CrossTalk

June 2023 64 Years Of Service To Our Community Issue 64:06

A

2023 Club Officers

President :	**Jonathan Pearce, WB2MNF**
Vice President :	**Ronald Block, NR2B**
Treasurer :	**Alan Arrison, KB2AYU**
Recording Secretary :	**Karl Frank, W2KBF**
Corresponding Secretary :	**Frank Romeo, N3PUU**

Trustees - 4 Year Term

Mark Gottlieb, KK2L	***(2020-2023)***
Carl Wittig, N2CRW	***(2021-2024)***
Charles Lanard, KD2EIB	***(2022-2025)***
John O'Connell, K2QA	***(2023-2026)***

Directors - 3 Year Term

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

General Membership Meeting
Wednesday, June 7, 2023 @ 1930 Hours
ZOOM Meeting Only

Tech Saturday Forum
Saturday, June 10, 2023 @ 0900 Hours
W2MMD Clubhouse

GCARC TechNet ZOOM Meeting
Summer Hiatus - Back in September

GCARC HelpNet ZOOM Meeting
Sporadic Mondays @ 1930 Hours

License Testing Session
Thursday, June 8, 2023 @ 1900 Hours
W2MMD Clubhouse

Board of Directors Meeting
Wednesday, June 21, 2023 @ 1900 Hours
W2MMD Clubhouse

ARRL Field Day : June 24 & 25, 2023

Dinner @ The W2MMD Clubhouse
Wednesday, June 28, 2023 @ 1800 Hours

Tuesday Noon Day 2 Meter Net
Every Tuesday @ 1200 Hours

Tuesday & Thursday Night 10 Meter Net
1930 Hours - 28.465 or 28.475 MHz

Thursday Night 2 Meter Net
Every Thursday @ 2000 Hours

Inside This Issue…

ARRL Field Day 2023

Celebrating 64 Years Of Service To Our Community & Amateur Radio

ARRL Affiliated & Special Services Club

Ham Radio Open House!

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

What : Radio Field Day, National 24-Hour Operating Event

Where : Gloucester County 4H Fairgrounds
235 Bridgeton Pike (Route 77), Mullica Hill, NJ

When : Saturday, June 24, 2023 4-6pm Open House

Curious about ham radio? This is the event for you!
Family Friendly! Visitors Welcome!

What might you see? Come on out and see for yourself how far a radio wave might travel on just 100 watts and a piece of wire for an antenna, and how digital technologies are transforming this into a growing hobby shared by over 750,000 licensed enthusiasts in the United States alone. During this event, FCC licensed amateur radio operators (Hams) will be setting up with off-the-grid power and portable radios in the field to establish voice, digital, and code connectivity with thousands of other hams setting up to do the same, both here in the Philadelphia area, and all over the United States and Canada this same weekend.

What's the goal? To learn how to operate in abnormal situations and in less than optimal conditions as training to meet the challenges of emergency preparedness, while showcasing the capabilities of Amateur Radio to be able to get through when all else may fail, such as following a hurricane, or other disaster, where infrastructure we rely on daily, such as cell phone service and electricity from the power grid, may not be available.

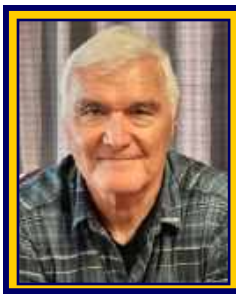
And to have Fun!

Hope to see you at the Open House!

Present By : Gloucester County Amateur Radio Club

Gloucester County Amateur Radio Clubhouse Site • www.w2mmd.org
Gloucester County 4-H Fairgrounds • 235 Bridgeton Pike (Route 77) • Mullica Hill, NJ 08062
GPS : 39.717000°, -75.209950°

Rev 2023-04-28



President's Letter
Jon Pearce, WB2MNF

June 2023

It's June - and June means only one thing to serious hams : It's time for ***FIELD DAY!*** For the GCARC, Field Day is a weekend of communication, creativity, and camaraderie - for friendly competition with other clubs without the semi-militaristic approach that other groups utilize to "win". It's a chance to all GCARC members regardless of license class, age, or experience to get together and enjoy a weekend of ham radio, camping (for some), and showing that hams can, in fact, communicate using improvised stations operating with emergency power.

Who should come to Field Day? ***EVERYONE!*** There's always a need for station operators if for no other reason than to give the primary operators a break. If you're a little nervous about your operating skill, don't worry - there are plenty of experienced operators to show you the way. Not sure if your license class covers operating some stations? Don't worry - the control op's license class prevails. Got a Technician license or haven't been active for a while? Sign up for the ***Get On The Air (GOTA)*** station that we're hoping to set up if enough ops are available. Want to let your kids talk on ham radio? Sure - they can grab a mic and make a few Field Day contacts. Want to try satellite operating? Come on over - we'll be posting the upcoming satellite passes - including the International Space Station - and who knows what might happen???

If you're new to the Club, Field Day is a great way to meet other members in an actual operating environment. Some unlikely teams have formed in previous years and have been very successful. Got some free time on Saturday morning? Come out and help get the stations set up - we can always use the help.

This year's Field Day chair is ***Tony Starr K3TS***, a veteran Field Day and HF operator and GCARC past president. Reach out to ***Tony (tstarr1450@gmail.com)*** if you haven't done so already and let him know that you'd like to be involved. Or feel free to just drop by the Clubhouse site to see what's going on. We hope to have a large turnout for this year's event.

Field Day weekend is June 24-25, 2023. Setup starts Saturday morning with the contest starting at 2 PM and ending at 2 PM on Sunday.

Other June Activities

The June 7, 2023 General Membership Meeting will include the much-anticipated ***PIZZA NIGHT***, so you may want to skip dinner before that meeting. There's no instructional program planned which will allow more time for pizza eating and local rag chewing.

The June 10, 2023 Tech Saturday Forum will follow up on previous Yaesu System Fusion and DMR presentations and will cover the construction and use of "hotspots", which are small computers with RF boards that function as gateways between 70 cm radios and other hotspots connected through the Internet. Tech Saturdays also provide opportunities to use the Clubhouse stations, and also inspire many ad hoc discussions among participants.

President's Letter - Continued on page 4

President's Letter - Continued from page 3

May Events

Not to be overshadowed by the upcoming Field Day activities, the month of May was extremely productive. ***Chris Prioli AD2CS*** presented an interesting Tech Saturday Forum session on programming radios using ***CHIRP***, a software program that can handle a variety of different types of radios. That session was followed by training in radio direction finding as preparation for the fox hunt that occurred the following day.

Meanwhile back at the Clubhouse, ***Frank Romeo N3PUU*** and others cleaned up the newly-remounted electrical box and prepared it to handle some upcoming projects. Having received the 4-H's approval for the installation of our new VHF towers, ***Stan Slachetka WA2JRZ***, ***Ron Block NR2B***, and I commenced work on the zoning and building applications, aided by Frank N3PUU's efforts at obtaining engineers drawings for the towers. Inspired by ***Len Rust W2LJR***'s presentation on DMR, Chris AD2CS and I constructed digital hotspots for the Clubhouse that will aid Yaesu System Fusion and DMR users in accessing other stations throughout the associated network.

This month we welcome the following new members :
Joseph Gallagher, KC2VAQ, who has a General Class license and lives in Woodbine, NJ
Jacques Latoison, KC3VYU, who has a Technician Class license and lives in Chester, PA
Phyllis Martin, W23PDB : Returning Member

73 de Jon WB2MNF
President, GCARC

ARRL Field Day - June 24 - 25, 2023

Band, Operators, & Mode Starting Line-Up

Band	Operators	Mode
Satellite	Jon Pearce, WB2MNF	Phone
Satellite		CW
Satellite	Jon Pearce, WB2MNF	Digital
70 Centimeters	Herb Dyer, KT2Y	Phone
70 Centimeters		CW
70 Centimeters	Herb Dyer, KT2Y	Digital
2 Meters	Herb Dyer, KT2Y	Phone
2 Meters		CW
2 Meters	Herb Dyer, KT2Y	Digital
10 Meters	Al Arrison, KB2AYU	Phone
10 Meters		CW
10 Meters	Al Arrison, KB2AYU	Digital
15 Meters	Jim Wright, N2GXJ	Phone
15 Meters	Darrell Neron, AB2E	CW
15 Meters	Jim Wright, N2GXJ	Digital
20 Meters	Jim Clark, KA2OSV	Phone
20 Meters	Tony Starr, K3TS	CW
20 Meters	Eric Morris, N2BRJ	Digital
40 Meters		Phone
40 Meters	Sheldon Parker, K2MEN	CW
40 Meters		Digital
80 Meters		Phone
80 Meters	Darrell Neron, AB2E	CW
80 Meters	Darrell Neron, AB2E	Digital
GOTA (Get On The Air) Station	John Zaruba Jr, K2ZA GOTA Coach	Phone, CW, Digital 100 Bonus Points

ARRL Field Day - June 24 - 25, 2023

Support Staff and Bonus Point Information

Public Location	**Gloucester County 4-H Fairgrounds**	**100 Bonus Points**
Safety Officer Checklist		**100 Bonus Points**
Public Information Table		**100 Bonus Points**
Culinary Staff	**Jeff Garth, WB2ZBN**	***Priceless !!!***
Collect/Submit Electronic Logs	**Jim Wright, N2GXJ**	**50 Bonus Points**
Off-Grid Power		**100 Bonus Points /Transmitter**
Main Backup Generator		**100 Bonus Points /Transmitter**
Alternative Power		**100 Bonus Points**
Educational Activity		**100 Bonus Points**
Field Day Youth Participation		**20 Points Bonus 100 Bonus Max**
Media Publicity		**100 Bonus Points**
Social Media		**100 Bonus Points**
Message Origination To Section Manager		**100 Bonus Points**
Copy W1AW Field Day Message		**100 Bonus Points**
NTS/ICS-213 Message Handling		**10 Points/Message 100 Bonus Max**
Site Visit - Invited Elected Official		**100 Bonus Points**
Site Visit - Invited Served Agency Official		**100 Bonus Points**
Satellite QSO	**GCARC SkunkWorks Team**	**100 Bonus Points**

Field Day Chairman - Tony Starr, K3TS - tstarr1450@gmail.com
Chart Updated as of May 16, 2023

Hanging Out @ Field Day This Year!

By Jim Wright, N2GXJ

At Field Day this year, **John Zaruba Jr, K2ZA** will be setting up a **Get On The Air Station (GOTA)** for anyone who is either unlicensed, or is recently licensed since last year's Field Day, to come out and give it a try. It's a great no-pressure way to see what this Field Day thing is all about. If that's you, John sure could use your help! As the **Get On The Air (GOTA) Coach**, he's not allowed to operate that station. That station is just for you under his guidance. He needs you! John could get lonely if nobody pays him a visit. Please come out and pay him a visit!

GOTA is not all that's happening on Saturday. There's more! If you happen to be on site around 4pm Saturday, stop on by the air conditioned W2MMD Clubhouse for an active participation bonus training activity. Then afterwards, feel free to wander amongst the stations that people have set up in the fields to see what's going on. Around 5pm, **Jim N2GXJ** will have an open house at his 15 meter station Voice/Digital station. We plan on having a solar -powered station on site trying to make 2 meter bonus point contacts, and a portable satellite station too, that will be trying for a 100 point bonus if they can make just one contact.

If you've not been to a Field Day before, you really should come out. If you haven't been out for a while, you also should plan to stop by. You never know what you're going to see. Operating off the grid in the field for 24 hours with temporary antennas and portable radios under less than ideal conditions can results in some creative solutions. Of course Murphy is bound to show up somewhere too (not everything will always go according to plan), which can make it a bit of a learning exercise too. But that is part of the challenge, and fun. Bring a lawn chair, hang out, and enjoy the day with your radio family. Stay as long as you like. Sunsets can be quite nice from the Clubhouse!

A rough timeline of what to expect :

Friday, June 23, 2023

- 6pm : Some stations begin to set up early
- 8:30pm Sunset : Start of a two night camp out (for some)!

Saturday, June 24, 2023

- 10am : Most station setup has begun
- 12pm : Lunch for operators and staff
- 1pm : Final band chair briefing, determination of class (e.g 7A), station safety inspections
- 2pm : Stations go live on air!
- GOTA station open for anyone unlicensed or recently licensed to give it a try.
- All Club members welcome - stop by anytime during the afternoon and evening, stay as long as you like. Visitors welcome at all stations
- 4pm : Everyone who is on-site is welcome! Training session with group activity for bonus points in the air conditioned Clubhouse.
- 5pm : "Open House" at Jim's 15 meter station (after the training session).
- 6:30pm : Dinner for operators and staff
- 8:30pm twilight begins, high bands go long cross-country, low bands open up
- 10pm night crews settle in

Sunday, June 25, 2023

- 6:30am : Breakfast for operators and staff
- 7am : Stations run all morning at least to noon, some right up to 2pm
- 2pm : Last radios turned off, raw adif logs collected on thumb drive
- 3pm : Finish cleanup. Thank You To All Volunteers!

2023 Field Day - Continued on page 8

2023 Field Day - Continued from page 7

What goes up on Saturday must come down on Sunday.

If you've got an hour available early Sunday afternoon, stations start tearing down between 1 and 2pm.

We can always use help after to take down antennas, coil up electric wire, take down tents, and such.

A few helping hands can really make a difference, and would be most appreciated.

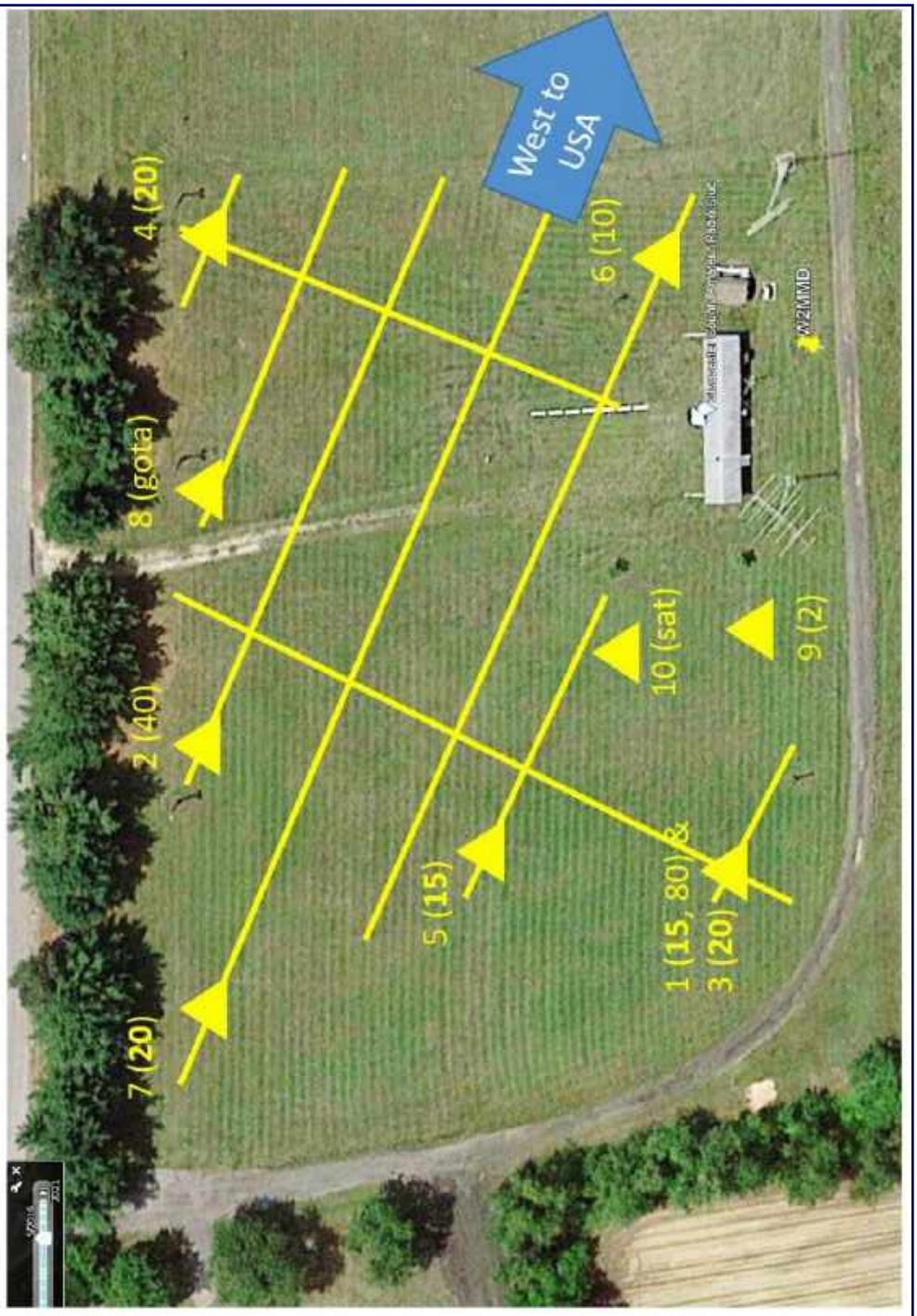
Feel free to stop by anytime.

