

5th Annual ARRL SNJ Section Convention



Celebrating Our 64th Year

www.w2mmd.org

Presented By The

**Gloucester
County
Amateur Radio
Club**

W2MMD



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

45th Annual Hamfest : Sunday, September 10, 2023

ADMISSION : \$10.00

Non-Ham Spouses and Kids FREE

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

*Gates open at 6:00 am for vendors and tailgaters : **Rain or Shine***

In The Event of Rain, Covered Spaces Will Be Available.

Tailgating rules (open grassy areas only) :

- ♦ \$10.00 per vehicle space, up to 10 feet
- ♦ No reserving / holding spaces for tailgaters not present
- ♦ First Come, First Serve

Table rules (covered pavilions only) :

- ♦ \$15.00 per table (yours), or table space up to 8 feet
- ♦ Tailgating under pavilions will fall under "Table Rules"

Some pavilion spaces have electric • Space price does not include admission

Programs will start at 8:00 am in the Classroom Building

See schedule on the 2023 Hamfest webpage

- ♦ 0800 Hours : Jim Wright, N2GXJ : 160M Wire Loop?
- ♦ 0900 Hours : Carol Richards, N2MM : HF Propagation
- ♦ 1000 Hours : Robert Famiglio, K3RF : ARRL Update
- ♦ 1100 Hours : Chris Prioli, AD2CS : Soldering Done Right

ARRL VEC License Testing will start at 9:00 am

- ♦ Exam Testing In The W2MMD Clubhouse • Exam Fee : \$15.00
- ♦ All examinees are required to have an FRN & e-mail address

2023 Hamfest Membership Special : Join The Club Today & Get 2024 FREE. Go To The Clubhouse For Details

Talk-In Station :
147.180 (131.8) / EchoLink W2MMD-R

*****Special Event Station : W2M*****

- ♦ We will be On-The-Air from 8:00 am to 2:00 pm depending on the band conditions
- ♦ We plan to be on :
 - 40 Meters
 - 20 Meters
- ♦ See our W2M QRZ Page for more details

Grand Prize : \$200.00

+

**Many More Prizes! Door Prize
Drawings Throughout The Day!**

Food And Beverages Catered By



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www.bsatroop9.scoutlander.com

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Version: 2023-09-30

CrossTalk

September 2023

64 Years Of Service To Our Community

Issue 64:09



A 2023 Club Officers

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

Directors - 3 Year Term

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

General Membership Meeting

Wednesday, September 6, 2023 @ 1930 Hours

In-Person & ZOOM

Tech Saturday Forum

Saturday, September 9, 2023 @ 0900 Hours

W2MMD Clubhouse

5th ARRL SNJ Section Convention & 45th Hamfest

Sunday, September 10, 2023

License Exam Session

Thursday, September 14, 2023 @ 1900 Hours

W2MMD Clubhouse

GCARC TechNet ZOOM Meeting

Monday, September 18, 2023 @ 2000 Hours

Board of Directors Meeting

Wednesday, September 20, 2023 @ 1900 Hours

W2MMD Clubhouse

Learning To Solder Class : SMD Class

Saturday, September 23, 2023 @ 0900 Hours

Dinner @ The W2MMD Clubhouse

Wednesday, September 27, 2023 @ 1800 Hours

Tuesday Noon Day 2 Meter Net

Every Tuesday @ 1200 Hours

Tuesday & Thursday Night 10 Meter Net

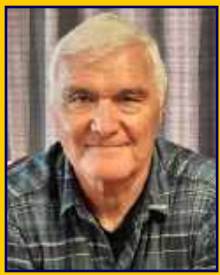
1930 Hours - 28.465 or 28.475 MHz

Thursday Night 2 Meter Net

Every Thursday @ 2000 Hours

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President's Letter

Jon Pearce, WB2MNF



September 2023

Despite being a popular month for vacations there was some active Club activity in August. Following up on his excellent presentation on mobile radio installations at the General Membership Meeting **Tony Starr K3TS** brought his truck over to the Clubhouse for Tech Saturday and demonstrated some of the installation techniques that he had described in his presentation. Other members brought their vehicles and picked up some tips on effective mobile installations. Tech Saturday always creates an opportunity for informal collaboration on projects and conversations no matter the planned topic.

Meteor Scatter Successes

As noted elsewhere in this month's CrossTalk an intrepid group of experimenters at the Clubhouse had some success in bouncing 6 meter radio signals off of meteors and creating contacts with distant stations. Working meteor scatter is one of the more unusual ham radio activities and requires the station with the capability similar to those at the Clubhouse for success. Since this is one of our early efforts we had to figure out how to make things work, but we hope to be better prepared for the events occurring in December and January, especially if we can get the new VHF equipment set up in time. Look for announcements in December for the next meteor scatter event.

2023 Hamfest - September 10, 2023

I hope that every Club member has a large notation on their calendars for September 10th on which is inscribed in big letters "Go to the Hamfest!". Along with Field Day, the Hamfest is one of the two major Club events of the year, and a large volunteer group is needed to run the event, so if you're interested in volunteering please let me know and I'll forward your information accordingly. The Hamfest also provides an opportunity to get together with a large group of hams from various areas, sit through some interesting technical and organizational presentations, and perhaps purchase some valuable amateur radio equipment! Weather for the Hamfest is always great so we expect to have a large turnout of members for this event. (Note - my voice recognition software continues to transcribe "Hamfest" as "hempfest"; please be assured that it is the former! We don't want any dissatisfied customers at the HAMfest!).

Recording Secretary Needed

A pretty nice day was ruined when I received an e-mail from **Karl W2KBF** informing me and the GCARC Board that he wouldn't be seeking reelection as Recording Secretary at the end of 2023. If you're one of the people who actually reads the Board and General Membership Minutes in CrossTalk you know that Karl does an outstanding job of parsing through the somewhat obtuse discussions at these meetings and recording them in a reasonable way. Thanks are certainly in order for his time in this position, but we're now faced with seeking a new Recording Secretary. This position is an officer of the Club with voting privileges and has the obvious responsibility of creating the official record of activities at Membership and Board meetings. This position starts at the beginning of the year and has a one-year term. Karl's musical abilities and prowess at playing the accordion were certainly a plus but aren't required for this position. If you're interested in being nominated for this position at the end of the year please contact me so I can inform the Nominating Committee of your interest.

President's Letter - Continued on page 4

DMR at Tech Saturday

September 9th (the day before the Hamfest) is the **September Tech Saturday Forum** at which **Len Rust W2LJR** will be presenting a session on “**DMR Techniques You May Not Know**”. Most DMR users know how to connect to a repeater or hotspot and link into a talk group but may not be familiar with the DMR capabilities that allow directly calling a distant station without knowing which repeater or hotspot it's using. Similarly, the procedures for sending SMS text messages, sending digital APRS locations, roaming and simplex operation may not be widely known. Len will be covering these topics and others that may broaden the capabilities of DMR users.

If you have a DMR radio and are planning to attend, please email me your DMR ID and callsign. It may be useful for attendees to program several code plug entries in advance of the session so that they can participate in the activities like direct calling and SMS messages but these require the destination ID and callsign to be programmed as a “talk group” that can be selected through the menu. We're hoping to publish a list of code plug additions before the session containing the connection information to allow everyone to participate.

Technical Committee Members Wanted

Many of the Club “committees” actually only include the chairman, but I'm hoping to expand the Technical Committee to include a small group of Club members who are interested in experimenting with various types of ham-related activities and collaborating about those activities. The main vehicle for this collaboration is the Monday night “TechNet”, which will restart on **Monday, September 18, 2023**. The challenge for any such activity, though, is creating subject matter, which I hope that this group can identify. This group can go in many different directions depending on its interests, so please let me know if you're interested in participating.

73 de Jon WB2MNF
GCARC President

GCARC TechNet ZOOM Meeting

Meetings Start @ 2000 Hours

Check-ins start @ 1945 Hours

First & Third Mondays of the Month @ 2000 Hours

Returning Monday, September 18, 2023

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

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

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

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

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

5th Annual ARRL Southern New Jersey Section Convention 45th Annual GCARC Hamfest Forum Schedule



0800 Hours : Jim Wright, N2GXJ : 160M Wire Loop?

Our HF radios are often capable of operating on more ham bands than we ever get to use, mostly due to various practical antenna constraints. What are we missing? Particularly that medium frequency band; that one below HF. You know the one - the 160-meter band. That band most of us have only read about. But there's also those other bands too, we find ourselves with radios supporting that we rarely get a chance to operate on, like 17 meters. We often see spots for good DX listed on 17-meters, but have no ability to get there. How frustrating! Come on out to hear about our adventure and find out what went well, and what didn't, along with some 20/20 hindsight.



0900 Hours : Carol Richards, N2MM : HF Propagation

What are the characteristics of Solar Cycle 25; where it is presently and where it is expected in the next few years. Starting with propagation basics, the terms Solar Index Flux, Solar Noise, the A index, and K indices are described. Followed by a brief description of the factors which affect radio propagation is presented along with a historical basis of past solar cycles and how they might influence the present solar cycle. And finally, a discussion of geomagnetic storms as predictors of propagation as they pertain to Amateur Radio operators.



**Bob Famiglio
K3RF**



**Marty Pittinger
KB3MXM**

**Tom Preiser
N2XW**



1000 Hours : Bob Famiglio, K3RF : ARRL Update

Annual Summary of the ARRL Activities and Current Issues :

- Bob Famiglio, K3RF : ARRL Atlantic Division Director
- Marty Pittinger, KB3MXM : ARRL Atlantic Division Vice Director
- Tom Preiser, N2XW : ARRL Southern New Jersey Section Manager



1100 Hours : Chris Prioli, AD2CS : Soldering Done Right

We will look into the fine art of soldering as it applies to Amateur Radio. Through-hole, surface-mount, desoldering, and component removal for both leaded and lead-free solder. While not a complete course by any stretch of the imagination, this session will nonetheless make the attendee feel more confident when it comes to those routine soldering tasks faced by the Ham in his or her own shack.

General Membership Meeting

Wednesday, September 6, 2023 @ 1930 Hours

Pfeiffer Community Center

Simulcast Live Via ZOOM

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



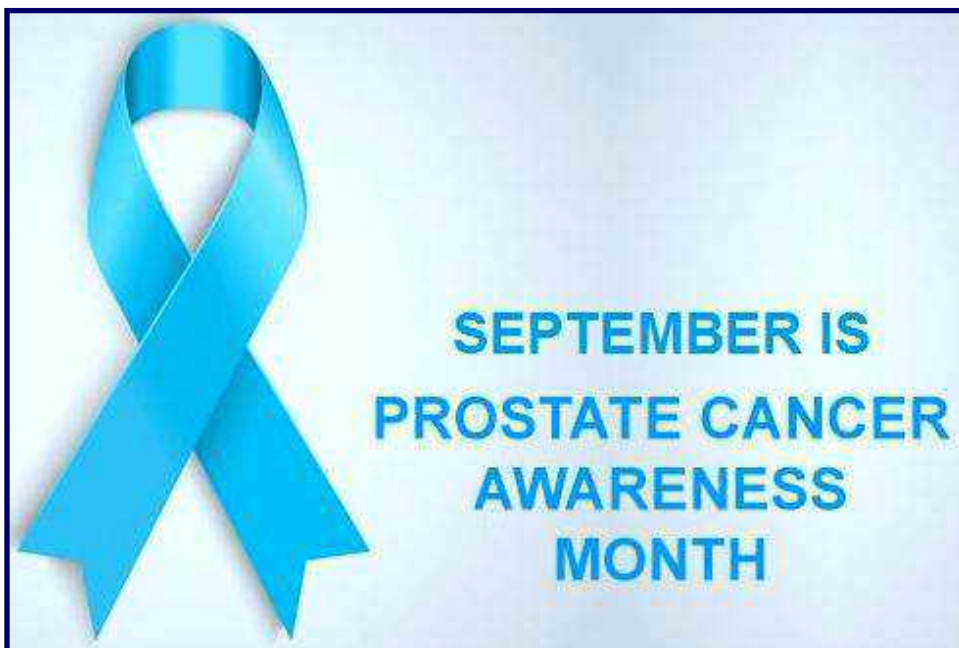
HF Propagation Presented By Carol Richards, N2MM

Now that Solar Cycle 25 has begun, what should we expect and where is it expected to go in the next few years. Carol Richards, N2MM, will join us at the September General Membership meeting to give us her insights. She will start with the propagation basics : Solar Index Flux, Solar Noise, the A index, and K indices; all of which are fundamental to our understanding and basic to band performance.

She will then discuss the factors which affect radio propagation along with the historical basis of past solar cycles and how they might influence the present solar cycle. And finally, a discussion of geo-magnetic storms as predictors of propagation as they pertain to Amateur Radio operators.

Carol holds an Amateur Extra Class license, is an avid contester, and has attained 6B DXCC, 6B WAS, and 5B WAZ.

Please join us at the GCARC September meeting for this interesting and enlightening program.





Tech Saturday Forum
September 9, 2023 @ 0900 Hours
W2MMD Clubhouse

Forum Presentation :
Len Rust, W2LJR : DMR Techniques You May Not Know

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.

DON'T WAIT.
COMMUNICATE. **MAKE YOUR**
EMERGENCY
PLAN TODAY.

SEPTEMBER IS NATIONAL PREPAREDNESS MONTH!



www.ready.gov/September
#NatlPrep



AMERICA'S
PrepareAthon!

Ready



Gloucester County Amateur Radio Club
YouTube Channel

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

Fox Hunt 29 : September 17, 2023 With A 30th Edition Tech Preview

By Jim Wright, N2GXJ

Something "Wicked" is coming from **Marc Federici WM2Y**. He has been working on something special for us for the 30th edition of the GCARC Fox Hunt. Ahead of this, all Club members and their families are invited to come on out for the 29th running of the GCARC Fox Hunt on **Sunday, September 17, 2023** for a good time, and a tech preview of what's to come!

Coinciding with the 236th Anniversary of the signing of the US Constitution in Philadelphia, GCARC is arranging for a friendly foxhunt at 1300 Hours. It's a great opportunity to try something new with your family and fellow Club members, and to better familiarize yourself with the capabilities of your own 2 meter hand held radio equipment while having fun doing it. It can be even more fun when partnering up with Club or family members to chase the fox together. Oh, and did I mention there might be a tech preview of what's to come?

Frequencies details (which "might" be different with the new tech), and general area to search, and things like this, will be sent via email from **Marc** one day in advance to our Club's email reflector, which will then be posted to the w2mmd.org website.

It's not too soon to start forming your hunt teams. Fun for everyone! Reserve the date!

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; Soldering techniques**
- **John Zaruba Jr, K2ZA : Yaesu System Fusion Radio Programming**
- **Jerry Barnish, K2EAB : Radio Astronomy**
- **Mike Thompson, KG4JYA : Radio Astronomy; VARA (HF and FM); WinLink**
- **Steve Farney, W2SEF : WSJT-X; FT-8; LoTW; TQSL; Grid Square**
- **Carl Wittig, N2CRW : Audacity® Audio Editor**
- **Gary Mirkin, WA3SVW : FLDIGI; MMSSTV**
- **Jon Pearce, WB2MNF : Satellite Communications**
- **Frank Romeo, N3PUU : Toilet Installer; Jack-Of-All Trades - Master Of None**
- **John Hill, W2HUV : Local & Remote W2MMD HF Station Operation, Training & Support**

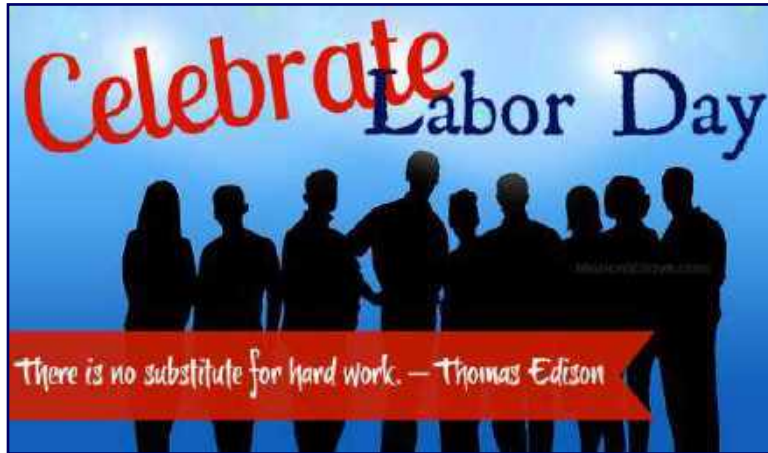


ARRL Learning Center

<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.



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GCARC Monthly VE Exam Testing Summary August 10, 2023

Gary Reed, N2QEE, reports : The monthly VE session was held on August 10, 2023 with one candidate. The candidate received her General upgrade. The session was considered a non-exam session with no exam administered. **Roslyn Marder N2AKL** had passed the Technician exam prior to March 21, 1987 (actually licensed 08/08/1978). Since at the time the exam consisted of 50 questions with a 5 word per minute code test, the FCC recognizes it as credit for the current General license. She provided proof of her past license with an original copy of her license. She was required to pay the \$15 session fee but the FCC \$35 fee was waived since it was an upgrade. Congratulations to Roslyn.

The participating VE's were :

- **Mike N2OWQ**
- **Mike KG4JYA**
- **Rich W2RHS**
- **Steve W2SEF**
- **Chris AD2CS**
- **Lee N2LAM**
- **Jerry K2EAB**
- **Mike N2MHO**
- **Court KD2SPJ**
- **Gary N2QEE**

A big thank you to the participating VE's.

There is now a new question pool for the General exam which was effective July 1, 2023. Next month's VE session will be held on Thursday, September 14, 2023 at 1900 Hours at the W2MMD Clubhouse. There will also be a session at the Hamfest on Sunday, September 10, 2023.

CrossTalk Submissions

This is your Club Magazine. Make use of it.

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

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

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

Submission deadline for the October 2023 issue : Wednesday, September 20, 2023

Club Website www.w2mmd.org

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

DAs and DITs

>> Congratulations to **Roslyn Marder, N2AKL**, for upgrading to **General Class**. Roslyn is a former member, a **Milt Goldman Award** winner, and the XYL of **Life Member Howard Marder, WA2IBZ**.

>> **Glenn Dougherty, N2YIO**, reports : The **Jersey String Band** will be marching in the September Fest in Pennsville at 10am on Saturday, September 9, 2023. Then we head down to Wildwood for the Philadelphia String Band Association Mummers Weekend Parade that starts at 3pm on New Jersey Avenue. All 15 string Bands will be marching in this one. On September 23, 2023, the Band will be partnering with our sponsor group, the Woodbury Heights Fire Department, for *A Night Out With The Mummers & Woodbury Heights Fire Department* at 4pm to 10pm.

