the radio while bouncing it on the stack of towels. Finally, when I stood the unit up on end with the front face upwards, and bounced it hard on the towel stack, it finally blew the fuse. I replaced the fuse and tried the same thing again, and once more the fuse blew with the same maneuvers.

So, what did I prove? Well... I showed two things to be true :

- A. That the fuse did blow after some violent jarring of the radio.
- B. The behavior was repeatable.

Now it was time to open up the radio and the service manual, and to start investigating the internals. It just so happens that I have one of these radios myself, which may come into play for some comparisons, if necessary.

I disconnected the radio and opened it up, and the very first thing that I noted was that the speaker wire harness was indeed connected to the mainboard. This meant that I would need to dig a bit into the audio issue as well, to get to the cause of that problem. More on that later.

As usual, I began by looking for any visible indications of something burnt, arced, or otherwise indicating a short circuit, but nothing jumped out at me. I removed the RF shield from the mainboard to look underneath it as well. Finding nothing the easy way, I decided to emulate my vigorous treatment of the radio. With a new fuse in the power wire fuse holder and the unit power on, I began to gently poke and prod various points in the radio using a plastic alignment tool as the prod. Nothing happened until I prodded the wire harness for the cooling fan. As soon as I touched this wire pair, it arced against the chassis rear heat sink and the fuse blew. Success!



Closer examination revealed a *chafed* area (**Figure 4 - Circled Area**) in the red wire to the fan, exposing the bare wire inside the red insulation. I surmise that this wire would, with enough of a jar to the radio, move just enough to short against the heat sink, causing the fuse to blow. A look at the schematic shows that the fan is fed almost full supply voltage, dropped only by a  $6.8\Omega$  resistor in series with the fan positive lead. The fan supply, on lead HVI, traces back from the  $6.8\Omega$  fuse R102 directly to the incoming 13.8VDC power inlet. Fan control is all done on the fan's negative lead.

*At The Repair Bench - Continued on page 29*



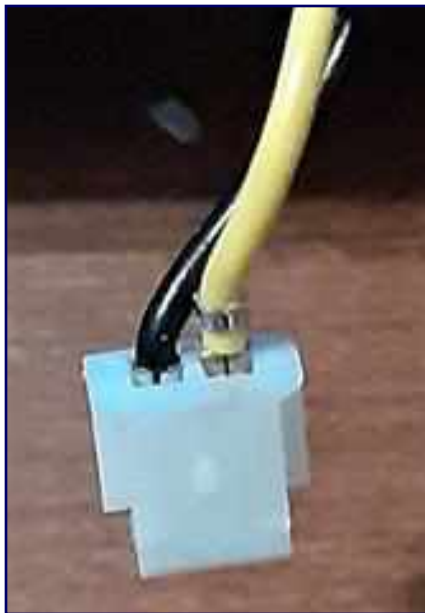
Thus, shorting the fan's positive lead to ground is tantamount to placing a direct short on the positive power feed to the radio, causing the fuse to open.



The repair was fairly simple. Using the tip of a hobby knife, I gently lifted the latch of the red wire terminal in the fan harness plug, and pulled the wire and terminal from the plug (**Figure 5**). I then slipped a short piece of narrow heat shrink tube on the wire and hit it with hot air from the heat gun. Once the HST was shrunk in place, I inserted the terminal back into the plug (**Figure 6**). After that, it was a simple matter to re-mount the fan and plug it in onto the mainboard.

Now it was time to look for the audio problem. As a refresher, the radio had audio only via an external speaker. No sound came from the internal speaker, which was plugged in onto the mainboard in the correct location. The owner had thought that perhaps the last repairman had forgotten to connect the speaker harness, but that was not the case, as I discovered. I had to start somewhere, so I started at the speaker connector on the mainboard. To my surprise, there was a

strong audio signal there at the speaker header. Thus, the problem had to be in either the speaker or its connecting harness. I took a "AA" battery that I keep on hand with a clip lead soldered to each end, and I did a momentary "scratch" test of the speaker, which responded with a typical characteristic static scratch. The speaker coil was intact, which narrowed down the problem. It had to be a harness issue.



I took a good close look at the plug end of the harness and found that one of the wires was out of the plug body, and therefore was not able to make contact with the header pin. My guess is that when the last repairman disconnected the speaker on opening the radio, he pulled the wire from the plug (**Figure 7**) and did not notice it. I certainly did not notice it until I had reason to take a good look at the plug. I pushed the wire all the way into the plug body and connected the harness. Magic! The dead audio was once again alive.

I reassembled the radio and once more subjected it to a violent thrashing in an attempt to blow another fuse, but failed to do so. I took that as a sign that the repair was effective, so I boxed it up, less the power cord, and shipped it back to Tennessee, together with my invoice and two spare fuses.

What lessons can be learned from this repair? I see a couple of them. Let's take them one at a time, and explore their validity and value.

First off, I think that the fix isn't made until the repair person actually finds the cause of the problem. Fixing a symptom, in this case the blown fuses, does not repair the equipment, not so long as the root cause has not been located. Without correcting the root cause, the symptom is bound to re-appear at some point in time.

*At The Repair Bench - Continued on page 30*

The fact that this radio was riding around in an eighteen-wheeler, and taking an aggressive hammering as the truck traveled America's highways and byways, meant that the unit was being put through some unusual operating conditions. It was when I emulated that pounding ride that I was able to reproduce the symptom, reliably and repeatedly. Think outside the box and consider all operating conditions when tracking down a symptom like this one.

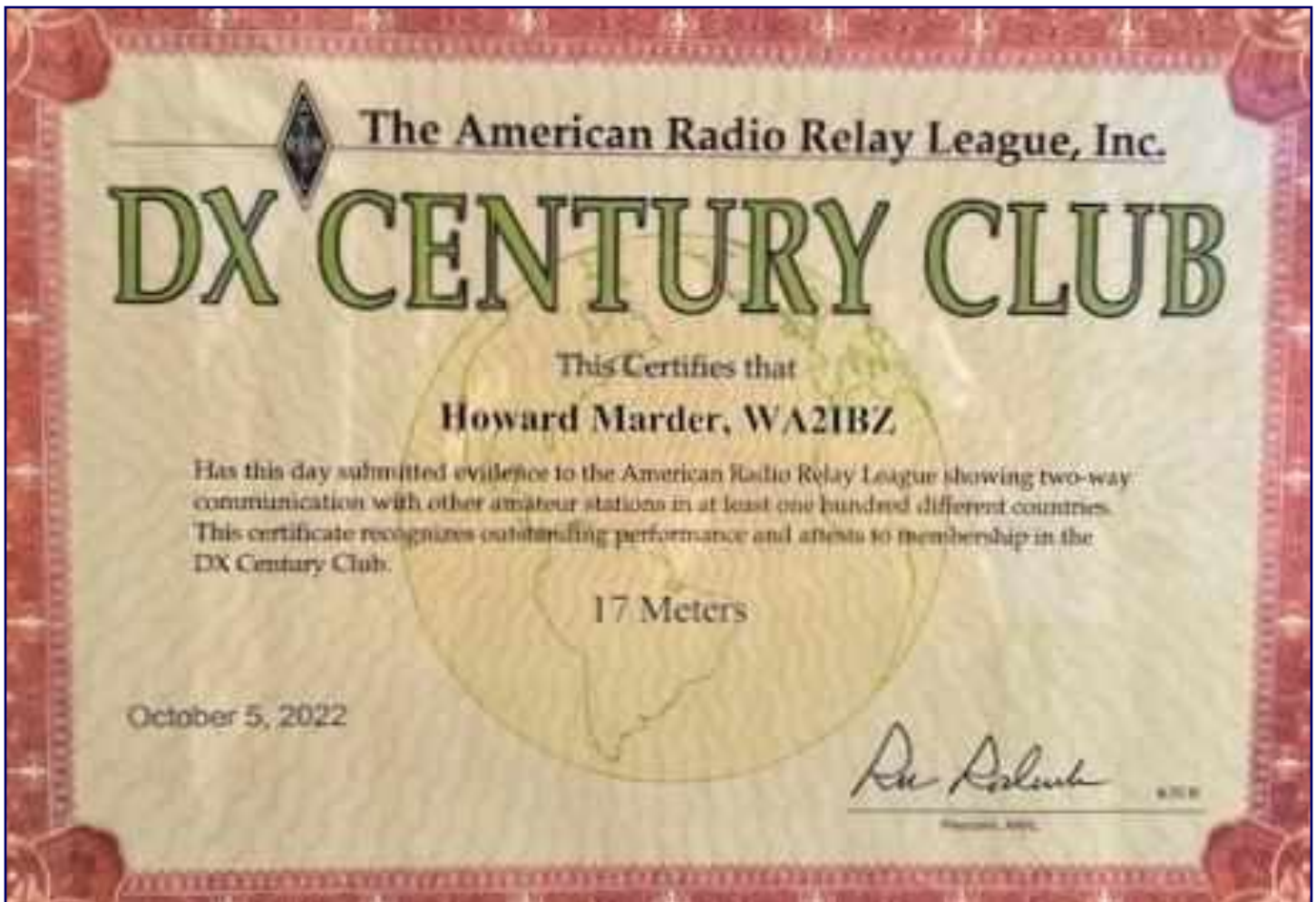
Second, it is obvious to me that the second repair shop failed to do any kind of active post-repair testing of the radio, because if such testing had been done, it would have been obvious that a new problem had been introduced in that the speaker audio output was nil. Perhaps the repairman thought that the radio had been like that when it came to him, but the owner says otherwise. It is important that the repaired radio be put through all of its paces post-repair just to make sure that something like this has not happened. It is understandable how it happened; it is inexcusable that it left the shop like that.

I am not saying that my repairs are perfect - I am human, and so I will make mistakes and miss things, as I have in the past. However, any shop should be able to pick the low-hanging fruit and fix the easy ones. The more difficult ones just take a little bit longer, or maybe a lot longer.

**See you next month!**

**All of Professor Chris Prioli AD2CS's *At The Repair Bench* articles are on our website at :**

**<https://gloucestercountync.weebly.com/repair-bench.html>**





## 10 Meters Is Back!

By Jim Wright, N2GXJ

For those who play on HF, it's hard not to notice the excitement on 10 meters recently. What's going on? Well, it seems we've just hit a 9 year high in the sunspot counts, as cycle 25 continues to trend above predictions, and that helps, a lot!

Back in January of 2020 I wrote a CrossTalk piece titled "2020 Vision" (catchy title, right?). Back then, we were counting "spotless days", and longingly looking forward to turning the tide of the current sunspot drought. Mind you, this was near the bottom of the solar cycle. And all we could do was look forward to any indication of having actually having bottomed out. But, there was hope.

In August of 2020, there appeared in CrossTalk a controversial article titled "Newer Solar Cycle 25 Forecast Runs Counter To Consensus" based on a recently published technical paper. This was a very contrarian paper, where it was suggested that the experts could be wrong, based on a new way of looking at solar history's "termination events". Using historical observations of these events in a novel analysis, it was suggested that cycle 25 could actually turn out to be quite strong, boldly predicting "...Sunspot Cycle 25 will have a magnitude that rivals the top few since records began. This outcome would be in stark contrast to the community consensus estimate". By their own admission, that is not what the experts were saying. Yet, as a Ham, I wanted to believe. Could they turn out to be right? For the remainder of 2020, we were left hoping, only dreaming of what the future might hold for long distance contacts on 10 meters.

