

Happy Holidays

*2023 GCARC Holiday Dinner
Wednesday, November 29, 2023
Pfeiffer Community Center*

7:00 pm to 9:30 pm

*All Members, Their Families, And Friends
Are Welcome*

Dinner Menu Includes

*Baked Ziti, Meatballs
Sausage & Peppers,
Ham & Fresh Rolls*

*Salad
Assorted Desserts
Beverages*

\$32.00 Per Person (PayPal, Check, or Cash)

*Use PayPal on the website, send in a check to the
PO Box 370, Pitman, NJ 08071, or bring cash to
any meeting, or any Clubhouse Saturday*

Deadline To Pay Is Wednesday, November 15, 2023

CrossTalk

November 2023

64 Years Of Service To Our Community

Issue 64:11



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, November 1, 2023 @ 1930 Hours
In-Person & ZOOM

Tech Saturday Forum

Saturday, November 4, 2023 @ 0900 Hours
W2MMD Clubhouse

License Testing Session

Thursday, November 9, 2023 @ 1900 Hours
W2MMD Clubhouse

GCARC TechNet ZOOM Forum

Monday, November 13, 2023 @ 1930 Hours

Board of Directors Meeting

Wednesday, November 15, 2023 @ 1900 Hours
W2MMD Clubhouse

Dinner @ The W2MMD Clubhouse

Wednesday, November 22, 2023 @ 1800 Hours

"Got My License, Now What!"

Monday, November 27, 2023 @ 1800 Hours
W2MMD Clubhouse

GCARC Holiday Dinner

Wednesday, November 29, 2023 @ 1900 Hours

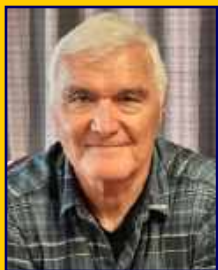
Tuesday Afternoon 2M Net @ 1200 Hours

Tuesday & Thursday 10 Meter Net @ 1930 Hours

Thursday 2M Net @ 2000 Hours

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President's Letter *Jon Pearce, WB2MNF*



November 2023

October Activities

GCARC Club activities continued in October with two outstanding presentations by **Jim Wright N2GXJ** on the design and implementation of the 160 meter loop antenna that's installed at the W2MMD Clubhouse. At the Wednesday night General Membership Meeting, Jim presented on the overall design and construction of the antenna and the process by which it was designed and installed. During that discussion he referenced computer models that were developed to predict the characteristics of that antenna based on its orientation, elevation, feedline point, and other factors. At the following Tech Saturday Forum, Jim showed the computer software that was used in that design, allowing participants to download and model antennas to their hearts' content.

The first of the **Monday Night GCARC TechNet ZOOM Forum** sessions also took place on October 9, 2023 and covered a number of intermediate and advanced DMR radio techniques from presentations developed by **Len Rust W2LJR**. TechNet ZOOM Forum sessions occur on the second Monday night of each month and cover a variety of informal technical topics selected by the group. Zoom links for TechNet can be found on the **W2MMD** website.

The **Bike MS : City To Shore Ride** also ended in October and many GCARC members participated in that event. This annual event is one of the few opportunities that local hams have to contribute their skills to a worthwhile public activity, and we hope that this participation will continue in subsequent years.

October Clubhouse Project Day

As described on **Page 21** in this issue, we had a very successful project workday on Sunday, October 22nd when nine Club members got together to excavate trenches along side the Clubhouse for grounding strips and ground rods to complete that portion of the lightning protection project for the VHF room. That team also removed the satellite antennas and rotators, the latter of which had ceased functioning and needed to be diagnosed and potentially replaced. The great turnout for this event exemplifies the volunteer spirit that keeps this Club running.

VHF Tower Progress

At the October General Meeting the membership gave its approval for \$2,200 of Club funding to be contributed to the installation of the two VHF towers. Planning for those towers has moved forward with final decisions being made on various components needed for the tower foundation. Timeframes for construction are still dependent on the delivery of certain required items, so at this point, we don't know when the initial tower excavation will occur.

Donating To The VHF Tower Project

As was discussed at the October meeting, the VHF towers will require approximately \$7,000 in donated funds to complete the installation. Donations can be made at any Club meeting, at the Clubhouse any Saturday morning and on the **W2MMD** website on the "**VHF Tower Donation**" page.

President's Letter - Continued on page 4

November Events

Tech Saturday Forum

Tech Saturday Forum will occur on Saturday, November 4th at 9 AM at the Clubhouse and will be a continuation of **Mike Thompson KG4JYA**'s presentation on Radio Astronomy. Tech Saturday events are always informative and create many informal opportunities for collaboration on a variety of different projects.

Rowan RCA NASA Radio Event

The **RCA Heritage Program Museum team at Rowan University** is organizing an event for Club members. The event will take place on Saturday, November 11th at 10 AM. During the session, RCA engineer **Steve DiMedio** will demonstrate the operation of one of the radios used on the Apollo lunar lander, which was developed by an RCA team in the 1960s. He will also give a short PowerPoint presentation describing its development. The session will be held at the **RCA Museum at Rowan University**. **For details on parking and event location, please refer to Page 15 of this Crosstalk issue.** This is the second such event that this group has organized for the Club and promises to be as extraordinary as the previous one.

Holiday Dinner

As part of the fundraising process for the VHF Tower Project, and also to create an exceptional social event, GCARC will hold its holiday dinner on Wednesday, November 29th at the Pfeiffer Community Center beginning at 7:00 PM. Advance reservations and payment are necessary to ensure sufficient food availability, and must be made by November 15th. Reservations for this event can be made at the **W2MMD** website, at the Clubhouse on any Saturday or at the November 1st General Membership Meeting. Please plan to come out and enjoy some great food, conversation, and camaraderie.

“Got My License, Now What? : Where Do I Go From Here” Training Session

Through Chris' license class efforts our Club has brought several dozen new ham licensees into our hobby over the past few years. Unfortunately many of these new hams need some guidance as to how to take the “*first step*” into the hobby - whether it's getting on 2 meters with an HT, setting up a home station, building or buying an antenna, or many other issues. An article in the current QST issue laments hams who have apparently become licensed but never actually had their first QSO. To deal with this issue we're organizing a training session specifically targeted at this group, which will review several basic areas of operating ham equipment and then will delve lightly into the larger expanse of the hobby some of which may create interest in some participants. This session will be held at the W2MMD Clubhouse on Monday, November 27th at 6 PM. If you're newly-licensed and would like to attend, or if you know someone who would benefit from this session please email Education Committee chair Chris Prioli AD2CS to register for this session.

GCARC TechNet ZOOM Forum

The November TechNet occurs at 7:30 PM on November 13th with Zoom information available on the **W2MMD** website. This month's topic will be concepts and techniques of meteor scatter operation in preparation for the event occurring later that week.

Meteor Scatter Operation

The Leonid Meteor Shower occurs in November, peaking on Friday, November 17th. Following up on our success in the previous meteor shower, the Clubhouse will be open on the mornings of Friday and Saturday, November 17th and 18th at 9:00 AM to attempt to work some 6 meter meteor scatter. Feel free to stop by if you're interested in participating in this interesting and rare ham radio opportunity.

The VP Takes Over!

I'll be away for the first week in November on a "too good to pass up" scuba diving trip, so **Vice President Ron Block NR2B** will be running both the General Membership Meeting and introducing the Tech Saturday session. Unfortunately the dive boat has no opportunity for ham radio activities or I'd be looking for between-dive QSOs from WB2MNF/MM in the Caribbean Sea off the coast of Belize. I'll also have no access to email during that period so please be patient with any late email replies from me during that week.

73 de Jon Pearce WB2MNF
GCARC President



GCARC TechNet ZOOM Forum

Monday, November 13, 2023 @ 1930 Hours

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

Meeting ID : 960 8543 6644 ; Passcode : 964974

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

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

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

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

General Membership Meeting

Wednesday, November 1, 2023 @ 1930 Hours

Pfeiffer Community Center

Simulcast Live Via ZOOM

Meeting ID : 912 3123 0124; Passcode : 748016

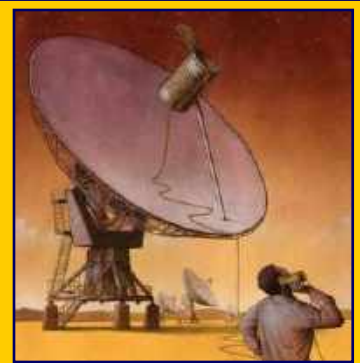
Go to : www.w2mmd.org to download the ZOOM log-on instructions PDF for this meeting

Mike Thompson, KG4JYA : Radio Astronomy



Amateur Radio is not just for communication. You can learn a great deal about the Universe that surrounds us by monitoring natural radio sources.

Please join us at the November 1st General Membership meeting and again, with more detail, on the following Tech Saturday Forum on November 4th, where Club member **Mike Thompson, KG4JYA**, will attempt to define Radio Astronomy and relate the significant contributions it has made to science.



He will then share some of his own personal experiences viewing the Universe in a very different light.

See you there!

*** Website Quick Links ***

There is a new webpage called “Quick Links” There you will find buttons to some of the most popular pages. I will add more buttons as time goes on. Please e-mail me at djgrath1@gmail.com if you would like to see a button for a page you frequently view.

Go to : <https://gloucestercountvarc.weebly.com/quick-links.html>



Gloucester County Amateur Radio Club
YouTube Channel

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

“Dinner @ The Clubhouse”

Wednesday, November 22, 2023 @ 1800 Hours

W2MMD Clubhouse



Tech Saturday Forum
November 4, 2023 @ 0900 Hours
W2MMD Clubhouse

Forum Presentation :
Mike Thompson, KG4JYA : Radio Astronomy Lab

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.

Here is the initial slate of candidates for the 2024 Club Officer Elections. Additional candidates can be nominated from the floor at the November 1st General Membership Meeting. Voting will take place at the December 6th General Membership Meeting.

- **President : Jonathan Pearce, WB2MNF**
- **Vice President : Ron Block, NR2B**
- **Treasurer : John O'Connell, K2QA**
- **Recording Secretary : John Zaruba Jr, K2ZA**
- **Corresponding Secretary : Frank Romeo, N3PUU**

Vote for 2:

- **Director : Al Arrison, KB2AYU**
- **Director : Bill Price, NJ2S**

Vote for 3 :

- **Trustee : Carl Wittig, N2CRW (Appointed)**
- **Trustee : Sheldon Parker, K2MEN (Appointed)**
- **Trustee : Len Rust, W2LJR (New term replacing Mark KK2L)**



Welcome New Club Members :

Marylou Ciraula , : An Associate member who lives in Pittsgrove, NJ.

David Danichkin, KD2UXC (former member) : A General Class who lives in Vineland, NJ

We are glad to have you as members of the Club and hope to see you regularly at Club meetings, events, and activities. Hope to see you at the November 1st General Membership Meeting , either in-person or on ZOOM, the November 4th Tech Saturday Forum, the November 13th GCARC TechNet ZOOM Forum, the Dinner @ The Clubhouse on November 22nd, the ***“Got My License, Now What!”*** Forum on November 27th, and the Holiday Dinner on November 29th.

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

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

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

Gloucester County Amateur Radio Club Elmers

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

- **Tony Starr, K3TS** : Antenna Construction; Contesting; CW Help and Training
- **Ken Bozarth, KN2U** : Antennas
- **Jeff Welsh, KD2AZI** : Boat Anchor Repair & Operation; Raspberry Pi; Arduino; Python; POTA; Mobile Installation & Operating
- **Karl Frank, W2KBF** : Digital Messaging (FLDIGI, WinLink)
- **Lenny Rust, W2LJR** : DMR Radios & Programming
- **Ron Block, NR2B** : Lightning protection & grounding
- **Chris Prioli, AD2CS** : Kit Building; Antenna Building; Radio Programming; PC and Electronic Troubleshooting; ham radio licensing & studying
- **John Zaruba Jr, K2ZA** : Yaesu System Fusion Radio Programming
- **Jerry Barnish, K2EAB** : Radio Astronomy
- **Mike Thompson, KG4JYA** : Radio Astronomy; VARA (HF and FM); WinLink
- **Steve Farney, W2SEF** : WSJT-X; FT-8; LoTW; TQSL; Grid Square
- **Carl 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.



Tuesday, November 7, 2023



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GCARC Monthly VE Exam Testing Summary - October 12, 2023

Gary Reed, N2QEE, reports : The regular monthly VE session was held on Thursday, October 12, 2023 with two candidates. One was a Technician candidate who passed his exam and the other was a Technician Plus who let his license expire. To renew his license he had to take the current Technician exam which he passed. He then took the General exam which he also passed. The candidates were :

- **Todd Foster, KE2CAH (formerly KD5FUF) General Class of Glassboro, NJ**
- **Robert Jensen Jr, KC3WWL Technician Class of Wilmington DE**

The session report was electronically sent to the league on Thursday night and their licenses were posted early Saturday morning after they had paid the \$35 license fee.

The participating VE's were :

- **Mike KG4JYA**
- **Mike N2WOQ**
- **Rich W2RHS**
- **Gary N2QEE**

A big thank you to the VE's. The next VE session will be held at the W2MMD Clubhouse on Thursday, November 9, 2023 @ 1900 Hours.

Below is an email from candidate, Bob Jensen, regarding his experience with Thursday's VE session. A special thank you to **Mike KG4JYA**, **Mike N2WOQ**, and **Rich W2RHS** who helped with the exam. Contrary to popular belief, I still know how to grade an exam.

Also I had a conversation with the candidate from Delaware and he said our VE group has a good reputation among the Ham community of having a very good VE testing group. A big thank you to the group for volunteering your time to achieve this standing.

"Gary,

Just an FYI of how things went. Thursday evening, took the exam at 7:00pm. Friday afternoon at 4:00pm, received email that my status was Green light and a request for payment. Saturday morning at 03:14am, received the link to access my license. Amazing how efficient everything went. Doesn't get any better. Thanks for everything. Also, express my thanks to all who were there Thursday evening.

Bob Jensen, KC3WWL"



November 10, 1775



Saturday
November 11, 2023



DAs and DITs

>> **Darrell, Neron, AB2E**, reports : Back in 1966, a Williamstown High School science teacher (**Paul Callaghan Jr, WB2WAK** (SK), GCARC member, and President 1970) started a radio club (callsign **WB2ZZI**) period at the school. These were held once a week towards the end of the school day on Fridays. There were 4 of us in the class, and although all 4 got novices, only **Bill Farr** and myself stayed with it to get the General. Bill's call was **WB2BVW** and my call was **WB2BVV**. We both became GCARC members in summer 1967 and were sponsored and welcomed by Paul WB2WAK, **Doug Gehring WA2NPD** (SK), and **Bill Frambes, K2WAF** (at that time WB2FJE and President 1971). We were good friends throughout high school but in recent years lost touch. His license expired in the early 2000s, but he passed the extra and became **AI2I**. I just found out he became SK this past Thanksgiving, after battling cancer for a year. He lived in North Wildwood. RIP old friend.

>> Congratulations to **Jacqueline Blanch, KD2JBY** for upgrading to General Class.

>> Condolences to **Mary Delemarre, W2TDS** and family on the loss of their dog **Sasha**.



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

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

W2MMD



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The Education Connection

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



November 2023

OK - we are two-thirds of the way through Session VI of the Ham Exam Preparation Class, and already I am looking for enrollees for Session VII. Session VII is scheduled to begin the week of 8 January 2024 - Monday 8 January for Element 2, Tuesday 9 January for Element 3, and Friday 12 January for Element 4. These classes will test out during the week of 11 March 2024. Enrollment is now open, and I look forward to another successful session of classes.

What I am especially looking forward to, however, is a new idea that we have come up with, which will be of benefit to any and all students who successfully complete one of the GCARC license exam prep classes. This is a concept that was proposed by our **Club President Jon Pearce WB2MNF**, and is something that is long overdue. The idea is that we offer an evening of exposure to *“Where Do I Go From Here”* items that will hopefully help to guide the new ham or the recently upgraded ham to Amateur Radio activities in which those individuals may have an interest.

There are so many different topics that can be presented in an introductory manner to these folks. Quite frankly, by that time, most of the students will have grown tired of hearing me speak, so these ideas will be floated by other knowledgeable Club members. We hope to attract the best people for each topic, with that “best” appellation meaning that the folks chosen to present a topic are those who have specific knowledge and experience in the topic area.

We are continually looking for topic ideas, and for volunteers to help present these topics to the program completers. Not everyone is comfortable speaking to a group of people, and those who may be comfortable in that setting may not have the skills or knowledge to present the topic to a group. For that reason, I am asking for Club members to suggest topics for presentation, and also for Club members who may be comfortable as a speaker to step up and offer their services. I cannot promise that any specific idea or volunteer will be selected, but all will be considered.

Please shoot an e-mail to me (chris@ad2cs.com) with your ideas) and/or willingness to be a presenter. Any suggestions will be reviewed by the Education Committee and the Tech Committee as the program is finalized.

The goal is to make this event a regular occurrence after the wind-up of each Ham Exam Preparation Class session.

