



# CrossTalk

May 2024

65 Years Of Service To Amateur Radio & Our Community

Issue 65 : 05

## A 2024 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>Carl Wittig, N2CRW</b>	<b>(2021-2024)</b>
<b>Treasurer :</b>	<b>John O'Connell, K2QA</b>	<b>Charles Lanard, KD2EIB</b>	<b>(2022-2025)</b>
<b>Recording Secretary :</b>	<b>John Zaruba Jr, K2ZA</b>	<b>Sheldon Parker, K2MEN</b>	<b>(2023-2026)</b>
<b>Corresponding Secretary :</b>	<b>Michael Resnick, N2WOQ</b>	<b>Len Rust, W2LJR</b>	<b>(2024-2027)</b>

## Directors - 3 Year Term

<b>Jeffrey Garth, WB2ZBN</b>	<b>(2022-2024)</b>	<b>James Wright, N2GXJ</b>	<b>(2023-2025)</b>
<b>Frank Romeo, N3PUU</b>	<b>(2022-2024)</b>	<b>Al Arrison, KB2AYU</b>	<b>(2024-2026)</b>
<b>Chris Prioli, AD2CS</b>	<b>(2023-2025)</b>	<b>Bill Price, NJ2S</b>	<b>(2024-2026)</b>

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**General Membership Meeting**  
**Wednesday, May 1, 2024 @ 1900 Hours**  
**In-Person & ZOOM : 943 0211 9674, 843147**

**Tech Saturday Forum**  
**Saturday, May 4, 2024 @ 0900 Hours**  
**W2MMD Clubhouse**

**GCARC TechNet ZOOM Forum**  
**Starting May 6, 2024 : Every Monday @ 1930 Hours**  
**ZOOM Meeting ID : 933 9943 3123, 800835**

**License Testing Session**  
**Thursday, May 9, 2024 @ 1900 Hours**  
**W2MMD Clubhouse**

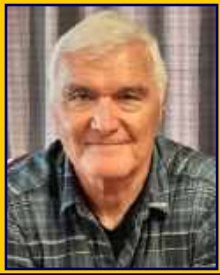
**Board of Directors Meeting**  
**Wednesday, May 15, 2024 @ 1900 Hours**  
**W2MMD Clubhouse**

**Dinner @ The W2MMD Clubhouse**  
**Wednesday, May 22, 2024 @ 1800 Hours**

**Tuesday Afternoon 2M Net @ 1200 Hours**

**Thursday 2M Net @ 2000 Hours**

**Tuesday & Thursday 10 Meter Net @ 1930 Hours**



# *President's Letter*

## *Jon Pearce, WB2MNF*



### **May 2024**

Activity at the GCARC generally starts heating up in the summer, but April was an especially active month for the Club. Despite bad weather and some technical difficulties, the General Membership Meeting was well attended and successful, and the Tech Saturday Forum that followed was one of the best attended in recent history. Many projects are underway, the VHF towers are ready to be installed, and there's an exciting agenda on the antennas planned for the May and June Club activity sessions.

#### **A Record-Breaking Tech Saturday!**

Tech Saturday Forum events are generally well attended, but the April 6<sup>th</sup> event probably broke new records with almost two dozen attendees. After his General Membership Meeting presentation on Parks on the Air (POTA), **John Zaruba Jr K2ZA** brought his entire kit of POTA equipment down to the W2MMD Clubhouse for a fascinating presentation on how he successfully works this activity under a variety of circumstances. Many members seem eager to try out this relatively new aspect of ham radio.

After John's presentation several small groups got together to work on various projects. In particular, **Mike Thompson KG4JYA** dug into the GOES satellite image station, cleaning up some of the programming and fixing some issues that had inhibited production of the videos developed from those models. Other members worked with **Chris Prioli AD2CS** solving individual problems. Tech Saturday always provides an opportunity for learning, cooperation, and working together to find new ways to enjoy amateur radio.

#### **GCARC Teamwork On The Woodruff School Balloon Project**

Last month the GCARC was approached by Club member **Joseph Lee N2BNJ**, who is also a member of the Upper Deerfield Township School Board, to assist in developing a STEM-related set of activities and curricula for one of the middle schools in the district. After meeting with their superintendent, administrator, and a science teacher, we collectively agreed on a project that involves launching a high altitude balloon carrying a 20m WSPR transmitter designed to circumnavigate the earth and allowing it to be tracked by the WSPR receiving network. Along with the balloon project we'll also work with the science teacher team to create a curriculum around the physics of the balloon itself and also the radio communication used in tracking it.

This project will be an after-school activity commencing in the fall; however many activities are already underway. Our team quickly recognized that the school balloon launch could not be the first such activity for the Club; we needed to gain experience before creating any public activity. So a small team of Club members including **Mike Thompson KG4JYA**, **Len Rust W2LJR**, and **Doug Dersch KD2VQA** with lots of assistance from **Marc Federici WM2Y** have already begun identifying the WSPR radios needed for the balloon as well as various opportunities for tracking it as it circumnavigates the earth. We expect that it'll take about a month to pull everything together and hope to launch from the Clubhouse sometime in June. If successful we'll be able to track this balloon and will have also gained the experience necessary to launch what may be the first of several balloons working with school students. As a Club with more than 200 members it's incumbent upon us to have a significant educational outreach activity, so it's quite satisfying to be able to work on this project.

*President's Letter - Continued on page 3*

### **VHF Towers Project Moves Forward**

The upcoming warmer weather creates an opportunity to install the two VHF towers behind the Clubhouse, so preparations are beginning to schedule excavation, delivery of reinforcing bars, concrete, and the other activities needed for this project. Progress will be dependent on weather and availability of resources, but optimistically these towers will be in place by mid-summer.

### **May and June Meetings Focus On Antennas**

In response to requests from a number of Club members, the Club's group educational activities for May and June will be focused on antenna theory, construction and use. At the May 1, 2024 General Membership Meeting the speaker will be **Spencer Webb W2SW**, an expert on antenna design at [www.antennasys.com](http://www.antennasys.com).

The May 4, 2024 Tech Saturday Forum will involve learning to use a Nano VNA test instrument to tune a simple 70cm ground plane antenna as well as several other VNA topics. Participants at the June 8, 2024 Tech Saturday Forum will construct a more useful antenna, the **Ed Fong DBJ-2 VHF/UHF collinear antenna**. Made from twinlead with a coax tuning stub and encased in a PVC pipe. This antenna is functional on 2 meters and 70cm and will cost about \$25 in components. Prior enrollment in each of these sessions is necessary to assure that enough materials and assembly tools are available, so please email [education@w2mmd.org](mailto:education@w2mmd.org) to reserve your place at these sessions.

Finally, the May 6, 2024 GCARC TechNet ZOOM Forum will focus on antenna modeling software starting with the 70cm antenna and moving on to different variations of that antenna and potentially different antenna designs. The objective of this session is to allow participants at home to install and use their own copies of the software, collaborating with others for assistance.

### **Field Day Opportunities For All**

The ARRL Field Day event over the weekend of June 22<sup>nd</sup> and 23<sup>rd</sup> provides opportunities for all Club members to participate in one of the major ham radio events of the year. On Field Day, Club members set up temporary antennas, stations, and operating quarters on the Clubhouse site that operate using emergency power over the weekend to make as many contacts as possible. This year we hope to operate as class "8A", meaning that we have eight different stations operating. This provides a great opportunity for experienced hams to help out raising the Club score, and for newer hams to become familiar with operating techniques, especially in a contest. We hope many Club members from the local area will sign up to operate one of the stations or visit the site over that weekend. So mark your calendar for that weekend and plan to come to one of the major events of the year.

### **Rowan Rocket Project Radio Check**

As previously described, a team of Rowan University students are building a large solid-fuel rocket for launch at an event in June and asked the GCARC for some assistance with the radios used for tracking, telemetry and management of the parachutes. Several radios had been used in previous efforts but none were functioning correctly. **Chris Prioli AD2CS** worked through them in detail finding several issues that he corrected. He then tested their range at the Clubhouse using an attenuator and found them to be quite functional at the distances over which they would be used. They're now ready to be installed in the rocket.

### **73 de Jon WB2MNF**

# Total Solar Eclipse - April 8, 2024 Observations

## 80 Meters During The Eclipse

By Sheldon Parker, K2MEN

The 80 meter band is generally dead during daylight hours. I'm a CW and FT8 fan and work 80 only after dark. However, I decided to see if the moon shadow could affect 80 meter activity during the day. So, I followed the progress of the eclipse as it traveled from the mid west to New England. Was I surprised! 80 meters was VERY active, even in areas with a partial eclipse. Within 45 minutes, I was able to work 20 stations under or near the full shadow on FT8 as far south as Tennessee, as far west as Illinois and as far north as Maine. This may not sound like high volume or DX, but this was 80 meters during the day when the usual activity is zero, nada, static.



Several stations were calling CQ SEQP which presumably means Solar Eclipse QSO Party. I even got a glimpse of the actual eclipse peeking through the clouds.

I had no advance information about the effect an eclipse would have on any ham radio band. It was just a spur of the moment idea which turned out to be fun.

### Jim Wright, N2GXJ, comments :

Hi Sheldon, to go along with your observations of propagation experienced during the total eclipse, here is another. Apparently a Doppler shift was detected in received WWV signals, as documented in this article by Kristina Collins, W8EDU of Cleveland, Ohio, who assembled records from 13 monitoring stations in and around the path of totality : <https://spaceweather.com/archive.php?view=1&day=17&month=04&year=2024>

### Mike Thompson, KG4JYA, comments :

Hello All,  
Interesting article at [Spaceweather.com](https://spaceweather.com) about the Eclipse.



International Firefighters' Day is observed each year on 4th May. On this date you are invited to remember the past firefighters who have died while serving our community or dedicated their lives to protecting the safety of us all. At the same time, we can show our support and appreciation to the firefighters world wide who continue to protect us so well throughout the year.

*On the first Sunday in May at noon please Sound Off in respect of past firefighters.*



## *Advanced SMT Soldering Class*

**Monday, July 8, 2024 - W2MMD Clubhouse**

**For More Information & To Register, Go To :  
<https://gloucestercountyarcs.weebly.com/advanced-smt-class.html>**

### *GCARC TechNet ZOOM Forum*

Starting on Monday, May 6, 2024, the GCARC TechNet ZOOM Forum is scheduled to be available every Monday Night until December 30, 2024.

There will not necessarily be a topic scheduled every Monday Night, but the opportunity is available to schedule succeeding topics of interest on consecutive Monday Nights.

**Each ZOOM Meeting is available for a 3 hour duration.**

**Every Monday @ 1930 Hours**

*Forum Topic : TBD : See e-mail & website*

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

**Meeting ID : 933 9943 3123 ; Passcode : 800835**



**Gloucester County Amateur Radio Club  
YouTube Channel**

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

**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](mailto:GCARC@MAILMAN.QTH.NET)**

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

# General Membership Meeting

Wednesday, May 1, 2024 @ 1900 Hours

Pfeiffer Community Center

Simulcast Live Via ZOOM : Meeting ID : 943 0211 9674; Passcode : 843147

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

## Irreverent Antennas - Make An Antenna Out Of Anything

Our speaker this month is **Spencer Webb, W2SW, President of AntennaSys** (<https://www.antennasys.com>), and a man with a very irreverent view of antennas and how they work. The whole topic of antennas is often intimidating for those that use them, but don't design them. It's seen as super-technical and borderline black-magic. Perhaps it's because RF and antennas seem to the uninitiated what Einstein called "*spukhafte Fernwirkung*" or "*spooky action at a distance*". You can't see it, but it works! So, in order to understand how antennas work, you have to make the RF visible.



We will begin with some physical demonstrations which explain how the dipole antenna works; and that it is the simplest resonant antenna you can construct. Then we will spend some quality time watching water slosh back and forth in carefully constructed clear tubes resembling our dipole. This will help us begin to understand resonance, radiation, and even impedance.

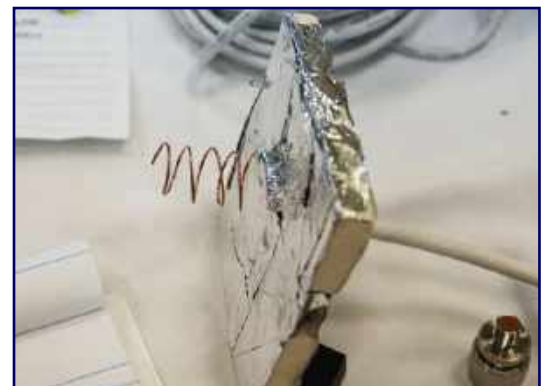


From that we should be able to intuitively predict what will happen if we shorten or lengthen the antenna or change its feed point. And of course, we back up our predictions and observations with quantitative computer simulations which will further confirm their observations.

Suddenly, magic happens; the antenna is no longer a mystery. Wonderful, yes. Mystery, no.

And the *spukhafte Fernwirkung* ain't quite as spooky as it was, especially if you join us at the **W2MMD Clubhouse** on the **May 4<sup>th</sup> Tech Saturday Forum** to build and test a UHF Ground Plane antenna.

Please join us for this most unconventional and irreverent presentation. See you there!



**Tech Saturday Forum**  
**May 4, 2024 @ 0900 Hours**  
**W2MMD Clubhouse**

***Forum Topic : Building & Tuning a 70cm  
Ground-Plane Antenna***

***Registration for this event is required so we  
can have adequate supplies & equipment avail-  
able. Please contact Chris Prioli, AD2CS at  
chris@ad2cs.com.***



**Q & A Session About All Things Ham Radio  
and Socializing!**

**The HF Station Will Be Available For Local  
Operation!**

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

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

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

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

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

***"Dinner @ The W2MMD Clubhouse"***  
**Wednesday, May 22, 2024 @ 1800 Hours**  
**W2MMD Clubhouse**



## GCARC Monthly VE Exam Testing Summary - April 11, 2024

**Gary Reed, N2QEE, Reports :** The GCARC monthly VE session was held on April 11, 2024. There were two candidates for the session with both upgrading to Amateur Extra Class. They were :

- **Mary Ciraula, KE2CEF of Pittsgrove**
- **Kenneth Berry KE2CRL of Pitman**

The participating VE's were :

- **Mike N2WOQ**
- **Chris AD2CS**
- **Court KD2SPJ**
- **Earl KC2NCH**
- **Mike KG4JYA**
- **Rich W2RHS**
- **Gary N2QEE**

A big thank you to the participating VE's

The new Amateur Extra question pool is out with some recent corrections. The errata includes minor question changes, the removal one question, and one modified graphic. All question pools are available on the w2mmd.org website at : <https://gloucestercountyncarc.weebly.com/get-your-ham-ticket.html>

The next monthly VE session will be held May 9, 2024 @ 1900 Hours at the W2MMD Clubhouse.

## Welcome New Club Members :

**James Beury**, an Associate Member who lives in Sewell, NJ.

**Richard Bleda, KC2SGR**, (Returning Member), a General Class who lives in Vineland, NJ.

**James Simeone, KC2AOF**, (Returning Member), a General Class who lives in Sewell, 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 May 1<sup>st</sup> General Membership Meeting , either in-person or on ZOOM, the May 4<sup>th</sup> Tech Saturday Forum, the May 13<sup>th</sup> GCARC TechNet ZOOM Forum, the Dinner @ The W2MMD Clubhouse on May 22<sup>nd</sup>.

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

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

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

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



## *DAs and DITs*

>> Congratulations to **Marylu Ciraula, KE2CEF**, for upgrading to Amateur Extra Class.

>> Get well to **Steve Farney, W2SEF**, recovering from foot surgery.



*Club Merchandise from the K2ZA Workshop*  
**2024 Field Day T-shirts, hoodies, mugs, stickers, & more!**  
Contact John Zaruba Jr, K2ZA at [k2za@icloud.com](mailto:k2za@icloud.com)  
Go To : <https://gloucestercountync.weebly.com/club-merchandise.html>



## **ARES Resources**

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

ARES Field Resources Manual [PDF] : <https://bit.ly/3OT4PtY>

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

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

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

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

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

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

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

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

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

**Tuesday & Thursday Nights 10M Rag Chew Net @ 1930 Hours**  
**28.465 MHz or 28.475 MHz**

W2MMD



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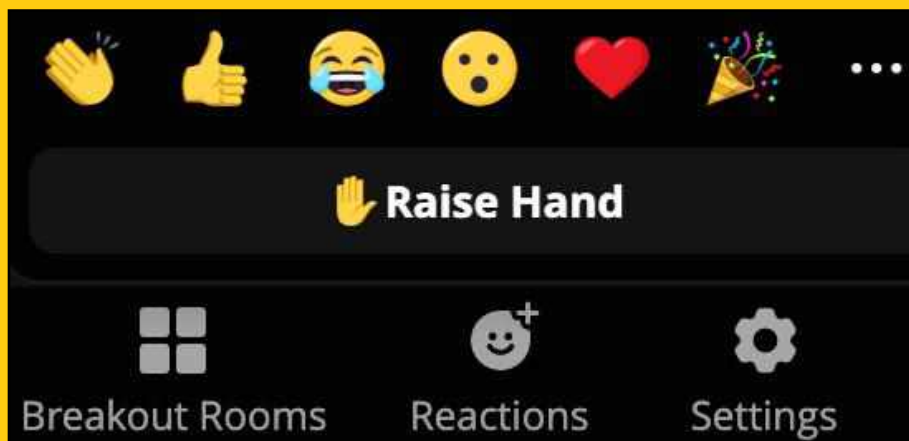


## ZOOM Protocols For GCARC Meetings

To provide for a more pleasant and efficient ZOOM experience for our Club members, several protocols have been established for use at these meetings.

