Issue 65 : 04 65 Years Of Service To Amateur Radio & Our Community April 2024

CrossTalk

GLOUCESTER COUNTY AMATEUR RADIO CLUB NEW JERSEY

A 2024 Club Officers

President :	**Jonathan Pearce, WB2MNF**
Vice President :	**Ronald Block, NR2B**
Treasurer :	**John O'Connell, K2QA**
Recording Secretary :	**John Zaruba Jr, K2ZA**
Corresponding Secretary :	**Michael Resnick, N2WOQ**

Trustees - 4 Year Term

Carl Wittig, N2CRW	**(2021-2024)**
Charles Lanard, KD2EIB	**(2022-2025)**
Sheldon Parker, K2MEN	**(2023-2026)**
Len Rust, W2LJR	**(2024-2027)**

Directors - 3 Year Term

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

General Membership Meeting
Wednesday, April 3, 2024 @ 1900 Hours
In-Person & ZOOM : 943 0211 9674, 843147

Tech Saturday Forum
Saturday, April 6, 2024 @ 0900 Hours
W2MMD Clubhouse

GCARC TechNet ZOOM Forum
Monday, April 8, 2024 @ 1930 Hours
ZOOM Meeting ID : 960 8543 6644, 964974

License Testing Session
Thursday, April 11, 2024 @ 1900 Hours
W2MMD Clubhouse

Board of Directors Meeting
Wednesday, April 17, 2024 @ 1900 Hours
W2MMD Clubhouse

Dinner @ The W2MMD Clubhouse
Wednesday, April 24, 2024 @ 1800 Hours

Tuesday AfterNoon 2M Net @ 1200 Hours

Tuesday & Thursday 10 Meter Net @ 1930 Hours

Thursday 2M Net @ 2000 Hours

Inside This Issue…

***** ATTENTION EVERYONE *****

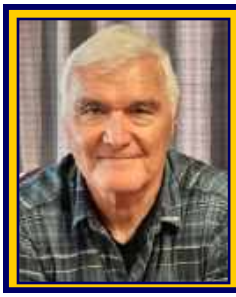
EFFECTIVE APRIL 3, 2024,

ALL GENERAL MEMBERSHIP MEETINGS

WILL BEGIN @ 1900 HOURS (7:00 PM)

ON THE FIRST WEDNESDAY

OF THE MONTH



President's Letter
Jon Pearce, WB2MNF

April 2024

Despite some significantly bad weather throughout the month the GCARC had significant member participation in a number of events and activities. Saturdays were busy at the Clubhouse with the team of **Jim Wright N2GXJ** and **Marc Federici WM2Y** organizing fox hunting activities using both the original tiny "fox" transmitter and a larger unit built by Marc and connected to HT. Marc describes those activities on page 13 of this month's CrossTalk, so be sure to read about them if you weren't there (and WHY weren't you there???).

April Tech Saturday is POTA-Related
The Tech Saturday Forum event on April 6, 2024 will follow **John Zaruba Jr K2ZA**'s presentation at the April 3, 2024 Wednesday Night General Membership Meeting on operating a **Parks-On-The-Air** station. John will bring his POTA station to the Clubhouse and describe the logistics of setting it up and operating. Many members have expressed interest in POTA so be sure to attend both of these sessions.

Antenna Building in May and June
Because of the interest expressed by many Club members, especially those new to the hobby, in building antennas the May and June General Membership Meetings and Tech Saturday sessions will be dedicated to this topic. At the May 4th Tech Saturday Forum, participants will build a small 70 cm ground plane antenna and then trim it to size using a **vector network analyzer (VNA)**, a tools that should be familiar to anyone building antennas. The May session is free but will require signing up as described below. Participants may also want to purchase a VNA before the session and may want to reference the excellent article by **Chris Prioli AD2CS** on VNA selection on page 34 of the March 2024 CrossTalk issue.

At the June 8th Tech Saturday, we'll be building a 2-band twinlead collinear antenna that can be used as a permanent installation for 2 meters and 70 cm. Cost of this session for materials will be about $25 and signups will be needed since demand may require additional subsequent sessions to allow those interested to participate. If you're interested in either session please email Chris at **education@w2mmd.org** indicating your interest.

GOES Satellite Reception
Significant progress was made on the GOES satellite image receiving station that captures high-resolution images of the earth 48 times each day and stitches them together into a MP4 video that will be displayed on the **"Skunkworks" team website (https://skunkworks.w2mmd.org)** once the server transition is completed. **Mike Thompson KG4JYA** worked out some issues with the programming code that caused some images to be skipped and we replaced an older network switch that was significantly slowing the image transfer from the Raspberry Pi that collects the image from the SDR radio to the Pi that processes the video. The GOES receiver downloads many different types of visible-light, infrared and temperature images from the satellite, all of which are cataloged and captured. If you're interested in weather data there's plenty of it at the Clubhouse. In particular, we should be able to capture outstanding pix of the solar eclipse as it passes over the US this month.

President's Letter - Continued on page 4

President's Letter - Continued from page 3

Meshtastic Network Development
Activity on the Meshtastic network also increased with more than a dozen different users now having nodes on the network. Many Club members have conquered the first step, which is setting up a node that is recognized on the network, and are looking at their next steps which are outlined on page 30 of this month's CrossTalk. Meshtastic creates a lot of diverse projects in radio, electronics, microcontrollers, and programming to keep the typical ham experimenter busy for months.

On the W2MMD node at the Clubhouse we've installed one of **these (https://bit.ly/3PFlCkP) 1-watt amp/ preamp packages** that **Al Arrison KB2AYU** found on Amazon and have noted that this station's signals have significantly increased at several remote locations. These units may be useful for distant stations that need more power to get into the network, or for several high-elevation stations to allow them to extend the network.

We've also installed a larger solar-powered node using an 8 inch square solar panel and two 18650 batteries powering a **WisBlock LoRa radio**. This station has been operational for about three weeks and after a couple more weeks of testing it may be moved higher on one of the towers to give more range. Currently the W2MMD node's antenna is at the top of the "half-VHF" tower but feedline loss from the Clubhouse will be significant. Placing the entire node up there may enhance the network.

STEM Opportunity with Woodruff Middle School
Several weeks ago we were contacted by Club member **Joseph Lee N2BNJ** who's a school board member for this school asking for Club assistance in preparing and presenting a STEM-oriented program for the school's students. Discussions with the school are still very preliminary but it appears that we may be able to create a project to build, launch, and track a pico-type of earth-circumnavigating balloon carrying APRS and WSPR transmitters. Timing and other details are yet to be established but if this works out we'll need several teams to deal with different aspects of balloon logistics, radio and power design, tracking, curriculum, and safety, and hopefully Club members will respond to this important initiative.

Interesting Radio-Related Articles
The online resource **Hackaday (https://hackaday.com)** occasionally contains articles related to ham radio along with other electronics and technical topics. Below are links to a few that caught my eye this month :

***Fifty Things you can do with a Software Defined Radio* (https://blinry.org/50-things-with-sdr)**

This is an excellent reference to anyone who hasn't delved into SDR radio, using **SDR Angel** and several other programs to receive and decode radio signals. Some are very familiar to hams such as listening to ham SSB or CW transmissions, but a few attracted my interest to check out whenever spare time appears in my life :

7 : Receive road traffic information
9 : Listen to digital radio
11 : Read your neighbors' sensors
30 : Assess the propagation of radio waves using beacons
39 : Read data from utility meters
40 : "Watch" TV, and
44 : Detect when a smartphone is turned on

President's Letter - Continued on page 5

President's Letter - Continued from page 4

***CATS : A New Communication And Telemetry System | Hackaday* (https://bit.ly/4auIHib) :**

CATS (https://cats.radio) is a new communication and telemetry standard intended to surpass the current **Automatic Packet Reporting System (APRS)** standard by leveraging modern, super-cheap **Frequency Shift Keying (FSK)** transceivers rather than standard FM units. The project is in the early stages, but as of this writing, there is a full open source software stack and reference hardware for both Raspberry Pi-based gateway devices and an STM32-based mobile device.

***Super-Portable, Tunable VHF Antenna | Hackaday* (https://bit.ly/3TCM009) :**

The antenna uses mostly common household parts which keeps the cost down tremendously. The structure of the antenna is replacement webbing for old lawn chairs, and the conductive elements for the antenna are made out of metallic HVAC tape which is fixed onto the chair webbing after being cut to shape. The only specialized parts needed for this is a 3D printed bracket which not only holds the hookup for the coax cable feeding the antenna, but is also capable of sliding up and down the lower section of the "J" to allow the antenna to be easily tuned.

73 de Jon WB2MNF

GCARC Amateur Radio Test Prep Class Schedule

2024 Session VII

Class Times : 1800 - 2100 Hours

Weeks 1 through 9 + VE Testing Week

Class Week	Class Date	License Class Study
Week One	Monday, April 22, 2023	Technician Class
Week One	Tuesday, April 23, 2023	General Class
Week One	Friday, April 26, 2023	Amateur Extra Class
Week Two	Monday, April 29, 2023	Technician Class
Week Two	Tuesday, April 30, 2023	General Class
Week Two	Friday, May 3, 2023	Amateur Extra Class
Week Three	Monday, May 6, 2023	Technician Class
Week Three	Tuesday, May 7, 2023	General Class
Week Three	Friday, May 10, 2023	Amateur Extra Class
Week Four	Monday, May 13, 2023	Technician Class
Week Four	Tuesday, May 14, 2023	General Class
Week Four	Friday, May 17, 2023	Amateur Extra Class
Week Five	Monday, May 20, 2023	Technician Class
Week Five	Tuesday, May 21, 2023	General Class
Week Five	Friday, May 24, 2023	Amateur Extra Class
Week Six	Monday, May 27, 2023	Technician Class
Week Six	Tuesday, May 28, 2023	General Class
Week Six	Friday, May 31, 2023	Amateur Extra Class
Week Seven	Monday, June 3, 2023	Technician Class
Week Seven	Tuesday, June 4, 2023	General Class
Week Seven	Friday, June 7, 2023	Amateur Extra Class
Week Eight	Monday, June 10, 2023	Technician Class
Week Eight	Tuesday, June 11, 2023	General Class
Week Eight	Friday, June 14, 2023	Amateur Extra Class
Week Nine	Monday, June 17, 2023	Technician Class
Week Nine	Tuesday, June 18, 2023	General Class
Week Nine	Friday, June 21, 2023	Amateur Extra Class
Review & Exam Week	Tuesday, June 25, 2023	Technician & General Class
Review & Exam Week	Friday, June 28, 2023	Amateur Extra Class

Advanced SMT Soldering Class

Monday, July 8, 2024 - W2MMD Clubhouse

For More Information & To Register, Go To :

https://gloucestercountyarc.weebly.com/advanced-smt-class.html

The Yellow-Billed Cuckoo is native to most of the US, including NJ and PA (information from Audubon).

Although reclusive, large flocks have been observed in Williamstown on the first Wednesday of every month.

Karl W2KBF

@ 7:00 pm

GCARC TechNet ZOOM Forum

Monday, April 8, 2023 @ 1930 Hours

Forum Topic : Meshtastic Workshop 3

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

Meeting ID : 960 8543 6644 ; Passcode : 964974

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

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

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

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

General Membership Meeting

Wednesday, April 3, 2024 @ 1900 Hours

Pfeiffer Community Center

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

Go to : www.w2mmd.org to download the ZOOM log-on instructions PDF

Meeting Program : John Zaruba Jr, K2ZA - POTA

Activating Parks On The Air (POTA) - With Emphasis On Antennas

Parks On The Air (POTA) is a worldwide radio sport award program that encourages licensed amateur radio operators to visit, enjoy, and operate portable equipment in a variety of parks and on public lands while showing respect for the park users and regulations. Amateur radio operators who set up a temporary station at a park are known as activators, while others who 'spot' and complete contacts with them are called hunters. Activations can take place on the initiative of an individual operator or as part of an organized group event. Equipment used is typically small and battery operated. The radio may be hand-held, carried in a backpack or a 'go box', or it could be mounted in a vehicle, as permitted by the park regulations. Antennas may be small enough to form part of a hand-held for VHF/UHF or be ground or tripod-mounted for HF operations.

This month we are fortunate to have **John Zaruba Jr, K2ZA**, an active POTA activator, who will review this popular activity and give us guidance on how and where to get started. He will help answer questions about park selection, operating modes, equipment, antennas, and awards. John's program will continue on the Tech Saturday Forum, April 6, 2024 beginning at 0900 Hours and hopefully will include a hands-on demonstration.

Please join us for this most interesting in-person presentation. See you there!

Tech Saturday Forum
April 6, 2024 @ 0900 Hours
W2MMD Clubhouse

Forum Topic : John Zaruba Jr, K2ZA
POTA - Hands-On!

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.

Gloucester County Amateur Radio Club
YouTube Channel
https://www.youtube.com/@W2MMD

"Dinner @ The Clubhouse"
Wednesday, April 24, 2024 @ 1800 Hours
W2MMD Clubhouse

GCARC Monthly VE Exam Testing Summary - March 14, 2024

Gary Reed, N2QEE, Reports : The GCARC monthly VE session was held on March 14, 2024. There were four candidates for the session with two upgrades to General and two new Technicians. The General upgrades were :

- **Paul Cosenza KD2RDD of Glassboro**
- **Kenneth Berry KE2CRL of Pitman**

The new Technicians were :

- **Dale Guenther KE2CYM of Newfield**
- **Brandon Hozey KE2CYN of Franklinville**

The participating VE's were :

- **Mike N2WOQ**
- **Jerry K2EAB**
- **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 of one question, and one modified graphic. All question pools are available on the w2mmd.org website at : **https://gloucestercountyarc.weebly.com/get-your-ham-ticket.html**

The next monthly VE session will be held April 11, 2024 @ 1900 Hours at the W2MMD Clubhouse.

Welcome New Club Members :

Michael Andrescavage, N2ICV, (Returning Member), a General Class who lives in Malaga, NJ.
Paul Cosenza, KD2RDD, a General Class who lives in Glassboro, NJ.
Walter Coward, WX2E, an Amateur Extra Class who lives in Vineland, NJ.
Alexis Duboski, KB2YEF, a General Class who lives in Williamstown, NJ.
Dale Guenther, KE2CYM, a Technician Class who lives in Newfield, NJ.
Robert Pantazes, W2ARP, an Amateur Extra Class who lives in Greensboro, NC.

We are glad to have you as members of the Club and hope to see you regularly at Club meetings, events, and activities. Hope to see you at the April 3rd General Membership Meeting , either in-person or on ZOOM, the April 6th Tech Saturday Forum, the April 8th GCARC TechNet ZOOM Forum, and Dinner @ The Clubhouse on April 24th.

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.

DAs and DITs

>> Congratulations to **Ralph Sangataldo, W2HVH**, for being the owner and manufacturer of W2HVH Enclosures - **www.w2hvh.com**. He recently received a great review on page 49 of the February 2024 QST Magazine.

>> Congratulations to **Paul Cosenza, KD2RDD**, for upgrading to General Class.

>> Congratulations to **Chuck White, K3GON (ex. KE2BPD)** on his new vanity callsign.