Until next month...

“Got My License, Now What!”
Monday, November 27, 2023 @ 1800 Hours
W2MMD Clubhouse

An evening of exposure to *“Where Do I Go From Here!”* items that will hopefully help to guide the new or recently upgraded ham to Amateur Radio activities in which those individuals may have an interest.

Regional (Atlantic & Hudson Divisions) Hamfests & Events

November 12, 2023 : Long Island Mobile Amateur Radio Club, Long Island Hamfest & Electronics Fair, Levittown Hall, 201 Levittown Parkway, Hicksville, NY. www.limarc.org

November 18, 2023 : New Jersey Antique Radio Club, NJARC Fall Swap Meet & Ham Fest, Parsippany PAL Building, 33 Baldwin Road, Parsippany, NJ. www.njarc.org

November 24, 2023 : Fair Lawn Amateur Radio Club, The Great FLARC Auction, Fair Lawn Senior Center, 11-05 Gardiner Road, Fair Lawn, NJ. www.fairlawnarc.org



Gloucester County ARES Net

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

All are welcome to participate

Net Control Stations : Steve Farney W2SEF, Greg Ciraula W5DO, Bob Keogh KD2NEC, Karl Frank W2KBF, Al Arrison KB2AYU, Gary Mirkin WA3SVW, Todd Woodward KD2ESH, & Jim Wright N2GXJ

Net Control Station Schedule

November 5, 2023 : Gary Mirkin, WA3SVW
November 12, 2023 : Todd Woodward, KD2ESH
November 19, 2023 : Jim Wright, N2GXJ
November 26, 2023 : Al Arrison, KB2AYU

December 3, 2023 : Steve Farney, W2SEF
December 10, 2023 : Greg Ciraula, W5DO
December 17, 2023 : Karl Frank, W2KBF
December 24, 2023 : Christmas Eve
December 31, 2023 : New Year's Eve

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 December 2023 issue : Monday, November 20, 2023

Club Website www.w2mmd.org

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



Tuesday AfterNoon Net @ 1200 Hours



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

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

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

Here is the schedule for the upcoming weeks

Steve Farney, W2SEF : November 7, 2023

Jeff Garth, WB2ZBN : November 14, 2023

Mike Thompson, KG4JYA : November 21, 2023

Steve Farney, W2SEF : November 28, 2023

Steve Farney, W2SEF : December 4, 2023

Steve Farney, W2SEF : December 12, 2023

Mike Thompson, KG4JYA : December 19, 2023

Jeff Garth, WB2ZBN : December 26, 2023

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



Thursday Night 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 (+) (131.8) Repeater & EchoLink W2MMD-R

Here is the schedule for the upcoming weeks

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

Recreating the Apollo EVCS AM Transmitter

Saturday, November 11, 2023 @ 10:00 AM

The team at the **RCA Heritage Program Museum at Rowan University** have once again come up with a fascinating presentation for our Club.

Steve DiMedio from that group has put together a presentation on the radios that were used by the Apollo astronauts as they walked on the moon! They were designed by **Jack Yanosov**, originally at RCA. Steve recreated working models of them which he will demonstrate after the presentation about their design and use.

There will be a tour of the museum. The last visit by the GCARC to the RCA Museum was well-attended and participants had high praise for the event.

Special thanks to Club member **Anthony Cerami, N2OAC** for arranging this visit for the Club.

73 de Jon WB2MNF
GCARC President



UNIVERSITY ARCHIVES
& SPECIAL COLLECTIONS



The RCA Heritage Program Museum at
Rowan University
5th Floor Campbell Library Tower Building
201 Mullica Hill Rd Glassboro 08028
Phone: (856)-256-4807



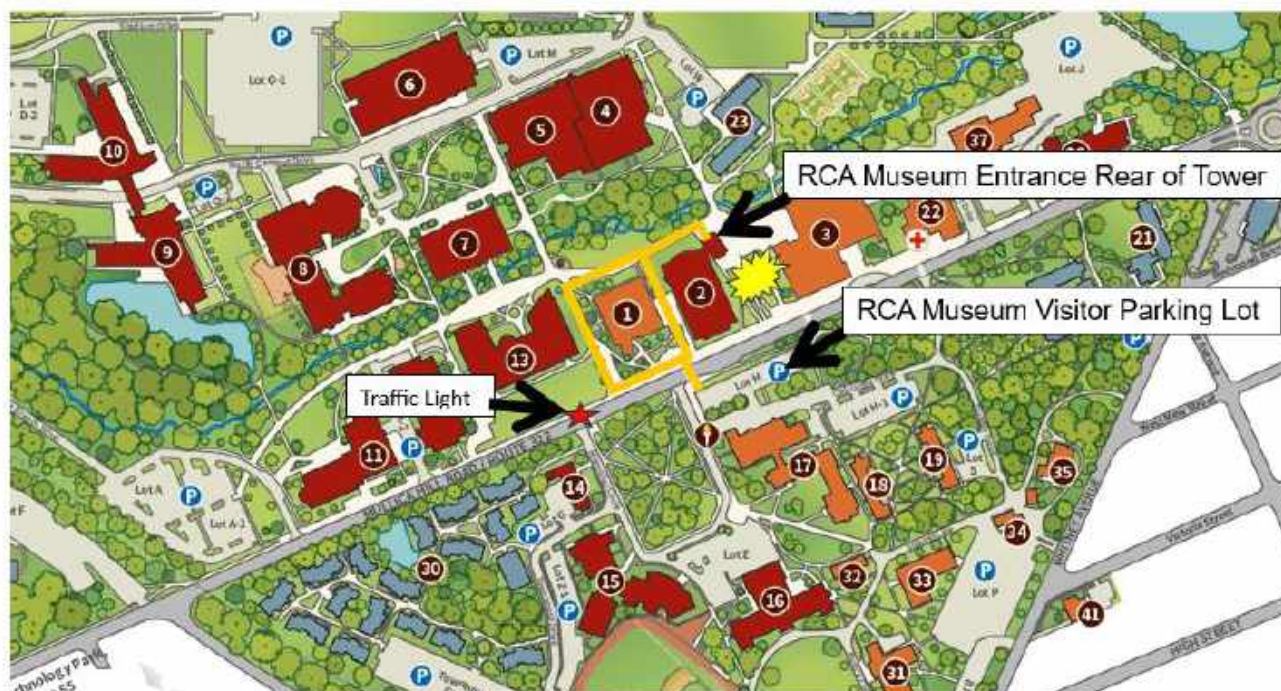
Steve DiMedio in cooperation with The RCA Heritage Program Museum at Rowan University Presents
Recreating the Apollo EVCS AM Transmitter. A fascinating presentation on the radios that were used by the Apollo astronauts as they walked on the moon! Radios made right here at RCA Camden NJ.
Save the date **Saturday Nov 11, 2023. Beginning at 10:00 AM**
Tour of the RCA Museum
Then a presentation on the radios used by the Apollo astronauts. Steve will demo a real working radio.



The RCA Heritage Program Museum at Rowan University

Parking and Pathway during Construction.

Park in lot H just off of Rt-322 at the Guard Shack. There is construction ☀ in front of the Rowan University Campbell Library (Building #2) Tower. Use the path shown in Orange. You can take the ramp and walk around Savitz Hall (Building No #1) or cut through the loading dock area between Building #1 and #2 down the stairs to the lower level. The entrance is at the rear of the Tower Building # 2.





Gloucester County Skywarn Net

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

All Are Welcome To Participate

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

November 5, 2023

NCS : Steve Bromhead KB2RTZ

Weather Report Recorder & Weather Forecast : Bob Keogh KD2NEC

November 12, 2023

NCS : Jeff Garth WB2ZBN

Weather Report Recorder & Weather Forecast : Bob Keogh KD2NEC

November 19, 2023

NCS : Greg Ciraula W5DO

Weather Report Recorder & Weather Forecast : Greg Ciraula W5DO

November 26, 2023

NCS : Steve Bromhead KB2RTZ

Weather Report Recorder & Weather Forecast : Bob Keogh KD2NEC



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



At The Repair Bench...

A monthly column describing a recent repair bench event.

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

Sunbeam PM-0001 Plasma Lamp - November 2023

A little while ago, one of our fellow Club members came to me to ask if I would look at an inoperative novelty item that belongs to his son. I agreed, as I am often likely to do, and so began one of the more unusual repair episodes that I have undertaken.

Don't get me wrong. The repair itself was relatively easy. It is just that this item is so far removed from my usual type of repair that I found it to be intriguing. The item was a **Plasma Lamp** (Figure 1), and it had just up and quit working.

Back in March, when the owner first came to me, we took a quick look at it and found a fractured capacitor, a radial film type rated $0.001\mu\text{F}$ at 1.2kV , with a 5% tolerance. The first step was to source a suitable replacement for this capacitor, though I doubted at the time that the capacitor was the only problem. I had noted a slight indentation in a plastic cover on the circuit board, and that indentation was aligned with and shaped like the body of the diode that was sitting right next to that cover. This was a sure sign of heat, which is why I was not sure that the capacitor was the only problem.

I located a replacement capacitor easily enough, with the exception that the replacement was a 2kV rated device. Time went by, and I had forgotten all about the whole thing until I was asked if the capacitor had come in. I brought the replacement capacitor to the Clubhouse on a Saturday morning, but I ended up bringing the unit home with me to make the repairs instead of doing it there at the Clubhouse. One of the reasons that I wanted to get it home was that I wanted to explore the circuit so that I could understand the working of the lamp, and I also wanted to draw up a working schematic of the unit.



Figure 1 : Operating Plasma Lamp

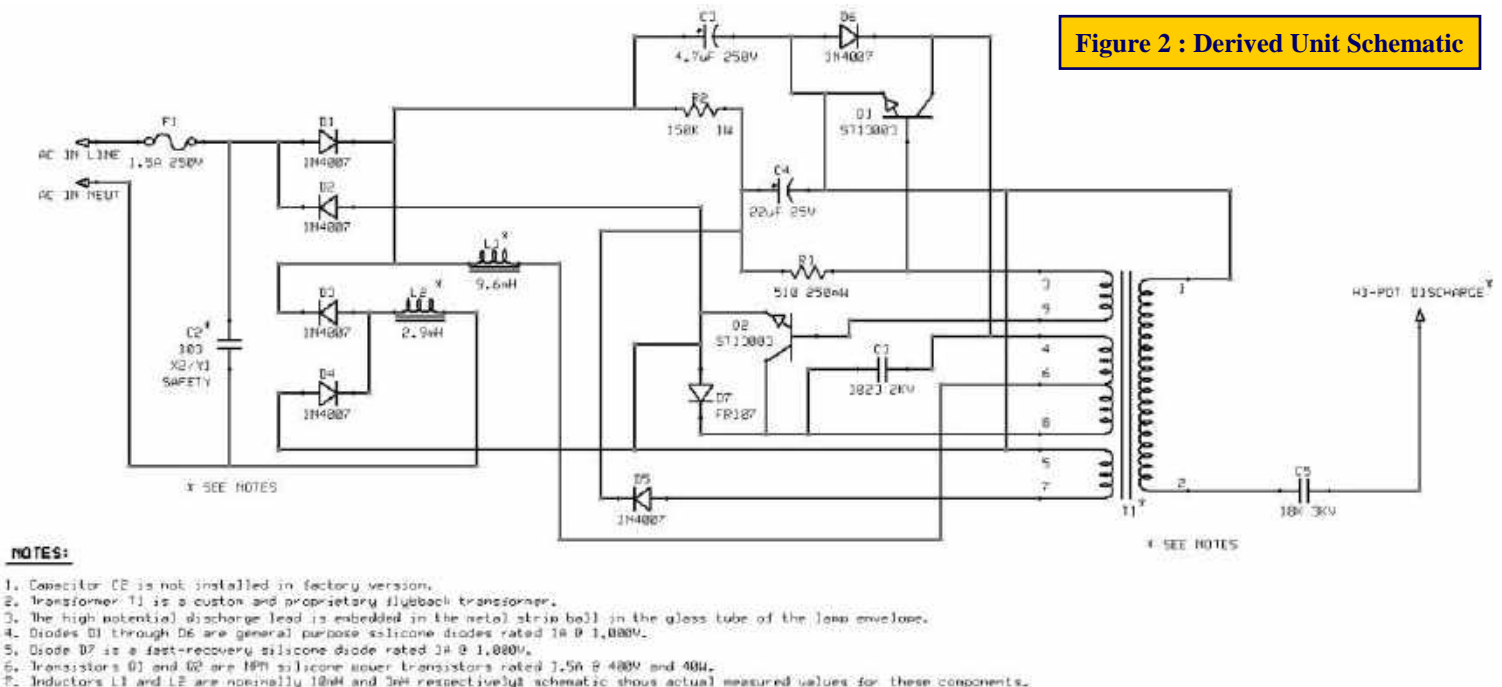


Figure 2 : Derived Unit Schematic

At The Repair Bench - Continued on page 18

When I started on it at home, I began by disconnecting the circuit board from its incoming power wires coming from the lamp base so that I could have better access to both sides of the circuit board. Then, I began to trace out the circuit and put down into a schematic diagram what I was seeing. I typically use ExpressSchematic (part of the ExpressPCB package) to draw my schematics, and I did so here. The **circuit (See Figure 2)** basically consisted of a full wave rectifier for the incoming AC, an oscillator, a chopper or switching transistor, and a multi-section transformer. The transformer has a winding that is part of the oscillator circuit, but largely serves as a flyback transformer to produce the high potential output needed to drive the plasma stream.

The plastic cover that I mentioned earlier is the housing of the transformer, and the diode that had melted a groove into the housing was one of the full wave rectifier set. There are two transistors used, one for the oscillator itself, and the other for the high-frequency switching necessary to create the pulse train input for the transformer. Testing revealed that the oscillator transistor had failed, and the switching transistor was severely past its “best by” date. While this transistor did operate, it was extremely below peak frequency and its hFE or beta tested out to be a mere 2.5 instead of the normal 200-plus value of a serviceable transistor.

Further testing showed that the diodes used in the unit, seven in all, were all also below spec in performance, although they were still operational. The biggest problem was that one of the diodes, an FR107 fast-recovery type, was not fast at all, having recovery time measured in the 875mS realm instead of the 500nS that it should have been. Voltage drops on the diodes in the full-wave rectifier proved to be quite variable, with one as low as 350mV and another as high as 935mV. The norm is around 535mV for these 1N4007 diodes.

Also indicative of high heat levels in this unit was the condition of the 4.7μF 250V aluminum electrolytic capacitor. This capacitor was quite leaky, acting more like a resistor than a capacitor. The equivalent series resistance (ESR) measured out at just under 5Ω. It should have been down near zero ohms. The transformer, as near as I could tell using an ohmmeter and LRC meter, seemed to be in serviceable condition, as were the resistors, the 18pF 3kV ceramic capacitor and the 1.5A fuse.

Repairs to this unit, then, included replacement of all of the diodes with like types (1N4007 x 6 and FR107 x 1), replacement of both ST13003 transistors, replacement of the 4.7μF 250V and the 22μF 25V electrolytic capacitors, and installation of the new 0.001μF 2kV film capacitor.

It was not a surprise that the unit worked after the repair... after all, that was the intent. I was happy, though, that I could make a little boy happy by getting one of his favorite items back to him in working condition. I don't know how long the unit lasted on its factory parts set, but it is a safe bet that it will most likely fail again at some point in the future, as no substantial design changes or parts improvements were implemented.

The upshot of this repair is that even when something is out of our comfort zone, and even if we have absolutely no documentation, we can still often achieve a successful repair just through common sense and perseverance. It was necessary in this case to almost completely disassemble the unit in order to correctly draw up a schematic and to get to some of the components for testing. In fact, there is a diode and a resistor underneath the transformer housing that cannot be seen or identified until the transformer is removed. Just keep after it and you should make it through.

See you next month...



Learning About Radio Does Matter : September 2023

By Dan Romanchik, KB6NU

I recently received an email from someone who reads my blog that struck a chord with me. He wrote :

“I’ve been a ham for decades, operate all modes (but mostly CW), and do a lot of Parks on the Air (POTA). I also spend a lot of time recruiting people into the ham radio hobby and mentoring new hams. It’s that last focus that prompts this question.

“For a variety of reasons that I can’t put on my finger on, it seems like more and more hams don’t really care about how radios or antennas work, and don’t want to invest much time or effort into learning such things. They just want to turn it on and use it. How it works, and what’s going on inside of the box, aren’t important.

“For example, I know of one guy - a General-class licensee - who decided his top-of-the-line Yaesu HT was ‘defective’ because whenever he pressed the push-to-talk switch on one of the repeater frequencies, the radio transmitted on a different frequency. Ugh. Another guy I know thought that his hamstick wouldn’t tune because the wire coil was installed upside down. As you’d guess, the hamstick tuned and worked just fine.

“Some people say that we should get hung up on this. Get new hams into the hobby and they’ll learn as they go on. Except that doesn’t seem to be happening, at least not consistently. Even very experienced, highly educated hams can be clueless on very simple, fundamental radio concepts.