If you do, be sure to say "hi" to me over at the 15 meter tent.

Hope to see you there!

Draft Site Plan 5/14/2023

Owner	Band-Mode	Radio#
AB2E, Darrel	15cw,80cw,80dig	1
K2MEN, Sheldon	40cw	2
K3TS, Tony	20cw	3
KA2OSV, Jim	20ph	4
N2GXI, Jim	15ph,15dig	5
KB2AYU, Al	10ph,10dig	6
N2BRJ, Eric	20dig	7
K2ZA, John	GOTA	8*
KT2Y, Herb	FreeVHF	9*
WB2MNF, Jon	FreeSAT	10*



- Three 20M stations separated on corners
- Trees antenna required for #2, #7, #8
- Two 15M stations use beams point west
- Two 15M separated from 40M
- #6 10M station location is fixed
- Band pass Filters on 80cw, 40cw, 20ph
- Plus plan tune stubs on two of the 20

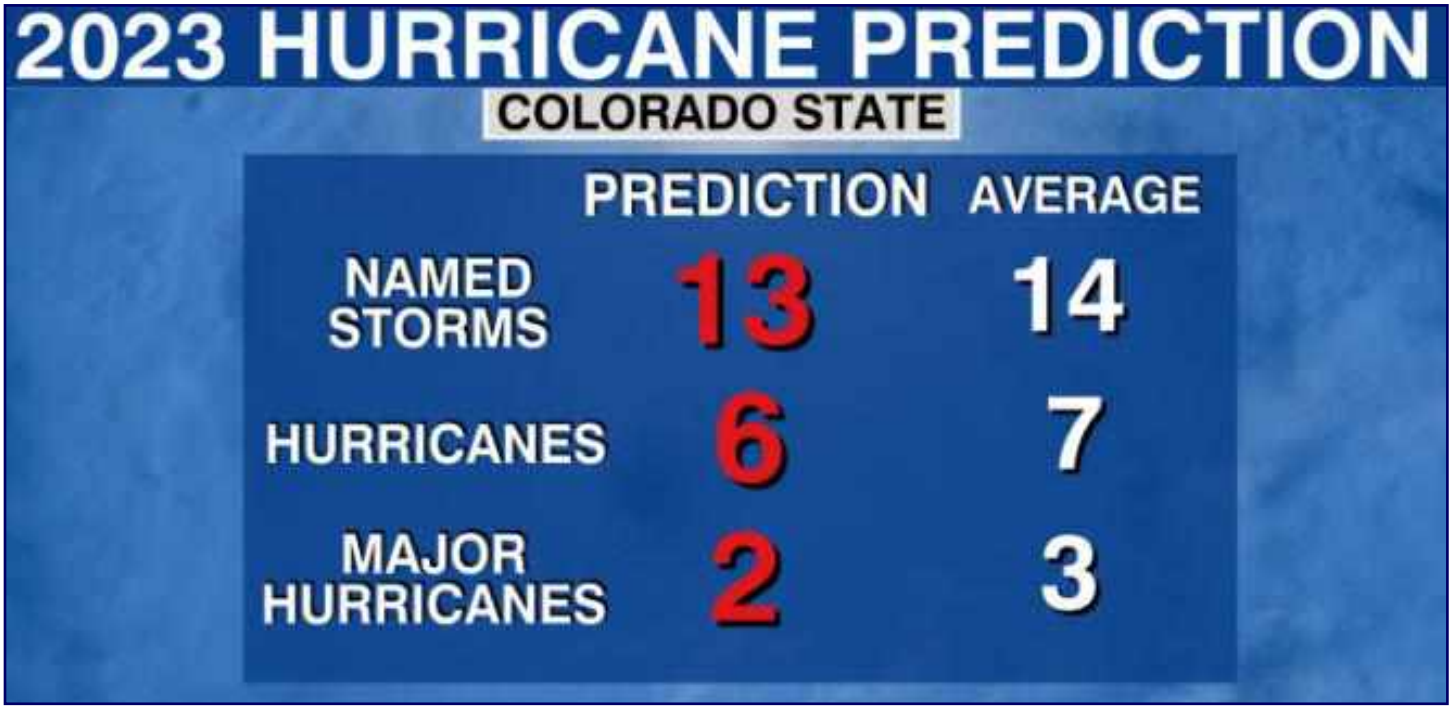
General Membership Meeting

Wednesday, June 7, 2023 @ 1930 Hours

Meeting ID : 943 3200 9317
Passcode : 335702

ZOOM Meeting Only

Go to : www.w2mmd.org to download the ZOOM log-on instruction PDF for this meeting



Ernest Kraus, KD2EAV
Me and delCano Travel Consultants
Two Guys Who Have Been Around the World
Phone : 856-468-8537
E-mail : MEANDDELCANOTC@VERIZON.NET
Member : IATAN : International Association of Travel Agents Network

Me and delCano Travel Consultants have entered its 27th year of operation. We are proud to say we are still a locally owned independent, full service travel agency serving clients with personalized trip planning, reservations, insurance, passport, visa, travel health care, and much more travel information.

Tech Saturday Forum
June 10, 2023 @ 0900 Hours
W2MMD Clubhouse

Forum Presentation : Pi-Star Hotspot Assembly Operation
Presented by John Zaruba Jr, K2ZA

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.

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

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

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

ATLANTIC STORM NAMES

2023 HURRICANE SEASON

ARLENE	HAROLD	OPHELIA
BRET	IDALIA	PHILIPPE
CINDY	JOSE	RINA
DON	KATIA	SEAN
EMILY	LEE	TAMMY
FRANKLIN	MARGOT	VINCE
GERT	NIGEL	WHITNEY

Welcome New Club Members :

Joe Gallagher, KC2VAQ, who has a General Class license and lives in Woodbine, NJ.
Jacques Latoison, KC3VYU, who has a Technician Class license and lives in Chester, PA.
Phyllis Martin, W2PDB, Returning member, General Class and lives in Elmer, NJ.

We are glad to have you as members of the Club and hope to see you regularly at Club meetings, events, and activities. Hope to see you at the June 7th General Membership Meeting on ZOOM, the June 10th Tech Saturday Forum, and the Dinner @ The Clubhouse on the June 28th.

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

- Sunday Night Skywarn Net @ 1930 Hours and the Sunday Night ARES Net @ 2000 Hours.
- The TechNet ZOOM Monday Net - Summer Hiatus - Returning In September 2023
- The HelpNet ZOOM Net, a sporadic Monday meeting @ 1930 Hours.
- Tuesday Noon Day 2M Rag Chew Net @ 1200 Hours.
- Tuesday & Thursday Night 10M Rag Chew Nets on 28.465 or 28.475 MHz.
- Thursday Night 2M Rag Chew Net @ 2000 Hours.

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

Gloucester County Amateur Radio Club Elmers

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

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

GCARC Monthly VE Exam Testing Summary - May 11, 2023

Gary Reed, N2QEE reports : The GCARC monthly VE session was held on May 11, 2023. There were six candidates at the session with a upgrade to Amateur Extra, three upgrades to General, a new Technician and one former Extra who had let his license lapse and was restored by passing the Technician exam.

- **Darrin Malone, KD2ALQ : Upgrading to Amateur Extra Class, of Vineland**
- **Harry Maloney, III KE2ALG : Upgrading to General Class, of Vineland**
- **Edward Martino, AD2FP : Restored Amateur Extra Class, of Medford**
- **Konstantin Reznitsky, KE2BDR : Upgrading to General Class, of Voorhees**
- **Christopher Slusar, KE2BJL : New Technician Class, of Somerdale**
- **Todd Woodward, KD2ESH : Upgrading to General Class, of Turnersville**

The VE's who participated with the exam were :

- **Chris AD2CS**
- **Earl KC2NCH**
- **Steve W2SEF**
- **Court KD2SPJ**
- **Mike N2WOQ**
- **Rich W2RHS**
- **Chris N2IVN**
- **Gary N2QEE**

Congratulations to the candidates and a big thank you to the participating VE's. The next monthly VE session will be Thursday, June 8, 2023 at 7 PM at the W2MMD Clubhouse.

W2MMD

Facebook

www.facebook.com/W2MMD

twitter.com/w2mmd_gcarc

DA's and DIT's

>> Congratulations to the following Club Members :

- **Rob Bleattler, KC3ROB (ex. KC3VXW) : New vanity callsign**
- **Albert Christopher, KD2PDW : ARRL Life Member**
- **Darrin Malone, KD2ALQ : Upgrading to Amateur Extra Class license**
- **Harry Maloney III, KE2ALG : Upgrading to General Class license**
- **David Wade, KD2NZS : Club Life Member**
- **Carl Wittig, N2CRW : ARRL Member, New Club Trustee**
- **Todd Woodward, KD2ESH : Upgrading to General Class license**

>> "The New Jersey Region of the American Red Cross is looking for any New Jersey radio club who may like to have a Red Cross representative to visit your Field Day site. If you are interested in the visit, please fill out the request form at this link : **https://forms.office.com/r/t6Eby4c1yF**

In the notes section, please add any info that may help us find you at the location. We will make every effort to visit all sites depending on the number of requests and the number of volunteers. If you are not the person to contact, please forward this email to the correct person. Please respond before June 12, 2023 so we can make a schedule.

Thank you for your readiness to help in a disaster,

Bill Kelly, Volunteer
American Red Cross, New Jersey Region
HAM Operations, Regional Lead
bill.kelly@redcross.org"

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

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

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

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

Fox Hunt XXVIII : Sunday, May 7, 2023
The World's Funniest Fox Hunt!
World Laughter Day!

May 7, 2023 turned out to be a great weather day for a hidden transmitter hunt!

Chris Prioli, AD2CS did the honors of hiding this time.

Fox was hidden in **Alcyon Lake Park** in Pitman, NJ (Scene of Fox Hunt II on November 11, 2012)

In a twist, Chris had put out the tackle box as a decoy near where the transmitter was. ***Laughingly***, he let Jim and the others who were first on scene know they'd not found the transmitter yet. Turns out we were prematurely celebrating finding the box rather than the fox! In a frantic frenzy, we all fumbled with our radios, trying to tune back into the 3rd harmonic. The hunt was back on! In the end, it was eagle-eyed Marc who takes the credit for being first to find the actual transmitter!

Can you spot where the fox really was hiding in the picture? (the arrow should help in the close up)

The Hunters :

- **Marc Federici, W2MY : First to find the real fox**
- **Jim Wright, N2GXJ : First to find the decoy box**
- **Randy Testa, KC3VCC**
- **Rich Federici, KD2WDN**
- **Mike Thompson, KG4JYA**
- **Bruce Canino, KD2LBU**
- **Sheldon Parker, K2MEN : Not pictured**

Fox Hunt XXVIII : Sunday, May 7, 2023
The World's Funniest Fox Hunt!
World Laughter Day!

There's the transmitter hiding in tree!

Fox Hunt 28 Winner :
Marc W2MY

Mike KG4JYA celebrating another great Fox Hunt

The Fox showing where the decoy box is hiding!

Tech Saturday Continues To Highlight New Technologies

By Jon Pearce, WB2MNF

The May 6, 2023 Tech Saturday event started with ***Chris Prioli AD2CS****'s* presentation on programming radios with ***CHIRP***, a widely-used program that runs on Windows and Linux platforms, including the Raspberry Pi. CHIRP is unique in that it's not tied to a particular type of radio as the RT Systems and manufacturer-based programs are. Instead it can load a basic set of frequency and operating data into multiple types of radios from a single data file. Since many hams have more than one type of HT (come on - you don't ONLY have a Baofeng, do you???) using CHIRP can save time and money in creating a common operating platform across different radios.

Following Chris' session, ***Jim Wright N2GXJ*** showed how to hunt the "Fox" using directional antennas and various techniques. This was in preparation for the Fox Hunt the following day in which participants were challenged to find the hidden transmitter "Fox" that had been artfully hidden by Chris AD2CS.

Tech Saturdays always provide a forum for exchange of many ideas among participants, often facilitated by the W2MMD Clubhouse resources. The HF station is available for operation and satellite passes often occur during those hours. Many different projects are underway with opportunities for ad-hoc discussions and learning and cooperation opportunities.

The ***June 10, 2023 Tech Saturday Forum*** session will cover the construction and operation of "hotspots", which are devices using Raspberry Pi computers with RF add-on decks to allow communication between distant users through an internet connection. These devices support DMR, Yaesu System Fusion and other protocols.

Tech Saturday Forum is always the Saturday following the General Membership Meeting. The June meeting occurs on June 10 at the W2MMD Clubhouse starting at 9 AM.

At the May 6, 2023 Tech Saturday Forum, Jim Wright N2GXJ gave a small class on Fox Hunting in preparation for May 7, 2023 Fox Hunt 28

Happy Birthday

U.S. Coast Guard Auxiliary

June 23, 1939

The Education Connection
By Chris Prioli, AD2CS : AD2CS.COM

June 2023

It is that time once again… time for the monthly Education Committee column. It seems like all that I do is talk about the same things… what is going on with the current license prep classes, and so forth. This month, I am going to take a slightly different approach. I am going to put the ball into your hands and let you try to score with it.

Here is what I mean. The Education Committee exists to serve the educational needs of the Club's members as a whole, not just in a small way or serving a small group of those members. With that thought in mind, I want to offer you a challenge. I want to know what you want or need to learn… or to be taught. For example, we have talked in the past about basic troubleshooting. Maybe some folks would like to have a more advanced session on that. Maybe some members would like to learn more about kit assembly in the lack of clear assembly instructions. (There is a method for achieving such assembly tasks.) Maybe there is some other skill at which you want to become more proficient. Whatever it is, I want to know about it!

We have several avenues open to us when it comes to teaching the members. We have formalized multi-session classroom setting possibilities. We have the TechNet option. We have the Tech Saturday Forum path. We can also do one or two-off special sessions for specific skills.

I am already planning one such special two-session program for some time in July, with the topic and details to be announced shortly. I think that this one might appeal to a good-sized group of members, but I could be wrong.

I have considered quick sessions on topics such as how to properly install a PL-259 connector, or how to properly install Anderson PowerPoles® onto wires. I have already done some one-on-one training along these lines, but I think that there may be some more widespread interest in such training. How about the best way to assemble a simple wire dipole? Or to build a simple balun? The list goes on and on.

Take some time and think about it, and then drop me an email at **ad2cs@arrl.net** (or at any email address that you have for me) with any topics that interest you. I will consider all suggestions, and will make happen as many of them as is possible.

On another topic, I am going to take a minute to put in a shameless plug. When you get a minute, point your web browser to **www.ad2cs.com** and do some exploring. As time goes by, there will be more content added, and I am adding to the collection every week. Some of the material there has already been published, but there is also some previously unpublished stuff there. Let me know what you think and if you have any ideas for articles or slideshows that you want to see. Also, check back periodically to see what is new!