>> Drone video of the **Battleship New Jersey** as it was move from Camden down the Delaware River : **https://youtu.be/a97USA8Jru4?si=c7Hd2AGWumuQBEnV**

ARES Resources

Download the ARES Manual [PDF] : https://bit.ly/3iUhJLQ
ARES Field Resources Manual [PDF] : https://bit.ly/3QT4PtY
ARES Standardized Training Plan Task Book [Fillable PDF] : https://bit.ly/3wg5kVt
ARES Standardized Training Plan Task Book [Word] : https://bit.ly/3ZTNDbR
ARES Plan : https://bit.ly/3XLokXH
ARES Group Registration : http://bit.ly/3XodGpX
Emergency Communications Training : http://bit.ly/3J2gMMf
2022 National Preparedness Report : https://bit.ly/3EnvcTW
Southern New Jersey Section EOP 2022.PDF : https://bit.ly/3SbrXol

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

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

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

W2MMD

www.facebook.com/W2MMD

twitter.com/w2mmd_gcarc

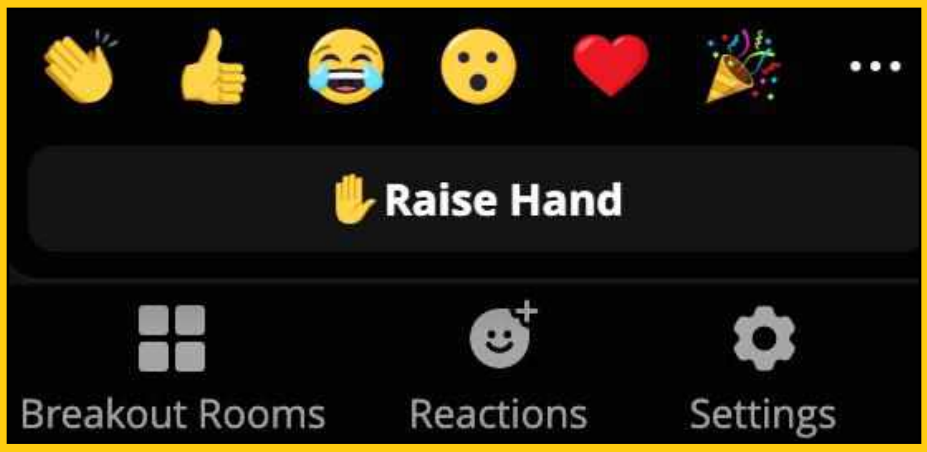
Facebook

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

Fox Hunt XXX After-Action Report

More pictures on the Fox Hunt XXX web page

By Marc Federici, WM2Y

Fox Hunt 30 was a uniquely different hunt with 3 different transmitters and a Le Mans style start at the W2MMD Clubhouse. Hunters needed to find the first transmitter or FOX 1 hidden somewhere on the fairgrounds to receive a very weak signal bearing for FOX 2 located about 5.6 miles line of sight from the Clubhouse. Foxes 2 and 3 were located at the Elephant Swamp Trail in Elk Township. The weather turned out to be a nice early spring day in the low 60's. We had six hunters signed up for the day's challenge.

Congratulations to **Alex KB2YEF** who managed to find Fox 1 and Fox 3 before anyone else and too **Jim N2GXJ** and **Sheldon K2MEN** for finding Fox 2 at the same time.

Thanks to everyone else who was able to attend Fox Hunt 30 :

- **Earl KC2NCH**
- **Alex KB2YEF**
- **Sheldon K2MEN**
- **Jim N2GXJ**
- **Al KB2AYU**
- **Bruce KD2LBU**

Special Thanks to **Chris AD2CS** for hosting the Yagi antenna and Attenuator build classes. Without that help hunters wouldn't have had the proper equipment for this hunt.

The hunt turned out great, almost everyone managed to find the transmitters without too many clues. The initial signal bearing for Fox 2 was a little weaker than I would have liked, but most of us could hear it from the fair-grounds. When I did a test run it was way stronger. When we arrived at the park, we were surprised to find out that a dollar Easter egg hunt was also taking place. So, the park was a little busier than usual. Park goers were looking for plastic Easter Bunny eggs with surprises inside and a couple of Easter egg hunters even found a UV-5R hidden next to a tree.

WOW. Suffice it to say the Club got some good publicly with the Easter egg hunters and fellow hikers out enjoy-ing the nice weather. As for the hunt, RF reflections sent some of our hunters in the wrong direction, but they quickly corrected the course and found the third transmitter located on the other side of Elk Road. This time I tried to keep the walking to a minimal but next time just wait.

The foxes for this hunt were provided by me and the radios were controlled by my custom designed circuit utiliz-ing a Teensy 4.0 micro controller. The Teensy 4.0 micro controller provided DTMF remote activation, real time clocking, CW, and audio tone generation that was transmitted out over the connected UV-5R radio. The Baofeng UV-5R's transmitters proved to be very reliable even with a very strong transmit duty cycle for well over an hour. All 3 transmitters were transmitting on different frequencies with a one minute transmit interval (30 seconds on, 30 seconds off). My controller boards worked very well, and I already have ideas for a possible version 3 and 4 (mini and micro).

The Elephant Swamp Trail in Elk Township is off East Elk Road between Route 77 (Bridgeton Pike) and 553 (Buck Road). The Elephant Swamp Trail is 5.1-mile trail in a wetlands area. In 1878 the former Pennsylvania–Reading Railroad had built tracks as part of a route from Camden to Bridgeton. The tracks were removed a century later, and the Elephant Swamp Trail now stands in their place.

Fox Hunt XXX After-Action Report - Continued on page 14

Fox Hunt XXX After-Action Report - Continued from page 13

Legend has it that in the late 1800s, an elephant got loose in the swamp when a traveling circus passed through Elk Township by railroad.

Again, Thanks to everyone who was able to help and attend Fox Hunt 30. Let's make the next one even better.

(L-R) Marc WM2Y (The Fox), Alex KB2YEF, Bruce KD2LBU, Earl KC2NCH, Al KB2AYU, Jim N2GXJ, Sheldon K2MEN

March 9, 2024 Tech Saturday Forum Practice Fox Hunt

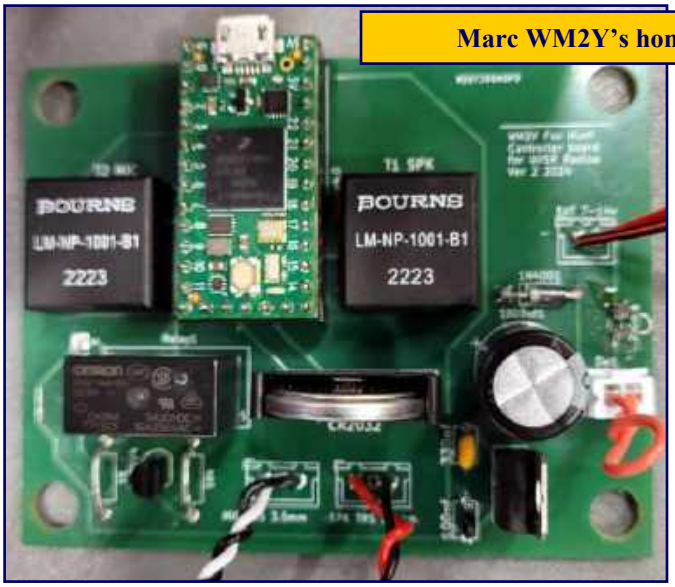
Alex Duboski, KB2YEF trying out his home-brewed Yagi

Earl KC2NCH, Greg W5DO, & Bruce KD2LBU looking for the "Fox"

Aimee Ortiz, K9RVT with her home-brewed Yagi

Earl, watch where you point that thing!

Marc WM2Y's home-brewed "Fox" transmitters



Regional (Atlantic & Hudson Divisions) Hamfests & Events

April 7, 2024 : Two Rivers Amateur Radio Club, TRAC 52nd Hamfest/Computer Show, Elizabeth Volunteer Fire Department Bingo Hall, 101 South 1st Avenue, Elizabeth, PA. **www.trac.net**

April 13, 2024 : Warren County Radio Club, Warren County Ham Radio Club Swap Meet, Aviation Mall, 578 Aviation Road, Queensbury, NY. **www.w2cwcr.org**

April 20, 2024 : Splitrock Amateur Radio Association, Splitrock ARA Tailgate Hamfest, Landing Park Recreation Complex, 165 Landing Road, Landing, NJ. **www.splitrockara.org**

April 20, 2024 : Chenango Valley Amateur Radio Association, Bullthistle Hamfest, St. Bartholomew's Parish Center, 81 East Main Street, Norwich, NY. **www.cvara.net**

April 20, 2024 : Sussex Amateur Radio Association, Delmarva Amateur Radio and Electronics Expo, ARRL Delaware State Convention, Cheer Center, 20520 Sand Hill Road, Georgetown, DE. **www.radioelectronicsexpo.com**

April 20, 2024 : Drumlins Amateur Radio Club, Drumlins Hamfest 2024, Palmyra VFW Post 6778, 4306 Route 31, Palmyra, NY. **www.drumlinsarc.us**

April 21, 2024 : Maryland Mobileers Amateur Radio Club, Spring Hamfest, Odenton Volunteer Fire Company, 1425 Annapolis Road, Odenton, MD. **www.sites.google.com/view/marylandmobileers/hamfest?authuser=0**

April 27, 2024 : Delaware Valley Radio Association, DVRA QRP Day & Swap Fest, DVRA Clubhouse, 798 Bear Tavern Road, Ewing, NJ. **www.w2zq.com**

April 27, 2024 : York Hamfest Foundation, York Hamfest, Elicker's Grove Park, 511 Roth Church Road, Spring Grove, PA. **www.yorkhamfest.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://gloucestercountyarc.weebly.com/quick-links.html

The Education Connection

By Chris Prioli, AD2CS - chris@ad2cs.com
www.ad2cs.com

April 2024

Well… it is almost time for the next session of **Ham Exam Preparation Classes** to begin. **Session VII** start out on **Monday, 22 April** with the Element 2 group, then we have the Element 3 group on Tuesdays starting on **23 April**, and finally, we have the Element 4 classes starting on **Friday, 26 April**. As is the norm, these classes will run for ten weeks, with the license exam taking place during that last week of each session. At present, there are ten students enrolled in the Technician class and one at the Amateur Extra level. Needless to say, there are plenty of seats available for both the General (Element 3) and the Amateur Extra (Level 4) classes. If you know of anyone who might be interested in upgrading to the General or Extra levels, send them my way and I will get them signed up!

Moving along, I would like to remind all Club members about the upcoming **Advanced SMT Soldering Class**, which will be starting in the evening of **8 July**. It will take at least two Monday evenings, and possible three, depending upon the students' progress. We will be building a single-board 50-ohm 20-watt dry resistive dummy load, using all SMT components except for the board-to-wire connectors that will be installed. This dummy load will be equipped with a BNC jack for connection to the radio and a two-pin Molex connector for making voltage measurements as a means of approximating the power being dissipated by the device. Final cost per seat has not yet been determined, as I am still working on the final design and parts sourcing. The cost will be announced as soon as possible, so watch the website and your email for information about this class. It promises to be another enjoyable and productive class, so don't miss out! If you are interested in attending this class, please drop me a note via email to let me know. The sooner I get an idea of the interest level and the number of enrollees, the sooner I can finalize the cost, as the purchase prices for the components is quantity-dependent.

As some of you may already know, GCARC has been invited to participate in a cooperative educational experience with a local school district. Meetings between the school district administration and our Club leadership have already taken place, and things look promising. While I am not directly involved in this effort, I feel compelled to mention it here, as it is of an educational nature and I am strongly in favor of this and other such arrangements, as they are widely beneficial to the Club at large and to the school students. These students are the hams of the future, and it is quite advantageous to get the young folks involved in Amateur Radio. I applaud our **President, Jon Pearce WB2MNF** and **Mike Resnick N2WOQ** for taking this on, and I hope that our membership gives this program the full support that it deserves.

That's about it for this month's column. See you next month!

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 : April 4, 2024
Mary Delemarre, W2TDS : April 11, 2024
Gary Mirkin, WA3SVW : April 18, 2024
Steve Farney, W2SEF : April 25, 2024

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

Tuesday AfterNoon Net @ 1200 Hours

Net Control Stations :
Steve Farney, W2SEF; Chris Prioli, AD2CS; Greg Ciraula, W5DO; & Jeff Garth, WB2ZBN

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

Here is the schedule for the upcoming weeks

Greg Ciraula, W5DO : April 2, 2024
Chris Prioli, AD2CS : April 9, 2024
Steve Farney, W2SEF : April 16, 2024
Steve Farney, W2SEF : April 23, 2024
Jeff Garth, WB2ZBN : April 30, 2024

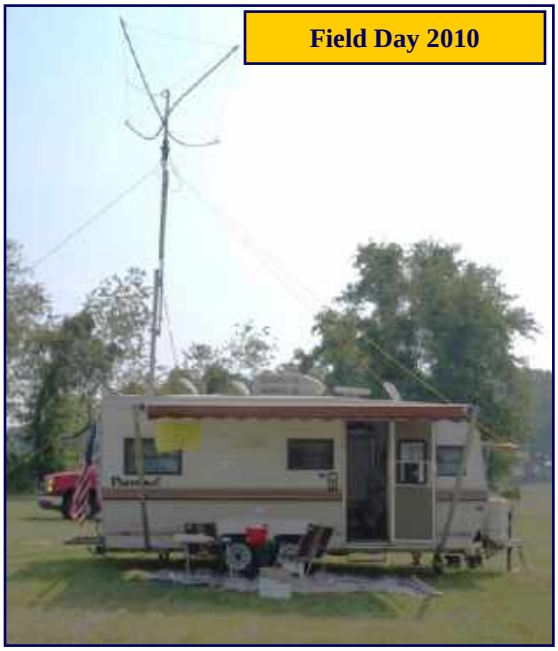
If you would like to be a Net Control Station for this net, please contact Steve Farney, W2SEF

ALABAMA ??

By Art Strong, KA0WS
Formerly KA2DOT, K2AWS, & WE0RV

Back in 1995 when my wife Donna (she doesn't care for XYL) got together, she was completely unfamiliar with camping or RVing. She had heard of camping but had never done any and RVing was completely strange to her. At that time I had a popup camper and in the following years, we did a lot of traveling with our first and second popup. We spoiled ourselves with the second popup as it had an air conditioner on the roof and that was a fabulous asset.

In 2002 we were attending an RV show at Hershey Park when Donna got into a conversation with a few lady RVers and learned what "full-timing" was all about and she was hooked on the idea as I was after she explained it to me.



Field Day 2010

In 2004 we traded our popup for a 20 foot travel trailer as popups lacked some nice amenities such as a built-in bathroom and kitchen. 20 feet may sound like a decent size trailer until one realizes that the first 3 feet of it contain the hitch, battery, and propane tanks. Therefore it's wise to be good friends with one's traveling companion in the remaining 17 feet of indoor space.

GCARC members who participated in Field Days from 2005 to 2010 may remember the trailer being at the Club site as we definitely used it to full advantage with a very long extension cord to provide power to the station and the air conditioner. We operated in comfort.

We were in Lancaster, PA, when one night while I was in the popup, I heard Donna scream! I flew out the door to find her upside down in her lounge chair laughing like crazy. She got too close to the fire pit and smelled something burning. It was her sneaker and it was on fire! She was fine but the burning rubber sure stank.

Larry Mommicco AD2L, Art Strong KA0WS

In 2011, with a lot of regret we decided it was time to send the trailer off to another owner. We had created a lot of great memories and had towed it several thousand miles in quite a few states but it was really showing it's age so it was time to let it go.

In 2013, after much truck research and many RV shows we were ready to buy. So we invested in a 2013 Ford F-450 dually truck and a 2011 39 foot fifth wheel trailer.

In 2015 we decided it would be cheaper to live in the trailer until we retired and could hit the road. NJ doesn't allow campgrounds to be permanent addresses so we traveled to Sioux Falls, South Dakota and became SD residents complete with a street mailing address from a mail forwarder which we would need when we traveled. Texas, Florida, and South Dakota are three states that have mail forwarders that provide their subscribers with valid street addresses and mail forwarding for a yearly fee. South Dakota was the first state we had ever been in that had an 80 MPH speed limit on an interstate. After acquiring SD residence I thought it only proper to get my Zero call.

