



# THE HAMSTER

August 2022

*Official Monthly Newsletter of the Rochester Amateur Radio Club*

Editor: G. Mark Kelm (K0GMK) [k0gmk2016@gmail.com](mailto:k0gmk2016@gmail.com)

*We remain in the midst in severe weather season and it is important that all ARES and SkyWarn personnel keep informed during potential forecasted outbreaks by the NWS by keeping your mobile or HT radios tuned to the designated EOC frequency. As of this publication the 147.255 PL tone 100 repeater is the primary SkyWarn repeater. The 146.820 PL tone 100 repeater is backup.*

## EDITOR'S NOTES

- ♦ **Plan to attend the 2022 RARC Picnic** on August 9th beginning at 6:30 PM at the Marion KOA campground. See the details on **page 3**.
- ♦ Check out **Melissa's (KE0WNH)** report on her trip to the **ARRL's Teachers Institute** beginning on **page 4**.
- ♦ **Bob (KE0EXE)** reports on his continuing saga of the **refurbished Mag Loop Antenna**. Check out his excellent article beginning on **page 11**.
- ♦ **August marks the kickoff of the fall contesting season**. Be sure to check out **Fred's (K4IU)** comprehensive August contesting report beginning on **page 13**.
- ♦ The **RARC Technical Committee** has a comprehensive report of meeting discussion at the July meeting. Check out **Eric's (KF0S)** report beginning on **page 17** for all the details.
- ♦ See you all at the picnic. Remember, **no ZOOM broadcast or meeting at the EOC for August**.
- ♦ Check out **RARC Buy & Sell** on **page 19**.



# PRESIDENT'S MESSAGE

Steve (W0STV) - President [w0stv@yahoo.com](mailto:w0stv@yahoo.com)



The last minute cancelation to meet the new Rochester EOC director Kyle Mirehouse for the July program, has been tentatively rescheduled for the September RARC meeting with his staff.

**A reminder there will not be a ZOOM or Fire Station #2 meeting in August. The club picnic will be held on August 9th starting at 6:30 PM at the Marion KOA.** Follow Hwy 52 south past the I-90 east turn off, heading toward Chatfield. Talk-in is on the 147.255 PL-100 repeater. If you have things to sell, trade or give away, please bring them. Remember a chair for yourself. See details on page 3.

Our **Vice President, Melissa (KE0WNH)** was at **NASA** earlier this month, and is now reporting from **ARRL** Train The Teacher on Facebook. We look forward to hearing her feed back on these learning trips.

The **D-star repeater** is currently **off the air and life support is not an option.** We plan to replace it and the antenna, but are waiting for Icom to put it on sale again as they did in 2021. We may save \$500 to \$600 dollars. It will be replaced ASAP, having both digital and analog 440 frequencies available again

The **Central States VHF conference** was held in Lacrosse July 21, 22 and 23rd after prior years covid restrictions. Attendance was good all three days, Mel (KC0P/R), Tim (K0TB), and myself, Steve (W0STV) attending from Rochester. This was a conference focused on VHF and UHF radios, signals and antennas. There were meetings and break out training sessions on transmit and receive signals using the weather, antenna positioning (max elevation is not always best), and area land topography. If you have or plan to attend a conference or other club meetings, let us know what you came away with on the area nets and using the [rarchams@groups.io](mailto:rarchams@groups.io) email reflector. The [RARC email reflector](#), is available to all hams. Go to [RARCHAMS.ORG](http://RARCHAMS.ORG) for sign up information. 73



# MEETING PROGRAMS

Melissa (KE0WNH) - Vice President

## August 2022 RARC Picnic

**Beginning at 6:30 PM, Tuesday, August 9, 2022**

**Marion KOA Campground**

***Follow Hwy. 52 south past the I-90 east turn off, heading toward Chatfield. Once in Marion you will see the KOA campground on the left side of the highway. Take a left turn in Marion on 54th St. SE and then the next left to enter the KOA campground area. You will then see the RARC picnic setup on your left.***

**Talk-in is on the 147.255 MHz PL-100 repeater.**

***If you have items to sell, trade or give away, please bring them. Remember bring a chair and beverage for yourself. RARC will supply hamburgers, hotdogs and salad.***