- All participants will be MUTED by the administrator.
- If you wish to comment, please use the ZOOM “Raise Hand” feature. (See Below)
  - In the meeting controls, click “Reactions”, then click “Raise Hand”.
  - Users can also raise or lower their hand with the Alt+Y (Windows) or Option+Y (macOS) keyboard shortcuts.
- The administrator will then un-mute you so you can join the conversation. You will not be able to un-mute yourself.
- If you are going to use your camera, please be attired as you would be if physically coming to the meeting. Otherwise, please turn off your video.

Thanks for following these points to help our meetings run smoothly.



## ADIF Logs Wanted When Operating As W2MMD @ The Clubhouse

By Jim Wright, N2GXJ - jim.n2gxj@gmail.com

It is a common courtesy in ham radio to be able to QSL 2-way contacts made with other hams. We're pretty good about doing this for our field day contacts made each year, but are falling behind in this for contacts we make from the Clubhouse as W2MMD.

So here is the ask :

If you operate from the Clubhouse as W2MMD (e.g. on HF, UHF/VHF, or on Satellite, at Tech Saturday, or during contests or other), please email me the electronic log entries in ADIF format from the logger program you used for those contacts?

That way, just like I do following field day each year, I can get them uploaded to LOTW and to eQSL to offer the courtesy of an electronic QSL to those who make contact with us as W2MMD here in NJ.

Thank you

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

**May 4, 2024** : Antietam Radio Association, The Great Hagerstown Hamfest, Maugansville Bible Brethren Church, 17904 Binkley Avenue, Maugansville, MD. [www.antietamradio.org](http://www.antietamradio.org)

**May 5, 2024** : Warminster Amateur Radio Club, Warminster ARC Annual Hamfest, Bucks County Community College, Lower Bucks Campus, 1304 Veterans Highway (Route 413), Bristol, PA. [www.wp.k3pn.org](http://www.wp.k3pn.org)

**May 5, 2024** : Orange County Amateur Radio Club, Orange County Amateur Radio Club Hamfest, Blackrock Fish & Game Club, 5 Pleasant Hill Road, Mountainville, NY. [www.ocarcny.org](http://www.ocarcny.org)

**May 11, 2024** : Old Barney Amateur Radio Club, Hamfest At The Shore, Surf City Firehouse, 713 Long Beach Island, Surf City, NJ. [www.obarc.org](http://www.obarc.org)

**May 18, 2024** : Thousand Islands Repeater Club, Thousand Islands Repeater Club Hamfest, Depauville Fire Department Community Center, 15191 School Street, Depauville, NY. [www.tirepeaterclub.com](http://www.tirepeaterclub.com)

**May 26, 2024** : Maryland FM Association, MFMA Memorial Weekend Hamfest, Howard County Fairgrounds, 2210 Fairgrounds Road, West Friendship, MD. [www.marylandfm.org](http://www.marylandfm.org)



**May 17, 18, 19, 2024**  
**Greene County Fairgrounds & Expo Center, Xenia, OH**  
[www.hamvention.org](http://www.hamvention.org)

**So you find our website confusing, can't find anything, Well So Do I!!**

**I have created a page (*What, Not Another Page!!*) called "Quick Links"**

**On this page you will find "Buttons" to some the most popular pages  
I will add more as time goes on, but I hope this helps your journey navigating  
through your Club Website!**

<https://gloucestercountyarcs.weebly.com/quick-links.html>

## April 6, 2024 Tech Saturday Forum Reaches New Heights!

By Jon Pearce, WB2MNF

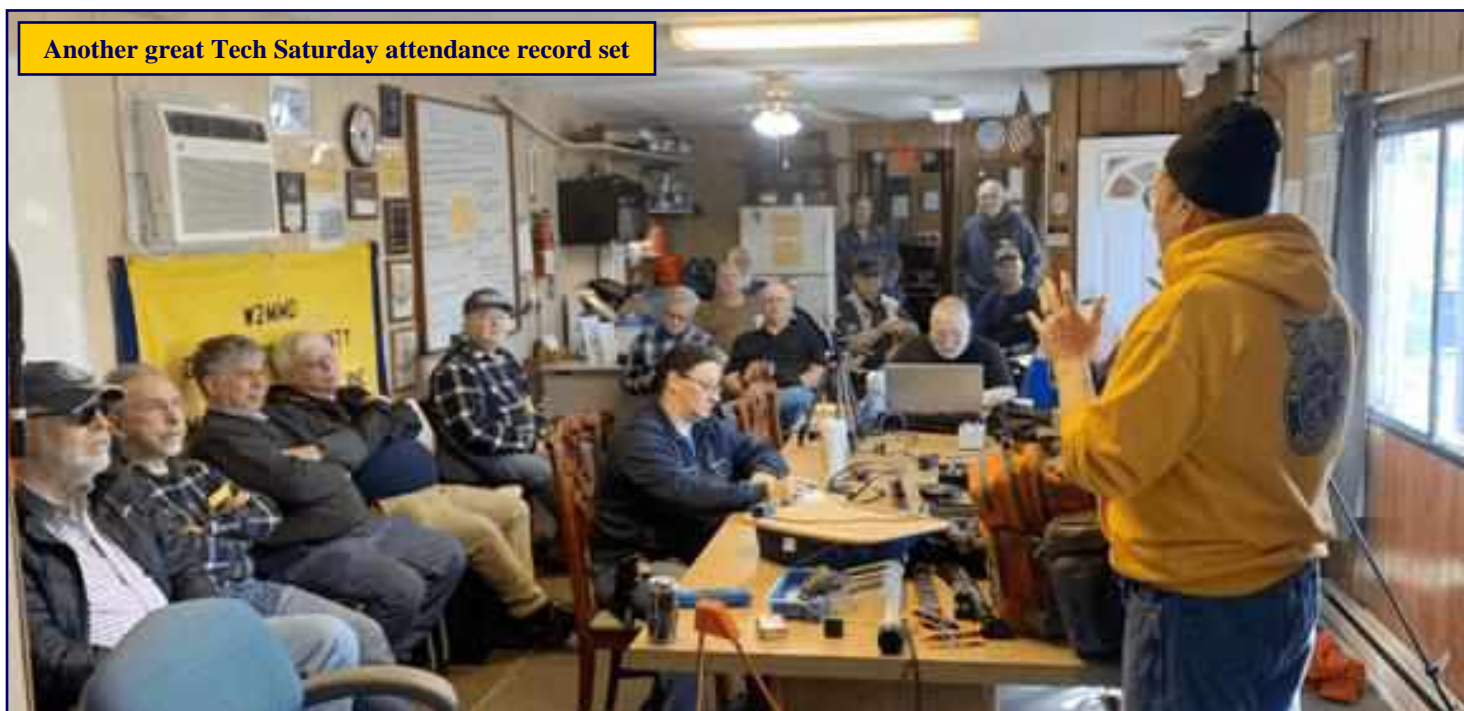
Once again **John Zaruba Jr, K2ZA**, dazzled GCARC members with his second POTA presentation, this time hands-on with the various configurations of equipment that he uses for operating in different environments. With his seemingly-endless knowledge of ham hardware of various types he had prepared several different station configurations depending on the operating environment, type of access to the location and whether operating CW, phone, or data modes. After the indoor session participants could check out John's configuration at his car.

After the session many attendees checked out the HF and VHF rooms, worked on a variety of projects underway at the Clubhouse or picked up some assistance or operating tips for others present.

*Tech Saturday Forums represents yet another opportunity for Club members to :  
"Learn Stuff - Build Stuff - Do Stuff - Together!"*

73 de Jon WB2MNF

Another great Tech Saturday attendance record set



**STAR WARS DAY**  
**MAY THE 4<sup>TH</sup>**  
**BE WITH YOU**



**John Zaruba Jr, K2ZA demonstrating his modified Buddy Pole at the April 6, 2024 Tech Saturday Forum**



# KENTUCKY DERBY

Saturday, May 4, 2024



**Happy Cinco de Mayo**

Sunday, May 5, 2024



## *The Education Connection*

By Chris Prioli, AD2CS - [chris@ad2cs.com](mailto:chris@ad2cs.com)  
[www.ad2cs.com](http://www.ad2cs.com)



### May 2024

As I write this column, my faithful color laser printer is churning out the pages upon pages of prints of the handout sets for the *GCARC Ham Exam Preparation Classes*, which are set to start in just a few short days. I am writing this on Friday, 19 April, and the classes start up on Monday, 22 April. The handout sets are fairly large, with two sets of prints, done in color, amounting to 70 pages (35 sheets) in one set and 62 pages (31 sheets) in the second set. When I factor in the need to print eighteen copies of the handouts, we are talking about a bunch of work. It works out to over two reams of paper, and I go through a full set of color toner cartridges and two complete black toner cartridges. I also go through a set of drums in the full job. Why am I telling you this? Easy... I want to point out something that happened when I decided that it was too much work to print all of this myself.

A five-cartridge toner set (one of each color and two blacks) can be had for my printer from Amazon for about thirty-five dollars. A set of four drums (CYMK) come in at just about a hundred dollars. A ten-ream case of 20-lb bright white paper comes in at about ninety-five dollars, so call it nine-fifty per ream. The pocket folders cost me about a half a buck each. Total all of that up, and I come out with a bit over one hundred and sixty-five dollars in supply costs to print the handouts.

I decided to save the wear and tear on my aging old *Brother HL-3170CDW* printer and have the handouts printed outside this time. Boy, was I in for a surprise! *Staples*<sup>®</sup> wanted nine hundred and ninety-eight dollars to print - just to print and collate - these handouts. That did not include the folders or putting the prints into the folders. If I wanted the job done right away, while I waited, it would be even more!

I am talking about this because it was very educational for me to see what this would have cost if I had gone through with it... which leads me to the real topic of this column. There is a surprising cost involved in doing anything related to Amateur Radio, and those costs can skyrocket if we don't take the time and the initiative to re-search what we are doing and to learn - *yes, learn* - just what we are all about in this hobby.

I am now in the middle of reviewing the book penned by *Ron Block NR2B* dealing with proper protection of the radio shack from the dangers and vagaries of stray electricity. Ron's work is nothing short of amazing in the level of accuracy and detail to which he has gone. As it turns out, it is impossible to review a written work editorially without reading it, and when I read something, I absorb it. Ron's book has been providing me with an education in the field of electrical protection and the associated protection devices. It will do the same for anyone who reads it. The information provided has broadened my understanding of not only the need for protecting the radio shack, but the possible results of not doing so. As I said a little bit back, it is a research experience into the electrical preparation of the radio shack for its safe and continued use.

I am a firm believer in doing things in the most expedient manner, and I thought that I had a basic working understanding of the protection needs for the shack. As it turns out, I did not know what it was, and how much there was, that I did not know!

*Education Connection - Continued on page 15*

Educationally, it is good to get out of our habitual comfort zones every now and then, and to pick up some new or expanded knowledge along the way. There are many ways to do this. One way is to select a topic and research that issue until you have dug as deeply into it as you can. Another is to attend online presentations - live streams, webinars, and so forth - that explore a topic of interest. A third way is to attend live and in-person presentations. These can be especially useful to the ham when they include some live demonstrations, or better yet, some hands-on experiences.

At GCARC, we attempt to present such live experiences as and when possible. We have several such events coming up in the near future, covering the next couple of months :

- **May 4, 2024 Tech Saturday Forum**
- **June 8, 2024 Tech Saturday Forum**
- **Field Day, June 22 - 23, 2024**
- **Advanced SMT Soldering Class : Monday, July 8, 2024**

Each of these events is going to provide the opportunity for our Club members to grow their knowledge and skills. The Tech Saturday Forum on 4 May 2024 will provide a hands-on experience in building and tuning a 70cm ground-plane antenna. The Tech Saturday Forum on 8 June 2024 will offer a similar experience, but for a wire J-pole antenna design.

Field Day does not really need any explanation, but for the new members reading this, Field Day is a great hands-on operating experience that also includes the construction of a temporary field-type station. It should **NOT** be missed!

Finally, the **Advanced SMT Soldering Class**, scheduled for the evenings of Monday, 8 July 2024 and (if necessary) Monday, 15 July 2024. This class will afford each attendee the experience of building a 20-watt dry 50-ohm QRP dummy load using surface mount components on a custom printed circuit board.

Each of these events requires that those members planning to attend **register** their intention with the proper individuals. Anyone who plans to attend and participate in the antenna building activities at either the May or the June Tech Saturday Forums must notify me so that we can have adequate supplies and equipment on hand, and so that we can properly plan as regards available space. Send an email to me, **Chris Prioli AD2CS**, to reserve your seat at the Tech Saturday Forums.

Any member wishing to participate in the Field Day activities must reach out to **Tony Starr K3TS** in order to be matched up with an operating band team.

Anyone wishing to attend the Advanced SMT Soldering Class in July must send an email to me to reserve a seat.

The correct email addresses can be found in the current Club Roster.

It is of critical importance that these **registrations** occur so that the proper supply levels can be made available and so that sufficient space is made available for all those who wish to participate. The sooner that you reserve a seat, the better, but in any case, it must occur at least two weeks before the date of the event in which you want to participate. Let's get as many Club members as possible out to these events, but let's do it correctly - **REGISTER!**

**That's all for this edition... see you next month.**



## Tuesday Afternoon Net @ 1200 Hours



### Net Control Stations :

Steve Farney, W2SEF; Chris Prioli, AD2CS; Greg Ciraula, W5DO;  
Rich Subers, W2RHS, & Jeff Garth, WB2ZBN

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

Here is the schedule for the upcoming weeks

Greg Ciraula, W5DO : May 7, 2024

Chris Prioli, AD2CS : May 14, 2024

Steve Farney, W2SEF : May 21, 2024

Steve Farney, W2SEF : May 28, 2024

Greg Ciraula, W5DO : June 4, 2024

Chris Prioli, AD2CS : June 11, 2024

Steve Farney, W2SEF : June 18, 2024

Steve Farney, W2SEF : June 25, 2024

Greg Ciraula, W5DO : July 2, 2024

Chris Prioli, AD2CS : July 9, 2024

Steve Farney, W2SEF : July 16, 2024

Steve Farney, W2SEF : July 23, 2024

Jeff Garth, WB2ZBN : July 30, 2024

If you would like to be a Net Control Station for this net, please contact Steve Farney, W2SEF



## Thursday Night Rag Chew Net @ 2000 Hours



### Net Control Stations :

Chris Prioli, AD2CS; Mary Delemarre, W2TDS; Gary Mirkin,  
WA3SVW; Steve Farney, W2SEF; Greg Ciraula, W5DO; & Jeff Garth,  
WB2ZBN

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

Here is the schedule for the upcoming weeks

Chris Prioli, AD2CS : May 2, 2024

Mary Delemarre, W2TDS : May 9, 2024

Gary Mirkin, WA3SVW : May 16, 2024

Steve Farney, W2SEF : May 23, 2024

Greg Ciraula, W5DO : May 30, 2024

Chris Prioli, AD2CS : June 6, 2024

Mary Delemarre, W2TDS : June 13, 2024

Gary Mirkin, WA3SVW : June 20, 2024

Steve Farney, W2SEF : June 27, 2024

*Happy Independence Day : July 4, 2024*

Mary Delemarre, W2TDS : July 11, 2024

Gary Mirkin, WA3SVW : July 18, 2024

Steve Farney, W2SEF : July 25, 2024

If you would like to be a Net Control Station for this net, please contact Jeff Garth, WB2ZBN





## Gloucester County Skywarn Net

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

All Are Welcome To Participate

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



## Gloucester County ARES Net

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

All are welcome to participate

Net Control Stations : Steve Farney W2SEF, Greg Ciraula W5DO, Bob Keogh

Bob Keogh KD2NEC : May 5, 2024  
Gary Mirkin, WA3SVW : May 12, 2024  
Todd Woodward KD2ESH : May 19, 2024  
*Memorial Day Holiday : May 26, 2024*

Al Arrison KB2AYU : June 2, 2024  
Greg Ciraula W5DO : June 9, 2024  
Steve Farney, W2SEF : June 16, 2024  
Karl Frank W2KBF : June 23, 2024  
Bob Keogh KD2NEC : June 30, 2024

KD2NEC, Karl Frank W2KBF, Al Arrison KB2AYU, Gary Mirkin WA3SVW, Todd Woodward KD2ESH, & Jim Wright N2GXJ

## 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.



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>



## At The Repair Bench...

A monthly column describing a recent repair bench event.

By Chris Prioli, AD2CS - [chris@ad2cs.com](mailto:chris@ad2cs.com) - [www.ad2cs.com](http://www.ad2cs.com)

### Yaesu FTM-400XDR - May 2024

Sometimes, a repair does not only involve schematics, components, and solder. That was the case recently when a **Yaesu FTM-400XDR (Figure 1)** came in for repair. The FTM-400XDR is a dual-band 2m/70cm mobile radio with digital, data, APRS, and Bluetooth capability in addition to the usual analog modes.