ALABAMA ?? - Continued on page 20

ALABAMA ?? - Continued from page 19

September 2018, we hitched up and headed south. Our longest stop along the way was St. Augustine and that stands out in our minds as being able to swim in the warm ocean water in October.

The first time I was in Disney World, I was backing in a 29 foot motor home into the parking space. When Donna and I got there, I was backing in 57 feet of truck and trailer in the middle of a major rainstorm and the campground roads didn't appear to have ever been enlarged making the effort tedious but we made it.

From Disney World we went to Cape Canaveral Camp Ground where we toured Kennedy Space Center and saw a rocket launch one night from the campground. Often the Disney cruise boat would sail out the channel and play "When you wish upon a star" on it's loud speakers. That would drive our cat nuts as he didn't like it.

We eventually ended up in Key Largo and went to Key West where we got pictures of the big buoy stating it's the southernmost point in the U.S. As with St. Augustine and its narrow streets, we couldn't easily drive around Key West in our truck because of its size, so we did a lot of walking.

From Key Largo we traveled across Florida and stayed in a campground owned and operated by the Seminole Indians. Without question it was the largest and nicest place we had ever stayed. But the gators were everywhere. Donna caught one while fishing as I went running up the bank to get away from it. I took a picture of one that was near a gas station that was at least 12 feet long and used it as a picture on a few of my QSL cards.

From there we went up the west side of Florida staying at a number of campgrounds along the way and stopped in Pensacola for a month. While at Pensacola we wanted to extend our stay but "snowbirds" were on their way for the season so we learned all about snowbirds.

I wanted to go to the Marshall Space Flight Center and take a tour so we came up to Alabama and stopped in the Quail Creek RV Park and Golf Course. We did get to the Huntsville Rocket Center but COVID was starting up in 2019 and the Space Center tour was shut down.

Considering the toll that COVID was taking, we decided to stay put and see how it all plays out. In doing so we noticed that despite the disease, people were friendly. Strangers would wave to us as we drove by. We'd encounter friendly folks while walking through parking lots or in stores. We found that people were just outright friendly and sociable whereas in NJ we didn't find it as much.

Come 2020 we had decided that we really liked the people here as we had to decide what we had to do with our South Dakota drivers licenses which would expire that June. It didn't seem practical to drive all the way back to Sioux Falls just to renew them as it couldn't be done online. So we got a mail box at the local Post Office and became Alabama residents.

However, there is a culture shock between the Northeast and the South. "What do you mean you never heard of scrapple?" "What does "Roll Tide" mean? BBQ is big down here but they still have Wendy's, McDonalds, Pizza Hut, etc.

We believe people are easy going and friendly due to the fact that Alabama is not as crowded as the NE is. I have done some research between NJ and AL and found is that AL. is 6 times the size and has little better than half the population of NJ, and only 6 telephone area codes.

With the vast difference in size, driving for 30 minute will take one to many places in NJ. Not so, down here. With everything being so spread out 30 minute drive will get you near where you want to go.

ALABAMA ?? - Continued on page 21

ALABAMA ?? - Continued from page 20

In most areas property taxes are around 1/10th of what they are in NJ. Donna has found homes with several acres of ground and a nice house where the property taxes might only be $600 a year. Also, those over 65 do not have to pay the state part of the taxes only the county. What that percentage is we don't know but will find out.

Speaking of taxes, many will remember when NJ Gov. Florio was ridiculed for imposing sales tax on toilet paper. Alabama has a 4% sales tax on EVERYTHING and each county can impose it's own additional sales tax. It will range from an additional 4 to 6% over the state.

With us both being life long residents of NJ, imagine my surprise when I saw a man walking across a parking lot with a firearm on his hip in full display. And he wasn't police! Down here firearms are as common as red dirt. At the time we became residents we applied for our concealed carry permits simply because we could. For us Vets there is no fee.

Will we ever go back to NJ? No, as we have no relatives there and aren't into the long drives anymore. We enjoy being transplants and are looking forward to buying a home in a few months where Donna can grow her flowers and I can put up some decent antennas.

> ***"My advice for all GCARC members is to enjoy and utilize all the facilities, programs, stations, and activities that are offered as we have something that I haven't seen anything close to in our travels and my club research. It is rare, unique, and terrific."***

If any one in the Club is interested in getting into RVing, whether full time or part time, and may be interested in what we have done and learned, by all means email me with questions. If I can answer, I will be glad to.

73's
Art & Donna Strong

Field Day 1989 : L-R : Jim Clark, KA2OSV, Tony Starr, K3TS, Art Strong, KA0WS

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, & 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 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://gloucestercountyarc.weebly.com/current-website-updates.html

Monday, April 15, 2024

At The Repair Bench…

A monthly column describing a recent repair bench event.

By Chris Prioli, AD2CS - chris@ad2cs.com - www.ad2cs.com

April 2024

Figure 1 : Conar 231 Tuned Signal Tracer

Back in August of 2023, a customer asked me for some help in making his late 1970's-vintage **Conar Model 231 Tuned Signal Tracer (Figure 1)** operational for him. A little bit of history is called for here. Conar Instruments was the electronic equipment division of National Radio Institute (NRI). *National Radio Institute - McGraw Hill Continuing Education Center* was a private, postsecondary, for-profit correspondence school based in Washington DC, from 1914 to 2002. NRI launched the Conar division in the fall of 1961 and began selling test equipment (and other items) to their students primarily in kit form in early 1962, some of which were assembled as a part of the home study program. Other items were simply made available for purchase, assembly, and use by the students in their new electronics repair trade. The Conar 231 Tuned Signal Tracer was released around 1978, and several hundred were sold.

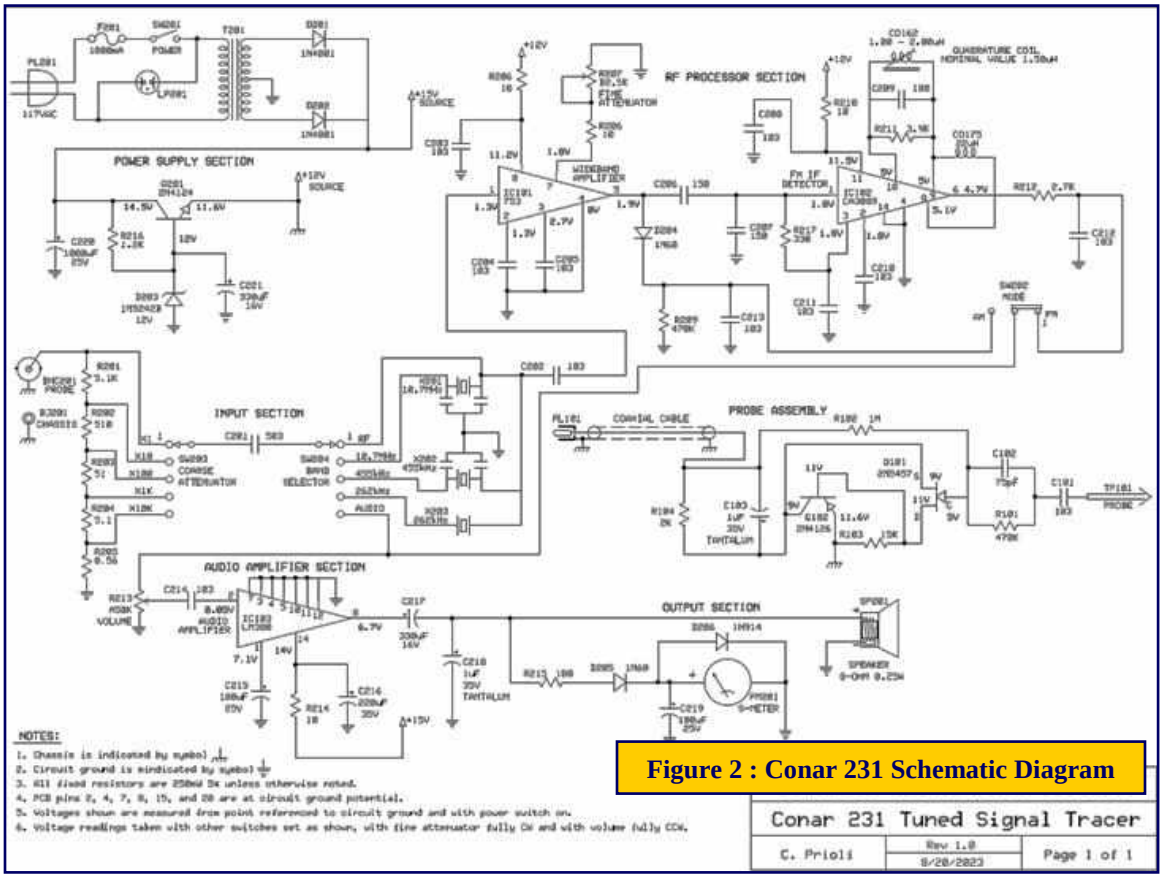


Figure 2 : Conar 231 Schematic Diagram

The 231 is an easy-to-use, all solid-state tuned signal tracer. It is called a *tuned signal tracer* because it has three selectable ceramic filter controlled tuned inputs covering the standard broadcast IF frequencies of 262kHz, 455kHz, and 10.7MHz. These tuned circuits eliminate the need for manual tuning as was required when using some other signal tracing units. This design simplifies the operating setup, allowing the technician to spend his or her work time where it counts - locating and repairing the defect. The Model 231 also provides two untuned input selections, an RF option and an AUDIO option. The unit schematic is shown in **Figure 2**. This schematic was derived from the unit itself and was drawn in the *ExpressSchematic* software that I like to use.

At The Repair Bench - Continued on page 24

At The Repair Bench - Continued from page 23

The unit came in to my shop as an inoperative piece of equipment that was also missing its test probe and ground connector. Those two items are actually the subject of one of my build articles previously published at this point, as I designed and built a replacement active amplifying probe with the high input impedance necessary to avoid loading of the circuit under test and therefore obtaining undistorted waveform samples. The subject of *this* article is the actual repair of the Conar 231 main unit.

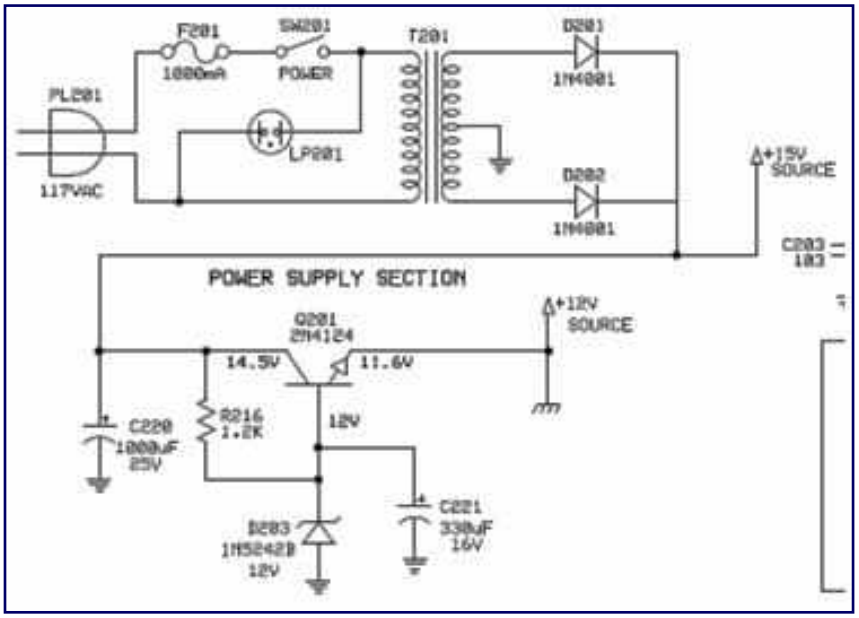


Figure 3 : Power Supply Section

This model is powered by 117VAC line current into a step-down transformer with a center-tapped secondary, which then produces two operating voltages, a +15VDC source and a +12VDC source **(Figure 3)**. The +15VDC is taken directly off the rectified and filtered output of the power transformer, while the +12VDC output is tapped off the full wave rectifier and regulated down to twelve volts via a 2N2124 transistor and a 1N5242B 12V Zener diode. The +15VDC source is filtered by capacitor C220, a 1000µF/25V axial aluminum electrolytic capacitor, and the +12VDC source is further filtered by capacitor C221, a 330µF/16V radial aluminum electrolytic capacitor.

On power-up, the +15VDC supply was found to be varying from about +6VDC up to about +19VDC, most likely as a result of heavy ripple imposed upon the source. The only possible cause of this ripple was the 1000µF filter capacitor C220. At the same time, the +12VDC supply was found to be dead. As a starting point, I removed and tested capacitor C220 and also C221 (the 330µF filter for the +12VDC source). The 1000µF capacitor turned out to be *extremely* leaky, while the 330µF capacitor was shorted. I replaced these two capacitors and went back to my testing routine. Now the +15VDC source was as it should have been, but the +12VDC supply was still dead. Voltage measurements at the 2N4124 pass transistor Q201 showed that the transistor was shorted, as was the 1N5242B 12V Zener diode. Replacement of both of these components restored the +12VDC source to proper operation.

At this point, I thought that I had the problems solved, but it turned out that there was still another problem. In testing the operation of the signal tracer, I found that there was no audio from the speaker at all, and no activity at all on the front panel signal strength meter. It was obviously time for some more tests to be made.

I fired up my signal generator and set it for a 1kHz sine wave output at about a half of a volt amplitude. I then injected that signal at the input of the LM380 audio amplifier, IC103 **(Figure 4)**. There was no signal throughput to the speaker at this point. I checked all of the IC voltage readings and they were all right on the money, where they were supposed to be. That led me to the most likely culprit being C218, a 1µF/35V tantalum capacitor in a shunt position across the speaker. I removed and tested that capacitor and found it to be shorted. Replacement of the tantalum capacitor restored the audio operation to normal.

With three failed polarized capacitors in this unit so far, and considering the age of the unit and therefore its capacitors, I elected to go proactive and replace the remaining polarized capacitors, which included a pair of 100µF/25V axial electrolytics, a second 330µF/16V radial electrolytic, and a single 220µF/35V radial electrolytic. It was good repair practice to replace all of these capacitors based upon the rate of failure already seen and the overall age of the parts involved.

(At The Repair Bench - Continued on page 25

At The Repair Bench - Continued from page 24

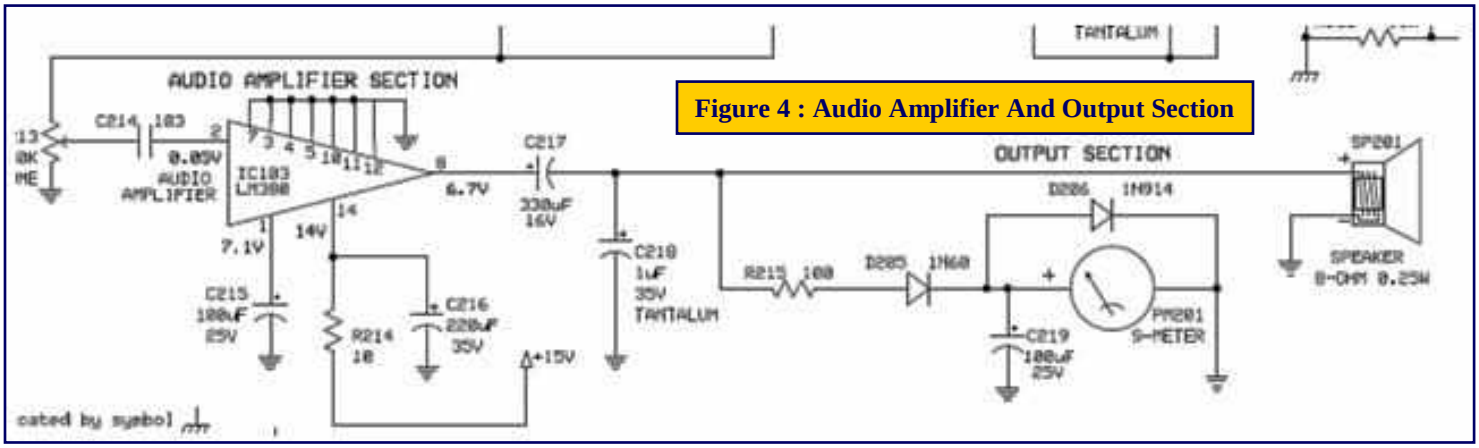


Figure 4 : Audio Amplifier And Output Section

This is a fairly well-designed signal tracer, and in spite of the screwy component numbering scheme used, it is not at all difficult to work on. The single PCB is retained in a modular fashion to the chassis by a set of four nylon retaining stand-offs, setting down onto a pair of ten-position pin connecter strips. The PCB itself has receiver sockets that mate with the pins in the connector strips.