By the time we got to July of 2021, we'd just had Field Day, and we could begin to tell that there was something good going on. Call it another hint that the prediction could be wrong. In a July 2021 CrossTalk article titled "Ready To Kick This Solar Cycle Into High Gear?", we took a look at data showing where we might be in Cycle 25, compared to the predictions. But all of this early stuff was really still all just predictions. We did not know.

Now, we are there. Now, there is no question. Now, we know. Sunspot counts are trending ahead of predictions, and 10 meters is back! And the fun is likely to continue, as the max continues to not be expected until late 2024, or maybe 2025. Of course, to tell if those peak predictions remain true or not, history shows we will have to wait until it is over, and then look back. When it is over, only then will we have "2020" hindsight. But forget about that. Let us refocus and live in the present! A current snapshot is shown on page 32. For latest updates, go to : <https://www.swpc.noaa.gov/products/solar-cycle-progression> .

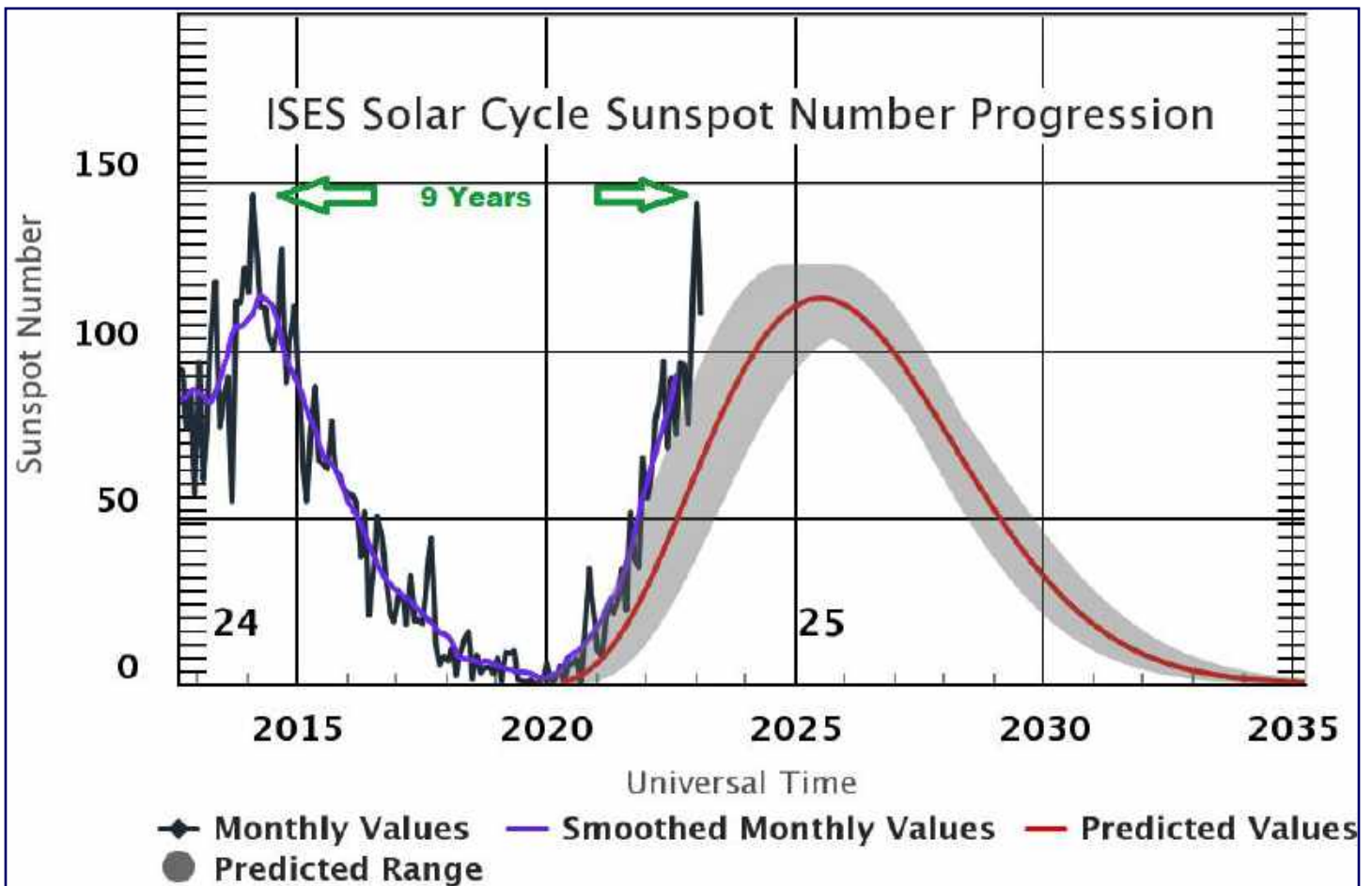
Enjoy the ride!

*10 Meters Is Back - Continued on page 32*



April 28, 2023





Picture showing how we recently hit a 9 year high as cycle 25 continues to trend ahead of predictions

## 2023 HOUSEHOLD SPECIAL WASTE COLLECTION DATES ANNOUNCED

Since 1989, Gloucester County has conducted a series of collection days where residents can drop-off their "Household Special Waste" (HSW) at a designated location. This is done in an effort to provide a more convenient HSW disposal schedule for County residents.

"Disposing of these wastes properly is key to ensure protection against harsh chemicals entering our environment. This is an easy way to do your part in keeping our planet clean," said Commissioner Lyman Barnes.

### Gloucester County Solid Waste Complex

493 Monroeville Road (Rt. 694)  
South Harrison

**April 8, 2023**  
**September 16, 2023**

8:00am - 2:00pm  
Rain or Shine

### Gloucester County Road Department

1200 N. Delsea Drive (Rt. 47)  
Clayton

**May 20, 2023**  
**October 14, 2023**

8:00am - 2:00pm  
Rain or Shine

### Accepted Materials

Oil based paints, stains, motor oil, antifreeze, CFL bulbs, fluorescent bulbs, ballasts, lead acid, Ni-cad, lithium, & all rechargeable batteries, fire extinguishers, solvents, pesticides, cleaners, kerosene, herbicides, gasoline, turpentine, varnish, fertilizers, rat poison, auto & floor care products, weed killers, lighter fluid, propane tanks, photographic & pool chemicals. 55 gallon containers require prior approval.

Participation limited to Gloucester County residents.



## DMR On Tech Saturday - March 4, 2023

Successful Tech Saturday events continued in March as **Len Rust, W2LJR** gave an excellent session on digital mobile radios (DMR). More than 20 participants listened as Len explained DMR radios were adapted from commercial radios and have many characteristics of those radios (standardized programming with little user input from the radio, efficient communication, Internet routing, etc.). Len presented background information on DMR radios and then describe their use in amateur radio. He also showed their interaction with “hotspots” that can extend a radio conversation through the Internet to another hotspot somewhere in the world. This allows DMR users to work “DX” from virtually anywhere. While not useful for emergency communications because of the reliance on the Internet, DMR offers an interesting opportunity for hams to explore yet another radio medium.

The April 8, 2023 Tech Saturday Forum will cover Yaesu System Fusion and Wires-X presented by **John Zaruba Jr, K2ZA**.



A club exists to go above and beyond for their communities and for Amateur Radio is what defines a Special Service Club (SSC).



They are the leaders in their Amateur Radio communities who provide active training classes, publicity programs, and actively pursue technical projects and operating activities.

GCARC has been an ARRL Affiliated Club since February 1960 and an SSC since April 2010.





## Amateur Radio Emergency Services - April 2023 Resources - News - Updates

By Bob Keogh, KD2NEC  
Gloucester County Emergency Coordinator



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)

### ARES® News

#### 1. Amateur Radio in Turkey and Northern Syria after the Earthquake

After the devastating earthquake in Turkey and Northern Syria on February 21, 2023, BBC's Digital Planet spoke to Aziz Sasa, TA1E, who is the President of the Turkish Amateur Radio Association. Aziz explained the vital role of amateur radio as a key communication method in the region. He also talked about how radio amateurs were aiding relief efforts with the use of repeaters on VHF and UHF frequencies. You can hear the interview on BBC Sounds - it starts at 2 minutes and 40 seconds into the broadcast. - Radio Society of Great Britain (RSGB)

For more details, see the April 2023 QST article on page 66.

### Joint Military Base McGuire-Dix-Lakehurst

#### 2. ARRL/ARES Demonstration at the Joint Military Base MDL Air Show

- a. On Saturday May 20 and Sunday May 21, from 1030 to 1730, the ARRL/ARES South Jersey Section Leadership is planning a Demonstration of Amateur Radio Equipment, Capabilities and Emergency Communications. The purpose of this event is to raise awareness of Amateur Radio, as well as our ARES Program. The plan is still being developed and updates will be provided when we have so further details.
- b. The ARES Section Coordinator (Tom Devine) is also starting to work on the annual Strategic Emergency Test (SET) to take place in October.



*SNJ ARES Update - Continued on page 35*



**American  
Red Cross**

### 3. ARES and the American Red Cross (ARC) NJ Region :

- a. The ARC Disaster Relief Services Group is wrapping up the reassessment of the number and locations of Shelters in each of the 21 counties of NJ. Results of this reassessment should be completed by the end of March.
- b. In the meantime, we are working with the ARC Disaster Technology team, to determine the requirements regarding the numbers of Amateur Radio Operators needed to provide both Voice and Data Emergency Communications. At this moment, we are responsible for Radio Communications between the Shelters, Disaster Headquarters, and the logistics facilities. Naturally, this will depend on the severity of the disaster, the number of impacted areas and the disruption of the regional commercial communications systems.
- c. Our goal is to have our Communications Plan completed and tested long before the hurricane season begins.
- d. March has been designated as American Red Cross month, by every US President since FDR. On March 5<sup>th</sup>, we celebrated onboard the Battleship NJ, across the river from where “BB62” was launched in 1942. This event provided me with a unique opportunity to spend time with the ARC NJ Regional CEO Rosie Taravella and the NJ Regional Disaster Services Director Ed Blanchard. Rosie’s husband is a Radio Amateur and Ed, who just recently relocated from New England, are both very supportive of ARES.

### 4. ARES Nets

- a. **ARES Training NET : Steve Farney W2SEF** (AEC) does a fabulous job managing our Gloucester County ARES Net every Sunday Night at 2000. You do not need to be a member of ARES or the GCARC, to check-into this net. We average approximately 15 radio amateurs each week. The purpose of this net is to provide training, passing traffic, and announcements.
- b. **Southern Counties Emergency Repeater Net (SCERN) : Charlie Olinda N2SRO** is the Net Control Station for SCERN. This net begins at 2030 every Sunday night. It uses the C4FM Digital Voice mode on these simplex frequencies : 440.24375 in Camden, 445.31875 in Salem County, or 445.31875 in Cumberland County. These repeaters are linked, so the net can be accessed from the repeater closest to your station.
- c. Part of the ARC Communications Plan is to have a monthly net to test our equipment and capabilities. It will probably be on the last Monday of every month, on the same frequency as the ARES Net. More about this later.