“So, here’s the question: does any of this matter? I don’t know how my microwave oven works, and I don’t need to, and I don’t want to. All I want to do is push a button. So maybe it’s perfectly fine that hams don’t know about radio technology and we should stop pretending that any of this matters. Put ‘em through a ‘ham cram’ and get them on the air. Or maybe amateur radio transceivers are different than microwave ovens and it does matter. I don’t know. I go back and forth on this and don’t really have a clear assessment in my mind.

“Anyway, since this seems like the kind of thing you’ve already thought about, I wonder what you make of all this. If you’re sitting around with nothing to do, I’d be curious to know what you think.”

Yes, learning about radio does matter

This struck a chord with me because I teach ‘ham cram’ classes, and I often encounter people who think this way. They just want to push buttons and talk on the radio. They say, “I’m only going to use it when I go off-roading with friends,” or “I’m only going to use it when my CERT team is activated.”

KB6NU's Ham Radio Blog - Continued on page 20

I always ask them what they're going to do when something goes wrong (and we know that at some point, something is going to go wrong). I tell them that without some basic knowledge of how radios and antennas work, they aren't going to be able to fix problems or work around them, and if they can't do that, they're not going to be very effective communicators and their experience is going to be very frustrating. Not only that, I explain that they'll have a lot more fun with ham radio if they understand how the technology works.

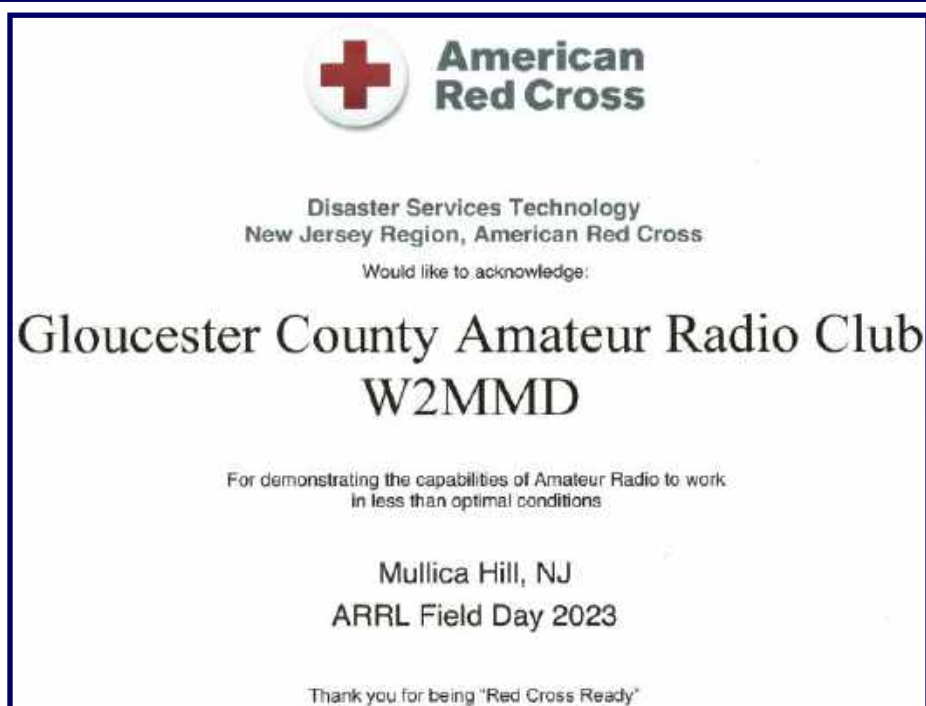
So, the question is how to get these people to be more curious about radio technology and how to encourage them to learn more. Being insulting or negative isn't the way to do it. I hope, for example, that when the guy complained about his Yaesu HT, that someone patiently explained how repeaters work. Sure, he should have known that already, but belittling him for not knowing this would only do more harm than good.

I don't think that you can fault people for not knowing things, but you can fault them for not wanting to learn things. There's a lot to learn in ham radio, and you can't learn it all before you get a license. In fact, I'd argue that most things you can only learn after you get a license and start doing things.

Having said all that, our challenge is to make ham radio a place where those that want to learn things can thrive. I think that we're doing better at that. Look at all the YouTube channels where you can learn about just about anything that ham radio has to offer. The ARRL is getting in on this as well, with its "Learning Center."

I'd say not to worry about those who don't want to invest the time and effort. They're not going to be hams for very long. They're going to get frustrated when they can't get things to work and drift off to something else. Let's concentrate those who are curious and able and willing to invest the time and effort and make good hams out of them.

Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the "No Non-sense" amateur radio license study guides (<https://KB6NU.Com/study-guides>), and often appears on the IC-QPodcast (<https://icqpodcast.com>). When he's not writing about amateur radio, he tinkers with electronics projects and operates POTA and works CW on the HF bands.



Two Major Projects On A Great Club Project Day

By Jon Pearce, WB2MNF

GCARC Club volunteers turned out on Sunday, October 22, 2023 and completed two significant projects, one related to the VHF station and another to the satellite station.

One team worked on the lightning protection project for the VHF room while the other tested a new rotator for the satellite station and removed and diagnosed the old non-functioning rotators.

Participating were :

- Mike KG4JYA
- Lee WA2LH
- Marc WM2Y
- Earl KC2NCH
- John K2QA
- Jon WB2MNF
- Chris AD2CS
- Al KB2AYU
- Frank N3PUU

More pictures are on the webpage "W2MMD Clubhouse Operations"
<https://gloucestercountyarv.weebly.com/w2mmd-clubhouse-operations.html>

Lightning Protection Project

The lightning protection project for the VHF station had largely been completed indoors, but the copper strips surrounding the VHF room were not yet connected to any external grounds. Accomplishing this was the primary focus of this work day. For each of two ground rods a 9 foot trench needed to be dug between the Clubhouse and shed, copper stripping had to be run from the inside of the Clubhouse to the end of the trench, and an 8 foot ground rod needed to be pounded into the soil and finally connected to the copper strip. **Frank N3PUU** put out a call for help on Friday and nine volunteers showed up with picks, shovels, and other excavation equipment.

Digging the trenches in the rocky soil was the most time consuming part. Once that was done, copper stripping was run from the inside of the Clubhouse through a slot in the floor and through the length of the trench. The ground rods then needed to be pounded into the ground, which was greatly facilitated by a powered hammer that Frank had brought. Once that strap was installed it was clamped to the copper strap, a bucket was placed over that connection to facilitate subsequent access, and the trench was filled in with dirt. Later that day the heavy cable was run the length of the Clubhouse to connect the grounding system at the HF side with this system. This installation provides the beginning of a comprehensive grounding system for both areas of the Clubhouse.

Reworking The Satellite Antennas

Several weeks ago the satellite rotators experienced a strange anomaly when both the azimuth and elevation rotators ceased functioning while a transformer in the rotator control box was also burned out. Fortunately we had a spare azimuth rotator that we could connect at the top side of the rotator cable to attempt to localize whether the issue was within the rotators themselves or somewhere in the control and cabling circuitry. So **Al KB2AYU** climbed the satellite tower with the new rotator, disconnected the old rotator and connected the control cable to the new rotator while **Chris AD2CS** and I checked to see if it worked correctly (it did). This meant that both the azimuth and elevation rotators on the tower were faulty and needed to be replaced. Unfortunately, both antennas needed to be removed to take off the rotators, so **Mike KG4JYA** and I climbed to the roof while Al rotated the antennas so that we could reach and remove them.

Great Club Project Day - Continued on page 22

With the antennas off Al was able to remove both rotators and the fiberglass mast and lower them down to Chris, who took them inside and began disassembling them to diagnose the cause of their aberrant behavior. We subsequently purchased another elevation rotator, and the two rotators and the antennas will be installed over the next few weeks bringing the satellite station back to operational status.

Wrap-Up

With all the potential that the Clubhouse provides for its members it's extremely satisfying to see a large group like this come out to work on projects that expand the Club's capabilities. Over the next few months as the VHF tower work gets started we'll need even more assistance in building up those capabilities, and hopefully we can attract additional members to help in these efforts.



Club Member DMR IDs

Club Member	DMR ID
W2MMD Clubhouse	3198604
Anthony Cerami, N2OAC	3202759
Mike Covalleski, N2MMC	3134855
Thomas Distelcamp Sr, KC2GYC	3110869
Harry Elwell, AD5TT (K2ATX)	3128498
Karl Frank, W2KBF	3146716
Glen Guenther, KE2BUO	3202079
Melissa Guenther, KE2BWZ	3202496
Gary Mirkin, WA3SVW	3165494
Phil Nunzio, WA3RGY	3134336
John O'Connell, K2QA	3110610
Jon Pearce, WB2MNF	3163415
Mike Pecorini, K2MRP	3132996
John Price III, KD2QYC	3123583
Chris Prioli, AD2CS	3195449
Len Rust III, W2LJR	3186225
Len Rust IV, K2LJR	3196243
Dave Sheppard, W2PAX	3112666
Cory Sickles, WA3UVV	1142052
Court Smith, KD2SPJ	3186243
Brett Waller, K2BKW (KC2UXQ)	3134261
Bill Wood, KD2OSJ	3197459
John Zaruba Jr, K2ZA	3134331

DMR Configuration Sequence

- Obtain and Configure DMR ID :
 - <https://www.radioid.net>
- Download Contact List :
 - <http://www.dmrcontacts.com>
- Identify Repeater or Hotspot :
 - <https://www.repeaterbook.com>
- Define Talk Groups
 - Numerical ID
 - Text Name<https://brandmeister.network/?page=talkgroups>
- Create Channel
 - Select Number
 - Assign Name
 - Select DMR ID
 - Assign Frequency
 - Transmit
 - Receive
 - Bandwidth
 - Power
 - DMR Mode (Simplex/Repeater)
 - TX Permit (Channel Free)
 - Assign Talk Group
 - Assign Color Code
 - Agreed Upon with Other Users
 - Assign Time Slot
 - Agreed Upon with Other Users
- Create Zone
- Add Channels to Zones
- Configure Features
- Upload Code Plug
- Upload Contact List

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



New Jersey 2023 Simulated Emergency Test

By Bob Keogh, KD2NEC - kd2nec@qsl.net

Gloucester County Emergency Coordinator



Overview of Scenario

A severe tropical storm with embedded high winds, just below hurricane force, is approaching from the southeast at the same time as an astronomically high tide is forecasted along the Atlantic Coast. Preliminary weather prediction indicates the tropical storm will affect the entire New Jersey coast and possibly strengthen to hurricane force before landfall. Forecasters are anticipating flash flooding throughout New Jersey from rain falls up to 3-5 inches per hour in isolated locations, high straight-line winds in the range of 65 to 80 mph, and possible tornadoes/waterspouts. Extensive barrier islands, coastal, back-bays, and rivers/streams flooding are anticipated, including inland areas of NJ, resulting in evacuations. It is possible coastal evacuation highways will be converted to one-way western travel for evacuations of coastal areas.

NJ 2023 Simulated Emergency Test Objectives

The objectives for 2023 Simulated Emergency Test are :

1. To set up emergency radio communications, process tactical and formal messages, for multiple American Red Cross shelters passing formal/written messages digitally, plus voice nets for instructions and announcements.
2. To maintain ICS-214 Activity Logs for all activities, and ICS-309 Message Logs for all messages handled (tactical & formal), significant events, and operations.
3. To respond to "Inject Incidents" throughout the simulated exercise related to changing conditions.
4. To communicate damage assessment data to simulated served agencies, such as National Weather Service and County EOC, if necessary.

Assumed Conditions for Simulated Emergency Test :

- No commercial communications including internet, landline, and cellular telephones.
- Tropical Storm/Hurricane levels winds, flooding, and flash flooding forecasted :
 - ♦ Rain falls of up to 3-5 inches per hour in some areas including inland, Flash Flood Warnings in place.
 - ♦ Winds in the range of 65 to 85 mph gusts with possible tornadoes/waterspouts.

ARES Emergency Communications Rolls:

1. Provide American Red Cross of NJ emergency communications support for shelter locations :

- | | |
|---|--|
| • Atlantic County - Egg Harbor Twp Community Center, Egg Harbor Twp, NJ | <u>Atlantic ARES</u> |
| • Burlington County - Fellowship Alliance Chapel, Medford, NJ | <u>Burlington ARES</u> |
| • Cape May County - Martin L King Center, Whitesboro, NJ | <u>Cape May ARES</u> |
| • Cumberland County - Vocational Technical School, Vineland, NJ | <u>Cumberland ARES</u> |
| • Gloucester County - Rowan College of South Jersey, Sewell, NJ | <u>Gloucester ARES</u> |
| • Mercer County - The College of New Jersey, Ewing, NJ | <u>Mercer ARES</u> |
| • Monmouth County - Neptune High School, Neptune City, NJ | <u>Monmouth ARES</u> |
| • Ocean County - Central Regional High School, Bayville, NJ | <u>Ocean ARES</u> |

2023 New Jersey SET - Continued on page 25

2. Provide American Red Cross of NJ emergency communications support for logistical and administration of shelter services at :

Princeton Office - Mercer County	Overall NCS Operation	<u>Mercer ARES</u>
Pennsauken Office - Camden County	District Shelter Operations	<u>Camden ARES</u>
Tinton Fall Office - Monmouth County	District Shelter Operations	<u>Monmouth ARES</u>

3. Maintain liaison monitoring of NJ Office of Emergency Management SNJ SEC

4. Situational Weather awareness of conditions through NWS SKYWARN Spotters Reporting.

Simulated Emergency Shelter in Gloucester County

On the morning of Saturday, October 14, 2023, four members of GC-ARES defied the gloomy weather and participated in the annual Simulated Emergency Test (SET). The operators were **Bruce Canino KD2LBU**, **Courtney Smith KD2SPJ**, **David Danichkin KD2UXC**, and **Karl Frank W2KBF**. This was a joint exercise with ARES and the New Jersey American Red Cross (NJ-ARC), which recognizes the value of Amateur Radio in providing emergency communications to ARC shelters when cell phone and internet service is not available. Our goal was to establish radio communications from a Simulated Emergency Shelter in Gloucester County, then receive and send messages on behalf of the ARC. To add an element of realism, a spot adjacent to the Gymnasium of Rowan College of South Jersey in Sewell was selected for the simulated shelter. In the past, this building has been used as an actual ARC shelter.

Two stations were established : an FM phone station for communication with the ARC District Headquarters in Pennsauken via the W2MMD 2-meter repeater and a Winlink station on 223.580 MHz for data transmission. The radios shared a single Comet Triband antenna with triplexer which allowed simultaneous operation of phone and Winlink without mutual interference. Over the course of 3½ hours we fielded requests from Pennsauken for shelter information and used Winlink to respond with formal messages. The Winlink responses incorporated data that was previously provided to us in digital form, suitable for importing directly into standard forms used by the ARC. This simulated operations at a shelter where ARC personnel would hand data to radio operators for transmission and was far more efficient than attempting to send data via phone.

We rotated operating positions periodically, so everyone had a chance to operate both phone and Winlink. Although we experienced a few minor problems, the exercise was successful and gave us the opportunity to practice communication protocols required by the ARC.

AMERICAN RED CROSS (ARC) - SOUTHERN NEW JERSEY DISTRICT OFFICE

As stated in the “ARES Emergency Communications Rolls”, we followed the NJ Region American Red Cross organization of three Districts, Northern NJ, Central NJ, and Southern NJ. Each District has seven NJ Counties.

Gloucester County ARES and Camden County ARES agreed to have joint responsibility for staffing the Simulated South Jersey District Office. The SNJ ARC District is comprised of Cape May, Salem, Cumberland, Camden, Gloucester, Atlantic, Burlington Counties.

We had four radio operators working together in the ARC District office, located on Rt. 70 in Pennsauken. Those operators are **Doug Dersch KD2VQA**, **Greg Ciraula W5DO**, **Pete Greene N2LVI**, and **Bob Keogh KD2NEC**. We also had a fifth operator assigned to the position of liaison between the Princeton NJ HQ and the SNJ District.

Because this was our first Statewide, Joint ARC/ARES SET, we had a few technical and procedural challenges that we had to overcome. However, all our goals were met, and we had fun. The lessons we learned will be discussed at our follow-up conference with our Section Leadership.



