



THE HAMSTER

November 2024

Official Monthly Newsletter of the *Rochester Amateur Radio Club*

HAPPY THANKSGIVING!





THE HAMSTER

November 2024

2024 Rochester Amateur Radio Club Officers

President: [Pat Hagge](#) (KEOWWG)
Vice President: [Dan Stroh](#) (NOSPN)
Treasurer: [George Hopkins](#) (NOUM)
Secretary: [Collin Howe](#) (AA0CN)
Member-at-large: [Steve Wiebke](#) (W0STV)
Trustee: [Gil Baron](#) (W0MN)

The Hamster is the official monthly newsletter publication of the **Rochester (MN) Amateur Radio Club (RARC)**. The Hamster is distributed via email free to members and non-members via rarchams@groups.io and is also available online in the club website: www.rarchams.org.

Rochester Amateur Radio Club was founded in 1932 and has been an **ARRL** (Amateur Radio Relay League) Affiliated club for 50+ years.

All members are invited to [contact the Hamster](#) with comments and/or questions. Additionally, members are encouraged to participate by submitting story ideas or content to the Hamster.

The Hamster has an *outstanding* regular staff of contributors and you are invited to join the team!

[G. Mark Kelm](#) (K0GMK) - Editor

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RARC President's Message

Pat Hagge (KE0WWG) - President

We are nearing the end of 2024 and my first year as Club President. It has been something new for me and I've enjoyed being able to do something to give back. **Our officers Danny Stroh (Vice President), George Hopkins (Treasurer), Collin Howe (Secretary), and Steve Wiebke (Member-at-large) are willing to reprise their roles into 2025.** I appreciate all the support this group has been able to provide to our club!

At the November meeting, we will discuss the Christmas party that we will again hold in January. I will look for some suggestions from the club members.

For upcoming meetings, we are always looking for program ideas. Many times we get club members to present, but if there are other interesting topics that may be of interest from an outside party, please let myself or Danny Stroh know – I know this will be very helpful! I'm open to ham-adjacent topics as well, as there are other things out there that may open our eyes to new ideas, products, or technologies.

73

Pat Hagge, KE0WWG

pat@theewok.net

507.461.6008

Editor's Note: *Thank you to the 2024 RARC officers for their service to the club and continued spirit of volunteerism by continuing to serve the RARC membership in 2025. The Hamster salutes you!*

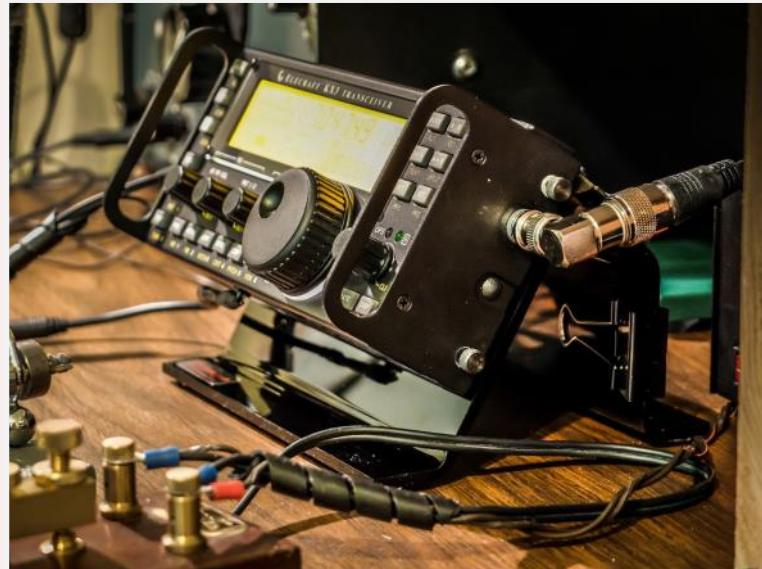


RARC Training Program

Dan Stroh (N0SPN) - Vice-President

November 12th 2024 @ 6:30 PM

Operating QRP



Presented By Taylor Bauman (WB0RSJ)



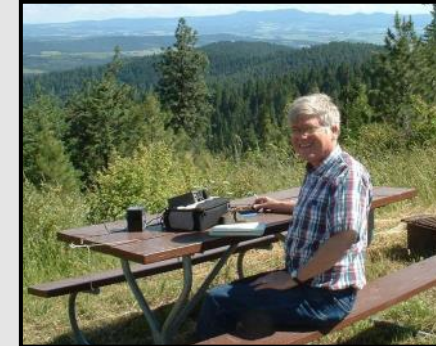
RARC Member Shack & Mobile Operating Station Photos



Niel (W0VLZ) SOTA Activation on Steptoe Butte near Spokane, WA.