Oh yeah! I almost forgot to mention the Ham Exam Preparation Class Session V which is currently under way. There are six students in the Element 2 class, and four in the Element 3 group. The was only one enrollee for the Element 4 class, but he did not want to be a group of one, so he decided to wait for another session. This session will finish up by the end of June, with the exam results most likely showing up in July. While all of the Element 3 students are currently Club members, none of the Element 2 students have joined our Club at this point. More to come on this as things develop!

That is all for this month… see you next time.

Volunteer Monitor Program Report - January 2023

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 2023 activity report of the VM Program.

- A warning for unlicensed operation on 146.520 MHz was issued to a trucking company in Keller, Washington.
- A commendation was issued to an amateur in Rimersburg, Pennsylvania, for exemplary operation on 7.222 MHz, taking extra steps to assist amateurs with settings for ALC, microphone gain, and bandwidth to obtain the most efficient and considerate operation on SSB.
- A commendation was issued to an amateur in Boise, Idaho, for courteous and valuable assistance to new and less active amateur operators.
- Advisory notices were issued to Technician-class amateurs in New York, Colorado, and Texas for FT8 operation on 40 and 15 meters. Technicians have no data privileges on those bands.
- Advisory notices were sent to Technician-class licensees in Florida and New Jersey for FT8 operation on 20 meters. Technicians have no operating privileges on 20 meters.
- An Extra-class licensee in Mississippi was issued an advisory notice for willful and deliberate interference on 3.927 MHz, and was informed that additional instances would be referred to the FCC for enforcement action, including fine or license revocation.
- A VM Alert was issued on January 31, 2023, for a constant carrier on 7.195 MHz. The matter was referred to the FCC.

The final totals for VM monitoring during December 2022 were 1,878 hours on HF frequencies, and 2,433 hours on VHF frequencies and above, for a total of 4,311 hours. Thanks to Volunteer Monitor Program Administrator Riley Hollingsworth, K4ZDH

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

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.

Regional (Atlantic & Hudson Divisions) Hamfests & Events

June 3, 2023 : Rochester Amateur Radio Association, 91st Rochester Hamfest, Hilton Exempt Club, 137 South Avenue, Hilton, NY. **www.rochesterham.org**

June 3, 2023 : East Greenbush Amateur Radio Association, Hamfest 2023, East Greenbush Town Park, 99 Town Park Road, East Greenbush, NY. **www.egara.club**

June 3, 2023 : Ocean - Monmouth Amateur Radio Club, Spring Hamfest, Spring Lake Heights Fire Company No 1, 700 Sixth Avenue, Spring Lake Heights, NJ. **www.n2mo.org**

June 4, 2023 : BreezeShooters Amateur Radio Club, BreezeShooters Hamfest, ARRL Western Pennsylvania Section Convention, Butler Farm Show Grounds, 625 Evan City Road, Butler, PA. **www.breezeshooters.org**

June 10, 2023 : Columbia-Montour Amateur Radio Club, 33rd Annual Bloomsburg Hamfest, Lime Ridge Community Center, 6405 4th Street, Lime Ridge, PA. **www.qsl.net/cm-arc**

June 10, 2023 : Skyline Amateur Radio Club, Cortland Hamfest, Cortland County Fairgrounds, 4301 Fairgrounds Drive, Cortland, NY. **www.skylinehamradioclub.org**

June 10, 2023 : Lockport Amateur Radio Association, 2nd Annual Summer Outside Hamfest. Cambria Volunteer Fire Hall, 4631 Cambria-Wilson Road, Lockport, PA. **www.lockportara.us**

June 10, 2023 : Fair Lawn Amateur Radio Club, FLARC Hamfest 2023, Fair Lawn Memorial Park, 10-07 Essex Place, Fair Lawn, NJ. **www.hamfest.fairlawnarc.org**

June 10, 2023 : Vintage Computer Federation, VCF Swap Meet, Camp Evans Monmouth Boulevard Parking Lot, Wall, NJ. **www.vcfed.org**

June 11, 2023 : Long Island Mobile Amateur Radio Club, LIMARC Outdoor Hamfest, 999 Stewart Avenue, Bethpage, NY. **www.limarc.org**

June 17, 2023 : Raritan Valley Radio Club, W2WQ Hamfest, Piscataway High School, 110 Behmer Road, Piscataway, NJ. **www.w2qw.org**

June 18, 2023 : Baltimore Amateur Radio Club, 2023 BARC Father's Day, Arcadia Volunteer Fire Company Grounds, 16020 Carnival Avenue, Upperco, MD. **www.w3ft.com**

Museum Ships Weekend 2023
0001Z June 3 through 2400Z June 4, 2023

The Battleship New Jersey Amateur Radio Club is sponsoring the Annual Museum Ships Weekend Event

Go to www.nj2bb.org/museum for more information

GCARC TechNet

ZOOM Meeting

Meetings Start @ 2000 Hours

Check-ins start @ 1930 Hours

First & Third Mondays of the Month @ 2000 Hours

Summer Hiatus

Returning In September 2023

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

GCARC HelpNet

ZOOM Meeting

Sporadic Mondays @ 1930 Hours

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

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

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

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

Here is the schedule for the upcoming weeks

Chris Prioli, AD2CS : June 1, 2023
Mary Delemarre, W2TDS : June 8, 2023
Steve Farney, W2SEF : June 15, 2023
Gary Mirkin, WA3SVW : June 22, 2023
Chris Prioli, AD2CS : June 29, 2023

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

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

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

Here is the schedule for the upcoming weeks

Steve Farney, W2SEF : June 6, 2023
Chris Prioli, AD2CS : June 13, 2023
Mike Thompson, KG4JYA : June 20, 2023
Steve Farney, W2SEF : June 27, 2023

Independence Day - No Net : July 4, 2023
Steve Farney, W2SEF : July 11, 2023
Chris Prioli, AD2CS : July 18, 2023
Mike Thompson, KG4JYA : July 25, 2023

Steve Farney, W2SEF : August 1, 2023
Chris Prioli, AD2CS : August 8, 2023
Mike Thompson, KG4JYA : August 15, 2023
Steve Farney, W2SEF : August 22, 2023
Chris Prioli, AD2CS : August 29, 2023

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

At The Repair Bench…

A monthly column describing a recent repair bench event.

By Chris Prioli AD2CS : AD2CS.COM

NanoVNA H4 Touch Screen - June 2023

Figure 1 : NanoVNA H4

One recent Saturday afternoon, one of our fellow Club members had cause to use the Club's NanoVNA for some new equipment testing. Unfortunately, when he tried to operate the unit, the touch-screen feature was not working, and in fact, it seemed that the menu system was completely inoperative. I decided to bring it home with me to make the required repairs.

The Club's NanoVNA is the H4 **(Figure 1)** variant which, at the time, was loaded with the DiSlord version 1.1.01 firmware dated 30 December 2021. While the firmware was most likely not the cause of the problem, as the unit had been working fine for a long while, I did notice that the firmware was about a year and a half old, which is a lifetime by today's electronic equipment standards. I slated it for a firmware update as a part of the repair.

In testing the NanoVNA quite thoroughly, I found that occasionally, I could get the menu system to operate via the multi-function control (MFC) wheel on the unit's top edge, after which the touch screen would occasionally operate until the next power-off. However, it was not consistent enough to say that this would be a usable work-around, so I kept on digging for an answer.

I opened up the unit and disconnected the battery and the touch screen ribbon cable. I then reseated the ribbon cable, reconnected the battery, and powered up the device. No change was evident, with the touch screen and menu system operating the same as it had before the disconnects.

A few more words about the actual behavior would seem appropriate at this point. If I was able to get the menu system to launch using the MFC wheel, it was then possible to navigate the menu using the stylus via the touch screen. It was even possible to re-launch the menu system via the touch screen, until the unit was powered off. Then the problem re-asserted itself and it was pot luck as to whether or not the menus would open via the MFC.

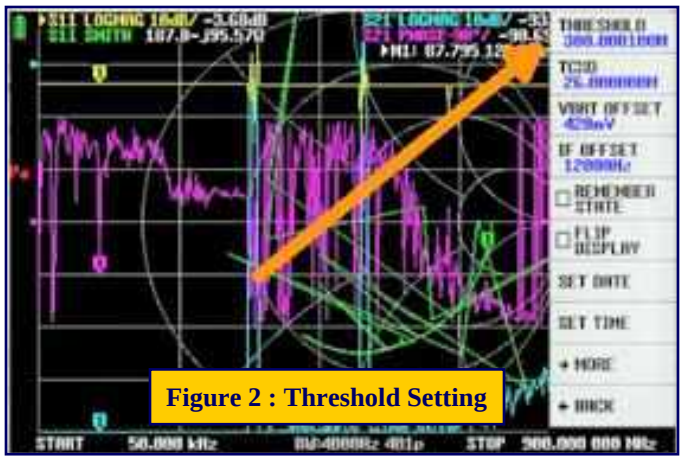


Figure 2 : Threshold Setting

I turned to that giant reference resource called the internet for some help, and I came across an obscure reference in a forum somewhere - I never noticed where - that made mention of NanoVNA stability. This seemed to fit, so I looked some more into that concept - stability and how to control it. What I found was that the default settings for the DiSlord firmware versions are set to slightly over-clock the NanoVNA. I decided to slow it down a little bit and see what happens.

At The Repair Bench - Continued on page 25

At The Repair Bench - Continued from page 24

The clock speed of the NanoVNA is controlled by a firmware value called ***Threshold***, which is set to 300.000100 MHz by default. The ***Threshold*** setting **(Figure 2)** is found under ***Config > Expert Settings***. I decided to set it down to 290 MHz. ***Voilá!*** The touch screen now behaved normally in every regard! I figured that I had resolved this issue, though I still did not understand what had happened, or specifically why it spontaneously stopped working after operating for so long, but I chose not to worry about that at this point.

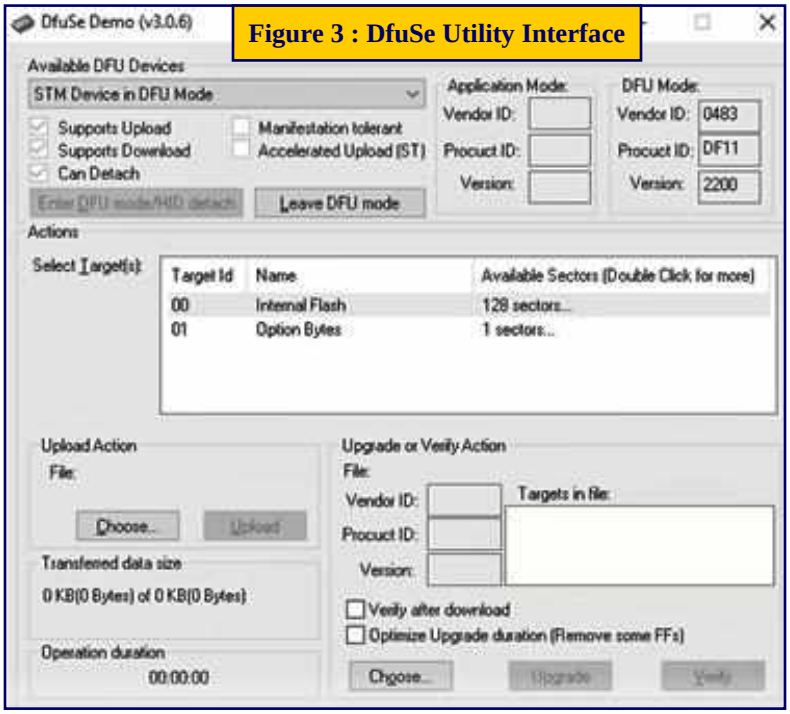


Figure 3 : DfuSe Utility Interface

I next went about performing a firmware upgrade on the NanoVNA. This is a simple operation that is done using the STMicroelectronics DfuSe software. I had the software **(Figure 3)** installed on my PC already, so all that I needed to do was to download the newest DiSlord firmware file in the commonly-used ***.dfu*** firmware format. That filename is ***NanoVNA.H4.v1.2.20.dfu*** which indicates that the firmware is version 1.2.20, dated 12 March 2023. The various firmware files can be downloaded from **https://github.com/DiSlord/NanoVNA-D/releases** under the Assets listing.

To update the firmware in the NanoVNA, the device must be placed into DFU mode. Start out by launching the STMicro DfuSe software and connecting the NanoVNA to the PC via an appropriate USB cable. Then, put the NanoVNA into DFU mode by holding down the MFC wheel while powering up the unit. Note that the screen will remain black in DFU mode, but the STMicro DfuSe software should indicate that the NanoVNA is connected and accessible. The next step is to use the Choose button in the DfuSe software to open the ***.dfu*** firmware file. The software will show **(Figure 4)** that the firmware file was successfully loaded into the utility and that it is ready for upload to the device. Upload that file to the device by clicking the ***Upgrade*** button. Once the upgrade is completed as indicated in the software **(Figure 5)**, power off the NanoVNA and disconnect it from the PC.

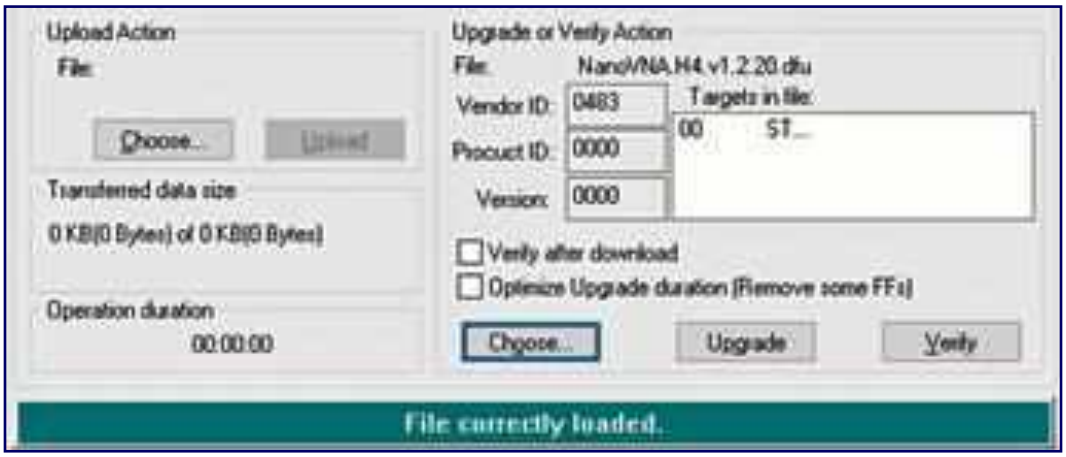


Figure 4 : Firmware Loaded In DfuSe

At The Repair Bench - Continued on page 26

At The Repair Bench - Continued from page 25

The interesting thing about this repair is that post-upgrade of the firmware, that new firmware ***Threshold*** setting was once again set to 300.000100 MHz… but the unit was operating properly and with many more menu options than it had before.

Figure 5 : Firmware Update Successful

OK - so slowing the clock speed solved the initial touch screen response issue in the old firmware. Of that there is no doubt. As a result, I feel comfortable suggesting that as a solution for anyone who may encounter a similar issue with the touch screen on a NanoVNA H4 and needs an immediate fix.

I also feel comfortable recommending the firmware upgrade to DiSlord version 1.2.20, as I have now installed and tested it extensively, and everything works as it should. Some of the new features include the ability to save a calibration set to the SD card, enter a custom name for any image file saved to the SD card (or simply check the ***Autoname*** check box to avoid having to enter a name - it will default to a date and time format naming convention). The new firmware allows loading an image from the SD card into the display, and there is also a ***Pause Sweep*** and ***Resume Sweep*** capability now. There are several changes to the ***Calibrate*** menu item as well as to several other menu items. This new firmware version is feature-rich and is well worth installing.