Shelter operators : David KD2UXC, Court KD2SPJ (standing); Karl W2KBF (seated)



**Gloucester County
Shelter Operators**

Bruce KD2LBU



Court KD2SPJ



David KD2UXC



ARC Pennsauken District Office : Greg Ciraula W5DO, Doug Dersch KD2VQA, Bob KD2NEC



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

November						
2023 Nov02	2023 Nov15	Cameroon	TJ9MD	(IK2VUC B/d)	DXW.Net 20230901	By IZ8CCW IZ2GNQ F6IRA OK2WX AG4W DL8JJ IZ4COW IU3PMA HB9DHG HB9TOC ON7RN IK5BOH IZ4UEZ fm Kribi; 160-6m; CW SSB RTTY FT8; 4 or more stations
2023 Nov03	2023 Nov07	Cocos (Keeling)	VK9QO	JI1LET	OPDX 20230927	By JA3GEP JH6RTO JA1COU JI1LET; mainly satellite, but some HF: 80-6m; CW SSB FT8
2023 Nov03	2023 Nov10	Niue	E6AJ	DF8AN (B/d)	DXW.Net 20230406	By DF8AN; HF; CW FT4 FT8 RTTY, perhaps PSK31; 100w; longwires, verticals; holiday style operation
2023 Nov04	2023 Nov19	Marquesas	TX7L	LoTW	TDDX 20230306	By F6BCW F6EEQ F6FMC F6HBI F5VHQ F5JRXX F5LRL F4ISZ F1MNQ fm Hiva Oa I; 160-6m CW SSB FT8 FT4 RTTY; 4 stations; QSL via EA5GL (B/d) or Club Log OQRS
2023 Nov05	2023 Nov10	Bahamas	C6A	LoTW	TDDX 20230821	By WA1JAY as WA1JAY/C6A; 40-10m; SSB FT8 FT4; QRP
2023 Nov06	2023 Dec05	Timor Leste	4W8X	LoTW	TDDX 20230722	By DL6FBL + team; 160-6m; CW SSB RTTY, perhaps FT8; 2 sites, 500m apart; QSL via Club Log OQRS
2023 Nov08	2023 Dec08	Tanzania	5H3MB	LoTW	DXW.Net 20230920	By IK2GZU; HF; SSB CW RTTY FT8; dipoles, ground plane; spare time operation; QSL via Club Log OQRS or IK2GZU (B/d)
2023 Nov09	2023 Nov22	Chatham Is	ZL7A	LoTW	TDDX 20230802	By JF1OCQ JA1SVP JE1SYN; 160-10m; SSB CW FT8 FT4; 3 stations; amps; verticals, yagis; QSL via JF1OCQ
2023 Oct10	2023 Oct22	Mayotte	TO8FH <small>[spots]</small>	LoTW	425DXN 20230818	By F1DHX F1ULQ F2DX F4AZF F4DLM F5NTZ F5UOW F8AVK F8EFU DL3GA HB9GWJ ON7RN; 160-6m; CW SSB + digital
2023 Nov15	2023 Nov29	Solomon Is	H44WA	M0URX	DXW.Net 20230513	By WA7CPA, N7QT N7JP N9ADG NU7J WC7Q fm Guadacanal I (IOTA OC-047); 160-10m; CW SSB FT8
2023 Nov16	2023 Nov27	Laos	XW4DX	LoTW	DXW.Net 20230907	By F4BKV F4HAU F2DX F5PTM F8AVK; 160 40 20 17 15 12 10m; CW SSB + digital; QSL via Club Log OQRS (preferred) or F4BKV direct
2023 Nov16	2023 Nov30	Namibia	V51WH	DK2WH	DXW.Net 20230913	By DK2WH fm nr Omaruru; 160-10m, incl. 60m; V55Y in contests; operation to continue until Apr 2024
2023 Nov21	2023 Dec05	Christmas I	VK9XGM	LoTW	DXW.Net 20230506	By GM3WOJ GM4YXI fm IOTA OC-002; 80-10m; SSB CW FT8 FT4; QSL via Club Log OQRS or N3SL
2023 Nov21	2023 Nov28	Honduras	HR9	LoTW	TDDX 20230927	By K6VHF as K6VHF/HR9; 40-6m; CW SSB FT8 FT4
2023 Nov23	2023 Dec06	Sierre Leone	9L5M	LoTW	DXW.Net 20230828	By M0KRI; 80-6m; FT8 CW SSB; QSL via Club Log OQRS or G3SVK
CQ Worldwide DX Contest, CW (Nov 25-26, 2023) Check here for pericontest activity too.						
2023 Nov26	2023 Dec08	St Martin	TO9W	LoTW	K9EL 20230508	By K9NU N9EP FS4WBS W9AP K9EL; 160-6m; CW SSB FT8 FT4 RTTY; QSL via Club Log OQRS

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

**** FREE STUFF ****

Available @ The W2MMD Clubhouse

Unknown Working Condition - Local Pick-Up Only - No Delivery



Drake 2-A Receiver & 2-BQ Speaker/Q-Multiplier



Ten-Tec 544 HF Transceiver & 262G Power Supply/Speaker



Eldico R-104 Receiver

**North Electric
PEC 3291
12V, 12.5 A
Power Supply**



**Multicomp Resistors
(3) MC11245 225W, 100Ω
(1) MC11250 225W, 500Ω**



QRP Labs 20W 50Ω Dummy Load Kit Build - Part 2

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

Let's take a few minutes to discuss the technical aspects of this kit. As a dummy load, it certainly meets certain performance standards, as previously stated, in that it is a 50Ω load rated for 20 Watts RF power. Examining each of these specifications with regard to the device schematic, we can see what we are getting.

Using the familiar reciprocal of the sum of the reciprocals formula for parallel resistance :

$$R_{PARALLEL} = 1 / [(1/R1) + (1/R2) + (1/R3)...]$$

We can now see that what we are working with is :

$$1 / [(1/1000) \times 20] \text{ or } 1 / 0.02 = 50\Omega$$

Thus, a total of twenty one-kilohm resistors taken in parallel will produce a net resistance of fifty ohms (50Ω). Of course, the resistor tolerance must be factored in when determining the actual final impedance offered by these twenty resistors in parallel. In this case, the resistors are 1% tolerance devices, which means that each resistor should be somewhere between 990Ω and 1010Ω to remain within the stated tolerance. Thus, if all of the resistors were at the low end of their tolerance range, we would have a calculated impedance of 49.5Ω offered, and if all of the resistors were at the high end of their tolerance range, the calculated impedance offered will be 50.5Ω. The reality is that it will fall somewhere between these two extremes, and as such, it will be close enough to the 50Ω characteristic output impedance of our radios to be acceptable.

OK - so much for the impedance. How about the power handling capability? That is resolved in a simple and straightforward manner. Because all of the resistors in the parallel group are of the same power rating, we can simply multiply that power rating by the number of resistors involved. In this case, we are using one-watt resistors, of which there are twenty in use. Therefore, the power handling capability of the finished dummy load is 20 x 1W = 20W.

What about the diode and capacitor in this device? What purpose do they serve? In essence, they are the heart of a simple RF detector that allows us to make some rudimentary (non-precision) power measurements from the dummy load. The diode/capacitor combination rectifies and smooths a sample of the RF power applied, enabling us to get a relative power level reading using a standard analog or digital multimeter.



Figure 12 : PWR And GND Holes

The PCB's each have a pair of holes labeled PWR and GND (**Figure 12**). It is between these two points, *on the lower PCB only*, that we can make the relative power measurement. These are the holes that we avoided insulating earlier when we coated the PCB's with clear nail polish or clear spray enamel. This measurement will be a peak voltage measurement, which is converted to a power reading using a variant of the basic formula $P = V^2 / R$ where P is the calculated power, V is the measured voltage, and R is the impedance or resistance of the active circuit. To this end, there is what might appear to be an error in the kit manual, wherein the manual states that the formula to be used is

$$\text{“ Power = peak voltage } \times \text{ peak voltage } / 100 \text{ ”}$$

which uses 100 ohms as the resistance or impedance value, double the actual impedance of the dummy load design.

QRP Labs Dummy Load Kit Build - Continued on page 31

As a result, the calculated power ends up being one half of what one might expect it to be if using the expected value of fifty ohms (50Ω) in the equation. What this means is that the example 20V peak voltage measurement would yield a calculated power level of 8 Watts instead of the correctly stated 4 Watts.

However, it must be remembered that we are dealing with RF voltage, which in the case of an unmodulated carrier is a sine wave, and the voltage measurement made is actually a peak voltage (VP) reading instead of the more commonly measured VRMS as read on most multimeters. This changes the arithmetic somewhat, as follows.

While the basic formula stays the same as $P = V^2 / R$, the voltage component changes. What we are left with in this case is the fact that at RF, the formula becomes $P_{RF} = V_{RMS}^2 / R$. As you may recall if you are a General or an Amateur Extra ham operator, $V_{RMS} = V_P \times 0.707$. Arithmetically, the value 0.707 is equivalent to $1/\sqrt{2}$, so the formula can be re-written as $V_{RMS} = V_P \times 1/\sqrt{2}$, or more simply as $V_{RMS} = V_P / \sqrt{2}$. Stay with me here... it is going to get interesting.

Using the above, we can now re-write the original formula as :

$$POWER_{RF} = (V_P / \sqrt{2})^2 / R, \text{ or as}$$
$$POWER_{RF} = (V_P \times (1 / \sqrt{2})) \times (V_P \times (1 / \sqrt{2})) / R$$

Let's consolidate and then get rid of the two instances of "one over the square root of two" from the equation...

$$POWER_{RF} = V_P \times V_P / R \times \sqrt{2} \times \sqrt{2} \text{ which is equivalent to}$$
$$POWER_{RF} = V_P \times V_P / R \times 2 \text{ or } POWER_{RF} = V_P^2 / 2R$$

If R is fifty ohms as it is in the dummy load, the net result is $POWER_{RF} = V_P^2 / 100$.

The manual correctly states that this is not a precise quantitative measurement of the power, but instead is an approximate or relative power level. In order to derive an accurate power measurement, the forward voltage drop of approximately 0.6V to 0.7V must be taken into consideration. In addition, the diode's forward current, which in turn is a function of the DVM input impedance, will also affect the specific power measurement accuracy. Finally, there is a frequency dependency that must be taken into account, which is a result of the RC filtering that occurs because of the series capacitor in the circuit.

The long and short of all of this is that while the PWR and GND points on the lower PCB provide convenient test points for making peak voltage measurements, these measurements will only roughly translate to an RF output power of the transmitter to which the dummy load is connected.

The instruction manual provides a couple of performance graphs for the dummy load, which depict the performance of what one must consider to be a "typical" example of this dummy load. A 10MHz RF signal was input to the dummy load, with its power varied from 0.8mW all the way up to 10 Watts. The input signal was passed through a 30m low-pass filter before entering the dummy load. An inexpensive "**Harbor Freight Tools**" type of digital volt meter was used to take the actual voltage measurements, while the actual measured power values were derived through the use of a 100MHz bandwidth digital oscilloscope in its peak-peak measurement mode.

The graph at **Figure 13** shows the entire power spread all the way up to the 10W input level. What is graphed are the actual measured power levels validated via the digital oscilloscope, plotted against the actual voltage measurements obtained at the PWR and GND points on the lower PCB.

It should be noted that the results shown in this graph do not quite track the anticipated results from the formula discussed earlier. For example, the manual stated that a 20V reading would equate to 4 Watts. Instead, the graph shows just about 6 Watts against the 20V measurement.

The second graph provided, shown at **Figure 14**, is a close-up view of the first 400mW segment of the **Figure 13** graph. Because of the zoomed nature of this graph, we should be able to see a bit more accurately just what the voltage/power relationship is through this device. If we apply the accepted standard formula for power from voltage and resistance ($P_{RF} = V_P^2 / 2R$), we would see that a 3V measured voltage should equate to **90mW** ($(3 \times 3) / 100 = 0.090$). However, on the **Figure 14** graph, the 3V measurement indexes to considerably more, coming in at an extrapolated 155-160 mW.

That value is not close enough that I can accept the effects of the diode and capacitor as the reasons for the difference. My further problem is that the difference seems to grow all out of proportion as the power levels go up.

In any event, this dummy load is not intended to be an accurate source of power measurement. That much is understood. The question is **“How much error is acceptable before the power measurement is no longer relevant?”** The answer is, to me at least, that when the error becomes greater than about 10%, it is no longer relevant and should be ignored.

This kit, as a finished product (**Figure 15**), does what it is supposed to do. After all, it is marketed as a dummy load, not as a power measurement adapter, right? As such, I have to give the kit some good marks, though there are some criticisms.

I am not pleased by the fact that the BNC jack is supported only by the two signal path leads - the signal lead and the ground lead. The jack has two locating pins which fit into holes in the PCB. These two holes should have been made as pads to which the support pins could be soldered. As it is now, the jack has some wiggle room between the PCB's, meaning that each time the jack is wiggled, the two signal leads are being flexed. Eventually, one or both of them will break off. It would have been an easy change to the PCB design, which would not have cost any more in the board production costs, to have made these holes into solderable pads. They already penetrate the ground plane. All that was needed was to exclude the solder mask around the holes. This is an ugly oversight, and it needs to be corrected in future board production runs.

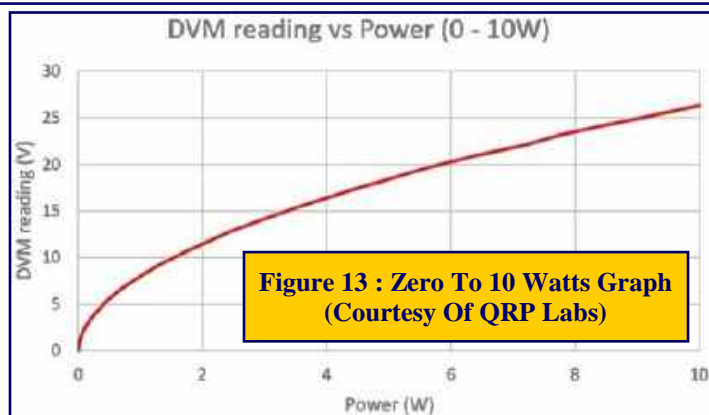


Figure 13 : Zero To 10 Watts Graph (Courtesy Of QRP Labs)

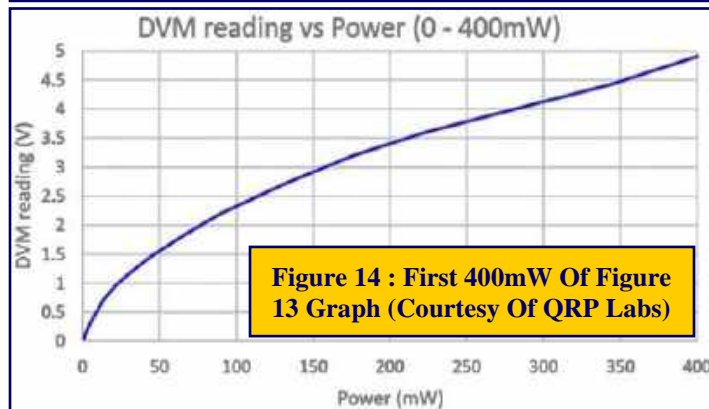


Figure 14 : First 400mW Of Figure 13 Graph (Courtesy Of QRP Labs)



Figure 15 : Finished Product

The second criticism is the fact that there were twenty-two resistors included in the kit. While this is a very minor point, it seems to me that this is poor cost control. Consider this, for every ten kits packed with two extra resistors, they have over-shipped enough resistors for another kit. The stated reason for the extra resistors is in case of “shipping errors”. I would be more concerned about the little things like the diode and the capacitor before I worried about missing two resistors in a taped set of twenty, especially when one considers that the taped resistors can be cut accurately by length, without the need to actually count each resistor. While the price for this kit is quite reasonable, it could be even more so if the kit supplier shipped twenty resistors instead of twenty-two in each kit.

While the instruction manual has a truncated schematic diagram of the dummy load, I prefer working with complete schematics. To that end, I drew up a schematic (**Figure 16**) that represents all of the components and jumper wires of this kit.

Is it necessary? Probably not... but then I do like to be thorough and complete in these things.

For ease of kit assembly, this kit gets a B+. The things that bring it down from being an “A” are the fact that the whole deal with the two identical boards can be confusing to some builders. In addition, the diode placement is a bit ambiguous to the less experienced builder. Finally, the assembly manual does not give any ideas or assistance when it comes to marking the “W0” hole in the upper PCB, leaving the builder to figure that one out alone. This is not a problem for an experienced kit builder, but is probably confusing for a beginner. In spite of all of that, I would still consider this to be a kit that is suitable for kit-building beginners.

The finished product is a nice compact dummy load that is small and light enough to be attached directly to a BNC antenna jack on a QRP radio, using a dual male BNC adapter is necessary to change genders. This makes it useful for POTA and other backpack-type radio operations where a dummy load might be needed for off-air tuning of a radio. If you want or need a small, lightweight and easily deployed dummy load for your QRP work, you should give this one a look. All things considered, this kit merits a place in any shack where QRP comms are a part of the operator’s repertoire. There might be better, or cheaper, or easier to assemble dummy loads out there, but this one covers all of the bases and checks off all of the boxes. It gets a considered approval from me both for its design, its cost, and its functionality.