# VICE PRESIDENT'S REPORT

Melissa (KE0WNH) - Vice President [melissa.ke0wnh@gmail.com](mailto:melissa.ke0wnh@gmail.com)

## My adventures at the [ARRL Teacher Institute 1: Introduction to Wireless Technology](#)

### When? Where?

In phase two of my personal "Summer of the Nerd" quest, I attended the ARRL Teacher's Institute 1 (T1): Introduction to Wireless Technology held at DARA (Dayton Amateur Radio Association) club house July 18-22. I continue to be impressed by how welcoming and supportive ham radio clubs are to new people. And how excited they are to show off their cool toys!

### Who was there?

**A group of 11 educators** with various backgrounds (I teach physics, we had a college professor that educates teachers about STEM opportunities, a Fargo latin teacher that is starting a school electronics/radio club, a husband/wife team that are school science teacher / librarian. I thought she was interesting and she hopes to connect students with books both fictional and non-fictional for K-9 grades. If you know of any fiction books that involves radio or electronics, I'd love to send her some titles. We had experienced science and new science teachers and a couple firemen that teach or work in schools, too. All shared a love of radio and technology and all want to share that with youth and help them grow in radio.

**Our Host: Rob Lunsford, KB8UEY**, was our daily host at DARA and was quick to have coffee and donuts for us. He gave us tours and was a good resource for questions that popped up.

**Our Instructor: Larry Kendall** from California was our ARRL instructor and was a fabulous resource as a newly retired school teacher. A funny man, Larry patiently walked newbies through the material and challenged experienced participants equally.



# VICE PRESIDENT'S REPORT

Melissa (KE0WNH) - Vice President [melissa.ke0wnh@gmail.com](mailto:melissa.ke0wnh@gmail.com)

## What did we learn?

Because this was an "Introduction to Wireless Technology", we got to do a little knowledge & skill development in a number of areas. We touched on basic electronic components, built simple circuits on breadboards, wrote some code for ESP32's to activate RF chip readers, reviewed digital basics like binary vs. hexadecimal and had fun practicing these skills. I'm back to being a fair hand at soldering - functional, but not dazzling yet. We soldered some simple radios and tested them out. Made capacitors out of aluminum foil wax paper and pop cans. Did some fox hunting with a variety of antennas, attenuators and "sniffers". We even got to listen to radio operators communicating through a satellite. It was a bit of a pileup, so we didn't make a connection ourselves. But someone in SE Minnesota was sure popular! (I don't recall the call sign, sorry). Next time I will record the contact to "hear" the call signs afterwards, it was fast and furious!

As a side note, the equipment we used: PICO digital oscillators, ESP32 computers, RFID readers, and more we got to keep. They are also sending us 7 or 8 books from the ARRL store. This program really helped set up a teacher for success.

## What's next for me?

I want to get my gear set up for running some fox hunts with my classes and gradually more challenging hunts with the newly formed school ham radio club. I see this as a fun way to get kids using radios, having fun, and drawing them deeper into the sport of radio without their needing a license yet, since they are just receiving the signals. I've ordered a couple foxes from Byonics.

I've also ordered an antenna from GigaParts like we used for the satellite acquisition. Yes, I know I could have built one, and I'll need to build some fox hunting antennas, but sometimes you just need to get "on the air".



# VICE PRESIDENT'S REPORT

Melissa (KE0WNH) - Vice President [melissa.ke0wnh@gmail.com](mailto:melissa.ke0wnh@gmail.com)

Because of my class sizes, I'd like to get 16 radio receiver/antenna set-ups so students can fox hunt in pairs. I also would like more foxes. Right now, I have 3 coming in. Baby steps.

I can't wait to share this experience with my students! I'm really hoping to inspire some to get their license. **Cathy Nordstrom** is already adding to my school radio "library" with some new books for students to study. (Thank you, Cathy!)

This **ARRL Teacher's Institute** was fabulous and I recommend it for any adult working with youth in radio - clubs, schools, scouts, etc. So if you have someone in mind, suggest it to them. ARRL has donations specifically to help with accommodations and costs.