The radio's owner brought it to me, saying that it would not allow him to reach the Club's repeater at 147.180 MHz. He and I, several weeks prior, had spent some time noodling around with the radio for the same complaint, and I found then that it worked quite well in simplex mode, and that when I entered the correct CTCSS frequency and set the radio for automatic repeater offset operation and proper squelch mode, it worked well on the repeater as well. I told him to go through the programming of the radio and at that point I believed that the problem was resolved.



Fast-forward a few weeks, and the radio is back, this time having been replaced by an FTM-500 series unit out of frustration (and probably a little bit of desire). The more features any given radio offers, the more complex the operation and therefore the setup or programming of that radio will be. This is what turned out to be at the root of this failure, but I am getting ahead of myself.

Having the previous history in mind, the first thing that I looked at was the programming of the memories in the radio. What I found surprised me. There were no stations programmed other than the Club's 2-meter repeater, and that one had an incorrect CTCSS frequency entered. The tone was set to 100.0 Hz rather than to the correct 131.8 Hz. Further, I found that the **Squelch Mode** setting was set to **Noise** rather than to either **Tone or Tone Squelch**. This meant that that the radio was generating a 100 Hz sub audible noise signal instead of the clear 131.8 Hz sub audible sine wave tone required to allow access to the repeater.

Funny thing... I remembered additional memory channels having been populated when I looked at the radio previously. I couldn't see the owner deleting all of the other channels, including the **"Home"** channels, so I began to wonder about the memory of the radio. I programmed in three each VHF and UHF repeaters manually, and then I set the radio aside for a few days. When I came back to the radio, the memory slots were not empty, but neither were the stored values the same as I had entered. For example, the text strings assigned to the memory slots had been corrupted, and the CTCSS tone frequencies had changed. In addition, the **Squelch Mode** settings for each of the memory slots had also reverted to **Noise**. At that point, I believed that I had narrowed the problem down to a failed memory battery in the radio. This is reinforced by the fact that the date and time stored in the radio, which I had reset, were also incorrect.

*At The Repair Bench - Continued on page 19*

Investigation of the radio service manual showed that the radio actually uses two batteries, which are actually coin cells - one each in the **Front Panel Module (Figure 2)** and the **Main Module (Figure 3)**. In both locations, the cell is an industry standard ML614R-TT31 cell carrying a Yaesu replacement part number of Q9000895. This is a lithium-ion secondary cell with a 3.0V 2.5mAh rating and an anticipated life of five years, and is designed for a discharge rate of 0.005mA. The specifications for these cells are shown in **Figure 4**. The specification list for the M614R-TT31 shows that it was designed for only a 10% discharge depth, with a charge/discharge cycle count of around 300 cycles.

According to the serial number of the radio at hand, it was produced in September of 2020. Making the coin cells almost three years of age in use, but there is no real way of knowing how much of their shelf lives had expired at the time of installation. It is not unreasonable to find these cells to be failing at three years of radio life. Upon opening the radio's Main module and measuring the mainboard cell, I found it to be at 2.58V. Next, I opened up the Front Panel module and measured that cell. The Front Panel module cell measured out at a very low 0.612V. It was obvious at this point that replacement of both of the cells was necessary, so I ordered them in. As it turned out, even though the FTM-400 uses two of these cells, Yaesu's USA service center *Standard Horizon* stocks only one of these cells. They get \$1.49 for each cell and about \$11.00 for the shipping, and said that the second cell would have to come from Asia and would entail additional shipping charges. Instead, I ordered a set of ten cells from an Asian supplier at a reasonable cost and with less than a two-dollar shipping fee. The only rub is that the cells, ordered in the middle of May, are not projected to arrive until almost the end of July, about the same lead time that Yaesu had offered.

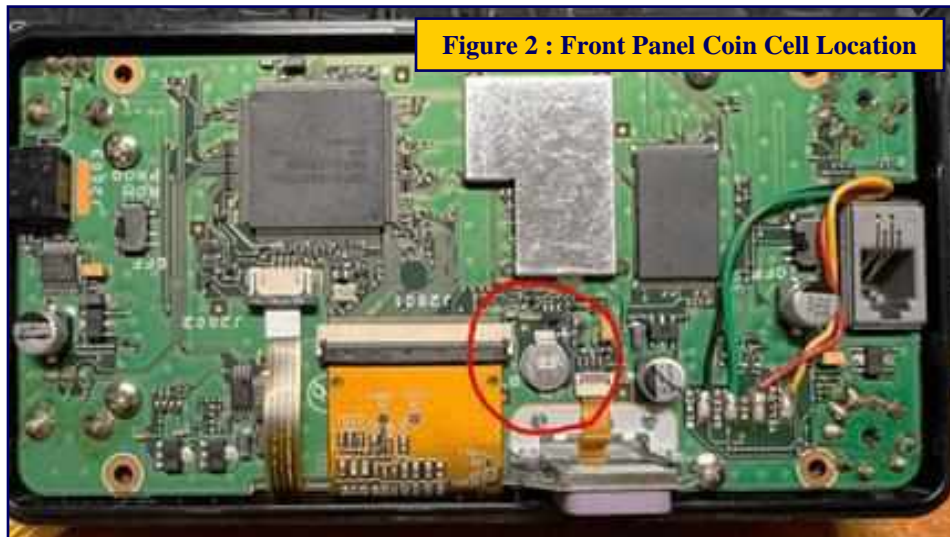


Figure 2 : Front Panel Coin Cell Location



Figure 3 : Main Module Coin Cell Location

You would think that a consumable item with a finite life cycle such as these lithium-ion cells, which also have a relatively low expected charge/discharge cycle count before failure, would be more readily available here, where so many of these radios have been sold. The Yaesu parts counterman said that he only gets orders for these cells one at a time. That may well be, as other models use the same cell but in a single cell scheme. The FTM-400, however, uses two of these cells, and the manufacturer should be ready to support the radios as these cells fail. The failure of these cells is inevitable and should therefore be anticipated, with an accompanying adjustment in stocking levels. This looks like poor planning, if you ask me.

OK - the batteries - or cells, to be more accurate - have arrived and have been installed. Now the voltages measured are as follows: 2.98V on the mainboard, and 3.02V on the front panel board. Hopefully, this repair will keep the memories in this radio operational for several years. These cells are lithium-ion secondary cells, which are rechargeable, and they do receive a charging current during radio operation. However, there is a finite limit to the number of discharge/charge cycles which the battery can experience before it will fail to accept additional charging. It is safe to assume that between the relatively short “shelf” life and the limited “cycle” life of these cells, they have simply met their limits and needed replacement.

Replacement of the cells was straight-forward. I used my SMT soldering tweezer to heat both tabs of each original cell at the same time, simply lifting the cell clear once the solder flowed. The soldering tweezer was not used to install the new cell, as I did not want to place a short across a new cell. I simply placed each cell into its proper position onto the pre-tinned pads on its respective board, and then soldered it in place with my pencil iron. To simplify the installation, I pre-tinned the solder tabs and the PCB pads before placing the cells on their boards. Having done that, the final step was a simple reflow of the tinning solder.

Following the installation of the cells, it was time for the radio to be programmed and tested. I used the RT software and cable provided by the radio owner for the programming steps. Once that was completed, I took the radio to an antenna, feeding the output through my trusty Bird 43 directional wattmeter with an appropriate element in place.

All operational testing of the radio went as expected. The output power level on the 2-meter band measured a nice 49.2 watts on the **High Power** setting, 19 watts on the **Medium Power** setting, and 4.75 watts on the **Low Power** setting. The 70-centimeter band did not fare quite as well, measuring 46.5 watts on the **High Power** setting, 18.25 watts on the **Medium Power** setting, and 4.5 watts on the **Low Power** setting. While all of these power levels are somewhat lower than the advertised maximums for this radio, they are none the less within reasonable limits for each of the individual power level settings, and were therefore accepted as being “normal”.

### Specifications

Model	ML614	ML621	ML614R (ML614R-TT31)
Nominal Voltage	3V	3V	3V
Nominal Capacity <sup>※1</sup>	3.4mAh	5.8mAh	2.5mAh
Standard Discharge Current	0.015mA	0.015mA	0.005mA
Max. Pulse Current <sup>※2</sup>	1.5mA	1.5mA	-
Charge/Discharge Cycle Characteristics	300 (Discharge depth of 30%)		300 (Discharge depth of 10%)
Charging Method	Constant voltage charge 2.8 to 3.25V		2.8 to 3.1V
Dimensions	Diameter	6.8mm	6.8mm
	Height	1.4mm	2.1mm
Approx. Weight	0.16g	0.22g	0.19g
for Reflow Soldering	-	-	○
Data sheet			

※ Expected life is 5 years at room temperature.

Expected life is reference only and is not intended to imply any guarantee or warranty. Actual life depends on condition of use.

※ Consult with FDK when considering connection method and multiple-cell configuration.

※1 Nominal capacity is determined at an end voltage of 2.8V when the battery is allowed to discharge at a standard current level at +25° C.

※2 Current value for obtaining 2.8V cell voltage when pulse is applied for 15 seconds at 50% discharge depth (50% of the nominal capacity) at +25° C.

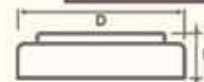


Figure 4 : Coin Cell Specifications (ML614R-TT31 Boxed In Red)

It must be noted that Yaesu does not publish an output power range for each band in their service manual for this radio, choosing instead to publish only the maximum power levels expected. The technician must then make a decision as to whether or not a given measured output is acceptable. I considered 10% to be a reasonable lower limit for the various power levels, therefore giving us lower limits of 45 watts, 18 watts, and 4.5 watts respectively for the three power levels offered in this model - high, medium, and low. All of the power measurements were either above or right at these lower-level limits, and were therefore accepted as being within “normal” operating power ranges.

All that was left now was to reassemble the radio, do a final after-reassembly test, back up the programming to the onboard micro-SD card, and get the radio back to its owner. As a convenience to the owner, I printed off a copy of the service manual, so that he would have one for any future needs.

In summary, it can safely be said that this family of radios is coming of age to the point where they will begin requiring lithium-ion cell replacements, as these cells are about at the anticipated extent of their life spans. This means that more of these radios will be coming in for coin cell swaps, and the repair shops should be prepared to service these units. I have now got sufficient inventory on these cells and I am therefore quite prepared. I hope that other repair facilities follow suit and get themselves ready for the rush, as quite a lot of these radios have been sold.

**See you next month!**

**British Columbia QSO Party 2024**  
an **Orca** event  
BC and District Club

Top Score — NJ  
Single-op low-power CW  
Score: 9,176

**WB2PJH**

President: Dave Johnson VE7VR  
Contest coordinator: Rebecca Kwata VA7BEC

Sea-to-Sky Gondola, Squamish, BC  
Photo credit: VA7BEC

Club Member	DMR ID
W2MMD Clubhouse	3198604
Henry Ammon IV, KD2YZS	3190004
Michael Andrescavage, N2ICV	3134044
Vincent Antonelli Sr, KA2APD	3186826
Lance Appel, KE2UC	3200487
Alex Calabrese, WA2ADS	3100583
Chuck Capasso, WB2PGE	3169781
Matthew Carango, N3QB	3169432
Todd Cecilio, KA2YNT	3169458
Anthony Cerami, N2OAC	3202759
Mark Clark, N3QMJ	3102110
Holden Correia-Fisher, KD2JPV	3104911
Mike Covaleski, N2MMC	3134855
Walter Coward, WX2E	3166863
Bob Demola, KD2GFL	3134319
Doug Dersch, KD2VQA	3193630
Thomas Distelcamp Sr, KC2GYC	3110869
Glenn Dougherty, N2YIO	3161836
Keith Dreyer, KD2ZRB	3192630
Adam Duncan, W3DUN	3202691
Herb Dyer, KT2Y	3134907
Harry Elwell, AD5TT	3128498
James Foster, W3JNF	3142117

Club Member	DMR ID
Karl Frank, W2KBF	3146716
Glen Guenther, KE2BUO	3202079
Melissa Guenther, KE2BWZ	3202496
Gary Mirkin, WA3SVW	3165494
John Murrow, KD2NHK	1134122
Phil Nunzio, WA3RGY	3134336
John O'Connell, K2QA	3110610
Robert Pantazes, W2ARP	3157208
Jon Pearce, WB2MNF	3163415
Mike Pecorini, K2MRP	3132996
Michael Pentimall, KC3VTF	3203601
John Price III, KD2QYC	3123583
Chris Prioli, AD2CS	3195449
Len Rust III, W2LJR	3186225
Len Rust IV, K2LJR	3196243
Dave Sheppard, W2PAX	3112666
Cory Sickles, WA3UVV	1142052
James Simeone, KC2AOF	3134848
Court Smith, KD2SPJ	3186243
Rich Subers, W2RHS	3204316
Brett Waller, K2BKW (KC2UXQ)	3134261
Bill Wood, KD2OSJ	3197459
John Zaruba Jr, K2ZA	3134331

For more information, DMR links, and W2LJR's DMR presentations, go to :  
<https://gloucestercountvarc.weebly.com/dmr.html>

## 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

Submission deadline for the June 2024 issue : Monday, May 20, 2024

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

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

## DMR Configuration Sequence

### 1. Obtain and Configure DMR ID :

- <https://www.radioid.net>

### 2. Download Contact List :

- <http://www.dmrcontacts.com>

### 3. Identify Repeater or Hotspot :

- <https://www.repeaterbook.com>

### 4. Define Talk Groups

- Numerical ID
- Text Name

<https://brandmeister.network/?page=talkgroups>

### 5. Create Channel

- Select Number
- Assign Name
- Select DMR ID
- Assign Frequency
  - ◆ Transmit
  - ◆ Receive
  - ◆ Bandwidth
  - ◆ Power
  - ◆ DMR Mode (Simplex/Repeater)
  - ◆ TX Permit (Channel Free)
- Assign Talk Group
- Assign Color Code
  - ◆ Agreed Upon with Other Users
- Assign Time Slot
- Agreed Upon with Other Users

### 6. Create Zone

### 7. Add Channels to Zones

### 8. Configure Features

### 9. Upload Code Plug

### 10. Upload Contact List

### New Utility Poles @ W2MMD Clubhouse Site :

1. **Front Parking Lot Pole :** It will have a dusk to dawn light to provide more illumination for our parking lot
2. **Back Side Pole :** It will be used as an antenna support





## Amateur Radio Emergency Services - May 2024

Resources - News - Updates

By Bob Keogh, KD2NEC - kd2nec@qsl.net

Gloucester County Emergency Coordinator



### Red Cross/Amateur Radio Emergency Communications

**This Trailer is currently stored at the NJ Regional Facility in Tinton Fall, Monmouth County, but will be relocated to Gloucester County, along with a tow vehicle.**

### Purpose of the Emergency Communications Trailer

- No need to disassemble your personal radio equipment when deployed to a disaster location. Then, when we are finished there is no need to disassemble your equipment and assemble it again at home.
- Everything will be all in one place
- Batteries, Generator, and/or Solar Panels
- Antennas and Telescopic Masts
- Radios : Minimum (1) HF, (2) VHF/UHF for both voice and WinLink Data Communications
- HF NVIS, Triband (2m, 70cm, 23cm)
- Laptops, keyboards, monitors, and headsets
- Space for two or three stations and operators
- Three comfortable chairs for operators
- Storage for cables, supplies, tools, parts, etc.
- Easy access and transport
- Protect operators and equipment from weather conditions
- Protect PC monitors from Sun light
- MOST IMPORTANTLY, Setup and Breakdown in Minutes, not hours.

The trailer will also be used for Community Events i.e. 5K Runs, Bike-A-Thons, etc. The Red Cross will retain ownership of the trailer. Individuals who will be towing the trailer will be required to attend the Red Cross Trailering Workshop. **Karl Frank W2KBF** and I have already taken this training.

The Red Cross Logistics Manager will relocate this trailer and a tow vehicle to the Washington Township Fire Department and Municipal EOC, at 213 East Holly Avenue. The Red Cross uses this facility to store some of their vehicles.

### Preliminary Project Plan

**Step 1 :** Remove the two large storage units, so we can expand the work table and make room for three station operators to sit comfortably.

**Step 2 :** Remove wall and ceiling paneling, to run AC and DC wiring for lights and equipment.

**Step 3 :** After the wiring is completed, we will install insulation and then reinstall paneling.

**Step 4 :** Create an opening in roof and install a vent with fan. During phase two of the project, we will install a roof air conditioner/heater.

**Step 5 :** Expand the existing work table, the entire length of the trailer interior, approximately 8 feet. This will be sufficient space for two radio operators to work very comfortably and possibly a third.

*SNJ ARES Update - Continued on page 25*



**Step 6 :** Install a shelf over the entire length of the work table. The primary use of this shelf will be to attach the (3) radios to the bottom of the shelf over the work table. We have a 2M radio that was donated by a friend of mine, that can get us started. If you or a friend have radios that they want to donate, please let me know.

**Step 7 :** Construct several shelves on the opposite side of the trailer. These shelves will hold cables, connectors, tools, etc., in plastic boxes, held in place with metal straps. They will also hold antennas stored in tubes for protection and several telescopic masts.

**Step 8 :** Install a reliable, self-sustaining electrical system, including batteries, solar panels and/or generator, surge protection and grounding.

We will need all the help we can get to implement this plan. Please let me know if you are interested in participating in this project.