## 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>



## Æ20401 5.8 GHz Frequency Counter/Power Meter Build - Part 2

By Chris Prioli, AD2CS

Adjustment of the input amplifier is best done by inputting a sine wave (25kHz at 100mVP-P) into the BNC jack, and then reading the waveform at IC6 Pin 3. That waveform is adjusted to be centered at the 0V line in the oscilloscope using the vertical position control. Then, without changing that vertical position setting, the square wave at IC6 Pin 2 is read, and is adjusted to that same centered position by carefully adjusting the 200 $\Omega$  trimmer potentiometer (R2). In my build, the sine wave was not present at IC6 Pin 3, so I had to figure out why it was missing.



A little bit of tracing of the signal with the oscilloscope showed that it was present at the gate of T1, the BF256A J-MOSFET, but was not present at the MOSFET's source pin. MOSFET's are extremely sensitive to static electricity and are easily damaged by such static discharges. I had been reasonable careful when handling the FET, so I cannot say that I take full blame for its failure, but that's a moot point anyway. What mattered was that I had to replace the FET, which I was able to do easily, as I had stock on that device type.

I set about desoldering and removing the LCD panel, which was relatively easy given the capability of the solder station that I use, which is the same as the one that is on the club's test and repair bench. So, it did not take very long to get the LCD panel off (**Figure 11**) and to replace the FET. I decided to attempt to make the input amplifier adjustment before re-installing the LCD panel, as I did not need to use the panel for anything during the adjustment process. As luck would have it, that was a smart move on my part, as it turned out that I had to make another repair before the unit would adjust up properly.

Having reconnected the signal generator and gotten the oscilloscope ready, and having waited out the requisite half-hour warm-up period for the TCXO, I again attempted the adjustment. This time, I had the signal at IC6 Pin 3, but adjustment of the R2 200 $\Omega$  trimmer pot had no effect - there was no square wave at Pin 2 of IC 6. Back to the drawing board.

After the better part of an hour of poking, probing measuring, and thinking, I found that there was an open in the 200 $\Omega$  trim pot. There was no continuity between the wiper and either end of the resistive element. The resistive element had proper continuity and the correct resistance through it, but the pot was open between either end and the wiper terminal. Fortunately, I had a suitable trimmer pot in stock, so this too was a quick repair. Finally, after again going through the TCXO warm-up period, I was able to properly adjust the input amplifier and bring the unit to life.

I said earlier that adjustment of the unit's input amplifier is "best done" by inputting a sine wave and using an oscilloscope to read the signals at Pins 2 and 3 of IC6. There is an alternative method of making this adjustment, which is useful for those builders who may not have access to either an appropriate signal generator, a suitable oscilloscope, or both. This method involves the use of an accurate digital multimeter to measure the voltage between Pins 2 and 3 of IC6. With the negative voltmeter lead on Pin 3 and the positive lead on Pin 2, the 200 $\Omega$  trimmer potentiometer R2 is adjusted until a reading of 0.010VDC (10mVDC) is obtained. Easy-peasy!

*Æ20401 Frequency Counter Build - Continued on page 37*



Out of pure idle curiosity, I measured the voltage there after making my adjustment with the 'scope and sine wave generator, and I found that the voltage present there was very close at 0.011VDC, so I would guess that either method will suffice as the Æ20401 instruction manual says.

Wiring of the rear panel components is simple enough if the builder can read a schematic properly. The instruction manual makes almost no mention at all; of these components, and certainly does not provide any connection instructions. There are three components mounted to the rear panel... the power inlet jack, the power switch, and the external signal-in jack.

The power inlet jack is a coaxial jack with three terminals. There are three terminals because it is a switching jack, used to disconnect a battery when external power is supplied. In this instance, because there is no battery installed, the two relevant terminals can be wired together, and then to the negative power tie point on the main PCB. The center terminal of the power inlet jack is the positive terminal. A short wire is to be run from the center pin terminal to one terminal of the power switch. Another wire is to be run from the second terminal of the switch to the positive power tie point on the main PCB.

In reality, the switch can be wired into either the positive or the negative lead. The circuit will work either way, as it is a simple SPST switch and it is only necessary to break the incoming power circuit somewhere to switch the unit off. The fact is that the rear panel power inlet jack and power switch are not shown in the schematics at all. It is my custom to switch power on the positive line so as to maintain a continuous ground connection at all times, so I opted to place the switch in the positive lead.

The external signal-in jack is shown on the schematic, after a fashion. Nothing specifically indicates which side of the jack is to be connected to which lead, whether it be signal or ground. Customarily, the shell of an RCA-type connector is in the ground path, so that is how I wired this jack.

Both of these wiring decisions were made based upon prior knowledge and experience. A novice kit builder would not necessarily have that knowledge or experience, but then, a novice builder would not likely be building this kit. That type of individual would not likely have a need for this piece of test equipment.

The optional frequency and power meter modules install directly to the pin headers on the main PCB. The positions of the connecting pin sockets on the modules preclude installation of the modules in the wrong positions. However, when considering the Æ204014 and Æ204015 power meter modules, only one can be installed at a time. I ordered both modules so as to give me the greatest range and therefore the greatest capability possible. I assembled the unit using the Æ204014 8GHz power meter module, and of course the Æ204017 5.8GHz frequency module. I store the unused Æ204015 500MHz power meter module in its anti-static pouch inside the enclosure of the assembled unit, together with the empty pouch for the installed power meter module (**Figure 12**), so that it is always easily locatable if I should decide to install it for use.

Final assembly of the unit involves some important steps. First is to remove one hex nut from each of the installed optional modules and to remove the single hex nut from the BNC jack. Then, place the extender caps on each of the three tactile switches. Next, position the front panel over the tact switches, BNC jack, and optional modules. Slide the front panel down into the slots directly behind the forward edge of the enclosure lower half, which is the half with the through screw holes. Note that a plastic tab must be removed from the bottom of the enclosure lower half front opening (**Figure 13**) to provide clearance for the installed modules, as shown in the manual.

*Æ20401 Frequency Counter Build - Continued on page 38*

With the PCB engaged in the provided slots in the lower enclosure half and the front panel seated in its groove, reach behind the front panel with a small screwdriver and spin the hex nuts on the optional modules up against the back of the front panel. Install the two brass hex nuts onto the installed modules and run them down against the front panel, and then tighten them there.

Slide the front panel up slightly out of its seated position and install the large hex nut onto the BNC jack. Tighten it just enough to seat against the front panel without bending the panel, and leave it positioned with one flat aligned parallel to the bottom edge of the front panel. This is necessary so that the front panel will seat fully in the enclosure. Position the rear panel into its slot at the rear of the lower enclosure half. Finally, lower the upper enclosure half down onto the PCB and the front and rear panels. If necessary, use a small screwdriver to reach in between the enclosure halves and guide the PCB into its slots in the upper enclosure half. Check the position of the LCD panel in its front panel opening to make sure that it is not tilted, indicating that it missed its slots in the upper half. If the LCD panel is positioned properly, install the two screws that secure the enclosure halves together.

The Æ20401 is shipped with a CD-ROM that contains several useful files, including the manual in .PDF format, the Windows® driver for the USB interface, and the Æ20401 Windows® application in both installable and portable versions. As the unit is operated (**Figure 14**), the user can navigate through the various modes and their menus by way of various presses of the tact switches, or alternatively, the software application can be used to fully control the unit and to record the meter readings. In order for the Æ20401 to be connected to a PC, a USB cable with a type “A” connector at each end is required. While not a commonly-used cable, it is none the less fairly easy to find. Ascel Electronic offers such cables on their website, so it may be a good idea to order the cable when ordering the kit. The price is very reasonable. The software can be used to log and graph the incoming signals through the various Channels and modes (**Figure 15**).

The CD-ROM also holds a piece of software called Ascel Firmware Update Utility. This is a Windows® utility that is used to load newer or updated versions of the Æ20401 firmware to the µC on-board the PCB. I presume that the intent is to provide new or enhanced ability to the unit through firmware changes, at some point in the future.

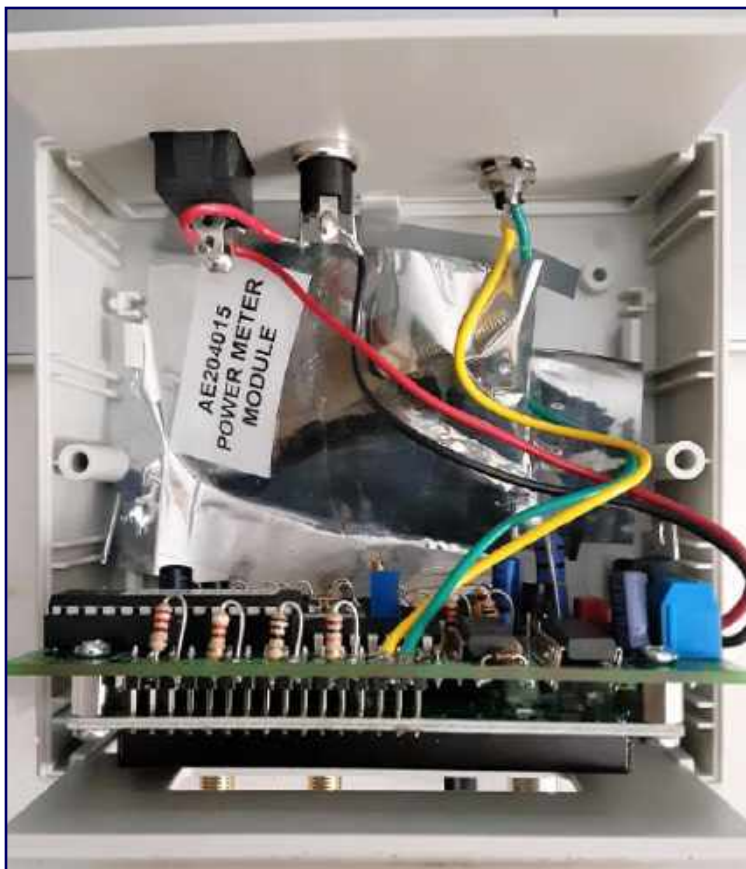
There are extensive use and calibration instructions provided in the manual. The user instructions include menu navigation and sensitivity adjustments in addition to the basic operating instructions. The calibration procedure can be somewhat confusing until the second or third go-through. I went through the procedure four times just to be sure that I was comfortable with the process. Calibration is required each time the optional power meter module is changed, so if both modules are purchased as in my case, it is wise to practice the procedure, as you will be doing the calibration fairly often if you swap modules around.

All things considered, this is a sensitive and capable piece of test equipment that is a worthwhile addition to most any test and repair bench. It promises long service life so long as its maximum input limits are not exceeded. I recommend this unit to anyone with the need for accuracy and the inclination to build test equipment from a kit.