Next year I will apply to go to **ARRL Teacher's Institute 2 (T2): Remote Sensing and Data Analysis**. T2 requires a ham license which isn't required for T1. However, the only attendee without her license took the test and passed! I haven't had time to prepare for the extra, but I tried it anyway. Maybe next year I'll pass?

Always looking for the next challenge.





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**Pop Can Capacitors with Larry and Melissa**



**Pop Can Capacitors with Larry and Melissa**





# VICE PRESIDENT'S REPORT

Melissa (KE0WNH) - Vice President [melissa.ke0wnh@gmail.com](mailto:melissa.ke0wnh@gmail.com)



**DARA Ham Shack Outside Tour with Rob**



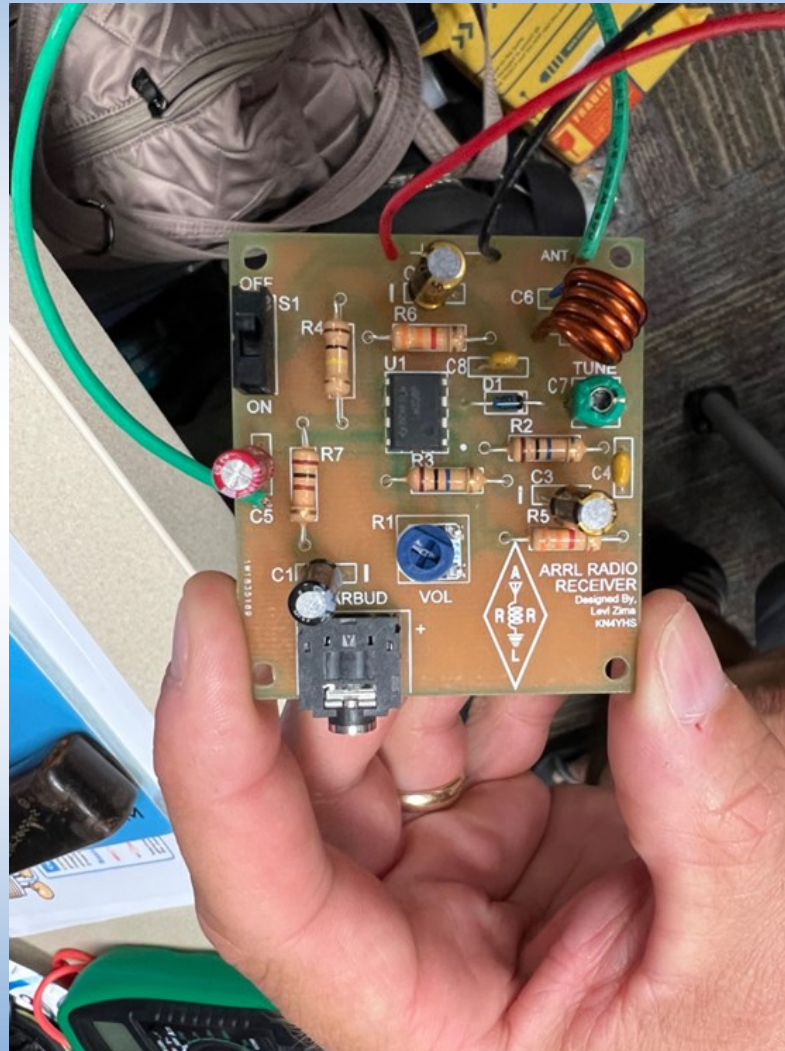
**Foxhunting with ARRL buddy, Martha**





# VICE PRESIDENT'S REPORT

Melissa (KE0WNH) - Vice President [melissa.ke0wnh@gmail.com](mailto:melissa.ke0wnh@gmail.com)



**Soldered Radio Kit - it even works!**



# ARES

## AMATEUR RADIO EMERGENCY SERVICE

Steve (WØSTV) [w0stv@yahoo.com](mailto:w0stv@yahoo.com)  
Olmsted County ARES-EC

**Olmsted and Fillmore ARES members met at the Olmsted EOC garage on July 16th** to certify in setup, operating, and take down of the South East

Minnesota portable Em-Comm aluminum tower trailer for EOC, ARES, and Red Cross use. The tower has VHF ham antennas on board along with the other state used frequencies.