We have already started to create a material and equipment list so we can determine the total cost of the project. The Red Cross should fund the project, but we could also request a grant ourselves. That said, if anyone would like to donate a VHF/UHF and/or HF rig, to the Red Cross Emergency Communication Trailer, this is a worthy cause that we can all use. We could also use some additional Ham-Power, to support the project labor pool and funds for materials and equipment. I will supply the refreshments. This is a great way for us to get to know each other.

*“More hands lighten the load”*





**American  
Red Cross**

**Hello Friends!**

Today we officially kick off Volunteer Appreciation Week, amidst a month of volunteer recognition activities. As is often said, we simply cannot carry out the mission of the Red Cross without the incredible dedication of our volunteers.

Every day, a Red Cross volunteer provides hope and help for someone who needs it. As I write this, a Biomed transportation volunteer is bringing units of life-saving blood to a hospital while a blood donor ambassador assists blood donors during their visit to a drive. A Service to the Armed Forces volunteer is stocking our two food pantries, assisting a military family with financial assistance, or visiting Veterans at one of our State Homes. A Disaster Action Team member is comforting families who lost their dwelling in a multi-family fire. Another disaster volunteer is boarding a plane to assist an area burned by wildfires or flooded by a hurricane. A preparedness volunteer is installing a smoke alarm, or teaching children about fire safety. A volunteer is assisting a family separated by war or disaster through our Restoring Family Links Program. And several volunteers are working behind the scenes, maintaining our facilities and fleet, thanking our donors, greeting people at our reception desks, or helping to recruit another member of our Red Cross family.

It is an honor to serve alongside you. As Dr. Martin Luther King once said, “Everybody can be great because anybody can serve. You only need a heart full of grace and a soul generated by love.”

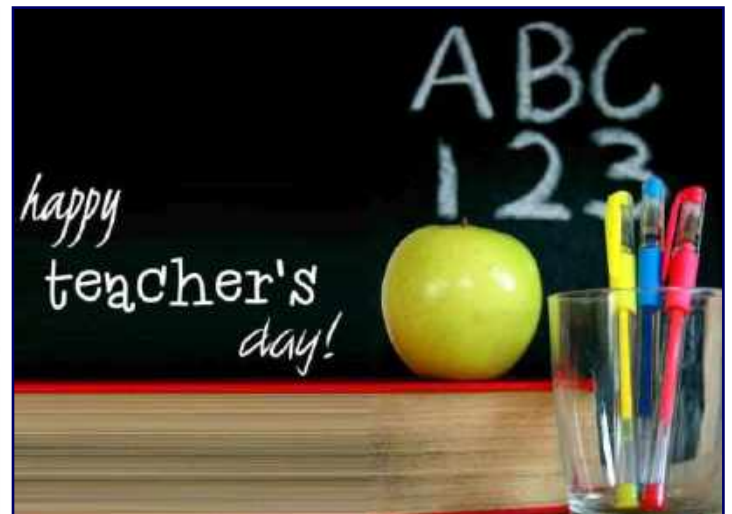
Thank you for all you do!

**Rosie Taravella**  
**Regional CEO, New Jersey**  
**American Red Cross**

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Monday, May 6, 2024



Tuesday, May 7, 2024

## Announced DX Operations

[www.ng3k.com/Misc/adxo.html](http://www.ng3k.com/Misc/adxo.html)

From The Shack of Bill Feidt, NG3K : [www.ng3k.com](http://www.ng3k.com)

May						
2024 May02	2024 May17	<b>Rwanda</b>	<b>9X2AW</b>	M0OXO OQRS	<a href="#">TDDX</a> 20240408	By DF2WO fm Kigali; HF; CW SSB FT8 FT4; 100w
2024 May03	2024 May08	<b>Barbados</b>	<b>8P9NO</b>	Club Log OQRS	<a href="#">TDDX</a> 20240416	By PH0NO; 20-10m; SSB CW; 100w; wires; holiday style operation
2024 May11	2024 May19	<b>Bolivia</b>	<b>CP7DX</b>	LoTW	<a href="#">TDDX</a> 20240314	By LU1FM LU6FOV LU7HN LU7MT LU8YD LU9FHF LU5DF; 160-6m; SSB FM CW FT8 FT4; QSL via Club Log OQRS
2024 May14	2024 May26	<b>Barbados</b>	<b>8P9CB</b>	WA7RAR	<a href="#">TDDX</a> 20240403	By WA7RAR; 20-10m; SSB CW
2024 May17	2024 May27	<b>Cyprus SBA</b>	<b>MW0BRO</b>	LoTW	<a href="#">DXW.Net</a> 20240417	By MW0BRO fm nr Dhekelia; 40-6m; CW; 100w; possibly also using 5B/MW0BRO
2024 May19	2024 May31	<b>Maldives</b>	<b>8Q7KR</b>	DO4RKR (B/d)	<a href="#">TDDX</a> 20240306	By DO4RKR fm Joy I; 10m; SSB
2024 May23	2024 May27	<b>Bermuda</b>	<b>VP9</b> <small>NEW</small>	See Info	AB2E 20240418	By AB2E as AB2E/VP9; low bands; CW FT8; QSL via LoTW; QRV for WPX CW using VP9I (QSL via WW3S)
2024 May24	2024 Jun19	<b>Glorioso Is</b>	<a href="#">FT4GL</a>	LoTW	<a href="#">DXW.Net</a> 20240315	By FH4VVK fm Grande Glorioso I (IOTA AF-011); HF; QSL via F4FTV
2024 May22	2024 Jun03	<b>Br Virgin Is</b>	<b>VP2V</b>	LoTW	<a href="#">TDDX</a> 20240313	By W5GI as VP2V/W5GI fm Anegada I; 20-10m; SSB
2024 May30	2024 Jun10	<b>Pitcairn</b>	<b>VP6DF</b> <small>NEW</small>	LoTW	<a href="#">DXW.Net</a> 20240422	By WJ2O fm IOTA OC-063; 160-10m; CW; QSL via N2ZN
2024 May30	2024 Jun20	<b>Crete</b>	<b>SV9</b> <small>NEW</small>	DK5EW Direct	<a href="#">TDDX</a> 20240419	By DK5EW as SV9/DK5EW; 6 4m

Also for your convenience, there is a direct link to NG3K on our website. Click on the NG3K DX Page.

# Be A Club Volunteer!

## Club Technical Volunteer Projects :

- Processing monthly membership meeting and Tech Saturday videos for the YouTube channel
- Assisting the AV team at the Wednesday Night General Membership Meetings
- Assisting in the inventory of Clubhouse assets and keeping that inventory current
- For the more technically inclined, managing the SatNOGS station, reviewing observations, and adding new satellites to the list of those being tracked
- Reviewing new technologies for presentation at meetings or write-ups in CrossTalk.

For example, the VarAC HF digital communications program has recently been updated, it is installed on the HF station at the Clubhouse, and might provide an opportunity for an interesting short article or presentation

If you would like to volunteer for any of these projects, please contact Jon WB2MNF, Ron NR2B, or Chris AD2CS

## Clubhouse Construction Volunteer Projects :

Shed : Build Ramp

Clubhouse :

- Build Ramp
- Replace Interior Front Door
- Power Wash Siding
- Replace Back Steps

Lightning Protection Project :

- Install copper strapping in Library Room
- Install copper strapping in VHF/UHF Room
- Complete grounding rod installation around Clubhouse and Towers

Install Utilities On New Front Parking Lot Pole

Install New VHF Towers

*A Club that goes 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.



## The Hungry Frog Eats Again!

By Jim Wright, N2GXJ

After a seven year wait, and with a depressingly high 60% chance of obscuring clouds, who would make a seven hundred mile drive to get a chance to see the hungry frog eat again? Guilty as charged! *And it was worth it!*

Hungry frog? Some might recognize that as a reference to an article titled “When the Frog Eats It” published in the [October 2017 CrossTalk](#). That was from the last time a total eclipse crossed the USA. This time, the path of totality would be crossing through many states. But the big problem would be that this was in springtime, when historically most of those states would be under cloud cover, not a good viewing weather forecast. So, where to go to chase this one?

Originally thinking of Texas, even a full year before the event it was hard to find an affordable hotel anywhere near the path of totality. Then long range weather forecasts started to come in anticipating the possibility of heavy clouds and storms in Texas for April 8<sup>th</sup> of this year. That would not be good. So we started to look at other states, like Indiana, which we were familiar with having gone to school together there. What sealed the deal, so to speak, was when we got invited to a friend’s backyard wedding on April 8<sup>th</sup> near Indianapolis, Indiana, that would be in the path of totality. We looked at it this way; even if the clouds were to mess up the eclipse viewing, at least we’d have the fun of a wedding! And with that, it was decided. We had our eclipse viewing destination. The road trip was on!

Instead of driving straight out to Indianapolis, we decided to stop in overnight in the Dayton area and check out the United States Air Force Museum there. This was after seeing **Jon Pearce WB2MNF**’s pictures he shared from there last year. And glad we did. It has so much in it. If any Club members are heading out to Dayton for the Hamvention, you might be interested in checking it out too. It is free admission!

On eclipse day, we used back roads to get to the house where the wedding was going to be held. It turned out to be a great weather day. From where we were at just north of Indianapolis, there was a thin high layer of cirrus clouds, but they were mostly transparent. Thankfully, we would not be blocked out from seeing the total eclipse. The simple back yard wedding ceremony started with friends and family, just as the moon began to slip over the sun. The ceremony was very nice, and we hung out afterwards with about a half hour still to go until totality. The bride and groom had solar glasses for everyone, along with plenty of food and drinks for all of us to enjoy as we hung out on the deck awaiting the total eclipse.

There was an excitement in the air as the minutes ticked down toward totality. We noticed the air getting cooler, and the wind dying down. Colors around us began to darken and change. Bees which had been buzzing enjoying the spring flowers all seemed to go back home. Glancing up through the solar glasses, we could see the sun turning into what looked like a finger nail clipping. The clipping got smaller and smaller, until suddenly we were in totality! When it happened, there was cheering from neighbors and others watching from all over town. The glasses could now safely come off! Wow! There was a dark hole in the sky with glowing all around it right where the sun was supposed to be. How amazing was this!

We were in the moment, trying to enjoy it all. Compared with 7 years ago, this time the moon seemed bigger, and the time in totality seemed longer - maybe because the moon was closer to Earth than before? Whatever the reason, we were blessed with more than 3 wonderful minutes of totality from where we were at this time.

Looking up, around the edges of the moon, we could see what looked like red flares on the lower side of the disk. We speculated these must be some kind of solar flares high enough above the sun’s surface to not get blocked by the moon for us to see. The skies were now dark around the eclipsed sun.

*The Hungry Frog Eats Again! - Continued on page 30*

To our wonder, planets were now visible. Someone was first able to point out Venus on one side of the sun, and then a little further away on the other side, Jupiter. How amazing was that!

We were so caught up in what we were seeing that I actually forgot to try and take any pictures until it was almost over. And then they didn't turn out that good. I'd practiced manual focus, f-stop, and shutter speed settings ahead of time knowing that the brightness of the corona would wash out any attempts with auto settings. But in the excitement of the moment, I accidentally forgot to take off the auto settings. Oops! Seeing in person was that amazing.

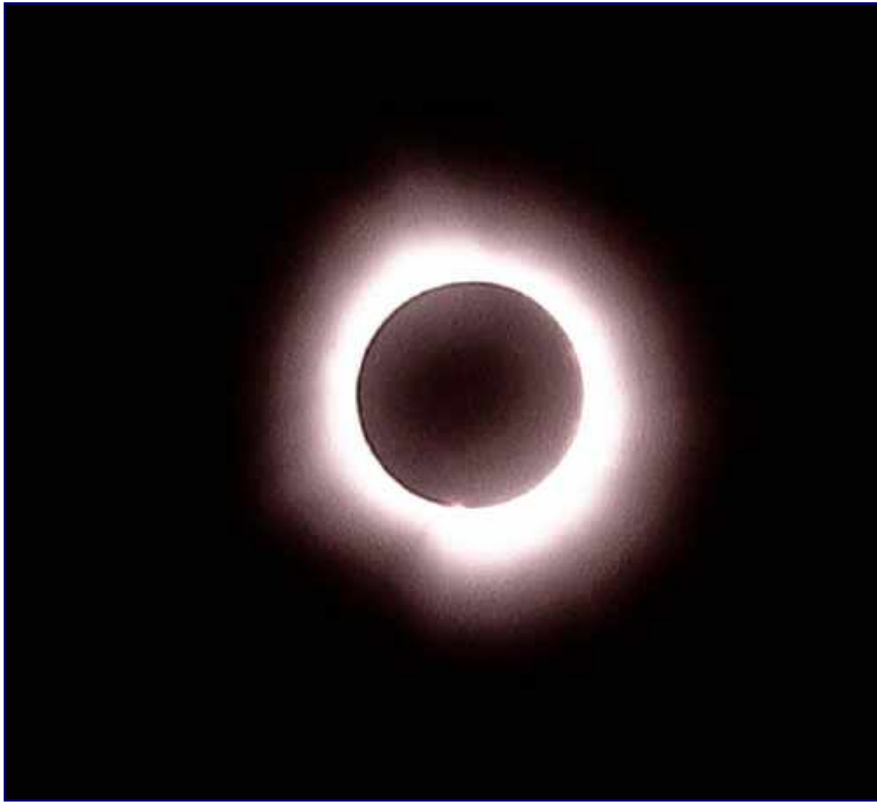
All too soon, totality was over. The solar glasses went back on for those who wanted to follow the return of the sun. Over the next hour the sun returned to full strength, but in truth, watching the return was kind of anti-climatic. The real show had been the getting to and being in totality.

The party continued for the rest of the afternoon and into the evening. As great as the wedding was, and as great as the total eclipse was, there was now growing anticipation for the next big event of the day. For many in attendance who were Purdue grads, that event would be watching Purdue in the NCAA basketball finals that evening on TV. Though that didn't turn out the way we'd hoped, all in all, it really had been a great day. And got us talking about "the next one". These things can be addictive. If you've not experienced totality, it's worth it. So when is the next one?

For those of us in the US, I hear we might have to wait until August of 2045. That is unless you're willing to do some international travel. In which case, might not to have to wait so long. It looks like there's one in August of 2026 crossing Greenland to Spain with a couple minutes of totality, and then what might be an amazing one with over 6 minutes of totality that crosses over Luxor Egypt in 2027. Here's wishing clear skies to all that go chasing!

Is hard to take good pictures during totality. Here are two of my attempted pictures taken April 8, 2024 from Indianapolis, Indiana.





**Jim Wright, N2GXJ's pictures of the solar eclipse and at the National Air Force Museum**



## GCARC VHF Tower Complex

By Chris Prioli, AD2CS - [chris@ad2cs.com](mailto:chris@ad2cs.com) - [www.ad2cs.com](http://www.ad2cs.com)

To borrow a phrase, *“September the First is a date that will live in infamy... at GCARC.”* It was on that day in 2022 that an EF-3 tornado struck the Mullica Hill area, ultimately cutting a swath through Gloucester County and remaining on the ground for over twelve miles. The damage in the local area was extensive. In the overall scheme of things, we at GCARC were actually quite lucky that day, but we suffered some serious damages nonetheless. On that day, the winds struck our HF and VHF towers, with both towers being topped and left in unusable condition.



The Club initiated a GoFundMe online fund-raiser that brought in quite a sum, but it was still far short of the total that was needed to replace both towers. We happened upon an exact-fit replacement, though it was slightly taller, for the HF tower, which took quite a while to get erected, as it actually needed some repairs and refurbishment before we could put it up. Thanks to the hard work and commitment of a few Club members, and the donated labors of some others, the tower and its new antennas finally were up and usable. It was time to move on to the VHF side of things.

In the interim, the Club was the fortunate recipient of some grant funding that would help us to put in some new VHF station equipment, greatly expanding our VHF capabilities. However, we needed an appropriate (read: “tall”) tower to support all of the antennas needed by this new capability. One thing led to another, and it was determined that it was imprudent to rely upon the climbing abilities of a Club membership that is steadily getting older and less able or willing to climb tall towers. Further, the cost of this tower was formidable. As luck would have it, through diligence and persistence, a pair of suitable crank-up towers was found at a location in the Midwest, which we could purchase for a sum that was quite attractive. These two towers could - and would - replace the single tall fixed tower originally envisioned.

The towers were purchased and trucked to New Jersey, and set on the ground behind the Clubhouse. Evaluation of the towers was begun, together with all of the planning necessary to eventually raise these two towers on our site. Extensive research and planning were involved, including obtaining governmental and landlord approvals. Finally, we were ready to contemplate actually putting the towers up.



*GCARC VHF Tower Complex - Continued on page 33*



Cost estimates were worked up, factoring in every conceivable bit of the many costs involved in putting in not one, but two separate foundations for these towers. These costs include such things as the rental of excavating equipment, paying the equipment operators, purchasing the anchor bolts, preparing the towers and their bases, preparing the cranking motors, refurbishing the tower lift cable systems, purchasing the rebar and concrete, running the power out there, and... well, you get the idea. The list was massive, and the cost was far more than we, as a Club, had the budgetary chops to handle without help.

We asked for that help by making a plea to the membership for voluntary donations towards the defrayment of the tower installation costs. The response was immediate and heartwarming, which brings us to the real point of this article.