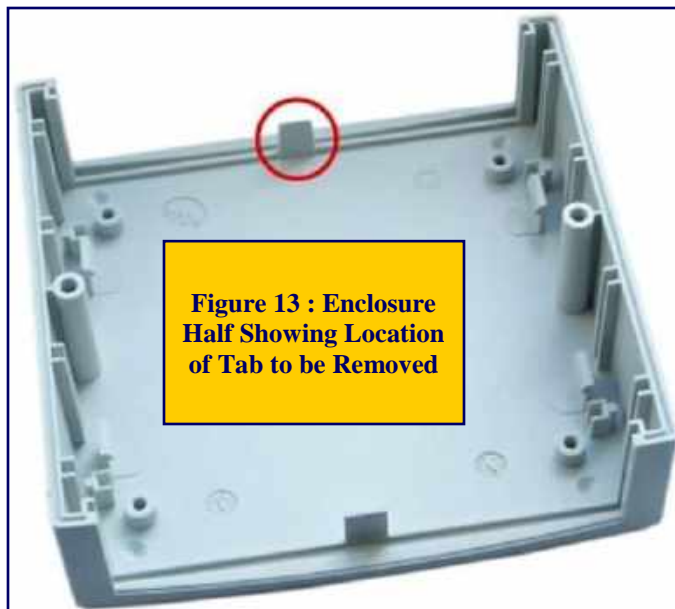
This excellent article is available on our website and with a downloadable PDF at :

<https://gloucestercountycastle.weebly.com/ascel-frequency-counter.html>

**Figure 11 : PCB Foil  
Side (without LCD  
panel)**



**Figure 13 : Enclosure  
Half Showing Location  
of Tab to be Removed**



**Figure 12 : Module Stored in Enclosure. Note  
the rear panel components and wiring**



Figure 14 : Working Unit with Sine Wave

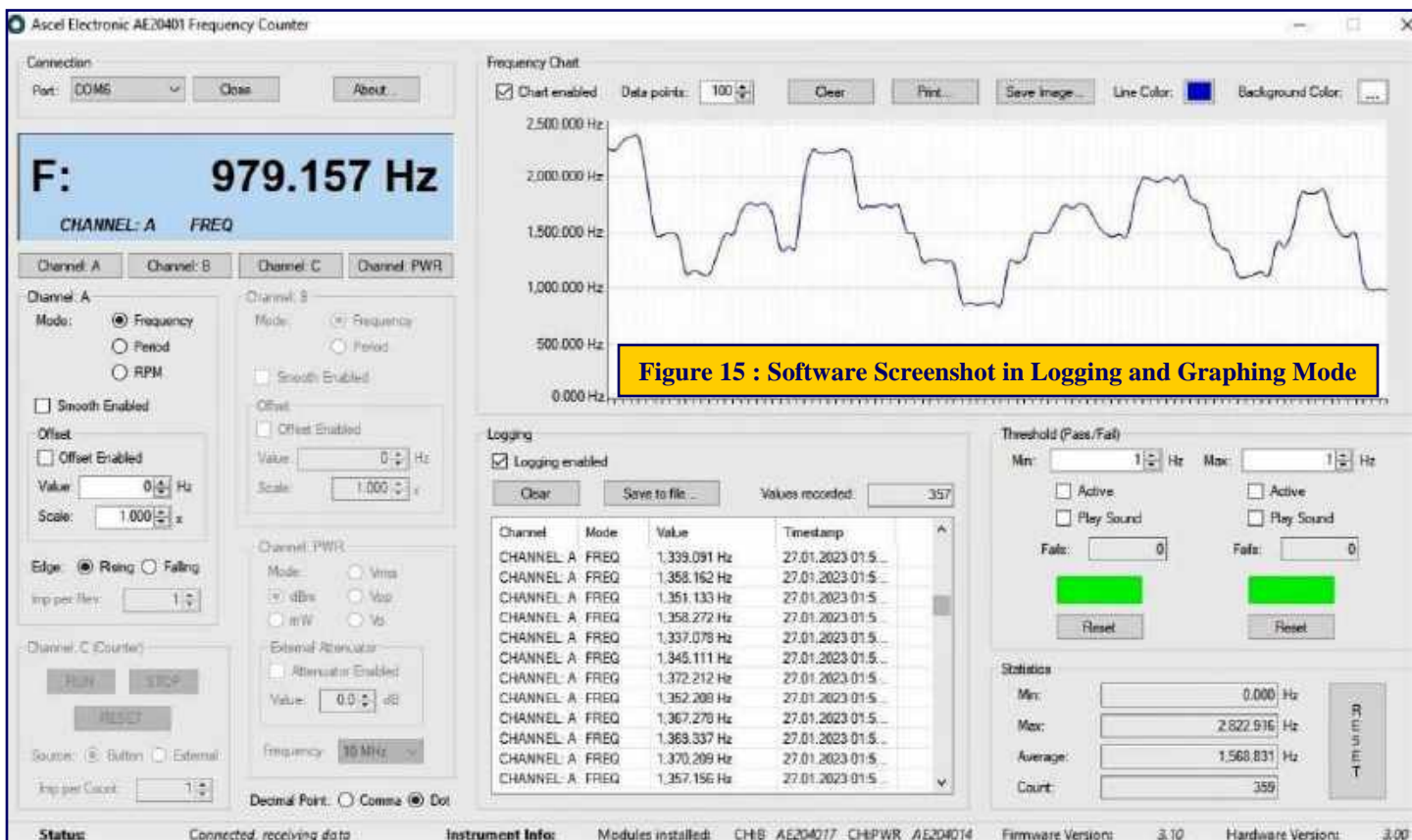


Figure 15 : Software Screenshot in Logging and Graphing Mode



## **ARRL Membership Commission Program**

**By Chris Prioli, AD2CS**

As some of you may already know, the ARRL has upped the ante on one of their long-standing programs, the Affiliated Club Membership Commission program. What this means to us is that we as an Affiliated Club have access to an improved revenue stream that costs us nothing but a little bit of paperwork and cooperation. The Membership Committee will handle the paperwork, but we do need the cooperation of all Club members to make this a reality.

Here is how it works. The ARRL will pay a commission to the GCARC for every new ARRL membership and for every ARRL membership renewal that is processed through the Membership Commission program. The payments are at a rate of five dollars for each renewal and fifteen dollars for each new membership application submitted. This could equate to a sizable income for our Club if everyone cooperates.

All that you have to, as an existing ARRL member, is to renew your League membership via a renewal form that the GCARC Membership Committee will provide to you, completing the form and returning the form with the renewal payment to our Membership Committee. We will then bundle all of the applications received in a given month and submit them to the ARRL together with a special cover form completed by the Membership Committee. The ARRL will then send a check for the agreed commission amount to our Club. Renewals can be submitted as much as sixty days before expiration. If you are unsure of your expiration date, drop me an email and I can tell you when your ARRL membership expires.

As a tentative new member... and 36% of our membership does not currently belong to the ARRL... the process is similar. Our Membership Committee will provide you with a League membership application, which you will then complete and return to us together with your payment. We will then submit those applications together with the required cover form to the ARRL, who will again send a check for the commission to our Club.

If you are not currently an ARRL member, I strongly recommend that you join the League. The ARRL is our - Amateur Radio's - ONLY voice in Washington when it comes to lobbying for the hobby and protection of Amateur Radio against encroachment by other interests. We NEED to support the ARRL in order to protect our chosen hobby, and they are quite effective and successful in their efforts to protect and promote Amateur Radio.

Many of you will be renewing your ARRL memberships anyway, so why not do it through this program and let GCARC benefit a little bit from your renewal?

**\*\*\* New Day and Time \*\*\***

**Tuesday & Thursday Nights 10M Rag Chew Net @ 1930 Hours**

**Net Control Host : Jim Clark, KA2OSV**

**28.465 MHz or 28.475 MHz**

## 2020-2024 Element 4 Amateur Extra Class License Question Quiz

This month we continue with Subelement E2 Operating Procedures (5 exam questions out of 5 groups)  
(Answers on 'Last Page Calendar')

### E2C01

**What indicator is required to be used by U.S.-licensed operators when operating a station via remote control and the remote transmitter is located in the U.S.?**

- A. / followed by the USPS two-letter abbreviation for the state in which the remote station is located
- B. /R# where # is the district of the remote station
- C. / followed by the ARRL Section of the remote station
- D. No additional indicator is required

### E2C02

**Which of the following best describes the term "self-spotting" in connection with HF contest operating?**

- A. The often-prohibited practice of posting one's own call sign and frequency on a spotting network
- B. The acceptable practice of manually posting the call signs of stations on a spotting network
- C. A manual technique for rapidly zero beating or tuning to a station's frequency before calling that station
- D. An automatic method for rapidly zero beating or tuning to a station's frequency before calling that station

### E2C03

**From which of the following bands is amateur radio contesting generally excluded?**

- A. 30 meters
- B. 6 meters
- C. 2 meters
- D. 33 centimeters

### E2C04

**Which of the following frequencies are sometimes used for amateur radio mesh networks?**

- A. HF frequencies where digital communications are permitted
- B. Frequencies shared with various unlicensed wireless data services
- C. Cable TV channels 41 through 43
- D. The 60 meter band channel centered on 5373 kHz

### E2C05

**What is the function of a DX QSL Manager?**

- A. To allocate frequencies for DXpeditions
- B. To handle the receiving and sending of confirmation cards for a DX station
- C. To run a net to allow many stations to contact a rare DX station
- D. To relay calls to and from a DX station

### E2C06

**During a VHF/UHF contest, in which band segment would you expect to find the highest level of SSB or CW activity?**

- A. At the top of each band, usually in a segment reserved for contests
- B. In the middle of each band, usually on the national calling frequency
- C. In the weak signal segment of the band, with most of the activity near the calling frequency
- D. In the middle of the band, usually 25 kHz above the national calling frequency

*Element 4 Amateur Extra Class Quiz - Continued on page 43*

**E2C07**

**What is the Cabrillo format?**

- A. A standard for submission of electronic contest logs
- B. A method of exchanging information during a contest QSO
- C. The most common set of contest rules
- D. The rules of order for meetings between contest sponsors

**E2C08**

**Which of the following contacts may be confirmed through the U.S. QSL bureau system?**

- A. Special event contacts between stations in the U.S.
- B. Contacts between a U.S. station and a non-U.S. station
- C. Repeater contacts between U.S. club members
- D. Contacts using tactical call signs

**E2C09**

**What type of equipment is commonly used to implement an amateur radio mesh network?**

- A. A 2 meter VHF transceiver with a 1200 baud modem
- B. An optical cable connection between the USB ports of 2 separate computers
- C. A wireless router running custom firmware
- D. A 440 MHz transceiver with a 9600 baud modem

**E2C10**

**Why might a DX station state that they are listening on another frequency?**

- A. Because the DX station may be transmitting on a frequency that is prohibited to some responding stations
- B. To separate the calling stations from the DX station
- C. To improve operating efficiency by reducing interference
- D. All these choices are correct

**E2C11**

**How should you generally identify your station when attempting to contact a DX station during a contest or in a pileup?**

- A. Send your full call sign once or twice
- B. Send only the last two letters of your call sign until you make contact
- C. Send your full call sign and grid square
- D. Send the call sign of the DX station three times, the words "this is," then your call sign three times

**E2C12**

**What technique do individual nodes use to form a mesh network?**

- A. Forward error correction and Viterbi codes
- B. Acting as store-and-forward digipeaters
- C. Discovery and link establishment protocols
- D. Custom code plugs for the local trunking systems

# Gloucester County Amateur Radio Club

## General Membership Meeting Minutes

### Wednesday, March 1, 2023



The meeting was opened @ 1930 Hours by **President Jonathan Pearce WB2MNF** with the Pledge of Allegiance to the Flag. This meeting was held at the Mantua Masonic Hall because the Pfeiffer Community Center in Williamstown is under repair.