>> **Dave Mitchell, WB2PJH**, reports : For those GCARC members interested in either learning Morse Code or becoming more proficient, CWOPs offers an excellent online training program, free of charge.

Go to <https://cwops.org> and check CW Academy. I'm one of the many instructors and classes are filling up for the fall and winter sessions.



Soldering Seminar : SMD Soldering Class

Presented By Professors :
Chris Prioli, AD2CS
John Zaruba Jr, K2ZA

W2MMD Clubhouse @ 0900 Hours
Saturday, September 23, 2023

Go to : <https://gloucestercountyarcs.weebly.com/soldering-seminar.html>
for more information and to register

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

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



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The Education Connection

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



September 2023

The dates for the next three sessions of the GCARC Ham Exam Preparation Classes have been posted, and are on the website and also on the ARRL website for your convenience. I am not planning four sessions this school year. Instead, I am planning only three. The first one, Session VI, will run from the week of 11 September through the week of 13 November 2023. The second session, Session VII, is scheduled for the weeks of 8 January through 15 March 2024, and Session VII is set for the weeks of 22 April through 28 June 2024.

There has been a cost increase to \$35.00 for the classes this school year, as costs of everything from books to printer paper to toner have increased. This price should remain throughout the school year, however, with all three sessions fixed at that price level - unless something really unwelcome happens.

I have had some enrollees since the end of the last session, back in June. There is still quite a bit of demand for our classes, largely because of how successful they are in producing new licensees and license upgrades. I hope that this continues to be the case as time goes by, because I truly believe that the hobby of Amateur Radio is growing every day.

Moving on, it goes without saying that we are all saddened by the recent passing of longtime Club member and **Director Chuck Colabrese WA2TML (SK)**. The reason that I mention this is because Chuck was also a valued member of the GCARC instructional team, instrumental in putting on these classes as we do. Despite our sadness, I am pleased to announce that Club member **John Zaruba Jr K2ZA** has volunteered to fill the vacancy in the instructional line-up created by Chuck's passing. I am grateful to John for stepping up. I know that he will be a big help to me in putting on the Amateur Extra (Element 4) classes, as that is the spot left vacant. John is an Extra-rated ham, and has been active in the Club for many years, having served in various leadership positions over the years. He brings with him a wealth of knowledge and practical experience, and has been an ARRL certified instructor for several years. I am quite happy to have John join our team.

On another topic, September brings us back to our twice-monthly TechNet ZOOM program. The Technical Committee will be providing some information about the upcoming topics to be covered this year. Monday, September 18, 2023 is the first TechNet since the Summer hiatus. Stay tuned for that.

Finally, I would like to remind the Club that our surface-mount soldering class is scheduled for Saturday, 23 September at 0900 at the Clubhouse. This class is a follow-up to the THT classes that were held back in July, which were very well attended. I hope to see just as many students in this class. Please let me know if you are interested in attending so that I can obtain adequate supplies for all students.

I will be presenting a talk on the tips and tricks of soldering as one of the Forums at our Hamfest on 10 September. Please stop in and give a listen - I promise it will be worth your time.

Oh yeah - one other thing I would like to mention. One of our Element 3 (General) students in Session IV who did not test with us, took and passed her Element 3 FCC exam at a local ham club's Field Day event in the area in which she lives. Congratulations to **Jackie Blanch KD2JBY**, a Club member from Manchester Township (Ocean County), on earning her General.

That's it for now... see you next month!

Regional (Atlantic & Hudson Divisions) Hamfests & Events

September 9, 2023 : Lancaster Amateur Radio Club, Lancaster Hamfest, Transit Drive In - 6655, South Transit Road, Lockport, NY. www.w2so.org

September 9, 2023 : Saratoga County Amateur Association, Saratoga County Hamfest, Saratoga County Fairgrounds, 162 Prospect Street, Ballston Spa, NY. www.k2dll.org

September 9, 2023 : Wayne Amateur Radio Club, WRAST Hamfest & Electronics Fair, Wayne United Methodist Church, 99 Parish Drive, Wayne, NJ. www.wrast.org

September 10, 2023 : Butler County Amateur Radio Association, Radio, Computer, Electronics Swapfest, Unionville Fire Department, 102 Mahood Road, Butler, PA. www.w3udx.org

September 15 - 16, 2023 : Delaware Valley Historic Radio Club, Kutztown Antique Radio & Vintage Audio Show, Renningers Kutztown, 740 Noble Street, Kutztown, PA. www.dvhrc.com

September 17, 2023 : Mt. Beacon Amateur Radio Club, MBARC Fall Fest, Slater Chemical Fire Company, 76 Old Glenham Road, Glenham, NY. www.wr2abb.org

September 17, 2023 : Eastern Pennsylvania Amateur Radio Association, EPARA Hamfest, Moose Lodge 1336, 705 Stokes Mill Road, East Stroudsburg, PA. www.qsl.net/n3is

September 23, 2023 : Garden State Amateur Radio Association, GSARA Hamfest, MOESC Parking Lot, 100 Tornillo Way, Tinton Falls, NJ. www.gsara.org

September 26 - 30, 2023 : Antique Wireless Association, Annual AWA Conference, RIT Inn & Conference Center, Henrietta, NY. www.antiquewireless.org

September 30, 2023 : Amateur Radio Association of the Southern Tier, ARAST Hamfest & Computerfest, Cheung County Fairgrounds, Grand Central Avenue, Horseheads, NY. www.arast.info



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Saturday, September 23, 2023

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New Jersey QSO Party

Sponsored by
Burlington County Radio Club
K2TD



Saturday, September 16, 2023 : 1200 to 2359 Hours

<http://www.k2td-bcrc.org/njqp>

Working The Perseids Meteor Shower At W2MMD : August 12 - 13, 2023

By Jon Pearce, WB2MNF

Meteor scatter communications is a rare and fascinating mode of ham radio. It uses radio signals that reflect off tiny rocks that enter the atmosphere at high speeds during meteor showers. These showers happen several times a year with the largest in August and December. To use this mode, you need to prepare well, have special software, and ideally a lot of power, which is fortunately available at the Clubhouse. We decided to try this mode during the Perseids meteor shower on August 12th.

We used the Flex 3000 transceiver and the Elecraft amplifier in the HF room (**Figure 1**), both of which can operate on 6 meters which is the predominant band for meteor scatter communications. The Elecraft can run more than 1000 watts on 6 meters, which is around the power level that we used. We needed a long coax cable to connect the amplifier to the six meter beam connector in the VHF room. Luckily, **Todd KD2ESH** had brought a 50 foot cable with connectors, and we joined it with another 50 foot cable to reach from the amp to the antenna connector. We set up the WSJT program on the Flex radio and chose the MSK144 protocol for meteor scatter. We pointed the beam to the west since that's the direction in which most stations are located; however, this might not be the best strategy because we should aim at the meteors and not the stations. Unfortunately we didn't know the best direction to aim at the meteors at that point.

Most articles about meteor showers focus on seeing meteors which only happens at night, but radio operation can obviously happen anytime. When we started on Saturday morning we found many stations on 50.260 MHz, the standard frequency for meteor scatter. MSK 144 works like other digital modes: it transmits for one time slot and listens for another time slot and repeats this cycle. We had to choose whether to transmit on even or odd time slots and followed an article that suggested using even time slots for stations beaming to the west. MSK 144 is similar to other digital modes in that you only need to start the contact and the software will do the rest. But because meteor scatter is unpredictable, contacts can take a long time because you need a meteor to fly by while you're transmitting and receiving. Some contacts took several minutes to complete.



Figure 1 : The Flex SDR program and WSJT receiving meteor signals

We also had to separate contacts that came from meteors from those that came from direct or ionospheric signals. The waterfall display on the Flex radio was very helpful for this. A real meteor signal looks like a short burst that is easy to see and differentiate from a long signal from a local station. The grid square of the station also helps to tell apart meteor contacts from local contacts. Saturday morning was the best time for us, and we worked stations in Milwaukee, Minneapolis, Kentucky, and Orlando. **Todd KD2ESH**, **Ralph KE2AHX**, **Al KB2AYU**, **John W2HUV**, and **Mario W3CGS** (**Figure 2**) showed up that morning and were able to watch some of the contacts being made.

Working Perseids Meteor Shower @ W2MMD - Continued on page 15

We used the PSK reporter program (**Figure 3**) to check if other stations could hear us. The screenshot below shows the stations that heard us on Saturday morning. Some of them were very far, like Dallas, Nova Scotia, and Orlando. The local stations probably heard us directly, but the distant ones probably heard us through meteors.



Figure 2 : KB2AYU and W2HUV working meteor scatter

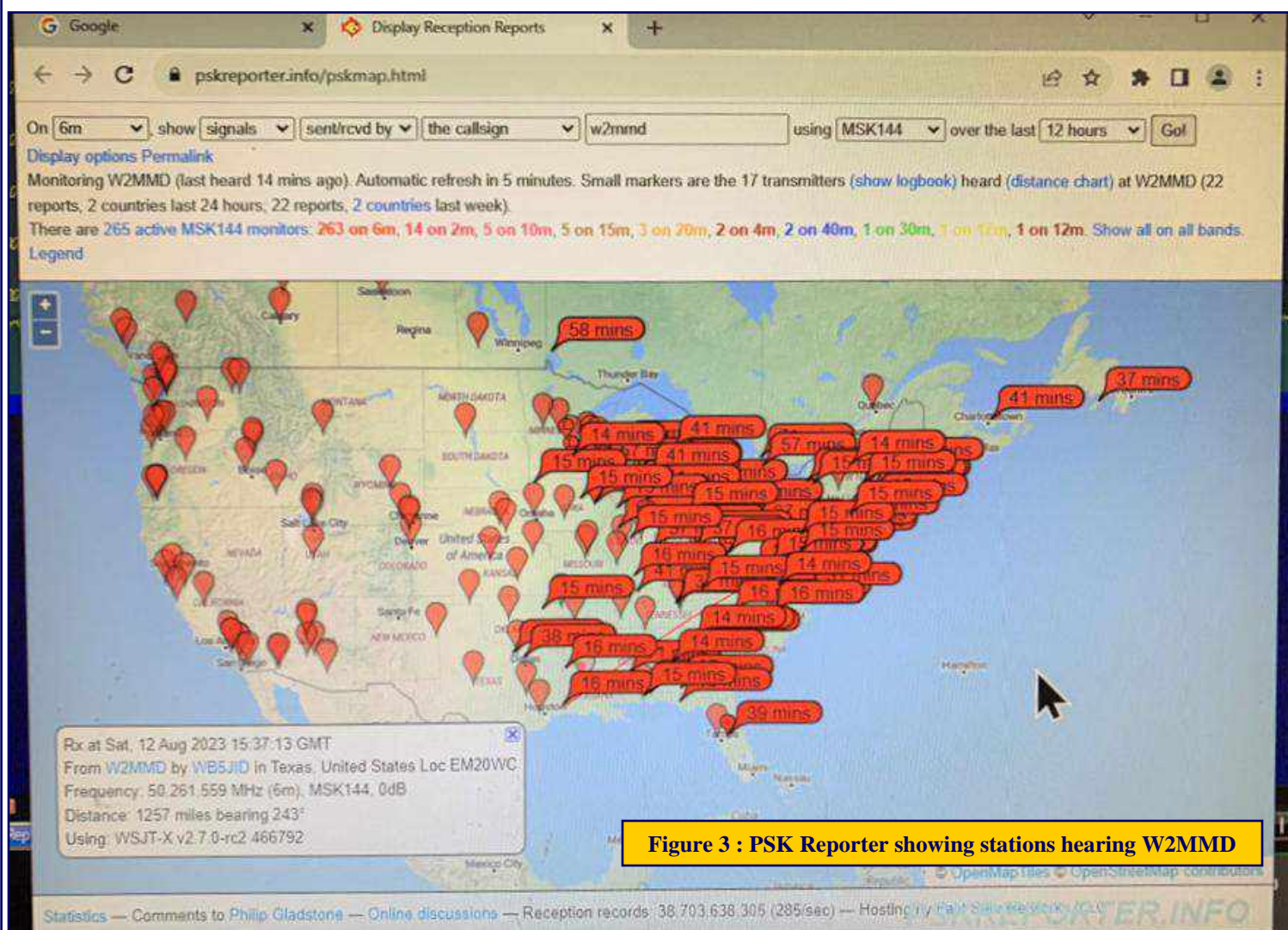
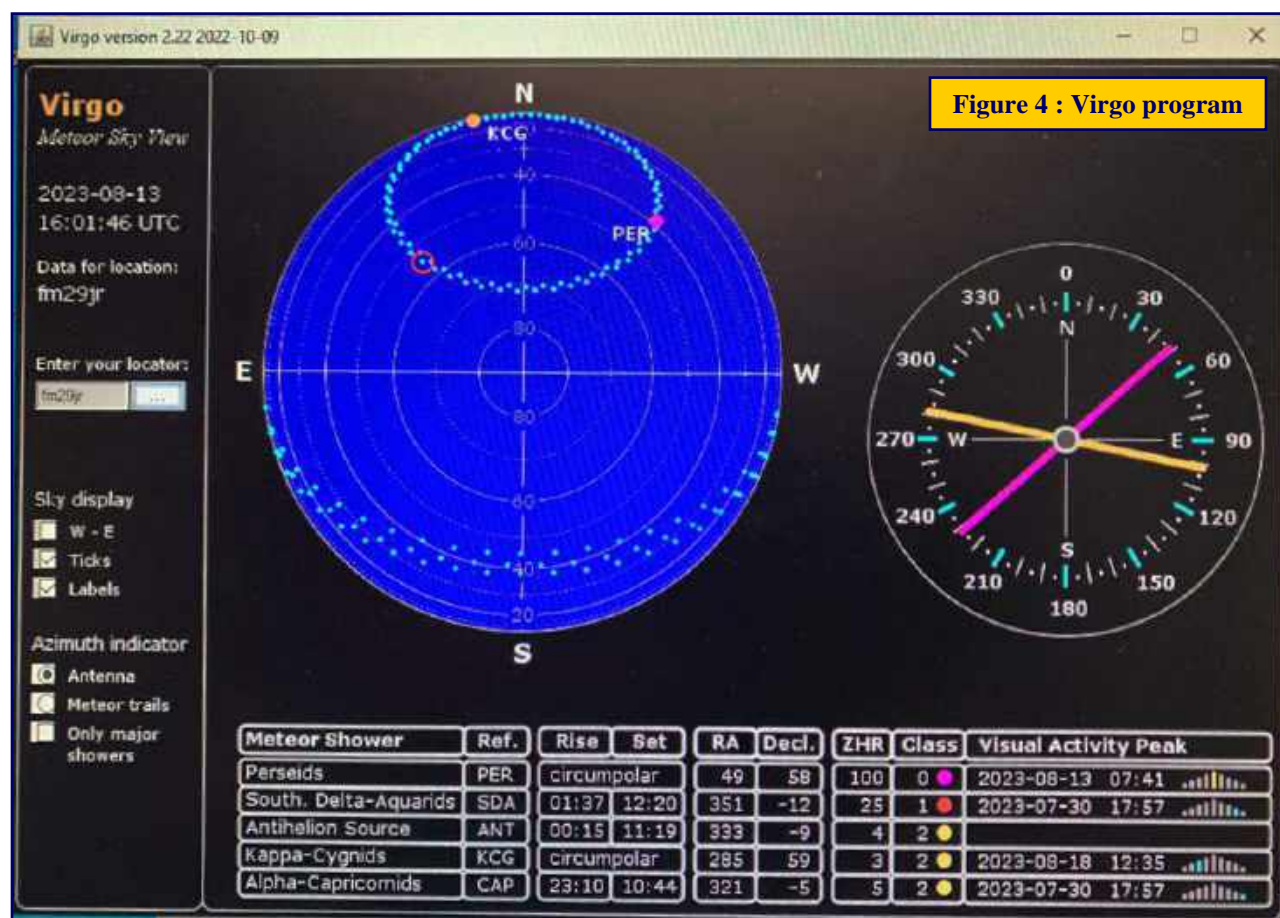


Figure 3 : PSK Reporter showing stations hearing W2MMD

We wanted to do our main operations on Saturday night, when the meteor shower was at its peak, and about 10 members came to join us, but unfortunately the conditions were not good for viewing or radio contacts and we only made one contact that was likely from a meteor. We also had some very strong local stations and realized that we had to use the same time slot as them or they would block the weaker signals. This meant that two local stations on different time slots could ruin our chances, but luckily that did not happen. A larger group showed up that evening including **Mike N2WOQ**, **Mario W3CGS**, **Marc WM2Y**, **Court KD2SPJ**, **John K2ZA**, **Mickey W2EFR**, **Lee N2LAM**, and **Al KB2AYU** along with several XYLs and SOs.

One of the challenges was not knowing where the meteors were coming from so we did not know where to point the beam antenna. On Sunday morning, we found a link to the “Virgo” program shown in **Figure 4** which appears to show the direction to aim the antenna at any time. At that point it was too late for us to use it but we will try to learn more about it and use it next time.



Now that we've figured out how to successfully make meteor contracts we're going to try some upcoming events. The next two major showers are the Leonid that peaks on November 17th and the Quadrantids that peaks on January 3, 2024. In the meantime, we'll try to build some more knowledge of effective meteor scatter operations, and all members are invited to join in and participate. Links to some useful resources are below.

<http://www.arrl.org/files/file/QST%20Binaries/nt0z.pdf>

https://en.wikipedia.org/wiki/Meteor_burst_communications

<https://k5nd.net/2023/04/meteor-scatter-propagation-how-it-works-getting-on-the-air>

http://ok1teh.nagano.cz/ms_70cmlog_text.htm



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

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

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

August 24, 2023

Hello All :

There has not been a lot of information on this year's new event to us, the 2023 Ride MS - Bike To The Bay

If you don't know, this is a 1 day event this year, covering 75 miles of beautiful Delaware. This is our first year supporting this event, and we were approached by the Society because they TRUST our integrity, and VALUE what we bring to an event.

We are looking to staff this event with anywhere from 60 - 80 Operators to fully cover the route, and support the riders. As of right now, we only have 23 folks signed up.

We are needed to man the route, the rest areas, and handle the SAG operations. This will be a learning year for most of us working as route support, but let's show everyone that just because we are new, WE ARE THE BEST.

Sign Up forms, and our general information can be found at : WWW.N3MSS.ORG

We will put out any information we get, but register now and be part of a new venture.

We look forward to working with you.