**The next ARES meeting will be on August 13th starting at 9:00 AM at Pat Cahills farm.** The RARC's field day trailer will be gone through to organize, omit, sell, or discard equipment due to none use, age, or need. If you are interested in possible deals, plan to attend. We will sell one of the military towers at this event. The talk in frequency is 147.255 PI-100 repeater.

**The donated desk top computer** was gone through by **Colin (AA0CN)**. He installed a new static drive in the computer. Plans are to stage it in the ARES trailer for digital radio communications and event documentation.

**The ARES trailer has issues with the 12 volt battery back up system.** The generator operates everything OK but the systems goes dead with out the generator. This will be fixed ASAP.

**There is one more public service event scheduled for 2022.** The Scheel's Healthy Human Race is on August 27th. See the RARC public service sign up sheet at "rarchams.org" web site to help with the event communications.

**If you are interested in joining the Olmsted ARES** group please contact Steve/WØSTV at [w0stv@yahoo.com](mailto:w0stv@yahoo.com).or call 254-3993.

The more you know.





# HAMSTER HINTS

Bob (KEØEXE) [gettuit@charter.net](mailto:gettuit@charter.net)

**In May's article, I wrote about the mag-loop I'd refurbished.** A little more on that might be of interest (first, the positive)...

To increase efficiency, I had eliminated the extraneous (to my purposes) metal mast and mast-bracket. I also used nylon nuts and threaded rods, in place of steel, to pull-together my custom, plywood box-halves. I had only glued most of the plywood joints, and had employed a mere four, steel screws (needed for strength), to reinforce the rods, yet still allow dismantling. All wood was sealed with a coat of poly.

Unfortunately, the antenna is not a great performer, IMHO--not what I thought it would be, based on what I've read. Coincidentally, though, about the same week that I tested it, our radio club's guest-presenter was John Portune, W6NBC, who shared from his many years of experimenting with mag-loops built for similar bands. I had heard or read about--or even thought-up on my own--most of the same ideas that were in his presentation, but, what can I say?: sometimes perceived *failure* is the only way to *really* get the points across! I am not saying the "Isoloop" wasn't a good antenna in its day--many still swear by it!--but only that I had perhaps expected too much of it, in my application. Still, it appears that its decades-old design can be improved-upon, significantly. This primarily has to do with the ratio of the conductor's cross-section perimeter (its geometric "skin" parameter) to its much larger, loop diameter. That ratio is still too small for my broader-banded aspiration. The coupling might also be improved. I have in mind ideas for how to rework these, but it will be a while before this happens. Until then, dream with me, and someday, perhaps, we'll revisit it as an incarnation that I consider "usable."

Here's a new photo (on next page), for a refresh...





## HAMSTER HINTS





# CONTEST CORNER

Fred (K4IU) [k4iu@me.com](mailto:k4iu@me.com)

**Solar Cycle 25** continues to unveil its potential in July. This should be exciting news to hams who have not been around long enough to appreciate the excitement of extraordinary HF propagation. The peak for the last Cycle occurred in 2012! Because of the rising sunspot numbers there were some great openings on both 6 and 10 meters in July. New hams with technician licenses can join in the HF fun and work all kinds of DX in addition to contest activities on these bands. Best of all, you don't need a contest super station to get started. More on this later.

**August is like the preseason for the contest year. Here's a brief summary of what's ahead:**

**Aug 6-7 [NAQP CW QSO party](#)**, If you are new to CW contesting or want to put your new CW Academy (CWA) skills to work then this 12 hour activity is for you. The exchange is name and state.

**Aug 13-14 [Worked All Europe \(WAE\) CW Contest](#)**, Okay, so this CW contest is at another level. It has an interesting way to score besides just giving out a serial number and report. Non European stations can exchange with Europeans a report from their log called a QTC for additional points. It's like handling traffic. You'll want to read the rules and find a logging program that can automate the QTCs twist such as N1MM.

**Aug 20-21 [SARTG RTTY contest](#)**, This contest is sponsored by the Scandinavian amateur teleprinter group. The exchange is a signal report and QSO number.



**Aug 27-28** World [Wide Digi DX contest](#), Even if you have just a few hours, this can be a fun event and really give you an idea of how your station and antennas are performing. It's perfect for HOA hams who want to contest but have compromise antennas.