As a footnote, one of the things that I noticed was that the red paint had all come off the needle of the front panel signal strength meter, and was sitting in pieces on the floor of the meter shell. I removed and disassembled the meter, cleaning out the paint particles. I then masked the meter face and re-painted the needle with some red color. After re-assembly, it looked as good as new.

All in all, a fairly easy repair, though there were multiple failures to be tracked down and corrected. The moral of this story is that it's not done until it is *all* done. I packed the unit up together with the new probe and ground lead that I had fabricated, and shipped it back to its owner.

See you next month!

A good friend of mine has two tickets for the 2024 Super Bowl, 50 yard line box seats. He paid $8,000 each but he didn't realize last year when he bought them, it was going to be on the same day as his wedding. If you are interested, he is looking for someone to take his place.

It's at St. Michaels Church, at 3pm. The bride's name is Sheila she's 5'4", about 115 lbs, good cook too. She'll be the one in the white dress!

Thanks to Frank N3PUU

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

Question Pool Answers : E5B01:B; E5B02:D; E5B03:B; E5B04:D; E5B05:D; E5B06:C; E5B07:C; E5B08:A; E5B09:D; E5B10:A; E5B11:B; E5B12:A

For more information, DMR links, and W2LJR's DMR presentations, go to :
https://gloucestercountyarc.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 May 2024 issue : Saturday, April 20, 2024

Club Website 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**

Personal Safety In The Radio Environment

By Chris Prioli, AD2CS - chris@ad2cs.com - www.ad2cs.com

I usually write on topics that are directly related to the build, operation, or repair of specific pieces of equipment, and I certainly hope that my readers enjoy those articles. However, it was recently pointed out to me that I have been neglecting an important topic, possibly due to my potentially erroneous assumption that the topics covered in this article are common knowledge. If these topics are common knowledge, then no harm is done by writing about them. However, if these topics are not common knowledge, then a huge service will have been done to the amateur radio community by the writing of this article.

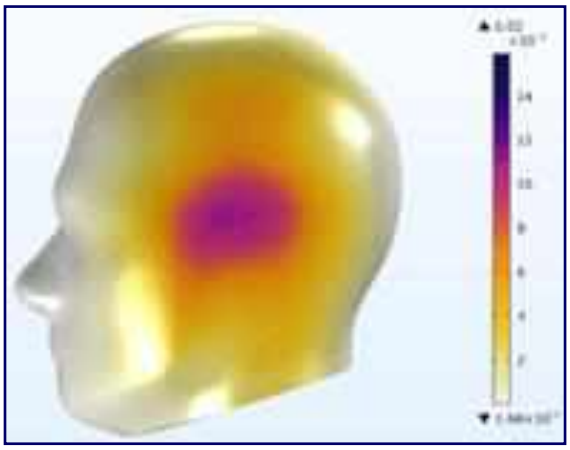


Figure 1 : SAR For The Human Head

There has been much conversation and even some heated discussion about the effects of radio frequency energy on the human body, most especially on the human brain. RF energy has been blamed for such maladies as numbness in the shoulders and upper arms, loss of balance while standing or walking, loss of hearing, sinus congestion, and even cancers in the head and neck area, including brain cancers. As it turns out, the human body will absorb RF energy at different rates and with different degrees of ease depending upon which parts of the body are exposed to the RF energy. Energy absorption is measured and reported as Specific Absorption Rates (SAR's) and have been plotted for various portion of the human body. As an example, SAR's for the human head are depicted in **Figure 1**.

Looking at the **Figure 1** graphic, it would almost seem as if the RF energy is able to tunnel in through the ears and their associated openings. There is an external acoustic meatus opening on each side of the skull, directly behind the locations of the ears, which coincides with the areas of greatest absorption shown in **Figure 1**.

According to the American Cancer Society, there is evidence for a correlation between RF energy and cancer. In an article on their website **(Does RF Radiation Cause Cancer? | American Cancer Society - https://bit.ly/49hbmqq)**, we find the following :

> *"Based on a review of studies published up until 2011, the International Agency for Research on Cancer (IARC) has classified RF radiation as "possibly carcinogenic to humans," based on limited evidence of a possible increase in risk for brain tumors…"*

With all of this having been said, it is obvious that amateur radio, as a world-wide community, has an obligation to do whatever can be done to protect amateur operators and thereby make our best efforts to extend the lives and improve the health of such radio operators around the world.

What can be done? I often hear this question when discussions of this nature arise. Until a recent Saturday afternoon's discussion, I was clueless as to an answer. Then, I saw the proverbial light bulb go on when a solution suggested itself, which led me to do some more extensive research into the subject.

As radio and electronics enthusiasts, we all are at least familiar with the concept of the Faraday cage and its usefulness in blocking RF energy. A Faraday cage is a container made of conducting material, such as wire mesh or metal plates, that shields what it encloses from external electric and electromagnetic fields. In experiments conducted by the neuro-science website **Backyard Brains (https://backyardbrains.com)**, Faraday cages were used to exclude RF from the environment in which they were conducting measurements of low-level neural signals. The cages proved satisfactory for this purpose, which means that they would also prove effective in blocking RF energy from penetrating into the skulls and therefore into the brains of radio operators.

Personal Safety - Continued on page 29

Personal Safety - Continued from page 28

The cages must, however, be properly applied and grounded. In addition, any effective Faraday cage used as protection for the human head can be tied into a protective system for the torso.

Commercially available apparel is available for this purpose, which gets us away from the old colander-helmet type of RF protection for the head. Today, the serious Faraday disciple can find metallic fabric-based garments to cover most if not all of the most radiation-sensitive portions of the human body.

The **Faraday Hood (Figure 2)** replaces the old-fashioned helmet just mentioned. This hood extends down enough to be overlapped by a torso-protective garment such as the **Faraday Shirts** shown in **Figure 3**, while **Figure 4** shows a **Faraday Hoodie**, which combines the head and torso protection into a single garment.

What the makers of these garments do not tell their customers is that these garments have only a very limited level of anticipated effectiveness if they are simply worn as ordinary garments would be. In order to gain the best protective advantage, the wearer should tie all of the protective garments together electrically with a bonding wire. That bonding wire should then run the full length (height) of the body by extending from the hood down to the groin, where the bonding cable is then bifurcated. One lead of the split cable will then run down each leg, going all the way down to the protective shoes, which have connection points for the bonding cable. These protective shoes also have metallic spikes that ensure a good earth connection as the wearer walks on soil, by projecting into the soil to complete the ground path from the hood.

The shoes discussed above are not the same as the so-called "grounding" or "earthing" shoes sold by health enthusiast stores as a means of reducing the body's level of free radicals through a connection with the planet's surface. Those shoes, while intended to provide a ground connection, are generally not spiked and they do not have a connector for the bonding wire from the upper-body protective garments. A *Google* search for "Faraday shoes" will return appropriate results to help you select the best shoes for you.

When all aspects of this article are considered, it would do the reader a great deal of good to remember that this article is in the April issue, and that the first day of that new month is traditionally set aside for a special purpose. If you can recognize or remember what that special purpose is, you will understand the motivation behind this article.

Figure 2 : Faraday Hood

Figure 3 : Faraday Shirts

Figure 4 : Faraday Hoodie

What Next With Meshtastic?

By Jon Pearce, WB2MNF

Club member involvement in developing the Meshtastic radio network has been quite high with more than a dozen Club members having nodes on the air that are working their way through the mesh. Once your callsign has made it onto the nodes list of the major network nodes, though, what's next? Fortunately there are many areas to pursue in this interesting aspect of the ham radio hobby.

Get the command line interface working

Initially most users use the default Bluetooth method of connecting to Meshtastic radio but this is somewhat clumsy and limits the available options. To truly utilize the radio you need to configure it with the **Command Line Interface (CLI)**. On a Windows PC your first step is to install **Python (https://www.python.org)** as instructed on their website. Then follow these **(https://meshtastic.org/docs/software/python/cli/installation)** instructions to install the Meshtastic command. Once that's done, open a cmd window and use these **(https://meshtastic.org/docs/software/python/cli/usage)** commands to configure the radio.

Improve the radio function

As hams we know a lot about radio, antennas, transmission lines, propagation and other similar areas, all of which come into play in getting a node successfully on the air. The antennas that come with most LoRa nodes are terrible - they usually resonate around 460 MHz and have a 3:1 SWR at the operating frequency. You can check this out with your own antennas on a VNA (come to the Clubhouse on a Saturday if you don't have one) and you can make a 70 cm ground plane antenna pretty easily. Decent commercial 433 MHz antennas are available from **AliExpress (https://bit.ly/3TW9T3O)** although shipping time is usually several weeks from China. Feedline length and type is also important at that frequency, and don't overlook the option to connect to the LoRa radio through a WiFi connection and locating the radio high in your house or outside to minimize the feedline loss. Waterproof housings, high-capacity batteries, and solar power are all options to improve your installation.

Build circuits with the LoRa radio

Most of the Meshtastic radios are built on an ESP-32 microcontroller and expose the pins on that controller that allow interaction with the Meshtastic program. This allows, for example, you to use the "external notification" commands to specify a specific GPIO pin on the device to go "high" (+3.3 volts) when someone sends you a message. You can then connect a LED or buzzer to that pin to notify you of incoming messages. You can also use those pins for the "remote hardware" functionality, meaning that you can have a remote station turn one of those pins on and off, and by connecting that pin to a relay you can control almost any device.

On some devices, particularly the popular Heltec V3 board, you can connect a 3.3 volt data source and enter data directly from that source to be sent by the device. This allows connection to a PC through a telnet connection (using a USB to 3.3v converter), a keyboard or a device like a Raspberry Pi (using a 5v to 3.3v level shifter, some of which are available at the Clubhouse) and push data from those sources directly out of the LoRa radio.

Dig into the messages using MQTT and Node Red

If you really want to start interacting with messaging, the best way is to install an MQTT server like Mosquitto on a computer (it works well on a Raspberry Pi), install the Node Red graphical programming package on that computer and use it to parse through the data sent by the radios to the MQTT server. **Mike Thompson KG4JYA** and I are deep into this and would be pleased to share our work to date with anyone interested. It's also a great opportunity to gain experience with Node Red, one of the most useful ham-related programming tools available.

Check out the Discord discussion group

Finally, there's a lively discussion group on **Discord (https://discord.com/invite/j6GjdcSF)** about this topic and several others. Jump in there, see what's happening and get some help on your project.

Amateur Radio Emergency Service : April 2024

Resources - News - Updates

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

Index :

1. Inspira Health

The **Director of Emergency Preparedness at Inspira**, **Don Martel Jr, N2SPW**, reached out to me at our General Membership Meeting in March. I was then invited to participate in a follow-up conference to discuss their current plan and how we can work together.

We will be preparing a Memo of Understanding (MOU), like the one developed by the ARRL, for the Delaware and/or Maryland Health Networks. We hope to start supporting Inspira in the very near future.

2. Why an EmComm Trailer?

We are still in the discussion phase of this project, to see if it is worthwhile.

There are many reasons for us to have a trailer to transport everything we need, when deployed to a Disaster Relief HQ. For example :

- Batteries, generator, radios, antennas, accessories, tools, etc.
- Stations : (2) HF, (2) VHF/UHF for both voice and data communications
- Telescopic masts for antennas, attached to the side of the trailer
- Space for two or three Operators
- Storage for cables, supplies, etc.
- No need to fill the trunk of your vehicle with all the above
- 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***

This will require Project Planning, Design, Funding, and Collaboration with several Served Agencies (i.e. Red Cross and Office of Emergency Management.

We will also need to determine a secure location to keep the trailer and resources to build out the trailer.

Any questions or desire to participate, please reach out to me.

SNJ ARES Update - Continued on page 32

SNJ ARES Update - Continued from page 31

3. ARES Resources

ARES Registration :

With the potential addition of providing EmComm to Inspira Health, we will need more Radio Amateurs.

If you have interest in the Gloucester County Amateur Radio Emergency Service Program, you can either download it from the **ARRL (https://www.arrl.org/ares) website** or reach out to me.

ARES Training

We will provide all the training you need found on the ARRL website. My suggestion is to register first by contacting me at **kd2nec@qsl.net**, then participate in the weekly ARES Net every Sunday evening at 2000 Hours on the 147.180 Repeater or EchoLink W2MMD-R. You do not need to be a registered ARES member to participate on the net. You can simply listen first to learn more about the ARES Training Net.

ARES Information

One of the best sources of information is to subscribe to **SNJEMCOM@GROUPS.IO**

When you first go to this website **(https://groups.io/g/SNJEMCOM)**, you will see the directions to subscribe and all the sources of information.

After registering, you will start receiving emails, from the Southern NJ Section Manager, Section Emergency Coordinator, and other EmComm participants. You will also receive invitation to a weekly exercise called WinLink Wednesday, an excellent way to learn to use the WinLink email system.

If you have any questions regarding ARES Registration, Training, or Sources of Information, please do not hesitate to send me an email or give me a call. My contact information is on the Club Roster List.