W0VLZ's National NC183 with a Heathkit DX40, a 1950s novice station, and an Elecraft KX3 with PX3 panadapter, a current SDR station.



W0VLZ "QRP Station" at McCroskey State Park in northern Idaho a few years ago.



Pat (KE0WWG) POTA operating at his family's lake cottage.



Pat's (KE0WWG) mobile POTA operating station in the back of his vehicle.



Pat (KE0WWG) operating 2 meter mobile.



RARC Member Shack & Mobile Operating Photos



Bill (KE0ZIK) shack rig and peripherals all **for sale**. Contact Bill @ (507)990-3631 for details.



Lynn's (WB0U) mobile shack on wheels.



Lynn's (WB0U) mobile shack operating station.



Gil's (W0MN) shack.



Dave's (K0VH) shack.



Dave's (K0VH) awards (small subset) and real QSL cards (500 more on file).



RARC Member Shack & Mobile Operating Photos



Mark's (K0GMK) HF Shack.



Mark's (K0GMK) QRP station in his shack.



Mark's (K0GMK) mobile patio operating location with portable Dipole antenna

The Hamster plans to continue to this section each month. **Please feel free to submit your shack/mobile operating location photos and brief description** either via rarchams@groups.io or directly via email to the [Hamster editor](#). Please feel free to contact the Hamster at the [Hamster editor email address](#) if you have any questions, concerns or comments.



ELMERING TALES

By Lynn Landin (WBOU)

A good friend is getting back into amateur radio and was having problems lowering the SWR on a 20 meter ham stick on his camper van. He was using a Rig Expert antenna analyzer and couldn't get the SWR to change as he adjusted the ham stick. It was mounted to a ladder on the rear of the van. I suggested trying a mag mount on the roof with the result being no difference. No signals, except S9 birdies, were received on 20 meters, not even FT8.

He has an extensive solar panel/charge controller installed in his van that I suspected of causing the birdies. I tried listening for his transmitted signal, his QTH is in Plano, Texas, but nothing was heard.

He found the problem. He had two coax runs exiting the van. The ham stick was on the other coax run. There was nothing connected to the end of the coax attached to his rig.

This reminded me of a disabled neighbor who paid to have an Icom IC-7000 "professionally installed" in his car. The setup worked great on VHF/UHF but no signals, not even WWV, were received on HF. The HF antenna was a Little Tar Heel, a small screw driver antenna. The IC-7000 had two coax connectors, one for HF and one for VHF/UHF. I found the two coax cables were reversed. The HF antenna was connected to the VHF/UHF port on the IC-7000.

HF antennas work on VHF/UHF a lot better than VHF/UHF antennas work on HF.

Another feature of this "professional installation" was a missing RF choke that was supposed to be installed in the Little Tar Heel antenna motor leads.

I had zero experience with screw driver antennas but my first question was "Where is the RF choke for the motor leads?" My neighbor assured me it was built into the antenna. Nope, it was a separate toroid that was never installed.



November 2024 RARC ZOOM Online Login Info

OPTIONAL FOR THOSE NOT ABLE TO ATTEND IN-PERSON



Below is the ZOOM login information for the **November 12, 2024, 6:30 PM CDT RARC Meeting ZOOM** . The ZOOM login info is also posted via the [RARC email reflector](#) prior to the meeting.

- ◆ **When:** November 12, 2024 @ 06:30 PM CDT (US and Canada)
- ◆ **Join Zoom Meeting (click on the link below):**
<https://us06web.zoom.us/j/9876548873?pwd=T0JBWEFzSctBYzhiazA1NTdDb2Rkdz09>
- ◆ **Meeting ID:** 987 654 8873
- ◆ **Passcode:** : #####
- ◆ **For audio only from a mobile phone:**
Call: (312) 626-6799 US (Chicago) **Meeting ID:** 987 654 8873 **Passcode:** #####



125Live Ham Radio Club



Steve Wiebke (W0STV)

The October 15th 125live radio group meeting was well attended.