There's lots more in August to include the [Hawaii QSO party](#) (HQP). You can see them all on the [DL2NBY](#) and [WA7BNM](#) calendars.

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Are you a new or ham wondering if there is more to ham radio than your HT and the local repeaters...there is! Technicians, you have phone privileges on 10 meters from 28.300-28.500. You also can operate digital modes like RTTY, PSK and FT8/4. The RARC has a regular SSB 10 meter net on Tuesdays (except meeting night) on 28.325 to help you get started and check out your gear and antennas. What do you need?

A new or used HF transceiver is a good start. Most of these will run 100 watts. On 10 meters this might be considered high power! For an antenna if you have 16 feet, and 6 inches of wire then that will be close to resonant on 28.300 MHz That's about 8 feet, 3 inches per leg and should fit into very confined spaces. Just hook it up to your radio with coax. An antenna tuner (ATU) might be helpful. There are a lot of videos on building a 10 meter dipole. This [one by Randy, K7AGE](#), is 11 minutes long.

There are several "regulars" on the ten-meter net who can help. You can also check into the **RARC "Elmer's net"** at 8 pm Mondays, 148.82 repeater (PL tone 100), to ask questions.

73 for now

Fred K4IU





# 125 LIVE RADIO PROJECT

Dave Naatz (K0VH) [dcnaatz@gmail.com](mailto:dcnaatz@gmail.com)

**Steve (W0STV)** brought his vertical antenna base up on the roof of the building. He is looking at a possible **no-radial vertical** the club owns but the condition is TBD.

We also **met with the 125 Live staff** on where to install the radios in their computer lab. We have the RARC HF and VHF transceivers ready to be installed.

The 125 Live staff is planning to **add a small upper cabinet** addition that can have vents and a lock to house the equipment.

There is not a direct drop from the roof to the computer lab, so we plan to use **two high quality RG8x (double shielded) coax cables** to pull through the roof conduit this summer. The goal of the project is to be operational by early fall this year.

**Dave Naatz** (K0VH)





# JM ROCKET RADIO CLUB

**Melissa (KE0WNH) - Mentor** [melissa.ke0wnh@gmail.com](mailto:melissa.ke0wnh@gmail.com)

**I'm happy to announce the inception of the JM Rocket Radio Club!** As the home of the JM Rockets, it seemed a fitting name. The 3 students that have been the core group through the year have accepted with great enthusiasm the opportunity to start the radio club officially. Next school year, we will be meeting after school, which opens club participation to all students at JM and potentially other high schools. They have already elected officers for this year : Roarke C. is President, Manal A. Is secretary, and Megan T. Is Vice President / All other offices needed.

We have a radio room ready for being set up, so first thing for next school year is to get the antenna hung that was planned pre-covid. For now we are using my CompacTenna R7 which works well, but not ideal for radiation. This room that they were helping me clean up again has locking doors for securing equipment from unlicensed use.

In preparation for this continued interest, I'm going to Dayton, Ohio with ARRL this summer for a teacher program the third week of July. Stay tuned!



# TECHNICAL COMMITTEE

Eric (KF0S) [kf0s@yahoo.com](mailto:kf0s@yahoo.com)



## Notes from the July Tech Committee meeting:

- **125 Live:**

- 300' of coax (LMR-240). 10 or 12 connectors (PL-259).
- We aren't on their current priority.
- Do we have a connector crimping tool?
- We have a Comet-3 in ARES trailer. Move to 125 Live? We replace trailer antenna with Comet et.
- Need to talk with ARES (Kyle).
- Discussion of radiation elevation in a depression

- **Military Mast:**

- Ham expressed interest in purchasing one
- Problem with a guide wheel. One of the rubber bushings is missing.
- One of the tubes has a small diagonal crease. Barely there.
- Toronto website has parts.
- We still have one good one in the trailer if needed.