CWops Test (CWT) 2023 1900Z
November 22, 2023

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

Class : Single Op LP
QTH :
Operating Time (hrs) : 1
Location : USA

Summary :

Band	QSOs
20 :	37

Total : 37 Mults : 37
Total Score : 1,369

Club : Frankford Radio Club **75**

CWops Test (CWT) 2023 1300Z
November 29, 2023

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

Class : Single Op HP
QTH : SNJ
Operating Time (hrs) : .5
Location : USA

Summary :

Band	QSOs
80 :	11
40 :	14

Total : 25 Mults : 24
Total Score : 600
Club : Frankford Radio Club **80**

Announced DX Operations
www.ng3k.com/Misc/adxo.html
From The Shack of Bill Feidt, NG3K : www.ng3k.com

2024 Mar30	2024 Apr06	**Sint Maarten**	**PJ7** NEW	LoTW	TDDX 20240312	By KJ9B as PJ7/KJ9B fm nr Philipsburg; HF; mainly FT4 FT8
April						
2024 Apr04	2024 Apr14	**Pitcairn**	**VP6G**		DXW.Net 20230910	By PG5M; 40-10m; 40-10m; CW SSB FT8
2024 Apr05	2024 Apr07	**Mayotte**	**TO4VV**	LoTW	DXW.Net 20230902	By FH4VVK fm Quatier Cabaribere; HF; SSB FT8; QSL via Club Log OQRS or FH4VVK direct
2024 Apr06	2024 Apr16	**Liberia**	**A8OK**	LoTW	DXW.Net 20240302	By OK1BOA OK1FCJ OK1CRM OK1GK OK2ZA OK2ZC OK2ZI OK6DJ; 160-6m; SSB CW RTTY FT8 FT4 PSK; QSL via Club Log OQRS, OK6DJ
2024 Apr06	2024 Apr16	**Maldives**	**8Q7HZ**	LoTW	TDDX 20240212	By TA1HZ; 30-10m; SSB FT8 FT4
2024 Apr07	2024 Apr13	**South Cook Is**	**E51TLM**	K7TLM	DXW.Net 20240304	By K7TLM KD7YZE fm Rarotonga I; 10m; SSB on 28385 khz, QRS CW on 28060 khz; 5w; 1900- 0100 UTC; see qrz.com for QSL details
2024 Apr07	2024 Apr18	**Reunion**	**TO7PX** NEW	IK2DUW	TDDX 20240309	By IZ2DPX; 40-6m; SSB FT8; 100w; fishing rod antenna
2024 Apr12	2024 Apr14	**Mayotte**	**TO4VV**	LoTW	DXW.Net 20230902	By FH4VVK fm Quatier Cabaribere; HF; SSB FT8; QSL via Club Log OQRS or FH4VVK direct
2024 Apr12	2024 Apr21	**South Africa**	**ZS6**	LoTW	PB5X 20240226	By PB5X as ZS6/PB5X; @ZS6TT; HF; holiday style operation; QSL via PA1AW
2024 Apr16	2024 Apr30	**Austral Is**	**TX7W**	LoTW	DXW.Net 20240209	By K5WE W5CCP fm Raivavae (IOTA 114); 160-6m; CW FT8 FT4 SSB RTTY; 500w; QSL via Club Log OQRS (preferred) or K5WE
2024 Apr18	2024 Apr21	**Svalbard**	**JW8EKA**	LA8EKA	DXW.Net 20240103	By LA8EKA; @JW5E; 80-10m; SSB + digital
2024 Apr18	2024 May08	**Bhutan**	**A52**	Club Log OQRS	TDDX 20240109	By SP9FIH as A52P and SP6CIK as A52CI fm Dochula; 40-6m; SSB CW + digital
2024 Apr24	2024 May01	**Mariana Is**	**KH0**	LoTW	TDDX 20240202	By JH6HZH as KH0/W6HZH fm Garapan; 160-6m; FT8 CW SSB

Also for your convenience, there is a direct link to NG3K of 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

Replace Back Steps

Clubhouse :

- **Build Ramp**
- **Replace Interior Front Door**

Install 2 New VHF Towers

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 New Light Pole

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.

Amateur Radio Operators Needed For Help With Solar Eclipse Project

The **Case Amateur Radio Club, W8EDU (https://www.facebook.com/W8EDU)**, the club station at Case Western Reserve University in Cleveland, Ohio, is asking for amateur radio operators to help with a research project centered around the April 8, 2024, solar eclipse.

W8EDU club member Adam Goodman, W7OKE, said the project centers around studying the effects of the eclipse on propagation to better understand the recombination time of the ionosphere.

"To do this, we are recruiting North American amateur stations interested in recording the Canadian time standard station CHU (Canada's WWV) for two weeks surrounding the eclipse," added Goodman. "Anyone with a **KiwiSDR (http://kiwisdr.com)** or a rig that can interface with analysis/recording software such as **Fldigi (https://sourceforge.net/projects/fldigi)** is encouraged to reach out to us to participate."

W8EDU club member and project software manager Maris Usis, KE8TXG, said that while the software is simple to use, there is some detailed work involved. "We can help make it easier and there are good online instructions as well," said Usis.

All of the participation details are on the club's website at : **https://w8edu.wordpress.com/chu-eclipse-data-collection**.

W8EDU club faculty advisor David Kazdan, AD8Y, said the research project has received positive attention from the **ARRL Collegiate Amateur Radio Program community (https://www.arrl.org/collegiate-amateur-radio)**, the **Ham Radio Science Citizen Investigation (HamSCI - https://hamsci.org)** community, and Case Western Reserve University's engineering deans. "It is already a truly international effort, and we are collaborating with more than 20 stations across the continent, from collegiate and high school stations, to a representative from the Radio Amateurs of Canada, to a station in Mexico," said Kazdan.

The **2024 solar eclipse (https://www.timeanddate.com/eclipse/map/2024-april-8)** will over Mexico, the United States, and Canada. ARRL is a partner with HamSCI to help promote this opportunity for radio amateurs to participate in an active science experiment, through the Solar Eclipse QSO Party.

Article Credit : The ARRL Letter for February 22, 2024 - www.arrl.org

WAE DX Contest, RTTY 2023
November 11, 2023

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

Class : Single Op HP
QTH :
Operating Time (hrs) : 12
Location : USA

Summary :

Band	QSOs	QTCs	Mults
80 :	4	0	12
40 :	51	11	78
20 :	64	69	66
15 :	59	90	68
10 :	39	48	48
Total :	217	218	272

Total Score : 118,320

Club : Frankford Radio Club **69**

World Amateur Radio Day - April 18, 2024

For World Amateur Radio Day (WARD) on April 18, 2024, the **International Amateur Radio Union (IARU - https://www.iaru.org)** has chosen the theme, "A Century of Connections: Celebrating 100 years of Amateur Radio Innovation, Community and Advocacy." WARD is the day when IARU Member-Societies show their capabilities to the public and enjoy global friendship with other amateurs worldwide. The IARU was founded in Paris, France, in 1925, and it has worked to promote innovation in amateur radio and to encourage the growth of the Service in communities throughout the world. The IARU will celebrate its centenary in 2025.

IARU has represented amateur services at international and regional regulatory bodies **(https://bit.ly/3UPNWEv)** by relying on volunteers from many countries and communities. IARU has been a sector-member of the International Telecommunications Union (ITU) since 1932, and the work of their volunteers has successfully continued since that date. ARRL is a member of IARU Regions 3 and 2 because it represents the radio amateurs of Guam, the Northern Marianas, and American Samoa, which are located in Region 3. The administration of the IARU is performed by ARRL, which serves as the International Secretariat.

Article Credit : The ARRL Letter for February 22, 2024 - www.arrl.org

Full Pink Moon - Tuesday, April 23, 2024 @ 1951 Hours

This Moon heralded the appearance of the "moss pink" (Phlox subulata), also called wild ground phlox or creeping phlox - one of the first spring wildflowers. With spring thaws come the Algonquin Breaking Ice Moon and the Dakota Moon When the Streams are Again Navigable. When spring growth appears, so does the Budding Moon of Plants and Shrubs (Tlingit) and Moon of the Red Grass Appearing (Oglala).

Animals returning to the area inspired the Lakota name Moon When the Ducks Come Back. Certain Dakota peoples chose the name Moon When the Geese Lay Eggs.

Other names are Broken Snowshoe Moon (Anishinaabe), Frog Moon (Cree), and Sugar Maker Moon (Western Abenaki). Appearing either in April or May, Sucker Moon (Anishinaabe) refers to a time to harvest sucker fish, which return to streams or lake shallows to spawn.

According to legend, now is the time when this fish comes back from the spirit world to purify bodies of water and the creatures living in them. (This name may also be applied to the February Moon, to honor the sacrifice of the sucker fish in order to feed the Anishinaabe peoples, helping them to survive the winter.)

Old Farmer's Almanac - www.almanac.com

QST de W1AW
ARRL Bulletin 7 ARLB007
From ARRL Headquarters
Newington CT March 22, 2024
To all radio amateurs

SB QST ARL ARLB007 FCC to Require Two Factor Authentication for CORES Users

The Federal Communications Commission (FCC) has announced an upcoming change to the Commission Registration System (CORES) that licensees use to pay any application or regulatory fees, manage or reset a password on an existing FRN, or request a new FRN. Beginning March 29, 2024, multifactor authentication will be implemented. Users will be prompted to request a six-digit secondary verification code, which will be sent to the email address) associated with each username. The user will then need to enter the code into CORES before they can continue.

In a public notice, the FCC said this change will make the system more secure. "This additional layer of security will further safeguard against unauthorized access, thereby enhancing the overall integrity of information contained within the CORES system and improving the security of user data," it read.

The Public Notice can be found in PDF format at : **https://docs.fcc.gov/public/attachments/DA-24-219A1.pdf**

The FCC recommends that users confirm they have access to their username account email and to add a secondary email address, if need be.

Resources are available for those who need assistance with the system. For inquiries or assistance regarding the implementation of multifactor authentication on CORES, submit a help request at **https://www.fcc.gov/wtbhelp**, or call the FCC at 877-480-3201 (Monday through Friday, 8 AM to 6 PM ET).

WSJT-X Release Candidate 2.7.0-rc4

The WSJT-X development team has announced that Release Candidate WSJT-X 2.7.0-rc4 is ready for download by beta testers. Includes new features (especially for companion program QMAP) as well as bug fixes. A full list of enhancements can be found in the release notes at **https://wsjt.sourceforge.io/wsjtx-doc/Release_Notes_2.7.0-rc4.txt**.

Release Candidates are intended for beta testers. If you download and use WSJT-X 2.7.0-rc4, please remember to provide the developers with feedback on the new features in version 2.7, and on anything that does not seem to work properly. Direct links to installation packages for Windows, Linux, and macOS can be found on the WSJT-X website at **https://wsjt.sourceforge.io/wsjtx.html**. **Thanks to Joe Taylor, K1JT**

Article Credit : The ARRL Contest Update for March 11, 2024 - **www.arrl.org**

Volunteer Monitor Program Report - January 2024

The Volunteer Monitor (VM) Program is a joint initiative between ARRL and the FCC to enhance compliance in the Amateur Radio Service. This is the January 2024 activity report of the VM Program.

- An advisory notice was sent to an operator in Ohio for deliberate interference and use of a false call sign on 7.185 kHz.
- An advisory notice was sent to a repeater owner in New York City for operation of an AllStarLink network on the national calling frequency of 146.520 MHz.
- Operators in Georgia and Pennsylvania received advisory notices for out-of-band operation. The Georgia operator is a General and used 14.211 MHz on SSB for DX. General-class SSB frequencies on 20 meters start at 14.225 MHz. The operator in Pennsylvania worked SSB DX on 7.120 MHz. Forty-meter voice privileges start at 7.125 MHz.
- Two operators in Florida and one in West Virginia received advisory notices for improper bandwidth. The operators in Florida were 9 kHz wide, and the operator in West Virginia was 11 kHz wide. Section 97.307(a) of Commission rules states that "no station shall occupy more bandwidth than necessary for the information rate and emission being transmitted."
- An operator in Florida received an advisory notice for operation on a license that expired in 2022, and an operator in Iowa received an advisory notice for operation on a license that expired in 2014.
- The VM Program Administrator participated in two meetings with the FCC. One case was referred from the FCC to the VM Program for evidence gathering. A VM Program presentation was made to a club in Harrisburg, Pennsylvania.

The totals for December 2023 monitoring were 2,410 hours on HF frequencies, and 3,960 hours on VHF frequencies and above, for a total of 6,370 hours.

Thanks to Volunteer Monitor Program Administrator Riley Hollingsworth, K4ZDH

General Class Question Pool Update

The National Conference of Volunteer Examiner Coordinators (NCVEC) Question Pool Committee (QPC) has removed one General-class license question. The QPC of the NCVEC has deleted question **G1E09** from the General-class pool because they have determined the question is defective and must be withdrawn. They discovered that, as worded, the question is showing the wrong correct answer. Question **G1E09** must be withdrawn from the pool effective immediately and should be removed from examinations as soon as possible.

Updated question pool files, including the errata and new information, have been posted on the NCVEC General-class question pool web page at **https://www.ncvec.org/index.php/2023-2027-general-question-pool-release**. The current Element 3 General question pool became effective on July 1, 2023, and it is valid through June 30, 2027. The ARRL VEC advises the community to regularly check the NCVEC website at **http://www.ncvec.org** for updates to the question pools, which may include errata and withdrawn questions.

Article Credit : The ARRL Letter for March 7, 2024 - **www.arrl.org**

QST de W1AW
ARRL Bulletin 3 ARLB003
From ARRL Headquarters
Newington CT February 15, 2024
To all radio amateurs

SB QST ARL ARLB003 Senate Bill S.3690 Introduced to Eliminate Private Land Use Restrictions on Amateur Radio

On January 30, 2024, US Senators Roger Wicker (MS) and Richard Blumenthal (CT) introduced S.3690, the Senate companion bill to H.R.4006, introduced last June. Both bills reflect the Congressional campaign efforts by the ARRL to eliminate homeowner association land use restrictions that prohibit, restrict, or impair the ability of an Amateur Radio Operator to install and operate amateur station antennas on residential properties they own.

The text of bill S.3690 can be found at : **https://www.congress.gov/bill/118th-congress/senate-bill/3690/text** .

Amateur Radio Operators repeatedly are relied upon to provide essential communications when disaster strikes, but their ability to do so is being impaired by the exponential growth of residential private land use restrictions that hinder their ability to establish stations in their homes with which to train and provide emergency communications when called upon.

In announcing the introduction of S.3690, Senator Wicker said:"Because communication during natural disasters is often hindered, we should be making every attempt to give folks more options. Reliable access can make the difference between life and death in an emergency. Our legislation removes roadblocks for amateur radio operators looking to help their friends, families, and neighbors."

In a similar announcement, Senator Blumenthal stated : "Our measure will help clarify the rules so ham radio enthusiasts can successfully continue their communications. In the face of emergency or crisis, they help provide vital, life-saving information that allow listeners to properly and safely respond, but prohibitive home association rules and confusing approval processes for installing antennas have been an unnecessary impediment. The Amateur Radio Emergency Preparedness Act resolves these bottlenecks and ensures that radio operators can function successfully."

ARRL President Rick Roderick, K5UR, and Director John Robert Stratton, N5AUS, Chair of the ARRL's Government Affairs Committee, both extended on behalf of ARRL, its Members, and the Amateur Radio community their thanks and appreciation for the leadership of Senator Wicker and Senator Blumenthal in their continuing efforts to support and protect the rights of all Amateur Radio Operators.