With Much Appreciation

73

EvComm

Msg. Phone : (609.795.0909)



Friday, September 15, 2023



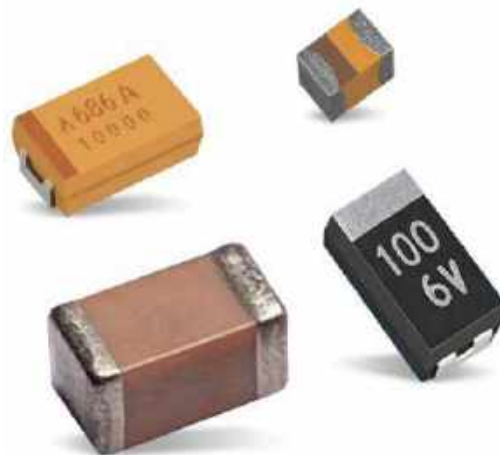
Sunday, September 24, 2023

GCARC Soldering Class Redux

Saturday, September 23, 2023 @ 0900 Hours

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

Hi folks...I want to thank all those who participated in the 15 July and 22 July **THT (Through Hole Technology)** soldering classes that were held at the **W2MMD Clubhouse**. That short series of classes was a resounding success, so much so that I am going to reprise the classes. To put it just a bit more clearly, I have now scheduled another session, to be held on Saturday, 23 September 2023. This class session will, of course, be held at the **W2MMD Clubhouse**, starting at 0900 Hours. The difference is that this class will be a single session rather than two, and its topic of interest will be the soldering (and desoldering) of **Surface Mount Devices (SMD's)**.



SMD work was just barely touched on during the first two classes. Now that the basics of soldering are behind us, it is time to expand our knowledge and techniques in the SMD arena. In this class, you will each be given a small printed circuit board and a packet of components, together with the schematics and component datasheets for the two circuits that will be laid out on the PCB. Your task, as before, is to assemble these two circuits and then to test them to be sure that they are actually working as designed.

Along the way, you will need to :

1. Read the schematics
2. Translate each schematic to its physical circuit
3. Identify the correct SMD components for each circuit
4. Identify each component's correct location on the PCB
5. Solder each of these components into place on the PCB
6. Test the circuit just built for correct operation

We will provide the circuit boards, schematics, datasheets, and components. You will need to provide yourself - a notebook and writing tools, some patience, and a few pieces of equipment as follows :

- Soldering iron
- The roll of solder used in the last class (if you attended that class - if not, let me know)
- A circuit board holding fixture (if you have one - if not, tape will secure the PCB to the table top)
- ESD-11 Anti-Static Tweezers : <https://bit.ly/3DQ4uCR>
- Chip Quick SMD291 No-Clean Flux : <https://bit.ly/47ompOx>

I also highly recommend the use of a **Lighted Magnifying Headband**. There is an excellent one that I have discovered thanks to **Ralph Daggan, KE2AHX** that is available from **Amazon** (<https://bit.ly/45ryyk0>) as well. This item is extremely useful and versatile, in a one size fits all design. You will not go wrong with this device. I find myself reaching for it on a regular and ongoing basis, and I wonder now how I got along without it for as long as I had.

Please e-mail me if you plan to attend this class.

Seats are available on a first-come basis, and the class size is limited to the first 15 registrants.



Tuesday Noon Day 2M Rag Chew Net @ 1200 Hours

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



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

147.180 MHz Repeater - EchoLink W2MMD-R

Here is the schedule for the upcoming weeks

Steve Farney, W2SEF : September 5, 2023
Chris Prioli, AD2CS : September 12, 2023
Jeff Garth, WB2ZBN : September 19, 2023
Mike Thompson, KG4JYA : September 26, 2023


Steve Farney, W2SEF : October 3, 2023
Chris Prioli, AD2CS : October 10, 2023
Mike Thompson, KG4JYA : October 17, 2023
Steve Farney, W2SEF : October 24, 2023
Chris Prioli, AD2CS : October 31, 2023

Steve Farney, W2SEF : November 7, 2023
Chris Prioli, AD2CS : November 14, 2023
Mike Thompson, KG4JYA : November 21, 2023
Steve Farney, W2SEF : November 28, 2023


Steve Farney, W2SEF : December 4, 2023
Chris Prioli, AD2CS : December 12, 2023
Mike Thompson, KG4JYA : December 19, 2023
Chris Prioli, AD2CS : December 26, 2023

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





1994 antenna farm



1918 towers

NSS began operations in 1918 using a pair of Federal Telegraph 500 kilowatt Poulson Arc transmitters and four 600 foot towers operating in the VLF band. HF operations began about ten years later and continued until 1976 when the NSS HF mission was transferred to NAM in Norfolk, Virginia. The central 1200 foot tower and dozens of others were demolished in 1999, except for three iconic 600 foot Eiffel towers that remain on the southern tip of Greenbury Point.

Radio: **W5DO** Date: May **13, 2023**

Confirming ☒ 2-way ☐ SWL Report
Mode: ☒ SSB ☐ CW

NSS Tx Freq (kHz) **1901 UTC**

<input type="checkbox"/> 4,038.5	<input type="checkbox"/> 5,330.5	<input checked="" type="checkbox"/> 7,533.5
<input type="checkbox"/> 9,447	<input type="checkbox"/> 14,487	<input type="checkbox"/> 17,545

Thanks and 73 from the NSS team

See www.navy-radio.com/commsta/anna.htm



Thursday Night 2M Rag Chew Net @ 2000 Hours



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

Alternate Net Control Stations : Greg W5DO & Jeff WB2ZBN

147.180 MHz Repeater - EchoLink W2MMD-R

Here is the schedule for the upcoming weeks

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

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

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

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

Chris Prioli, AD2CS : January 4, 2024

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

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

***"Dinner @ The Clubhouse"*
Wednesday, September 27, 2023 @ 1800 Hours
W2MMD Clubhouse**

160M Wire Loop Can Do What? : Part 1

By Jim Wright, N2GXJ



We're lucky to have a remote HF station at the W2MMD Clubhouse, with a KPA1500 amplifier with a built in antenna tuner (ATU), and with a crank-up HF tower with antennas that include an amazing JK Mid-Tri-40 antenna for 10/15/20/40, and a dipole for 80 Meters. With that setup, you can talk the world when the conditions are right. But the DX isn't always on these bands. There are other ham bands too, and the radio we have at the Clubhouse is capable of operating on them, from 160M though 6 Meters. What might we miss out on? It just seemed like there must be something we could try quickly and cheaply to find out. Wouldn't it be nice to have an antenna that could operate on these other bands we were missing out on?

Reading about an upcoming 160 Meter contest, and having no experience on that band, the time was right to take on a challenge. If we put our minds to it, surely we could come up with something to try to get on that band, and maybe fill in other missing bands while we were at it, even if just as an experiment. So there we were, out at a Tech Saturday Forum sitting around a table in the Clubhouse, when the challenge was thrown-down to see what we might be able to come up with together. It started with a question. How awesome would it be to come up with something to try as an experiment to get on 160 Meters with our remote radio in time for the contest, and maybe fill in some missing bands at the same time? A bunch of folks around the table and in the room lit up with the idea. It was on! Challenge accepted! That's when the brainstorming started.

A Plan For A Plan

If you were brainstorming something like this, what would you have done? Very few of us had any experience on 160 Meters. Fears, doubts, and uncertainties were quick to come out. We needed a plan, a "recipe" if you like, for a process we could follow to get where we wanted to end up. So we started brainstorming it. Here's the process recipe we came up with :

- **Set the goal**
- **Identify likely risks and challenges**
- **Inventory what we already have to work with and constraints**
- **Explore alternatives, with constraints in mind**
- **Decide which to explore further**
- **Simulate to refine details, get to a proposed solution**
- **Outline the proposed solution, bill of materials, costs, next steps and owners, then**
- **Go for it!**

We joked that even if the experiment completely flopped, it would be fun to try. That's one of the things I like about this group and Tech Saturdays out at the Clubhouse - collectively there will be years of ham radio experience in the room to leverage, with a bunch of folks willing to learn and try new things, even if they don't all work out. Things moved pretty quick from there.

The Goal

The goal was simple, try to get on 160 quickly, and cheaply, while filling in more bands we were missing if we could with the same antenna.

Risks And Challenges We Might Be Likely To Face

We were looking at this as an experiment - we knew there would be some trial and error here, and we knew we might not be able to achieve success in the end. There were lots of doubts, and fears, and uncertainties in the room.

160M Wire Loop Can Do What? - Continued on page 22

For this project, we asked ourselves to say out loud what were some of the risks we might face that could keep us from success? Here's what we came up with after a few minutes of discussion. Similar to what would have been on your list?

- **Antenna size for the wavelengths associated with these low frequencies**
- **Low mounting height performance**
- **High noise floor impacting receive (e.g. electrical noise from Clubhouse)**
- **Tuner's reduced SWR tuning range on 160M (compared to other bands)**

We knew this would not be an easy project. But still, when looking over this list, we felt with the collective knowledge in the room, we had a chance at success. With that optimistic feeling, even without knowing yet what we were going to come up with, we agreed to move forward to the next step, to see what else we might have to work through before getting to commit.

Inventory What We Had

The inventory of what we had included the previously mentioned multi-band HF radio and amplifier with tuner, coax out to and up the existing HF tower, a multi-port remote antenna switch on the tower, the Mid-Tri antenna connected to one of those ports, and an 80 Meter wire dipole connected to another port. There was also another half-height tower about 120 feet away, and some poles at various locations in the fields around the Clubhouse to which wires might be able to be attached. Some in the room volunteered that they may have surplus wire and some other things to work with, if we needed any of that. Part of the agreed to goal was to try and do this quickly and cheaply. This was a good start.

We talked about it a little bit, and concluded we could re-purpose that 80 Meter dipole and its antenna switch connection for our experiment, while keeping the Mid-Tri antenna connection as-is and separate. Ok, that settled. So next we could focus on that 80 Meter dipole. There was already a 1:1 balun there, and a bunch of wire. Generally, we didn't like the idea of giving up 80 Meters just to see what might be on 160. So some preference might be given to an antenna that would let us play with 160, while still supporting 80, with a bonus if it would also let us try to get on 17 Meters - a band we did not have access to at the time, but a band where lots of DX was getting spotted recently. So it would be really nice if could fill in 17 Meters while we were at it. What kind of antenna might get us to our goals?

Explore Antenna Alternatives With Constraints In Mind

All kinds of antenna ideas were tossed out : vertical, low mount dipole, inverted L with elevated radials, with various pros and cons discussed. To get on 160 Meters, we knew the sizes of potential antennas would be large and that would be a challenge. A low mount dipole/inverted-V would be over 250 feet long. An inverted L probably would be the best performer, but then there were the complications of radials. In the end, we opted for a big multi-wavelength sky wire loop, an antenna type we'd had some success with on 20 Meters with during a recent field day. Because the ham bands are generally harmonically related, we figured a big loop like this might also be able to be tuned to work on our missing bands. A wire loop could be built and tried fairly quickly and inexpensively using readily available THHN insulated stranded wire and a balun. There was already a balun on the tower feeding the 80 Meter dipole, connected to a port on the antenna switch which was already on the Mid-Tri's tower. We'd just add more wire and connect this to the ends of the dipole we already had to make a giant multi-wavelength horizontal loop.

It's counter-intuitive to many, but a multi-wavelength horizontal loop actually is not a cloud warmer, instead sending energy out horizontally in high gain lobes and spikes towards the horizon, rather than straight up. You can read about this and see pictures of these patterns in the ARRL's antenna handbook.

160M Wire Loop Can Do What? - Continued on page 23

This can also be readily seen with antenna modeling. Given that ham bands are harmonically related, we theorized that if the loop was big enough it “should” be possible to operate this loop on 160 Meters, as well as on 80 Meters where the dipole had been, plus potentially pick up 17 Meters, and maybe 12 Meters too, if the right length of wire was selected.

So how much wire could we put up? And what length should we put up? For that, we’d need to know generally what loop lengths we might be talking about here, and then we’d need a site survey to see what we could use for corner anchors points for our big sky wire.

How Big A Loop Can We Fit?

For a general idea of what loop lengths we might be talking about, we used the “rule of thumb” loop formula : $\text{wire length} = \sim 1,005 \text{ feet} / \text{freq in MHz}$. Since 160 M is quite a wide band, we picked 1.8MHz, at the low end of the band, for the initial approximation to give us a longer wire length. Knowing we just needed a gross approximation at this point, and could refine it for best tuning and harmonics on other bands using modeling later, this gave us an approximation of 558 ft (rounded up to 560 feet) to start with to represent a 1 wavelength loop for 160 Meters. Thus a two wavelength loop for 160 Meters would be about 1,120 feet, and a triple wavelength loop for 160 Meters would be about 1,680 feet. Are lengths like this even feasible at our site? We had a good laugh when it was pointed out that a quarter mile is about 1,320 feet. That would be a lot of wire to put up if we could pull that off!

For a site survey, we knew we had approximately 2 acres of space around the Clubhouse with various towers and poles and trees on site. But we didn’t have a map laying out the distances between all of them, and measuring on foot could be time consuming with the scale of what we were working with here. After a couple minutes of discussing, someone had the good idea of using Google or Bing maps to get the measurements we needed from satellite pictures. So that’s what we did!

For a loop, it’s all about enclosing an area in the same of some kind of polygon. You can use 3, 4, 5, or more support points, based on whatever is available. So horizontal triangles, squares, rectangles, or generally any polygonal shape is OK with pattern details for various frequencies we can model.

With the satellite pictures, we got creative, playing around with all the possible support points we could find, and the distances between them, but unfortunately could only come up with a max perimeter of between 900 and 1,000 feet, short of the 1,120 feet we were targeting for a two wavelength loop. So, for the experiment, we’d be settling with a 560 foot loop, which though only a single wavelength on 160 Meters, is still a big loop, and is favorably multi-wavelength on 80 Meters and above. So how might this perform, not only on 160, but on the other bands that would be nice to fill in as well?

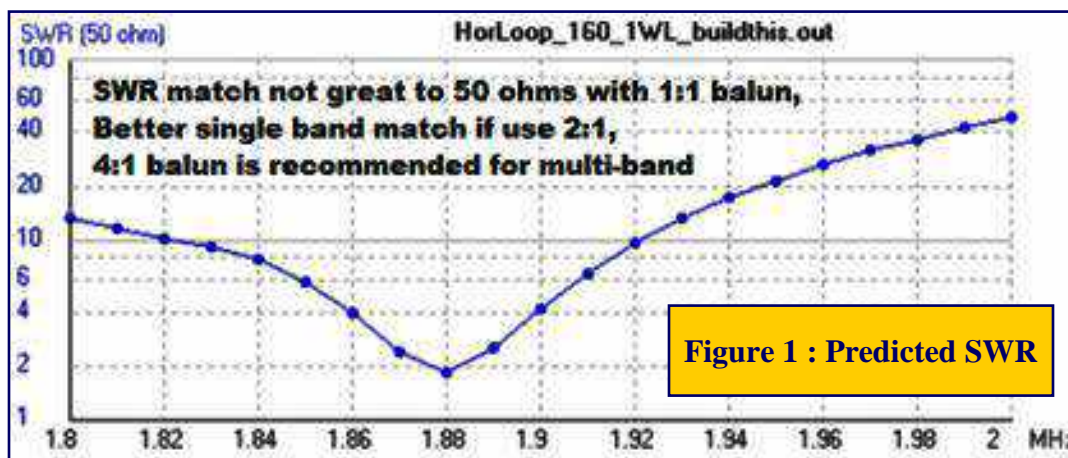
Antenna Modeling For Balun Selection

There was discussion about the balun that would be needed. Some suggested the 1:1 from the existing 80 Meter dipole would work. Some were advocating for a 2:1, or 4:1 balun. How would we choose? We needed data to be able to make a better data-driven decision.

While talking about this around the table, it was suggested that we could simulate using antenna modeling software ahead of building it, to see how whatever antenna we would come up with might perform. Seemed like a good suggestion, so that’s what we did next. Having some experience already with the capable **4nec2 software**, we did some quick “what if?” analysis. For the dimensions, we used the site survey to lay out a triangular loop that would fit, fixing the feed point at the location of the Mid-Tri tower, then stretching the wire out in one direction towards the UHF/VHF tower, then assuming some sort of rope attachment there that would allow us to continue to loop wire down towards a telephone pole out in the field, again with another rope attachment that would allow the loop to come back up to the other side of the balun on the Mid-Tri tower again. On the maps, it looked like it would all fit.

With a 3D perimeter of ~560 feet of wire for this simulated triangle, we used a little geometry to come up with the [x,y,z] points for each of the rope tie off locations in free space to put into the model, and then ran it. We then ran the model for a target frequency in the low end of the 160 Meter band assuming average ground, and then swept it across the band to see what the SWR bandwidth on this band might be. Next we swept the frequency through the other ham bands to see if any parts of those bands might also be in range of the amplifier's tuner. Good news for us was it looked like this antenna might be a good choice to help us get to our goals.

For 160 Meters, what we saw was that the predicted SWR to 50 ohms was going to be over 10:1 at the low end, and over 40:1 at the high end, with a lowest match of around 2:1 around 1.88 MHz. That's not a very good match, but the results were not surprising. The range of frequencies in the 160 M band are large, and we already knew that the theoretical feed point impedance for a full wave loop would be in the vicinity of 120 ohms. To better match to 50 ohms, such an impedance would require either a 2:1 impedance transformer for single band loops, or a 4:1 balun to match on multiple bands. See Figure 1.



Next, we looked at the constraints in the tech specs of the tuner in the amplifier we already had. The specs pointed out a problem for us to solve. The SWR range the tuner could match on 160 Meter band was less than what it could match on other bands. And the SWR range would be further reduced if the amplifier was to be used at above 800 watts. On most bands, the specs showed the ATU would be able to match up to a 10:1 SWR at up to 800 watts, while on 160 Meters, it would only be able to match up to a 5:1 SWR. Above 800 watts, the ATU would only be able to match up to a 3:1 SWR.

Clearly with these constraints, the idea of using the existing 1:1 balun from the 80 Meter dipole for this loop antenna was now out the window. We were going to need to get ourselves a new high power balun, to allow us greater operating bandwidth on 160, and to allow us to operate within the ATU's tuning range on other bands too. We talked about our choices, and in short order, based on positive feedback from some in the group with this manufacturer, selected a model 4115 dual core 4:1 5kW 1-54 MHz Current Balun from Balun Designs for the job.

Part 2 in the October 2023 CrossTalk. Go to the W2MMD HF Station webpage for a downloadable PDF

For those of you interested in learning more, the first opportunity will be at the **GCARC Hamfest on September 10th**. At 8:00 am, we'll be sharing an educational program further highlighting some of the challenges and lessons learned during this project. Then, on **Wednesday, October 4, 2023**, as part of the program that follows the business portion of the **General Membership Meeting**, we'll be taking a deeper dive look into some of the antenna modeling used to help us in getting to this solution to try. Computer modeling of antennas is a very broad topic, and this will just scrape the surface of what is possible, but may be of great interest to anyone else who may be interested in duplicating a similar antenna, just maybe at a smaller scale, for use at their own QTH.