The program was radio scanners, what do you need and what can you listen to. Thanks to the RARC members that took the time to attend this meeting.

Next month's meeting will be held on November 19th at 2 PM, and we will be reviewing the questions people studying for their license have issues with and understanding how the correct answer applies to that question.

We are always looking for topics that would be of interest to potential new hams from 125Live.

If you have one let me know will see how it goes.

Steve (W0STV)

Olmsted ARES-EC

The more preparation, the less confusion.



The next meeting of the 125Live Ham Radio Club sponsored by RARC will be November 19th at 125Live in the Technology Learning Center room at 2:00 PM.

For more information please contact(W0STV) at: w0stv@yahoo.com



ARES

Amateur Radio Emergency Service

Olmsted ARES met on October 26th at the fire station #2 Rochester EOC. We spent the first hour reviewing the October 4th Duluth Minnesota, Superior Wisconsin and Indiana state EOC tri-state multiagency drill that Olmsted ARES participated in. We reset the stage the way we were instructed to for the actual drill. Then we had the group table top the same drill while we inserted the same problems that we were given to us to see how the group would react to these inject situations. The group was very effective in resolving and/or rethinking how to get the mission done. Well done everyone! The more you know!

For the second hour we split into two groups. One group did maintenance and serviced the ARES trailer. The second group assembled the portable Scorpion HF antenna for the trailer.

The ARES trailer is getting some upgrades and other equipment. A 150-watt VHF amplifier, HP LaserJet printer, and a Rig blaster digital interface. Two Dell laptop computers and a docking station will also be added. Other supplies that we found need replacing are being taken care of.

The Olmsted ARES/SkyWarn radio room at the old Olmsted EOC needed to be disassembled and ready for transport to the new EOC building by October 30th. Eric (KF0S) and I (W0STV) spent a day taking the stations apart and boxing things up. Will be reassembling the station again after the move is completed. Will be adding modes and features during the reassembly.

There will be a walkthrough of the new EOC location for all Olmsted ARES and SkyWarn members once everything is back to operating condition.

Continued on next page

**Olmsted ARES Mission Statement:
To be so effective that you are able to help others.**



Public Service

Amateur Radio Emergency Service

Miscellaneous Notes:

- The Olmsted ARES digital net has been moved to Wednesdays at 7:00PM on the 146.820 repeater.
- There is a VE test scheduled for November 14th starting at 6:30 PM at the Rochester Red Cross Office located at 305 Alliance Place NE. Call 254-3993 if needed.
- A new ARES Sunday NCS schedule has been updated. It will be sent out on the RARC email reflector and posted soon on the RARC web site.

Thank you to the people that continue to help run these nets and especially to the new members who are making a difference.

Steve (W0STV)
Olmsted ARES-EC
The more preparation, the less confusion.

**Olmsted ARES Mission Statement:
To be so effective that you are able to help others.**



Public Service

Amateur Radio Emergency Service

This may be a stretch for public service since we have nothing for 2024, but it is an event that needs to be mentioned. On October 19th **Dan Borland (KC0QGB)** took the time to set up an HF radio station at Game Haven scout camp south of Rochester.

This is an annual passion that Don takes the time every year to help scouts experience amateur radio and to earn merits. This year something that has not happened before (according to Don) did. **Mel (KC0P/Rover)** and **Jim (N00ZG)** from Decorah IA), **John (NZ0S)** and **I (W0STV)** met with Don and spent four hours giving parents and young people the experience of not one, but three radio stations, and a tour of a rover radio vehicle.

Thank you to the local stations that responded on 2 Meters to make operating an amateur radio an experience that these people did not expect. We enjoyed doing this so much, we plan to be back next year. When you hear people that have taken the time to get an amateur radio license on the air. Give them a reply and make them welcome. There is no fun in being left alone doing what interests you!

Steve-W0STV

Olmsted ARES-EC

The more preparation, the less confusion.

Olmsted ARES Mission Statement:

To be so effective that you are able to help others.