OK/OM DX Contest, CW 2023
November 11, 2023

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

Class : SOAB HP
QTH : SNJ
Operating Time (hrs) : 2
Location : USA

Summary :

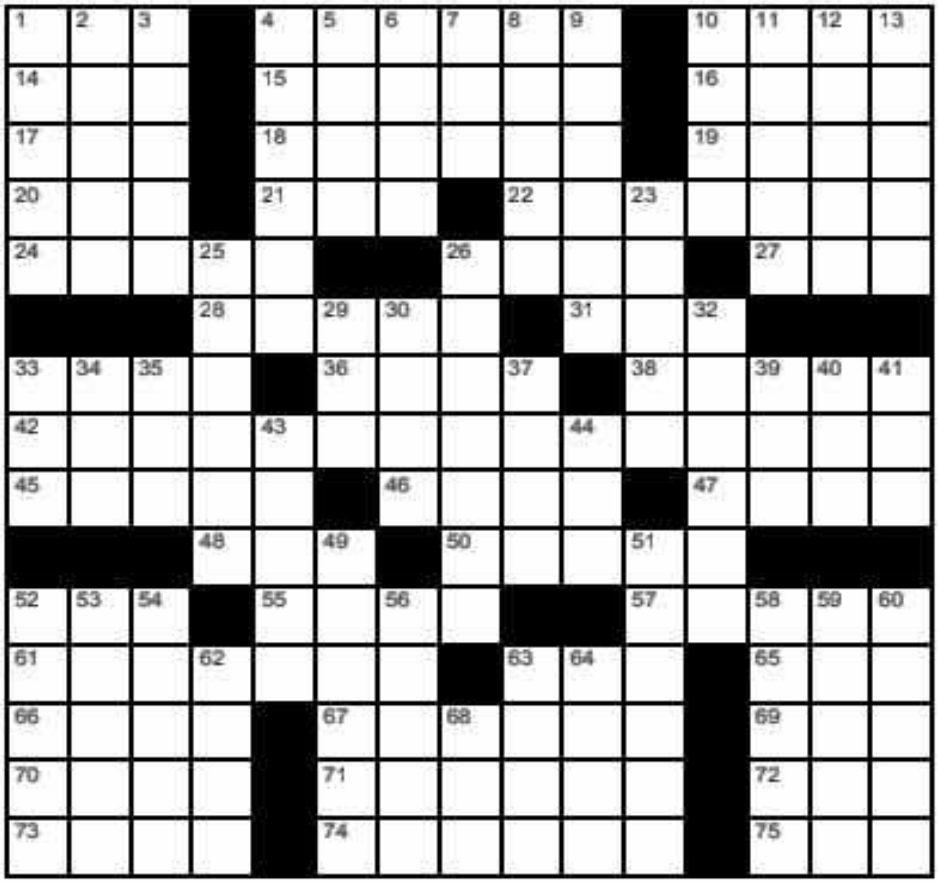
Band	QSOs	Mults
80 :	4	4
40 :	20	19
20 :	29	25
15 :	4	4
10 :	15	14
Total :	72	66

Total Score : 14,256

Club : Frankford Radio Club **68**

by Chris Codella, W2PA 4/6/2009

Handles



Crossword Puzzle courtesy of https://www.w2pa.com/Home/articles/crossword-puzzles

Across

1. New year's eve party
4. 32-down companion
10. Yagi, for one
14. What a keeper may keep
15. Throat ornaments
16. 1960s kit maker
17. Roman WARC band?
18. Demodulate
19. Horn sound
20. Top report, for short
21. Bigger than mins.
22. Coke flavor source
24. Superman player
26. Alternate G-land prefix
27. 86, 87 and 89 source
28. VU place
31. Pilot's prediction
33. ___ jacket
36. Venetian royal
38. 10m does it, with spots
42. This puzzle's subtheme
45. Uruguay prefix
46. Unpopular spots
47. Final (amp) resting place?
48. Elephant grp.
50. "Oh no!"
52. Sporadic E band
55. Zero
57. ARES's cousin
61. With anger
63. Bygone airline
65. Average name
66. Audio characteristics
67. Chicken
69. PQ leaders
70. "No ifs, ___ ..."
71. Epic name for SV folks
72. Gray
73. What crank-up sections do
74. 25-down variety
75. Gate type

Down

1. Benton Harbor lunchbox
2. Pet prefix?
3. Possible Indy prefix
4. Toledo team member
5. Say K
6. Grass shacks
7. Draft pick
8. Nutcase
9. Chemical class
10. Kind of test
11. Irish prefix
12. Inverter label
13. "Of, by and for the radio amateur", e.g.
23. Allow to be known
25. Leif Ericson's rig?
26. Like the Mystery Tour
29. Drill wielder: Abbr.
30. Zero place
32. Cochise's rig?
33. Eastern contest club
34. W6 airport
35. Brouhaha
37. IT9 erupter
39. W1 sect.
40. Batt. term.
41. ZP dir. from W2
43. Austrian prefix
44. Part of H.M.S.
49. Deep space object
51. Professor's aide
52. Big rig?
53. Moldovan prefix
54. Not 70-across
56. Spandex brand
58. Madison Avenue worker
59. 9Q-land
60. Benton Harbor lunchbox
62. Radiosport, for short
63. Math subj.
64. "Houston, ___ had a problem"
68. "?"

Answers on Page 55

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')

E5B01
What is the term for the time required for the capacitor in an RC circuit to be charged to 63.2% of the applied voltage or to discharge to 36.8% of its initial voltage?
A. An exponential rate of one
B. One time constant
C. One exponential period
D. A time factor of one

E5B02
What letter is commonly used to represent susceptance?
A. G
B. X
C. Y
D. B

E5B03
How is impedance in polar form converted to an equivalent admittance?
A. Take the reciprocal of the angle and change the sign of the magnitude
B. Take the reciprocal of the magnitude and change the sign of the angle
C. Take the square root of the magnitude and add 180 degrees to the angle
D. Square the magnitude and subtract 90 degrees from the angle

E5B04
What is the time constant of a circuit having two 220-microfarad capacitors and two 1-megohm resistors, all in parallel?
A. 55 seconds
B. 110 seconds
C. 440 seconds
D. 220 seconds

E5B05
What happens to the magnitude of a pure reactance when it is converted to a susceptance?
A. It is unchanged
B. The sign is reversed
C. It is shifted by 90 degrees
D. It becomes the reciprocal

E5B06
What is susceptance?
A. The magnetic impedance of a circuit
B. The ratio of magnetic field to electric field
C. The imaginary part of admittance
D. A measure of the efficiency of a transformer

Element 4 Amateur Extra Class Quiz - Continued on page 42

E5B07
What is the phase angle between the voltage across and the current through a series RLC circuit if XC is 500 ohms, R is 1 kilohm, and XL is 250 ohms?
A. 68.2 degrees with the voltage leading the current
B. 14.0 degrees with the voltage leading the current
C. 14.0 degrees with the voltage lagging the current
D. 68.2 degrees with the voltage lagging the current

E5B08
What is the phase angle between the voltage across and the current through a series RLC circuit if XC is 100 ohms, R is 100 ohms, and XL is 75 ohms?
A. 14 degrees with the voltage lagging the current
B. 14 degrees with the voltage leading the current
C. 76 degrees with the voltage leading the current
D. 76 degrees with the voltage lagging the current

E5B09
What is the relationship between the AC current through a capacitor and the voltage across a capacitor?
A. Voltage and current are in phase
B. Voltage and current are 180 degrees out of phase
C. Voltage leads current by 90 degrees
D. Current leads voltage by 90 degrees

E5B10
What is the relationship between the AC current through an inductor and the voltage across an inductor?
A. Voltage leads current by 90 degrees
B. Current leads voltage by 90 degrees
C. Voltage and current are 180 degrees out of phase
D. Voltage and current are in phase

E5B11
What is the phase angle between the voltage across and the current through a series RLC circuit if XC is 25 ohms, R is 100 ohms, and XL is 50 ohms?
A. 14 degrees with the voltage lagging the current
B. 14 degrees with the voltage leading the current
C. 76 degrees with the voltage lagging the current
D. 76 degrees with the voltage leading the current

E5B12
What is admittance?
A. The inverse of impedance
B. The term for the gain of a field effect transistor
C. The turns ratio of a transformer
D. The inverse of Q factor

CQ Worldwide DX Contest, SSB 2023
October 28, 2023

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

Class : SO(A)AB HP
QTH : SNJ
Operating Time (hrs) : 35
Location : USA

Summary :

Band	QSOs	Zones	Countries
160 :	8	3	3
80 :	79	12	53
40 :	134	17	64
20 :	279	25	93
15 :	574	29	106
10 :	393	29	122
Total :	1,497	115	441

Total Score : 2,283,482

Club : Frankford Radio Club **61**

Comments :
Rig : FTDX-9000D/OM Power 2000A+
Antennas :
160m inverted L over 100ft tree.
75m dipole @ 85ft
40m dipole @ 80ft
10/15/20m C3SS Force 12 tribander @ 52ft on AB-577 military mast
Operating time : 35 hours

Wow, wonderful to see 10m open for so long all weekend. This is my best all time score from a home QTH for the SSB part of CQWW. 10m was a record-setting number of country mults for me at 122, almost had dxcc on a 3rd band, 20m with 93. Great runs on 10m Sat and excellent runs on 15 for me Sun when 10 was not quite as good. 160 was a sad disappointment with 8Qs and 3 countries worked. High noise, and never could hear much of anything. I overslept Sat morning, and missed at least an hour of runs on 10m, but did well once I got started. Great to bust a few pileups ahead of better equipped stations and I was constantly hearing a lot of FRC members in the pileups. Really fun to watch the contest scoreboard in real time, it really adds fun to the mix, and gives you a ballpark idea of how you are doing. 10m was the money band for mults, but for me 15m was the money band for QSOs, almost 600.

Looking forward to the CQWW CW when I will be operating from Bermuda again as AB2E/VP9.

73 Darrell AB2E

CWops Test 2023 0300Z
November 9, 2023

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

Class : Single Op HP
QTH : SNJ
Operating Time (hrs) : 1
Location : USA

Summary :

Band	QSOs
80 :	10
40 :	63
Total :	73

Mults : 68
Total Score : 4,964

Club : Frankford Radio Club **66**

CWops Test 2023 1300Z
November 15, 2023

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

Class : Single Op HP
QTH : SNJ
Operating Time (hrs) : 1
Location : USA

Summary :

Band	QSOs
80 :	10
40 :	44
Total :	54

Mults : 49
Total Score : 42,646

Club : Frankford Radio Club **70**

Contest : CQWWSSB

Band	QSOs	Pts	ZN	Cty	Pt/Q
1.8	8	14	3	3	1.8
3.5	79	214	12	53	2.7
7	134	355	17	64	2.6
14	279	783	25	93	2.8
21	574	1,614	29	106	2.8
28	393	1,127	29	122	2.9
Total	1,467	4,107	115	441	2.8

Score : 2,283,492
1 Mult = 2.6 Q's

CQ Worldwide DX Contest, SSB 2023
October 28, 2023

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

Class : SO(A)AB HP
QTH : SNJ
Operating Time (hrs) : 33
Location : USA

Summary :

Band	QSOs	Zones	Countries
160 :	3	2	2
80 :	39	9	28
40 :	94	14	51
20 :	335	26	86
15 :	344	30	96
10 :	622	30	122
Total :	1,437	111	385

Total Score : 2,020,208

Club : Frankford Radio Club

62

Comments :
First time making 2 million points on phone. Not going to say it was easy, but great conditions on the higher bands really helped. Ten meters just kept producing. I am pretty sure I worked a few new countries this time. A new (to me) auto-tuning amplifier made band changes a snap! Hope things are this good next month for CW. 73 to all and thanks for the QSOs.

de K3TS

CWops Test 2023 1300Z
November 15, 2023

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

Class : Single Op LP
QTH :
Operating Time (hrs) : .5
Location : USA

Summary :

Band	QSOs
40 :	23

Total : 23 Mults : 23
Total Score : 529

71

Club : Frankford Radio Club

CQ Worldwide DX Contest, SSB 2023
October 28, 2023

Call : WM2Y
Operator (s) : WM2Y
Station : WM2Y

Class : SO(A)AB LP
QTH : FM29
Operating Time (hrs) : 18.6
Location : USA

Summary :

Band	QSOs	Zones	Countries
80 :	13	8	10
40 :	29	6	17
20 :	75	19	49
15 :	97	20	64
10 :	129	19	65
Total :	343	24	92

Total Score : 255,117

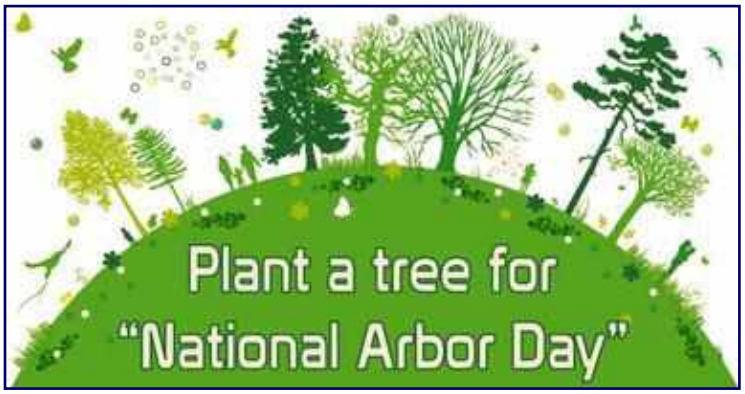
Club : Frankford Radio Club

63

Comments :
FTDX10@100 WATTS and a 80-10 wire end fed antenna. Fun Fun!

Here's my attempt at CQ WW DX SSB. It's always a fun one to try. Maybe in a couple of years I'll match Darrell's or Tony's scores. lol :)

I had some notable QSO's like
ZM1A - New Zealand
YJ0TT Vanuatu
E51JAN North Cook Island
Hawaii and Alaska on 10M
T2C- Tuvalu on 10 and 20m
Vk4A , VK1A, and VK4KW -Australia



Friday, April 26, 2024

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

Philadelphia/Mt Holly Skywarn : www.weather.gov/phi/skywarn
State College, PA Skywarn : www.weather.gov/ctp/skywarn
Pittsburgh, PA Skywarn : www.weather.gov/pbz/skywarn

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

Pittsburgh Skywarn Training - On-Line Webinar Classes

- **Virtual Basic Spotter Training**
- **Monday, April 15, 2024 @ 1830 - 2000 Hours**
- **Register Here : https://register.gotowebinar.com/register/4532597485199714654**

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

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

Any questions, please contact :
Warning Coordination Meteorologist Jonathan Guseman : jonathan.guseman@noaa.gov
Meteorologist John Banghoff : john.banghoff@noaa.gov

ARRL 10 Meter Contest 2023
December 9, 2023

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

Class : SO CW LP
QTH :
Operating Time (hrs) : 11
Location : USA

Summary :

Band	QSOs	Mults
CW :	230	81
SSB :	0	0
Total :	230	81

Total Score : 74,520

Club : Frankford Radio Club

85

Gloucester County Amateur Radio Club
General Membership Meeting Minutes
Wednesday, March 6, 2024

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

Attendance :

- **33 In-person**
- **20 Zoom**

Visitors :

- **Paul Cosenza KD2RDD Glassboro, NJ**
- **Alex Duboski KB2YEF Williamstown, NJ**
- **Don Martel Jr N2SPW**
- **Ron Fish KX1W (Zoom)**

New Members :

- **Michael Angelastro Cherry Hill, NJ**
- **George Badger W3AB Soquel, CA**
- **Jason Watkins KD2VVJ Sewell, NJ**
- **Art Strong KA0WS. Falkville, AL**

Announcements :

- **Jim Clark KA2OSV** is moving to South Carolina. The Club thanks Jim for his many years of service and wishes him the best in his new home.
- VHF Tower Fund appeal now closed, thanks to everyone that contributed.
- Discussion of possible STEM program participation with a local school district. More information needs to be gathered.
- Starting in April, General Membership Meetings will start at 19:00 (7:00PM).

Upcoming Events :

- Tech Saturday 3/9, Fox Hunt training starts at 10:00AM
- VEC Testing Thursday 3/14.
- TechNet Zoom Forum Monday 3/11, Subject : Meshtastic
- 30th Anniversary Fox Hunt Saturday 3/16 at the Clubhouse.
- Board of Directors meeting 3/20 at the Clubhouse

Member current activities or interesting items :

- **Chris Prioli AD2CS** reminded members using the Club radio stations under the W2MMD call to please send electronic logs of the activities to **Jim Wright N2GXJ** for upload.
- **John Zaruba Jr K2ZA** reported that Parks On The Air (POTA) is changing park designators to better align with ISO standards. It's a rolling update, US parks will go from K-*** to US-*** and some park code numbers will change. Please verify your park number before activation. See https://pota.app for more information.
- Thermal mugs with GCARC logo are now available, contact John K2ZA for details.

March 2024 General Membership Meeting Minutes - Continued on page 47

March 2024 General Membership Meeting Minutes - Continued from page 46

General Membership Meeting Minutes :

- Minutes of February 2024 General Membership Meeting as published in CrossTalk were approved by voice vote of members present.

Treasurer's report :

- **2024 YTD Operating Revenue and Expenses**
  - Operating Revenue : $9,217.30
  - Operating Expenses : $1,007.12
  - Net Operating Income : $8,210.18

GCARC Foundation Operating Revenue and Expenses :

- Revenue : $4,001.35
- Expenses : $965.89

Remarks :

- Motion to add a $2 convenience charge to cover the PayPal fees seconded and approved by voice vote of members present. Cash and check renewals still pay $30.