GCARC Amateur Radio Test Prep Class Schedule

2023 Session VI

Class Times : 1800 - 2100 Hours

Weeks 1 through 9 + VE Testing Week

Class Week	Class Date	License Class Study
Week One	Monday, September 11, 2023	Technician Class
Week One	Tuesday, September 12, 2023	General Class
Week One	Friday, September 15, 2023	Amateur Extra Class
Week Two	Monday, September 18, 2023	Technician Class
Week Two	Tuesday, September 19, 2023	General Class
Week Two	Friday, September 22, 2023	Amateur Extra Class
Week Three	Monday, September 25, 2023	Technician Class
Week Three	Tuesday, September 26, 2023	General Class
Week Three	Friday, September 29, 2023	Amateur Extra Class
Week Four	Monday, October 2, 2023	Technician Class
Week Four	Tuesday, October 3, 2023	General Class
Week Four	Friday, October 6, 2023	Amateur Extra Class
Week Five	Monday, October 9, 2023	Technician Class
Week Five	Tuesday, October 10, 2023	General Class
Week Five	Friday, October 13, 2023	Amateur Extra Class
Week Six	Monday, October 16, 2023	Technician Class
Week Six	Tuesday, October 17, 2023	General Class
Week Six	Friday, October 20, 2023	Amateur Extra Class
Week Seven	Monday, October 23, 2023	Technician Class
Week Seven	Tuesday, October 24, 2023	General Class
Week Seven	Friday, October 27, 2023	Amateur Extra Class
Week Eight	Monday, October 30, 2023	Technician Class
Week Eight	Tuesday, October 31, 2023	General Class
Week Eight	Friday, November 3, 2023	Amateur Extra Class
Week Nine	Monday, November 6, 2023	Technician Class
Week Nine	Tuesday, November 7, 2023	General Class
Week Nine	Friday, November 10, 2023	Amateur Extra Class
Review & Exam Week	Tuesday, November 14, 2023	Technician & General Class
Review & Exam Week	Friday, November 17, 2023	Amateur Extra Class

(tr)uSDX QRP Transceiver Build - Part 2

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

Before I begin the tweaking process, I want to say a few words about the enclosure kit that is available from the **DL2MAN website** (<https://dl2man.de>). The enclosure kit includes six major pieces - a top panel, a bottom panel, two end panels, and two long panels for the front and back. We will discuss the enclosure kit again in a little while, but for now, I want the reader to understand the wisdom of using the long front panel as a board spacer when working on the radio with power applied and the enclosure removed. This provides the requisite spacing between the boards to prevent any inadvertent short-circuits from occurring. The inter-board pin header connection performs the same function along the opposite edge of the board pair. This is an important point to remember, as pressing the tactile switch buttons on the main board, which is done during testing, can be enough to cause shorts between the boards without proper board spacing.



Once the front panel strip is in place between the boards, begin by checking and recording, for each band, the reported output power and efficiency from the (tr)uSDX OLED display. This should be done at a fixed input voltage of at least 12VDC but not more than 13.8VDC. These will be the basis readings for any adjustments to be made.

Out of the box, so to speak, mine performed as follows :

- **80 meters - 6.12 watts @ 87.50% efficiency**
- **60 meters - 4.21 watts @ 86.12% efficiency**
- **40 meters - 4.92 watts @ 84.89% efficiency**
- **30 meters - 5.82 watts @ 84.60% efficiency**
- **20 meters - 4.93 watts @ 84.30% efficiency**

The above readings were all straight from the OLED display in CW mode, powered by a 13.8VDC 1A power supply. Not bad for free-hand wound toroids with no adjustments made.

Next up, I looked at the band waveforms on the NanoVNA. To do this, you will need a special adapter (**Figure 7**) made from a two-pin 0.100" pitch breakaway pin header and a PCB mount SMA jack. Solder the two-pin header section to the SMA jack with one pin to the center pin of the jack and the other pin to a body pin of the jack. This will be used for the S11 connection to the NanoVNA. This adapter will be connected to the RF and GND ports of the pin socket header on the RF board. When holding the RF board so that the foil side is up and the pin socket header is away from you (with the antenna jack to the right), the RF port is the fourth port from the right, and the GND port is the third port from the right. The S21 connector of the NanoVNA will be connected to the antenna jack on the RF board. The sweep signal, of course, will come directly from the NanoVNA.

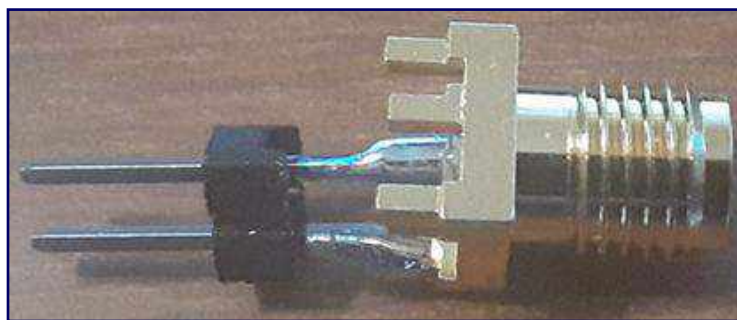


Figure 7 : RF connector adapter for NanoVNA

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Calibrate the NanoVNA for the adapter cables that will be used and store the calibration in a memory slot. You will recall that calibration for each band in turn, setting the stimulus range to the proper values for the band being swept. One by one, set the NanoVNA to the appropriate stimulus range and read the waveform displayed. You are interested in the position of the fundamental frequency and the location of the second harmonic frequency. If all is right, the second harmonic will be in a pronounced dip in the band waveform, and the fundamental frequency will be at the top of the trace. Some suggested frequencies for use in this test are as follows :

- **80m - fundamental is 3.5MHz and 2nd harmonic is 7MHz, sweep 1MHz to 10MHz**
- **60m - fundamental is 5.3MHz and 2nd harmonic is 10.6MHz, sweep 3MHz to 14MHz**
- **40m - fundamental is 7MHz and 2nd harmonic is 14MHz, sweep 4MHz to 18MHz**
- **30m - fundamental is 10MHz and 2nd harmonic is 20MHz, sweep 5MHz to 25MHz**
- **20m - fundamental is 14MHz and 2nd harmonic is 28MHz, sweep 10MHz to 30MHz**

Use a second marker on each trace to locate the two frequencies of interest - the fundamental (Marker 1) and the second harmonic (Marker 2). If the second harmonic is not in a pronounced dip in the trace, adjust the “2” choke turns as required to bring the harmonic into the dip (**Figure 8**). If the band waveform is not wide enough to keep the fundamental at the peak of the waveform, adjust the turns of the “1” choke to get it there.

The NanoVNA testing is easily done, but any power-on TX testing requires the use of a dummy load. Any QRP dummy load of fifteen- or twenty-watts capability will suffice. **QRP Labs** (<https://qrp-labs.com>) makes an ideal little kit for \$8.50 plus shipping, a compact twenty-watt unit with an attached BNC connector (**Figure 9**) that will attach directly to the (tr)uSDX radio if an SMA to BNC adapter is installed.



Figure 10 : Latching Relay

A couple of points to remember when making these tests and adjustments.... first is the fact that the relays used on the RF board are of the latching type (**Figure 10**). This means that each time a pulse is applied to the relay coil, the points change position from one state to the opposite. These relays are DPDT types, meaning that the relay will switch from its NO and COM pairing to the NC and COM pairing, and vice-versa, each time a pulse is applied to the relay coil. What this means for us is that the RF board will remain in the status it was in when it was powered down, based upon the last band selected for operation. Thus, if we want to service a specific band's coils, we must assemble the radio, power it up, and select the band whose coils we intend to service. When making the band waveform tests with the NanoVNA, we must therefore assemble and disassemble the radio each time we want to switch the test and repair from one band to another.



Figure 8 : 80-meter waveform showing dip



Figure 9 : QRP Labs dummy load

Second, in order to assure the lowest possible harmonic output from the radio, it is imperative that each band be checked to ensure that its second harmonic frequency falls cleanly into the filter notch. Adjustment of the “2” choke, and possibly even the addition or removal of a turn or two on the core, may be necessary to achieve proper filtering of the output frequencies. Because of the fact that all components used in the construction of the radio have inherent design tolerances, it may turn out that adjustment of the chokes will be required. For example, I had to remove two turns from the 80-meter pi choke L52 in order to get the second harmonic of 7MHz into the notch (**refer back to Figure 8**). (Do not be dissuaded by this; it is part and parcel of radio design and construction and is well within the skill set of any reasonably experienced or knowledgeable ham operator.

Another pre-use task that must be performed is to validate (or calibrate) the frequency indications on the OLED display for each band. This can generally be done quite simply through the use of a dummy load and another HF receiver, and correction needs to be made, usually, on only one band, usually the 20-meter band. Start out by setting up the (tr)uSDX for CW operation at a given frequency in the 20-meter band, say 14.060MHz. Tune the second receiver to the same mode and frequency. Then transmit into the dummy load and watch for the received signal indication on the second receiver. What we are shooting for here is a zero-beat condition, with the (tr)uSDX output frequency matching the VFO frequency of the commercial receiver. If a zero beat is attained right off, great! The displayed frequency is accurate. More likely, however, there will be a difference between the two radios’ frequencies. To correct this, enter the (tr)uSDX menu system and navigate to menu item **8.3 - Reference Frequency (Figure 11)**. This setting will be varied to bring the (tr)uSDX into line with the commercial receiver. Adjust the Reference Frequency as required to achieve the zero-beat condition, and lock it in there. That is all that there is to it.

There are several good YouTube videos online regarding the tuning and tweaking processes for the (tr)uSDX, many of them produced by **DL2MAN** himself. Watch these videos before beginning the process; it will make the job that much easier. I found the videos to be mostly helpful, and **DL2MAN** has an easy-going way about explaining things that makes them easy to understand.

Once the tuning and tweaking tasks are completed, it is time to complete the final assembly of the radio. The optional enclosure, which I highly recommend, is a six-piece 3-D printed affair (**Figure 12**) with a few extra parts and pieces. One of the extra pieces is the 3-D printed spacer ring for the speaker, which has already been discussed. Another is a 3-D printed knob for the rotary encoder. Of course, the enclosure kit includes the necessary hardware for assembly.



Figure 11 : Menu item 8.3



Figure 12 : Enclosure panels

The enclosure is assembled by first placing the long front and rear panels onto the married printed circuit boards, taking care to align the power jack with its opening in the rear panel. It should be noted that there is a thinned area that aligns with the ISP header on the main board. This thinned area can be cut out to make the ISP header accessible with the enclosure assembled, or it can be left intact if so desired. I left mine intact, as it is easy enough to disassemble the enclosure to update programming if that should become necessary.

After the front and rear [panels are installed to the board sandwich, the two end panels can be installed, again taking care to properly align the various openings in the panels with their mating jacks (**Figure 13**). Next, place the bottom panel onto the assembly, followed by the top panel. When installing the top panel, be careful to align the detent pins on the speaker spacer ring with the mating holes in the top panel so as to properly position and secure the speaker. Now install the screws that hold it all together, taking care not to over tighten these screws. Finally, install the washer and hex nut on the rotary encoder, followed by the 3-D printed encoder knob. That's it! The radio is now complete (**Figure 14**)... but hang on for the battery enclosure.

There are two different battery holders offered on the **DL2MAN** website, and I chose the second of these. One of these holders mounts to the radio underneath the bottom of the radio, using a replacement bottom panel with a dovetail slide arrangement for securing the battery holder to the radio. The second battery holder, which is the one that I selected, mounts to one end of the radio, making it longer but maintaining its original height and width. That holder mounts to the radio with tabs that align with the existing screws that hold the radio together.

Assembly of the battery holder is self-explanatory but for one small detail... the USB pass-through connectors that are included. Because this battery holder mounts to radio on the end where the USB connector comes through the enclosure panel, provision is made to carry the USB connection out to the side of the battery holder. This USB pass-through consists of two connectors and four wires that need to be soldered between the two connectors, forming a male/female extender that plugs into the original USB port on the radio and carried through to its mounted position in the side of the battery holder.

The battery holder will hold four "AA" sized cells. I chose to use 14505 non-rechargeable lithium cells that produce 3.6 volts each. The battery box holds three of these cells, which total out as 10.8VDC due to the fact that the cells are wired in a series string in their holder. While this is adequate for most RX and for very low power TX, I prefer to use the 13.8VDC 1A power supply for most use of the radio.



Figure 13 : All side panels installed



Figure 14 : All panels installed

When assembled, the battery box, as already mentioned, mounts to what would be the right side of the radio (**Figure 15**). The USB carry-through, once assembled, is plugged into the radio USB ports and then gets positioned on its mounting pins in the recess provided for it in the battery compartment. Finally, the “AA” x 3 battery tray leads get spliced to the radio power cord provided.



Figure 15 : Battery box installed

Once that is done, simply load the

cells into the battery tray and slide the tray into the battery box. It is a tight fit and you need to be careful of the wire leads, but it goes together fairly well. The last step is to slide the battery tray cover into place in the tracks provided in the battery box. To power up the radio, simply plug in the power cord to the power jack on the back panel of the radio. Secure the battery box to the radio using the extra-long screws provided, and the job is done. The cells can be changed later by simply sliding open the battery box lid and pulling the battery tray out of the box. Reverse the process to re-assemble the unit with the new cells in the tray.

OK - we have talked all about this little marvel, but we have not discussed the important things... how much it costs, how long it takes to arrive, and how long the assembly process takes. I can safely say, in response to the last point first, that it takes longer to tune, tweak, and calibrates the unit than it takes to build it. The build took me about forty minutes (including the time to correct the OLED jumper issue). The after-build work took me a couple of hours, partly due to having to remove and modify some of the toroids.

Let's talk about cost and lead time. When I ordered my kits, the price for the radio kit was ≈\$86.00, the enclosure kit was ≈\$19.00, and the battery box kit was ≈\$25.00. With shipping costs thrown in, the total came to ≈\$140.00. Very reasonable, in my book. As to the lead time, I had my kit within a week of the date that I placed the order.

The **DL2MAN** website offers several purchase options as regards vendors. I opted to stay in-house and purchase from the vendor directly associated with **DL2MAN**, which was <https://newdiyttech.com>, a site flagged as “the official sales outlet” for the (tr)uSDX by its creators. I was not sorry that I did so.

The **DL2MAN** website has an excellent forum for builders of these radios. A recent live video chat with Manuel and Guido, the forces behind the (tr)uSDX, revealed that there were some fifteen thousand of these radio kits out there in the wild at that point. This has become a tremendously popular QRP radio with very few weak points.

Naturally, nothing is perfect, and this radio is no exception. While they did the best that they could in sourcing a speaker for this radio, the one that they chose, quite frankly, is well below par in terms of audible and recognizable sounds coming from it. As time allows, I will find a better alternative that I can fit into place in there - if one exists. In the meantime, an external speaker or a headset is your best answer to the problem.

I did not have to load any firmware or programming into my radio, as I pre-ordered the chip to be coded with my call sign, a service that is provided at no additional charge when you ask for it as you make the purchase. No clear means is provided for doing the “asking”, so I simply sent an e-mail to the support folks with my request, and it was answered in the affirmative almost immediately.

The burning question... “Does it work?”... was answered for me one afternoon at the W2MMD Clubhouse while waiting for my scheduled class to start. Sitting there in the Clubhouse and fooling around with the radio, I made a phone QSO with a gentleman in Pensacola, Florida. This contact was made on 20 meters using, believe it or not, a long telescopic wand antenna mounted to the BNC adapter on the radio’s antenna jack. Nine hundred and thirty-two miles as the crow flies on 3.87 watts. The power was down slightly due to the use of the battery pack instead of the power supply. He said it was weak and noisy, but he could pull my signal out. I was quite impressed at the time, and more impressed now that I have had some time to think about it.

All in all, I give this kit and the resultant radio high marks for design and implementation. The unit lives up to its advance billing and all adjustments are easily made using common equipment found in most ham shacks. I am happy with the finished product, though I would have liked to have seen four cells in the battery holder. Four 3.6V cells would give me 14.4 volts, a better fit than the current 10.8V achievable with three 3.6V cells. Even the battery holder designed by **DL2MAN** only holds three cells, though his holder does accommodate 18650 cells instead of 14500 cells. The 18650 cell is nominally a 3.6V cell, though some manufacturers label it as being 3.7V instead. Either way, we are still left with less than 12VDC to power the radio, either 10.8V at 3.6V per cell or 11.1V with 3.7V per cell. I would have liked to see both designers incorporate a four-cell solution, and I may just work on one of my own design in the not-too-distant future.

Please feel free to send me any comments or questions regarding this build and/or this article.

**The full version and a downloadable PDF can be found on the “AD2CS Kit Build” webpage at :
<https://gloucestercountyarcc.weebly.com/trusdx.html>**

Club Members & Their Other Hobbies



Karl W2KBF & His Accordion



Vinnie N4NYY & His 8lb Fluke



Amateur Radio Emergency Services - September 2023

Resources - News - Updates

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



September is Preparedness Month

SkyWarn is our Early Warning System



The following article was written by Greg Ciraula W5DO

Are you a weather enthusiast? Do you have an interest in weather or public service? Come join us at the Gloucester County SkyWarn Group. We meet on Sunday evenings at 1930 Hours on the GCARC repeater 147.180 (131.8) and EchoLink W2MMD-R. You don't have to be a member of SkyWarn® or a trained spotter to check us out! A weather station is not required either.

Just check into the net and let us know what you see outside if possible.

During SkyWarn® activation, the National Weather Service (NWS) uses information from Spotters along with Doppler radar, satellite, and other data to issue more timely and accurate weather warnings.

I am just getting more active in SkyWarn® myself. So, if you are new at this, we can step through it together. Spotter Training is available and I will verify with the NWS for any courses that can be completed online to obtain Spotter certification. Additional information about Skywarn Spotter Training Classes can be found on the Skywarn page on the w2mmd.org website.

More information on the SkyWarn® program can be found on the Sunday net, future articles in CrossTalk, and at <https://www.weather.gov/skywarn>. I'm looking forward to talking with you on the air.

American Red Cross & American Radio Relay League Emergency Communications Program



**American
Red Cross**

On August 25, 2023, the New Jersey Region of the American Red Cross (ARC) and the New Jersey American Radio Relay League (ARRL) signed a new Local Agreement between the Red Cross and the ARRL was signed in the Red Cross Princeton Office. The purpose of this agreement is to define how the ARRL will provide Emergency Communication to the ARC NJ Region, during a Disaster Relief Operation (DRO), that has disabled commercial communications.