Having explored the new menu items and capabilities of the NanoVNA H4 under DiSlord firmware 1.2.20, I am happy to report that all of the new features work well, and are for the most part self-explanatory or very intuitive. This makes these new features easy to use without needing any type of documentation for them. I like the new firmware so much that I also installed it onto my personal H4 unit.

See you next month…

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

By Bob Keogh, KD2NEC
Gloucester County Emergency Coordinator

Welcome to Hurricane Season 2023

Believe it or not, June 1st is the official start date of Hurricane Season.

If you haven't already developed a Personal Hurricane Plan to share with your family and friends, now is the time. Below are some helpful Web Sites that are very useful to prepare a plan and what to do before, during and after a hurricane strikes your area :

- **Hurricanes - Ready.gov - https://www.ready.gov/hurricanes**
- **VoIP Hurricane Net - https://voipwx.net**
- **National Hurricane Center - https://www.nhc.noaa.gov**
- **SKYWARN Amateur Radio Network - https://www.weather.gov/oun/amateurradio**
- **Amateur Radio - Automatic Weather Stations (APRS) - https://w4ehw.fiu.edu/w4ehw-aprs.html**
- **The Hurricane Watch Net - https://www.hwn.org**
- **Hurricane: American Red Cross : On the Apple App Store and the Google Store**
- **Federal Emergency Management Agency (FEMA) : On the Apple App Store and the Google Store**

Our preparation plans need to include when, where, and how we should either evacuate the area or shelter in place. There is a point in time when it's too late to evacuate and that is the worse situation you can find yourself in.

After the storm is over and if we were lucky enough to NOT be impacted in any way, as trained Amateur Radio Operators we can aid those who now need us.

Enter the American Red Cross (ARC) and their Disaster Recovery Operation (DRO) Team. We have fourteen Gloucester County Amateur Radio Operators who have recently registered with the ARC to provide Emergency Communications, "when all else fails".

Our local team will begin a series of conferences, on-line independent training, and joint exercises with the Red Cross, to prepare ourselves for the real deal. Our 2023 Simulated Emergency Test will include the Red Cross and will be simulating a Major DRO, taking place on October 7, 2023.

Gloucester County, Monmouth County, and Mercer County are leading the way in New Jersey, with a total number of 51 registered EMCOMM Radio Operators. However, when (not if) we have another "Super Storm Sandy", that won't be anywhere near the number of Radio Operators that we'll need to provide communications between all the Shelters, Logistics Suppliers, Disaster Centers, Chapter Centers, Regional HQ, the NJ State Police, and the NJ Emergency Operations Centers.

The good news is, an operation of that size, the National DRO team will be deployed from Texas and will be in NJ within two days. They will be bringing their Satellite Communications Equipment with them, to restore communications to the areas that were impacted.

That said, we have been invited to present our capabilities of a more permanent Mesh Network, that would be implemented in stages, over time.

SNJ ARES Update - Continued on page 28

SNJ ARES Update - Continued from page 27

Other Events

Bike MS : City to the Shore Ride will take place on Saturday, September 30 & Sunday, October 1, 2023. We will have Amateur Radio Operators stationed along the bike route, starting at the Cherry Hill Train Station, and ending at the Ocean City High School. If you want to use your Radio License for this event, you must register on-line for either Saturday and/or Sunday. Specifics will be provided as we get closer to the event.

If you have any questions about anything in this article or wish to register with ARES, please reach out to Bob Keogh : KD2NEC@QSL.NET

Editor's Note : Go to the "Bike MS" page on our website for links and other information about the Bike MS : City To Shore Ride.

Volunteer Monitor Program Report - February 2023

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 February 2023 activity report of the VM Program.

- A warning was issued to an Extra-class licensee in eastern Virginia for deliberate interference and obscenities on 3.933 MHz. The licensee was informed that this information was being referred to the FCC for consideration in his 2025 license renewal.
- An advisory notice was issued to a California repeater operator for constant identification of transmissions on a cross-band repeater operating on 146.595 and 446.500 MHz. Such identification with no traffic constitutes broadcasting, which is contrary to FCC rules.
- An advisory notice was issued to a Technician-Plus operator in Indiana for operation on 3.630 MHz, and for operating with an expired license. The matter was referred to the FCC.
- A commendation was issued to an amateur in Florida for his efforts in resolving a deliberate interference issue in December 2022 on a net operating on 7.153 MHz.
- An advisory notice was issued to a cross-band repeater operator in Wisconsin for operating with an expired license on 147.225 and 447.4815 MHz.
- A second notice of unlicensed operation was issued to a high-altitude balloon operator in Colorado for operation on 144.390 MHz. The matter was referred to the FCC.
- An advisory notice was issued to an operator in Indiana for excessive bandwidth, 10 kHz, on 3.620 MHz.

The totals for VM monitoring during January 2023 were 2,209 hours on HF frequencies, and 3,773 hours on VHF frequencies and above, for a total of 5,982 hours. - Thanks to Volunteer Monitor Program Administrator Riley Hollingsworth, K4ZDH

2023 Clubhouse Projects

Shed : Build Ramp

Replace Back Steps

Clubhouse :

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

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

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)

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.

1.25M Homebrew J-Pole Antenna : Part 1

By Chris Prioli, AD2CS : AD2CS.COM

I recently purchased a new radio to add to my shack, a **TYT TH9000D 1.25-meter mobile unit (*Figure 1*)** that will be used as a base station. To support the new radio, I also purchased a Comet CX-333 tri-band vertical antenna, which is designed to cover the 2-meter, 1.25-meter, and 70-centimeter bands. However, I also wanted a dedicated antenna for the 1.25-meter band, so I decided to build one rather than buy it premade. I am sure that this subject has been done to death, but I am going to have a go at it anyway, so please bear with me and hang on for the ride!

I chose copper pipe construction **(*Figure 2*)** for several reasons :

A. Its simplicity.
B. Its strength.
C. Its low cost.
D. Its compact nature.

Every piece of this antenna except for the feed point connector is available at any hardware store, from a mom-and-pop to a big-box location. The feed point connector is readily available online, from a multitude of sources.

The following is a list of the required component parts :

- 1/2" Type M copper pipe caps - 2 pieces
- 1/2" Type M copper pipe tee - 1 piece
- 1/2" Type M copper elbow 90° - 1 piece
- 1/2" Type M copper pipe 1" long - 1 piece (not exposed when assembled)
- 1/2" Type M copper pipe 8-1/4" long - 1 piece (7-3/4" exposed when assembled)
- 1/2" Type M copper pipe 12-1/2" long - 1 piece (11-1/2" exposed when assembled)
- 1/2" Type M copper pipe 38-1/4" long - 1 piece (37-1/4" exposed when assembled)
- 10AWG bare solid copper wire 2" long - 1 piece
- 6-32 x 1-1/2” brass machine screw – 2 pieces
- 6-32 x 3/8" plated machine screw – 2 pieces
- 6-32 brass hex nut – 4 pieces
- SO-239 connector, flange/panel mount, Teflon®-insulated recommended - 1 piece
- Aluminum pop rivet, 1/8" x 3/16" to 1/4" grip range - 1 piece

Figure 2 : 1.25M Copper Pipe J-Pole

In addition, some supplies will be needed, which also are available at the hardware store :

- Emery or crocus cloth
- Plumber’s solder and flux
- Electronics (rosin-core) solder
- Liquid electrical tape (or alternative sealer - explained in detail later)

Some special tools will also be needed or very helpful :

- Tubing cutter
- Propane torch for sweating copper pipe and fittings
- High wattage soldering gun, 200/240 watts minimum
- Pop rivet gun
- Electric drill (drill press is ideal) with 1/8” and 5/32” twist drills

1.25M J-Pole Antenna - Continued on page 31

- Small wire bottle brush
- V-block for drilling round shapes

For those who may be unfamiliar with the term, a "v-block" is a short length of plastic, wooden or metallic material with a "V" shaped groove along its length in its upper surface, designed to be affixed to a drill press table. It is used to hold round stock securely for drilling or cutting. By use of a v-block, holes perpendicular to the length of a pipe can accurately be drilled through the pipe's diameter. The better v-blocks will have a drill clearance slot in the bottom of the groove as well as mounting provisions, e.g., a pair of flanges, for easy securement to the drill press table or work bench top surface. My ***v-block* (*Figure 3*)** is a length of aluminum extrusion with a flanged lower surface and angular upper flanges forming the "V" that supports the round stock. The bottom of the "V" contains a groove to allow full drill-through of the stock and also to aid in centering the v-block under the drill spindle for accuracy. The lower (mounting) flanges are notched to accept hold-down bolts.

Figure 3 : V-Block on Drill Press Table

It is very convenient that the total length of copper pipe required for this project is exactly sixty inches, the equivalent of a five-foot length of pipe. This is convenient because the pipe is generally sold in five- and ten-foot lengths as well as some lengths shorter than the five-foot ones. I purchased a five-footer at my local Home Depot store for this project. In fact, all of the copper needed for this project came from the Home Depot in a single order that totaled a penny more than eighteen dollars. All of the other parts and supplies needed are on hand in my shop, as are all of the needed tools.

A **Pipe/Tubing Cutter (*Figure 4*)** is preferred over a saw of any kind for cutting the copper pipe to length. This is because the tube cutter makes a clean and non-deforming cut that has zero length loss (no kerfs width or copper sawdust) and is always perfectly square to the tube. Half-inch copper pipe can be cut with either the mini-cutter used for smaller tubes or the next size up, which will cut tubing up to two inches or so in diameter. These cutters work by bringing a cutter wheel up against the tube surface at the cut point and then rotating the cutter around the pipe, with the pipe pressed between two rollers and the cutter wheel, and gradually tightening up on the cutter wheel force as you run the cutter around the pipe. This rotate - tighten - rotate process is continued, with the tightening being done in small increments as you go, until the pipe is parted. There may be a small burr along the cut edges of both pipe sections, easily removable with the de-burr blade that is mounted on the tube cutter frame for the larger cutters, or is a separate tool in the case of the mini cutters. A pocket knife will also do the job nicely.

Figure 4 : Pipe/Tubing Cutter

While this article provides the instructions and dimensions for fabricating a 1.25-meter antenna, these plans, with some minor modifications as to pipe lengths, can be used to build a J-pole for most any of the ham bands. There is a standard formula **(*Figure 5*)** that is applied to derive the various cut lengths for the copper pipe, as follows :

- Long element - 705'/frequencyMHz or 8460"/frequencyMHz
- Short element - 234'/frequencyMHz or 2808"/frequencyMHz
- Inter-element spacing - 22'/frequencyMHz or 264"/frequencyMHz
- Feed point location - 23'/frequencyMHz or 276"/frequencyMHz

Note that the inter-element spacing is the distance between the pipes, not their center-to-center pitch, and that the feed point distance is its location above the center of the tee.

1.25M J-Pole Antenna - Continued on page 32

1.25M J-Pole Antenna - Continued from page 31

Applying the standards from the illustration or the text above, and based on the center of the 1.25-meter band at 222 MHz, we would get the following dimensions :

- Long element - 8460”/222 MHz = 38.108”
- Short element - 2808”/222 MHz = 12.649”
- Inter-element spacing - 264”/222 MHz = 1.189”
- Feed point location - 276”/222 MHz = 1.243”

I did some rounding to get lengths that would work together to fit the entire project into a single five-foot length of pipe, purely for purchase and cutting convenience. Actual final element lengths are adjusted by use of brass screws installed into the copper pipe caps, as we will discuss shortly.

Once all of the component parts, needed supplies, and appropriate tools are gathered together, it is time to begin the actual build of the antenna. We will begin by cutting all of the required copper pipe lengths. I found it easier to measure and mark the pipe at the various cut points, starting with the shortest required length of one inch (1”). After that, cut a piece that is twelve and one-half inches (12-1/2”) long. Finally, the thirty-eight and one-quarter inches (38-1/4”) piece was cut, leaving eight and one-quarter inches (8-1/4”) of leftover pipe **(*Figure 6*)**, which is installed as the mounting stub below the J-pole proper.

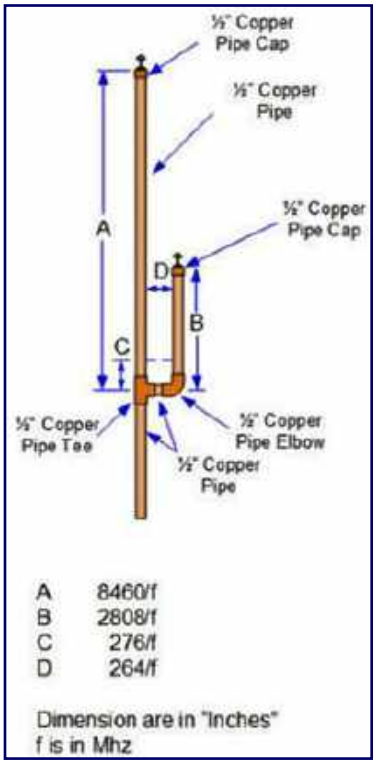


Figure 5 : J-Pole Formula

Next up is the preparation of the pipe and the pipe fittings for sweating. “Sweating” is the term used for the process of soldering pipe and pipe fittings together. This is a skill that takes a little bit of practice before one feels comfortable in performing the task. However, once the skill is developed, it is not soon forgotten. The trick in sweating pipe is to have clean joining surfaces, use adequate flux, and apply only enough heat to get the job done.

It is important that the heat is not excessive, as too much heat will cause physical changes in the metal that will make it almost impossible to successfully join the pipe and fitting. Light heat, moving quickly across the joint and heating the joint just below the point where the solder will be introduced is the best method. Let the heat of the metal melt the solder and draw it into the joint.

Figure 6 : Copper Pipe Cut to Length

Cleaning the pipe and fittings before sweating is a very important step and must not be overlooked. Clean the inside joining surfaces of your pipe fittings using the wire bottle brush or some emery cloth, making sure to then clean out any dust formed by the cleaning process. Clean the outside of the pipe ends that will be joined by scrubbing the pipe with emery cloth. Again, be sure to remove any dust particles that may have resulted from the cleaning process. I actually have a very handy tool that is a dual wire brush **(*Figure 7*)**, bottle brushes on each end and a pair of hollow circular brushes in the center. The bottle brush cleans the inside of the fittings and the hollow circular brush cleans the outside of the pipe.

1.25M J-Pole Antenna - Continued on page 33

1.25M J-Pole Antenna - Continued from page 32

Another important preparatory step is to make some modifications to the 1/2" copper pipe caps. If the caps that you purchase are domed slightly, as mine were, you will need to "flatten" the dome on each cap. There are two easy ways to do this. One way is to place the cap on the anvil step of your bench vise and then use a hammer and a small piece of hardwood (oak, maple, etc.) to flatten the dome via impact. The other easy way is to sandwich the pipe cap between two pieces of hardwood in the jaws of your bench vise and use the vise as a press to flatten the dome. Once the dome has been flattened, ascertain that the cap will still fit on the pipe properly. Then, take the cap off the pipe and mark the center of the flattened end of the cap. Center-punch this mark, and then drill a 5/32" hole at that center-punched mark. Now install a 6-32 x 3/8" plated machine screw and a 6-32 brass hex nut to each copper pipe cap. The screw must be installed in such a manner that the head of the screw is inside the pipe cap, and the nut is just snug enough to be held flat against the surface of the pipe cap (***Figure 8***). These screws are for clamping purposes only and will be removed from the outside later, dropping through the pipe. This is to be done to both of the 1/2" copper pipe caps.

Figure 7 : Tube/ Pipe Wire Brush

Before sweating any pipe, dry fit all of the pieces so that **a**) you have a solid understanding of the location of each of the individual pieces, and **b**) all of the parts and pieces fit together properly. To dry-fit the antenna's parts, start by inserting the 1" pipe into one end of the elbow and the other end of the 1" pipe into the center port of the tee, positioning the fittings so that the second port of the elbow is parallel to the top end of the tee, and that the assembly lies flat on the work surface with all of the pipe or fitting openings in a common plane. Insert the 12-1/2" pipe into the second port of the elbow, again ensuring that the assembly still lies flat when it is laid on the bench top with the tee at the left side. Insert the 38-1/4" pipe into the end of the tee that would place this pipe next to and parallel to the 12-1/2' pipe. Insert the 7-1/4" pipe into the opposite end of the tee. Place a cap on the open ends of the 12-1/2" and the 38-1/4" pipes.