CLUBHOUSE REPORT :

Report : Al Arrison KB2AYU reported the VHF equipment is operational in a temporary condition, permanent installation will occur when the furniture has been installed.

DX AND CONTESTS :
Report : Tony Starr K3TS noted the recent ARRL DX contests were fantastic, lots of DX opportunities. Notable upcoming Contests, 10m South American contest, Russian DX contest, and the North American Sprint. See March 2024 CrossTalk for details.

PUBLIC SERVICE :
Report : Bob Keogh KD2NEC received training from the American Red Cross to drive one of their Emergency Response Vehicles. He also reported there may be an opportunity to receive a utility trailer for communications fit out. Needs to be discussed with the Board of Directors.

EDUCATION COMMITTEE :
Report : Chris Prioli AD2CS : Licensing classes will begin the week of April 22nd. Plenty of open seats for General and Extra, no one has signed up for the Extra class as yet. Advanced Surface Mount Soldering class being planned for the summer, details to follow.

NETS :

- Averaging 12 check ins for the Tuesday AfterNoon Net
- ARES net averaging 15 check ins.

TECHNICAL COMMITTEE :

- **Report : Meshtastic mesh networking equipment and ham radio applications.**

March 2024 General Membership Meeting Minutes - Continued on page 48

March 2024 General Membership Meeting Minutes - Continued from page 47

NEW BUSINESS :

- Club's 70cm repeater having issues, **Chris Prioli AD2CS** and **Earl Moore KC2NCH** to troubleshoot and report back.
- Field Day is 3 months away. We will share property again with Wine Fest. **Tony Starr K3TS** would like assurances from the 4-H that the same layout can be used again.

CLOSING REMARKS :

- **Noted : The Battleship New Jersey is being moved to dry dock on March 21st at 12:10PM (high tide).**

PRESENTATION :
ARRL SNJ Section Affiliated Club Coordinator Ron Fish KX1W with a short presentation and Q&A.

Meeting adjourned @ 2030 Hours

Respectfully submitted,
John Zaruba K2ZA, Recording Secretary

Gloucester County Amateur Radio Club Elmers

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

- **Tony Starr, K3TS : Antenna Construction; Contesting; CW Help and Training**
- **Ken Bozarth, KN2U : Antennas**
- **Jeff Welsh, KD2AZI : Boat Anchor Repair & Operation; Raspberry Pi; Arduino; Python; POTA; Mobile Installation & Operating**
- **Karl Frank, W2KBF : Digital Messaging (FLDIGI, WinLink)**
- **Lenny Rust, W2LJR : DMR Radios & Programming**
- **Ron Block, NR2B : Lightning protection & grounding**
- **Chris Prioli, AD2CS : Kit Building; Antenna Building; Radio Programming; PC and Electronic Troubleshooting; ham radio licensing & studying**
- **John Zaruba Jr, K2ZA : Yaesu System Fusion Radio Programming, 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, March 20, 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** Frank Romeo N3PUU : **Present**
- **Director (2022-2024)** Vacant
- **Director (2022-2024)** Jeffrey Garth WB2ZBN : **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** Mike Resnick N2WOQ : **Present**
- **Member** Tony Starr K3TS : **Present**
- **Member** Bruce Canino KD2LBU : **Present**
- **Member** Bob Keogh KD2NEC : **Present**

New Member Applications :

- **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**

Treasurer's Report :

- Income : $10,254.30
- Expense : $1,097.44
- Net : $9,156.86

Detailed financial statements are available for member review upon request.

Membership Committee :

- Discussion of membership renewals and outreach results.

March 2024 Board of Directors Meeting Minutes - Continued on page 50

Clubhouse Report :

- It's weed season again.
- With moderating weather, thoughts turn to installation of the new towers.
- Furniture design for VHF room completed.
- Discussion of tower base design and excavation plans.
- Discussion of VHF radio equipment installation and remote operation.

Repeaters :

- 440 repeater has been reset and seems to be working. Replacement repeater left in the water tower if needed.

Programs and Activities Committee :

- April - **John Zaruba Jr K2ZA** "POTA Activation"
- May - **Spencer Webb W2SW** "Irreverent Antennas"
- **Jim Wright N2GXJ** gave a report on the recent FOX Hunt training and event.
- **Tony Starr K3TS** reported on 2024 Field Day Preparations.

Education Committee :

- April 22, 2024 - Technician, General, and Amateur Extra classes begin.
- July 8, 2024 - Advanced Surface Mount Soldering classes begin.

Nets :

- Tuesday Afternoon Net : March 2024 averaged 9 check-ins
- Thursday Night Net : March 2024 averaged 9 check-ins

Old Business :

- **Jon WB2MNF** discussed next candidate for Club Appreciation award.

New Business :

- **Jon WB2MNF** discussed Director vacancy and appointed **Frank Romeo N3PUU** to fill it.
- **Mike Resnick N2WOQ** was appointed to fill Corresponding Secretary position.
- **Bob Keogh KD2NEC** - Discussion of Red Cross offer of utility trailer for possible retrofit as communication resource. More information needed but GCARC does not seem to be the proper organization to lead this project at this time.
- **Bill Price NJ2S** inquired about smoke detectors connected to the Clubhouse alarm system. Answered in the affirmative.
- Discussion of **Mike N2WOQ** and **Jon WB2MNF's** meeting with Upper Deerfield Township school district regarding the parameters of a STEM program.

Meeting adjourned @ 2027 Hours

Respectfully Submitted,
John Zaruba Jr K2ZA Recording Secretary

W2MMD Clubhouse Test & Repair Bench Equipment and Supplies

A Special Thank You to Chris AD2CS for donating the equipment and organizing these test benches

- YiHua 948 11-in-1 Solder Station
- Universal Screwdriver Set
- PanaVise PCB vise with full tilt and rotate on parts bin base
- 500 Watt Dummy Load
- 100 Watt Dummy Load
- Heathkit HD-1234 6-position Coax Switch with RG-213 jumpers
- Hook-up Wire :
  - 18 AWG stranded
  - 22 AWG solid and stranded
  - 24 AWG solid and stranded
- Bird 4304A Thruline Directional Wattmeter
- CMS BE-01 Battery Eliminator 1A/1.5-15V Power Supply
- 12 AWG Red/Black Dual Stranded ZIP Wire
- Simpson 260 Series 5 Analog Multimeter
- CMS ESR-01 Equivalent Series Resistance Meter
- Elenco DT-100 Diode & Transistor Tester
- TekPower TP50SW 50A/13.8V Power Supply
- Elenco XP-720 12.6VAC/5VDC/1.5-15VDC 3A/1A Power Supply
- RSR Electronix Express RSR-3040 15VAC/5VD/1.5-15VDC 3A/1A Power Supply
- BK Precision 1803D Frequency Counter
- KKmoon MHS-5225 Digital Arbitrary Waveform Signal Generator
- Exact 121 Analog Signal Generator
- Greenlee DM-510A Handheld Digital Multimeter
- HP 34410A Benchtop Digital Multimeter
- BK Precision 1655 Variable isolated AC Supply
- CMS Dim Bulb Current Limiter - 100 Watt
- CMS BDST-01 Signal Tracer
- CMS CRTT-01 Gas-charged Voltage Regulator Tube Tester
- Conar 224 Tube Tester
- GW LCR-814 LCR Meter
- Siglent SDS-1102CML+ Digital Storage Oscilloscope
- DX Engineering Coaxial Cable Gripper and Stripper (RG-8U / RG-213)
- DX Engineering Coaxial Cable Cutter, Trimmer, and Crimper (RG-8U / RG-213)
- DX Engineering RG-8X Die Set for Coaxial Cable Crimper
- Adjustable Wrench Set for Slotted/Recessed Round Nuts
- Speedwox Miniature Box Wrench Sets, Metric and SAE
- 69238 Nut Driver Set, Metric
- 69239 Nut Driver Set, SAE
- Velleman K-8115 Universal Component Tester
- Anderson Powerpole® Connector Assortment
- Anderson Powerpole® Crimping Tool
- Heat Shrink Tube Assortment, cut lengths
- Ring Terminal Assortment
- Alignment Tool Set
- Craftsman Wire Cutter/Crimper
- Craftsman 6-piece Pliers Set
- Laptop PC
- Programming Cable Sets (2)
- Test Lead Set
- Oscilloscope Probe Set

Highlights of the Tape-Measure Yagi and Offset Attenuator Building Classes

Electronic Tool Tip #6 - Solder Wick & Flux

By Chris Prioli, AD2CS - chris@ad2cs.com - www.ad2cs.com

When it comes to removing solder from a joint or a PCB, sometimes using solder wick is the quickest and easiest way to go. This is especially true when working with SMD component installation and removal, and with cleaning the PCB pads after an SMD component has been removed.

Solder wick is a flat braided length of fine copper wire strands, available in various widths and also in various spool sizes. The better solder wicks are pre-impregnated with rosin flux, but even they can stand an occasional boost of additional flux to really get the solder flowing up the wick.

The braid is laid in place on the solder to be removed, and heat from a soldering iron is applied to the braid, moving the iron on the braid, and sometimes moving the braid itself, as necessary to absorb the desired solder from the joint.

Solder wick must be clean in order to do its job, so for best results, cut off the used portion frequently as you work. Rosin flux can be added before the wick is applied, or it may be applied directly onto the wick braid. Either method will get the job done.

I prefer the braid marketed by **NTE Electronics of Bloomfield, NJ** as their part number **SW02-10**, which is a ten-foot length of the 0.098”-wide braid on a convenient plastic dispensing spool. It is of a high quality and it always does the job without the strands separating as some other brands will do. I rarely need to add additional flux with this brand of solder wick, but with some other brands, flux must be added every time it is used, almost as if the wick has no flux in it at all.

One brand of rosin flux that I like is **ChipQuik part number NC191**. This product comes in a capped syringe and includes the plunger, a dispensing tip, and a cap for the dispensing tip. I remove the plunger and the dispensing tip from the syringe after each use, and store the whole shooting match in its original heavy-gauge zipper-type plastic pouch, with the original syringe cap put back in place on the business end of the syringe. I also highly recommend the use of a more free-flowing liquid rosin flux such as the **GC Electronics 10-4202 Liquid Solder-Flux**. I typically purchase this in a brush-cap bottle. The part number cited above will get you a two fluid ounce bottle of this flux. Note that clean-up of rosin flux and its residue can most easily be accomplished through the use of 99.9% isopropyl alcohol (IPA), scrubbing with a toothbrush as needed to get the stubborn areas clean.

These items are widely available online, from suppliers ranging from **Amazon** and **Jameco** to **Mouser** and **Digikey**. Pricing is approximately $10 (USD) for the **ChipQuik** rosin flux, $20 (USD) for the **GC Electronics** rosin flux, and $7 (USD) for the solder wick, all as described above, from **Digikey**.

Go to **www.digikey.com** to investigate these items for yourself.

Sussex Amateur Radio Association
- APRIL 20, 2024 -
Delmarva Amateur Radio & Electronics EXPO

Centrally and conveniently located...within 2 to 3 hours of major cities:
Baltimore, Philadelphia, Wilmington, Washington DC, and Virginia Beach as well as Eastern PA and Southern NJ

NO SALES TAX - MORE VALUE FOR VENDORS AND GUESTS - FREE PARKING
Bring The Family And Enjoy A Weekend At The Beach!

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

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

Guests Pay $8 To Enter!
(Under 18 FREE!)
Inside spaces $15.00 - 1st Table
Tailgaters : $15.00 - First Space

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

Schedule

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

Speakers Forums
ARRL Update
Others

TALK-IN: SARA Repeater
147.090 mHz PL 156.7

Schedule subject to change

For Information
Contact Jamie, W3UC
(410) 202-7690
hamfestdelaware@gmail.com

HAMFEST LOCATION:

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

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

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

www.radioelectronicsexpo.com
Follow us on Facebook at Delmarva Amateur Radio & Electronics

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

Name/Callsign	DXCC
Bill Grim, W0MHK	352
Edward De Fonzo, W2DE	339
Darrell Neron, AB2E	334
John Hill, W2HUV	271
Vinnie Sallustio, N4NYY	262
Gary Castellini, N2IEC	250
Ken Denson, WB2P	248
Jim Wright, N2GXJ	235
Tony Starr, K3TS	231
Sheldon Parker, K2MEN	230
Dennis Sandole, K2SE	204
Matt Wilson, K2MFW	201
Howard Marder, WA2IBZ	152
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
Updated As Of 03/22/2024	

S	K	N	■	M	O	H	A	W	K	■	B	E	A	M
I	N	N	■	U	V	U	L	A	E	■	E	I	C	O
X	I	I	■	D	E	T	E	C	T	■	T	O	O	T
E	N	N	■	H	R	S	■	K	O	L	A	N	U	T
R	E	E	V	E	■	■	M	O	N	E	■	E	T	O
■	■	■	I	N	D	I	A	■	E	T	A	■	■	■
F	L	A	K	■	D	O	G	E	■	O	P	E	N	S
R	A	D	I	O	S	W	I	T	H	N	A	M	E	S
C	X	O	N	E	■	A	C	N	E	■	C	A	G	E
■	■	■	G	O	P	■	A	A	R	G	H	■	■	■
T	E	N	■	N	U	L	L	■	■	R	E	A	C	T
I	R	A	T	E	L	Y	■	T	W	A	■	D	O	W
T	O	N	E	■	S	C	A	R	E	D	■	M	N	O
A	N	D	S	■	A	R	G	I	V	E	■	A	G	E
N	E	S	T	■	R	A	N	G	E	R	■	N	O	R

Crossword Puzzle Answers From Page 40

"Ask not what your Club can do for you,
Ask what you can do for your Club"
- KA2OSV

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

W2MMD Clubhouse : (856) 244-6914

(Please, no car warranty calls!)