The first joint exercise will be our **2023 Simulated Emergency Test (SET) on Sunday, October 15, 2023** (changed from the ARRL SET on October 7, 2023). As soon as we receive the emergency scenario for this test, we will have approximately one month to develop our plan and staff the positions needed to implement a successful implementation. If you plan to participate in this exercise, please send me an email and I will add your name to the list.

We will be using WinLink Data Modes to send and receive reports between the Simulated ARC Shelters and the NJ ARC Regional and Chapter facilities. We might also be providing radio communications to and from the logistics facility and damage assessment in the areas that were impacted by the incident. More information will be provided as the Emergency Plan is being developed.

SNJ ARES Update - Continued on page 33



You must have seen the emails for this Public Service event scheduled for **Saturday, September 30** and **Sunday, October 1, 2023**. This is a very important charitable event that we support each year and we need more Amateur Radio Operators to staff all the locations along the 70 mile route from Cherry Hill to Ocean City. Currently, we only have half the number of operators need. Please register now at this link <https://www.n3mss.org>



On Friday August 25, 2023 ARRL Section Managers from Northern New Jersey and Southern New Jersey met in Princeton NJ, with representatives from the Red Cross New Jersey Region to sign a cooperation agreement. The purpose of the Memorandum Of Understanding (MOU) focuses on disaster planning and response for communities within New Jersey during and after a disaster event.

Amateur Radio Emergency Services (ARES) teams in New Jersey will provide assistance with communications in support of disaster relief. This is based on the cooperation agreement between ARES and the New Jersey Red Cross Region. ARES teams will provide assistance through training, testing, exercises, and by providing emergency communications to support local shelter operations. This is especially important when normal communications are disrupted or overloaded.

ARES teams throughout New Jersey have been supporting American Red Cross shelter disaster operations and the operating region of the American Red Cross emergency communications for some time. An example is the Princeton office is maintained and operated by the Mercer County team and ARC Pennsauken Office is supported by Gloucester County team. Other joint ARES/RACES/AUXCOMM teams have provided ARC shelter services during past emergency activations.

Pictured are : Ed Blanchard, Red Cross Regional Disaster Officer; Robert Buus, W2OD, ARRL Northern New Jersey Section Manager; Tom Preiser, N2XW, ARRL Southern New Jersey Section Manager

Article Credit : ARRL Southern New Section for Ham Radio Facebook page.

Be A Club Volunteer!

Club Technical Volunteer Projects :

- Processing monthly membership meeting and Tech Saturday videos for the YouTube channel
 - Assisting the AV team at the Wednesday night General Membership Meetings
 - Assisting in the inventory of Clubhouse assets and keeping that inventory current
 - For the more technically inclined, managing the SatNOGS station, reviewing observations, and adding new satellites to the list of those being tracked
 - Reviewing new technologies for presentation at meetings or write-ups in CrossTalk.
- For example, the VarAC HF digital communications program has recently been updated, it is installed on the HF station at the Clubhouse, and might provide an opportunity for an interesting short article or presentation

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

Clubhouse Construction Volunteer Projects :

Shed : Build Ramp

Replace Back Steps

Clubhouse :

- Build Ramp
- Replace Interior Front Door
- Inventory “Stuff” in HF Room
- Dispose of “Stuff” in HF Room

Install 2 New VHF Towers

Lightning Protection Project :

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

Install New Light Pole

A Club that goes above and beyond for their communities and for Amateur Radio, is what defines a Special Service Club (SSC).



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

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





At The Repair Bench...

A monthly column describing a recent repair bench event.

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

Heathkit® IP-2718 Power Supply - September 2023

Last month (in July 2023), I received an e-mail from a ham in Presque Isle, Maine, asking me if I would be interested in taking a look at an older **Heathkit® IP-2718 Tri-Power Supply (Figure 1)** that was not operating properly. I agreed to give it a shot, and had the owner ship the PSU to me. A rather compact power supply that weighs in at a mere ten pounds, the IP-2718 is a three-output unit, having a 5VDC fixed output and a pair of identical 0V to 20VDC adjustable outputs. The two 20-volt outputs can be operated independently, or they can be set so that the “A” output tracks the “B” output. The 5VDC output is at 1500mA, while the 20VDC outputs are at 500mA each. The three outputs are all individually floating outputs which can be connected together in a wide variety of methods, whether in series, in parallel, or in any one of a number of series/parallel combinations. As a result, it is possible for example to achieve a developed output of -5VDC to -45VDC at a maximum output current of 500mA.



Figure 2 illustrates one of the many configurations possible. In this configuration, the +5V terminal is referenced to ground, and each of the 0 to +20V supplies are referenced to -5 volts. In this manner, each of the positive-going 20-volt supplies can be varied from -5VDC to +15VDC, or an overall span of 20 volts. Output currents for each of the three supplies are as shown in the **Figure 2 diagram**.

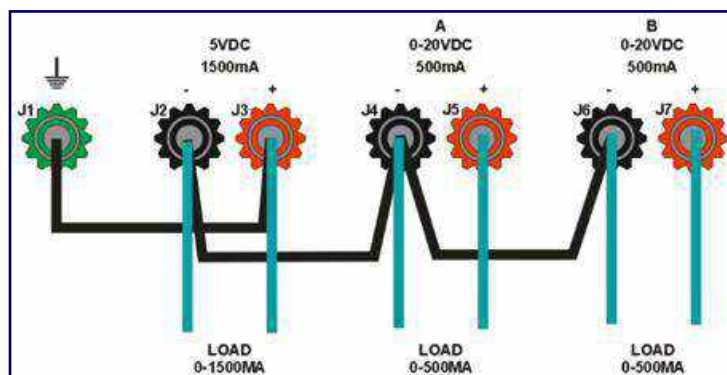


Figure 2 : Circuit Example #1

In another example, shown in **Figure 3**, we see the three outputs connected in series with the ground reference made at the high end of the series circuit string. In this circuit, the output voltage is adjustable from -5VDC to -45VDC, while the maximum output current is limited by the maximum current outputs of the “A” and “B” supplies to 500mA.

A third example can help to bring home the concept of multiple configurations yielding multiple outputs. In this example, shown at **Figure 4**, the supplies are connected in such a manner as to produce three separate outputs, a fixed +5VDC output at 0-1500mA current, the “A” 20-volt supply provides an output that is adjustable from 0V to +20VDC at 500mA, and the “B” 20-volt supply outputs an adjustable 0V to -20VDC also at 500mA.

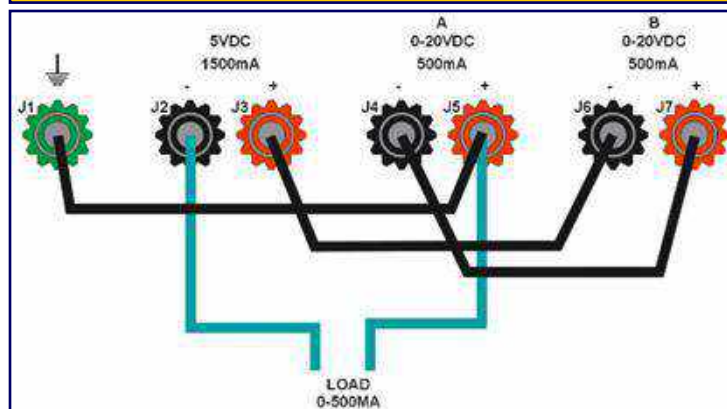


Figure 3 : Circuit Example #2

At The Repair Bench - Continued on page 36

Note that the polarity of these three outputs is dependent upon which terminal of each supply is connected to the green ground terminal. A careful look at **Figure 4** will show that J2 and J4 - both negative terminals - are connected to ground, thus referencing those two supplies as positive-going outputs, but in the “B” supply, terminal J7 - a positive terminal - is connected to the ground point, thus referencing that output as a negative-going output.

Let’s take a look at yet another arrangement, in which we take the two 20-volt supplies out in parallel, thus allowing the currents of these two supplies to effectively add together, resulting in a nominal 1000mA output from the parallel pair. In **Figure 5**, we can see that a pair of current-sharing or equalizing resistors of 0.5Ω each is connected in series with each of the two 20-volt supplies’ positive terminals feeding the positive side of the load.

The total output voltage is reduced by the voltage drops of these two resistors. The actual amount of those voltage drops will be determined by the spontaneous current draw of the circuit, as calculated via the Ohm’s Law formula of $E = I \times R$. For example, if the circuit current draw is 946mA and if it were to be drawn exactly evenly from each of the two supplies (an unlikely circumstance), the voltage drop across each resistor would be $(0.946/2) \times 0.5$, or 0.2365V. This would mean that the total voltage dropped across the two resistors would be 0.473V, or just under a half of a volt. That is the amount by which the total output voltage would be reduced in this configuration and at that specific current draw value. Of course, due to component tolerances and other related factors, the likelihood of having exactly half of the current provided by each of the 20-volt supplies is very slim, and is in fact almost impossible. However, the difference will be small enough that it should not have any meaningful impact on the circuit.

In one final example (**Figure 6**), we will look at the circumstance wherein we have one of the two 20-volt supplies tracking the other as to output voltage. In this particular power supply, the “A” output will track the “B” output when the unit is placed in the “**TRACKING**” mode. Under these conditions, each of the outputs is floating. However, almost any combination of series-connected outputs can be utilized in the tracking mode. The main take-away here is that the two 20-volt supply outputs need not be adjusted independently, as in this mode, whatever output voltage level the “B” supply is producing, the “A” supply will do the same.

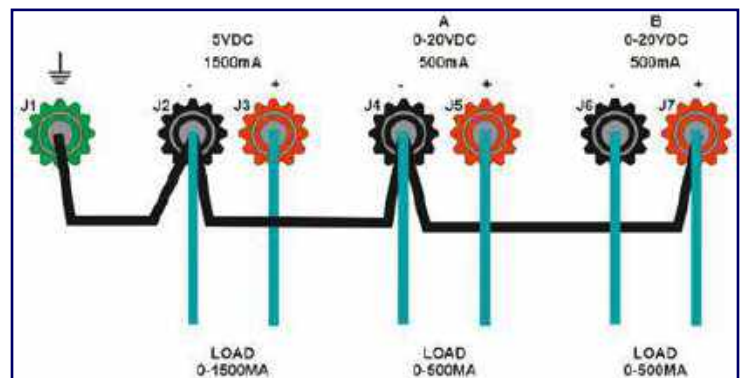


Figure 4 : Circuit Example #3

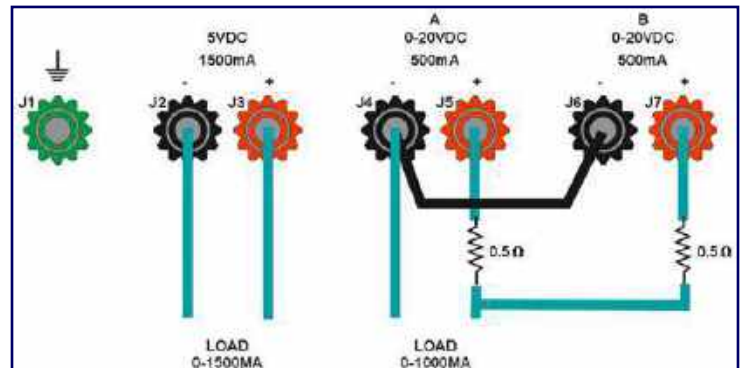


Figure 5 : Circuit Example #4

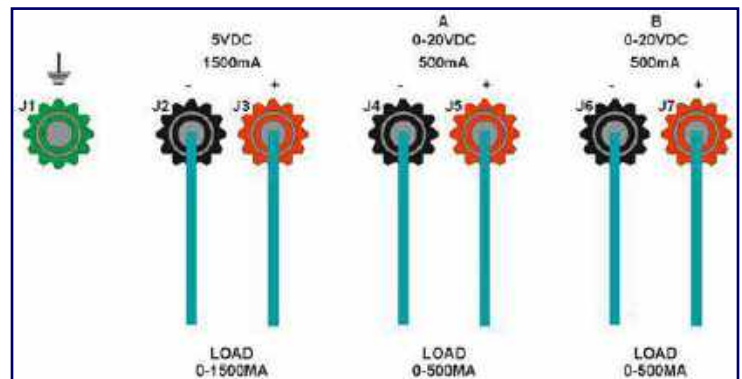


Figure 6 : Circuit Example #5

OK - enough about how this supply is intended to operate. Now let's talk about what it was not doing, or was doing improperly. To start with, the 5-volt supply exhibited heavy ripple and low output voltage. In addition, the 20-volt "A" supply had no output voltage at all, and the 20-volt "B" supply exhibited an output voltage that was too high and could not be adjusted to its proper value.

Under the cover here, there are three separate power supplies that are integrated within this unit. The 5-volt supply consists mainly of an LM309K three-pin voltage regulator IC, a pair of 1N5403 silicon diodes forming a full-wave rectifier, and a 12,000 μ F 15V aluminum electrolytic capacitor. In this case, diagnosis was easily accomplished because there was so little that could go wrong. As it turned out, the capacitor was extremely leaky, causing the ripple and also causing the failure of one of the two diodes in the full-wave rectifier. It was a no-brainer that both diodes should be replaced, as they were both placed under the same stresses. This portion of the IP-2718 is constructed with point-to-point wired components (**Figure 7**), so replacement was extremely simple. The 12,000 μ F capacitor (C2) has a 220 Ω one-watt bleeder resistor placed across its terminals, the edge of which is just barely visible in the **Figure 7 photo**. The rear panel of the enclosure has a terminal tie strip on which are the two diodes of the full-wave rectifier. Replacement of the capacitor and the two diodes resolved the issues with the 5-volt supply. I did have to do a little bit of customization, as the replacement capacitor has screw terminals rather than the solder lugs of the original device. That was handled by putting solder lugs onto each of the leads that needed to go onto the capacitor, and then simply putting those lugs under the screws and tightening them down in place.

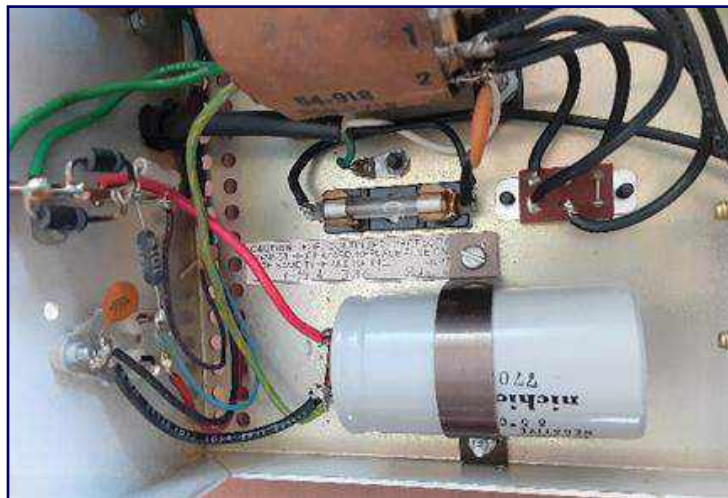


Figure 7 : 5VDC Supply Components

Next up was the 20-volt "A" supply, which had no output voltage. The two 20-volt supplies are identical in design, each occupying one half of the printed circuit board (PCB) on which they are installed. As a result of this happy circumstance, it is very easy to compare the two sections as to voltage readings at various points across the PCB. Component numbering here is laid out following the rule that all "one-hundred" series components are in the "A" supply section, while the "two-hundred" components are in the "B" supply section. Thus, for example, Q101 and Q201 are the same part number and serve the same function at the same location in each of the two supply sections.

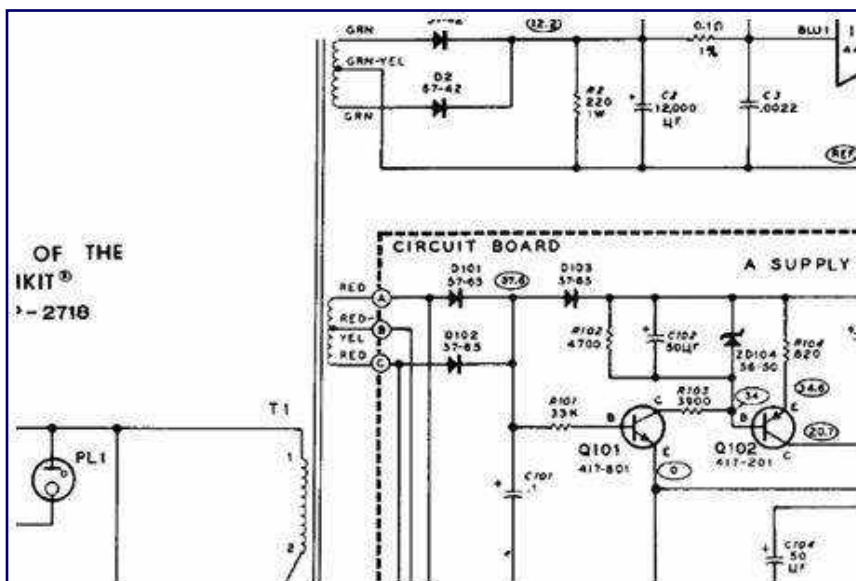


Figure 8 : Supply "A" Schematic Excerpt

The input to the 20-volt power supply is through a pair of 1N4002 silicon diodes configured as a full-wave rectifier directly off the secondary winding of the power transformer (**Figure 8**). The output of the full-wave rectifier, according to the schematic diagram, should be a nominal 37.6VDC.

At the anode of D103, which is the same point as the cathodes of D101 and D102, the point just referenced as the output of the full-wave rectifier, the actual voltage measured there was 0.030VDC, essentially no voltage. Voltage was present at the anodes of D101 and D102, and the voltage drop across each of those diodes was just over 36 volts. It was obvious that these diodes were both open, and therefore in need of replacement.

Due to the age of this unit, the number of electrolytic capacitors, the level of heat developed by the large power transformer, and the already verified failure of the 12,000 μ F filter capacitor C2, I decided to replace all of the electrolytic capacitors on the PCB. This equated to a total of twelve capacitors, six in each 20-volt section of the power supply.