#### ATTENDANCE :

- In-person : 31
- ZOOM : 13

#### Welcome To New Members :

- **Norman Coltri WA2UUP** from Swedesboro (present)
- **Michael Covalesski N2MMC** from Sewell
- **Susan Frank W6SKT** from Swedesboro
- **Joseph Gadoury KE2AKT** from Tabernacle
- **Todd Woodward KD2ESH** from Turnersville

**Jon reminded all that annual membership dues are due.**

#### Topics for upcoming meetings include :

- March 4 : Tech Saturday Forum - DMR radios and programming by **Len Rust W2LJR**
- March 6 : TechNet ZOOM on WSJT-X / FT-8 and related programs by **Steve Farney W2SEF**
- March 15 : Board of Directors Meeting
- March 20 : TechNet ZOOM on Audacity® Audio Editor by **Carl Witting N2CRW**
- March 22 : Dinner at Clubhouse 1800 Hours

The minutes from the February General Membership Meeting were approved.

**TREASURER : Alan Arrison KB2AYU** was not present but provided the following information by email :

- Income : \$4,010
- Expenses : \$1,652
- Net Gain : \$2,358

The Treasurer's Report was accepted.

**CLUBHOUSE : Jim Wright N2GXJ** described the new 160 meter full-wave delta loop that was installed in place of the old 80 meter dipole. This antenna was constructed with more than 550 feet of #12 stranded insulated wire and a high power 4:1 balun. During the recent CQ WW 160 Meter SSB contest, this antenna was used to make 132 contacts in 33 states, countries in the Caribbean, South America, and central Europe. Jim reports this antenna loads on several bands, supplements the HF beam and provides excellent signal reception.

*March 2023 General Membership Meeting Minutes - Continued on page 45*



**Jonathan Pearce WB2MNF** reported relocation and several upgrades to the Winlink RMS including a new computer, addition of a radio, tri-plexer and a new antenna system to permit operation on both 145.030 MHz and 223.580 MHz. The 40 meter antenna was reworked to minimize interference with Wi-Fi and the old Pentium IV Echolink computer was replaced with the Atom-powered computer previously used for the Winlink station. The guidelines for HF station reservation have been updated.

Users will continue to sign up using the online Clubhouse calendar with some restrictions. The HF station will not be available for remote operation during Tech Saturdays and Clubhouse Dinners. Users who have reserved a time slot will forfeit their reservation if they have not started to use the equipment within the first 20 minutes of their time slot. Users must provide a phone number when making reservations and are asked to change their reservation if they finish early or decide not to use their time slot.

**CLUB NETS :** No report

**FUTURE PROGRAMS :** **Ron Block NR2B** reviewed the speakers for the upcoming General Membership Meetings :

- March 1 (tonight) : **Nicholas Kreuz KC3RFB**, **Thomas Stanek**, and **Daniel Millar** on the Rowan University AIAA Rocketry competition
- April 5 : **Bob Heil K9EID**
- May 3 : **Randy Smith WU2S** on AREDN/MESH Networking
- June 7 : **Chuck Colabrese WA2TML** on Radio Propagation

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

- March 4-5: ARRL DX SSB
- March 11-12 : Stew Perry Top-Band Challenge (CW)
- March 18-19 : Russian DX Contest
- March 25-26 : CQ WPX SSB

**FIELD DAY :** **Tony Starr K3TS** will be the 2023 Field Day Coordinator. Last year we operated 8A but we need to shrink our footprint this year since the Wine Festival is scheduled for the same weekend as Field Day. Tony showed a preliminary plan with antennas located at the periphery of our space that would permit operation as 5A or 6A.

**REPEATERS :** No report

**EDUCATION :** Licensing classes are ongoing. Contact **Chris Prioli AD2CS** for registration.

**TECHNICAL COMMITTEE :** **Jonathan Pearce WB2MNF** has become interested in the GREENCUBE satellite, so named because it includes an onboard experiment to examine the germination of Brassicaceae seeds in a microgravity environment. In addition to his fascination with salads, Jon is interested in the digipeater onboard this satellite because the 2200 mile orbital height allows coverage of a very large area. Using a variant of soundmodem that is specific to GREENCUBE digipeater (USB GMSK), Jon was able to make 49 QSOs (that included 15 countries) from the Clubhouse on 435.310 MHz.

**John O'Connell K2QA** described the application NodeRed, which runs on a Raspberry Pi and provides a way to collect data from devices. In this case, the Club's FLEX radio.

**CONSTITUTION COMMITTEE** : No report

**FOXHUNT** : According to **Frank Romeo N3PUU**, who hid the transmitter for the last hunt, turnout was the biggest that he has ever seen. The winner was **Alan Arrison KB2AYU**, who will hide the transmitter next time, probably in May.

**OLD BUSINESS** : None

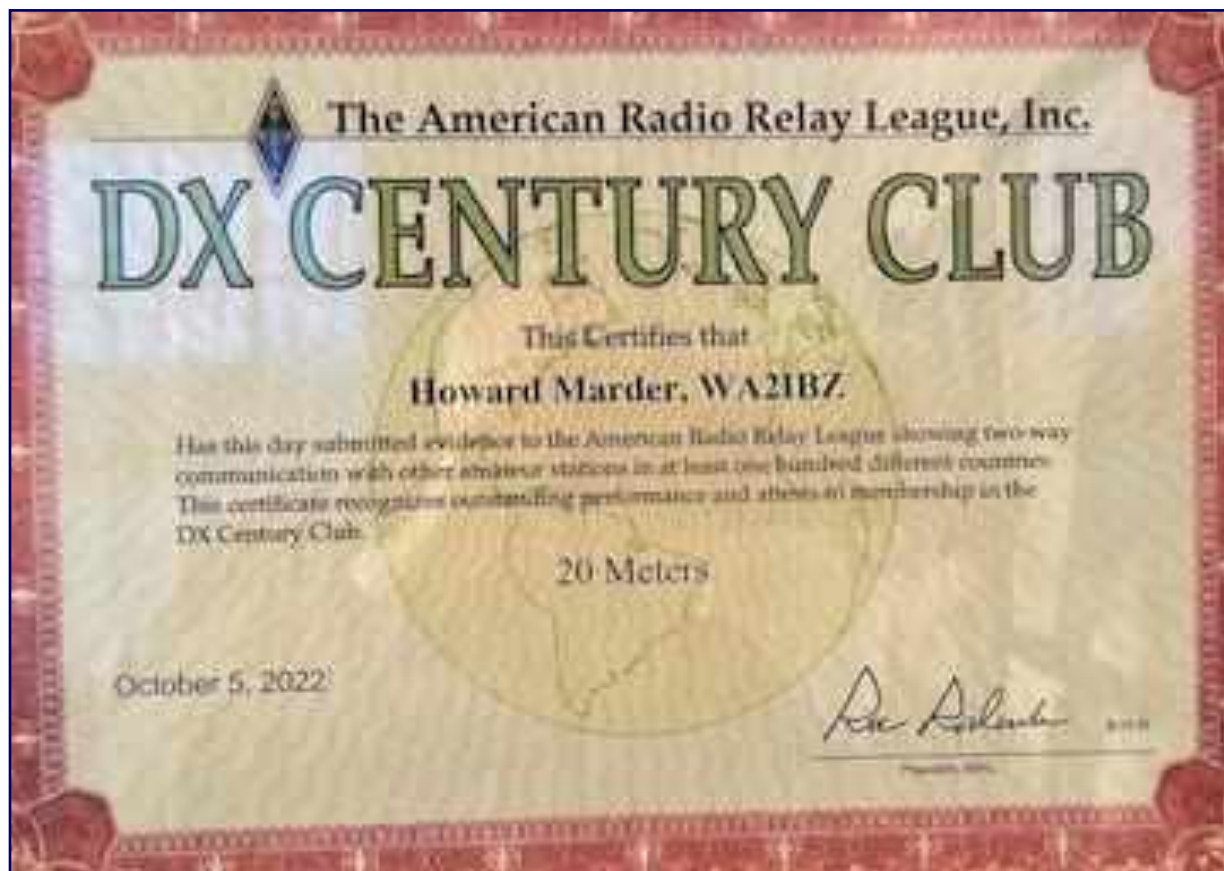
**NEW BUSINESS** : None

**MISCELLANEOUS** :

The program following the General Membership Meeting tonight will be on the **Rowan University AIAA Rocket Program** by **Nicholas Kreuz KC3RFB**, **Thomas Stanek**, and **Daniel Millar**.

The meeting concluded @ 2032 Hours.

Respectfully Submitted,  
**Karl Frank W2KBF**,  
GCARC Recording Secretary



# Gloucester County Amateur Radio Club

## Board of Directors Meeting Minutes

### Wednesday, March 15, 2023



Meeting opened @ 1900 Hours by President Jonathan Pearce WB2MNF.

#### ATTENDANCE :

- President Jonathan Pearce WB2MNF
- Vice President Ron Block NR2B
- Treasurer Alan Arrison KB2AYU
- Recording Secretary Karl Frank W2KBF
- Corresponding Secretary Frank Romeo N3PUU
- Director Jim Clark KA2OSV
- Director Chuck Colabrese WA2TML
- Director Jeff Garth WB2ZBN
- Director Jim Wright N2GXJ
- Director Chris Prioli AD2CS
- Director Bill Price NJ2S
- Trustee John O'Connell K2QA

The minutes of the February BoD Meeting were approved.

**TREASURER :** Alan Arrison KB2AYU reported YTD Budgeted Items :

- Income : \$4,129
- Expenses : \$1,849
- Net Gain : \$2,279

Total in all accounts includes \$25,000 grant money and \$4,115 in the rebuilding fund. Approximately \$2,900 has been collected in dues and donations of \$406 have been received along with dues. State and Federal Corporation reports have been filed. The Treasurer's report was accepted.

**NEW MEMBER APPLICATIONS :** The following applications were received and approved :

- Keith Evans, KC3PAA, Technician Class from Wilmington, DE
- Daniel Lenco, WA2BPH, Advanced Class from Pedricktown, NJ

Prior to the BoD meeting, we received and approved an application from :

- Edward Scheidts, KC2QFB, Amateur Extra Class from Riverside, NJ.

At this time we have 65 members who have not renewed. **Jonathan Pearce WB2MNF** noted that we still need an additional 28 new members or renewals to meet our budget. Existing members that have not paid dues will have until the April 5<sup>th</sup> General Membership Meeting to pay. **Chris Prioli AD2CS** and Jon will send gentle reminders, but names will be dropped from the GCARC roster if not paid up by the April meeting.