April Birthdays

Congratulations To Our Members Who Are Celebrating A Birthday This Month

Lance Appel, KE2UC
Ron Block, NR2B
Irma Colabrese, N2FNF
Ralph Daggan III, KE2AHX
Doug Dersch, KD2VQA
Marc Federici, WM2Y
Tim Furey Sr, KE2AHY
John Gordon, WA2RHJ
Dan Goulianos, KE2BPK
Calvin Keller, N2YMS
Tom Litle Sr, AB2YG
Jerry Marinacci, KE2CK
Frank Mayer, W2SDR
Ray Metzger, AI2B (President 1978)
Jerry Milden, K2OOO
Phil Nunzio, WA3RGY
John O'Connell, K2QA
Aimee Ortiz, K9RVT
Lee Quarella, ND2G
Mike Resnick, N2WOQ
Frank Romeo Jr, N3PUU
Greg Sleet
Bob Snyder, N2KGO
Jackson Snyder, AI2D
Jeff Thomson, NJ2JT

In Memoriam : April Birthdays

Robert Anstatt, WB2CPL
Stanley Christman, KB2DW

Gurdon Cooper, AA4N
(President 1966, Charter Member)

Frederick Cowgill, WB2GEK
Daniel Damiano, KC2ELC
Harry English III, N2JIB
Milton Frantz Jr, K2MXF
Gerald Friedman, KB2DHQ
Mark Gennovario, K2UMF
Norman Harbison Jr, K2NH
William King, N2STQ
Leonard Kravitz, KD2CR
Thomas McCormick, WA2OZH
Whitney Myers, KB2ZTL
Thomas Oakman, WV8TDO
Martin O'Grady, N2FPO
David Riker, WA2KOH
Laurence Rockhill, WA2SJG
Leonard Staab IV
Edwin Stetser Sr, K2JJC (Charter Member)
Keith Waltman, W2ERP
Lester Wolf, W2OM
William Wyatt Sr, N2WIB

April 2024 Contest Calendar - WA7BNM Contest Calendar : www.contestcalendar.com

April 2024	
K1USN Slow Speed Test	0000Z-0100Z, Apr 1
IRTS 70cm Counties Contest	1300Z-1330Z, Apr 1
ICWC Medium Speed Test	1300Z-1400Z, Apr 1
IRTS 2m Counties Contest	1330Z-1500Z, Apr 1
DARC Easter Contest	1500Z-1729Z, Apr 1
OK1WC Memorial	1630Z-1729Z, Apr 1
ICWC Medium Speed Test	1900Z-2000Z, Apr 1
144 MHz Spring Sprint	1900 local - 2300 local, Apr 1
Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 2
ARS Spartan Sprint	0100Z-0300Z, Apr 2
ICWC Medium Speed Test	0300Z-0400Z, Apr 2
ZL Sprint	0800Z-0829Z (CW), Apr 2 and 0830Z-0859Z (SSB), Apr 2
QRP Fox Hunt	0200Z-0330Z, Apr 3
Phone Weekly Test	0230Z-0300Z, Apr 3
A1Club AWT	1200Z-1300Z, Apr 3
CWops Test	1300Z-1400Z, Apr 3
Mini-Test 40	1700Z-1759Z, Apr 3
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Apr 3
Mini-Test 80	1800Z-1859Z, Apr 3
CWops Test	1900Z-2000Z, Apr 3
UKEICC 80m Contest	2000Z-2100Z, Apr 3
Walk for the Bacon QRP Contest	0000Z-0100Z, Apr 4 and 0200Z-0300Z, Apr 5
CWops Test	0300Z-0400Z, Apr 4
CWops Test	0700Z-0800Z, Apr 4
SARL 80m QSO Party	1700Z-2000Z, Apr 4
NRAU 10m Activity Contest	1800Z-1900Z, Apr 4 (CW) and 1900Z-2000Z, Apr 4 (SSB) and 2000Z-2100Z, Apr 4 (FM) and 2100Z-2200Z, Apr 4 (Dig)
SKCC Sprint Europe	2000Z-2200Z, Apr 4
NCCC FT4 Sprint	0100Z-0130Z, Apr 5
Weekly RTTY Test	0145Z-0215Z, Apr 5
QRP Fox Hunt	0200Z-0330Z, Apr 5
NCCC Sprint	0230Z-0300Z, Apr 5
K1USN Slow Speed Test	2000Z-2100Z, Apr 5
PODXS 070 Club PSK 31 Flavors Contest	1000Z, Apr 6 to 0400Z, Apr 7
RSGB FT4 International Activity Day	1200Z, Apr 6 to 1200Z, Apr 7
Georgia State Parks on the Air	1200Z, Apr 6 to 2359Z, Apr 7
EA RTTY Contest	1200Z, Apr 6 to 1200Z, Apr 7
Missouri QSO Party	1400Z, Apr 6 to 0400Z, Apr 7 and 1400Z-2000Z, Apr 7
Florida State Parks on the Air	1400Z-2200Z, Apr 6 and 1400Z-2200Z, Apr 7
Mississippi QSO Party	1400Z, Apr 6 to 0200Z, Apr 7
Louisiana QSO Party	1400Z, Apr 6 to 0200Z, Apr 7
SP DX Contest	1500Z, Apr 6 to 1500Z, Apr 7
WAB 3.5/7/14 MHz Data Modes	1000Z-1400Z, Apr 7 and 1700Z-2100Z, Apr 7
K1USN Slow Speed Test	0000Z-0100Z, Apr 8
ICWC Medium Speed Test	1300Z-1400Z, Apr 8
Solar Eclipse QSO Party	1400Z-2400Z, Apr 8
OK1WC Memorial	1630Z-1729Z, Apr 8
ICWC Medium Speed Test	1900Z-2000Z, Apr 8
RSGB 80m Club Championship, CW	1900Z-2030Z, Apr 8
Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 9
ICWC Medium Speed Test	0300Z-0400Z, Apr 9
ZL Sprint	0800Z-0829Z (CW), Apr 9 and 0830Z-0859Z (SSB), Apr 9
DARC RTTY Sprint	1800Z-1929Z, Apr 9
NAQCC CW Sprint	0030Z-0230Z, Apr 10
Phone Weekly Test	0230Z-0300Z, Apr 10
A1Club AWT	1200Z-1300Z, Apr 10
CWops Test	1300Z-1400Z, Apr 10
Mini-Test 40	1700Z-1759Z, Apr 10
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Apr 10
Mini-Test 80	1800Z-1859Z, Apr 10
CWops Test	1900Z-2000Z, Apr 10
CWops Test	0300Z-0400Z, Apr 11
CWops Test	0700Z-0800Z, Apr 11
NCCC FT4 Sprint	0100Z-0130Z, Apr 12
Weekly RTTY Test	0145Z-0215Z, Apr 12
NCCC Sprint	0230Z-0300Z, Apr 12
K1USN Slow Speed Test	2000Z-2100Z, Apr 12
QRP ARCI Spring QSO Party	0000Z-0600Z, Apr 13
JIDX CW Contest	0700Z, Apr 13 to 1300Z, Apr 14
IG-RY World Wide RTTY Contest	1200Z, Apr 13 to 1800Z, Apr 14
DIG QSO Party, CW	1200Z-1700Z, Apr 13 (20m-10m) and 0700Z-0900Z, Apr 14 (80m) and 0900Z-1100Z, Apr 14 (40m)
OK/OM DX Contest, SSB	1200Z, Apr 13 to 1200Z, Apr 14
SKCC Weekend Sprintathon	1200Z, Apr 13 to 2400Z, Apr 14
New Mexico QSO Party	1400Z, Apr 13 to 0200Z, Apr 14
Africa FT4 DX Contest	1500Z-1800Z, Apr 13
North Dakota QSO Party	1800Z, Apr 13 to 1800Z, Apr 14
Georgia QSO Party	1800Z, Apr 13 to 0359Z, Apr 14 and 1400Z-2359Z, Apr 14
Yuri Gagarin International DX Contest	2100Z, Apr 13 to 2059Z, Apr 14
Hungarian Straight Key Contest	1500Z-1600Z, Apr 14
K1USN Slow Speed Test	0000Z-0100Z, Apr 15
4 States QRP Group Second Sunday Sprint	0000Z-0200Z, Apr 15
ICWC Medium Speed Test	1300Z-1400Z, Apr 15
OK1WC Memorial	1630Z-1729Z, Apr 15

April 2024 Contest Calendar - Continued on page 58

April 2024 Contest Calendar - Continued from page 57

ICWC Medium Speed Test	1900Z-2000Z, Apr 15
Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 16
ICWC Medium Speed Test	0300Z-0400Z, Apr 16
ZL Sprint	0800Z-0829Z (CW), Apr 16 and 0830Z-0859Z (SSB), Apr 16
222 MHz Spring Sprint	1900 local - 2300 local, Apr 16
Phone Weekly Test	0230Z-0300Z, Apr 17
A1Club AWT	1200Z-1300Z, Apr 17
CWops Test	1300Z-1400Z, Apr 17
Mini-Test 40	1700Z-1759Z, Apr 17
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Apr 17
Mini-Test 80	1800Z-1859Z, Apr 17
CWops Test	1900Z-2000Z, Apr 17
RSGB 80m Club Championship, SSB	1900Z-2030Z, Apr 17
Walk for the Bacon QRP Contest	0000Z-0100Z, Apr 18 and 0200Z-0300Z, Apr 19
CWops Test	0300Z-0400Z, Apr 18
CWops Test	0700Z-0800Z, Apr 18
NTC QSO Party	1900Z-2000Z, Apr 18
NCCC FT4 Sprint	0100Z-0130Z, Apr 19
Weekly RTTY Test	0145Z-0215Z, Apr 19
NCCC Sprint	0230Z-0300Z, Apr 19
K1USN Slow Speed Test	2000Z-2100Z, Apr 19
Holyland DX Contest	2100Z, Apr 19 to 2059Z, Apr 20
ES Open HF Championship	0500Z-0859Z, Apr 20
Worked All Provinces of China DX Contest	0600Z, Apr 20 to 0559Z, Apr 21
YU DX Contest	0700Z, Apr 20 to 0659Z, Apr 21
Dutch PACCdigi Contest	0700Z to 1900Z, Apr 20
QRP to the Field	0800-1800 local, Apr 20
CQMM DX Contest	0900Z, Apr 20 to 2359Z, Apr 21
Nebraska QSO Party	1100Z, Apr 20 to 2259Z, Apr 21
Texas State Parks on the Air	1400Z, Apr 20 to 0200Z, Apr 21 and 1400Z-2000Z, Apr 21
Michigan QSO Party	1600Z, Apr 20 to 0400Z, Apr 21
EA-QRP CW Contest	1700Z-1800Z, Apr 20 (10m) and 1800Z-1900Z, Apr 20 (15m) and 1900Z-2000Z, Apr 20 (20m) and 2000Z-2100Z, Apr 20 (40m) and 2100Z-2300Z, Apr 20 (80m) and 0700Z-0900Z, Apr 21 (40m) and 0900Z-1000Z, Apr 21 (20m) and 1000Z-1100Z, Apr 21 (15m) and 1100Z-1200Z, Apr 21 (10m)
Ontario QSO Party	1800Z, Apr 20 to 0500Z, Apr 21 and 1200Z-1800Z, Apr 21
Feld Hell Sprint	1800Z-2159Z, Apr 20
International Vintage Contest HF	0700Z-1100Z, Apr 21 and 1500Z-1900Z, Apr 21
Quebec QSO Party	1200Z-2200Z, Apr 21
ARRL Rookie Roundup, SSB	1800Z-2359Z, Apr 21
Run for the Bacon QRP Contest	2300Z, Apr 21 to 0100Z, Apr 22
K1USN Slow Speed Test	0000Z-0100Z, Apr 22
ICWC Medium Speed Test	1300Z-1400Z, Apr 22
OK1WC Memorial	1630Z-1729Z, Apr 22
ICWC Medium Speed Test	1900Z-2000Z, Apr 22
Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 23
ICWC Medium Speed Test	0300Z-0400Z, Apr 23
ZL Sprint	0800Z-0829Z (CW), Apr 23 and 0830Z-0859Z (SSB), Apr 23
SKCC Sprint	0000Z-0200Z, Apr 24
Phone Weekly Test	0230Z-0300Z, Apr 24
A1Club AWT	1200Z-1300Z, Apr 24
CWops Test	1300Z-1400Z, Apr 24
Mini-Test 40	1700Z-1759Z, Apr 24
Mini-Test 80	1800Z-1859Z, Apr 24
CWops Test	1900Z-2000Z, Apr 24
432 MHz Spring Sprint	1900 local - 2300 local, Apr 24
UKEICC 80m Contest	2000Z-2100Z, Apr 24
CWops Test	0300Z-0400Z, Apr 25
CWops Test	0700Z-0800Z, Apr 25
RSGB 80m Club Championship, Data	1900Z-2030Z, Apr 25
NCCC FT4 Sprint	0100Z-0130Z, Apr 26
Weekly RTTY Test	0145Z-0215Z, Apr 26
NCCC Sprint	0230Z-0300Z, Apr 26
K1USN Slow Speed Test	2000Z-2100Z, Apr 26
10-10 Int. Spring Contest, Digital	0001Z, Apr 27 to 2359Z, Apr 28
UK/EI DX Contest, CW	1200Z, Apr 27 to 1200Z, Apr 28
SP DX RTTY Contest	1200Z, Apr 27 to 1200Z, Apr 28
Helvetia Contest	1300Z, Apr 27 to 1259Z, Apr 28
Florida QSO Party	1600Z, Apr 27 to 0159Z, Apr 28 and 1200Z-2159Z, Apr 28
UA1DZ Memorial Cup	1300Z-1859Z, Apr 28
BARTG Sprint 75	1700Z-2059Z, Apr 28
K1USN Slow Speed Test	0000Z-0100Z, Apr 29
QCX Challenge	1300Z-1400Z, Apr 29
ICWC Medium Speed Test	1300Z-1400Z, Apr 29
OK1WC Memorial	1630Z-1729Z, Apr 29
ICWC Medium Speed Test	1900Z-2000Z, Apr 29
RSGB FT4 Contest	1900Z-2030Z, Apr 29
QCX Challenge	1900Z-2000Z, Apr 29
Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 30
ICWC Medium Speed Test	0300Z-0400Z, Apr 30
QCX Challenge	0300Z-0400Z, Apr 30
ZL Sprint	0800Z-0829Z (CW), Apr 30 and 0830Z-0859Z (SSB), Apr 30

2024 Club Committees

Standing Committees	Committee Chairs
Budget	**John O'Connell, K2QA**
Constitution & By-Laws	**Ron Block, NR2B**
Education	**Chris Prioli, AD2CS**
Field Day	**Tony Starr, K3TS**
Hamfest	**Sheldon Parker, K2MEN and Bill Price, NJ2S**
Health, Welfare, & Silent Keys	**Bill Price, NJ2S**
Hospitality	**Jeff Garth, WB2ZBN**
Membership	**Chris Prioli, AD2CS**
Membership Badges	**Chris Prioli, AD2CS**
Nominations	**Jon Pearce, WB2MNF**
Publicity	**Tony Starr, K3TS**
Repeaters	***Open Chair***
W2MMD Clubhouse Site	**Al Arrison, KB2AYU**

Activity Committees	Committee Chairs
Awards & Certificates	**GCARC Board of Directors**
Club Photographer	**Phil Nunzio, WA3RGY**
Club Publications & Historian	**Jeff Garth, WB2ZBN**
Contests	**Tony Starr, K3TS**
DX	***Open Chair***
GCARC Family Picnic	***Open Chair***
GCARC Foxhunts	**Jim Wright, N2GXJ**
GC-ARES Emergency Coordinator	**Bob Keogh, KD2NEC**
Holiday Dinner Party	**Frank Romeo, N3PUU & Kathy Romeo**
License Testing/VEC Liaison	**Gary Reed, N2QEE**
Membership Roster Database	**Jeff Garth, WB2ZBN**
Programs : General Membership Meetings	**Ron Block, NR2B**
Radio Nets	***Open Chair***
Technical & Tech Saturday Programs	**Jon Pearce, WB2MNF**
W2MMD License Trustee	**Darrell Neron, AB2E**
W2MMD Special Event Station	**Mark Gottlieb, KK2L**

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

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

The W2MMD Repeaters

2 Meter Repeater
Output : 147.180 MHz
Input : 147.780 MHz
Offset : +600 kHz - PL : 131.8 Hz
(Conventional FM plus C4FM Capability)
EchoLink : W2MMD-R

70 cm Repeater
Output : 442.100 MHz
Input : 447.100 MHz
Offset : +5 MHz - PL : 131.8 Hz
(Conventional FM plus C4FM Capability)

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

1.25 Meter Repeater
Output : 224.660 MHz
Input : 223.060 MHz
Offset : -1.6 MHz - PL : 131.8 Hz
Location : Sewell, NJ
GPS : 39.746738°, -75.077094°

SKYWARN™ Net
Sunday @ 1930 : 147.180 MHz Repeater

Gloucester County ARES Net
Sunday @ 2000 : 147.180 MHz Repeater

GCARC TechNet ZOOM Forum
2nd Monday of Every Month @ 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, April 3, 2024
1900 Hours
Pfeiffer Community Center
Simulcast Live on ZOOM
Meeting ID : 943 0211 9674
Passcode : 843147

Board of Directors Meeting
Wednesday, April 17, 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

APRIL FOOL'S, IT'S NOT HERE!!!