# TECHNICAL COMMITTEE

Eric (KF0S) [kf0s@yahoo.com](mailto:kf0s@yahoo.com)

- **D-Star repeater:**
  - Out of service and needs to be replaced, see President's message on Page 2.
- **Drone:**
  - Not being used and there is a proposal to sell.
  - Get drone specifics and confirm used pricing.
- **Black trailer at Pat's**
  - Update with shelves/brackets for better vertical storage. Would need to verify shelf loading. Freestanding secured to wall?
  - Possible inventory during Aug/Sept ARES meeting. Check with Pat on dates.
- **ARES Trailer updates:**
  - Drive on antenna stands and 6' pole sections to 24' or 12'x2 (done).
  - Table update.
  - Dispose of TV (Plasma) - Check with Ryan.
- **Field Day** - Scott Wright recommendation of band pass filter purchase for Icom 9100s.
- We should look at replacing the laptops. They are getting a little old.
- Fred mentioned a Signalink for digital for Field Day is important as well.
- Look into presenting at the drone sale proposal at the next meeting in September.



## RARC BUY OR SELL



I'm **looking for a Heathkit DX35 or 40** to go with it. Do any of you have one squirreled away some where? If so, please email me at the address below.

Niel (W0VLZ) - [nielwiegand@aggienetwork.com](mailto:nielwiegand@aggienetwork.com)

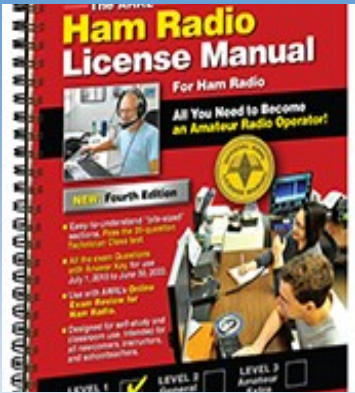


**For Sale: KB9VBR - Copper J-Pole for 2 meters.** Well made-heavy duty. Never mounted or used. Can't use it with the mount I have on the house currently. \$40 Taylor (WB0RSJ) - [tbbauman@gmail.com](mailto:tbbauman@gmail.com)



I'm still **looking for a Johnson 250-39 T/R Switch in great condition.** Bob (KE0EXE) - [gettuit@charter.net](mailto:gettuit@charter.net)

*If you have any Ham related items that you want to sell or are looking for locally, email the Hamster at [RARC Buy or Sell](#).*



# EDUCATION

**Bill (KØRGR)** [k0rgr@arrl.net](mailto:k0rgr@arrl.net)

**Dave (KØVH)** [dcnaatz@gmail.com](mailto:dcnaatz@gmail.com)

A **RARC Education Committee** has been convened and continues with regular meetings to assist in:

- ♦ Technician student class content development (online and/or in-person).
- ♦ Development of a program for 125 Live
- ♦ Development of High School radio club activities.
- ♦ Assist Melissa (KE0WNH) John Marshall HS educator with the HS program.

## **Members of the RARC Education Committee are:**

- ♦ Melissa (KE0WNH)
  - ♦ Dave (K0VH)
- ♦ Steve (W0STV)
- ♦ Bob (KE0EXE)
- ♦ Ben (KU0HN)
- ♦ Bill (K0RGR)
- ♦ Colin (AA0CN)
- ♦ Mark (K0GMK)





# PARKS ON THE AIR ® (POTA)

Mark (K0GMK) [k0gmk2016@gmail.com](mailto:k0gmk2016@gmail.com) Hamster Editor

Perhaps you've heard talk on the repeaters or on one of the Nets about [Parks On The Air \(POTA\)](#). You might be interested and think that it could be **fun to operate your rig and antenna remotely in a beautiful outdoor setting.**

In a nutshell it's all about operating in a state or national park, state trail, national monument, historical location or battlefield and making at least 10 QSOs to "activate" the entity. It's as simple as that, but there are a few [rules](#).

Take a look at the [Parks On The Air](#) website, view the [FAQ page](#), the [Help/Getting Started](#) section and perhaps view some of the getting started [videos](#) by seasoned POTA operators. If you are interested in becoming an Activator fill out the [sign-up](#) to become a member and get started.



**Did you know that there is a [POTA entity in Rochester](#)?**

Take a look at the [map of entities](#) to see the wealth of entities to activate close to Rochester as well.

POTA is a great way to enjoy Ham radio and enjoy the bonus of being outdoors!