Public Service

Amateur Radio Emergency Service

October 19th Game Haven Photos



Dan Borland (KC0QGB) & Cub Scouts



Contest Corner

Fred (K4IU)



The sun continues to have some angry days. For hams this means more and longer openings on the HF bands to include 6 meters. Additionally, we get visually spectacular views with the northern lights.

The October CQWW phone contest is in the books. There were some big scores posted for the MWA teams. Big scores require not just skills and hardware. Contesting also requires a lot of stamina. Sometimes contesting can have adverse effects on your health if you don't prepare. Just in time for the contest season the November issue of QST features an article by Scott, KØMD, entitled **Healthy Contesting Habits**. It starts on page 52 and is a good read you won't want to miss.

November contests start off with one of the [Sweeps Stakes](#) "twins", The CW edition scheduled on the first full weekend, **November 2-4**. Both contests begin at 2100 UTC Saturday and run through 0259 UTC Monday.

The phone version is the third full weekend, **November 16-18**. It would be worth [looking at the details](#) for both events. There are basically 6 pieces of information in the exchange:

- **Serial Number:** a consecutive contact number starting with 1.
- **Precedence:** a single letter based on your station type such as:

"Q" for Single Operator, QRP (5 watts or less)

"A" for Single Operator, Low Power (more than 5 watts, but no greater than 100 watts)

"B" for Single Operator, High Power (more than 100 watts, but no greater than legal limit)

"U" for Any Single Operator Unlimited Power Category (High, Low, or QRP)

"M" for Multi-operator, High Power or Multi-operator, Low Power

"S" for School Club

Contest Corner

Fred (K4IU)

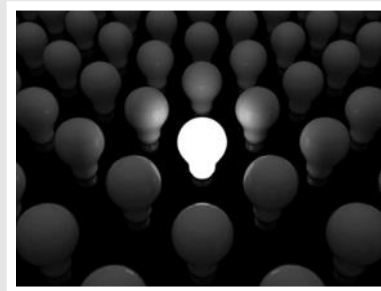


- **Your Call Sign:** The call sign must be included as part of the exchange.
- **Check:** The last two digits of the year the operator or the station was first licensed. The same Check must be sent throughout the contest.

There are 85 sections. Some of the Canadian sections have new names such as replacing Maritime (MAR) and making New Brunswick (NB) and Nova Scotia (NS) individual sections; Greater Toronto Area (GTA) was renamed to be 'Golden Horseshoe' (GH); and Northern Territories has been renamed just 'Territories' (TER). Your logging program should show [these sections/multipliers](#). Finally all stations may operate no more than 24 of the 30 hours.

Another November favorite is the [CQWW CW](#) held **November 23-24**. Some of you just finished the CQWW SSB in October and know this event attracts the largest group of world-wide participants. This year it's the week before Thanksgiving.

Click here for the [latest](#) updates to the November radio sport activities. Another event calendar for local and regional ham fests can be found [here](#).



.....
How often have you run into a new or rare station during a contest only to discover that you are only one of hundreds of other stations calling?

With the use of spotting networks this frequently occurs. Breaking a pile-up during a ham radio contest can be challenging but also very rewarding. Here are some ways that you can try stand out from the crowd:

Contest Corner

Fred (K4IU)



- **Always listen First:** Before transmitting listen to the pile-up and the DX station. Does the operator sometimes pause between QSOs long enough for you to throw in your call sign? On CW the DX station might give an RR or TU to indicate he's ready for the next caller. Is he listening for a specific geographic area? Is the **DX** strong or weak? Are the other **callers** strong or weak? If the DX is weak you may have to come back later when propagation is better or the pile-up is smaller.
- **Use Phonetics:** Clearly give your call sign using standard phonetics, nothing goofy. This helps the operator distinguish your call sign from others and remember English may not be the DX's first language. Or try calling in the DX operator's native tongue, i.e. Spanish. Tune off a little if you're on CW so that your pitch is more distinguishable from callers of equal strength for the DX to discriminate. You can try this on SSB too.
- **Be quick and concise:** Keep your transmissions short and to the point. Use a consistent pattern for calling, such as "Kilo Four India Uniform" repeated twice.
- **Use the right antenna:** If you have a Yagi or directional antenna point it towards the station you're trying to work. This can significantly improve your signal strength and with favorable propagation improve your chances of breaking the pileup.
- **Work Loud Stations First:** If you hear a super strong station, try to work them first. You're probably loud on his end too.
- **Be Patient:** Sometimes, it takes several attempts to break through. Or come back in a few minutes and try again. Maybe the pile is smaller or propagation better. You might also stumble across another rare one before everyone else finds them while tuning around!