The GCARC leadership wants to recognize the following individuals who all contributed financially to the VHF Tower Installation Fund, with the most sincere thanks possible :

**Alan D Arrison KB2AYU**

**George M Badger III W3AB**

**Ron Block NR2B**

**Bruce Canino KD2LBU**

**Anthony Cerami N2OAC**

**MaryLu Ciraula KE2CEF**

**James Clark KA2OSV**

**Karl B Frank W2KBF**

**John Hill W2HUV**

**Lee Marino N2LAM**

**Earl Moore KC2NCH**

**Phil Nunzio WA3RGY**

**John O'Connell K2QA**

**Sheldon Parker K2MEN**

**Jonathan Pearce WB2MNF**

**William H Price NJ2S**

**Chris Prioli AD2CS**

**Frank Romeo N3PUU**

**Leonard J Rust III W2LJR**

**William Sheppard Sr WA2KMS**

**Courtney Smith KD2SPJ**

**Michael Thompson KG4JYA**

**David Wade KD2NZS**

**Charles Wahl KC2STO**

**Todd Woodward KD2ESH**

**John A Zaruba Jr K2ZA**

It is only through the generosity of the Club members recognized herein that the Club is able to proceed on schedule this Spring with the task of raising these two new VHF towers. This project will bring to fruition a long-term plan to grow our VHF station into a world-class VHF station that any Amateur Radio club would want to claim as their own.



May 12 - 18, 2024

Wednesday, May 8, 2024





## Bob Heil, K9EID, Silent Key

The man who defined the sound of live rock 'n' roll music and brought audio engineering principals into mainstream amateur radio use, Dr. Bob Heil, K9EID, has passed away at the age of 83.

He was an ARRL Life Member and in the ARRL Maxim Society. A Facebook post from Heil Ham Radio paid tribute to their founder : "Bob fought a valiant, yearlong battle with cancer, and passed peacefully surrounded by his family."

Heil founded Heil Sound in 1966, through which he created the template for modern concert sound systems for musicians like the Grateful Dead, The Who, Joe Walsh, and Peter Frampton.

The talk box used on iconic live record Frampton Comes Alive! was Heil's design. His audio engineering products have been featured in the Rock & Roll Hall of Fame, and he was honored in 2007 with the Parnelli Audio Innovator Award for his impact on the live sound industry. "My life has been about achieving great sound, whether on the concert stage or in the amateur radio world," Bob Heil **recounted** (<https://www.arrl.org/news/heil-sound-changes-hands>) in 2022. "I've watched Heil Sound go from a regional sound company to a world-class microphone manufacturer. This company has been my passion," he said.

Parallel to his commercial and artistic success in live music, was his passion for amateur radio. He was active in ham radio from a young age, and he merged his expertise in audio engineering with his love for radio. Heil Ham Radio was founded to produce microphones, headsets, and other gear for radio amateurs with an emphasis on high-quality audio.

Heil was known as a mentor who enjoyed helping others find success in ham radio.

Recently, his grandson Charlie Hartley, KF0OOP, became a licensed ham to surprise Heil for his birthday. The pair attended the (<http://www.arrl.org/arrlletter?issue=2024-02-01#toc02>) ARRL Midwest Convention/Winterfest in St. Louis, Missouri, on January 27, 2024.

Heil was a generous donor to amateur radio organizations, including ARRL. Recently, he donated a host of new audio gear (<https://www.arrl.org/news/heil-ham-radio-donates-equipment-to-w1aw>) to the Hiram Percy Maxim Memorial Station, W1AW.



"RIP, man. I love you and miss you already. Sending love to Sarah and to the world of audioheads you leave behind," said rocker Joe Walsh, WB6ACU, in a Facebook (<https://www.facebook.com/photo/?fbid=940180357473398&set=a.289210129237094>) post. [Joe Walsh, WB6ACU, photo]



Heil with his grandson, Charlie Hartley, KF0OOP, at the ARRL Midwest Convention/Winterfest.

*Bob Heil, K9EID Silent Key - Continued on page 35*

*Bob Heil, K9EID Silent Key - Continued from page 34*

His generosity and kind nature will be missed by many, including ARRL Director of Development Kevin Beal, K8EAL. "Bob was a titan in many areas. He was generous with his time, offered keen insights, and had the heart of a philanthropist in the ARRL Maxim Society," Beal said. "He was a gentleman to his core, making friends easily and everywhere he went, from rock stars to captains of industry. I consider it a real privilege to have become a friend to him, too, all because of amateur radio."

Heil was known for his passion for AM operations. He served for many years as an on-camera host of the Ham Nation podcast. Tributes to Heil have been flooding social media, including from his co-hosts.



**Bob Heil, K9EID, 1940 - 2024. [Heil Ham Radio, photo]**

ARRL President Rick Roderick, K5UR, said Heil's passing is a significant loss. "Bob Heil's technical achievements that brought high-quality audio to amateur radio pale in comparison to his generosity and willingness to help his fellow ham. He's long been known as someone eager to help mentor and teach. His legacy on our hobby will be long-lasting. Our thoughts are with his loved ones."

**An obituary for Heil may be viewed at : <https://kurusfh.com/obituaries/robert-bob-g-heil>.**

**Article Credit : The ARRL Letter for March 7, 2024 - [www.arrl.org](http://www.arrl.org)**



**Sunday, May 12, 2024**



**Monday, May 27, 2024**

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

This month we continue with Subelement E5 Electrical Principles (4 exam questions out of 4 groups)  
(Answers on 'Last Page Calendar')

### E5C01

**Which of the following represents capacitive reactance in rectangular notation?**

- A.  $-jX$
- B.  $+jX$
- C. Delta
- D. Omega

### E5C02

**How are impedances described in polar coordinates?**

- A. By X and R values
- B. By real and imaginary parts
- C. By phase angle and magnitude
- D. By Y and G values

### E5C03

**Which of the following represents an inductive reactance in polar coordinates?**

- A. A positive magnitude
- B. A negative magnitude
- C. A positive phase angle
- D. A negative phase angle

### E5C04

**What coordinate system is often used to display the resistive, inductive, and/or capacitive reactance components of impedance?**

- A. Maidenhead grid
- B. Faraday grid
- C. Elliptical coordinates
- D. Rectangular coordinates

### E5C05

**What is the name of the diagram used to show the phase relationship between impedances at a given frequency?**

- A. Venn diagram
- B. Near field diagram
- C. Phasor diagram
- D. Far field diagram

### E5C06

**What does the impedance  $50-j25$  represent?**

- A. 50 ohms resistance in series with 25 ohms inductive reactance
- B. 50 ohms resistance in series with 25 ohms capacitive reactance
- C. 25 ohms resistance in series with 50 ohms inductive reactance
- D. 25 ohms resistance in series with 50 ohms capacitive reactance

*Element 4 Amateur Extra Class Quiz - Continued on page 37*

**E5C07**

**Where is the impedance of a pure resistance plotted on rectangular coordinates?**

- A. On the vertical axis
- B. On a line through the origin, slanted at 45 degrees
- C. On a horizontal line, offset vertically above the horizontal axis
- D. On the horizontal axis

**E5C08**

**What coordinate system is often used to display the phase angle of a circuit containing resistance, inductive and/or capacitive reactance?**

- A. Maidenhead grid
- B. Faraday grid
- C. Elliptical coordinates
- D. Polar coordinates

**E5C09**

**When using rectangular coordinates to graph the impedance of a circuit, what do the axes represent?**

- A. The X axis represents the resistive component and the Y axis represents the reactive component
- B. The X axis represents the reactive component and the Y axis represents the resistive component
- C. The X axis represents the phase angle and the Y axis represents the magnitude
- D. The X axis represents the magnitude and the Y axis represents the phase angle

**E5C10**

**Which point on Figure E5-1 best represents the impedance of a series circuit consisting of a 400-ohm resistor and a 38-picofarad capacitor at 14 MHz?**

- A. Point 2
- B. Point 4
- C. Point 5
- D. Point 6

**E5C11**

**Which point in Figure E5-1 best represents the impedance of a series circuit consisting of a 300-ohm resistor and an 18-microhenry inductor at 3.505 MHz?**

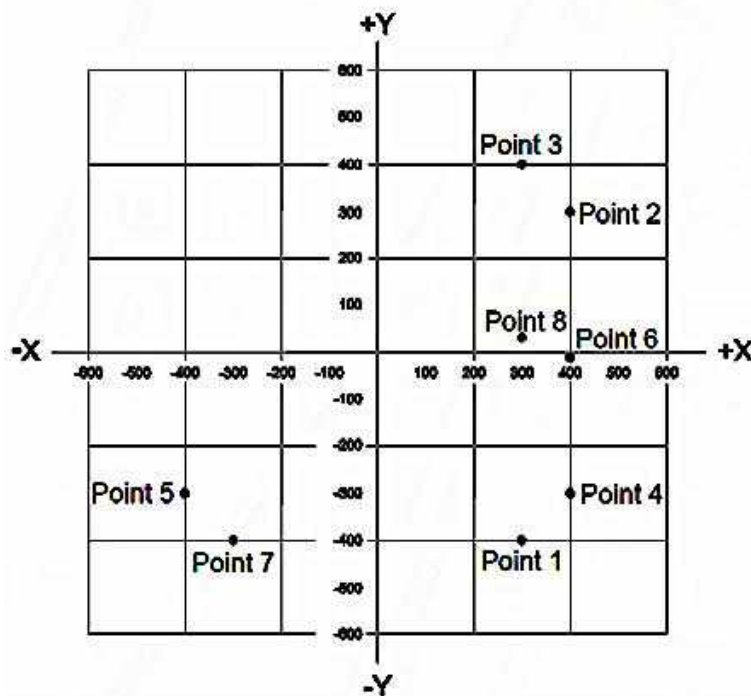
- A. Point 1
- B. Point 3
- C. Point 7
- D. Point 8

**E5C12**

**Which point on Figure E5-1 best represents the impedance of a series circuit consisting of a 300-ohm resistor and a 19-picofarad capacitor at 21.200 MHz?**

- A. Point 1
- B. Point 3
- C. Point 7
- D. Point 8

**Figure E5-1**





## 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>

### Central Pennsylvania Skywarn Training - On-Line Webinar Classes

- Virtual Basic Spotter Training
- Monday, May 6, 2024 @ 1800 - 2000 Hours
- Register Here : <https://register.gotowebinar.com/register/8254424553888037206>
  
- Virtual Advanced Spotter Training - Storm Science
- Tuesday, May 7, 2024 @ 1800 - 2000 Hours
- Register Here : <https://register.gotowebinar.com/register/1457495459139585371>
  
- Virtual Advanced Spotter Training - Radar
- Monday, May 20, 2024 @ 1800 - 2000 Hours
- Register Here : <https://register.gotowebinar.com/register/1499633142762490197>

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

Any questions, please contact :

Warning Coordination Meteorologist Jonathan Guseman : [jonathan.guseman@noaa.gov](mailto:jonathan.guseman@noaa.gov)

Meteorologist John Banghoff : [john.banghoff@noaa.gov](mailto:john.banghoff@noaa.gov)

### Full Flower Moon - Thursday, May 23, 2024 @ 0955 Hours

May's Flower Moon name should be no surprise; flowers spring forth across North America in abundance this month! "Flower Moon" has been attributed to Algonquin peoples, as confirmed by Christina Ruddy of The Algonquin Way Cultural Centre in Pikwakanagan, Ontario. May's Moon was also referred to as the "Month of Flowers" by Jonathan Carver in his 1798 publication, *Travels Through the Interior Parts of North America: 1766, 1767, 1768* (pp. 250-252), as a likely Dakota name. Carver stayed with the Naudowessie (Dakota) over a period of time; his expedition covered the Great Lakes region, including Wisconsin and Minnesota areas. Henry David Thoreau sparked the Native American Moon names as well, referencing the Flower Moon and Carver when he wrote about Native Americans.

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



## W2MMD Clubhouse Test & Repair Bench : Coaxial Cable Tester

By Chris Prioli, AD2CS - [chris@ad2cs.com](mailto:chris@ad2cs.com) - [www.ad2cs.com](http://www.ad2cs.com)

I am very pleased to announce that I have just added a new piece of equipment to the W2MMD Clubhouse arsenal on the *Test and Repair Bench*. The new tool is a multi-connector-type coaxial cable tester that will test cables of several types and of any length for continuity on the outer shield braid and on the inner center conductor, as well as testing the cables for shorts between the braid and the center conductor.

The tool indicates the results of the two-stage testing process via LED's on the front panel. The test procedure instructions are labeled on the unit, which is extremely easy to use.

This device will test cables with SMA, BNC, UHF, and N connectors, in any combination of those connector types. It is compact, portable, and completely self-contained. It is powered by a standard nine-volt alkaline snap-top battery, which should have an extensive service life due to the very limited current drawn during the testing of the cables.

I am fully open to suggestions for additional test equipment that may be suitable for the Club and for the T&R Bench. Please feel free to pass any such comments or suggestions on to me, as well as any comments on the new cable tester.



### Armed Forces Day Cross-Band Test - Saturday, May 11, 2024

The Department of Defense will host this year's Armed Forces Day (AFD) Crossband Test, scheduled for May 11, 2024. This annual event is open to all licensed amateur radio operators and will not impact any public or private communications. For more than 50 years, military and amateur stations have taken part in this event, which is an interoperability exercise between hobbyist and government radio stations.

<https://www.dodmars.org/mars-comex-information-website/armed-forces-day>

## Coaxial Cable Tester Build

By Chris Prioli, AD2CS - [chris@ad2cs.com](mailto:chris@ad2cs.com) - [www.ad2cs.com](http://www.ad2cs.com)

As a technician who assembles a multitude of coaxial cables, I find it tiresome to test these cables with an ohmmeter, not because of the effort that it takes, but because it is rather clumsy to do so easily with only the two hands that we are given at birth. As a result, I set out to design and build a device that would test coaxial cables of each of the four basic types used in radio, those types being the SMA, the BNC, the UHF, and the N type cables.

I wanted my tester (*Figure 1*) to effectively check for continuity of both the center conductor and the shield braid, and also to look for shorts between the center and shield circuits. My other design requirements were self-containment, portability, compact size, and the ability to test cables with mixed connector types, *e.g.*, with an SMA connector on one end and a BNC connector on the opposite end.



Figure 1 : CMS CCT-01 Coaxial Cable Tester

I laid out a circuit that uses three transistors, six resistors, and three LEDs. The complete parts list is provided in *Table 1*. The transistors used happen to be two BC547 NPN types and one BC557 PNP type, though any general-purpose switching or small-signal transistors will suffice. The LEDs are of the T1-3/4 or 5mm size, with two of them being green and the third being red. I chose the 5mm LEDs for better visibility. If enclosure top-surface real estate is an issue, 3mm LEDs can be used instead.

The enclosure that I selected for this project is one that I had on hand, which turns out to be a 1554-series unit from Hammond Industries, in light grey. Quite frankly, it is slightly oversized for the strict needs of this project, but it happens to meet the most important criterion for the enclosure. It is critical that the cable jacks are mounted to a non-conductive surface, making a plastic enclosure almost a requirement so as to meet that need without having to jump through hoops to get there.

A schematic diagram of the unit is shown in *Figure 2*. The cable connectors used in this build are all of the bulk-head-mount style, where the jack is secured to the panel via a hex nut on the external threads of the connector body. A solder lug is secured under the hex nut, tight against the panel. Within each set of four connectors, the connector bodies are wired together at their solder lugs and then again at their center terminals. However, the two sets must be isolated from each other. If the connectors were to be installed to a metal or otherwise conductive panel, the *outer continuity* test for the shield braid would be obviated.

The two switches, SW1 and SW2, which are mounted to the front panel, are used respectively for mode selection and for test activation. The *MODE* switch has a center *OFF* position, in which all battery current is interrupted. When placed in its *SHORTS* position, current is available to the PNP transistor and the circuit path that is used to detect short-circuits between the center conductor and the shield braid of the cable under test. When the *MODE* switch is placed in its *CONTINUITY* position, the cable under test is checked for a complete circuit path through its center conductor, while simultaneously being checked for shield braid integrity. The testing is performed by pressing and holding the *TEST* switch with the *MODE* switch in the desired test position.

*Coaxial Cable Tester Build - Continued on page 41*



Note that the front panel is marked “**SHORT TEST THIS SIDE**” beneath the cable jacks on the left side of the panel (**Figure 3**). To completely test a cable, begin by connecting one end of the cable to one of the connector jacks on the left side of the device, to a connector in the group that is marked with the “**SHORT TEST...**” label. It does not matter which end of the cable is connected, nor which jack in that group is used. If necessary to make the connection, an appropriate gender adapter can be inserted between the cable and the jack. Once one end of the cable is properly connected, move the **MODE** switch to its **SHORTS** position, and then press and hold the **TEST** switch button. If the cable has any short circuit between the inner conductor and the shield braid, the red LED will illuminate. If the red LED does not illuminate during this test, it is time to move on to the continuity test.

The test results are always indicated by the LEDs on the front panel. Each LED is labeled as to its purpose, those purposes being **inner continuity**, **outer continuity**, and **shorts**. An intact cable, with no breaks in continuity, will illuminate both green LEDs when the cable is connected at both ends, the **MODE** switch is in its **CONTINUITY** position, and the **TEST** button is pressed. The label adjacent to each green LED will indicate the test condition that is reported by that LED.

This cable tester is powered by a single nine-volt snap-top alkaline battery, which should have quite an extensive service life. The maximum current draw, which occurs during the continuity test, is only about 25.33mA. Surprisingly, the current draw during the shorts test is 22.66mA. The current draw disparity is most likely due to the green LED’s being more efficient than is the red LED. A typical test will only last a matter of one or two seconds - just long enough to see that both LEDs are illuminated. Accidental discharge of the battery is prevented by the center-off functionality of the **MODE** switch.