*March 2023 Board of Directors Meeting Minutes - Continued on page 48*



**CLUBHOUSE :** **Alan Arrison KB2AYU** noted that we still have a big TO DO list. The HF tower has been lowered due to the current wind advisory. **Chris Prioli AD2CS** and **Bill Price NJ2S** both have contacted Alarm Doctor regarding our inability to program the date and time into the door alarm. Bill suspects that a chip must be replaced and will find out what this will cost and if it is worth doing. Chris has obtained keys for both the inside and outside doors, which will make it less likely that we will be locked out.

**CLUB NETS :** **Jim Clark KA2OSV** reports 4 check-ins to the recent Tuesday 10 Meter Net and 6 check-ins to the Thursday 10 Meter Net @ 1930 Hours. **Chris Prioli AD2CS** reports 7 to 8 check-ins to the Tuesday Noon 2 Meter Nets and more to the Thursday Evening 2 Meter nets, unless a VE session is in progress. **Bill Price NJ2S** is interested in starting a monthly Trader's Net on a date TBD.

**DX and CONTESTS :** **Tony Starr K3TS** noted the upcoming WPX Phone contest on March 25 and 26 and said it would be good if the Clubhouse could be open for this contest. **Chris Prioli AD2CS** volunteered to be the coordinator for this Club activity.

**REPEATER :** There have been reports of de-sensing on the 2 Meter repeater. **Alan Arrison KB2AYU** said that de-sensing has been sporadic and we do not know the cause. If it continues, we may ask users to tune to the input to check for interfering signals.

**PROGRAM :** **Ron Block NR2B** summarized the programs for the next few General Membership Meetings :

- **April 5 : Bob Heil K9EID**
- **May 3 : Randy Smith WU2S** on AREDN/MESH Networking
- **June 7 : Chuck Colabrese WA2TML** on Radio Propagation
- **July 5 : No Program**, this will be Pizza Night
- **August 2 : Tony Starr K3TS** on installing a mobile station with the following Tech Saturday used as a hands-on session for mobile radio installation.

**EDUCATION COMMITTEE :** **Chris Prioli AD2CS** reports that we are more than halfway thru the current licensing classes and that a half dozen have signed up for the next round.

**FIELD DAY :** In view of the need to compact and re-configure our space this year, Field Day Chairman **Tony Starr K3TS** will schedule planning sessions, possibly by ZOOM. At the next General Membership Meeting Tony will request approval to purchase band pass filters for 80 and 40 Meters.

## **OLD BUSINESS :**

**REPLACEMENT VHF TOWER :** **Alan Arrison KB2AYU** identified an opportunity to purchase two used 72 and 89 foot medium duty crank-up towers. Accessories such as motorized winches and stop switches are included. The BoD approved :

- Purchase of the two towers and transportation to the Clubhouse
- Expenditure of the \$25,000 ARRL grant plus the \$4,115 in designated donated funds to stand up and populate the 89 foot tower, to the extent of the remaining funds
- Authority to stand up and populate the 72 foot tower to the extent that funds remain for the project

**CONSTITUTION COMMITTEE :** **Ron Block NR2B** recruited **Chuck Colabrese WA2TML**, **Karl Frank W2KBF**, and **Jeff Garth WB2ZBN** to serve on the Constitution Committee as we rewrite the current GCARC Constitution to better fit our needs. As per BoD discussion, changes will include :

- Change "Junior Membership" to "Student Membership" for full-time students
- Change "Associate Membership" to "unlicensed only"
- Under "Associate Membership", remove reference to "Auto-patch"
- Removal of reference to an initiation fee
- Elimination of dues pro-ration on a monthly basis, but allowing new members who join in the final quarter of a year to be considered paid in full for the following year
- Elimination of secret balloting, except when appropriate for elections
- Allowing ZOOM participants to count toward a meeting quorum
- Writing a procedure for disposition of Club assets in the event the Club were to be dissolved

**Jonathan Pearce WB2MNF** will look for suggestions as to how other non-profit groups have handled this last issue.

**NEW BUSINESS : None**

**MISCELLANEOUS :**

- **Jeff Garth WB2ZBN** expects the Pfeiffer Community Center to be available for our next General Membership Meeting on April 5<sup>th</sup>.
- **John Hill W2HUV** has obtained a cable for the FLEX 3000 that will allow it to be used with the linear amplifier.
- **Chris Prioli AD2CS** reminded the BoD that Club members would like to borrow test equipment but this cannot be done until this equipment is inventoried and tagged. **John O'Connell K2QA** agreed to work with Chris on this.
- **Karl Frank W2KBF** would like to see articles in The Crosstalk that feature a different Club member each month. The BoD agrees so Karl will look into starting a "Member Spotlight" column.

**The BoD meeting was adjourned @ 2052 Hours.**

**Respectfully Submitted,  
Karl Frank W2KBF,  
GCARC Recording Secretary**



**April 18, 2023**

**ARRL RTTY Roundup**  
**January 7, 2023**

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

**Class : SO Unlimited HP**  
**QTH : NJ**  
**Operating Time (hrs) : 8**  
**Location : USA**

**Summary :**

**Band QSOs**

-----  
80 : 13  
40 : 93  
20 : 43  
15 : 86  
10 : 24  
-----

**Total : 259 State/Prov : 48 Countries : 19**  
**Total Score : 17,353**

**Club : Frankford Radio Club 01**

**Comments :**

Rig : FTDX-9000D/OM Power 2000A+  
Antennas :  
80m dipole @ 90ft  
40m dipole @ 85ft  
10m/15m/20m Force 12 C3S Yagi @ 53ft on AB-577 military mast

I've only entered this contest a couple times before, and this is my best score so far. For the times I could operate, 15m and 40m proved to be the best bands. I was able to get on 10m awhile Sun AM and worked a few EU stations.

CU in the upcoming NAQP contests.  
73 and HNY,  
Darrell AB2E

**Contest : ARRLRTTY**

Band	QSOs	Pts	Sec	DXC	Pt/Q
3.5	13	13	3	0	1.0
7	93	93	10	0	1.0
14	43	43	21	7	1.0
21	86	86	14	4	1.0
28	24	24	0	8	1.0
<b>Total</b>	<b>259</b>	<b>259</b>	<b>48</b>	<b>19</b>	<b>1.0</b>

Score : 17,353

1 Mult = 3.9 Q's

**North American QSO Party, CW**  
**January 15, 2023**

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

**Class : Single Op Assisted LP**  
**QTH : NJ**  
**Operating Time (hrs) : 9.9**  
**Location : USA**

**Summary :**

**Band QSOs Mults**

-----  
160 : 32 24  
80 : 180 52  
40 : 195 55  
20 : 168 57  
15 : 92 51  
10 : 45 31  
-----

**Total : 712 270**  
**Total Score : 192,240**

**Club : Frankford Radio Club 02**

**Team : FRC Team Delta**

**Comments :**

Rig : Elecraft K3  
Antennas :  
160m - Inverted L over 100ft tree  
80m dipole @ 90ft  
40m dipole @ 85ft  
10m,15m,20m Force 12 C3S tribander @ 52ft on AB-577 military mast.

Lots of fun and first real full-time effort, my personal best score. Very pleased overall with condx in general, and activity on 10m. A good spread of mults on all bands. Had some nice runs, and not very hard to grab most mults.

CU next weekend in NAQP SSB.

73 Darrell AB2E

Team Delta

**Contest : NAQPCW**

Band	QSOs	Pts	Sec	Mt2	Pt/Q
1.8	32	32	24	0	1.0
3.5	180	180	49	3	1.0
7	195	195	52	3	1.0
14	168	168	53	4	1.0
21	92	92	47	4	1.0
28	45	45	28	3	1.0
<b>Total</b>	<b>712</b>	<b>712</b>	<b>253</b>	<b>17</b>	<b>1.0</b>

Score : 192,240

1 Mult = 2.6 Q's



North American QSO Party, SSB  
January 22, 2023

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

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

Summary :

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

160 :	2	2
80 :	252	42
40 :	432	57
20 :	282	58
15 :	52	31
10 :	51	21

Total : 1,071 211  
Total Score : 225,981

Club : Frankford Radio Club 04

Team : FRC Team Helium

Comments :

Rig : Elecraft K3  
Antennas :  
160m - Inverted L over 100ft tree  
75m dipole @ 90ft  
40m dipole @ 85ft  
20m/15m/10m C3S Force 12 Yagi @ 52ft on AB-577 military mast.

First full-time effort for this contest, and a lifetime high score. I made both of my goals, which was to break 1000 QSOs (almost made 1100), and to make 200K. I initially spent too much time on 10m and 15m chasing mults, and I don't think the bands were as good as in NAQP CW, although the SFI was just as high. I had fantastic runs on 20,40, and 80 and feel I was on those bands at just the right times for running. A highlight was having V31XX call me on 80m, along with 8P5A and ZF2PG. Several stations were worked on 4 bands, but only Tony K3TS was worked on 5 bands. Condx were horrible on 160m, and almost nothing heard there.

Great to work so many friends, and hear so many new operators getting in the contest. See all of you next weekend in CQ 160 CW.

73 Darrell AB2E

North American QSO Party, SSB  
January 22, 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
------	------	-------

160 :	14	10
80 :	126	30
40 :	130	44
20 :	240	40
15 :	108	36
10 :	46	26

Total : 664 186  
Total Score : 123,504

Club : Frankford Radio Club 05

Team : FRC Team Hydrogen

Comments :

My all-time high score in any NAQP. I even beat last week's CW score by 2k, which is a surprise. This is one of the easiest and most fun contests of the year, and I always look forward to it. Hope to see all of you NAQP fans again in August! 73.

de K3TS

Contest : NAQPSSB

Band	QSOs	Pts	Sec	Mt2	Pt/Q
1.8	2	2	2	0	1.0
3.5	252	252	38	4	1.0
7	432	432	51	6	1.0
14	282	282	52	6	1.0
21	52	52	30	1	1.0
28	51	51	18	3	1.0
Total	1,071	1,071	191	20	1.0

Score : 225,981

1 Mult = 5.1 Q's

# RADIO ELECTRONICS EXPO

Georgetown Hamfest

**SATURDAY**  
**April 15, 2023**

Cheer Community Center  
20520 Sand Hill Rd.  
Georgetown, DE 19947



Sponsored by  
Sussex Amateur Radio Association  
**RadioElectronicsEXPO.com**  
Follow us on Facebook at Delmarva Amateur Radio & Electronics EXPO



Joseph O'Neil, KB9RAR





# Sussex Amateur Radio Association

## - APRIL 15, 2023 -



# Delmarva Amateur Radio & Electronics EXPO

**Centrally and conveniently located...within 2 to 3 hours of major cities:**

Baltimore, Philadelphia, Wilmington, Washington DC, and Virginia Beach as well as Eastern PA and Southern NJ

**NO SALES TAX - MORE VALUE FOR VENDORS AND GUESTS - FREE PARKING**

**Bring The Family And Enjoy A Weekend At The Beach!**

### Past Vendors & Exhibitors

ARRL  
Beebe Hospital  
Fisher Cable  
Call Stuff  
Direct Tools  
GnG Electronics  
Satellite Sam  
Hamsource.com  
HRO (Ham Radio Outlet)  
Magnum Electronics  
Quicksilver Radio  
Redicall Communication  
The RF Connection  
Towaco Imaging  
Verizon

### Events & Attractions

ARRL State Convention  
Tail Gating  
Great Food  
Blood Pressure Testing  
Chinese Auction  
Raffle...Big Prizes!  
License Testing  
Guest Speakers/Forums  
QSL Card Bureau/Card Checking  
Door Prizes!