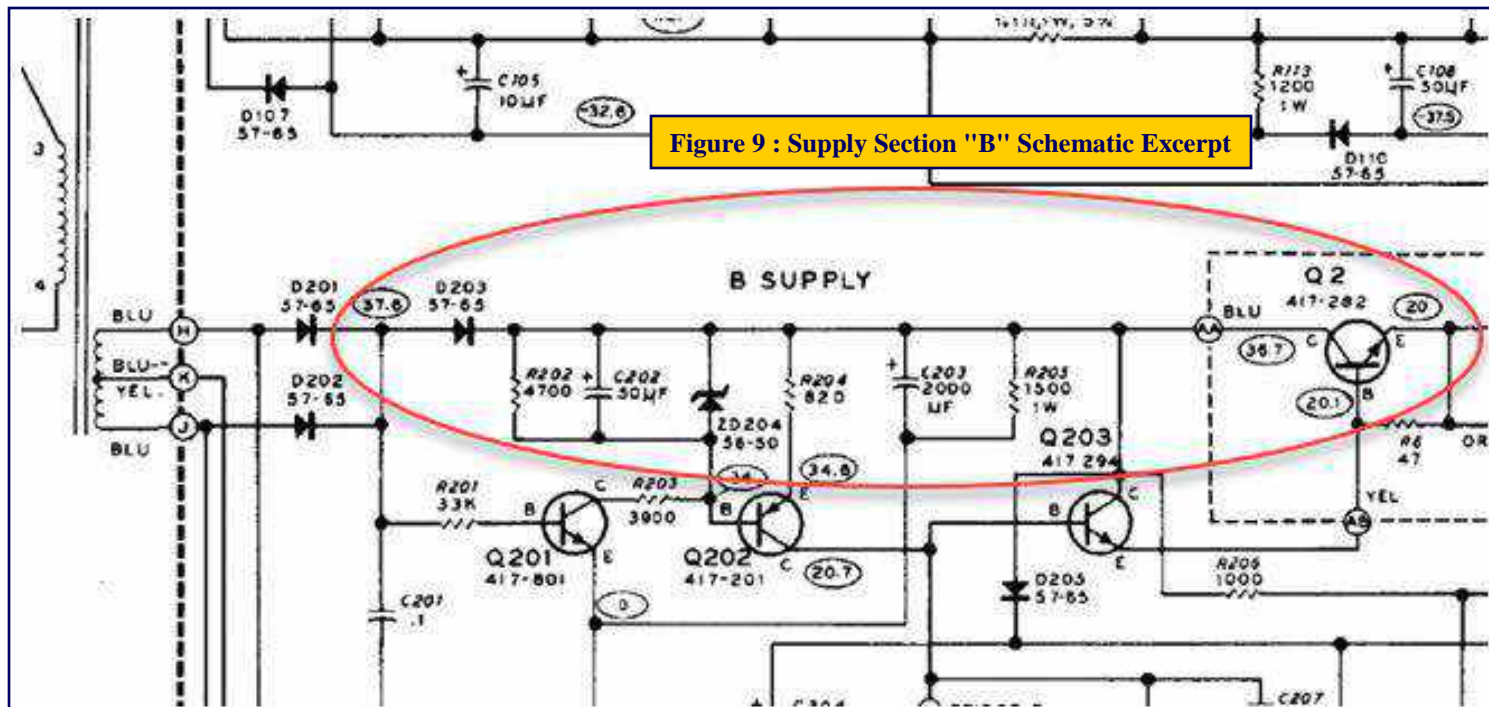


Figure 9 : Supply Section "B" Schematic Excerpt

I replaced all of those capacitors, installed the replacements for diodes D101 and D102, and then I checked the operation of the unit. The 20-volt "A" supply was restored to proper operation, but the "B" section was still not right. As mentioned earlier, this section exhibited an output that was too high and was not able to be adjusted to its proper level. Some more diagnosis was called for.

Mounted to the rear panel of the enclosure are three semiconductor devices. One of them is the LM309K voltage regulator IC already discussed. The other two are the pass transistors for the voltage regulator circuits of the 20-volt supplies. These transistors are of the type MJ2841 and are identified as Q1 (supply section "A") and Q2 (supply section "B"). The MJ2841 transistor is a high-power NPN silicon transistor rated at 80V_{CEO}, 80V_{CB}, 4V_{EB}, a collector current (I_C) of 10A and a base current (I_B) of 4A. The rated power dissipation is 150 watts and the device is in a TO-3 steel case. All told, this is a very sturdy and capable transistor, bordering on overkill for the job it is being asked to do in this power supply. The schematic (**Figure 9**) calls for an in-circuit operational base voltage of 20.1VDC, an emitter voltage of 20.0VDC, and a collector voltage of 36.7VDC. The emitter is directly connected to the J7 positive output jack for the 20-volt "B" supply and is therefore the supply output voltage. The collector voltage is one diode-drop, in this case 0.9V, less than the input voltage of 37.6V as mentioned in the section "A" discussion above. This is evident, as the only component in series between the D201 and D202 cathodes and the Q2 collector is a single 1N4002 silicon diode, D203.

The actual voltage measured at the emitter of Q2 and at the positive output terminal of the power supply “B” section was 36.9VDC, the same voltage as that found on the collector of Q2. From that information, it was evident that transistor Q2 was shorted, and thus merited replacement.

The type MJ2841 transistor is very difficult to find now, as it is an obsolete part. I found a couple of surplus houses that claimed to have inventory, and I even found a couple of eBay vendors offering the original part, but at extremely exorbitant pricing. The best price that I found was just over twenty dollars plus shipping, but I also found pricing as high as sixty dollars plus shipping. When it comes to replacement of some older semiconductor devices, a usually-viable alternative is NTE Electronics of Bloomfield, New Jersey. I have found suitable replacements in their product line-up before, and this time was no different. A look at my NTE *QUICKCROSS*™ software turned up the NTE-130 as a suitable replacement for the MJ2841. Amazon had it in stock for next-day delivery at just over five dollars. Sold!

When the transistor came in, I installed it and tested the operation of the IP-2718. It now worked properly on all three of its outputs. I gave the unit a quick cosmetic clean-up, inside and out, and buttoned it up for shipment back to its owner. Start to finish, I had the unit here for three days, shipping it out again on the third day after I received it. The quick turn-around time on this one was aided by the fact that I had all of the capacitors in stock, as well as the diodes. The only part that I needed to source and have shipped in was the pass transistor that we just discussed.

The group of electrolytic capacitors that I changed out on the main PCB included four (4) 10µF/50V axials, four (4) 50µF/50V axials, two (2) 50µF /15V radials (which I replaced with 47µF/63V radials), and two (2) 2,200µF/40V axials, which I replaced with 2,200µF/50V axial devices.

The moral of this story is that no matter how difficult a job may seem at the onset, break it down to its constituent parts and you may find that one difficult large job has become two or three easy smaller jobs. That is exactly what happened here.

See you next month!



Release Candidate WSJT-X 2.7.0-rc2

The WSJT-X development team has announced that Release Candidate WSJT-X 2.7.0-rc2 is ready for download by beta testers. This update is mostly a bug-fix release. A full list of enhancements can be found in the release notes at https://wsjt.sourceforge.io/wsjitx-doc/Release_Notes_2.7.0-rc2.txt.

Release Candidates are intended for beta testers. If you download and use WSJT-X 2.7.0-rc2, please remember to provide the developers with feedback on the new features in version 2.7, and on anything that does not seem to work properly.

Direct links to installation packages for Windows, Linux, and macOS can be found on the WSJT-X website at <https://wsjt.sourceforge.io/wsjitx.html>.

Thanks to Joe Taylor, K1JT

Article Credit : The ARRL Contest Update for July 19, 2023 - www.arrl.org

“Goin’ Mobile” - Tech Saturday Forum : August 5, 2023

By Jon Pearce, WB2MNF

On Saturday, August 5, 2023, 15 Club members gathered at the W2MMD Clubhouse to see **Tony Starr K3TS’s** HF mobile radio setup. Tony had given a presentation about his installation on Wednesday night, and now he demonstrated it in person. He explained how he installed the radio, mounted the antenna, and solved various noise problems. **Lee Marino N2LAM** also shared his compact installation with a self-tuning HF antenna. Tony helped other members with their mobile installation questions, such as how to deal with noise on HF and VHF FM bands, and how to connect DC power to the radio. Many of the attendees were new licensees who wanted to learn how to put rigs in their cars, so they found the session very useful.

Some members stopped by the VHF room after the session to watch some satellite passes. **Chris AD2CS** helped others with their DMR radio issues or showed them how to use the HF station. Tech Saturday Forum is a great time to learn by doing or get technical help with Amateur Radio.

Future Tech Saturday Forums

Are you interested in learning some new skills and techniques related to **Digital Mobile Radio (DMR)**? If so, join us for our **September Tech Saturday Forum** on **September 9, 2023**, where we will explore some of the advanced features of DMR with which you might not be familiar. You will learn how to use simplex mode, make private calls to remote stations, send SMS messages, and transmit digital APRS data. The session is titled **“DMR Techniques You May Not Know”** presented by **Len Rust W2LJR**, and it will be a great opportunity to expand your knowledge and practice your skills.

If you are more into **Raspberry Pi** computers, then you won’t want to miss our **October Tech Saturday Forum** on **October 7, 2023**. This session is designed for beginners who want to set up their own Raspberry Pi and with the popular **“HamClock”** program. HamClock is a program that displays various information such as time, date, location, weather, sun and moon data, propagation information, and more. We will guide you through the steps of installing the Raspberry Pi operating system, flashing the SD card, entering basic commands, and installing the HamClock program. The session is titled **“Raspberry Pi - From Zero to HamClock”** and it will be a fun and easy way to get started with this versatile device.

We hope you are excited about these upcoming sessions and we look forward to seeing you there. Thank you for your interest and participation.





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)

September 18, 1947



September 2, 1945



Masonic Lodges On The Air

The **3rd Annual Masonic Lodges on the Air (MLotA)**, an amateur radio special event, will occur on Saturday, September 23, 2023, from locations across the United States. The event is open to all amateur radio operators.



Masonic Lodges on the Air

Call CQ More Light!

The idea for the event grew from the realization that many Freemasons also have a love for amateur radio. The **Fulton County Amateur Radio Club** (<https://fcarc.com>) and Ohio's Fulton Lodge #248 first hosted the event in 2021. The mission is to promote fraternal bonds within the ranks for Free and Accepted Masonic lodges and its many amateur radio operators, who are also brothers in the fraternity while encouraging contact with amateur radio operators around the state, county and world.

The event will take place from 10:00 AM - 6:00 PM ET, on 80 - 40 - 20 -15, and 10 meters SSB. Amateur radio participants are asked to honor all band plans, and all contacts must be on the phone portion of the bands. Stations may be contacted once on each band.

Complete contest rules and more information can be found at <http://cqmorelight.com/rules>.

Article Credit : The ARRL Letter for August 10, 2023 - www.arrl.org



ARRL VEC Club License Tips

All **club license** (<http://www.arrl.org/club-call-signs>) transactions (except for new vanity call sign requests) must be processed through an FCC-approved Club Station **Call Sign Administrator (CSCSA - <https://bit.ly/3KQqdyg>)** and by completing a **605-C club form** (<https://bit.ly/3qItFEe>). ARRL VEC is an FCC-approved CSCSA. Club license changes, including email and address changes; club license renewals; new club license grants, and club license trustee changes must be submitted through a CSCSA. Trustee changes require the club meeting minutes showing the change, signed by club officers, to accompany the 605-C application.



CSCSAs are also authorized to process **military recreation station license** (<https://bit.ly/3snx4ZR>) applications. Military recreation station licenses are not eligible to apply for vanity call signs.

As a reminder, according to FCC club station license rule **97.5(b)(2)** (<https://bit.ly/3KT65M7>) : "The club must be composed of at least four persons and must have a name, a document of organization, management, and a primary purpose devoted to amateur service activities consistent with this part." In addition, the document of organization must be kept in the club's records and made available to the FCC upon request.

Direct questions about and applications for club license renewals, changes, or new club license grants to the ARRL VEC (VEC@arrl.org).

By ARRL VEC Manager Maria Somma, AB1FM

Article Credit : ARRL Club News for August 15, 2023 - www.arrl.org

Electronic Tool Tip #1 - FRP Tube Pin Straightener

By Chris Prioli, AD2CS

I came across this tool while searching for an obscure vacuum tube on ebay.com one day, and I decided then to buy one and to give it a try-out. I was pleasantly surprised by the results.

The tube that I was searching for had a Compactron base, and I had used that term in my search query, which is how I ended up finding this handy tool.

The tool is a vacuum tube pin straightener, designed to straighten and align the pins of some of the most popular vacuum tube base types out there, namely the miniature seven-pin, the miniature nine-pin, the miniature ten-pin, the Magnoval, the Noval, and the Compactron bases.

The tool is fabricated from a piece of one-quarter-inch thick FR4 fiberglass board material, and it is precisely machined as to its general form and its pin openings. Each of the pin openings is wider at the tool surface, where the pins get inserted, and then the holes taper down to the final pin diameter, bringing misaligned pins into shape quickly and easily.

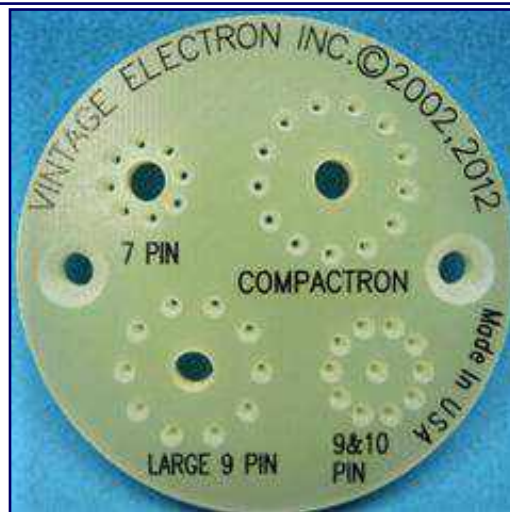
There are a pair of countersunk holes in the body of the tool, useful for mounting the tool to a bench top for stationary use, where it would not take up much space, being a mere two and a half inches in diameter.

Unlike some other tube pin straighteners out there, this one does not have vertical guides for the tubes, meaning that both large-envelope more modern tubes and miniature-envelope vintage tubes will fit the tool equally well.

The tool costs \$29.95 (USD) from Vintage Electron via their eBay storefront, where this vendor has a 99.9% positive rating over almost 16,000 transactions. The vendor reports that they will give one of these tools free with each order over \$250 from their storefront, where they deal with all kinds of vintage electronics parts and components.

I much prefer this tool to the newer series of same-priced 3-D printed straighteners offered by other vendors on the auction site. I believe that this tool, due to its machined holes rather than printed holes, will be more accurate. I also believe that the tool's material of construction will make it more durable than the 3-D printed versions.

Go to [ebay.com/itm/224424049020](https://www.ebay.com/itm/224424049020) to investigate this tool for yourself.



2020-2024 Element 4 Amateur Extra Class License Question Quiz

**This month we finish Subelement E3 Radio Wave Propagation (3 exam questions out of 3 groups)
(Answers on ‘Last Page Calendar’)**

E3C01

What does the radio communication term “ray tracing” describe?

- A. The process in which an electronic display presents a pattern
- B. Modeling a radio wave’s path through the ionosphere
- C. Determining the radiation pattern from an array of antennas
- D. Evaluating high voltage sources for x-rays

E3C02

What is indicated by a rising A or K index?

- A. Increasing disruption of the geomagnetic field
- B. Decreasing disruption of the geomagnetic field
- C. Higher levels of solar UV radiation
- D. An increase in the critical frequency

E3C03

Which of the following signal paths is most likely to experience high levels of absorption when the A index or K index is elevated?

- A. Transequatorial
- B. Polar
- C. Sporadic E
- D. NVIS

E3C04

What does the value of Bz (B sub Z) represent?

- A. Geomagnetic field stability
- B. Critical frequency for vertical transmissions
- C. Direction and strength of the interplanetary magnetic field
- D. Duration of long-delayed echoes

E3C05

What orientation of Bz (B sub z) increases the likelihood that incoming particles from the sun will cause disturbed conditions?

- A. Southward
- B. Northward
- C. Eastward
- D. Westward

E3C06

By how much does the VHF/UHF radio horizon distance exceed the geometric horizon?

- A. By approximately 15 percent of the distance
- B. By approximately twice the distance
- C. By approximately 50 percent of the distance
- D. By approximately four times the distance

Element 4 Amateur Extra Class Quiz - Continued on page 45

E3C07

Which of the following descriptors indicates the greatest solar flare intensity?

- A. Class A
- B. Class B
- C. Class M
- D. Class X

E3C08

What does the space weather term “G5” mean?

- A. An extreme geomagnetic storm
- B. Very low solar activity
- C. Moderate solar wind
- D. Waning sunspot numbers

E3C09

How does the intensity of an X3 flare compare to that of an X2 flare?

- A. 10 percent greater
- B. 50 percent greater
- C. Twice as great
- D. Four times as great

E3C10

What does the 304A solar parameter measure?

- A. The ratio of x-ray flux to radio flux, correlated to sunspot number
- B. UV emissions at 304 angstroms, correlated to the solar flux index
- C. The solar wind velocity at 304 degrees from the solar equator, correlated to solar activity
- D. The solar emission at 304 GHz, correlated to x-ray flare levels

E3C11

What does VOACAP software model?

- A. AC voltage and impedance
- B. VHF radio propagation
- C. HF propagation
- D. AC current and impedance

E3C12

How does the maximum range of ground-wave propagation change when the signal frequency is increased?

- A. It stays the same
- B. It increases
- C. It decreases
- D. It peaks at roughly 14 MHz

E3C13

What type of polarization is best for ground-wave propagation?

- A. Vertical
- B. Horizontal
- C. Circular
- D. Elliptical

E3C14

Why does the radio-path horizon distance exceed the geometric horizon?

- A. E-region skip
- B. D-region skip
- C. Due to the Doppler effect
- D. Downward bending due to density variations in the atmosphere

E3C15

What might be indicated by a sudden rise in radio background noise across a large portion of the HF spectrum?

- A. A temperature inversion has occurred
- B. A solar flare has occurred
- C. Increased transequatorial propagation is likely
- D. Long-path propagation is likely



Volunteer Monitor Program Report : June 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 June 2023 activity report of the VM Program.

- Advisory notices were issued to operators in North Carolina and West Virginia for excessively wide transmissions (over 8 kHz). The operators were reminded that FCC rule 97.307(a) requires that no amateur station use more bandwidth than necessary for the information rate and emission type being transmitted.
- A licensee in Georgia received a second advisory notice regarding excessively wide transmissions and was informed that the matter would be referred to the FCC.
- A commendation was issued to a licensee in Michigan for courtesy and special efforts made in resolving an interference issue on 14.230 MHz.
- Licensees in New Jersey, Arizona, Vermont, and Illinois received advisory notices for FT8 operation on frequencies not allowed under their Technician-class licenses.
- A licensee in Nevada received an advisory notice for an out-of-band signal due to operation too close to the band edge on 40 meters.