Figure 3 : Front Panel Layout & Markings

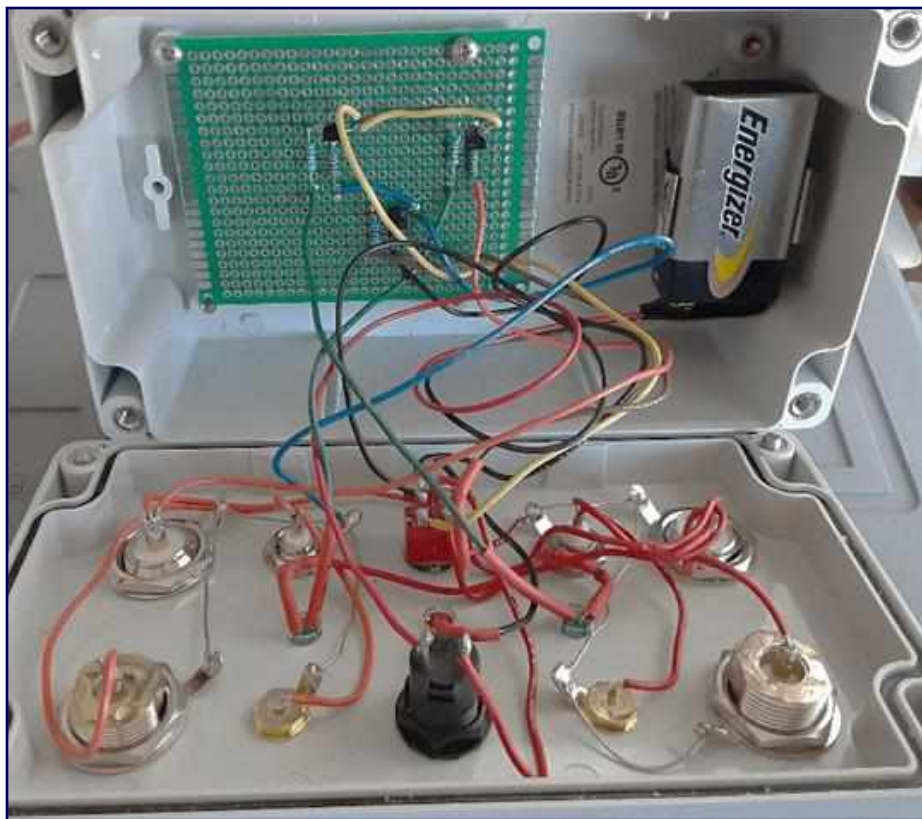


Figure 4 : Interior View Of Cable Tester

The fact that this device incorporates all of the most common coaxial cable types used in Amateur Radio makes it the perfect addition to any ham's shack. The total cost is under thirty dollars, and that amount can be reduced by eliminating any connector types that the user is certain will never be needed. Of course, the connectors, in the overall scheme of things, are not that expensive and I would prefer to see the continued versatility afforded by having all four connector types installed.

The sharp-eyed reader will notice, when looking at the interior view of the tester shown in **Figure 4**, that there is something odd about the N connectors used. Those observant souls are correct. The connectors used turned out *not* to be standard N-type panel-mount jacks, but instead are modified N-female x N-female bulkhead connectors. I had an abundance of these bulkhead connectors on hand, for which I seldom have a need. As a result, I decided to modify a pair of these connectors to make the jacks that I needed. A couple of minutes with a cut-off wheel in my **Dremel**<sup>®</sup> tool, and I had cut the bulkhead connectors down to a panel-mount jack configuration. The funny thing about this decision was the matter of cost differences involved. The bulkhead connectors used had a price tag of about \$3.50 each, while the Amphenol 172185 N panel jacks come in at about \$17.00 each from **Mouser** or **Digikey**. Of course, I also sourced a less expensive alternative vendor for those parts, so that I could bring them in at about four dollars each if needed.



It was mostly out of laziness that I delved into this project. However, it has

turned out to be a viable tool and valuable addition to my workbench. While the physical layout of the front panel is purely a matter of taste, preference, and available space management, I ended up choosing a layout that has all of the “input” connectors, used for the shorts test, grouped on the left side of the front panel, while the connectors for the opposite end of the cable under test are arranged on the right-hand side (*See Figure 5*). Between the connector groups, the two switches and the three LEDs are arranged, with the **MODE** switch nearest the lower edge, and the **TEST** switch near the upper edge. The LEDs are arranged in a cluster in the center, with the red LED at the very center and the green LEDs on either side.

Labels were printed with my **Dymo Rhino 5200** label printer as black lettering on clear tape. The labels were then trimmed to fit in the available spaces. I added my logo decal to the front panel, and the job was done.

This device has gotten considerable use in the short while since I built it, as I now test every cable that I assemble, as well as any existing cables that I have not yet tested *or that have been in long-term use*.

Testing of cables in long-term use is a valid concept, especially when trying to track down a signal loss problem. In that case, however, I would go one step further and test the cable directly for its signal loss or attenuation value using a vector network analyzer. While this new tester can locate shorts and opens, it cannot really identify cable losses unless those losses are bad enough to appear as an open to the test circuit.

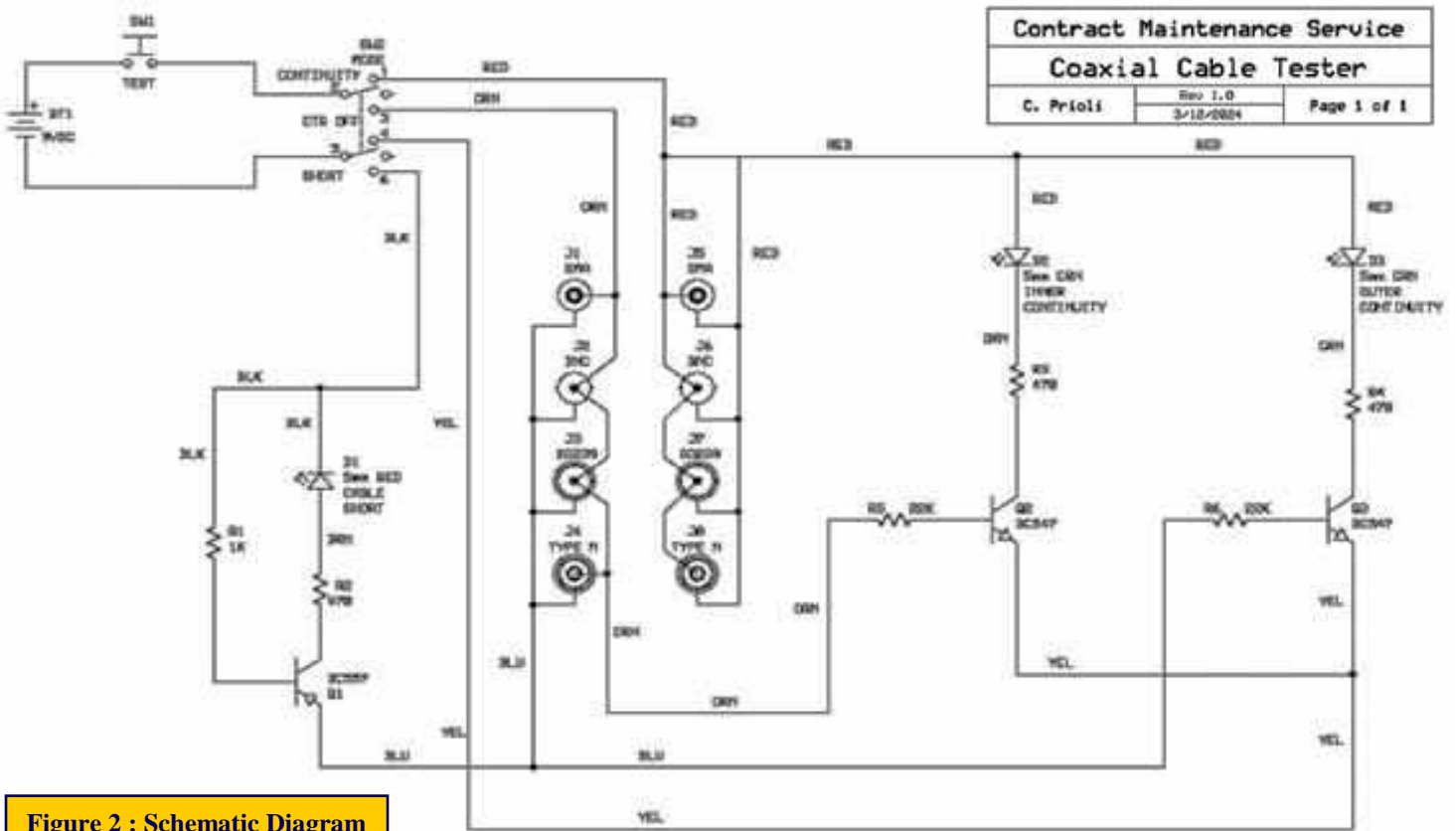


Figure 2 : Schematic Diagram

Through creative use of adapters and known good cables, this device can also be used to test the basic condition of cable adapters and other feed-through devices such as watt meters or SWR bridges. Remember, though, that all this device will tell you is whether or not the two through circuit paths are intact and if those two paths are crossed or shorted.

I will most likely build another of these units, so that I can donate it to the *GCARC Test & Repair Bench*, where it can get plenty of use. It would make a great addition to any ham's bench.

Coaxial Cable Tester Build - Continued on page 44



Armed Forces Day  
Saturday, May 18, 2024

Sunday, May 26, 2024



Identifier	Part Number	Description	Qty
BT1	6F22	Battery, 9V snap-top alkaline	1
J1, J5	153286	Connector, SMA-type female bulkhead-style chassis mount	2
J2, J6	71590	Connector, BNC-type female bulkhead-style chassis mount	2
J3, J7	182320	Connector, UHF-type female bulkhead-style chassis mount	2
J4, J8	172185	Connector, N-type female bulkhead-style chassis mount	2
D1	333497	LED, T1-3/4 5mm SB/WC λ660nm 2.4V <sub>F</sub> 20mA I <sub>F</sub> 720mcd 18° RED	1
D2, D3	333551	LED, T1-3/4 5mm SB/WC λ565nm 3.7V <sub>F</sub> 20mA I <sub>F</sub> 600mcd 18°GRN	2
Q1	BC557C	Transistor, BC557 PNP silicon general-purpose TO-92	1
Q2, Q3	BC547C	Transistor, BC547 NPN silicon general-purpose TO-92	2
R1	690865	Resistor, 1KΩ 1% 250mW carbon film	1
R2, R3, R4	690785	Resistor, 470Ω 1% 250mW carbon film	3
R5, R6	691180	Resistor, 22KΩ 1% 250mW carbon film	2
SW1	PNP8S1T2Y03QE	Switch, SPST momentary pushbutton (ON)-OFF white cap TEST	1
SW2	21952	Switch, miniature toggle DPDT ON-OFF-ON solder lug MODE	1
	101470	Battery connector, 9V snap-top with 10-inch leads	1
	2191891	Battery holder – 9V snap-top horizontal	1
	14277	Lens, clear Fresnel for 5mm LED snap-in	3
	PB80x60-594	Proto-board, 60mm x 80mm, 594 through-plated holes 22Rx27C	1
	1554JGY	Enclosure, grey ABS 6.30" x 3.50" x 2.40"	1
	F-3581	Rubber bumper, self-adhesive 0.375" x 0.375" x 0.250"	4
	PHMS_M3x6	Machine screw, M3 x 6mm Phillips pan head	1
	41048	Sheet metal screw, #6 x 3/8" Phillips pan head	2
	HST094-ORG	Heat shrink tube, 3/32" diameter, inches	6
		Hookup wire, 22AWG solid, various colors (see below)	
<b>Table 1 : Complete Parts List</b>		Wire colors used: BLK, BRN, RED, ORN, YEL, GRN, BLU	



# Gloucester County Amateur Radio Club

## General Membership Meeting Minutes

### Wednesday, April 3, 2024



Meeting opened at 1900 Hours by President Jon Pearce, WB2MNF with the Pledge of Allegiance to the Flag

#### ATTENDANCE :

- In-person : 28
- Via Zoom : 19

#### VISITORS :

- Rick Bleda KC2SGR Vineland, NJ

#### NEW MEMBERS :

- Michael Andrescavage N2ICV Malaga, NJ
- Paul Cosenza KD2RDD Glassboro, NJ
- Walter Coward WX2E Vineland, NJ
- Alex Duboski KB2YEF Williamstown, NJ
- Dale Guenther KE2CYM Newfield, NJ
- Robert Pantazes W2ARP Greensboro, NC

#### ANNOUNCEMENTS :

- **Tony Starr K3TS** received the Volunteer Appreciation Award for his many acts of service to the Club. Congratulations on a well deserved award Tony!

#### UPCOMING EVENTS :

- April 6<sup>th</sup> : Tech Saturday Forum : “POTA Equipment and Activating”
- April 8<sup>th</sup> : GCARC TechNet Zoom Forum : “Meshtastic Radio Work Session”
- April 11<sup>th</sup> : License Exams
- April 17<sup>th</sup> : Board of Director’s Meeting
- April 24<sup>th</sup> : Dinner at the Clubhouse

#### MEMBER CURRENT ACTIVITIES :

- **Jim Wright N2GXJ** gave an overview of the 30<sup>th</sup> Anniversary Fox Hunt held on March 16<sup>th</sup>.
- The Club is launching a high altitude balloon project as part of STEM curriculum for Upper Deerfield Township Middle School.
- The Technical Committee is assisting Rowan University Engineering students with avionics for their upcoming rocket launch. The electronics package includes video and data telemetry.
- **Chris Prioli AD2CS** constructed a CW key adapter for the Icom 7300 in the HF room as well as a coaxial cable tester for the repair bench. He has kits and assembled cable testers available for interested members. Contact Chris for details.

#### BUSINESS MEETING :

Minutes of the March 2024 business meeting as published in Crosstalk were approved by voice vote of members present.

*April 2024 General Membership Meeting Minutes - Continued on page 46*

### TREASURER'S REPORT :

- 2024 Year to Date Income and Expenses
  - ◆ YTD Income : \$10,713.3
  - ◆ YTD Expenses : \$1,283.71
  - ◆ Net : \$9,429.59

### Remarks :

- PayPal and credit card fees will be added to dues and class payments beginning in April. Dues will be \$30 if paid by cash or check, \$32 if paid using PayPal or credit card.
- Hospitality must be self-sustaining - please feed the kitty.
- Use payment envelopes for cash and check payments for donations, dues, classes.
- Credit card payments now accepted at meetings.

### Motion to approve the Treasurer's report passed by voice vote of members present.

### GLOUCESTER COUNTY AMATEUR RADIO CLUB FOUNDATION :

- Report : Interest Income \$.76, Expense \$3,053.44 for donor funded IT infrastructure project.

### CLUBHOUSE REPORT :

- Report : **Al Arrison KB2AYU** reported that the VHF room is operational but in a limited fashion, furniture need to be install prior to final commissioning. No antennas currently up for 903 or 1296 MHz, but 6m, 2m, 222 and 432 MHz are available.

### DX AND CONTESTS :

- Report : **Tony Starr K3TS** discussed several noteworthy upcoming contest in April. He also talked about the upcoming June Field Day preparations.

### PUBLIC SERVICE :

- Report : **Karl Frank W2KBF** reported on recent developments for portable Winlink operations.

### EDUCATION COMMITTEE :

- Report : **Chris Prioli AD2CS** reported that Technician and General License classes start the week of April 22<sup>nd</sup>. Licensing class will be twice per year instead of four, so don't delay signing up.

### NEW BUSINESS :

- Hooded sweatshirts with the Club logo are available. Contact **John Zaruba Jr K2ZA** to order.
- Field Day 2024 Club logo t-shirts are now available for order with delivery at the June General Membership meeting. Contact **John Zaruba Jr K2ZA** to order.
- Motion to appropriate \$500 to purchase additional bandpass filters for Field Day approved by voice vote of members present.

### CLOSING REMARKS :

- **Jon Pearce WB2MNF** reported that the GOES satellite receiver at the Clubhouse is once again operation and providing imagery. He also noted that the hardware is available at Amazon if you'd like to set up a similar receiver in your shack, and the software is free. **Mike Thompson KG4YGA** has gotten the software working to enhance the images and create videos of them.

**PRESENTATION :**

- “Parks On The Air Activating with an Emphasis on Antennas” by John Zaruba Jr K2ZA

Meeting adjourned @ 1959 Hours.