**Guests Pay \$8 To Enter!**  
(Under 18 FREE!)

**Inside spaces \$15.00 - 1st Table**  
**Tailgaters : \$15.00 - First Space**

For Information  
Contact Jamie, W3UC

**(410) 202-7690**

hamfestdelaware@gmail.com

### HAMFEST LOCATION:



**Cheer Community Center**  
20520 Sand Hill Rd.  
Georgetown, DE 19947

### HOST HOTEL:

Tru Hotel by Hilton  
301 College Park Drive  
Georgetown, DE 19947  
(302) 515-2100  
www.hilton.com

**JOIN US IN TAX FREE DELAWARE!**

**Gates open at 6:00 A.M.**  
**Expo begins at 8:00 A.M.**

### Schedule

6:00 AM	Gates Open
7:30 AM	Tailgating
8:00 AM	Indoor expo venue opens
	Restaurant available
12:00 PM	FCC testing -No test fee, pre-registration required
	<b>Last test seating at 12:30 PM</b>

### Speakers Forums

ARRL Update  
Others

### TALK-IN: SARA Repeater

147.090 mHz PL 156.7

*Schedule subject to change*

The Delmarva Amateur Radio Electronics EXPO is sponsored by **Sussex Amateur Radio Association**



**www.radioelectronicsexpo.com**

Follow us on Facebook at Delmarva Amateur Radio & Electronics

# TUSCO AMATEUR RADIO CLUB'S 2023 HAMFEST, COMPUTER & ELECTRONICS SHOW

**Saturday April 22, 2023**

**Tuscarawas County Fairgrounds**

**259 S. Tuscarawas Ave, Dover, OH 44622 \*Enter through Tusc. Ave. gate\***

**Talk/Check In: W8ZX on 146.730 PL: 71.9 (Disabled during Hamfest)**

**Main Door Prize: Yaesu FT-891 All Mode HF + 50MHz Transceiver**

**Includes RT Systems ADMS-891-USB Programming Kit**



**Admission: \$5.00 Donation at the door**

**Presale: One admission ticket @ \$5 + extra prize tickets as you wish @ \$4 for one, \$6 for two, or \$10 for three, or multiples thereof. Any request received after April 1, 2023 will be held for pick up at the door. Winners MUST be present for door prizes; main prize can be sent.**

**Tables: \$10.00 Plus Admission**

**Open: 6:00 am for set-up, 8:00 am to 1:00 pm for public**

***FREE close parking available***



## ***DEALERS WELCOME!***

## ***Door Prizes***

**\*\*120 Volt power available (Please bring your own extension cords)\*\***

***A SELF ADDRESSED, STAMPED ENVELOPE MUST BE RECEIVED BY APRIL 1, 2023 TO ENSURE THE RETURN OF A RESERVATION CONFIRMATION. RESERVATIONS MUST BE PAID IN ADVANCE!***

Check out our web page! [www.w8zx.net](http://www.w8zx.net)

Find our group on Facebook!

***For additional information and / or to reserve tables please contact:***

**Rick Dingman KE8URA 330-934-0575 or Cindy Gray KE8JNN 330-340-4946**

**Or Email: [w8zx@n8bag.net](mailto:w8zx@n8bag.net)**

**Mailing address for presale reservations: Rick Dingman KE8URA 303 N. 5<sup>th</sup> St. Dennison, OH 44621**





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



DXCC	Name/Callsign
352	Bill Grim, W0MHK
349	Dave Strout, W2YC
329	Darrell Neron, AB2E
261	John Hill, W2HUV
248	Ken Denson, WB2P
245	Vinnie Sallustio, N4NY
223	Tony Starr, K3TS
212	Jim Wright, N2GXJ
204	Dennis Sandole, K2SE
195	Matt Wilson, K2MFW
178	Sheldon Parker, K2MEN
141	Howard Marder, W4IBZ
141	Christopher Wawak, KC2IEB
127	Eric Morris, N2BRJ
126	Phil Nunzio, W3RGY
119	Rich Subers, W2RHS
111	Steve Farney, W2SEF
106	Bart Kleczynski, AC2PT
103	Chuck Capasso, WB2PGE
91	Curt Myers, K2CWM
87	Harry Strahlendorf Jr, W3DNQ
71	Jim Clark, KA2OSV
62	Lee Marino, N2LAM
Updated As Of 03/23/2023	

## April Birthdays

Congratulations to our members who are celebrating a birthday this month

Ron Block, NR2B  
Irma Colabrese, N2FNF  
Ralph Daggan III, KE2AHX  
Doug Dersch, KD2VQA  
Marc Federici, WM2Y  
Tim Furey Sr, KE2AHY  
Tom Litle Sr, AB2YG  
Jerry Marinacci, KE2CK  
Frank Mayer, W2SDR  
Ray Metzger, AI2B (President 1978)  
Jerry Milden, K2OOO  
Phil Nunzio, WA3RGY  
John O'Connell, K2QA  
Lee Quarella, ND2G  
Miguel Ramirez, K2MPR  
Mike Resnick, N2WOQ  
Frank Romeo, N3PUU  
Kent Simmons, N3BKR  
Jackson Snyder, AI2D  
Robert Snyder, N2KGO  
Jeff Thomson, NJ2JT

## In Memoriam - April Birthdays

### Silent Keys :

Robert Anstatt, WB2CPL  
Stanley Christman, KB2DW

Gurdon Cooper, AA4N  
(President 1966, Charter Member)

Fred Cowgill, WB2GEK  
Daniel Damiano, KC2ELC  
Harry English III, N2JIB  
Milt Frantz Jr, K2MXF  
Gerald Friedman, KB2DHQ  
Mark Gennovario, K2UMF  
Norman Harbison Jr, K2NH  
William King, N2STQ  
Leonard Kravitz, KD2CR  
Thomas McCormick, WA2OZH  
Whitney Myers, KB2ZTL  
Thomas Oakman, WV8TDO  
Martin O'Grady, N2FPO  
David Riker, WA2KOH  
Laurence Rockhill, WA2SJG  
Leonard Staab IV  
Edwin Stetser Sr, K2JJC (Charter Member)  
Lester Wolf, W2OM  
William Wyatt Sr, N2WIB

## ARRL SNJ Section Convention and Hamfest

*Presented By The*



*Celebrating Our 64<sup>th</sup> Year*

[www.w2mmd.org](http://www.w2mmd.org)

**Gloucester  
County  
Amateur Radio  
Club**  
W2MMD



**Open to the public at 8:00 AM : *Rain or Shine***

**45<sup>th</sup> Annual Hamfest : September 10, 2023**



# April 2023 Contest Calendar

## WA7BNM Contest Calendar : [www.contestcalendar.com](http://www.contestcalendar.com)

### April 2023

+ RSGB FT4 International Activity Day	0800Z-2000Z, Apr 1
+ PODXS 070 Club PSK 31 Flavors Contest	1000Z, Apr 1 to 0400Z, Apr 2
+ EA RTTY Contest	1200Z, Apr 1 to 1200Z, Apr 2
+ Florida State Parks on the Air	1400Z-2200Z, Apr 1 and 1400Z-2200Z, Apr 2
+ Missouri QSO Party	1400Z, Apr 1 to 0400Z, Apr 2 and 1400Z-2000Z, Apr 2
+ Louisiana QSO Party	1400Z, Apr 1 to 0200Z, Apr 2
+ Mississippi QSO Party	1400Z, Apr 1 to 0200Z, Apr 2
+ SP DX Contest	1500Z, Apr 1 to 1500Z, Apr 2
+ K1USN Slow Speed Test	0000Z-0100Z, Apr 3
+ ICWC Medium Speed Test	1300Z-1400Z, Apr 3
+ OK1WC Memorial	1630Z-1729Z, Apr 3
+ ICWC Medium Speed Test	1900Z-2000Z, Apr 3
+ RSGB 80m Club Championship, CW	1900Z-2030Z, Apr 3
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 4
+ ARS Spartan Sprint	0100Z-0300Z, Apr 4
+ ICWC Medium Speed Test	0300Z-0400Z, Apr 4
+ ZL Sprint	0800Z-0829Z (CW), Apr 4 and 0830Z-0859Z (SSB), Apr 4
+ Phone Weekly Test	0230Z-0300Z, Apr 5
+ A1Club AWT	1200Z-1300Z, Apr 5
+ CWops Test	1300Z-1400Z, Apr 5
+ Mini-Test 40	1700Z-1759Z, Apr 5
+ VHF-UHF FT8 Activity Contest	1700Z-2100Z, Apr 5
+ Mini-Test 80	1800Z-1859Z, Apr 5
+ CWops Test	1900Z-2000Z, Apr 5
+ UKEICC 80m Contest	2000Z-2100Z, Apr 5
+ Walk for the Bacon QRP Contest	0000Z-0100Z, Apr 6 and 0200Z-0300Z, Apr 7
+ CWops Test	0300Z-0400Z, Apr 6
+ CWops Test	0700Z-0800Z, Apr 6
+ SARL 80m QSO Party	1700Z-1900Z, Apr 6
+ NRAU 10m Activity Contest	1800Z-1900Z, Apr 6 (CW) and 1900Z-2000Z, Apr 6 (SSB) and 2000Z-2100Z, Apr 6 (FM) and 2100Z-2200Z, Apr 6 (Dig)
+ SKCC Sprint Europe	2000Z-2200Z, Apr 6
+ NCCC RTTY Sprint	0145Z-0215Z, Apr 7
+ NCCC Sprint	0230Z-0300Z, Apr 7
+ K1USN Slow Speed Test	2000Z-2100Z, Apr 7
+ QRP ARCI Spring QSO Party	0000Z-0600Z, Apr 8
+ JIDX CW Contest	0700Z, Apr 8 to 1300Z, Apr 9
+ SKCC Weekend Sprintathon	1200Z, Apr 8 to 2400Z, Apr 9
+ IG-RY World Wide RTTY Contest	1200Z, Apr 8 to 1800Z, Apr 9
+ DIG QSO Party, CW	1200Z-1700Z, Apr 8 (20m-10m) and 0700Z-0900Z, Apr 9 (80m) and 0900Z-1100Z, Apr 9 (40m)
+ OK/OM DX Contest, SSB	1200Z, Apr 8 to 1200Z, Apr 9
+ New Mexico QSO Party	1400Z, Apr 8 to 0200Z, Apr 9
+ EU Sprint, SSB	1500Z-1859Z, Apr 8
+ Georgia QSO Party	1800Z, Apr 8 to 0359Z, Apr 9 and 1400Z-2359Z, Apr 9
+ Yuri Gagarin International DX Contest	2100Z, Apr 8 to 2100Z, Apr 9
+ WAB 3.5/7/14 MHz Data Modes	1000Z-1400Z, Apr 9 and 1700Z-2100Z, Apr 9
+ Hungarian Straight Key Contest	1500Z-1600Z, Apr 9
+ K1USN Slow Speed Test	0000Z-0100Z, Apr 10
+ 4 States QRP Group Second Sunday Sprint	0000Z-0200Z, Apr 10
+ ICWC Medium Speed Test	1300Z-1400Z, Apr 10
+ DARC Easter Contest	1500Z-1730Z, Apr 10
+ OK1WC Memorial	1630Z-1729Z, Apr 10
+ ICWC Medium Speed Test	1900Z-2000Z, Apr 10
+ 144 MHz Spring Sprint	1900 local - 2300 local, Apr 10
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 11
+ ICWC Medium Speed Test	0300Z-0400Z, Apr 11
+ ZL Sprint	0800Z-0829Z (CW), Apr 11 and 0830Z-0859Z (SSB), Apr 11
+ NAQCC CW Sprint	0030Z-0230Z, Apr 12
+ Phone Weekly Test	0230Z-0300Z, Apr 12
+ A1Club AWT	1200Z-1300Z, Apr 12
+ CWops Test	1300Z-1400Z, Apr 12
+ Mini-Test 40	1700Z-1759Z, Apr 12
+ VHF-UHF FT8 Activity Contest	1700Z-2100Z, Apr 12
+ Mini-Test 80	1800Z-1859Z, Apr 12
+ CWops Test	1900Z-2000Z, Apr 12
+ CWops Test	0300Z-0400Z, Apr 13
+ CWops Test	0700Z-0800Z, Apr 13
+ EACW Meeting	1900Z-2000Z, Apr 13
+ NCCC RTTY Sprint	0145Z-0215Z, Apr 14
+ NCCC Sprint	0230Z-0300Z, Apr 14
+ K1USN Slow Speed Test	2000Z-2100Z, Apr 14
+ Holyland DX Contest	2100Z, Apr 14 to 2059Z, Apr 15
+ ES Open HF Championship	<b>Cancelled for 2023</b>
+ Worked All Provinces of China DX Contest	0600Z, Apr 15 to 0559Z, Apr 16
+ YU DX Contest	0700Z, Apr 15 to 0659Z, Apr 16
+ Dutch PACcdigi Contest	0700Z to 1900Z, Apr 15
+ CQMM DX Contest	0900Z, Apr 15 to 2359Z, Apr 16