Figure 8 : Fittings, Caps with Screws

1.25M Homebrew J-Pole Antenna - Part 2 will be in the July 2023 CrossTalk
Go to : https://gloucestercountyarc.weebly.com/220-j-pole-antenna.html for a downloadable PDF.

WORD TO THE WISE

Efflorescence

According to Wikipedia, Efflorescence is the "migration of a salt to the surface of a porous material, where it forms a coating." "Primary efflorescence" in concrete is a normal for concrete subject to moist conditions. When concrete absorbs external salt-laden liquids (such as where salt is used for ice melting), it can start to degrade, with the liquid re-appearing on the surface as "secondary efflorescence." For poured concrete structures (such as tower bases), extensive "secondary efflorescence" may indicate "internal structural weakness" brought on by the "migration or degradation of component materials."

A Brief History of Amateur Radio EmComm Organization

In the early days, amateur radio and hams were considered irritations and nuisances to the "real" communicators - the commercial sector and the military. We were almost outlawed, and ultimately relegated to the "useless" frequencies of "200 meters and down." That was until it was demonstrated that we could actually be of use as a service. In 1913, college students/hams in Michigan and Ohio passed disaster messages when other means of communications were down in the aftermath of severe storms and flooding in that part of the country. A Department of Commerce bulletin followed, proposing a dedicated communications network of radio amateurs to serve during disasters. Five special licenses were reportedly issued. A magazine article noted that amateurs were now considered to be essential auxiliary assets of the national public welfare.

ARRL was formed in 1914, and disaster response communications as provided by radio amateurs became organized and useful. In 1920, amateur radio was used to help recover a stolen car, of all things! Soon, the use of amateur radio for natural disasters that we traditionally think of now emerged with hams active in responding to deadly flooding in New Mexico and an ice storm in Minnesota.

More organization followed, with a memorandum of understanding emerging with the American railroad system for amateur radio support when the railroad's wire lines were down : There was an ARRL Railroad Emergency Service Committee. There was even a Q-signal designated : QRR, a kind of land SOS. More reports of disaster response communications provided by amateurs appeared in QST, much as they do there and here in this newsletter today. A major New England flood had amateurs supplying the only efficient means of communications from the devastated areas to the outside world, prompting the chairman of the Federal Radio Commission to say the future of radio depended on the amateurs.

Hams worked with the Burgess Battery Company for emergency radio power. Many of us old-timers, including myself, used those batteries when we were kids for our electrical experiments and kits. They looked like tall, thick candle columns! We learned our electrical principles from them. More organization followed, and traffic handling was recommended as the best way to gain discipline and proficiency to prepare for the efficiency and effectiveness needed in response communications situations.

ARRL Field Day was started to prepare amateurs for portable operation, as was necessary in disaster situations when commercial power and means of communications were down. In 1935, the ARRL Emergency Corps was formed with the goal of having an Amateur Radio Emergency Station in every community - a goal that remains just as urgent today as it did then! To wit, just look at today's emphasis on the neighborhood and community as "first responder" and on self-reliance in the post-disaster survival chain. More "served agencies" emerged as potential partners, including the Red Cross. In 1936, major flooding across a 14-state region served as the ARRL Emergency Corps' first major testing, serving well, and solidifying amateur radio's status as a critical disaster response communications asset and public service. Communications operating protocols and the appointment of Emergency Coordinators followed.

Technical advances supported this evolution. Spark-gap transmitters gave way to the vacuum tube, making portable operations more viable. Articles on portable transmitters and receivers appeared in QST. Exploration and experimentation in the VHF region also spurred more development of portable equipment. The development of the variable frequency oscillator, or VFO - something that modern generations of hams take for granted - was at the time a liberating breakthrough offering more versatility and flexibility, and of course more efficiency in meeting the demands of a disaster response communications situation.

Amateur Radio EmComm History - Continued on page 35

Amateur Radio EmComm History - Continued from page 34

World War II meant a shutdown of amateur radio, but many hams joined the War Emergency Radio Service, which did provide some communications during the war period for natural disasters. After the war, ARRL reconstituted its disaster response communications programs and networks, and the first Simulated Emergency Test was run in 1946. The Cold War followed, and the government formed the Radio Amateur Civil Emergency Service (RACES) for civil defense (CD) purposes. It served as the forerunner of the modern emergency management model that we know so well today.

Throughout the 1960s and later up to today, the role, procedures, protocols, equipment, and techniques of amateur radio in public service, disaster, and emergency communications continue to evolve, ebb and flow. This evolution is fueled by advances in Amateur Radio technology and its application, lessons learned from each and every incident that involves amateur communications support.

Rick Palm, K1CE, based on an excellent article titled "QRR : The Beginnings of Amateur Radio Emergency Communications" by Gil McElroy, VE3PKD, that appeared in the September 2007 issue of QST

Article Credit : The ARES Letter for March 15, 2023 - www.arrl.org

ARRL Advocates for Radio Amateurs as FCC Proposes Changes to 60-Meter Band

The Federal Communications Commission (FCC) is seeking comments about changing the secondary allocation available to radio amateurs on 60 meters. The FCC issued a Notice of Proposed Rulemaking (NPRM) on April 21, 2023, that deals with the band. In a prior petition, **ARRL (www.arrl.org)** The National Association for Amateur Radio® urged protecting the existing use of the band by amateurs when adding a new allocation adopted internationally.

Currently, radio amateurs in the US have access to five discrete channels on a secondary basis: 5332 kHz, 5348 kHz, 5358.5 kHz, 5373 kHz, and 5405 kHz. Users of these channels are limited to an effective radiated power (ERP) of 100 W PEP.

The FCC proposes to allocate 15 kHz of contiguous bandwidth between 5351.5 - 5366.5 kHz on a secondary basis with a maximum power of 15 W EIRP (equivalent to 9.15 W ERP). This allocation was adopted at the 2015 World Radiocommunication Conference (WRC-15).

The federal government is the primary user of the 5 MHz spectrum. The government's manager of spectrum use, the National Telecommunications and Information Administration (NTIA), has expressed support for implementing the allocation as adopted at WRC-15. Doing so would result in amateurs losing access to four of the five discrete channels, and power limits would be reduced from 100 W ERP to 9.15 W ERP. However, it would provide access to a new contiguous 15 kHz band that includes one of the current five channels.

In 2017, ARRL petitioned the **FCC (https://bit.ly/42qxJqs)** to keep the four 60-meter channels that fall outside the new band, as well as the current operating rules, including the 100 W PEP ERP limit.

The ARRL petition stated, "Such implementation will allow radio amateurs engaged in emergency and disaster relief communications, and especially those between the United States and the Caribbean basin, to more reliably, more flexibly, and more capably conduct those communications." ARRL said that years of amateur radio experience using the five discrete channels have shown that amateurs can coexist with primary users at 5 MHz while complying with the regulations established for their use.

60 Meter Band Changes - Continued on page 36

60 Meter Band Changes - Continued from page 35

The petition also stated, "Neither ARRL, nor, apparently, NTIA, is aware of a single reported instance of interference to a federal user by a radio amateur operating at 5 MHz to date." In the **NPRM (https://bit.ly/3LUMhrf)**, the FCC recognizes that Canada has already adopted 60-meter allocations and related rules that align with those proposed by ARRL. The Commission wrote, "Finally, we note that Canada has essentially implemented the same rules as ARRL has requested." The FCC proposed to allocate the 15 kHz bandwidth, but stopped short of making a proposal on whether the existing channels should remain allocated to amateur radio and what the power limitations should be. They requested comments on their proposal and the related channel and power issues.

Comments will be due 60 days after the NPRM is published in the Federal Register, which is expected within the next two weeks.

Article Credit : The ARRL Letter for April 27, 2023 - www.arrl.org

NASA Names Three Hams for Artemis II Moon Mission Crew

NASA and the Canadian Space Agency (CSA) announced the four astronauts who will venture around the moon on Artemis II. This will be the first crewed mission on NASA's path to establishing long-term moon science and exploration development. The agencies revealed the crew members on Monday, April 3, 2023, during an event at Ellington Field near NASA's Johnson Space Center in Houston, Texas. Three of the four crew members are amateur radio operators.

The crew of NASA's Artemis II mission (left to right): NASA astronauts Christina Hammock Koch, Reid Wiseman KF5LKT, (seated), Victor Glover, KI5BKC, and CSA astronaut Jeremy Hansen, KF5LKU. Credits: NASA.

"The Artemis II crew represents thousands of people working tirelessly to bring us to the stars. This is their crew, this is our crew, this is humanity's crew," said NASA Administrator Bill Nelson. "NASA astronauts Reid Wiseman, Victor Glover, and Christina Hammock Koch, and CSA astronaut Jeremy Hansen, each has their own story, but together, they represent our creed: E pluribus unum - out of many, one. Together, we are ushering in a new era of exploration for a new generation of star sailors and dreamers - the Artemis Generation."

The crew will work as a team to execute an ambitious set of demonstrations during the flight test.

Their assignments are as follows : Commander Reid Wiseman, KF5LKT, Pilot Victor Glover, KI5BKC, Mission Specialist 1 Christina Hammock Koch, and Mission Specialist 2 Jeremy Hansen, KF5LKU. Koch had planned to study and take her amateur license exam in 2019, but her flight was suddenly rescheduled 6 months earlier than originally planned. She had to immediately begin preparing for her flight instead of studying.

The Artemis II mission is scheduled to launch in November 2024. The approximately 10-day flight test will launch on the agency's powerful Space Launch System rocket, prove the Orion spacecraft's life-support systems, and validate the capabilities and techniques needed for humans to live and work in deep space.

For more information, visit the **NASA (https://www.nasa.gov)** website.

Article Credit : The ARRL Letter for April 6, 2023 - www.arrl.org

Amateur Radio Included in FEMA Guide for National Emergency Preparedness

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

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

The NIMS ICT guide (PDF) is available at : https://bit.ly/40zSfDN

Article Credit : The ARRL Letter for March 23, 2023 - www.arrl.org

Rules Changes Announced for 2023 ARRL Field Day

A new 500 W peak envelope power (PEP) transmitter output category has been introduced for Class A, B, and C stations only. Changes to the Get on the Air (GOTA) station scoring have also been made this year. Contacts made from the GOTA station are worth 5 points, regardless of mode, with no limit to the number of contacts that can be made. Stations can earn a GOTA Coach bonus of 100 points for having a coach supervise at least 10 of the contacts made and logged at the GOTA station.

In addition, changes have been made to the Radio Amateurs of Canada (RAC) section list. The Maritime (MAR) Section has been eliminated, making New Brunswick (NB) and Nova Scotia (NS) individual sections. The Greater Toronto Area section has been renamed Golden Horseshoe (GS) and Northern Territories has been renamed Territories (TER). Participants should make sure their logging software has been updated to reflect these changes.

For a complete list of ARRL/RAC Sections, see **https://contests.arrl.org/contestmultipliers.php?a=wve**.

ARRL Field Day will be held on June 24 - 25, 2023.

For more information and complete rules, visit **https://www.arrl.org/field-day**.

Article Credit : The ARRL Contest Update for March 15, 2023 - www.arrl.org

QST de W1AW
ARRL Bulletin 5 ARLB005
From ARRL Headquarters
Newington CT March 29, 2023
To all radio amateurs

SB QST ARL ARLB005 ARRL Announces Leadership Changes in the Hudson Division

ARRL Director Ria Jairam, N2RJ, who has represented the Hudson Division since 2019, has stepped down, effective March 31, 2023, at 5 PM Eastern.

Vice Director Nomar Vizcarrondo, NP4H, of Englewood, New Jersey, will accede to the Director's chair. Vizcarrondo, who earned his amateur radio license in 1978 at the age of 11, will serve as Director for the remainder of a 3-year term ending December 31, 2024. He was appointed as Vice Director of the Hudson Division in February 2022, following the retirement of previous Vice Director William Hudzik, W2UDT, who held the position from 2011 to 2022.

ARRL President Rick Roderick, K5UR, will announce a successor to Vizcarrondo to fill the vacant Vice Director's seat. The ARRL Hudson Division is comprised of the ARRL Sections of Eastern New York, New York City - Long Island, and Northern New Jersey.

Volunteer Monitor Program Report - March 2023

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 March 2023 activity report of the VM Program.

- Advisory notices were issued to Technician-class operators in Arizona and Florida concerning FT8 operation on 7.074 MHz. Technicians have only CW privileges on that frequency.
- Advisory notices were issued to two Florida Technician-class operators for operating FT8 on 14.074 MHz. Technicians have no operating privileges on 20 meters.
- An advisory notice was issued to an Iowa GMRS operator for unlicensed operation on a 2-meter amateur repeater.
- An advisory notice was issued to a licensee in Pennsylvania for apparent deliberate interference on a 2-meter repeater.
- An advisory notice was issued to a California repeater operator regarding interference from his uncoordinated repeater to a coordinated repeater. Under Section 97.205 of the FCC rules, the licensee of the uncoordinated repeater has primary responsibility to resolve the interference.
- Commendations were issued to operators in Indiana for their work in determining and resolving the source of interference to the W9HD repeater in their area.
- Presentations on the VM Program were made at the ARRL Texas State Convention, Houston, Texas; the Nittany Amateur Radio Club, State College, Pennsylvania, and the .21 Repeater Group Club, Harrisburg, Pennsylvania.

The totals for VM monitoring during February 2023 were 2,047 hours on HF frequencies, and 2,297 hours on VHF frequencies and above, for a total of 4,344 hours. - Thanks to Volunteer Monitor Program Administrator Riley Hollingsworth, K4ZDH

Operating Tip

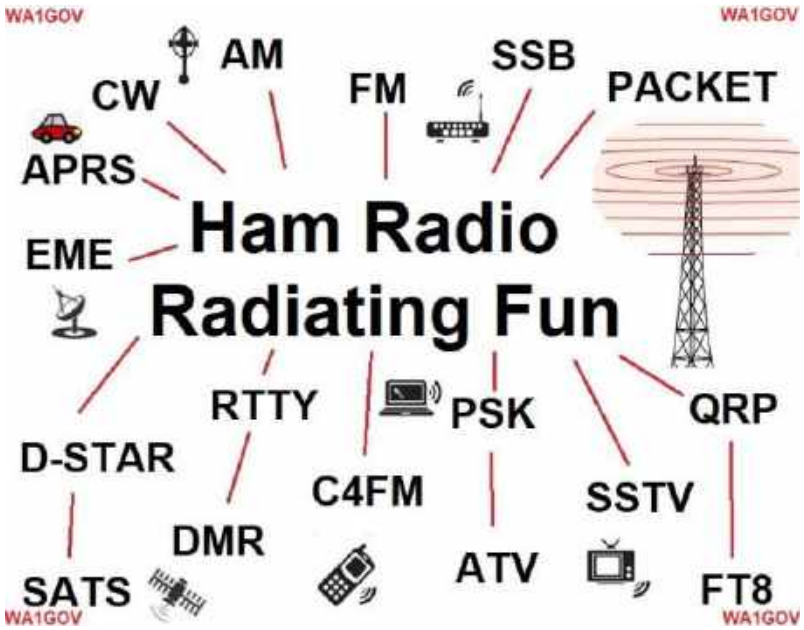
With the Summer storm season and Field Day right around the corner, now would be a great time to give your portable emergency generator a check-up. Don't wait until you need to use the generator to find out it won't start!