**You won't regret the experience.**



# CLUB FUNDRAISER

SMILE.AMAZON.COM

**RARC is always in need of funds to operate.** We have insurance costs, we have cost involved with running 3 repeaters and putting on a field day. Dues cover most of it but we need approximately 100 paid members to break even each year.

RARC now has another way to help bring funds to the club and it's painless.

[Smile Amazon](https://smile.amazon.com) is a simple and automatic way to [support the RARC](https://smile.amazon.com) every time you shop at [Amazon.com](https://amazon.com) at **no cost to you**. Tens of millions of products are eligible for donations.

Simply follow the [link](#) below and every time you purchase an eligible item the RARC will receive .5% of your purchase. There is no cost involved for you!

So, please click on the [picture](#) below, share it with others in your family and your friends. It will help out the RARC:





- ♦ Are you a member of the [ARRL](#)?
- ♦ Are you new to Ham Radio?
- ♦ Have you been licensed for a while but not active?
- ♦ Are you active but never explored the [ARRL](#)?

**John (NØHZN)** and **Fred (K4IU)** decided it was time to let other Hams know about the ARRL. Of course, you may think, "it's just another group that wants my money because I'm a Ham." But there is more to it than that, they truly want to grow the hobby.

So here are two links you can explore to see what the [ARRL](#) offers Hams. Take a look:

- ♦ [ARRL Benefits](#)
- ♦ [The Value of ARRL Membership](#)



# RARC WEEKLY NETS

- ♦ **Monday 8 p.m.** Elmer's Net 146.820 repeater (PL Tone 100)
- ♦ **Tuesday 7 p.m.** (except on Club Meeting Nights) RARC 10 Meter Net meets on 28.325 Mhz. USB. The Net is cancelled without notice if lightning in the area or SkyWarn activation.
- ♦ **Thursday 6:30 p.m.** 147.255 Repeater. The first Net of each month is a voice net, and it's the SE MN District ARES Digital Net. The other weeks, it is an informal digital net, using the digital protocol announced for the week on the Net and NBEMS.

*Most of us use [FLDIGI](#) and the rest of the [NBEMS](#) suite of programs, all of which are free. MT63 is a very forgiving mode. You can do MT63 on VHF without a soundcard modem - 'acoustic coupling' works fine. meaning you can hold your HT up to the mic on your computer and copy it very well and do the reverse to transmit.*

- ♦ **Thursday 8 p.m.** HF Digital Net, 3583.5 kHz, Olivia 8/500
- ♦ **Daily M-F about 11:30 a.m.** - Repeater Of The Week - Very Informal Morning Net - If you show up and there is no net control, become one! The object of this net is to encourage more on-air activity.
- ♦ **Saturday 8:30 p.m.** Iowa D-Star Net on RARC D-Star Reflector XLS632A
- ♦ **Sunday 7:30 p.m.** Minnesota D-Star Net on RARC D-Star Reflector XLS632A
- ♦ **Sunday 8:30 p.m.** Dodge County ARES Net on the 147.255 Repeater at 8:30 p.m.
- ♦ **Sunday 9:00 p.m.** RARC/ARES Net 147.255 Repeater (PL tone 100)

***147.255 Repeater is primary SkyWarn and 146.820 is backup.***



# CONTACT RARC



- ♦ **WEB:** <http://www.rarchams.org/>
- ♦ **Mail:** RARC , P.O. Box 1, Rochester, MN 55903
- ♦ **Email:** If not a member, [register](#) and a Moderator will respond shortly
- ♦ **Weekly Net:** Sundays at 9:00 PM      147.255 repeater Odd numbered Sundays  
146.820 repeater Even Numbered Sundays
- ♦ **Facebook:** [Rochester Amateur Radio Club](#)

*If you haven't done so already, **please** [register](#) for the **RARC groups.io email reflector** so you can keep abreast of club activities, official club notices and of course the monthly **HAMSTER** mailing. Click on [register](#) and you will be taken to the RARC registration page. Once you have [registered](#) go to your account settings and choose how you would like to receive email from the club.*

**Newsletter articles or questions:** Mark (KØGMK) - Editor [k0gmk2016@gmail.com](mailto:k0gmk2016@gmail.com)