Respectfully submitted,  
John Zaruba Jr, K2ZA  
Recording Secretary



Another picture from  
N2GXJ's Air Force Museum  
tour

## 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, POTA, SOTA
- Jerry Barnish, K2EAB : Radio Astronomy
- Mike Thompson, KG4JYA : Radio Astronomy; VARA (HF and FM); WinLink
- Steve Farney, W2SEF : WSJT-X; FT-8; LoTW; TQSL; Grid Square
- Carl Wittig, N2CRW : Audacity® Audio Editor
- Gary Mirkin, WA3SVW : FLDIGI; MMSSTV
- Jon Pearce, WB2MNF : Satellite Communications
- Frank Romeo, N3PUU : Toilet Installer; Jack-Of-All Trades - Master Of None
- John Hill, W2HUV : Local & Remote W2MMD HF Station Operation, Training & Support
- Dave Sheppard, W2PAX : National Traffic System

# Gloucester County Amateur Radio Club

## Board of Directors Meeting Minutes

### Wednesday, April 17, 2024



Meeting opened @ 1900 Hours by President Jonathan Pearce WB2MNF

#### Attendance :

- **President** Jon Pearce WB2MNF : **Present**
- **Vice President** Ron Block NR2B : **Present**
- **Treasurer** John O'Connell K2QA : **Present**
- **Recording Secretary** John Zaruba Jr K2ZA : **Present**
- **Corresponding Secretary** Mike Resnick N2WOQ : **Present**
- **Director (2022-2024)** Jeffrey Garth WB2ZBN : **Present**
- **Director (2022-2024)** Frank Romeo N3PUU : **Present**
- **Director (2023-2025)** Chris Prioli AD2CS : **Present**
- **Director (2023-2025)** James Wright N2GXJ : **Present**
- **Director (2024-2026)** Al Arrison KB2AYU : **Present**
- **Director (2024-2026)** Bill Price NJ2S : **Present**
- **Trustee (2021-2024)** Carl Wittig N2CRW
- **Trustee (2022-2025)** Charles Lanard KD2EIB
- **Trustee (2023-2026)** Sheldon Parker K2MEN
- **Trustee (2024-2027)** Len Rust W2LJR
- **Member** Doug Dersch KD2VQA : **Present**
- **Member** Bruce Canino KD2LBU : **Present**

#### New Member Applications :

- **James Beury, Associate, of Sewell, NJ**
- **Rick Bleda Jr, KC2SGR, (Returning Member) of Vineland, NJ**
- **James Simeone, KC2AOF, (Returning Member) of Sewell, NJ**

#### Treasurer's Report :

- **YEAR TO DATE :**
  - Income : \$11,273.30
  - Expense : \$1,474.77
  - Net : \$9,798.53

Detailed financial statements are available for member review upon request.

#### Clubhouse Report :

- Tower construction is imminent.
- Bathroom heat has been turned off for the season.

#### Nets :

- 2m Tuesday Afternoon Net and Thursday Rag Chew Net average check ins for March were 9 and 8 respectively.

*April 2024 Board of Directors Meeting Minutes - Continued on page 49*



**Programs and Activities Committee :**

- Discussion of Field Day issues.
- Discussion of Hamfest topics.
- Discussion of potential TechNet ZOOM Forum topics.

**Education Committee :**

- 13 Technician, 2 General students for upcoming Licensing Class.
- Discussion of SMT Soldering Class.
- Antenna construction projects will be the next 2 Tech Saturdays (May and June).

**Old Business :**

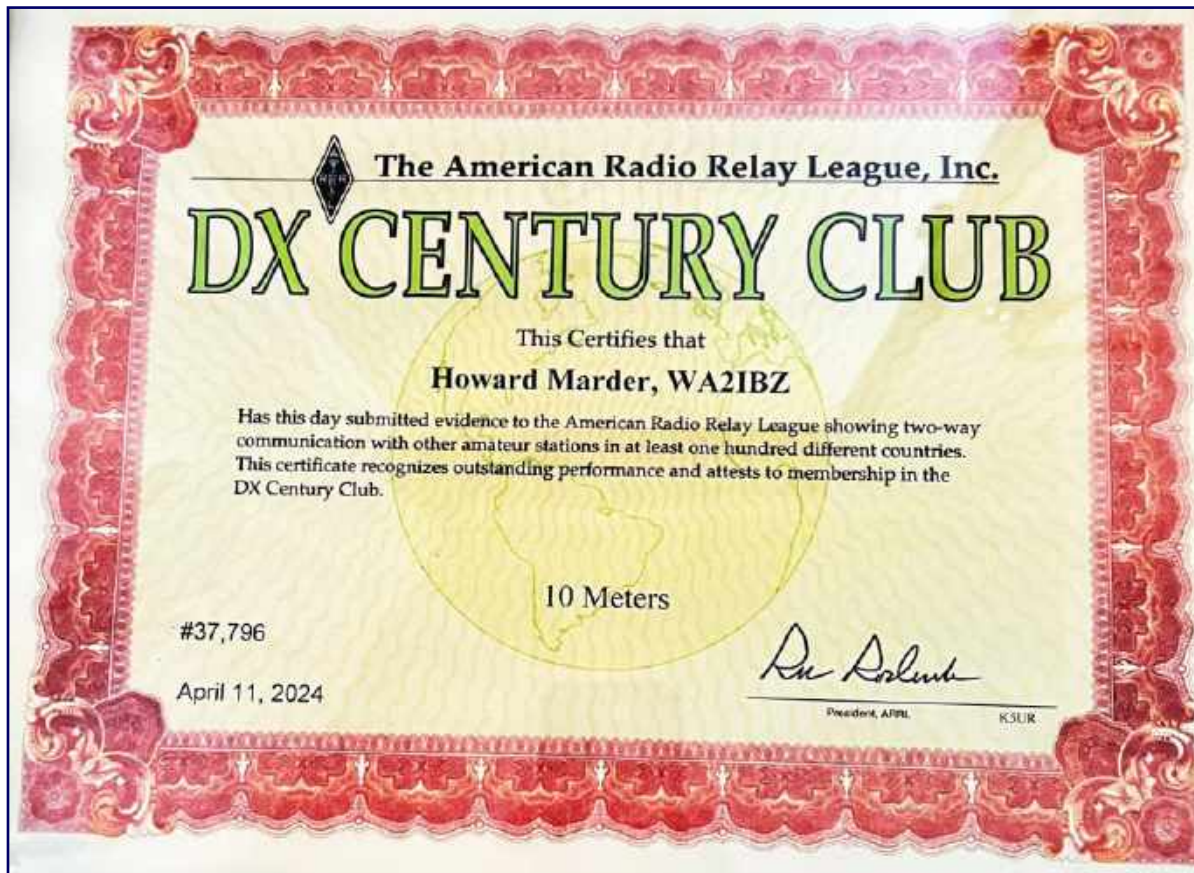
- Net 206 members on roster after April cutoff.
- Discussion of Field Day T-Shirt orders.
- Discussion of Rowan Rocket project issues and progress.
- Discussion of Upper Deerfield STEM Project curriculum and deliverables.

**New Business :**

- Discussion of mitigation audio / visual issues from April General Membership meeting.
- Discussion of 4H request to GCARC to provide internet access for County Fair.

**Meeting adjourned @ 2027 Hours**

**Respectfully Submitted,  
John Zaruba Jr K2ZA Recording Secretary**



## W2MMD Clubhouse HF Room - New Key Jack Extender

By Chris Prioli, AD2CS - [chris@ad2cs.com](mailto:chris@ad2cs.com) - [www.ad2cs.com](http://www.ad2cs.com)

Great news for all CW operators using the Icom IC-7300 in the HF Room at the W2MMD Clubhouse! I have installed a permanent addition to the IC-7300 - a key jack extender that will bring the key jack from the rear panel of the radio out to the front, where the operator can very easily plug the key, bug, or paddle of choice into the system.

The IC-7300 uses an unswitched 1/4" (6.3mm) TRS key jack for connection of the key into the system. For that reason, the extender that I built includes a 1/4" TRS jack on its front panel. The extender is connected to the radio via a three-foot long cable which can then remain connected to the radio at all times. The cable length makes it possible to position the extender jack enclosure wherever it is most convenient for the operator. The enclosure is equipped with rubber bumper "feet" to help keep it in place on the tabletop.

In addition, the extender has a feature that makes the use of a plug size adapter completely unnecessary. I added a 1/8" (3.5mm) TRS jack in parallel with the 1/4" jack. As a result, those operators whose keying devices have 1/8" plugs can now plug those devices directly into the extender.

It is my hope that the installation of this jack extender will make for more comfortable and convenient CW operations from the Clubhouse.



## Jersey String Band Update

By Glenn Dougherty, N2YIO

On May 18<sup>th</sup> the band will be marching in the Pennsville Memorial Day Parade. On Memorial Day itself, May 27<sup>th</sup>, we will be marching in the Glassboro Memorial Day Parade. We do have a couple of events coming up in June. On June 8<sup>th</sup> we have a double header. In the morning we are traveling to Stafford NJ for a parade then in the afternoon we will be heading to Wildwood and take part in the String Band Association's Annual Luau at The Seaport Pier in North Wildwood. Don't forget if there is any member that plays an instrument you are welcome to stop out any Wednesday evening from 7:30 to 9:30 and sit in and play some string band music at The Woodbury Heights Firehouse.



# WARMINSTER AMATEUR RADIO CLUB

## 2024 HAMFEST & ARRL EPA SECTION CONVENTION

Sunday, May 5, 2024 (rain or shine)

Gate opens at 7 am (6 am for vendors)

### LOCATION:

Bucks County Community College -  
Lower Bucks Campus  
1304 Veteran's Hwy (Route 413)  
Bristol, PA 19007

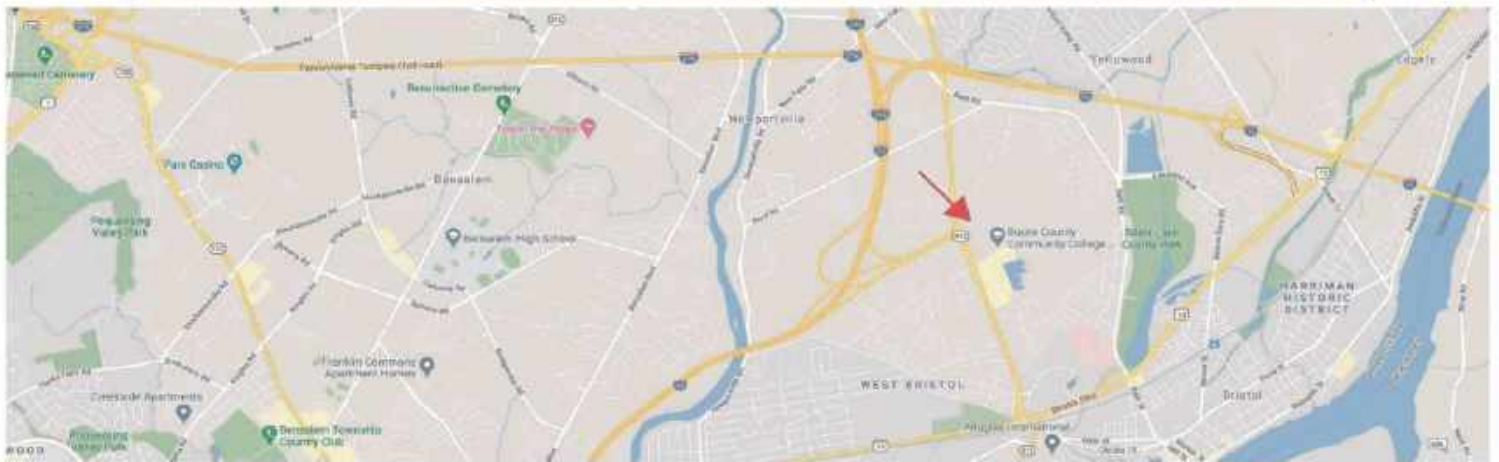
### GPS Coordinates:

Latitude: 40.112755 | Longitude: -74.876504

Talk-in 147.09+ (131.8) / 443.95+ (131.8)

- New & Used Ham Radio & PC Equipment
- Equipment check-out table
- VE Testing at 10:00 am
- DXCC card checking
- Door prizes every hour
- Food service available
- Presentations:
  - 8:30 am - AREDN MESH Networks Overview & Demo
  - 10:30 am - ARRL Atlantic Division/EPA Section Forum

- Gate admission: \$8/person
- Unlicensed spouses & under 13 free
- Student free with valid ID
- Tailgating: \$10/car-width space (plus admission)
- Indoor tables: \$20/table (plus admission)
- Handicap parking available



For more info:  
Web: [www.k3dn.org](http://www.k3dn.org)  
Contact: [hamfest@k3dn.org](mailto:hamfest@k3dn.org)





# HAM FEST AT THE SHORE

**SATURDAY MAY 11, 2024**

**SURF CITY VOLUNTEER FIRE COMPANY  
713 LONG BEACH BLVD SURF CITY, NJ 08008**

**8:00AM-1:00PM - VENDOR SET UP 7:00AM**

**Admission Fee: \$5**

**NON-HAM SPOUSES AND KIDS FREE!**

**Indoor Vendor Table - \$15 - Includes table and 1 Admission**

**Outside Vendor - \$10 - 1 Parking Space Area, No Tables Provided**

**Vendor space limited - first come, first serve.**

**Food and Drink Available \* Benefits Surf City Vol. Fire Company**

**DOOR FREEZE!**



**WALLY'S**  
breakfast • lunch • dinner  
**15% OFF**  
With Event Ticket

**TALK IN FREQUENCY  
146.835  
127.3 PL**

**VE SESSION - 10:00AM - \$15 FEE  
CONTACT RICHARD KENNARD, N2RPQ  
FRN NUMBER AND PHOTO ID REQUIRED  
Obtain FRN Number at FCC.GOV**

**QUESTIONS? Contact Ira, N2WAA  
hamfest@obarc.org - 201.741.5330**



To Be Added To The DX HONOR ROLL,  
Please contact Ernest Kraus, KD2EAV  
meanddelcanotc@verizon.net



Name/Callsign	DXCC
Bill Grim, W0MHK	352
<b>Dave Strout, W2YC - New Entry</b>	<b>349</b>
Edward De Fonzo, W2DE	339
Darrell Neron, AB2E	334
<b>Bob Pantazes, W2ARP - New Entry</b>	<b>290</b>
John Hill, W2HUV	271
Vinnie Sallustio, N4NYY	262
<b>Gary Castellini, N2IEC</b>	<b>258</b>
Ken Denson, WB2P	248
<b>Jim Wright, N2GXJ</b>	<b>239</b>
<b>Sheldon Parker, K2MEN</b>	<b>236</b>
Tony Starr, K3TS	231
Dennis Sandole, K2SE	204
<b>Howard Marder, WA2IBZ</b>	<b>153</b>
Steve Farney, W2SEF	141
Eric Morris, N2BRJ	137
Phil Nunzio, WA3RGY	137
Rich Subers, W2RHS	124
Marc Federici, WM2Y	116
Bart Kleczynski, AC2PT	106
Chuck Capasso, WB2PGE	103
Harry Strahlendorf Jr, W3DNQ	87
Jim Clark, KA2OSV	71
Lee Marino, N2LAM	62
<b>Updated As Of 04/17/2024</b>	

For more information about the next solar eclipse, call Jenny @ 867-5309

*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 free solar panel calls!)*



**ARRL Sweepstakes Contest, CW 2023**  
November 4, 2023

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

**Class : SO Unlimited HP**  
**Class Overlay : Limited-Ant**  
**QTH : SNJ**  
**Operating Time (hrs) : 7**

**Summary :**

Band	QSOs
80 :	1
40 :	30
20 :	460
15 :	13
10 :	12
<b>Total :</b>	<b>516</b>
<b>Sections :</b>	<b>82</b>
<b>Total Score :</b>	<b>84,624</b>
<b>Club :</b>	<b>Frankford Radio Club</b>
<b>64</b>	

---

**Comments :**

Rig : FTDX-9000D/Acom 2000A  
Antennas :  
10/15/20m C3S tribander @ 52ft  
40m Dipole @ 85ft  
80m Dipole @ 95ft

Missed PR, QC, and NL. Go figure. Usually pretty easy to find in this test. Worked 2 TER stations around 2300Z, and a VE6. 20m behaved more like 40 on Sun with many northeast stations quite strong at the same time I was working west coast. Always a fun time, cu in 2 weeks for SS SSB.

73 Darrell AB2E



**RAC Winter Contest 2023**  
December 30, 2023

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

**Class : Single Op CW LP**  
**QTH :**  
**Operating Time (hrs) : 4**  
**Location : USA**

**Summary :**

Band	CW Qs	Ph Qs	CW Mults	Ph Mults
80 :	9		3	
40 :	30		9	
20 :	16		6	
15 :	10		5	
<b>Total :</b>	<b>65</b>	<b>0</b>	<b>23</b>	
<b>Total Score :</b>	<b>16,100</b>			
<b>Club :</b>	<b>Frankford Radio Club</b>			<b>88</b>

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**ARRL Sweepstakes Contest, SSB 2023**  
November 18, 2023

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

**Class : SO Unlimited HP**  
**QTH : SNJ**  
**Operating Time (hrs) : 4.5**

**Summary :**

Band	QSOs
80 :	11
40 :	16
20 :	29
15 :	11
10 :	18
<b>Total :</b>	<b>85</b>
<b>Sections :</b>	<b>85</b>
<b>Total Score :</b>	<b>14,450</b>
<b>Club :</b>	<b>Frankford Radio Club</b>
<b>74</b>	

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**Comments :**

A fairly easy sweep this year. All but six sections were worked on Saturday evening. The remaining ones were picked up on Sunday in three sessions of no more than 10 minutes each. Nice to see every section active. I keep telling my non-contesting ham friends that it is possible to make WAS in one weekend. Now I can tell them I did it in 4 hours, HI HI. Thanks and 73 to all. See you in the next one! de K3TS

**Croatian DX Contest 2023**  
December 16, 2023

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

Class : SO CW HP  
QTH : NJ  
Operating Time (hrs) : 6  
Location : USA

Summary :

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

80 :	114	20
40 :	60	15
20 :	99	19
15 :	18	14
10 :	48	18

Total : 339    86  
Total Score : 133,558

Club : Frankford Radio Club 86

Comments :

Rig : FTDX-9000D/OM Power 2000A+  
Antennas :  
80m dipole @ 95ft  
40m dipole @ 85ft  
10m/15m/20m tribander Force 12 C3S @ 52ft  
HiZ4 RX 4-square

Best score in this contest, though not always able to be in this one.  
Only had a total of 6hours to operate, but it seemed busy most of  
the time I was on.