The totals for VM monitoring during May 2023 were 1,961 hours on HF frequencies, and 2,696 hours on VHF frequencies and above, for a total of 4,657 hours.

For the quarter ending June 30, 2023, there were 15 advisory notices and eight commendations issued, two FCC referrals, and two FCC meetings.

Thanks to Volunteer Monitor Program Administrator Riley Hollingsworth, K4ZDH

Gloucester County Amateur Radio Club

General Membership Meeting Minutes

Wednesday, August 2, 2023



President Jonathan Pearce WB2MNF opened the General Membership Meeting @ 1932 Hours with the Pledge of Allegiance to the Flag.

ATTENDANCE :

- 34 In person
- 13 ZOOM

VISITORS :

- Donna Reed, N2QED
- Roslyn Marder, N2AKL
- Mike Colabrese (WA2TML's son)
- Kati Colabrese (WA2TML's daughter-in-law)
- Joe DiBartolo, KC2SFB (ZOOM)

ANNOUNCEMENTS : The meeting began with a remembrance of the late **Chuck Colabrese WA2TML** by **Tony Starr K3TS**, **Jonathan Pearce WB2MNF**, and Chuck's widow **Irma Colabrese N2FNF**. The next Tech Saturday will begin at 9 AM at the W2MMD Clubhouse with a follow up to tonight's topic of mobile radio installation. Members are encouraged to show their mobile installations.

The Clubhouse will be open during the Perseids Meteor Shower on the 12th and 13th in order to attempt contacts using this propagation condition. The Board of Directors will meet on the 16th and Dinner at the Clubhouse will take place starting at 6 PM on the 23rd. Jonathan is looking for members to become more active by volunteering to lead or at least support Club activities. Members are encouraged to say "Let me know when you need help". Also, he is looking for ways to make Club meetings more interesting. For example, is there news regarding new contacts, new station gear, new technologies, etc?

Marc Federici WM2Y has been working on an ultra low power 2 Meter FM transmitter for Fox Hunting. **Jerry Barnish K2EAB** is looking to recruit new members for the **Battleship New Jersey Radio Club**. The main interest of this group is restoration of equipment. **John Zaruba Jr K2ZA** has repurposed a Raspberry Pi3 to make an ALLSTAR node, allowing him to access repeaters using a micro HT. **Jonathan Pearce WB2MNF** noted that RPi's are again available from several online sources and that the RTL-SDR dongle is back in stock at Amazon.

NEW MEMBERS : Jonathan Pearce WB2MNF introduced nine new members :

- Dionisios (Dan) Goulianos KE2BPK, Technician from Wenonah, NJ
- Beth Kraus KE2BPE, Technician from Vineland, NJ
- David Mitchell WB2PJH, Amateur Extra from Bridgewater, NJ
- Sergei Nenasheff KE2BLO, Technician from Vineland, NJ
- Richard Nicholas IV KC3WIR, Technician from Swarthmore, PA
- Aimee Ortiz KE2BPJ, Technician from Clementon, NJ (present at the meeting)
- Gregory Sleet, Associate Member from Somerdale, NJ (present via Zoom)
- Charles White IV KE2BPD, Technician from Sewell, NJ
- Michael Zerby W2EFR, General from Thorofare, NJ

August 2023 General Membership Meeting Minutes - Continued on page 48

The minutes of the June General Membership Meeting were approved.

TREASURER : Alan Arrison KB2AYU reported YTD Budgeted items :

- Income : \$7,300
- Expenses : \$4,898
- Net Gain : \$2,403

Total in all accounts includes two donations in memory of **Chuck Colabrese WA2TML**. Approximately \$4,000 is in the Rebuilding Fund. The Treasurer's Report was approved.

CLUBHOUSE : Alan Arrison KB2AYU said installation of the mini split air conditioner in the VHF room had been completed by **Frank Romeo N3PUU**, **Earl Moore KC2NCH**, and **John O'Connell K2QA**. **Jonathan Pearce WB2MNF** noted that a building permit application for the VHF Towers has been submitted and that Certified Drawings have been ordered. The work area outside the VHF room has been restored. The project to build an access ramp for the Clubhouse has been cancelled since no one has stepped forward to lead this project. Now that Raspberry Pi's are available once again from several vendors, we may plan a session on using a Pi to run Ham-Clock if there is sufficient interest.

REPEATERS : Jeff Garth WB2ZBN investigated the recent failure of Echolink on the W2MMD 2 Meter repeater. Echolink began to work again after an error message was cleared from the computer screen.

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

- **September 6 : Bob Heil K9EID on New Hams**
- **October 4 : Jim Wright N2GXJ on design of the Club's 160-meter wire loop**
- **November 1 : Mike Thompson KG4JYA on Radio Astronomy**
- **December 6 : Len Rust W2LJR on logging**
- **January 3 : Robert Welsh N3RW on Astronomy and Amateur Radio**

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

- **August 5 - 6 : NA QSO Party, CW**
- **August 12 - 13 : Worked All Europe DX, CW**
- **August 19 - 20 : NA QSO Party, SSB**
- **August 26 - 27 : World Wide DIGI DX Contest (FT-4 and FT-8 only)**

PUBLIC SERVICE : Joe DiBartolo KC2SFB (via Zoom) provided an overview of the annual **Bike MS City to Shore Ride** and solicited volunteers to support this event on September 30th and October 1st. A link for signup information is available at www.N3MSS.org or on our Club's website.

TECHNICAL COMMITTEE : Jonathan Pearce WB2MNF was pleased to see so many participants for the soldering classes and wants to hold more "maker events" like this. The SatNOGS station is back up and he is looking for volunteers to help run this station (SatNOGS is an International Network of Stations, mostly amateur, that report telemetry from satellites).

EDUCATION : Chris Prioli AD2CS announced that Licensing Classes will resume the week of September 11th and will run for 9 weeks, followed by a exams the week of November 14th. In view of the interest in the recent "Learning to Solder" courses, Chris will follow up with a Surface Mount Soldering session on September 23rd at the Clubhouse.

Also, Chris has been invited to speak on this topic at the GCARC Hamfest Forum on September 10th. More information is available at the Club's website.

HAMFEST : Sheldon Parker K2MEN is working on obtaining door prizes for the GCARC Hamfest on September 10th and is having tickets printed. Volunteers are asked to sign up to support this event on the Club's website.

CLUB NETS : Chris Prioli AD2CS reports that check-ins to the 2 Meter nets are down and attributes this to the "Summertime Blues".

CONSTITUTION COMMITTEE : Ron Block NR2B said the Committee has made many changes and the current draft has been sent to the Board of Directors for review at the next BoD meeting. A final draft will be presented to the General Membership for adoption.

OLD BUSINESS : None

NEW BUSINESS : Chris Prioli AD2CS has assumed responsibility for providing membership badges.

The business meeting concluded @ 2036 Hours and was followed by a presentation by **Tony Starr K3TS** on mobile radio operation, installations, and equipment.

Karl Frank W2KBF,
GCARC Recording Secretary



Perseverance Pays Off for Two Visually Impaired Hams

"We all acknowledge that it is stressful and taxing on one's brain cells to complete the test for any level of the ham license. There's a lot of studying and some memorization in preparation to sit for an hour in front of the Volunteer Examiners (VEs). You must read each question, select the correct answer, then fill in the corresponding circle on the test form.

"But what if you are blind, or partially blind? Do you give up your dream of becoming a ham? Certainly not! That was the attitude taken by Jacob Johnson, KN6ZQV, and Ben Weiss, AK6CC, who now have their Amateur Extra-class licenses, when they tested with the Western Placer ARC, in California.

"Jacob completed each element within 3 months; Ben tested to renew his lapsed Extra credentials.

"With only receiving help from the VEs to fill out their registration forms, they each successfully completed their exams.

"Yes, it requires a strong desire, an inordinate amount of patience, and incredible focus. But it can be done. And Jacob and Ben are a testament to a triumphant outcome."

By Frank Boardman, K1FMB

Article Credit : ARRL Club News for July 18, 2023 - www.arrl.org

Gloucester County Amateur Radio Club

Board of Directors Meeting Minutes

Wednesday, August 16, 2023



Meeting opened @ 1900 Hours by President Jonathan Pearce WB2MNF.

ATTENDANCE :

- President Jonathan Pearce WB2MNF
- Vice President Ron Block NR2B
- Treasurer Alan Arrison KB2AYU
- Recording Secretary Karl Frank W2KBF
- Corresponding Secretary Frank Romeo N3PUU (ZOOM)
- Director Jeff Garth WB2ZBN
- Director Jim Clark KA2OSV
- Director Chris Prioli AD2CS
- Director Jim Wright N2GXJ
- Trustee John O'Connell K2QA
- Member Tony Starr K3TS

The minutes of the July BoD Meeting were approved.

TREASURER : Alan Arrison KB2AYU reported YTD Budgeted Items :

- Income : \$8,132
- Expenses : \$5,078
- Net Gain : \$3,234

The Club received several donations in memory of **Chuck Colabrese WA2TML**, including a \$500 donation from the Bank of Elmer. The Treasurer's report was accepted.

CLUBHOUSE : Alan Arrison KB2AYU noted that a work crew had done a nice job cleaning up the Clubhouse.

NEW MEMBER APPLICATIONS : None

FUTURE PROGRAMS : Ron Block NR2B reported that he has not heard back from **Bob Heil K9EID** so the speaker for the General Membership Meeting on September 6, 2023 will be **Carol Richards N2MM**.

EDUCATION : Chris Prioli AD2CS announced that the next licensing classes will begin on September 11, 2023. So far, 6 persons have expressed interest. **John Zaruba Jr K2ZA** will assist with Extra Licensing Classes, in place of **Chuck Colabrese WA2TML**.

REPEATER : Echolink has not been reliable. Rebooting the computer seems to fix the problem temporarily.

PUBLIC SERVICE : Jonathan Pearce WB2MNF noted that signups to support the Bike MS City to Shore Ride was not going well. **Jeff Garth WB2ZBN** said that the SKYWARN Net is in need of more participants.

TECHNICAL COMMITTEE : Jonathan Pearce WB2MNF reported on radio contacts made from the Clubhouse during the recent Perseids meteor shower. The Club operated a 6 meter station using an Elecraft amplifier.

August 2023 Board of Directors Meeting Minutes - Continued on page 51

Several meteor shower contacts were made on Saturday morning. The next meteor shower will occur in the December/January time frame.

FOX HUNT : Jim Wright N2GXJ has scheduled the next Fox Hunt for Saturday, September 17, 2023.

OLD BUSINESS : None

NEW BUSINESS:

1. **President Jonathan Pearce WB2MNF** appointed **Alan Arrison KB2AYU** to fill the role of Director vacated by the late **Chuck Colabrese WA2TML** after Alan resigned as Treasurer. This allows Alan to retain a position in Club leadership. **John O'Connell K2QA** was appointed to fill the role of Treasurer after John resigned as Trustee. The BoD approved these changes, which take effect immediately. The Club still has one open Trustee position.
2. **Jonathan Pearce WB2MNF** wants to get rid of items in Clubhouse HF Room cabinets and shelves that will never be used at the Clubhouse. The BoD agreed to dispose or sell these surplus items.
3. **Tony Starr K3TS** reports that new member **David Mitchell WB2PJH** has been approved as a CW Academy Instructor. Club members are invited to visit the CWops website in order to sign up for the September/October online course.
4. **Jeff Garth WB2ZBN** moved that a new member joining the Club and paying dues at the 2023 Hamfest should be considered to be paid thru the end of 2024. This motion passed.
5. **Jeff Garth WB2ZBN** wants to start a Volunteer of the Month/Year award in memory of certain past Club members. Discussion of this proposal was deferred.
6. **Jeff Garth WB2ZBN** noted that the impending increase of ARRL dues could affect our status as an ARRL affiliated club (which requires at least 51% ARRL membership) if the rate of ARRL renewal decreases. The position of the BoD is that we should neither persuade nor dissuade Club members to join or renew ARRL membership at this time.
7. Since **ARRL Atlantic Division Director Robert Famiglio K3RF** will attend our hamfest in September as a forum speaker, **Jeff Garth WB2ZBN** suggested that he should be invited to tour the Clubhouse during his visit.
8. **Chris Prioli AD2CS** learned of the **Gloucester Amateur Radio and Electronics Society** in the UK and, in view of the similar name to our Club, proposed that he contact them and explore the possibility of forming some sort of a relationship with them. The BoD approved.
9. **Chris Prioli AD2CS** needs to order additional blanks for membership badges and asked **Alan Arrison KB2AYU** to look up the cost of these blanks.

Constitution Committee : Ron Block NR2B presented a revised draft (Draft 10) of the GCARC Constitution. Feedback was obtained from the BoD and the discussion will continue at the next BoD meeting.

The BoD meeting was adjourned @ 2102 Hours.

Karl Frank W2KBF,
GCARC Recording Secretary



CQWW WPX Contest, CW
May 27, 2023

Call : AB2E/VP9
Operator (s) : AB2E
Station : AB2E/VP9

Class : SOAB LP
Class Overlay : TB-Wires
QTH : VP9
Operating Time (hrs) : 36
Location : Other North America

Summary :
Band QSOs

160 : 1
80 : 81
40 : 616
20 : 795
15 : 409
10 : 201

Total : 2,103 Prefixes : 756
Total Score : 5,124,924

Club : Frankford Radio Club **25**

Comments :
Rig : Elecraft K3
Antennas : 10/15/20 - A4S tribander
40m - dipole
80m -dipole
160m - dipole (broken)

Thanks for all the QSOs. First time operating from VP9, but I've already booked it for ARRL DX CW in 2024. Steady stream of EU and US on 40m after dark, what a ride. Great runs in the day as well. QTH was VP9GE's rental shack. Great value and wonderful host.

73 Darrell AB2E/VP9

Contest : CQWPXCW

Band	QSOs	Pts	WPX	Pt/Q
1.8	1	6	1	6.0
3.5	81	364	17	4.5
7	616	3,030	301	4.9
14	795	1,997	300	2.5
21	409	965	104	2.4
28	201	417	33	2.1
Total	2,103	6,779	756	3.2

Score : 5,124,924
1 Mult = 2.8 Q's



CQWW WPX Contest, CW
May 27, 2023

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

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

Summary :
Band QSOs

40 : 73
20 : 14
15 : 21

Total : 108 Prefixes : 106
Total Score : 53,318

Club : Frankford Radio Club **26**

Comments :
About 3 hours total, in 10 to 15 minute increments, was all the time I managed to devote to this otherwise fine contest. There is not a single weekend in the course of the year that presents more demands for my time than Memorial Day weekend. Unless the contest sponsors someday choose to reschedule this one, a token effort will be all that I can ever do.

North American QSO Party, CW
August 6, 2023

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

Class : Single Op LP
QTH :
Operating Time (hrs) : 8
Location : USA

Summary :
Band QSOs Mults

80 : 57 22
40 : 81 35
20 : 69 22
15 : 1 1

Total : 208 80
Total Score : 16,640

Club : Frankford Radio Club **33**

Team : FRC Team Solar Particle Event

ARRL Digital Contest 2023
June 3, 2023

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

Class : SO1R-24 LP
QTH : SNJ
Operating Time (hrs) : 23.6
Location : USA

Summary :

Band	QSOs
------	------

40 :	44
20 :	230
15 :	61

Total : 335
Total Score : 3,217

Club : Frankford Radio Club

27

Comments :

Rig : Elecraft K3
Antennas : C3S Force 12 tribander @ 50ft 10/15/20m
40m Dipole @ 80ft

Finally I had the time to operate this one properly (compared to just a few hours last year). I'm finally getting the hang of SO1R Digi. All QSOs were FT4.

Had some surprising answers to my CQs, especially JA and VK at non-optimal times. Thanks to all who called in!

73 Darrell AB2E

Contest : ARRLIDC

Band	Mode	QSOs	Pts	Mult	Pt/Q
7	FT4	44	205	0	4.7
14	FT4	230	2,235	0	9.7
21	FT4	61	777	0	12.7
Total	Both	335	3,217	0	9.6

Score : 3,217

1 Mult = 1.0 Q's



ARRL June VHF Contest 2023
June 10, 2023

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

Class : SO 3Band-All Modes HP
QTH : SNJ
Operating Time (hrs) : 8

Summary :

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

6 :	101	45
-----	-----	----

Total : 101 45
Total Score : 4,545

Club : Frankford Radio Club

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Comments :

Rig : FTDX-9000D/OM Power 2000A+
Antenna : M2 6M5X @ 55ft

Had limited time but caught a couple southwest midwest openings. 6m only. CW, SSB, and FT8.

Thanks for all the QSOs.

73 Darrell AB2E

CWops Test (CWT) 1900Z
August 9, 2023

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

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

Summary :

Band	QSOs
------	------

40 :	12
20 :	27
15 :	3

Total : 42 Mults : 42
Total Score : 1,764

Club : Frankford Radio Club

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Saturday, September 23, 2023 @ 0250 Hours

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



New Entry



Route 66 On The Air Special Event

Saturday, September 9, 2023 to
Sunday, September 17, 2023

www.w6jbt.org



QSO Today Academy

September 8 - 10, 2023

www.qsotodayhamexpo.com

Name/Callsign	DXCC
Bill Grim, W0MHK	352
Dave Strout, W2YC	349
Edward De Fonzo, W2DE	339
Darrell Neron, AB2E	332
John Hill, W2HUV	266
Ken Denson, WB2P	248
Vinnie Sallustio, N4NYY	246
Tony Starr, K3TS	226
Jim Wright, N2GXJ	221
Sheldon Parker, K2MEN	206
Dennis Sandole, K2SE	204
Matt Wilson, K2MFW	201
Howard Marder, WA2IBZ	146
Christopher Wawak, KC2IEB	141
Phil Nunzio, WA3RGY	130
Eric Morris, N2BRJ	127
Rich Subers, W2RHS	124
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 08/23/2023	

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

W2MMD Clubhouse : (856) 244-6914

(Please, no solar panel sales calls!)