73

Fred K4IU

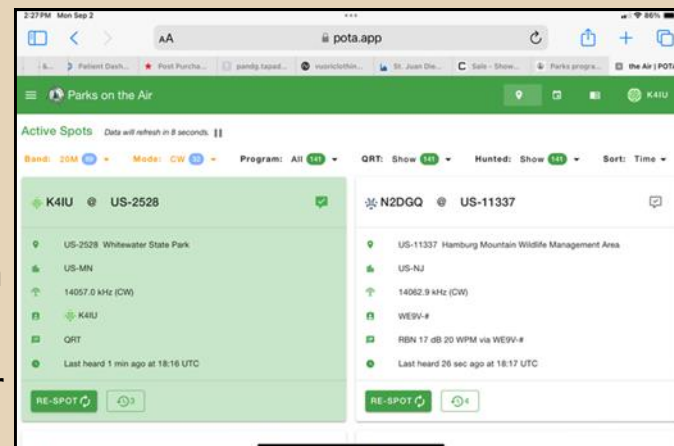


Fred & Judy POTA

K4IU & K0UH

Although we've been a fan of the **Parks on the Air, (POTA)** program, we have never activated one. Recently we did activate a "not rare", Whitewater State Park. Nevertheless, it was a new experience for us. Using a minimalist approach with our new handheld, **5 watt Elecraft KH1** complete with a **detachable 45 inch whip**. We made some amazing QSOs to the east and south-east on 20 meters. This amazing little rig is CW only with a built in paddle and keyer. We used a mini iPad to spot ourselves on the web app and **Judy (K0UH)**, logged while I ran a mini pileup. What a hoot! We plan to do a few more of these while the weather is good.

Fred, K4IU





Parks On The Air® (POTA)

It's Fall POTA Time!

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.

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

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

POTA is a great way to enjoy Ham radio and enjoy the bonus of operating remotely or out of your vehicle!



Niel (W0VLZ)

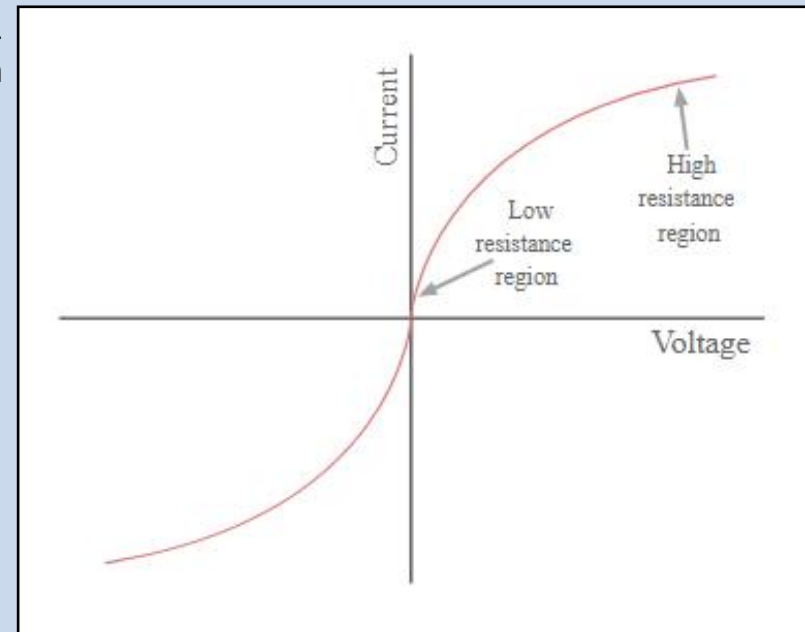


Hamster Hints

Safely testing vintage, vacuum-tube equipment benefits from a special, multi-step process, involving considerable care, especially when initially powering-on. We desire to avoid catastrophic events, one of which can be the explosion of a shorted, power supply filter capacitor! In one scenario, when tested haphazardly, the DUT's (Device Under Test's) AC input-current can be so high as to cause secondary damage in other components, namely the DUT's power supply input transformer. Such a failure is to be avoided, as authentic replacement transformers can be expensive and difficult to find. The following, common trick limits risk-of-damage to the transformer, in such a case, and was told to me by **WOVLZ**, who has much experience restoring vintage equipment:

A "Tester" can be quite easily built, using a standard, incandescent, filament bulb as the current-limiting component, in a simple, series circuit that supplies input power to the DUT.