The full version and a downloadable PDF can be found at :
<https://gloucestercountycarc.weebly.com/qrp-dummy-load.html>

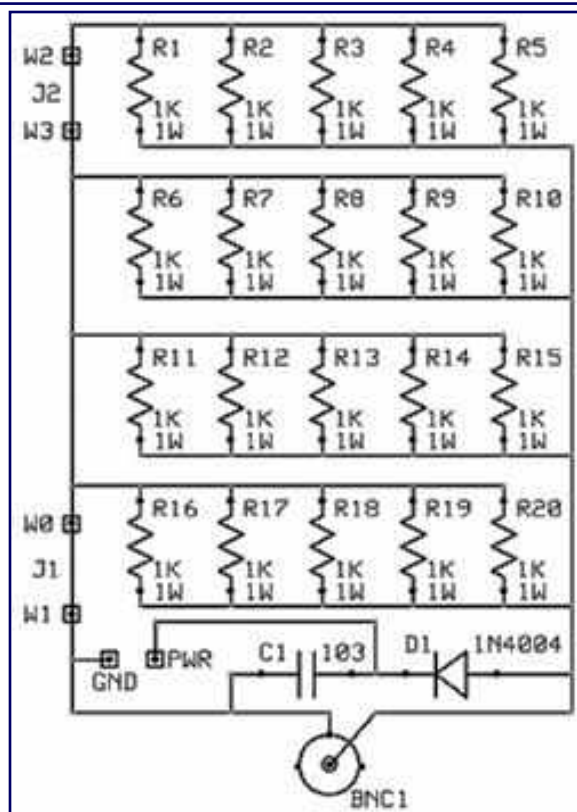


Figure 16 : Schematic Diagram

WORD TO THE WISE

DIN Coaxial Connectors

In the US, we're most familiar with "UHF" type connectors such as PL-259 and SO-239. Other types we'd commonly come across include BNC and N connectors. In cellular network equipment, 7-16 DIN Connectors (https://en.wikipedia.org/wiki/7/16_DIN_connector) are commonly used, and they're now finding their way into amateur applications. They have a 50 ohm characteristic impedance.

NTS 2.0 Update

By Dave Sheppard, W2PAX

Coming via Southern Florida Section Traffic Manager and GCARC Club member **Dave Sheppard, W2PAX**, the following is an update on the NTS 2.0 initiative from **Marcia Forde, KW1U**. We will continue to bring you these updates as we receive them from the NTS 2.0 committee.

"It has been three months since my last update to you. Summertime with folks taking vacations has slowed us down a bit but we continue to make progress. You no doubt saw the article in QST July 2023 issue regarding NTS. This was a first in quite a while, but definitely not the last. We have been invited to contribute more articles in the future. NTS was also featured in the July/August issue of On the Air magazine.

One of the priorities on most folks' minds is the Net Directory. We have made progress, providing documentation on requirements and wire frames (they tell me this is how we want it to look). We are waiting on the IT folks at ARRL, but unfortunately so are a number of other groups. We're remaining patient and optimistic.

As many have seen, the website www.nts2.arrl.org has gone live and has been recently updated to show the work of several of the implementation teams. Go to the tab "Standards and Procedures" and find four items currently listed.

1) NTS 2.0 Traffic Delivery Standards : We have seen traffic take from hours to days to weeks for delivery, and occasionally no delivery at all. Emergency folks expect their messages to be delivered within 30 minutes, while other priorities are less strict. We felt it important to set standardized guidelines for the various priorities of messages which you will find here.

2) Numbered Texts : You probably saw a few months ago an expanded list of numbered texts provided by RRI. These additional texts are primarily for welfare traffic and as with the old ARL numbered texts are meant to shorten a message and therefore transmission time. RRI refers to these as RRC texts rather than ARL texts. To avoid confusion we have agreed to keep the old text numbers the same for either ARL or RRC, while adopting the RRC text numbers and adding one additional text which is to be used with the HXD handling instruction. In short, whether you see ARL or RRC in the check and the beginning of the text the standardized text will be the same. The one addition made by NTS 2.0 teams is ARL FORTY ONE which standardizes the method for reporting the HXD. This will greatly simplify summarizing test traffic results as well as general tracking. We anticipate this to ultimately be an online process. This radiogram is to be used similarly to other numbered texts with blanks. After noting the ARL number in the text, just add the information required in the blanks in that order, nothing more.

3) HX Handling Instructions : The familiar ones are still there to be used by the originator for the benefit of the delivering station, or in the case of HXD, all stations handling a given message. We have added two more - HXI and HXR. Since we have been asked to be able to relay agency forms such as the ICS-213, it is critical that we can deliver this form to the appropriate personnel in the form to which that person is accustomed. Yet to relay any message through NTS it is also critical that we have certain information such as is included in the standard preamble of header of a radiogram. Therefore we have provided for an "envelope" in which to send this agency form. This "envelope" is a radiogram in which is "encapsulated" an agency form. More on this later. The HXI handling instruction indicates to a delivering station that this "envelope" or radiogram must be removed and its contents delivered to the recipient in an ICS-213 form, exactly as was sent by the originator.

NTS 2.0 Update - Continued on page 35

The HXR handling instruction provides greater assurance to the originator that the addressee has that form in his/her hands. It differs from the HXC in which the delivering ham often says the message was "delivered" yet it may have been via an identified voicemail or email. In today's world where most folks don't respond to those they don't know, this definition of "delivery" has been relaxed somewhat. For routine traffic this can be acceptable, but for emergency or priority traffic it is not.

4) Using Radiograms To Pass Agency Forms : This section gives detailed information on how to use the agency form encapsulated radiogram along with a data dictionary. Training documentation is being developed. Expect to see future tests carried out throughout NTS using this form. Just to put some minds at ease, ICS-213 and other agency forms will NOT replace the standard radiogram. NTS will continue to use the radiograms we are all familiar with. However we do need to become familiar with relay of these emergency forms in the event it is ever needed. Tests will be carried out from time to time.

5) Many of you are familiar with the ARES Letter, the ARRL Letter and others made available to those who opt to receive them. We will soon be seeing a monthly NTS Letter as well. We anticipate keeping folks informed on the work of the NTS 2.0 project. We also want to hear from all of you about special NTS activities in your sections, anything you think would be of interest to traffic handlers in other parts of the country, similar to what you see in the ARES Letter - any exercises, drills, SET's, training events, etc. Without your input we won't have much of a newsletter. Please let me (**Marcia, kw1u@arrl.net**) know if you or someone in your section would be willing to provide us with articles from time to time. We need you!

Thanks to all of you for your leadership and support of NTS. We have all enjoyed traffic handling over the years and are excited now about the interest on the part of our national organization in finding purpose and value in this program we continue to enjoy."

GIVING TUESDAY

Tuesday, November 28, 2023

The Make Operating Radio Easier (MORE) Project

By Dave Mitchell, WB2PJH

I was recently contacted about the MORE program, sponsored by the IEEE aimed at getting young hams licensed. The program covers examination fees and an HT upon successfully passing the licensure test. On page 36 is the one page flyer. If you think this is something that children of Club members, or STEM teachers, feel free to use it. If the Club has any middle or high school STEM connections and if they are interested, once again feel free to pass it along.

Editor's Note : See the next page for more information about the MORE Project



Interested in getting an Amateur Radio license?

<n2re.org/m-o-r-e-project>

The Make Operating Radio Easier (MORE) Project is a grant-funded initiative to reduce both gender and age imbalances in Amateur (Ham) Radio, through education and hands-on activities. The ambitious goals of the MORE Project (running through June 2026), are: to train and license 500 new U.S. Radio Amateurs; to examine and explore various types of radio signals, such as by using Software Defined Radio (SDR); and to help our new Hams learn basic communications protocols by observing and participating in HF and VHF operations.

Our training course is provided in 6 sessions, typically one 2.5-hour session per week, and may be scheduled to occur virtually and/or in person. The MORE Project covers the costs of testing, licensing and some equipment for participants. Successful licensees will receive a handheld 2-way radio, plus coaching to Get On The Air.

While the MORE Project is primarily seeking youth (ages 12-17) and non-male applicants, we are currently accepting students of ALL ages (12+) and genders.

STUDENTS: To be considered for this program, you must be at least 12 years old (or older) with a U.S. address. As radio operations in the U.S.A. are overseen by the Federal Government, all participants in the MORE Project must be willing to create a permanent public record of certain salient personal information.

Step 1: Go to <<https://www.fcc.gov/wireless/support/universal-licensing-system-uls-resources/getting-fcc-registration-number-frn>> to obtain an FCC Registration Number (FRN).

Step 2: Download our registration form from <<http://n2re.org/m-o-r-e-project/>>. Fill in ALL of the requested information, carefully and clearly (*plus your parent's or guardian's full name and email address, if you are within 12 to 17 years of age*). When you save the file (as a jpg or pdf), add your first and last name to the file name of the registration form.

Step 3: Send an email to Dr. Rebecca Mercuri, K3RPM at <MOREProject500@gmail.com> with your registration form as an attachment. We'll add you to our mailing list to receive information about upcoming MORE Courses.

GROUP LEADERS: The MORE Project also wants to hear from STEM clubs, youth scouting groups, preparedness teams, societies and lodges, senior centers, and other educational or recreational activity organizers. If your members would like to learn about radio technology and how it is used in a wide range of applications, including informal chatting, emergency search and rescue, global and outer-space communication, and much more, please contact Dr. Mercuri at <MOREProject500@gmail.com>, with a description of your group.

TRAINERS and VEs: We have an ongoing need for FCC-licensed amateur radio operators, at the General level or above, who are certified as Volunteer Examiners (or who want to earn this certificate), to assist with teaching, testing and outreach. If you would like to be involved, please provide your full name and callsign in an email, with the subject line — MORE Project — to Rebecca K3RPM at <MOREProject500@gmail.com>.



This Is All I Know!

By Bill Mollenhauer, N2FZ

Certain plastics get hot in the presence of RF. They are POLAR PLASTICS (Polar Molecules). Heat is loss of energy (RF Loss). You want to use NON-POLAR PLASTICS (Non-Polar Molecules) in RF environments like antenna projects.

See W6NBC's website and download the PDF listed below for more information about this fascinating topic.

Plastics For Ham Radio Projects, a presentation by John Portune, W6NBC

<https://w6nbc.com/slides/Plastics%20for%20Ham%20Radio.pdf>

Non-polar Molecules

PTFE	Teflon	δ Dissipation Factor	0.0001
	Silicone Sealant (clear)		0.0002
PE	Low density polyethylene		0.0003
PP	Polypropylene		0.0003
PE	High density polyethylene		0.0005
PS	Polystyrene		0.0005

Polar Molecules

PC	Lexan, polycarbonate		0.0100
EVA	Hot Glue		0.0150
PET	Mylar		0.0160
	PC board		0.0170
PVC	PVC, vinyl, electrical tape		0.0170
ABS	ABS		0.0200
	Epoxy		0.0200
PMMA	Acrylic, Plexiglas		0.0300
PA	Nylon		0.0360



National Scrapple Day
Thursday, November 9, 2023

When I First Met Curt, K2CWM!

By Charles Olinda, N2SRQ

It's really incredible how fast the years scramble past, thinking back to the 1980's back when I first met Curt Myers, K2CWM (WA2JSG). He was selling me auto supplies for my repair shop, little did I know then, but a long term friendship had begun!

Editor's Note : Curtis Wilbur Myers, K2CWM (WA2JSG) passed away on August 29, 2023. He was 82 years old. Curt was a Club member starting back in 1983.



This picture was taken at one of the Great GCARC Hamfests of yesteryear. Curt diligently hammering out the QLF message, with Harry Bryant, AA2WN certifying.



This picture was taken at our Field Day in Salem County. Curt was our "Poster Boy" for this one. Normal operations had coffee cups, antenna wires, tuners, and batteries on the table.



On the dash of my 82 VW Vanagon, I kept my Viking Helmet. During our Field Day, Curt saw it and then the fun began. I think it fit him quite nicely!



This is another picture taken at the GCARC Hamfest, which really says it all about Curt. He was a happy, active GCARC Member enjoying one of his favorite things. Unfortunately he missed going to Dayton this year, that would have made his 50th year going, he had 49 years under his belt! That's quite an achievement! The hat he's wearing was purchased at Dayton along with Ray Martin one of those years.

2020-2024 Element 4 Amateur Extra Class License Question Quiz

**This month we continue with Subelement E4 Amateur Practices (5 exam questions out of 5 groups)
(Answers on 'Last Page Calendar')**

E4B01

Which of the following factors most affects the accuracy of a frequency counter?

- A. Input attenuator accuracy
- B. Time base accuracy
- C. Decade divider accuracy
- D. Temperature coefficient of the logic

E4B02

What is the significance of voltmeter sensitivity expressed in ohms per volt?

- A. The full scale reading of the voltmeter multiplied by its ohms per volt rating will indicate the input impedance of the voltmeter
- B. When used as a galvanometer, the reading in volts multiplied by the ohms per volt rating will determine the power drawn by the device under test
- C. When used as an ohmmeter, the reading in ohms divided by the ohms per volt rating will determine the voltage applied to the circuit
- D. When used as an ammeter, the full scale reading in amps divided by ohms per volt rating will determine the size of shunt needed

E4B03

Which S parameter is equivalent to forward gain?

- A. S11
- B. S12
- C. S21
- D. S22

E4B04

Which S parameter represents input port return loss or reflection coefficient (equivalent to VSWR)?

- A. S11
- B. S12
- C. S21
- D. S22

E4B05

What three test loads are used to calibrate an RF vector network analyzer?

- A. 50 ohms, 75 ohms, and 90 ohms
- B. Short circuit, open circuit, and 50 ohms
- C. Short circuit, open circuit, and resonant circuit
- D. 50 ohms through 1/8 wavelength, 1/4 wavelength, and 1/2 wavelength of coaxial cable

Element 4 Amateur Extra Class Quiz - Continued on page 40

E4B06

How much power is being absorbed by the load when a directional power meter connected between a transmitter and a terminating load reads 100 watts forward power and 25 watts reflected power?

- A. 100 watts
- B. 125 watts
- C. 25 watts
- D. 75 watts

E4B07

What do the subscripts of S parameters represent?

- A. The port or ports at which measurements are made
- B. The relative time between measurements
- C. Relative quality of the data
- D. Frequency order of the measurements

E4B08

Which of the following can be used to measure the Q of a series-tuned circuit?

- A. The inductance to capacitance ratio
- B. The frequency shift
- C. The bandwidth of the circuit's frequency response
- D. The resonant frequency of the circuit

E4B09

What is indicated if the current reading on an RF ammeter placed in series with the antenna feed line of a transmitter increases as the transmitter is tuned to resonance?

- A. There is possibly a short to ground in the feed line
- B. The transmitter is not properly neutralized
- C. There is an impedance mismatch between the antenna and feed line
- D. There is more power going into the antenna

E4B10

Which of the following methods measures intermodulation distortion in an SSB transmitter?

- A. Modulate the transmitter using two RF signals having non-harmonically related frequencies and observe the RF output with a spectrum analyzer
- B. Modulate the transmitter using two AF signals having non-harmonically related frequencies and observe the RF output with a spectrum analyzer
- C. Modulate the transmitter using two AF signals having harmonically related frequencies and observe the RF output with a peak reading wattmeter
- D. Modulate the transmitter using two RF signals having harmonically related frequencies and observe the RF output with a logic analyzer

E4B11

Which of the following can be measured with a vector network analyzer?

- A. Input impedance
- B. Output impedance
- C. Reflection coefficient
- D. All these choices are correct

RCA WO-33A Three-Inch Oscilloscope Rejuvenation

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

Not too long ago, I picked up a well-used three-inch oscilloscope, an **RCA WO-33A unit (Figure 1)**, with the expressed intention of converting this 'scope into another piece of test equipment, namely a graphic semiconductor curve tracer. The main working parts of the 'scope would remain untouched, but an additional small power supply and a circuit board would be added in to provide the new functions that I wanted. The oscilloscope had its rubber bezel, but it did not have a graticule. This did not make any difference, because the graticule is not specifically needed for the curve tracer to operate acceptably. Down the road, I may make a new graticule out of some colored acetate sheeting onto which I can imprint a grid and scale, but that is another project.



Figure 1 : RCA WO-33A Oscilloscope (with graticule)

The 'scope had been, as already mentioned, very well used, and its overall condition reflected that fact. The non-polarized two-wire power cord was in bad shape, with cracks and splits in several points along its length. The faceplate had been splattered with light blue paint droplets, and the vertical input BNC jack on the front panel was bent and badly corroded, making it unusable as an input jack.

All of these were minor issues in the overall scheme of things. Far more important to me was the electrical condition of the unit. I removed the 'scope from its cabinet and I hooked it up to what I call my "safety trinity" (**Figure 2**) - my dim bulb current limiter, my Variac™, and my isolation transformer to see what it would do. When I powered it on, the dim bulb went to full brightness and just stayed there, never dimming as it should have done if the 'scope were intact electrically. This indicated either a direct short circuit from line to neutral, or else some severe capacitor leakage.



Figure 2 : Safety Trinity

I powered it down and took some resistance readings from the power cord blades to each other and to chassis. The ohmmeter showed an open circuit between either of the power cord blades and the chassis, and it showed a resistance on the order of 12 megohms between one blade and the chassis (with the power switch turned "ON"), and about 7 megohms between the other blade and the chassis. This indicated that there was no direct short circuit, so the problem was most likely capacitor leakage.