April 2023 Contest Calendar - Continued on page 58



# April 2023 Contest Calendar

WA7BNM Contest Calendar : [www.contestcalendar.com](http://www.contestcalendar.com)

April 2023 Contest Calendar - Continued from page 57

+ Nebraska QSO Party	1300Z, Apr 15 to 0100Z, Apr 16 and 1300Z-2200Z, Apr 16
+ Texas State Parks on the Air	1400Z, Apr 15 to 0200Z, Apr 16 and 1400Z-2000Z, Apr 16
+ Michigan QSO Party	1600Z, Apr 15 to 0400Z, Apr 16
+ EA-QRP CW Contest	1700Z-1800Z, Apr 15 (10m) and 1800Z-1900Z, Apr 15 (15m) and 1900Z-2000Z, Apr 15 (20m) and 2000Z-2100Z, Apr 15 (40m) and 2100Z-2300Z, Apr 15 (80m) and 0700Z-0900Z, Apr 16 (40m) and 0900Z-1000Z, Apr 16 (20m) and 1000Z-1100Z, Apr 16 (15m) and 1100Z-1200Z, Apr 16 (10m)
+ North Dakota QSO Party	1800Z, Apr 15 to 1800Z, Apr 16
+ Ontario QSO Party	1800Z, Apr 15 to 0500Z, Apr 16 and 1200Z-1800Z, Apr 16
+ Feld Hell Sprint	1800Z-2159Z, Apr 15
+ Quebec QSO Party	1200Z-2000Z, Apr 16
+ ARRL Rookie Roundup, SSB	1800Z-2359Z, Apr 16
+ Run for the Bacon QRP Contest	2300Z, Apr 16 to 0100Z, Apr 17
+ K1USN Slow Speed Test	0000Z-0100Z, Apr 17
+ ICWC Medium Speed Test	1300Z-1400Z, Apr 17
+ OK1WC Memorial	1630Z-1729Z, Apr 17
+ ICWC Medium Speed Test	1900Z-2000Z, Apr 17
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 18
+ ICWC Medium Speed Test	0300Z-0400Z, Apr 18
+ ZL Sprint	0800Z-0829Z (CW), Apr 18 and 0830Z-0859Z (SSB), Apr 18
+ 222 MHz Spring Sprint	1900 local - 2300 local, Apr 18
+ Phone Weekly Test	0230Z-0300Z, Apr 19
+ A1Club AWT	1200Z-1300Z, Apr 19
+ CWops Test	1300Z-1400Z, Apr 19
+ Mini-Test 40	1700Z-1759Z, Apr 19
+ VHF-UHF FT8 Activity Contest	1700Z-2100Z, Apr 19
+ Mini-Test 80	1800Z-1859Z, Apr 19
+ RSGB 80m Club Championship, SSB	1900Z-2030Z, Apr 19
+ CWops Test	1900Z-2000Z, Apr 19
+ Walk for the Bacon QRP Contest	0000Z-0100Z, Apr 20 and 0200Z-0300Z, Apr 21
+ CWops Test	0300Z-0400Z, Apr 20
+ CWops Test	0700Z-0800Z, Apr 20
+ NTC QSO Party	1900Z-2000Z, Apr 20
+ NCCC RTTY Sprint	0145Z-0215Z, Apr 21
+ NCCC Sprint	0230Z-0300Z, Apr 21
+ K1USN Slow Speed Test	2000Z-2100Z, Apr 21
+ QRP to the Field	0800-1800 local, Apr 22
+ SP DX RTTY Contest	1200Z, Apr 22 to 1200Z, Apr 23
+ North American SSB Sprint Contest	0000Z-0400Z, Apr 23
+ International Vintage Contest HF	0700Z-1100Z, Apr 23 and 1500Z-1900Z, Apr 23
+ UA1DZ Memorial Cup	1300Z-1859Z, Apr 23
+ BARTG Sprint 75	1700Z-2059Z, Apr 23
+ K1USN Slow Speed Test	0000Z-0100Z, Apr 24
+ ANZAC Day Contest	1200Z, Apr 24 to 1159Z, Apr 25
+ ICWC Medium Speed Test	1300Z-1400Z, Apr 24
+ QCX Challenge	1300Z-1400Z, Apr 24
+ OK1WC Memorial	1630Z-1729Z, Apr 24
+ RSGB FT4 Contest	1900Z-2030Z, Apr 24
+ ICWC Medium Speed Test	1900Z-2000Z, Apr 24
+ QCX Challenge	1900Z-2000Z, Apr 24
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 25
+ ICWC Medium Speed Test	0300Z-0400Z, Apr 25
+ QCX Challenge	0300Z-0400Z, Apr 25
+ ZL Sprint	0800Z-0829Z (CW), Apr 25 and 0830Z-0859Z (SSB), Apr 25
+ SKCC Sprint	0000Z-0200Z, Apr 26
+ Phone Weekly Test	0230Z-0300Z, Apr 26
+ A1Club AWT	1200Z-1300Z, Apr 26
+ CWops Test	1300Z-1400Z, Apr 26
+ Mini-Test 40	1700Z-1759Z, Apr 26
+ Mini-Test 80	1800Z-1859Z, Apr 26
+ CWops Test	1900Z-2000Z, Apr 26
+ 432 MHz Spring Sprint	1900 local - 2300 local, Apr 26
+ UKEICC 80m Contest	2000Z-2100Z, Apr 26
+ CWops Test	0300Z-0400Z, Apr 27
+ CWops Test	0700Z-0800Z, Apr 27
+ RSGB 80m Club Championship, Data	1900Z-2030Z, Apr 27
+ NCCC RTTY Sprint	0145Z-0215Z, Apr 28
+ NCCC Sprint	0230Z-0300Z, Apr 28
+ K1USN Slow Speed Test	2000Z-2100Z, Apr 28
+ 10-10 Int. Spring Contest, Digital	0001Z, Apr 29 to 2359Z, Apr 30
+ UK/EI DX Contest, CW	1200Z, Apr 29 to 1200Z, Apr 30
+ Helvetia Contest	1300Z, Apr 29 to 1259Z, Apr 30
+ Florida QSO Party	1600Z, Apr 29 to 0159Z, Apr 30 and 1200Z-2159Z, Apr 30



## 2023 Club Committees

Standing Committees	Committee Chairs
Budget Constitution & By-Laws Education <i>Field Day</i> Hamfest Health, Welfare, & Silent Keys Hospitality Membership Membership Badges Nominations Publicity <i>Repeaters</i> W2MMD Clubhouse Site	Al Arrison, KB2AYU Ron Block, NR2B Chris Prioli, AD2CS <i>Tony Starr, K3TS</i> Sheldon Parker, K2MEN and Bill Price, NJ2S Bill Price, NJ2S Jeff Garth, WB2ZBN Chris Prioli, AD2CS Chuck Colabrese, WA2TML Jon Pearce, WB2MNF Tony Starr, K3TS <i>Open Chair</i> Al Arrison, KB2AYU
Activity Committees	Committee Chairs
<i>Awards &amp; Certificates</i> Club Publications & Historian Contests <i>DX</i> <i>GCARC Family Picnic</i> GCARC Foxhunts GC-ARES Emergency Coordinator <i>Holiday Dinner Party</i> License Testing/VEC Liaison Membership Roster Database Programs : General Membership Meetings Radio Nets Technical & Tech Saturday Programs W2MMD License Trustee W2MMD Special Event Station	<i>Open Chair</i> Jeff Garth, WB2ZBN Tony Starr, K3TS <i>Open Chair</i> <i>Open Chair</i> Jim Wright, N2GXJ Bob Keogh, KD2NEC <i>Open Chair</i> 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 Meeting**

1<sup>st</sup> & 3<sup>rd</sup> Mondays Every Month @ 2000 Hours

### **GCARC HelpNet ZOOM Meeting**

Sporadic Mondays @ 1930 Hours

### **Tuesday Noon Day 2M 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 2M Net**

Every Thursday @ 2000 Hours

## **Meeting Calendar**

### ***General Membership Meeting***

**Wednesday, April 5, 2023**

**1930 Hours**

**Live & In-Person**

**Mantua Masonic Lodge**

**Simulcast Live on ZOOM**

### ***Board of Directors Meeting***

**Wednesday, April 19, 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 BadgeMan”**

**Chuck Colabrese, WA2TML  
colabrese <at> comcast <dot> net**

Question Pool Answers : E2C01:D; E2C02:A; E2C03:A; E2C04:B; E2C05:B; E2C06:C; E2C07:A; E2C08:B; E2C09:C; E2C10:D; E2C11:A; E2C12:C

**73**

**Gloucester County Amateur Radio Club - P. O. Box 370 - Pitman, NJ 08071**

**Ω**