Many users of generators do not take the time to properly store them after use. Many are just put away in the back of the garage or into a storage shed without giving it any thought. Here are some tips on how to store them properly :

- If there is still gas in the tank, either drain the gas or add some fuel stabilizer, such as STA-BIL. This will keep the gasoline from deteriorating and usually will make it last for 18 to 24 months.
- Run the generator with the fuel stabilizer, then shut off the fuel supply valve until the generator stops. This will make sure that no gas remains in the carburetor or fuel line. Change the oil using the manufacturer's recommended oil viscosity. The recommendation is usually SAE HD30 for warmer months, or 10W-30 for colder months.
- Clean the generator with a clean cloth, and cover it with a plastic cover or a tarp.
- If you store any gasoline in an approved storage gas can, make sure you add STA-BIL to it. Better yet, pour the leftover gas into your automobile gas tank. Buy some extra oil and a small funnel so that you can add oil next time you run the generator. It is sometimes hard to get the correct oil in the middle of an emergency, and small engines will burn oil on extended run, causing the low oil shutdown to engage.
- Buy an extra spark plug for the generator.
- Store your electrical extension cords and adapters with the generator so they will be right there when you need them.
- If the generator gave you any problems during the last run, take it to an authorized repair facility to have it looked at. The next emergency is not the time to be playing junior repairman with the generator.
- Keep a tag on the generator noting when it was last used and serviced, along with the age of the stabilized gasoline in the tank. Better yet, keep the gas tank empty.
- Read the generator manufacturer's instruction manual and keep a copy handy for reference!

Thanks to the Great South Bay Amateur Radio Club's newsletter, The Compass

Article Credit : The ARRL Contest Update for May 10, 2023 - www.arrl.org



Notable Events on the Timeline of Amateur Radio Disaster Communications

Far from an exhaustive list, here are a few events involving amateur radio communications support over the past 100 years that may help define our role over time and its evolution.

1906 -- According to family lore, radio amateur Barney Osborne, later W6US, provided emergency traffic handling during the San Francisco Earthquake and fire.

1913 -- Hams provided emergency communications during Midwest storms and floods with spark-gap transmitters and crystal receiver sets, as vacuum tubes wouldn't emerge until after World War I and 1919.

1916 -- A national traffic relay system was organized to provide relay of messages cross-country, and 9XE in Illinois originated a message that was received in California in 55 minutes, and on the East Coast an hour after that.

1926 -- The cover of the May issue of QST featured a drawing of a railroad engineer holding an ARRL Radiogram with the caption reading, "Amateurs Give Emergency Service for Railroads When Wires Are Down"

1920s -- A motor provided emergency power to the plates of newly invented vacuum tubes in a station of an "RM" -- a "Radio Man" -- during a Mississippi flood.

1925 -- Amateur radio provided the only communications (5 watts CW) during the failed rescue attempt of caver Floyd Collins.

1933 -- Radio amateurs at W6BYF provided disaster communications for the Long Beach, California earthquake. Although his house was demolished, famous ham Don Wallace, W6AM, operated a portable station through his surviving extensive antenna farm with the help of the Navy in supporting the relief effort.

1935 -- Predecessors of ARES established. ARRL had a vision of them in 1917.

1936 -- The catastrophic floods of the northeast (from Maine through to the Ohio River valley) wrecked the ARRL HQ station in Hartford (along the Connecticut River), with amateur radio again providing support. Famous VHF pioneer and ARRL HQ staffer Ed Tilton, W1HDQ, and his wife provided communications.

1937 -- Dr. Joseph Vancheri, W8BWH, was a key relief communications asset, arranging for aid to refugees from the Johnstown floods.

Late 1930s -- Commercial emergency amateur radio gear appeared and was advertised: an example was the battery-powered 50-S transmitter from Harvey Radio Laboratories of Brookline, Massachusetts.

1948 -- Flooding of Vanport, Washington, after the rupture of a Columbia River dike prompted an Amateur Radio Emergency Corps response under EC W7DIS, with amateurs using handheld radios (walkie-talkies).

1957 -- RACES was involved in providing communications support during the Malibu-Topanga Canyon (California) fires. Deputy Chief Radio Officer W6QJW operated under RACES tactical call sign CPT19 and controlled a net on 3995 kHz. The Gonset Communicator was an iconic Cold War/Civil Defense portable transceiver.

Notable Events - Continued on page 41

Notable Events - Continued from page 40

1964 -- The Great Alaskan Earthquake hit Anchorage, drawing a massive amateur response in handling emergency and health-and-welfare traffic. It was the most powerful earthquake in North American history, and the second most powerful in recorded history of the world. There was sweeping destruction in the city and the region. George Hart, W1NJM, wrote about the amateur response in the July 1964 issue of QST: 314 Alaskan amateurs supported the disaster relief effort, with 1,200 more from around the rest of the country actively supporting them. "KL7DVY reports he operated 20 hours on 2 meters, relaying messages from the Alaska Native Hospital to c.d. headquarters in Anchorage." See the August 2014 issue of QST, Public Service column, "Alaska Shield 2014."

1979 -- Hurricanes Frederic and David wrought destruction on the Gulf Coast and East Coast, respectively. Amateur radio support of relief efforts was in evidence in both cases.

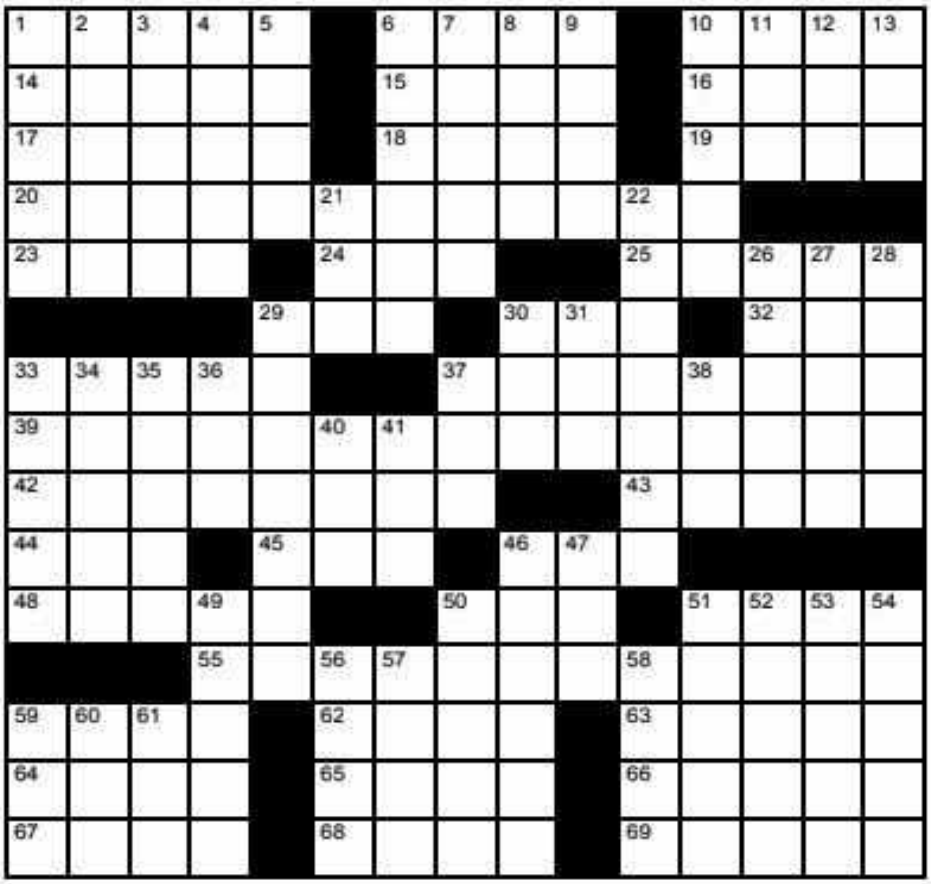
That brings us up to the modern era and the emergence of the contemporary emergency management model. A few of the major events beginning in the 1980s that come to mind are hurricanes Gilbert (1988) and Hugo (1989), and the spate of four hurricanes in 2004 that affected us here in Florida extensively. Hurricane Andrew (1992) also wreaked incredible devastation in Florida. Hurricanes Katrina (2005) and Sandy (2012) were game-changers for emergency management thinking and policy for this country. Amateur radio was extensively involved in all cases. And, of course, amateur radio was involved in the colossal relief effort in the aftermath of the 9/11 attacks.

[Much of the above was culled from an excellent presentation given at the ARRL Pacificon convention in San Ramon, California, 2010, by Bart Lee, K6VK, ARRL State Government Liaison, ARRL Volunteer Counsel, Historian and Archivist, California Historical Radio Society, and lecturer, Antique Wireless Society. A tip of the ARRL fedora to him. - K1CE]

Article Credit : The ARES Letter for April 19, 2023 - www.arrl.org

by Chris Codella, W2PA 11/25/2008

Phunetics



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

Across

1. How puzzle ends
6. Suffix with hard- or soft-
10. Radio personality K2ORS
14. Improvised
15. Suffix with radi- or modul-
16. Put in stitches
17. Whinny
18. Sailor's rum drink
19. Partner of FIGS
20. Outfit for dancing?
23. Dozen dits
24. Mo. for VHF QP
25. Legislate
29. Mo. for ID, OK, VA and WI QP's
30. HZ pilgrimage
32. US Army station
33. TA bigwig
37. Barren
39. Newington bar order?
42. NE to ZL from W0
43. They got 11 in '58
44. Tack on
45. Nav. rank
46. Classic rcvr maker from IL
48. Celebrate
50. Sat. type
51. Flex's
55. Shakespearean wireless dance?
59. Maker of the "seven drifty three"
62. RSGB is a member
63. W5 capital last name
64. Function on an HT, say
65. ___ Kringle
66. Classic vinyl
67. Combustible heap
68. If follower, to a programmer
69. C's low in the bands

Down

1. Unchecked items on a DXCC list, for example
2. Brainstorms
3. Adds water to latex, say
4. DXing LIDs, slangily
5. See 58 down
6. DL opera composer
7. Take ___ (travel)
8. Tripod place
9. "Cogito ___ sum"
10. OP lead-ins
11. DXCC item (abbr.)
12. Hams are on it
13. Nets make it up
21. KH6 is in it, but not for DXCC
22. Celebrate
26. Normal operator state in a contest, hopefully
27. Provide food for
28. Low cards
29. HK0 place
30. HHS, predecessor
31. Fire remnant
33. Route to VU from W9, e.g.
34. Tube cap
35. Test, on 7.002 MHz, perhaps
36. Hardly a beauty
37. T
38. Mode on 7.178 MHz, probably
40. W6 area net
41. Sm. radios
46. Decline
47. Jersey call
49. Moldova prefix
50. Large-eyed lemur
51. Lifted, so to speak
52. Crushes, as in a contest
53. Scoundrel
54. Flower towers?
56. Phone op's need
57. Countess's husband
58. With 5 down, ultra short wave moonbounce signal?
59. Brainwave radio?
60. Like yagi elements in winter
61. Shack on wheels

Answers on Page 58

2020-2024 Element 4 Amateur Extra Class License Question Quiz

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

E2E01
Which of the following types of modulation is common for data emissions below 30 MHz?
A. DTMF tones modulating an FM signal
B. FSK
C. Pulse modulation
D. Spread spectrum

E2E02
What do the letters FEC mean as they relate to digital operation?
A. Forward Error Correction
B. First Error Correction
C. Fatal Error Correction
D. Final Error Correction

E2E03
How is the timing of FT4 contacts organized?
A. By exchanging ACK/NAK packets
B. Stations take turns on alternate days
C. Alternating transmissions at 7.5 second intervals
D. It depends on the lunar phase

E2E04
What is indicated when one of the ellipses in an FSK crossed-ellipse display suddenly disappears?
A. Selective fading has occurred
B. One of the signal filters is saturated
C. The receiver has drifted 5 kHz from the desired receive frequency
D. The mark and space signal have been inverted

E2E05
Which of these digital modes does not support keyboard-to-keyboard operation?
A. PACTOR
B. RTTY
C. PSK31
D. MFSK

E2E06
What is the most common data rate used for HF packet?
A. 48 baud
B. 110 baud
C. 300 baud
D. 1200 baud

Element 4 Amateur Extra Class Quiz - Continued on page 44

E2E07
Which of the following is a possible reason that attempts to initiate contact with a digital station on a clear frequency are unsuccessful?
A. Your transmit frequency is incorrect
B. The protocol version you are using is not supported by the digital station
C. Another station you are unable to hear is using the frequency
D. All these choices are correct

E2E08
Which of the following HF digital modes can be used to transfer binary files?
A. Hellschreiber
B. PACTOR
C. RTTY
D. AMTOR

E2E09
Which of the following HF digital modes uses variable-length coding for bandwidth efficiency?
A. RTTY
B. PACTOR
C. MT63
D. PSK31

E2E10
Which of these digital modes has the narrowest bandwidth?
A. MFSK16
B. 170 Hz shift, 45-baud RTTY
C. PSK31
D. 300-baud packet

E2E11
What is the difference between direct FSK and audio FSK?
A. Direct FSK applies the data signal to the transmitter VFO, while AFSK transmits tones via phone
B. Direct FSK occupies less bandwidth
C. Direct FSK can transmit faster baud rates
D. Only direct FSK can be decoded by computer

E2E12
How do ALE stations establish contact?
A. ALE constantly scans a list of frequencies, activating the radio when the designated call sign is received
B. ALE radios monitor an internet site for the frequency they are being paged on
C. ALE radios send a constant tone code to establish a frequency for future use
D. ALE radios activate when they hear their signal echoed by back scatter

E2E13
Which of these digital modes has the fastest data throughput under clear communication conditions?
A. AMTOR
B. 170 Hz shift, 45 baud RTTY
C. PSK31
D. 300 baud packet

Gloucester County Amateur Radio Club
General Membership Meeting Minutes
Wednesday, May 3, 2023

The meeting was opened @ 1930 Hours by **President Jonathan Pearce WB2MNF** with the Pledge of Allegiance to the Flag.

It was held at the Mantua Masonic Hall because the Pfeiffer Community Center in Williamstown is under repair.

The meeting started out with general announcements, welcoming of new members and a Zoom presentation on AREDN/MESH by Randy Smith WU2S.

President Jonathan Pearce WB2MNF opened the business portion of the General Membership Meeting at 2052 Hours.

ATTENDANCE :

- In person : 33
- ZOOM : 12

The minutes of the April General Membership Meeting were approved.

TREASURER : Alan Arrison KB2AYU thanked all who have renewed since we have now met our budgeted goal. Also thanks for the donations that arrived with renewals.

YTD Budgeted items :

- **Income : $6,538**
- **Expenses : $2,596**
- **Net Gain : $3,942**

All but about $1,000 is left from the ARRL grant and about $4,000 is left from the GoFundMe/Rebuilding Fund. About $800 is left in the Foundation Grant, which will be used for cabling, connectors, etc. The Treasurer's Report was accepted.

CLUBHOUSE : Alan Arrison KB2AYU reported that the outside electrical service panel has been remounted behind the Clubhouse with room for expansion. Possible additions include mini-split air conditioning units and wiring for the new towers.

Jim Wright N2GXJ wants us to keep better track of contacts made using the Club call W2MMD so that these records can be uploaded to eQSL or LOTW. Jim asks that ADIF logs be sent to him for uploading.

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

- June 7 : **Pizza Night** (no program)
- July 5 : **Len Rust W2LJR** on logging
- August 2 : **Tony Starr K3TS** on Mobile Radio Installation
- September 5 : **Chuck Colabrese WA2TML** on Radio Propagation
- October 4 : **Jim Wright N2GXJ** on design of the Club's 160-meter loop antenna

May 2023 General Membership Meeting Minutes - Continued on page 46

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

- May 7 - 8 : Indiana, Delaware, New England, and 7 call area QSO parties
- May 13 - 14 : CQ-M International DX Contest
- May 20 - 21 : King of Spain CW Contest
- May 27 - 28 : CQ WPX CW Contest

FIELD DAY : Tony Starr K3TS showed a revised plan, now that we have obtained permission to expand into the field east of the Clubhouse. We will use wire antennas, oriented N/S in order to favor E/W propagation. Band pass filters for 80, 40, and 20 meters have been ordered to minimize problems due to harmonics. **Jim Wright N2GXJ** commented that we can still add more stations, e.g. GOTA. **John Hill W2HUV** asked about using a tri-band beam, but Tony wants to stick with mono-band antennas.