A quick look at the 'scope showed that in all likelihood, all but one of the capacitors installed were factory devices. The WO-33A was introduced to the trade in 1959 as a portable on-site oscilloscope, meant to be carried to the customer's home for on-the-spot repairs of TV sets and radios. It was produced into the early 1970's, as is evidenced by the earlier copies having RCA's classic circular logo while the later editions carry the newer stylized three-letter logo used in that era. The 'scope was offered in both kit and pre-wired form and sold for about \$80 for the kit form or \$130 for the factory-built version. Of course, those 1959 costs would look like \$840 and \$1360, respectively, today.

RCA WO-33A Scope Rejuvenation - Continued on page 42

Anyway, the capacitors that I believe were all factory components were all of a type - ceramic tubes with wax filling, all marked as being CERACAP devices (**Figure 3**) from American Radionic Company, Incorporated. Some research showed that American Radionic is still around today, located now in Palm Coast, Florida, some sixty miles south of Jacksonville, where they relocated after leaving Danbury, Connecticut in the late 1980's. Their AmRad line of motor-run capacitors are considered to be world-class products. However, in the 1950's and 1960's, they were a major supplier of wax and paper capacitors to consumer TV and radio manufacturers.



Figure 3 : CERACAP Examples

The only capacitor that was not an American Radionics CERACAP was C40, a 5μF 1kV capacitor in the plate circuit of the 6C4 high-voltage rectifier tube. This capacitor had very faint and therefore unreadable markings that showed up once I removed the electrician's tape with which the capacitor had been wrapped. The capacitor itself is of an all-metal exterior construction, and was most likely wrapped to keep it from shorting the components over which it laid when placed in circuit in the 'scope.

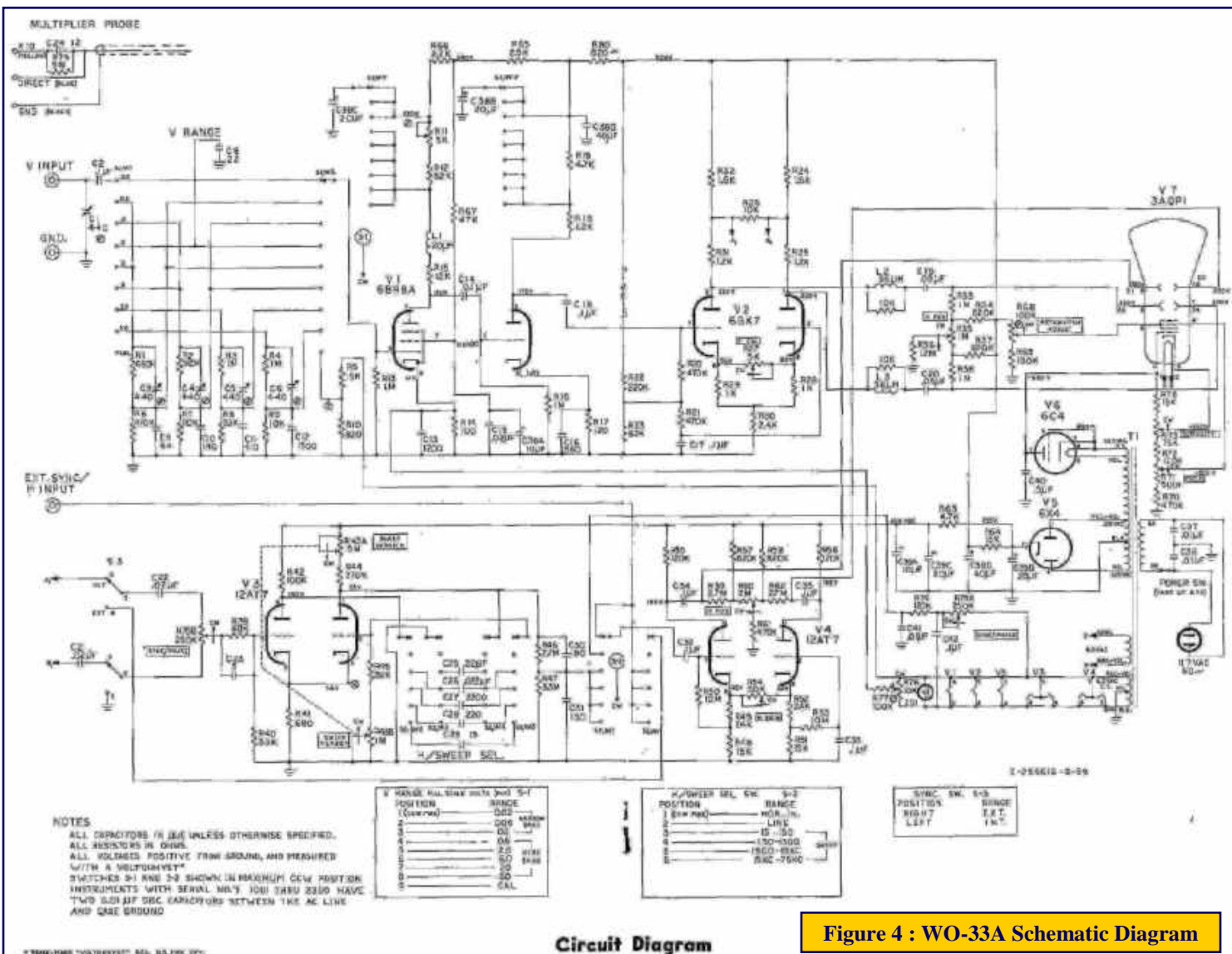


Figure 4 : WO-33A Schematic Diagram

Consulting the **schematic (Figure 4)** and the parts list in the assembly manual which was readily available online, I made a list of all of the capacitors used in the oscilloscope, and then I ordered in those which I did not have in stock. With the exception of that 5 μ F 1kV capacitor, I opted to use the **Vishay MKT1813-series (Figure 5)** of axial metallized polyester film capacitors throughout the unit, and I matched the type with a CDE/Illinois Capacitor MWR-series axial metallized polyester film device for the oddball capacitor in the bunch.

Before installing any of the replacement film capacitors, I used my **outside foil indicating device (Figure 6)** to identify the outside foil lead of each capacitor. This allowed me to orient each capacitor in the same direction as the original with respect to the outside foil lead. The orientation of the capacitor in this regard may be an important point if the equipment designer relied upon the shielding effect of the outside foil of the capacitors as a part of the overall circuit shielding scheme, whether it be for avoiding the pickup of stray RF in the device or for any other purpose. In the assembly manual for the WO-33A oscilloscope, care is taken to instruct the builder as to which end of each capacitor, as regards the outside foil indicator band, gets connected to which point in the circuit. This makes it obvious that the designer did indeed use the shielding effect of the outside foils of capacitors as a design point in this unit.

In every case, the replacement capacitors were a fraction of the size of the original capacitors being replaced. I went through the unit methodically, replacing each and every CERACAP capacitor with a new film capacitor. There were two voltage ratings used among the original capacitors, 200V and 400V, with the exception, of course, of the one high-voltage device. The replacements were 250V and 400V types. In all cases except for the high-voltage capacitor, the original values were available and thus were installed. The 5 μ F high-voltage capacitor was replaced by a 4.7 μ F 1kV device. In all cases where spaghetti tubing had been used on the original capacitors, it was re-installed on the leads) of the replacement devices.

After replacement of the capacitors, I decided to investigate the exact condition of the capacitors that I had removed. I did this using a capacitor tester of my own design and build (**Figure 7**), which tests capacitors for leakage and for ESR. What I found, detailed in **Table 1**, is quite revealing.



Figure 5 : MKT1813 0.1 μ F 400VDC Capacitor

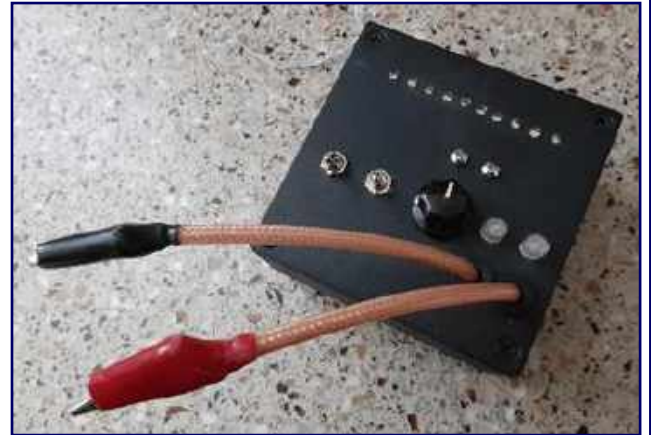


Figure 6 : Capacitor Outside Foil Indicator Device



Figure 7 : Capacitor Leakage & ESR Tester

Table 1

Device ID	Value	Test Voltage	Leakage Current	ESR
C2	0.1 μ F / 400VDC	400VDC	260 μ A	5 Ω
C14	0.1 μ F / 400VDC ¹	400 VDC	105 μ A	4.4 Ω
C17	0.1 μ F / 400VDC	400VDC	220 μ A	5 Ω
C18	0.1 μ F / 400VDC	155VDC ³	500 μ A ³	4.6 Ω
C20	0.05 μ F / 200VDC	200VDC	350 μ A	8.9 Ω
C25	0.22 μ F / 400VDC	400VDC	120 μ A	3 Ω
C26	0.022 μ F / 400VDC	300VDC ³	500 μ A ³	10 Ω
C32	0.1 μ F / 400VDC	105VDC ³	500 μ A ³	4.8 Ω
C33	0.1 μ F / 200VDC	200VDC	75 μ A	6 Ω
C34	0.1 μ F / 200VDC	200VDC	50 μ A	5.8 Ω
C35	0.1 μ F / 200VDC	140VDC ³	500 μ A ³	4.2 Ω
C40	5 μ F / 1,000VDC ²	500VDC ⁴	0 μ A ⁴	1.2 Ω
C42	0.1 μ F / 200VDC	115VDC ³	500 μ A ³	4.2 Ω

¹ – Parts list calls for 0.1 μ F / 200VDC at this location, type listed was found installed

² – Parts list calls for 5 μ F / 1,000VDC at this location, replacement was 4.7 μ F / 1,000VDC

³ – This device could not be tested at full rated voltage due to excessive (maximum scale) leakage at lower applied voltage

⁴ – This device could not be tested at its full rated voltage due to test equipment limitations; however, no leakage at all was observed at the test rig maximum leakage voltage level.

As is evident from the data in **Table 1**, all of the capacitors believed to be originals had significant leakage and had considerably higher than acceptable ESR values. As such, it was best that these capacitors were all replaced. The aggregate leakage of these capacitors was a contributor to the excessive current drawn by the 'scope on power-up.

The WO-33A Oscilloscope also uses two can-type multi-section aluminum electrolytic capacitors, each of which is a 450-volt 40 μ F/20 μ F/20 μ F/10 μ F four-section device. The replacement devices are of the same capacities, but are rated at 475 volts instead of the original 450 volts. These capacitors are used at locations C38A-D and C39A-D. C38 is in the 6BR8A pentode/triode vacuum tube vertical input amplifier circuit, while C39 is used as the incoming power filtering capacitors immediately subsequent to rectification by the 6X4 dual-diode vacuum tube. The original capacitors in these locations were unmarked as to manufacturer or date, but they were marked with a patent number and a part number (**Figure 8**). A quick Google search on the patent number showed that the patent was a 1952 (23 December 1952) application, made by Jerome J Kurland and Joseph J Kurland. Some more research showed that these two gentlemen were the co-owners of a company called Illinois Condenser Company of Chicago, Illinois. From that information, one would have to conclude that these capacitors were manufactured by the Illinois Condenser Company.

The replacement devices are the product of CE Manufacturing of Tempe, Arizona. CE Manufacturing produces a fairly extensive product range of multi-section can-type electrolytic filter capacitors, intended primarily as replacements for guitar amplifiers and older radio receivers. I have used their capacitors in several refurbishing projects over the past few years, always with great success. They are drop-in replacements as far as size, pinout, and appearance are all concerned.



Figure 8 : Original C38 Capacitor

On capacitors of this type, the individual sections are identified by a symbol (▲, ■, or ◐) adjacent to each terminal. In a four-section device, the fourth terminal is unmarked or marked with a line or dashes (--). In most cases, a legend is marked or labeled on the body of the capacitor (**Figure 9**), indicating which section carries which ratings, both as to capacity and as to voltage. The capacitor shell is the common negative side of the internal capacitors.

As with the discrete capacitors, I ran the leakage and ESR tests for these capacitors, with results shown in **Table 2** below.

Table 2

Device ID	Symbol	Value	Test Voltage	Leakage Current	ESR
C38A	--	10 μ F 450VDC	420VDC ¹	500 μ A ²	2.3 Ω
C38B	▲	20 μ F 450VDC	120VDC ¹	500 μ A ²	1.45 Ω
C38C	■	20 μ F 450VDC	190VDC ¹	500 μ A ²	1.35 Ω
C38D	◐	40 μ F 450VDC	110VDC ¹	500 μ A ²	1.0 Ω
C39A	--	10 μ F 450VDC	310VDC ¹	500 μ A ²	1.9 Ω
C39B	▲	20 μ F 450VDC	150VDC ¹	500 μ A ²	1.8 Ω
C39C	■	20 μ F 450VDC	265VDC ¹	500 μ A ²	1.3 Ω
C39D	◐	40 μ F 450VDC	175VDC ¹	500 μ A ²	0.7 Ω

¹ – This section could not be tested at its full rated voltage due to high leakage current

² – The leakage current shown is the full-scale value; actual leakage current is greater than the full-scale value and is beyond the measurement capability of the test meter used

As can be concluded from the values in the table above, the electrolytic capacitor sections all exhibited extremely high leakage. High leakage is quite typical of electrolytics, but generally not to the extent seen here. This leakage, taken together with the leakage of the film capacitors, was clearly enough to cause the excessive current draw seen in the initial power-up test.

It should be noted here that this oscilloscope, which carries serial number 1426, is not compliant with the schematic diagram provided in the assembly manual for this unit. According to the notes that apply to the schematic, units bearing serial numbers from 1001 through 2300 should have a pair of 0.01 μ F ceramic disc capacitors installed, one from each lead of the power cord to chassis ground at the power cord input to the oscilloscope. These capacitors, identified as capacitors C36 and C37, were not present.

The 'scope required replacement of its power cord because of the condition of the existing cord, as mentioned earlier. I replaced the cord with a two-prong polarized power cord, placing the LINE lead in series with the power switch, identified only as "POWER SWITCH" and ganged to the 75k Ω INTENSITY potentiometer R73. At that time, I also added the two 0.01 μ F capacitors from the power cord leads to the chassis. The capacitors I used are X1-440V/Y2-300V \pm 20% Y5V ceramic disc safety capacitors (**Figure 10**). Safety capacitors are specially designed so as to fail, when failure occurs, in the "open" state rather than failing "shorted". This is important in any capacitor placed across the power line or placed between the power line and chassis (or other) ground.

**Figure 9 : Capacitor Label**

The “X1-440V/Y2-300V” designation indicates that this capacitor can be used in the X1 circuit configuration at voltages up to 400VAC, and in the Y2 circuit configuration at voltages up to 300VAC. The X1 configuration is that in which the capacitor is placed across the power line, from one lead to the other, while the Y2 configuration is that in which the capacitor is placed in the circuit from one line cord lead or the other to the chassis or ground. In this oscilloscope, the capacitors C36 and C37 are used in the Y2 placement.

Continuing with the capacitor specifications shown for the safety capacitors, the “±20%” is the tolerance of the capacitor, or the variation from the nominal value within which the capacitor will fall. Thus, the 0.01μF capacitor will be found to be within the range of 0.008μF to 0.012μF. Finally, the “Y5V” is the designator for the dielectric used in construction of the capacitor. Disc capacitor dielectrics are assigned alphanumeric codes that describe the properties of that dielectric compound. Each of the three characters conveys a specific meaning. In this case, the “Y” indicates that the lowest temperature for which this capacitor is rated is -30°C (-22°F). The “5” indicates that the highest temperature for which this capacitor is rated is +85°C (+185°F). Finally, the “V” tells us that the amount of capacitance change over the temperature range is +22% to -82% of the nominal value. A table of the common dielectrics and their meanings can be found in the article Capacitor Markings and Identification, a part of my Basic Electronics Series, which can be found on my website at <https://www.ad2cs.com/electronics-articles-and-publications>. Please feel free to browse through the website and have a look at the many articles and publications found there.