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

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

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

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

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

Central Pennsylvania Skywarn Training - In-Person Classes

- Cumberland County Basic Spotter Talk
 - Monday, September 18, 2023 @ 1400 - 1600 Hours
 - Monday, September 18, 2023 @ 1800 - 2000 Hours
- Cumberland County Department of Public Safety
 - 1 Public Safety Drive, Carlisle, PA 17015
- Warren County Basic Spotter Talk
 - Monday, September 25, 2023 @ 1800 - 2000 Hours
- Warren County Fire Department
 - 314 West 3rd Avenue, Warren, PA 16365

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

Any questions, please contact :

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

Meteorologist John Banghoff : john.banghoff@noaa.gov



September Birthdays

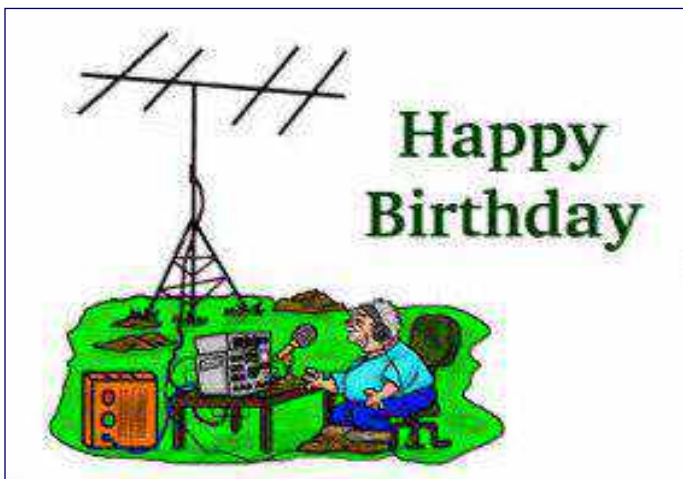
*Congratulations To Our Members Who Are
Celebrating A Birthday This Month*

Jim Blose, KD2TAT
Ken Bozarth, KN2U
Harold Garron Jr, AC2BK
Mark Gottlieb, KK2L
John Hill, W2HUV
Serge Nenasheff, KE2BLO
Bill Price, NJ2S (Milt Goldman 2015)
Ralph Sangataldo, W2HVH
Gene Schoeberlein, AA2YO (Milt Goldman 2009)
Todd Woodward, KD2ESH

In Memoriam - September Birthdays

Silent Keys :

Mark Anthony, WA2WFZ
Earl Bende, WB2GFE
Frederick Bergmann, WB2BPX
Harold Berry Sr, WA2QOY
William Blakeley, WA2ADB
William Burbage, N2QEB
Wallace Cantoni, W2HVW
Charles Coder, WA2UHQ
Robert Derderian Jr, N2IPH
Joseph Everhart, N2CX
Sidney Gantz, WB2JRU
Sonny Gutin, WB2DXB
William Hansche Jr, W2ILL
James Langworthy, KB2PAU
John Layton, W9UK (President 1965)
Jose Lopez Jr, WB2OZE
Joseph Mitchell, KB2FRN
Henry Nierzwicki, N2OIP
Frank Ritter, K2UUY
Samuel Rosenberg, N2DWK
Jean Shisler, N2WRJ
Horace Simpson, W2JOZ
Harry Spiece, NJ2B
Russell Stafford, W3CH
Melvyn Sulzburgh, W2NM
Edward Wargo, WA2ED



Full Corn Moon : September 29, 2023 @ 0558 Hours

Corn was ready to harvest at this time. In the 1760s, Captain Jonathan Carver came across this Native American term during his travels. Similarly, the Western Abenaki called this the Corn Maker Moon, and the Dakota, the Corn Harvest Moon.

NOTE: Harvest Moon refers to the full Moon closest to the September equinox, which is the tradition that The Old Farmer's Almanac follows.

Moon When Rice is Laid Up to Dry (Dakota) refers to the time of harvesting and processing rice. Autumn Moon (Cree), Falling Leaves Moon (Ojibwe), Leaves Turning Moon (Anishinaabe), Moon of Brown Leaves (Lakota), and Yellow Leaf Moon (Assiniboine) all speak to the leaf-changing season. Child Moon (Tlingit) occurs when young animals are weaned. Mating Moon and Rutting Moon are Cree terms that describe the time when certain animals, such as moose, are ready to mate.

Old Farmer's Almanac - www.almanac.com



September 2023 Contest Calendar

WA7BNM Contest Calendar : www.contestcalendar.com

NCCC FT4 Sprint	0100Z-0130Z, Sep 1
QRP Fox Hunt	0100Z-0230Z, Sep 1
NCCC RTTY Sprint	0145Z-0215Z, Sep 1
NCCC Sprint Ladder	0230Z-0300Z, Sep 1
K1USN Slow Speed Test	2000Z-2100Z, Sep 1
CWops CW Open	0000Z-0359Z, Sep 2
INDEXA Worldwide QSO Party	0000Z, Sep 2 to 2400Z, Sep 10
Russian RTTY WW Contest	0000Z-2359Z, Sep 2
All Asian DX Contest, Phone	0000Z, Sep 2 to 2400Z, Sep 3
Wake-Up! QRP Sprint	0600Z-0629Z, Sep 2 and 0630Z-0659Z, Sep 2 and 0700Z-0729Z, Sep 2 and 0730Z-0800Z, Sep 2
SARL Field Day Contest	0800Z, Sep 2 to 1000Z, Sep 3
CWops CW Open	1200Z-1559Z, Sep 2
Colorado QSO Party	1300Z, Sep 2 to 0400Z, Sep 3
RSGB SSB Field Day	1300Z, Sep 2 to 1300Z, Sep 3
IARU Region 1 Field Day, SSB	1300Z, Sep 2 to 1259Z, Sep 3
IARU Region 1 145 MHz Contest	1400Z, Sep 2 to 1400Z, Sep 3
AGCW Straight Key Party	1600Z-1900Z, Sep 2
CWops CW Open	2000Z-2359Z, Sep 2
PODXS 070 Club Jay Hudak Memorial 80m Sprint	2000Z, Sep 2 to 2000Z, Sep 3
WAB 144 MHz QRO Phone	1000Z-1400Z, Sep 3
Tennessee QSO Party	1800Z, Sep 3 to 0300Z, Sep 4
K1USN Slow Speed Test	0000Z-0100Z, Sep 4
ICWC Medium Speed Test	1300Z-1400Z, Sep 4
OK1WC Memorial	1630Z-1729Z, Sep 4
ICWC Medium Speed Test	1900Z-2000Z, Sep 4
RSGB 80m Autumn Series, SSB	1900Z-2030Z, Sep 4
MI QRP Labor Day CW Sprint	2300Z, Sep 4 to 0300Z, Sep 5
Worldwide Sideband Activity Contest	0100Z-0159Z, Sep 5
ARS Spartan Sprint	0100Z-0300Z, Sep 5
ICWC Medium Speed Test	0300Z-0400Z, Sep 5
Phone Weekly Test	0230Z-0300Z, Sep 6
A1Club AWT	1200Z-1300Z, Sep 6
CWops Test	1300Z-1400Z, Sep 6
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Sep 6
Mini-Test 40	1700Z-1759Z, Sep 6
Mini-Test 80	1800Z-1859Z, Sep 6
CWops Test	1900Z-2000Z, Sep 6
UKEICC 80m Contest	2000Z-2100Z, Sep 6
Walk for the Bacon QRP Contest	0000Z-0100Z, Sep 7 and 0200Z-0300Z, Sep 8
CWops Test	0300Z-0400Z, Sep 7
CWops Test	0700Z-0800Z, Sep 7
NRAU 10m Activity Contest	1700Z-1800Z, Sep 7 (CW) and 1800Z-1900Z, Sep 7 (SSB) and 1900Z-2000Z, Sep 7 (FM) and 2000Z-2100Z, Sep 7 (Dig)
SKCC Sprint Europe	2000Z-2200Z, Sep 7
NCCC FT4 Sprint	0100Z-0130Z, Sep 8
NCCC RTTY Sprint	0145Z-0215Z, Sep 8
NCCC Sprint Ladder	0230Z-0300Z, Sep 8
K1USN Slow Speed Test	2000Z-2100Z, Sep 8
YB7-DX Contest	0000Z, Sep 9 to 2359Z, Sep 10
FOC QSO Party	0000Z-2359Z, Sep 9
WAE DX Contest, SSB	0000Z, Sep 9 to 2359Z, Sep 10
ARRL EME Contest	0000Z, Sep 9 to 2359Z, Sep 10
SKCC Weekend Sprintathon	1200Z, Sep 9 to 2400Z, Sep 10
Ohio State Parks on the Air	1400Z-2200Z, Sep 9
Russian Cup Digital Contest	1500Z-1859Z, Sep 9 and 0600Z-0959Z, Sep 10
Alabama QSO Party	1500Z, Sep 9 to 0300Z, Sep 10
ARRL September VHF Contest	1800Z, Sep 9 to 0300Z, Sep 11
North American Sprint, CW	0000Z-0400Z, Sep 10
4 States QRP Group Second Sunday Sprint	0000Z-0200Z, Sep 11
K1USN Slow Speed Test	0000Z-0100Z, Sep 11
ICWC Medium Speed Test	1300Z-1400Z, Sep 11
OK1WC Memorial	1630Z-1729Z, Sep 11
ICWC Medium Speed Test	1900Z-2000Z, Sep 11
Worldwide Sideband Activity Contest	0100Z-0159Z, Sep 12
ICWC Medium Speed Test	0300Z-0400Z, Sep 12
Phone Weekly Test	0230Z-0300Z, Sep 13
A1Club AWT	1200Z-1300Z, Sep 13
CWops Test	1300Z-1400Z, Sep 13
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Sep 13
Mini-Test 40	1700Z-1759Z, Sep 13
Mini-Test 80	1800Z-1859Z, Sep 13
CWops Test	1900Z-2000Z, Sep 13
RSGB 80m Autumn Series, CW	1900Z-2030Z, Sep 13
CWops Test	0300Z-0400Z, Sep 14
CWops Test	0700Z-0800Z, Sep 14
BCC QSO Party	1800Z-1959Z, Sep 14
EACW Meeting	1900Z-2000Z, Sep 14
NCCC FT4 Sprint	0100Z-0130Z, Sep 15
NCCC RTTY Sprint	0145Z-0215Z, Sep 15
NCCC Sprint Ladder	0230Z-0300Z, Sep 15

September 2023 Contest Calendar - Continued on page 58

September 2023 Contest Calendar

WA7BNM Contest Calendar : www.contestcalendar.com

September 2023 Contest Calendar - Continued from page 57

AGB NEMIGA Contest	1600Z-1700Z, Sep 15
K1USN Slow Speed Test	2000Z-2100Z, Sep 15
SARL VHF/UHF Digital Contest	0300Z-0500Z, Sep 16 (6m) and 0500Z-0700Z, Sep 16 (2m) and 0700Z-0900Z, Sep 16 (70cm) and 0300Z-0500Z, Sep 17 (2m) and 0500Z-0700Z, Sep 17 (6m) and 0700Z-0900Z, Sep 17 (70cm)
ARRL 10 GHz and Up Contest	0600 local, Sep 16 to 2400 local, Sep 17
Scandinavian Activity Contest, CW	1200Z, Sep 16 to 1200Z, Sep 17
Iowa QSO Party	1400Z, Sep 16 to 0200Z, Sep 17
Texas QSO Party	1400Z, Sep 16 to 0200Z, Sep 17 and 1400Z-2000Z, Sep 17
QRP Afield	1500Z-2100Z, Sep 16
Wisconsin Parks on the Air	1600Z-2300Z, Sep 16
Washington State Salmon Run	1600Z, Sep 16 to 0700Z, Sep 17 and 1600Z-2400Z, Sep 17
New Hampshire QSO Party	1600Z-2200Z, Sep 16 and 1600Z-2200Z, Sep 17
New Jersey QSO Party	1600Z, Sep 16 to 0359Z, Sep 17
Feld Hell Sprint	1800Z-1959Z, Sep 16
North American Sprint, RTTY	0000Z-0400Z, Sep 17
BARTG Sprint PSK63 Contest	1700Z-2059Z, Sep 17
Run for the Bacon QRP Contest	2300Z, Sep 17 to 0100Z, Sep 18
K1USN Slow Speed Test	0000Z-0100Z, Sep 18
ICWC Medium Speed Test	1300Z-1400Z, Sep 18
OK1WC Memorial	1630Z-1729Z, Sep 18
RSGB FT4 Contest	1900Z-2030Z, Sep 18
ICWC Medium Speed Test	1900Z-2000Z, Sep 18
144 MHz Fall Sprint	1900 local - 2300 local, Sep 18
Worldwide Sideband Activity Contest	0100Z-0159Z, Sep 19
ICWC Medium Speed Test	0300Z-0400Z, Sep 19
Phone Weekly Test	0230Z-0300Z, Sep 20
A1Club AWT	1200Z-1300Z, Sep 20
CWops Test	1300Z-1400Z, Sep 20
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Sep 20
Mini-Test 40	1700Z-1759Z, Sep 20
Mini-Test 80	1800Z-1859Z, Sep 20
CWops Test	1900Z-2000Z, Sep 20
Walk for the Bacon QRP Contest	0000Z-0100Z, Sep 21 and 0200Z-0300Z, Sep 22
NAQCC CW Sprint	0030Z-0230Z, Sep 21
CWops Test	0300Z-0400Z, Sep 21
CWops Test	0700Z-0800Z, Sep 21
NTC QSO Party	1900Z-2000Z, Sep 21
NCCC FT4 Sprint	0100Z-0130Z, Sep 22
NCCC RTTY Sprint	0145Z-0215Z, Sep 22
NCCC Sprint Ladder	0230Z-0300Z, Sep 22
K1USN Slow Speed Test	2000Z-2100Z, Sep 22
CQ Worldwide DX Contest, RTTY	0000Z, Sep 23 to 2400Z, Sep 24
Maine QSO Party	1200Z, Sep 23 to 1200Z, Sep 24
Masonic Lodges on the Air	1400Z-2200Z, Sep 23
AGCW VHF/UHF Contest	1400Z-1700Z, Sep 23 (144) and 1700Z-1800Z, Sep 23 (432)
UBA ON Contest, 6m	0700Z-1000Z, Sep 24
K1USN Slow Speed Test	0000Z-0100Z, Sep 25
QCX Challenge	1300Z-1400Z, Sep 25
ICWC Medium Speed Test	1300Z-1400Z, Sep 25
OK1WC Memorial	1630Z-1729Z, Sep 25
ICWC Medium Speed Test	1900Z-2000Z, Sep 25
QCX Challenge	1900Z-2000Z, Sep 25
Worldwide Sideband Activity Contest	0100Z-0159Z, Sep 26
ICWC Medium Speed Test	0300Z-0400Z, Sep 26
QCX Challenge	0300Z-0400Z, Sep 26
222 MHz Fall Sprint	1900 local - 2300 local, Sep 26
SKCC Sprint	0000Z-0200Z, Sep 27
Phone Weekly Test	0230Z-0300Z, Sep 27
A1Club AWT	1200Z-1300Z, Sep 27
CWops Test	1300Z-1400Z, Sep 27
Mini-Test 40	1700Z-1759Z, Sep 27
Mini-Test 80	1800Z-1859Z, Sep 27
CWops Test	1900Z-2000Z, Sep 27
UKEICC 80m Contest	2000Z-2100Z, Sep 27
CWops Test	0300Z-0400Z, Sep 28
CWops Test	0700Z-0800Z, Sep 28
RSGB 80m Autumn Series, Data	1900Z-2030Z, Sep 28
NCCC FT4 Sprint	0100Z-0130Z, Sep 29
NCCC RTTY Sprint	0145Z-0215Z, Sep 29
NCCC Sprint Ladder	0230Z-0300Z, Sep 29
K1USN Slow Speed Test	2000Z-2100Z, Sep 29
Feld Hell Sprint	0000Z-2359Z, Sep 30
Worked All Provinces of China DX Contest	0600Z, Sep 30 to 0559Z, Oct 1
Russian WW MultiMode Contest	1200Z, Sep 30 to 1159Z, Oct 1
UK/EI DX Contest, SSB	1200Z, Sep 30 to 1200Z, Oct 1
AWA Amplitude Modulation QSO Party	2200Z, Sep 30 to 2200Z, Oct 1

2023 Club Committees

Standing Committees

Committee Chairs

Budget

Constitution & By-Laws

Education

Field Day

Hamfest

Health, Welfare, & Silent Keys

Hospitality

Membership

Membership Badges

Nominations

Publicity

Repeaters

W2MMD Clubhouse Site

John O'Connell, K2QA

Ron Block, NR2B

Chris Prioli, AD2CS

Tony Starr, K3TS

Sheldon Parker, K2MEN and Bill Price, NJ2S

Bill Price, NJ2S

Jeff Garth, WB2ZBN

Chris Prioli, AD2CS

Chris Prioli, AD2CS (Interim Chairman)

Jon Pearce, WB2MNF

Tony Starr, K3TS

Open Chair

Al Arrison, KB2AYU

Activity Committees

Committee Chairs

Awards & Certificates

Club Publications & Historian

Contests

DX

GCARC Family Picnic

GCARC Foxhunts

GC-ARES Emergency Coordinator

Holiday Dinner Party

License Testing/VEC Liaison

Membership Roster Database

Programs : General Membership Meetings

Radio Nets

Technical & Tech Saturday Programs

W2MMD License Trustee

W2MMD Special Event Station

Open Chair

Jeff Garth, WB2ZBN

Tony Starr, K3TS

Open Chair

Open Chair

Jim Wright, N2GXJ

Bob Keogh, KD2NEC

Open Chair

Gary Reed, N2QEE

Jeff Garth, WB2ZBN

Ron Block, NR2B

Jim Clark, KA2OSV

Jon Pearce, WB2MNF

Darrell Neron, AB2E

Mark Gottlieb, KK2L

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

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

The W2MMD Repeaters

2 Meter Repeater

Output : 147.180 MHz

Input : 147.780 MHz

Offset : +600 kHz - PL : 131.8 Hz

(Conventional FM plus C4FM Capability)

EchoLink : W2MMD-R

70 cm Repeater

Output : 442.100 MHz

Input : 447.100 MHz

Offset : +5 MHz - PL : 131.8 Hz

(Conventional FM plus C4FM Capability)

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

1.25 Meter Repeater

Output : 224.660 MHz

Input : 223.060 MHz

Offset : -1.6 MHz - PL : 131.8 Hz

Location : Sewell, NJ

GPS : 39.746738°, -75.077094°

SKYWARN™ Net

Sunday @ 1930 : 147.180 MHz Repeater

Gloucester County ARES Net

Sunday @ 2000 : 147.180 MHz Repeater

GCARC TechNet ZOOM 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, September 6, 2023
1930 Hours

Live & In-Person
Pfeiffer Community Center
Simulcast Live on ZOOM

Board of Directors Meeting
Wednesday, September 20, 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 Interim Badge Man”*

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

Question Pool Answers : E3C01:B; E3C02:A; E3C03:B; E3C04:C; E3C05:A; E3C06:A; E3C07:D; E3C08:A; E3C09:B; E3C10:B; E3C11:C; E3C12:C; E3C13:A; E3C14:D; E3C15:B