To wire such a Tester, the Hot wire in the line cord is connected to a switch (or optionally include a fuse-socket, if desired). Tracing the circuit from the switch, you then wire to the center terminal of the current-limiting bulb (socketed). The outer terminal of the current-limiter bulb connects to the Hot side of a standard, NEMA "5-15" 120VAC house receptacle (to provide a place to plug in the DUT). Finally, the Neutral side of the receptacle connects back to the AC input line cord, to "complete" the series circuit. Integrated metering--or jacks to plug in such metering--can be included, as optional conveniences. When used, such a Tester can be plugged into a "Variac" style of bucking transformer, for further control of the AC voltage during bring-up and/or power supply filter capacitor reconditioning.



Simplified I.V. characteristic of an incandescent filament bulb



Hamster Hints

I recently re-built the Tester shown in the photos, using parts I acquired from the estate of a technician who once specialized in servicing CRT televisions and other, older equipment. In my version of the Tester, I preserved the Safety Ground connection (green wire), running it straight through from the line cord to the receptacle. This can offer additional DUT (and human!) protection (depending on the DUT's cordage), especially if using a GFCI in the a.c. supply path. You might wish to add an SPST switch to interrupt this Ground connection, too, for special-case tests or DUTs. (In "deluxe" versions, any number of enhancements, beyond the basic Tester's circuit topology, can be imagined and implemented.)

I like the warm, visual indication of the limiting bulb's filament, when a certain threshold of current is reached. Different bulbs can be used, according to how much limiting is desired. Filament bulbs work well in this application, because their resistance is nonlinear and increases as they get hotter, giving even finer control of the higher DUT voltages, when dialing-up a Variac (think Ohm's Law, as applied to a resistive voltage divider).



The DUT is the small bulb on the right. (In this case, there is not even enough current to "light" the limiter-bulb, which is the 300W incandescent on the left.)



Hamster Hints



Storing the tester on vertical pegboard



Technical Committee

Eric (KF0S)

Tech Committee Meeting Minutes - 10/7/24

Attendees: Eric, Pat, Gil, George, John D., Mark, Dave N., Taylor, Steve

Post meeting and RARC meeting comments in italics

Equipment Insurance:

- Our current provider, New Hampshire Insurance Company, is terminating their insurance program on November 12th, and our program administrator, AMBA, has selected a new carrier, Accelerant National Insurance Company.

Insurance quote sent to committee.

Unknown Deductible.

Looks like rate is 1.28%. \$249 for about \$19,500 replacement value.

- Another option is ARRL, which is administered by Risk Strategies Company.

Deductible is \$50.

Their rate is 1.4%.

Approximately \$24 more per year.

This one covers ham radios including accessories, antennas, rotators and towers; data processing systems, computers and component parts; data and media.

We could add computers.

- Theft from an Unattended Vehicle: Included with your premium.
- Coverage for towers & antennas up to \$15,000.00 replacement cost.



Technical Committee

Eric (KF0S)

- Tech committee consensus is we go with ARRL.
- Will bring up as a business item since the cost is \$250/yr.
- 3 Yaesu radios in the RST EOC cabinet.
- A new router in the RST EOC.
- 1 Military mast sold.
- We did go through the current inventory, deciding if we still had some radios, what might need to be added. I think the highest cost item was removing the insurance on the old 625 repeater.

Equipment Sales

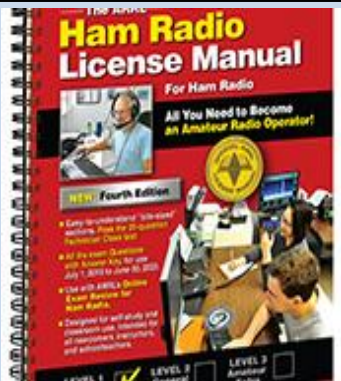
- **Bill Osler**

Met with Faye. Plan to have a driveway sale on October 12th, 10-? Was in Hamster.
Additional advertising this week? MN Ham Radio Sales Facebook page? Pat will post.