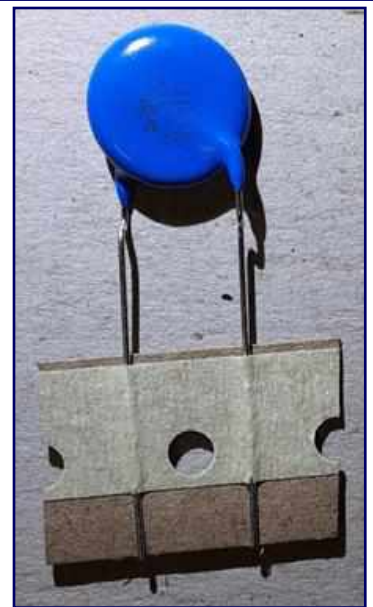


Figure 10 : 0.01μF Safety Capacitor

Once all of the capacitors had been replaced and the new line cord and its associated safety capacitors were installed, I once again connected the ‘scope to the safety trinity and powered it up. This time, the bulb of the current limiter started out bright, and then rapidly faded to a more normal dim state. This was a good sign, showing that the current draw was at or near proper limits. I then took a reading of the actual current being drawn by the oscilloscope, and found it to be a very reasonable 438mA. Upon power-on, the initial current draw peaked at 1321mA, a not unexpected start-up surge. This data was important, because it enabled me to determine a proper fuse for installation as a protective device. In addition, it was right in line with the average power consumption of 50 watts that is stated in the assembly manual’s Electrical Specifications section, calculating out at about 51.465VA when the 438mA is multiplied by the measured 117.5VAC line voltage in my shop.

This oscilloscope, like many appliances of that era, did not have a fuse installed at the time of initial build. However, I am not of a mind to trust in the circuit designs of a bygone era for overload protection, so I decided to add a fuse to the ‘scope power inlet circuit. I mounted a standard 1/4” x 1-1/4” snap-in fuse holder (**Figure 11**) to the inside of the left side (from the rear) chassis panel, wiring the fuse in series with the power switch in the LINE lead of the power cord. As to the fuse value, I opted for a 1250mA (1.25A) slow-blow fuse. This provides adequate over-current protection while allowing for the momentary current surge at start-up.



Figure 11 : Keystone 3523 Fuse Holder

After installation of the fuse and testing of the fuse circuit, I performed a thorough cleaning of all of the front panel operational switches and potentiometers, using DeoxIT Gold (G100L 100% solution) as the cleaning agent, and using cotton swabs on the switch wafer contacts. The combination of the very slightly abrasive cotton swabs and the DeoxIT Gold served well to clean the switches. Care was taken to remove any cotton strands left behind during the cleaning process.

Next up was the replacement of the damaged BNC jack on the front panel. This was a simple process that actually completed the installation of capacitor C2, as one lead of this capacitor is connected to the center terminal of the BNC jack, via one side of a 4-40pF trimmer capacitor C1. When I placed C2 into position earlier, I simply left the BNC jack end of the capacitor disconnected, pending the replacement of the BNC jack. The body of the BNC jack is directly mounted to the chassis, with no wire interconnect involved at that location.

With the repairs and cleaning completed, it was time to pay some attention to the external appearance of the unit. This turned out to be a relatively minor issue, as the blue paint which had been splattered across the front panel, the upper surface, and the left side panel all came off with some acetone on a soft cloth. The remainder of the stains and debris on the enclosure all came off with some denatured alcohol and another soft cloth, using an old toothbrush to scrub the corners and crevices. A final wipe-down of the front panel with the denatured alcohol finished the clean-up of the unit, though I still need to find a way to safely remove some tape residue without damaging the RCA logo, as can be seen in the *Figure 12* photo.



Figure 12 : Working Oscilloscope

At this point, the **RCA WO-33A Oscilloscope** is operating in accordance with its design standards (*Figure 12*), and is ready for its final conversion to its new purpose and life as a semiconductor device curve tracer. The next step is to design and construct both the power supply and the curve tracer interface board. Once they have been designed and bread-boarded, I will have the PCB's manufactured. After that, I can install them into the oscilloscope enclosure, mounting them to the chassis rails. I will write another article describing those processes as they progress to completion.

For now, I will say farewell!



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>



Volunteer Monitor Program Report - July 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 July 2023 activity report of the VM Program.

- Advisory notices were issued to Technician-class operators in Pennsylvania and Colorado for FT8 operation on 20 and 17 meters. Technicians have no data privileges on those bands.
- An advisory notice was issued to an operator in Florida for obscenities and deliberate interference on 7.205 MHz.
- An advisory notice was issued to an operator in West Virginia for operation consisting of interference and improperly wide signals on five separate dates. The operator was 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.
- An operator in Massachusetts received an advisory notice for operation too close to the band edge, 14.100.1 MHz, resulting in out-of-band operation.
- An operator in California received an advisory notice for deliberate interference and "holding" a frequency on 20 meters.
- The case of a Technician-class licensee in Tennessee continually ignoring advisory notices about FT8 operation on non-Technician frequencies is in preparation for FCC referral, which may include forfeiture (fine) or license revocation.
- Good operator commendations were issued to operators in Texas and Indiana for exemplary operation and assistance to new licensees on 7.188 MHz, and to an operator in Arkansas for displaying exceptional skills and courtesy during his June VOTA activation.

The totals for VM monitoring during June 2023 were 2,014 Hours on HF frequencies, and 1,919 Hours on VHF frequencies and above, for a total of 3,933 Hours.

Thanks to Volunteer Program Administrator Riley Hollingsworth, K4ZDH



Gloucester County Amateur Radio Club

General Membership Meeting Minutes

Wednesday, October 4, 2023



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

ATTENDANCE :

- 33 in person
- 10 via Zoom

NEW MEMBERS IN ATTENDANCE :

- **Jim Ricketts KC3TYH** from Media, PA
- **Glen Guenther KE2BUO** from Sewell, NJ

ANNOUNCEMENTS :

Tech Saturday Forums begin 9 AM at the W2MMD Clubhouse on the Saturdays following the monthly General Membership Meetings. The October 7th Tech Saturday will feature **Jim Wright N2GXJ** continuing his presentation on Antenna Modeling and Simulation. Members are encouraged to download the free 4NEC2 software and bring their laptop computers for a hands-on session.

- Tech Saturday November 4th : **Mike Thompson KG4JYA** on Radio Astronomy
- Tech Saturday December 9th : **Jon Pearce WB2MNF** on "Raspberry Pi, From Zero to Hamclock"
- Tech Saturday January 6, 2024 : **Chris Prioli AD2CS** on Repair of the Club's Yaesu Satellite Antenna Rotator

We have a number of events in October :

- October 9 : TechNet ZOOM Forum at 8 PM
- October 18 : Board of Directors Meeting at the Clubhouse
- October 25 : Dinner at the Clubhouse
- October 28 : CQWW DX Contest, 9 AM - Noon

Jonathan Pearce WB2MNF asked Club members about their current activities :

- **Marc Federici WM2Y** brought in his experimental "Fox" that was used in the last Fox Hunt.
- **Chris Prioli AD2CS** bought a new QRP CW Transceiver kit.

The minutes of the September General Membership Meeting were approved.

TREASURER : John O'Connell K2QA reported YTD Budgeted items :

- Income : \$13,988
- Expenses : \$8,457
- Net Gain : \$5,531

Use of \$5,375 is restricted leaving \$17,438 unrestricted. The Treasurer's Report was approved.

New envelopes have been printed for use in paying dues, making donations, etc. Also, the hospitality fund that is used to pay for refreshments provided by **Jeff Garth WB2ZBN** runs a monthly deficit of \$40 to \$50 so Club members are asked to chip in.

October 2023 General Membership Meeting Minutes - Continued on page 50

CLUBHOUSE REPORT : **Alan Arrison KB2AYU** noted that the Clubhouse will need to be winterized. Planning for the new VHF towers is underway and he hopes that concrete bases can be poured before the weather becomes too cold. **Jonathan Pearce WB2MNF** reported progress in ridding the Clubhouse of old gear that never will be used. Among the items available are a Ten-Tec model 544 HF transceiver with 262G speaker/power supply, a Drake 2-A receiver with a 2-BQ speaker/Q-Multiplier, and an ELDICO R-104 receiver.

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

- Tonight : **Jim Wright N2GXJ** on design of the Club's 160-meter loop antenna
- November 1st : **Mike Thompson KG4JYA** on Radio Astronomy
- December 6th : (nothing currently scheduled)
- January 3, 2024 : **Robert Welsh N3RW** on Radio Astronomy and the Radio Amateur

HAMFEST : **Jonathan Pearce WB2MNF** commented that the rain kept down attendance during the talk by **Jim Wright N2GXJ** and was so severe that it was difficult to hear at times. The talk by **ARRL Atlantic Division Director Robert Famiglio K3RF** was well attended. **Jonathan, Frank Romeo N3PUU** and **John O'Connell K2QA** took the opportunity to discuss several issues with **Robert** when he toured the W2MMD Clubhouse following the hamfest.

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

- October 7 - 8 : California QSO Party
- October 14 - 15 : Pennsylvania QSO Party
- October 21 - 22 : New York QSO Party
- October 28 - 29 : CQ WW DX SSB

PUBLIC SERVICE : **Karl Frank W2KBF** reviewed the plan for the Simulated Emergency Test (SET) that will take place on Saturday, October 14, 2023. This will be a joint exercise between ARES and the New Jersey American Red Cross (NJ-ARC) with an emphasis on use of Winlink to transmit data on Red Cross Forms. **Greg Ciraula W5DO** and **Bob Keogh KD2NEC** attended a SKYWARN training session in Mount Holly. Greg has published an article about SKYWARN in The Crosstalk and is interested in revitalizing SKYWARN locally. **Jonathan Pearce WB2MNF** noted that the Bike MS City to Shore Ride on September 30th and October 1st was supported by a number of GCARC members.

TECHNICAL COMMITTEE : **Jonathan Pearce WB2MNF** said that he and **Mike Thompson KG4JYA** are attempting to reactivate the GOES station, which receives information from weather satellites. The topic for the next GCARC TechNet ZOOM Forum will address Local DMR Operation. The ISS is transmitting SSTV on 145.800 MHz in the PD-120 format. See www.heavensabove.com or www.N2YO.com for pass times. The Raspberry Pi 5 will be available soon for approximately \$60. Also, Jon showed a project testing horizontal vs vertical antenna polarization for working satellites.

CONSTITUTION COMMITTEE : **Ron Block NR2B** said the Committee is almost finished making changes. Club members will receive the finished draft which will be discussed at the General Membership Meeting next month with the goal of taking a vote to adopt the revised draft in December.

OLD BUSINESS : None

NEW BUSINESS : The Nominating Committee has identified a slate of candidates for 2024 :

- **President : Jonathan Pearce WB2MNF**
- **Vice President : Ron Block NR2B**
- **Treasurer : John O'Connell K2QA**
- **Recording Secretary : John Zaruba Jr K2ZA**
- **Corresponding Secretary : Frank Romeo N3PUU**
- **Director : Alan Arrison KB2AYU**
- **Director : Bill Price NJ2S**
- **Trustee : Carl Wittig N2CRW**
- **Trustee : Sheldon Parker K2MEN**
- **Trustee : Leonard Rust W2LJR**

The floor was opened for nominations but none were received.

John O'Connell K2QA said the Club was \$600 over budgeted expenses. A motion to approve this increase was passed.

Jonathan Pearce WB2MNF reviewed the progress toward recovering from the tornado damage of 2 years ago and noted that we are rebuilding the stations to be better than before. Through the efforts of **Tony Starr K3TS** and **Alan Arrison KB2AYU**, used towers in repairable condition were found, saving tens of thousands of dollars in cost compared to the cost of purchasing new towers and hardware. By use of sweat equity from Club members, the HF tower with beam antenna is complete but, despite generous donations and funding of grant applications, the Club does not have sufficient funds budgeted to complete installation of the two VHF towers and it would not be wise to draw down the Club treasury below projected operating expenses for next year. The cost to install the two VHF towers is estimated to be \$12,000 and approximately \$2,800 remains earmarked for this purpose. As recommended by the Board of Directors, Jonathan asked the membership to approve an additional \$2,200 of Club funds for the VHF Tower Project at this time so that work can continue, which leaves \$7,000 to be raised. This proposal was approved by the membership. **Jim Clark KA2OSV** asked how soon the rest of the funds would be needed. Jonathan said "as soon as possible" so that we can get as much done as possible before cold weather arrives.

Frank Romeo N3PUU proposed to raise funds for the VHF towers by holding a Holiday Dinner at the **Pfeiffer Community Center** on Wednesday, November 29, 2023 from 6:30 to 9:30 PM. This is to be a family event and tickets will sell for \$32 per person. Food will be prepared and donated at no cost to the Club. Three persons, **Phyllis Martin W2PDB**, **Kathy Romeo, XYL** of **Frank Romeo N3PUU** and **XYL** of **Ron Block NR2B** have volunteered to prepare the food. Phyllis expressed concerns over the lack of refrigerator space available at the **Pfeiffer Community Center**, limited stove capacity and setup not being permitted until after 4 PM. **Jeff Garth WB2ZBN** said he will find out if an earlier set up time would be permitted.

MISCELLANEOUS : **Lee Marino N2LAM** brought radio equipment for sale and will contribute proceeds toward the VHF Tower Project.

The Business Meeting concluded at 2053 Hours and was followed by a presentation from **Jim Wright N2GXJ** on his use of antenna modeling software to design the Club's 160 meter antenna.

Karl Frank W2KBF,
GCARC Recording Secretary

Gloucester County Amateur Radio Club

Board of Directors Meeting Minutes

Wednesday, October 18, 2023



Meeting opened @ 1900 Hours by President Jonathan Pearce WB2MNF.

ATTENDANCE :

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

The minutes of the September BoD Meeting were approved.

NEW MEMBER APPLICATIONS : The following two applications were approved :

- **David Danichkin, KD2UXC** (Returning Member), General Class from Vineland, NJ
- **Mary Ciraula** from Pittsgrove, NJ (XYL of Greg Ciraula W5DO) for Associate Membership

TREASURER : John O'Connell K2QA reported :

- \$5,695.94 restricted (Committed)
- \$16,190.06 unrestricted

Total unrestricted funds at year end is projected to be \$14,135.06. The Treasurer's report was accepted.

CLUBHOUSE : Frank Romeo N3PUU is asking Club members to help dig trenches on Sunday (since it will rain on Saturday) for wires and for installing grounding rods.

THE TOWER PROJECT : Frank Romeo N3PUU has found a source that can provide rebar already bent in the manner that we require. Anchor bolts are on order at a cost of \$1,500. A quote was obtained from Fazzio for 16 to 17 cubic yards of concrete. **Bill Price NJ2S** offered to obtain a quote from L and M Concrete. We receive a donation for the towers just this evening from **Jim Clark KA2OSV**. There will be a plaque listing the calls of those who donate at least \$100 to the Tower Project, as discussed at the September BoD Meeting. A fund-raising Holiday Dinner is planned to take place at the Pfeiffer Community Center from 7 to 9:30 PM on Wednesday, November 29, 2023. The menu is set, fliers are out, and 12 tickets at a cost of \$32 each have been sold already. A minimum of 40 tickets sold is required to make this event worthwhile and we will make the November BoD meeting as the date for a GO/NOGO decision. We need to have a discussion about the prizes that have been advertised and to make this event more visible on the GCARC website. **Jeff Garth WB2ZBN** will place the Holiday Dinner flier on the front page of the November CrossTalk and the website's home page.

CONSTITUTION COMMITTEE : Ron Block NR2B sent draft 14 of the Constitution to committee members and expects to have it finalized in time for first reading at the November General Membership Meeting, with voting to adopt at the December General Membership Meeting.

October 2023 Board of Directors Meeting Minutes - Continued on page 53

PROGRAMS : Ron Block NR2B noted that the topic for the November General Membership Meeting will be on Radio Astronomy, presented by **Mike Thompson KG4JYA**. The topic for the December General Membership Meeting will be Radio Controlled Model Aircraft, presented by **Sheldon Parker K2MEN**.

EDUCATION COMMITTEE : Chris Prioli AD2CS reported that VE testing will take place the week of November 14 and that he does not yet have anyone signed up for a future round of licensing classes.

OLD BUSINESS : None

NEW BUSINESS : Jonathan Pearce WB2MNF lead a discussion on :

1. Volunteer Awards for members who provide some benefit to the Club.
2. A "Got My License - Now What?" program that would provide practical, hands-on experiences for newly licensed hams and introduce them to knowledgeable GCARC members.

It was decided that Volunteer Award Certificates would be issued quarterly and recipients would be selected by the BoD. Officers and other BoD members would not be eligible for these awards and awardees would be ineligible for a year to receive the award again. The BoD liked the idea of providing some orientation to newly licensed hams and Jonathan will get together with a group next Saturday to figure out what topics to cover. The target date for the first session for newly licensed operators is the evening of Monday, November 27th.

MISCELLANEOUS : Jim Clark KA2OSV asked if the 4H had requested our assistance in running WiFi through the fairgrounds, however **Jonathan Pearce WB2MNF** said that we do not know if they have arranged for Comcast internet access.

The BoD meeting was closed @ 2014 Hours.

Karl Frank W2KBF, GCARC Recording Secretary



Jersey String Band - Parades and Activities for the rest of 2023

By Glenn Dougherty, N2YIO

- November 18, 2023 : The Brookhaven Borough, PA Holiday Parade : 1300 Hours
- November 25, 2023 : The Swedesboro Christmas Parade : Time TBD
- November 25, 2023 : The West Paterson/Totowa/Little Falls Fire Department Parade : 1800 Hours
- December 2, 2023 : The West Cape May Christmas Parade : 1800 Hours

The band practices every Wednesday evening from 7:30-9:30PM at the Woodbury Heights Fire Department. Starting in November we will be having drill rehearsal every Sunday. Time to be announced.