PUBLIC SERVICE : Gloucester County ARES Coordinator **Bob Keogh KD2NEC** noted that, in the past, ARES/RACES focused upon serving local governments, but now the emphasis is to support non-government agencies such as the American Red Cross (ARC) and hospital groups and to explore new technologies such as AR-EDN/MESH Networking. There will be several opportunities to practice field operations this year including the MS-150 City-To-Shore event, the ARES Annual Simulated Emergency Test and ARRL Field Day. Bob is recruiting radio operators. Ideally we want to be in a position to place two radio operators in each emergency shelter. Currently we have 14 from Gloucester County that have registered with the ARC but could use more. Bob concluded by saying that he would like to organize a GCARC tour of the Battleship NJ.

TECHNICAL COMMITTEE : Jonathan Pearce WB2MNF said that while the VHF room has been dismantled for upgrading, he has been investigating use of NODE RED software for dealing with logic information from radios, e.g. automatic antenna switching based upon operating frequency. And a reminder that the TechNet Zoom meetings are on the 1st and 3rd Mondays of each month.

EDUCATION : Chris Prioli AD2CS reported that session 4 of the licensing classes resulted in 5 Technician, 6 General and 4 Extra Class licenses. The total for sessions 1 - 4 is 15 Technician, 17 General and 16 Extra Class licenses.

CONSTITUTION COMMITTEE : Ron Block NR2B has assembled a team to prepare an updated draft of the GCARC Constitution. The next meeting will take place on Wednesday, May 10, 2023 at 7 PM via Zoom.

OLD BUSINESS : None.

NEW BUSINESS :

We have an open Trustee position and **Jonathan Pearce WB2MNF** would like to find Club members interested in this position. Trustees are responsible for hard assets, such as equipment, as well as soft assets, such as passwords.

MISCELLANEOUS :

Jonathan Pearce WB2MNF asked if the membership preferred the meeting format used tonight, in which the program was conducted before the Business Meeting, or the usual way of holding the Business Meeting first. Most preferred holding the Business Meeting first.

The meeting concluded @ 2132 Hours.

Respectfully Submitted,
Karl Frank W2KBF,
GCARC Recording Secretary

Gloucester County Amateur Radio Club
Board of Directors Meeting Minutes
Wednesday, May 17, 2023

Meeting opened @ 1902 Hours by President Jonathan Pearce WB2MNF.

ATTENDANCE :

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

The minutes of the April BoD Meeting were approved.

NEW MEMBER APPLICATIONS :

The following applications were received and approved since the last BoD meeting :

- **Joseph Gallagher, KC2VAQ : General Class of Woodbine, NJ**
- **Jacques Latoison, KC3VYU : Technician Class of Chester, PA**
- **David Wade KD2NZS : Amateur Extra Class of Las Cruces, NM for Club Life Membership**

TREASURER : Alan Arrison KB2AYU reported YTD budgeted items :

- **Income : $6,623**
- **Expenses : $2,674**
- **Net Gain : $3,949**

This includes approximately $800 in donations received when members renewed their Club membership and $105 from ARRL membership renewals. We need membership approval to pay the $300 bill for alarm keypad service. The Treasurer's report was accepted.

CLUBHOUSE : Frank Romeo N3PUU wanted to acknowledge work recently done at the Clubhouse by **Earl Moore KC2NCH**. **Alan Arrison KB2AYU** is concerned with eliminating a ground hog which is digging under the Clubhouse. **Jonathan Pearce WB2MNF** has received a letter from the 4-H that will support the zoning permit for our new towers. We have agreed to work with the 4-H by providing Wi-Fi coverage to their announcement booth, kitchen area for credit card transactions and also for security cameras. We don't yet know how far into the facility Comcast will run cable. **Bill Price NJ2S** suggested that **Mark Clark N3QMJ** may be a good contact for this matter.

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

MEMBERSHIP : Approximately 30 have missed the renewal deadline and will receive a "Sorry to see you go" message from membership chair **Chris Prioli AD2CS**. Rejoining the Club will not require a new application, but will require BoD approval.

FIELD DAY : Jim Wright N2GXJ reviewed the plan in the absence of Field Day Chairman **Tony Starr K3TS**. We will have 7 stations (not counting satellite and free VHF) with three on 20 meters (CW, digital and phone). Tony has purchased band pass filters and is making tuned stubs to minimize mutual interference between bands. We plan to walk around the site this Saturday (May 20) at 10 AM.

HAMFEST : Bill Price NJ2S has not heard back from the Scout Troop regarding Hamfest food. **Jonathan Pearce WB2MNF** wants to publicize the fact that our new towers were funded by an ARRL grant and is considering asking **Atlantic Division Director Robert Famiglio K3RF** to participate in a "roll out" at the Hamfest.

CLUB NETS : Jim Clark KA2OSV reports only 3 to 4 check-ins to the 10 meter nets. **Bill Price NJ2S** will be introducing the Traders' Net as part of the weekly Thursday Net on the W2MMD 2 Meter repeater.

EDUCATION COMMITTEE : Chris Prioli AD2CS reports the latest round of licensing classes have started with 6 enrolled for Technician and 4 for General (no Extras).

TECHNICAL COMMITTEE : Chris Prioli AD2CS is planning a two-part course in basic soldering skills, to be conducted at the Clubhouse sometime after the July 4th holiday. The first part will consist of the proper way to do thru-hole soldering to a circuit board and the second part will involving building a functioning kit. This will be announced at the June 7, 2023 General Membership Meeting.

CONSTITUTION COMMITTEE : Ron Block NR2B said the committee meets again next week to continue its work.

FOX HUNT : Jim Wright N2GXJ reported that **Marc Federici WM2Y** was first to find the Fox on May 7. **Chris Prioli AD2CS** had hidden the transmitter, but placed the box that usually holds the transmitter nearby as a visual decoy.

OLD BUSINESS : None

NEW BUSINESS :

Carl Wittig N2CRW was nominated as Trustee by **Jonathan Pearce WB2MNF** and approved by the BoD to replace **Bob Fields KC6AOH** who has not renewed his membership.

Jonathan Pearce WB2MNF has been brainstorming the possibility of applying for a new ARDC grant that would provide a solar power system for the Clubhouse. This would involve contacting the Electrical Engineering Department at Rowan University to see if they would be interested in collaborating on a real-world design project. Jon envisions a stand-alone system, but **Alan Arrison KB2AYU** notes that even a grid tie system would help with our annual $2000 power bill.

Frank Romeo N3PUU noted that the Clubhouse really could use a ramp for handicapped access. The BoD agrees, although this could be expensive. **Jim Clark KA2OSV** said that Home Depot may have a program that could help out and he will look into this.

May 2023 Board of Directors Meeting Minutes - Continued on page 49

May 2023 Board of Directors Meeting Minutes - Continued from page 48

MISCELLANEOUS :

Jeff Garth WB2ZBN said the Pfeiffer Community Center has reopened and will be available for the June 7, 2023 General Membership Meeting.

The BoD meeting was adjourned @ 2012 Hours.

Respectfully Submitted,
Karl Frank W2KBF,
GCARC Recording Secretary

Sunday, June 18, 2023

ARRL DX Contest, CW
February 18, 2023

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

Class : SOUAB HP
QTH : SNJ
Operating Time (hrs) : 29
Location : USA

Summary :

Band	QSOs	Mults
160 :	34	29
80 :	156	56
40 :	193	75
20 :	445	82
15 :	463	90
10 :	735	96
Total :	2,026	428

Total Score : 2,601,384

Club : Frankford Radio Club

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Comments :
Rig : FTDX-9000D/OM Power 2000A+ amp
Antennas :
160m Inverted L over 100ft tree
80m dipole @ 90ft
40m dipole @ 85ft
10m,15m,20m Force 12 C3S tribander @ 52ft on AB-577 military mast
Low band RX ant - HiZ4

29 hours in the chair but it seemed like more.
Wow, what amazing fun!

"Ain't no meters like 10meters" as the saying goes! Lifetime high score from home on my modest station. ARRL DX CW personal milestones - highest number QSOs (over 2000), highest number mults (over 400), highest score. More than doubled my score from last year, thanks to 10m being wide open both days - over 700Qs on 10m, and almost made DXCC on that band. Had a great time filling the log with JA's on 15m late Sunday afternoon (even a bunch of 100W stations are in the log). Some great mults were on the air. Just after midnight Friday, I checked 20m and it was wide open to EU, I ran EU there from 0500 to 1000UTC, took a 30min nap, then back in for the start of the high band runs. I was pleased with the HiZ4 on 160 this time, some stations in EU were noticeably stronger. Also the FTDX-9000D APF works amazingly well on boosting signals out of the noise.

CU in 2 weeks for ARRL SSB, and next weekend for CQ 160 SSB! Thanks to all my dx friends for the QSOs!

ARRL DX Contest, CW
February 18, 2023

Call : W2YC
Operator (s) : W2YC
Station : W2YC

Class : SOAB HP
QTH : SNJ
Operating Time (hrs) : 29
Location : USA

Summary :

Band	QSOs	Mults
160 :	40	30
80 :	205	57
40 :	336	75
20 :	380	81
15 :	329	93
10 :	440	92
Total :	1,730	428

Total Score : 2,221,320

Club : Frankford Radio Club

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Comments :

Over 25 stations were worked on all 6 bands, and well over 150 more on 5 bands.

73 Darrell AB2E

Contest : ARRLDXCW

Band	QSOs	Pts	Cty	Pt/Q
1.8	34	102	29	3.0
3.5	156	468	56	3.0
7	193	579	75	3.0
14	445	1,335	82	3.0
21	463	1,389	90	3.0
28	735	2,205	96	3.0
Total	2,026	6,078	428	3.0

Score : 2,601,384
1 Mult = 4.7 Q's

"Wow, what great rates, and seemed like a band was runable most of the time. Had some good S&P band map sweeps when the rate slowed down on CQing, also with high rates. Missed P44W on 160, saw him called out but could not hear him. Worked ZP5AA on 4 bands, missed 80 & 160 (thanks Dale N3BNA)."

73 Darrell AB2E

ARRL DX Contest, CW
February 18, 2023

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

Class : SOUAB HP
QTH : SNJ
Operating Time (hrs) : 32
Location : USA

Summary :

Band	QSOs	Mults
160 :	15	12
80 :	134	49
40 :	175	62
20 :	275	84
15 :	375	83
10 :	601	97
Total :	1,575	387

Total Score : 1,828,575

Club : Frankford Radio Club **11**

Comments :
What a difference a year makes. Last year, the SFI never got above 100, but this year has seen over 200, with this contest at about 170, and of course, 10 meters was the star of the show. I almost made DXCC on that band alone! I had about 390 more Qs than last year, and over 60 more mults, so I would say that is a nice improvement. Many thanks to all the DX stations who hung in there with us and made it a great event, and please come back in a few weeks for SSB, as it will not be much fun without you. 73 for now!

de K3TS

CQ 160 Meter Contest, SSB
February 24, 2023

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

Class : Single Op Assisted HP
QTH : SNJ
Operating Time (hrs) : 4
Location : USA

Summary :
Total : QSOs : 257 State/Prov : 31 Countries : 2
Total Score : 19,107

Club : Frankford Radio Club
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Comments :
Rig : FTDX-9000D/OM Power 2000A+
Antennas : 160m Inverted-L over 100ft tree
RX : HiZ4 4-square

Gee, that was painful. Terrible condx in general for the times I could operate. Never heard/worked EU. Only DX was ZF2VE and PJ4G. Even working PA was a challenge, most were weak. Set up for next weekend's ARRL DX SSB test. CU then!

73 Darrell AB2E

Contest : CQ160SSB

Band	QSOs	Pts	StP	DXC	Pt/Q
1.8	257	579	31	2	2.3
Total	257	579	31	2	2.3

Score : 19,107
1 Mult = 7.8 Q's

CQ 160 Meter Contest, SSB
February 24, 2023

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

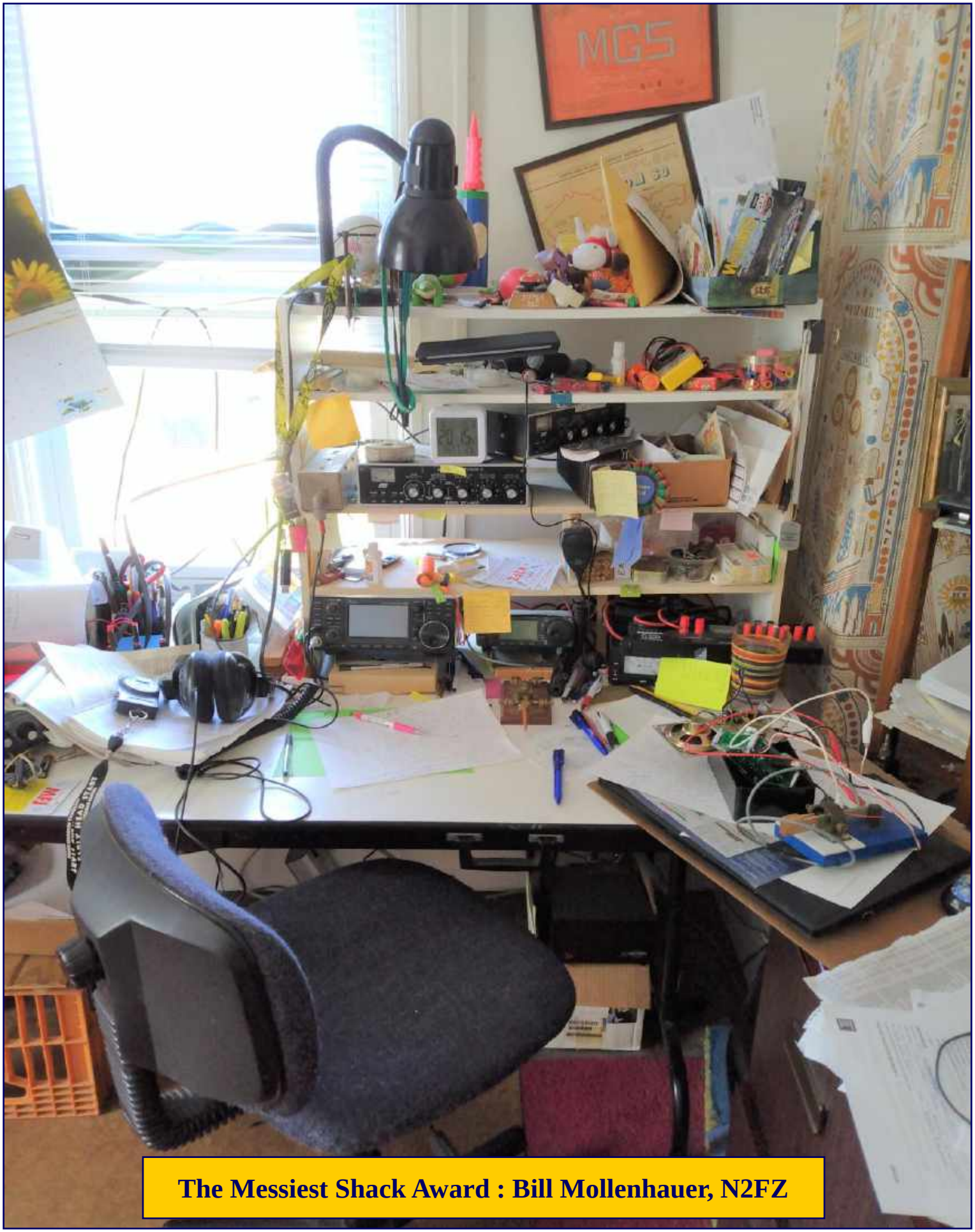
Class : Single Op Assisted HP
QTH : SNJ
Operating Time (hrs) :
Location : USA

Summary :
Total : QSOs : 101 State/Prov : 28 Countries : 2
Total Score : 6,750

Club : Frankford Radio Club **14**

Comments :
Just warming up the pipes and the microphone for next week's ARRL DX SSB contest. Conditions generally noisy, but I did work two DX stations, one of them in Europe. Hopefully next week I don't need to spend much time on this band, because a phone contest on 160 is simply a bad idea. 73 and see you in the ARRL DX SSB next week.

de K3TS



The Messiest Shack Award : Bill Mollenhauer, N2FZ

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

Name/Callsign	DXCC
Bill Grim, W0MHK	352
Dave Strout W2YC	249
Darrell Neron, AB2E	330
John Hill, W2HUV	263
Ken Denson, WB2P	248
Vinnie Sallustio, N4NYY	246
Tony Starr, K3TS	223
Jim Wright, N2GXJ	213
Dennis Sandole, K2SE	204
Matt Wilson, K2MFW	201
Sheldon Parker, K2MEN	200
Howard Marder, WA2IBZ	144
Christopher Wawak KC2IEB	141
Eric Morris, N2BRJ	127
Phil Nunzio, WA3RGY	126
Rich Subers, W2RHS	119
Steve Farney, W2SEF	111
Bart Kleczynski, AC2PT	106
Chuck Capasso, WB2PGE	103
Curt Myers, K2CWM	91
Harry Strahlendorf Jr, W3DNQ	87
Jim Clark, KA2OSV	71
Lee Marino, N2LAM	62
Updated As Of 05/19/2023	

Blue, Wine & BBQ
June 24 - 25, 2023
1200 to 1700 Hours
Gloucester County 4-H Fairgrounds

More information can be found at :
https://bit.ly/41vho2T

ARRL SNJ Section Convention and Hamfest

Presented By The

Gloucester County Amateur Radio Club
W2MMD

Celebrating Our 64th Year
www.w2mmd.org

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

45th Annual Hamfest : September 10, 2023

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

W2MMD Clubhouse : (856) 244-6914

(Please, no car warranty calls!)