Tech committee work note:

- Fan replaced in 146.625 amp.
- Measured speed, while slow, is what is being paid for.

Nothing else new.



Education

Dave (KØVH)

One of the first steps needed to really get into Amateur Radio is to get your Amateur Radio License. This license is required in order to transmit on any of the Amateur Radio frequencies – however, listening does not. Listening is only part of the fun, so we encourage you to get your license so you can get the full experience!

- A **free**, weekly, live, Amateur Radio **General Class Licensing course** on **Zoom** will **begin on Thursday, October 31, and will run through Thursday, January 9.** (No class on Thanksgiving and Dec 26.)
- The three-hour sessions will start at 6:30 PM Eastern Time [5:30 Central]. These are the classes that have been ongoing for years sponsored by the **National Electronics Museum**. Prerequisite is to have or be studying for the Technician Class License.

Those wishing to **sign up** should **email Roland Anders, K3RA**, at: roland.anders@comcast.net.

2025 Online **ZOOM** Technician Class Schedule

From [Maple Grove Radio Club](#) (K0LTC):

- **NEW HAMS - TECHNICIAN LICENSE ZOOM Classes:** Every Wednesday from Feb 5th, 2025 to April 9th. Class time: 6:45 – 9:15 pm (\$10 due first day of class) [purchase Technician Class License Manual](#)

To Register: registration@mnyarc.org



RARC buy - sell - trade



Monarch "Super Sensitive" "Amateur Receiver" (yes, "Amateur" is mis-spelled on the faceplate), 4-band BC / HF radio. Nostalgic for me, and will pay well, according to cosmetic condition. **Bob (KE0EXE), gettuit@charter.net.**



ST-5000 Step Up Step Down Transformer 110V 220V Step Up Voltage Converter Transformer, 5kw rating, used once / no longer need, like-new condition, **\$100 firm** (\$129.99 on Amazon). **See Bob, (KE0EXE), gettuit@charter.net**



Astron RS-35M 13.8 volt power supply 35 amp peak, 25 amp continuous with volt and amp meters. Quiet linear supply, no RF noise, **\$150 Lynn (WB0U) (507) 358-8459**

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](#) or Trade.



Weekly Nets

- ◆ **Monday 8 p.m. Elmers' 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.
- ◆ **UPDATED Wednesday 7 p.m.** 146.820 Repeater. The first Net of each month is a voice net, and it's the **SE MN District ARES 2 Meter 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 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. ARES 80 Meter 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 D-Star Reflector XLS632A
- ◆ **Sunday 7:30 p.m. Minnesota D-Star Net** on D-Star Reflector XLS632A
- ◆ **Sunday 8:30 p.m. Dodge County ARES Net** on the 146.820 (PL Tone 100) Repeater at 8:30 p.m.
- ◆ **Sunday 9:00 p.m. RARC/ARES Net:** 147.255 repeater (PL Tone 100) Odd numbered Sundays
146.820 repeater (PL Tone 100) Even Numbered Sundays



- ◆ 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](#)?

RARC has been an [ARRL](#) affiliated club for the past 50+ years. RARC wants all members to know about the benefits of being a member of the ARRL and how the [ARRL](#) promotes amateur radio and represents and supports Hams throughout the year.

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

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



Contact RARC

RARC meets the second Tuesday of each month at 6:30 PM (except when the August meeting is the annual RARC club picnic) in the lower level of Rochester Fire Station #2 in the EOC at 2185 Wheelock Drive NE, Rochester, MN

- ◆ **Online:** <http://www.rarchams.org/>
- ◆ **Mail:** RARC , P.O. Box 1, Rochester, MN 55903
- ◆ **Groups.io:** [Register](#) and a Moderator will respond shortly
- ◆ **Weekly Net:** Sundays at 9:00 PM: 147.255 repeater (PL Tone 100) Odd numbered Sundays
146.820 repeater (PL Tone 100) Even Numbered Sundays

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 emailing. 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 RARC.

Newsletter articles or questions: Mark (KØGMK) - Editor gmkelm@charter.net