Our 2024 theme is a Pirate Theme. The title hasn't been announced yet. The band is always looking for musicians. So if anyone plays or knows of anyone that plays Banjo, Accordion, Saxophone, Upright Base Fiddle, or Drums, please have them stop out to one of our rehearsals at the fire house or if you would like to help out behind the scenes as a marshal. We are in real need for marshals for New Years Day. please stop out.

CHERRY VALLEY MODEL RAILROAD CLUB

Fall Open House!

Grace Church • 7 East Maple Ave.
Merchantville, NJ 08109

Saturday, October 28. 11am-3pm
Sat. & Sun, November 18 & 19. 12-3pm

Free admission! Bring the Family.

For information, please contact: John Dunn Sr.
609-432-2871 • jdunn8888@comcast.net



Follow us on Facebook:

**Cherry Valley
Model Railroad**
for photos, videos,
events & news!



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



Name/Callsign	DXCC
Bill Grim, W0MHK	352
Edward De Fonzo, W2DE	339
Darrell Neron, AB2E	332
John Hill, W2HUV	266
Vinnie Sallustio, N4NYY	251
Ken Denson, WB2P	248
Jim Wright, N2GXJ	231
Tony Starr, K3TS	226
Sheldon Parker, K2MEN	209
Dennis Sandole, K2SE	204
Matt Wilson, K2MFW	201
Howard Marder, WA2IBZ	148
Eric Morris, N2BRJ	137
Phil Nunzio, WA3RGY	131
Rich Subers, W2RHS	124
Steve Farney, W2SEF	111
Bart Kleczynski, AC2PT	106
Chuck Capasso, WB2PGE	103
Harry Strahlendorf Jr, W3DNQ	87
Jim Clark, KA2OSV	71
Lee Marino, N2LAM	62
Updated As Of 10/21/2023	

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!)



November Birthdays

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

Dale Christman, KD2NOC
Norman Coltri, K2NRC
Bob Durham, W2RAD
Bob Harrison, WA3KOL
Bob Keogh, KD2NEC
Ernest Kraus, KD2EAV
Chuck Lanard, KD2EIB
Howard Marder, WA2IBZ
Earl Moore, KC2NCH
Miroslaw Radon, KE2AEW
David Salvatore
Cory Sickles, WA3UVV (President 1993)
Rich Subers, W2RHS
Marty Wilt, W2ILT

In Memoriam : November Birthdays

Silent Keys :

Hank Basch, N2DJN
Peter Butler, WB2B
Glenn Farnsworth, K2EHM
John Fisher Jr, K2JF (President 1988)

Woody Frantz Sr, K4HKU

- (President 1960. Charter Member)

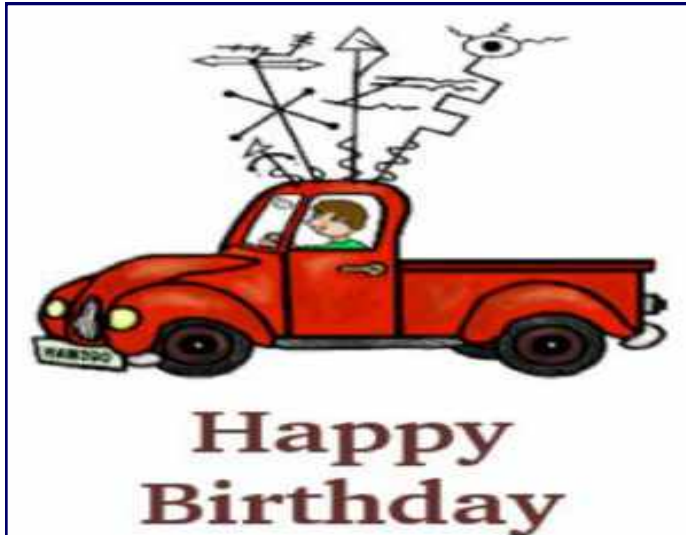
Ernest Garside, WA2TDI
Russel Glans, N2ASV (President 1983)
George Hankins, N2CFW
Charles Jenkins III, W2OGZ
Frank King, WA2WGA
Andrea Logan, KB2ZWK
Ray Martin, W2RM (President 1979)
Eleanor Mattison, N2JXS
James McDonald Sr, N2AIV
Robert Nicotera, KB2ERL

Hugh Turnbull, W3ABC

- ARRL Atlantic Division Vice Director (1980-1982)
- ARRL Atlantic Division Director (1982-1996)
- ARRL Vice President 1996
- ARRL Honorary Vice President 2000

Edward Vickner Jr, K2ZE

Paul Walton, W2YNR (President 1964)



Full Beaver Moon : November 27, 2023 @ 0416 Hours

This was the time when beavers finished preparations for winter and retreated into their lodges. In the 1760s, Captain Jonathan Carver heard this Native American term during his travels. Also in the realm of animals, Deer Rutting Moon (Dakota, Lakota) refers to the mating season. Digging/Scratching Moon is a Tlingit term for when bears dig their winter dens. Whitefish Moon (Algonquin) describes the spawning time for this fish. As cold temperatures deepen, the terms Frost Moon (Cree, Assiniboine) and Freezing Moon (Anishinaabe) were also used.

Old Farmer's Almanac - www.almanac.com

November 2023 Contest Calendar - WA7BNM Contest Calendar : www.contestcalendar.com

Phone Weekly Test	0230Z-0300Z, Nov 1
Silent Key Memorial Contest	0600Z-0859Z, Nov 1
A1Club AWT	1200Z-1300Z, Nov 1
CWops Test	1300Z-1400Z, Nov 1
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Nov 1
Mini-Test 40	1700Z-1759Z, Nov 1
Mini-Test 80	1800Z-1859Z, Nov 1
CWops Test	1900Z-2000Z, Nov 1
UKEICC 80m Contest	2000Z-2100Z, Nov 1
Walk for the Bacon QRP Contest	0000Z-0100Z, Nov 2 and 0200Z-0300Z, Nov 3
CWops Test	0300Z-0400Z, Nov 2
CWops Test	0700Z-0800Z, Nov 2
NRAU 10m Activity Contest	1800Z-1900Z, Nov 2 (CW) and 1900Z-2000Z, Nov 2 (SSB) and 2000Z-2100Z, Nov 2 (FM) and 2100Z-2200Z, Nov 2 (Dig)
SKCC Sprint Europe	2000Z-2200Z, Nov 2
NCCC FT4 Sprint	0100Z-0130Z, Nov 3
NCCC RTTY Sprint	0145Z-0215Z, Nov 3
NCCC Sprint	0230Z-0300Z, Nov 3
K1USN Slow Speed Test	2000Z-2100Z, Nov 3
YB Banggai DX Contest	0000Z-2359Z, Nov 4
IPARC Contest, CW	0600Z-1800Z, Nov 4
Ukrainian DX Contest	Cancelled for 2023
ARRL Sweepstakes Contest, CW	2100Z, Nov 4 to 0300Z, Nov 6
IPARC Contest, SSB	0600Z-1800Z, Nov 5
EANET Sprint	0800Z-1200Z, Nov 5
High Speed Club CW Contest	1400Z-1700Z, Nov 5
K1USN Slow Speed Test	0000Z-0100Z, Nov 6
ICWC Medium Speed Test	1300Z-1400Z, Nov 6
OK1WC Memorial	1630Z-1729Z, Nov 6
ICWC Medium Speed Test	1900Z-2000Z, Nov 6
RSGB 80m Autumn Series, Data	2000Z-2130Z, Nov 6
Worldwide Sideband Activity Contest	0100Z-0159Z, Nov 7
ARS Spartan Sprint	0200Z-0400Z, Nov 7
ICWC Medium Speed Test	0300Z-0400Z, Nov 7
Phone Weekly Test	0230Z-0300Z, Nov 8
A1Club AWT	1200Z-1300Z, Nov 8
CWops Test	1300Z-1400Z, Nov 8
Mini-Test 40	1700Z-1759Z, Nov 8
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Nov 8
Mini-Test 80	1800Z-1859Z, Nov 8
CWops Test	1900Z-2000Z, Nov 8
CWops Test	0300Z-0400Z, Nov 9
CWops Test	0700Z-0800Z, Nov 9
EACW Meeting	1900Z-2000Z, Nov 9
NCCC FT4 Sprint	0100Z-0130Z, Nov 10
NCCC RTTY Sprint	0145Z-0215Z, Nov 10
NCCC Sprint	0230Z-0300Z, Nov 10
K1USN Slow Speed Test	2000Z-2100Z, Nov 10
FISTS Saturday Sprint	0000Z-2359Z, Nov 11
WAE DX Contest, RTTY	0000Z, Nov 11 to 2359Z, Nov 12
PODXS 070 Club Triple Play Low Band Sprint	0000Z, Nov 11 to 2359Z, Nov 13
10-10 Int. Fall Contest, Digital	0001Z, Nov 11 to 2359Z, Nov 12
SARL VHF/UHF Analogue Contest	0300Z-0500Z, Nov 11 (6m) and 0501Z-0700Z, Nov 11 (2m) and 0701Z-0900Z, Nov 11 (70cm) and 0300Z-0500Z, Nov 12 (6m) and 0501Z-0700Z, Nov 12 (2m) and 0701Z-0900Z, Nov 12 (70cm)
JIDX Phone Contest	0700Z, Nov 11 to 1300Z, Nov 12
OK/OM DX Contest, CW	1200Z, Nov 11 to 1200Z, Nov 12
SKCC Weekend Sprintathon	1200Z, Nov 11 to 2400Z, Nov 12
CQ-WE Contest	1900Z-2300Z, Nov 11 (CW/Digital) and 0100Z-0500Z, Nov 12 (Phone) and 1900Z-2300Z, Nov 12 (Phone) and 0100Z-0500Z, Nov 13 (CW/Digital)
AWA Bruce Kelley 1929 QSO Party	2300Z, Nov 11 to 0300Z, Nov 13 and 2300Z, Nov 18 to 0300Z, Nov 20
North American SSB Sprint Contest	0000Z-0400Z, Nov 12
FIRAC HF Contest	0700Z to 1700Z, Nov 12
K1USN Slow Speed Test	0000Z-0100Z, Nov 13
4 States QRP Group Second Sunday Sprint	0100Z-0300Z, Nov 13
ICWC Medium Speed Test	1300Z-1400Z, Nov 13
OK1WC Memorial	1630Z-1729Z, Nov 13
ICWC Medium Speed Test	1900Z-2000Z, Nov 13
Worldwide Sideband Activity Contest	0100Z-0159Z, Nov 14

November 2023 Contest Calendar - Continued on page 58

November 2023 Contest Calendar - Continued from page 57

ICWC Medium Speed Test	0300Z-0400Z, Nov 14
DARC FT4 Contest	1900Z-2000Z, Nov 14
Phone Weekly Test	0230Z-0300Z, Nov 15
A1Club AWT	1200Z-1300Z, Nov 15
CWops Test	1300Z-1400Z, Nov 15
Mini-Test 40	1700Z-1759Z, Nov 15
VHF-UHF FT8 Activity Contest	1700Z-2100Z, Nov 15
Mini-Test 80	1800Z-1859Z, Nov 15
CWops Test	1900Z-2000Z, Nov 15
RSGB 80m Autumn Series, SSB	2000Z-2130Z, Nov 15
Walk for the Bacon QRP Contest	0000Z-0100Z, Nov 16 and 0200Z-0300Z, Nov 17
NAQCC CW Sprint	0130Z-0330Z, Nov 16
CWops Test	0300Z-0400Z, Nov 16
CWops Test	0700Z-0800Z, Nov 16
NTC QSO Party	1900Z-2000Z, Nov 16
NCCC FT4 Sprint	0100Z-0130Z, Nov 17
NCCC RTTY Sprint	0145Z-0215Z, Nov 17
NCCC Sprint	0230Z-0300Z, Nov 17
YO International PSK31 Contest	1600Z-2200Z, Nov 17
K1USN Slow Speed Test	2000Z-2100Z, Nov 17
SARL Field Day Contest	1000Z, Nov 18 to 1000Z, Nov 19
LZ DX Contest	1200Z, Nov 18 to 1200Z, Nov 19
All Austrian 160-Meter Contest	1600Z-2359Z, Nov 18
REF 160-Meter Contest	1700Z-2400Z, Nov 18
South American Integration Contest CW	1800Z, Nov 18 to 2100Z, Nov 19
RSGB 1.8 MHz Contest	1900Z-2300Z, Nov 18
Feld Hell Sprint	1900Z-2059Z, Nov 18
ARRL Sweepstakes Contest, SSB	2100Z, Nov 18 to 0300Z, Nov 20
FISTS Sunday Sprint	0000Z-2359Z, Nov 19
Homebrew and Oldtime Equipment Party	1300-1500Z, Nov 19 (40m) and 1500-1700Z, Nov 19 (80m)
Run for the Bacon QRP Contest	2300Z, Nov 19 to 0100Z, Nov 20
K1USN Slow Speed Test	0000Z-0100Z, Nov 20
ICWC Medium Speed Test	1300Z-1400Z, Nov 20
OK1WC Memorial	1630Z-1729Z, Nov 20
ICWC Medium Speed Test	1900Z-2000Z, Nov 20
Worldwide Sideband Activity Contest	0100Z-0159Z, Nov 21
ICWC Medium Speed Test	0300Z-0400Z, Nov 21
SKCC Sprint	0000Z-0200Z, Nov 22
Phone Weekly Test	0230Z-0300Z, Nov 22
A1Club AWT	1200Z-1300Z, Nov 22
CWops Test	1300Z-1400Z, Nov 22
Mini-Test 40	1700Z-1759Z, Nov 22
Mini-Test 80	1800Z-1859Z, Nov 22
CWops Test	1900Z-2000Z, Nov 22
CWops Test	0300Z-0400Z, Nov 23
CWops Test	0700Z-0800Z, Nov 23
RSGB 80m Autumn Series, CW	2000Z-2130Z, Nov 23
NCCC FT4 Sprint	0100Z-0130Z, Nov 24
NCCC RTTY Sprint	0145Z-0215Z, Nov 24
NCCC Sprint	0230Z-0300Z, Nov 24
K1USN Slow Speed Test	2000Z-2100Z, Nov 24
ARRL EME Contest	0000Z, Nov 25 to 2359Z, Nov 26
CQ Worldwide DX Contest, CW	0000Z, Nov 25 to 2400Z, Nov 26
Ham Spirit Contest, SSB	0600Z, Nov 25 to 0559Z, Nov 26
K1USN Slow Speed Test	0000Z-0100Z, Nov 27
ICWC Medium Speed Test	1300Z-1400Z, Nov 27
QCX Challenge	1300Z-1400Z, Nov 27
OK1WC Memorial	1630Z-1729Z, Nov 27
QCX Challenge	1900Z-2000Z, Nov 27
ICWC Medium Speed Test	1900Z-2000Z, Nov 27
RSGB FT4 Contest	2000Z-2130Z, Nov 27
Worldwide Sideband Activity Contest	0100Z-0159Z, Nov 28
ICWC Medium Speed Test	0300Z-0400Z, Nov 28
QCX Challenge	0300Z-0400Z, Nov 28
Phone Weekly Test	0230Z-0300Z, Nov 29
A1Club AWT	1200Z-1300Z, Nov 29
CWops Test	1300Z-1400Z, Nov 29
Mini-Test 40	1700Z-1759Z, Nov 29
Mini-Test 80	1800Z-1859Z, Nov 29
CWops Test	1900Z-2000Z, Nov 29
UKEICC 80m Contest	2000Z-2100Z, Nov 29
CWops Test	0300Z-0400Z, Nov 30
CWops Test	0700Z-0800Z, Nov 30

2023 Club Committees

Standing Committees

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

Committee Chairs

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

Activity Committees

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

Committee Chairs

GCARC Board of Directors
 Jeff Garth, WB2ZBN
 Tony Starr, K3TS
Open Chair
Open Chair
 Jim Wright, N2GXJ
 Bob Keogh, KD2NEC
Frank Romeo, N3PUU
 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 Forum

2nd Monday of Every Month @ 1930 Hours

GCARC HelpNet ZOOM Meeting

Sporadic Mondays @ 1930 Hours

Tuesday AfterNoon Net

Every Tuesday @ 1200 Hours

Tuesday & Thursday Night 10M Net

Every Tuesday & Thursday @ 1930 Hours

Tune in on 28.465 MHz or 28.475 MHz

Thursday Night Rag Chew Net

Every Thursday @ 2000 Hours

Meeting Calendar

General Membership Meeting
Wednesday, November 1, 2023
1930 Hours

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

Board of Directors Meeting
Wednesday, November 15, 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 Badge Man”**

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

Question Pool Answers : E4B01:B; E4B02:A; E4B03:C; E4B04:A; E4B05:B; E4B06:D; E4B07:A; E4B08:C; E4B09:D; E4B10:B; E4B11:D