73 Darrell AB2E

Contest : 9ADX

Band	QSOs	Pts	ITU	LP	Pt/Q
3.5	114	746	12	8	6.5
7	60	362	10	5	6.0
14	99	214	14	5	2.2
21	18	71	8	6	3.9
28	48	160	12	6	3.3
Total	339	1,553	56	30	4.6

Score : 133,558  
1 Mult = 3.9 Q's



**WAE DX Contest, RTTY 2023**  
November 11, 2023

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

Class : Single Op HP  
QTH : SNJ  
Operating Time (hrs) : 3  
Location : USA

Summary :

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

40 :	23	0	42
10 :	9	0	12

Total : 32    0    54  
Total Score : 1,728

Club : Frankford Radio Club 67

Comments :

A Murphy weekend for sure.

Contest : WAERTTY

Band	Q/QTC	QSOs	Pts	Mlt	Pt/Q
7	QSO	23	23	42	1.0
28	QSO	9	9	12	1.0
Total	All	32	32	54	1.0

Score : 1,728  
1 Mult = 1.0 Q's

**CQ Worldwide DX Contest, CW 2023**  
November 25, 2023

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

Class : SOAB LP  
QTH :  
Operating Time (hrs) : 18  
Location : USA

Summary :

Band	QSOs	Zones	Countries
------	------	-------	-----------

80 :	4	3	4
40 :	100	14	48
20 :	24	9	20
15 :	134	20	56
10 :	76	18	36

Total : 338    64    164  
Total Score : 219,108

Club : Frankford Radio Club 79

## May Birthdays

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

Chuck Capasso, WB2PGE  
Holden Correia-Fisher, KD2JPV  
Mike Covaleski, N2MMC  
Walt Coward, WX2E  
Bob Demola, KD2GFL  
Alex Duboski, KB2YEF  
Adam Duncan, W3DUN  
Melissa Guenther, KE2BWZ  
Lee Hafele, WA2LH  
Carmen Inverso, WA2TRS  
Ben Johnson Sr, WB2GUK  
Brian Jones, KD2BXD  
Bill Jones, KD2FHM  
Bill Laute, KD2YNN  
Joe Lee Jr, N2BNJ  
Darrell Neron, AB2E (President 2005, 2006, 2007)  
Len Rust IV, K2LJR  
Stan Slachetka, WA2JRZ  
Tony Starr, K3TS (President 2021, 2022)

## In Memoriam : May Birthdays

David Allin, N2TVR  
Walton Ashton Jr, WB2OYQ  
Burriss Bauer  
Frank DiSanto Jr, N2RHT  
Bertha Farr Eggert, WA4BMC  
William Farr III, AI2I  
Hyman Friend, KB2GH  
Ernest Gigliobianco, KB2AB  
Richard Hackett, AA2RX  
Edward Leibfarth, WA4AEX (Charter Member)  
James Montagno, N2WHY

Roy Pitman "Bud" Peterson Jr, K2GHZ  
(Club Co-Founder, Charter Member)

James Scannell Jr, KB2GTT  
Joseph Schneider, KB2SVJ  
Herbert Telling, N2IZM  
Charles Weiler, KA2OSW  
Edward Wilson, WA2SXC

## 6<sup>th</sup> Annual ARRL SNJ Section Convention



*Celebrating Our 65<sup>th</sup> Year*

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

*Presented By The*

**Gloucester  
County  
Amateur Radio  
Club**

**W2MMD**



**Open To The Public At 8:00 AM : *Rain or Shine***

**46<sup>th</sup> Annual Hamfest : Sunday, September 8, 2024**

**ADMISSION : \$10.00**

*Non-Ham Spouses and Kids FREE*

*Vendors and Tailgaters of new and used  
radio and electronic equipment*



## May 2024 Contest Calendar - WA7BNM Contest Calendar : [www.contestcalendar.com](http://www.contestcalendar.com)

### May 2024

+ Phone Weekly Test	0230Z-0300Z, May 1
+ A1Club AWT	1200Z-1300Z, May 1
+ CWops Test	1300Z-1400Z, May 1
+ AGCW QRP/QRP Party	1300Z-1900Z, May 1
+ Mini-Test 40	1700Z-1759Z, May 1
+ VHF-UHF FT8 Activity Contest	1700Z-2100Z, May 1
+ Mini-Test 80	1800Z-1859Z, May 1
+ CWops Test	1900Z-2000Z, May 1
+ Walk for the Bacon QRP Contest	0000Z-0100Z, May 2 and 0200Z-0300Z, May 3
+ CWops Test	0300Z-0400Z, May 2
+ CWops Test	0700Z-0800Z, May 2
+ NRAU 10m Activity Contest	1800Z-1900Z, May 2 (CW) and 1900Z-2000Z, May 2 (SSB) and 2000Z-2100Z, May 2 (FM) and 2100Z-2200Z, May 2 (Dig)
+ SKCC Sprint Europe	2000Z-2200Z, May 2
+ NCCC FT4 Sprint	0100Z-0130Z, May 3
+ Weekly RTTY Test	0145Z-0215Z, May 3
+ NCCC Sprint	0230Z-0300Z, May 3
+ K1USN Slow Speed Test	2000Z-2100Z, May 3
+ 10-10 Int. Spring Contest, CW	0001Z, May 4 to 2359Z, May 5
+ RCC Cup	0300Z-0859Z, May 4
+ SBMS 2.3 GHz and Up Contest and Club Challenge	0600 local, May 4 to 2359 local, May 5
+ Microwave Spring Sprint	0800-1400 local, May 4
+ ARI International DX Contest	1200Z, May 4 to 1159Z, May 5
+ F9AA Cup, PSK	1200Z, May 4 to 1200Z, May 5
+ 7th Call Area QSO Party	1300Z, May 4 to 0700Z, May 5
+ Indiana QSO Party	1500Z, May 4 to 0300Z, May 5
+ Delaware QSO Party	1700Z, May 4 to 2359Z, May 5
+ New England QSO Party	2000Z, May 4 to 0500Z, May 5 and 1300Z-2400Z, May 5
+ MIE 33 Contest	2300Z, May 4 to 0300Z, May 5
+ WAB 7 MHz Phone	1000Z-1400Z, May 5
+ K1USN Slow Speed Test	0000Z-0100Z, May 6
+ ICWC Medium Speed Test	1300Z-1400Z, May 6
+ OK1WC Memorial	1630Z-1729Z, May 6
+ ICWC Medium Speed Test	1900Z-2000Z, May 6
+ ARS Spartan Sprint	0000Z-0200Z, May 7
+ Worldwide Sideband Activity Contest	0100Z-0159Z, May 7
+ ICWC Medium Speed Test	0300Z-0400Z, May 7
+ Phone Weekly Test	0230Z-0300Z, May 8
+ A1Club AWT	1200Z-1300Z, May 8
+ CWops Test	1300Z-1400Z, May 8
+ Mini-Test 40	1700Z-1759Z, May 8
+ VHF-UHF FT8 Activity Contest	1700Z-2100Z, May 8
+ Mini-Test 80	1800Z-1859Z, May 8
+ CWops Test	1900Z-2000Z, May 8
+ CWops Test	0300Z-0400Z, May 9
+ CWops Test	0700Z-0800Z, May 9
+ QRP Minimal Art Session	1400Z-2200Z, May 9
+ NCCC FT4 Sprint	0100Z-0130Z, May 10
+ Weekly RTTY Test	0145Z-0215Z, May 10
+ NCCC Sprint	0230Z-0300Z, May 10
+ K1USN Slow Speed Test	2000Z-2100Z, May 10
+ FISTS Saturday Sprint	0000Z-2359Z, May 11
+ SKCC Weekend Sprintathon	1200Z, May 11 to 2400Z, May 12
+ CQ-M International DX Contest	1200Z, May 11 to 1159Z, May 12
+ VOLTA WW RTTY Contest	1200Z, May 11 to 1200Z, May 12
+ Canadian Prairies QSO Party	1700Z, May 11 to 0300Z, May 12
+ 50 MHz Spring Sprint	2300Z, May 11 to 0300Z, May 12
+ K1USN Slow Speed Test	0000Z-0100Z, May 13
+ 4 States QRP Group Second Sunday Sprint	0000Z-0200Z, May 13
+ ICWC Medium Speed Test	1300Z-1400Z, May 13
+ OK1WC Memorial	1630Z-1729Z, May 13
+ ICWC Medium Speed Test	1900Z-2000Z, May 13
+ RSGB 80m Club Championship, SSB	1900Z-2030Z, May 13
+ Worldwide Sideband Activity Contest	0100Z-0159Z, May 14
+ ICWC Medium Speed Test	0300Z-0400Z, May 14
+ DARC FT4 Contest	1900Z-2000Z, May 14
+ Phone Weekly Test	0230Z-0300Z, May 15

*May 2024 Contest Calendar - Continued on page 58*

## May 2024 Contest Calendar - WA7BNM Contest Calendar : [www.contestcalendar.com](http://www.contestcalendar.com)

*May 2024 Contest Calendar - Continued from page 57*

+ A1Club AWT	1200Z-1300Z, May 15
+ CWops Test	1300Z-1400Z, May 15
+ VHF-UHF FT8 Activity Contest	1700Z-2100Z, May 15
+ Mini-Test 40	1700Z-1759Z, May 15
+ Mini-Test 80	1800Z-1859Z, May 15
+ CWops Test	1900Z-2000Z, May 15
+ Walk for the Bacon QRP Contest	0000Z-0100Z, May 16 and 0200Z-0300Z, May 17
+ NAQCC CW Sprint	0030Z-0230Z, May 16
+ CWops Test	0300Z-0400Z, May 16
+ CWops Test	0700Z-0800Z, May 16
+ NTC QSO Party	1900Z-2000Z, May 16
+ NCCC FT4 Sprint	0100Z-0130Z, May 17
+ Weekly RTTY Test	0145Z-0215Z, May 17
+ NCCC Sprint	0230Z-0300Z, May 17
+ K1USN Slow Speed Test	2000Z-2100Z, May 17
+ UN DX Contest	0600Z-2100Z, May 18
+ NZART Sangster Shield Contest	0800Z-1100Z, May 18 and 0800Z-1100Z, May 19
+ EU PSK DX Contest	1200Z, May 18 to 1200Z, May 19
+ His Maj. King of Spain Contest, CW	1200Z, May 18 to 1200Z, May 19
+ Arkansas QSO Party	1400Z, May 18 to 0200Z, May 19
+ Feld Hell Sprint	1600Z-2000Z, May 18
+ Baltic Contest	2100Z, May 18 to 0200Z, May 19
+ FISTS Sunday Sprint	0000Z-2359Z, May 19
+ Run for the Bacon QRP Contest	2300Z, May 19 to 0100Z, May 20
+ K1USN Slow Speed Test	0000Z-0100Z, May 20
+ ICWC Medium Speed Test	1300Z-1400Z, May 20
+ OK1WC Memorial	1630Z-1729Z, May 20
+ RSGB FT4 Contest	1900Z-2030Z, May 20
+ ICWC Medium Speed Test	1900Z-2000Z, May 20
+ Worldwide Sideband Activity Contest	0100Z-0159Z, May 21
+ ICWC Medium Speed Test	0300Z-0400Z, May 21
+ SKCC Sprint	0000Z-0200Z, May 22
+ Phone Weekly Test	0230Z-0300Z, May 22
+ A1Club AWT	1200Z-1300Z, May 22
+ CWops Test	1300Z-1400Z, May 22
+ Mini-Test 40	1700Z-1759Z, May 22
+ Mini-Test 80	1800Z-1859Z, May 22
+ CWops Test	1900Z-2000Z, May 22
+ RSGB 80m Club Championship, Data	1900Z-2030Z, May 22
+ CWops Test	0300Z-0400Z, May 23
+ CWops Test	0700Z-0800Z, May 23
+ NCCC FT4 Sprint	0100Z-0130Z, May 24
+ Weekly RTTY Test	0145Z-0215Z, May 24
+ NCCC Sprint	0230Z-0300Z, May 24
+ K1USN Slow Speed Test	2000Z-2100Z, May 24
+ CQ WW WPX Contest, CW	0000Z, May 25 to 2359Z, May 26
+ K1USN Slow Speed Test	0000Z-0100Z, May 27
+ QRP ARCI Hootowl Sprint	0000Z-0100Z, May 27
+ ICWC Medium Speed Test	1300Z-1400Z, May 27
+ QCX Challenge	1300Z-1400Z, May 27
+ OK1WC Memorial	1630Z-1729Z, May 27
+ ICWC Medium Speed Test	1900Z-2000Z, May 27
+ QCX Challenge	1900Z-2000Z, May 27
+ Worldwide Sideband Activity Contest	0100Z-0159Z, May 28
+ ICWC Medium Speed Test	0300Z-0400Z, May 28
+ QCX Challenge	0300Z-0400Z, May 28
+ Phone Weekly Test	0230Z-0300Z, May 29
+ A1Club AWT	1200Z-1300Z, May 29
+ CWops Test	1300Z-1400Z, May 29
+ Mini-Test 40	1700Z-1759Z, May 29
+ Mini-Test 80	1800Z-1859Z, May 29
+ CWops Test	1900Z-2000Z, May 29
+ CWops Test	0300Z-0400Z, May 30
+ CWops Test	0700Z-0800Z, May 30
+ RSGB 80m Club Championship, CW	1900Z-2030Z, May 30
+ PODXS 070 Club Three Day Weekend Contest	0000Z, May 31 to 2359Z, Jun 2
+ NCCC FT4 Sprint	0100Z-0130Z, May 31
+ Weekly RTTY Test	0145Z-0215Z, May 31
+ NCCC Sprint	0230Z-0300Z, May 31
+ K1USN Slow Speed Test	2000Z-2100Z, May 31

## 2024 Club Committees

### Standing Committees

### Committee Chairs

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

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

### Activity Committees

### Committee Chairs

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

GCARC Board of Directors  
Phil Nunzio, WA3RGY  
Jeff Garth, WB2ZBN  
Tony Starr, K3TS  
*Open Chair*  
*Open Chair*  
Jim Wright, N2GXJ  
Bob Keogh, KD2NEC  
Frank Romeo, N3PUU & Kathy Romeo  
Gary Reed, N2QEE  
Jeff Garth, WB2ZBN  
Ron Block, NR2B  
*Open Chair*  
Jon Pearce, WB2MNF  
Darrell Neron, AB2E  
Mark Gottlieb, KK2L

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

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

## The W2MMD Repeaters

### **2 Meter Repeater**

Output : 147.180 MHz

Input : 147.780 MHz

Offset : +600 kHz - PL : 131.8 Hz

(Conventional FM plus C4FM Capability)

**EchoLink : W2MMD-R**

### **70 cm Repeater**

Output : 442.100 MHz

Input : 447.100 MHz

Offset : +5 MHz - PL : 131.8 Hz

(Conventional FM plus C4FM Capability)

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

### **1.25 Meter Repeater**

Output : 224.660 MHz

Input : 223.060 MHz

Offset : -1.6 MHz - PL : 131.8 Hz

Location : Sewell, NJ

GPS : 39.746738°, -75.077094°

### **SKYWARN™ Net**

Sunday @ 1930 : 147.180 MHz Repeater

### **Gloucester County ARES Net**

Sunday @ 2000 : 147.180 MHz Repeater

### **GCARC TechNet ZOOM Forum**

2<sup>nd</sup> Monday of Every Month @ 1930 Hours

### **Tuesday Afternoon Net**

Every Tuesday @ 1200 Hours

### **Tuesday & Thursday Night 10M Net**

Every Tuesday & Thursday @ 1930 Hours

Tune in on 28.465 MHz or 28.475 MHz

### **Thursday Night Rag Chew Net**

Every Thursday @ 2000 Hours

## Meeting Calendar

### *General Membership Meeting*

**Wednesday, May 1, 2024**

**1900 Hours**

**Pfeiffer Community Center**

**Simulcast Live on ZOOM**

**Meeting ID : 943 0211 9674**

**Passcode : 843147**

### *Board of Directors Meeting*

**Wednesday, May 15, 2024**

**1900 Hours**

**W2MMD Clubhouse**

*“There’s More To Ham Radio Than  
You Can Possibly Do!”*

*- K3TS*

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

*- W2SEF*

### **\*\*\* Badges \*\*\***

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

Chris Prioli, AD2CS  
chris@ad2cs.com

Question Pool Answers : ESC01:A; ESC02:C; ESC03:C; ESC04:D; ESC05:C; ESC06:B; ESC07:D; ESC08:D; ESC09:A; ESC10:B; ESC11:B; ESC12:A

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

**Ω**

**May 2024 CrossTalk : Learning Stuff! Building Stuff! Doing Stuff! TOGETHER!**

**60**