June Birthdays

Congratulations to our members who are celebrating a birthday this month

Andreas Asch, N2MVD
Albert Christopher, KD2PDW
Kenny Denson, WB2P
Glenn Dougherty, N2YIO
Peter Harow, W2QB
David Paster, AC2IQ
Chris Prioli, AD2CS
Melissa Seidner, KE2BEK
Gregg Valentine Sr, KD2VBH

In Memoriam - June Birthdays

Silent Keys :
Joseph Anlage, W2PH
Joseph Arsenault, WA2KDV
Joshua Brehm Sr, AE2L
Raymond Buirch, KB2BIG
John Cliver III, N2NLE
Edwin Datz Sr, N2PJV
Harry Gindhart, KE3SN
Helmut Leibfarth, WA2LTY
Robert Marshall, N2BDH
Philip Mattison, WA2WOD
Ken Newman, N2CQ (President 1970)
Ralph Ralls Sr, WA2CVW (Charter Member)
Arthur Roberts, W2UNI
Raymond Schnapp, WB2NBJ (President 2001-2004)
Charles Sketchley, K2PQD (Charter Member)
Francis Snyder, WB2TKN

Full Strawberry Moon - June 3, 2023 @ 1143 Hours

Used by the Algonquin, Ojibwe, Dakota, and Lakota peoples, among others, this name came about because ripe strawberries were ready to be gathered at this time. Similarly, Berries Ripen Moon is a Haida term. Blooming Moon (Anishinaabe) is indicative of the flowering season. The time for tending crops is indicated by Green Corn Moon (Cherokee) and Hoer Moon (Western Abenaki). Eighteenth-century Captain Jonathan Carver wrote that Native Americans whom he had visited used the term Hot Moon. The Tlingit used the term Birth Moon, referring to the time when certain animals are born in their region. Egg Laying Moon and Hatching Moon are Cree terms for this period.

Old Farmer's Almanac - www.almanac.com

"Dinner @ The Clubhouse"
Wednesday, June 28, 2023 @ 1800 Hours
W2MMD Clubhouse

June 2023 Contest Calendar

WA7BNM Contest Calendar : www.contestcalendar.com

Walk for the Bacon QRP Contest	0000Z-0100Z, Jun 1 and 0200Z-0300Z, Jun 2
CWops Test	0300Z-0400Z, Jun 1
CWops Test	0700Z-0800Z, Jun 1
NRAU 10m Activity Contest	1700Z-1800Z, Jun 1 (CW) and 1800Z-1900Z, Jun 1 (SSB) and 1900Z-2000Z, Jun 1 (FM) and 2000Z-2100Z, Jun 1 (Dig)
SKCC Sprint Europe	2000Z-2200Z, Jun 1
PODXS 070 Club Three Day Weekend Contest	0000Z, Jun 2 to 2359Z, Jun 4
NCCC RTTY Sprint	0145Z-0215Z, Jun 2
NCCC Sprint	0230Z-0300Z, Jun 2
HA3NS Sprint Memorial Contest	1900Z-1929Z, Jun 2 (40m) and 1930Z-1959Z, Jun 2 (80m)
K1USN Slow Speed Test	2000Z-2100Z, Jun 2
10-10 Int. Open Season PSK Contest	0000Z, Jun 3 to 2400Z, Jun 4
PVRC Reunion	0000Z-0159Z, Jun 3 and 0000Z-0159Z, Jun 4
Tisza Cup CW Contest	0200Z-1459Z, Jun 3
KANHAM Contest	0600Z, Jun 3 to 0600Z, Jun 4
Wake-Up! QRP Sprint	0600Z-0629Z, Jun 3 and 0630Z-0659Z, Jun 3 and 0700Z-0729Z, Jun 3 and 0730Z-0800Z, Jun 3
Kentucky QSO Party	1300Z, June 3 to 0100Z, Jun 4
UKSMG Summer Contest	1300Z, Jun 3 to 1300Z, Jun 4
IARU Region 1 Field Day, CW	1500Z, Jun 3 to 1459Z, Jun 4
RSGB National Field Day	1500Z, Jun 3 to 1500Z, Jun 4
ARRL Inter. Digital Contest	1800Z, Jun 3 to 2400Z, Jun 4
K1USN Slow Speed Test	0000Z-0100Z, Jun 5
ICWC Medium Speed Test	1300Z-1400Z, Jun 5
OK1WC Memorial	1630Z-1729Z, Jun 5
ICWC Medium Speed Test	1900Z-2000Z, Jun 5
RSGB 80m Club Championship, Data	1900Z-2030Z, Jun 5
Worldwide Sideband Activity Contest	0100Z-0159Z, Jun 6
ARS Spartan Sprint	0100Z-0300Z, Jun 6
ICWC Medium Speed Test	0300Z-0400Z, Jun 6
Phone Weekly Test	0230Z-0300Z, Jun 7
A1Club AWT	1200Z-1300Z, Jun 7
CWops Test	1300Z-1400Z, Jun 7
Mini-Test 40	1700Z-1759Z, Jun 7
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Jun 7
Mini-Test 80	1800Z-1859Z, Jun 7
CWops Test	1900Z-2000Z, Jun 7
CWops Test	0300Z-0400Z, Jun 8
CWops Test	0700Z-0800Z, Jun 8
EACW Meeting	1900Z-2000Z, Jun 8
NCCC RTTY Sprint	0145Z-0215Z, Jun 9
NCCC Sprint	0230Z-0300Z, Jun 9
K1USN Slow Speed Test	2000Z-2100Z, Jun 9
VK Shires Contest	0000Z-2359Z, Jun 10
Asia-Pacific Sprint, SSB	1100Z-1300Z, Jun 10
Portugal Day Contest	1200Z, Jun 10 to 1200Z, Jun 11
SKCC Weekend Sprintathon	1200Z, Jun 10 to 2400Z, Jun 11
AGCW VHF/UHF Contest	1400Z-1700Z, Jun 10 (144) and 1700Z-1800Z, Jun 10 (432)
GACW WWSA CW DX Contest	1500Z, Jun 10 to 1500Z, Jun 11
REF DDFM 6m Contest	1600Z, Jun 10 to 1600Z, Jun 11
ARRL June VHF Contest	1800Z, Jun 10 to 0259Z, Jun 12
Cookie Crumble QRP Contest	1700Z-2200Z, Jun 11
K1USN Slow Speed Test	0000Z-0100Z, Jun 12
4 States QRP Group Second Sunday Sprint	0000Z-0200Z, Jun 12
ICWC Medium Speed Test	1300Z-1400Z, Jun 12
OK1WC Memorial	1630Z-1729Z, Jun 12
ICWC Medium Speed Test	1900Z-2000Z, Jun 12
Worldwide Sideband Activity Contest	0100Z-0159Z, Jun 13
ICWC Medium Speed Test	0300Z-0400Z, Jun 13
NAQCC CW Sprint	0030Z-0230Z, Jun 14
Phone Weekly Test	0230Z-0300Z, Jun 14
A1Club AWT	1200Z-1300Z, Jun 14
CWops Test	1300Z-1400Z, Jun 14
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Jun 14

June 2023 Contest Calendar - Continued on page 57

June 2023 Contest Calendar

WA7BNM Contest Calendar : www.contestcalendar.com

June 2023 Contest Calendar - Continued from page 56

Mini-Test 40	1700Z-1759Z, Jun 14
Mini-Test 80	1800Z-1859Z, Jun 14
CWops Test	1900Z-2000Z, Jun 14
RSGB 80m Club Championship, CW	1900Z-2030Z, Jun 14
Walk for the Bacon QRP Contest	0000Z-0100Z, Jun 15 and 0200Z-0300Z, Jun 16
CWops Test	0300Z-0400Z, Jun 15
CWops Test	0700Z-0800Z, Jun 15
NTC QSO Party	1900Z-2000Z, Jun 15
NCCC RTTY Sprint	0145Z-0215Z, Jun 16
NCCC Sprint	0230Z-0300Z, Jun 16
SARL Youth QSO Party	1200Z-1300Z, Jun 16
K1USN Slow Speed Test	2000Z-2100Z, Jun 16
SMIRK Contest	0000Z, Jun 17 to 2400Z, Jun 18
Pajajaran Bogor DX Contest	0000Z-2359Z, Jun 17
All Asian DX Contest, CW	0000Z, Jun 17 to 2400Z, Jun 18
IARU Region 1 50 MHz Contest	1400Z, Jun 17 to 1400Z, Jun 18
Stew Perry Topband Challenge	1500Z, Jun 17 to 1500Z, Jun 18
West Virginia QSO Party	1600Z, Jun 17 to 0400Z, Jun 18
ARRL Kids Day	1800Z-2359Z, Jun 17
Feld Hell Sprint	1800Z-1959Z, Jun 17
WAB 50 MHz Phone	0800Z-1400Z, Jun 18
Run for the Bacon QRP Contest	2300Z, Jun 18 to 0100Z, Jun 19
K1USN Slow Speed Test	0000Z-0100Z, Jun 19
ICWC Medium Speed Test	1300Z-1400Z, Jun 19
OK1WC Memorial	1630Z-1729Z, Jun 19
ICWC Medium Speed Test	1900Z-2000Z, Jun 19
Worldwide Sideband Activity Contest	0100Z-0159Z, Jun 20
ICWC Medium Speed Test	0300Z-0400Z, Jun 20
NAQCC CW Sprint	0030Z-0230Z, Jun 21
Phone Weekly Test	0230Z-0300Z, Jun 21
A1Club AWT	1200Z-1300Z, Jun 21
CWops Test	1300Z-1400Z, Jun 21
Mini-Test 40	1700Z-1759Z, Jun 21
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Jun 21
Mini-Test 80	1800Z-1859Z, Jun 21
CWops Test	1900Z-2000Z, Jun 21
CWops Test	0300Z-0400Z, Jun 22
CWops Test	0700Z-0800Z, Jun 22
RSGB 80m Club Championship, SSB	1900Z-2030Z, Jun 22
NCCC RTTY Sprint	0145Z-0215Z, Jun 23
NCCC Sprint	0230Z-0300Z, Jun 23
K1USN Slow Speed Test	2000Z-2100Z, Jun 23
UFT QRP Contest	0600Z-0900Z, Jun 24 and 1400Z-1700Z, Jun 24
Ukrainian DX DIGI Contest	1200Z, Jun 24 to 1200Z, Jun 25
His Maj. King of Spain Contest, SSB	1200Z, Jun 24 to 1200Z, Jun 25
ARRL Field Day	1800Z, Jun 24 to 2100Z, Jun 25
K1USN Slow Speed Test	0000Z-0100Z, Jun 26
QCX Challenge	1300Z-1400Z, Jun 26
ICWC Medium Speed Test	1300Z-1400Z, Jun 26
OK1WC Memorial	1630Z-1729Z, Jun 26
ICWC Medium Speed Test	1900Z-2000Z, Jun 26
QCX Challenge	1900Z-2000Z, Jun 26
RSGB FT4 Contest	1900Z-2030Z, Jun 26
Worldwide Sideband Activity Contest	0100Z-0159Z, Jun 27
QCX Challenge	0300Z-0400Z, Jun 27
ICWC Medium Speed Test	0300Z-0400Z, Jun 27
SKCC Sprint	0000Z-0200Z, Jun 28
Phone Weekly Test	0230Z-0300Z, Jun 28
A1Club AWT	1200Z-1300Z, Jun 28
CWops Test	1300Z-1400Z, Jun 28
Mini-Test 40	1700Z-1759Z, Jun 28
Mini-Test 80	1800Z-1859Z, Jun 28
CWops Test	1900Z-2000Z, Jun 28
CWops Test	0300Z-0400Z, Jun 29
CWops Test	0700Z-0800Z, Jun 29
NCCC RTTY Sprint	0145Z-0215Z, Jun 30
NCCC Sprint	0230Z-0300Z, Jun 30
K1USN Slow Speed Test	2000Z-2100Z, Jun 30

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

Crossword Puzzle Answers From Page 42

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 July 2023 issue : Tuesday, June 20, 2023

Club Website www.w2mmd.org
Club E-Mail Reflector: GCARC <*at*> Mailman <*dot*> QTH <*dot*> Net

2023 Club Committees

Standing Committees	Committee Chairs
Budget	**Al Arrison, KB2AYU**
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	**Chuck Colabrese, WA2TML**
Nominations	**Jon Pearce, WB2MNF**
Publicity	**Tony Starr, K3TS**
Repeaters	***Open Chair***
W2MMD Clubhouse Site	**Al Arrison, KB2AYU**

Activity Committees	Committee Chairs
Awards & Certificates	***Open Chair***
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	***Open Chair***
License Testing/VEC Liaison	**Gary Reed, N2QEE**
Membership Roster Database	**Jeff Garth, WB2ZBN**
Programs : General Membership Meetings	**Ron Block, NR2B**
Radio Nets	**Jim Clark, KA2OSV**
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 Meeting
1st & 3rd Mondays Every Month @ 2000 Hours

GCARC HelpNet ZOOM Meeting
Sporadic Mondays @ 1930 Hours

Tuesday Noon Day 2M Net
Every Tuesday @ 1200 Hours

Tuesday & Thursday Night 10M Net
Every Tuesday & Thursday @ 1930 Hours
Tune in on 28.465 MHz or 28.475 MHz

Thursday Night 2M Net
Every Thursday @ 2000 Hours

Meeting Calendar

General Membership Meeting
Wednesday, June 7, 2023
1930 Hours
ZOOM Meeting Only

Board of Directors Meeting
Wednesday, June 21, 2023
1900 Hours
W2MMD Clubhouse

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

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

*** Badges ***

Need a new or replacement badge
Contact "The BadgeMan"

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

Question Pool Answers : E2E01:B; E2E02:A; E2E03:C; E2E04:A; E2E05:A; E2E06:C; E2E07:D; E2E08:B; E2E09:D; E2E10:C; E2E11:A; E2E12:A; E2E13:D