



THE HAMSTER

September 2022

Official Monthly Newsletter of the Rochester Amateur Radio Club

Editor: G. Mark Kelm (K0GMK) gmkelm@charter.net

We remain in the 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

- ◆ Check out **Melissa's (KE0WNH) outstanding** report and photos about her trip to the **University of Texas-Austin** for the special **NASA "LIFTOFF" program for teachers** beginning on **page 4**.
- ◆ Check out **RARC Buy & Sell** on **page 25**. If you have Ham related items to sell, trade or wanted send me an email with the details and it will be included on the page. If you don't have a photo, I can find one for publication. BTW, its free and a benefit of your RARC membership!
- ◆ **Bob (KE0EXE)** reports on Hamster Hints that you can use in your shack. Check out his excellent article beginning on **page 18**.
- ◆ **Contest season is in full swing**. Be sure to check out **Fred's (K4IU)** comprehensive September contesting report and improving your contesting hints beginning on **page 19**.
- ◆ The **RARC Technical Committee** has a comprehensive report of meeting discussion at the August meeting. Check out **Eric's (KF0S)** report beginning on **page 22** for all the details.



PRESIDENT'S MESSAGE

Steve (W0STV) - President w0stv@yahoo.com

I am in Northern Minnesota and finally found an area with one bar data cell service to connect my phone to as a hot spot for the computer.

The **RARC program for September** will be a meet and greet the new **Rochester Emergency Director and his staff from the Rochester EOC**. It will be an opportunity to learn and discuss the how, what, when and where of their emergency operations system. Thanks Mellissa (KE0WNH) for arranging this.

The **August picnic** had a great turn out and a good time for those that attended. There were several people selling items, and Neil was operating his QRP station. **Thanks to Barb and Roger for the use of their KOA location for our picnic and Eric (KF0S) for helping set up, cooking and take down of the equipment.** Thank you for the positive comments on the picnic, I will bring cheese for the burgers next time.

I am looking for monthly RARC radio activity ideas. Do you have something we can do as a group, send me an email to w0stv@yahoo.com or call 254-3993. with the highlights of what you would like to do. Neil has been sending notices of his QRP station park activities as an example. If you have an RARC PROGRAM idea, please let any of the RARC officers know.

Check out the RARCHAMS.ORG web site to follow club information and activities. There is a link to sign up for our email reflector for hams to join whether you're a club member or not.

We welcome you to attend and check out our club meetings on the second Tuesday of each month at 6:30 PM at the Rochester fire station #2. Entry is at the rear of the building lowest parking lot area walk in door.

73





September 2022 RARC Online Meeting Info

OPTIONAL FOR THOSE NOT ABLE TO ATTEND IN-PERSON



Here is the information for the September 13, 2022, 6:30 PM RARC ZOOM monthly club meeting. ZOOM info is also posted via the [RARC email reflector](#) (which is private to the subscribed 120 Rochester area Hams). The remainder of this newsletter will go on a [the RARC website front page](#) without the passcode. The passcode is available to members on [rarc.groups.io](#) or by contacting [WOSTV](#) prior to the meeting.

- ◆ **When:** September 13, 2022 @ 06:30 PM Central Time (US and Canada)
- ◆ **Join Zoom Meeting (copy & paste the link below in your browser):**
<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:** #####



MEETING PROGRAMS

Melissa (KE0WNH) - Vice President

September 2022 Meeting Program

RARC monthly meeting starting at 6:30 PM, Tuesday, September 13, 2022

Rochester EOC (Fire Station #2)

Rochester Emergency Management Director Kyle Mirehouse

The **September RARC program** is meeting the new **Rochester Emergency Management Director, Kyle Mirehouse**. He will also bring his staff, **Ryan** from the **Rochester Fire Department**, and **Travis** from the **Rochester Police Department** to our meeting. This is an opportunity for the RARC to see how the **Rochester EOC** currently operates and functions before and during disasters and for them to see how we operate using our communication tools. The more you know!



VICE PRESIDENT'S REPORT

Melissa (KE0WNH) - Vice President melissa.ke0wnh@gmail.com

First stop on my Summer of the Nerd 2022 Tour: NASA!

The NASA Texas Space Grant which operates out of University of Texas, Austin has been inviting school teachers since 1990 to spend time at NASA with scientists, engineers and astronauts. They call this event "LiftOff" and each year has a theme. During their time together, teachers are learning about current events at NASA, historical background and STEM (Science, Technology, Engineering & Math) related activities to bring back to their classrooms and science community to help inspire kids and their dreams.

Since 1990, the interest in attending has extended beyond Texas and they have now had attendees from almost all (now all?) states and even territories like Puerto Rico. Myself and one other teacher invited this year from Hill-Murray in Maplewood, MN were the first to be from Minnesota. The NASA Minnesota Space Grant Consortium generously offered to fund my trip. (Thank you! Associate Director, James Flaten of the UofMN Aerospace Engineering Department was the person that I spoke with about attending this event and he is also the man who invited me to attend a high altitude (100,000 feet up!) balloon launch this past Spring. I greatly appreciate his role in making this dream a reality for me!) We were their largest group yet, at 54 teachers and 2 coordinators, Margaret Baguio and Celena Miller. Some teachers had attended before and were invited back to lead us in some activities and share their experiences beyond LiftOff.

This year's LiftOff 2022 theme was Artemis: We Are Going! Artemis is the current NASA space program that is broken into 3 key parts: Artemis 1: Getting back to the moon, this time with more diversity. Artemis 2: Building "Gateway" - an international space station that will orbit our moon. Artemis 3: Building a space station on the moon for science and industry. Why Artemis? Artemis is the sister of Apollo, and she was responsible for driving the moon through the night sky in greek mythology. Her hunting buddy was, Orion: the name of the new space capsule taking humans to the moon. Orion will be launched using the SLS (Space Launch System - think "Saturn V" for those that recall the Apollo missions). Humans have not been anywhere close to the moon since 1972. The International Space Station is about 225 miles away from us, the moon is 236,000 miles away. Significant difference. Exciting difference.



VICE PRESIDENT'S REPORT

Melissa (KEOWNH) - Vice President melissa.ke0wnh@gmail.com

When you look at the photos, you'll see one with a schedule of events. Our days were packed full with NASA engineers sharing insights on challenges they face and self-imposed limitations. Such as tools used for collecting moon samples on Artemis are the same alloys and metals as those used during Apollo so scientific studies are consistent. Our moon is a fairly static historical record of our solar system, theorized to have formed around the same time as the Earth. Not having ongoing volcanic activity to recycle the surface through subduction and new lava flows, it keeps a record of its experiences much longer than Earth does.

We also got to meet 3 astronauts of special note: Fred Haise, known best for being one of the 3 astronauts to survive the Apollo 13 "Most Successful Failure". He was the one that became sick while in space. He spoke to us about the history of the space program, the need to "Don't Panic Early" (name of his autobiography), his time as a test pilot and his love of grandkids. He took one of the kids to see Apollo 13 in the theater, they left early because his grandson said "grandpa? You're not in movie!" - Wasn't understanding he was being played by an actor.

We met Astronaut Clayton Anderson, the only one to be from Nebraska, he spoke about the need to inspire kids to pick a dream and to strive for it. His was to be an astronaut and NASA declined his application 15 times.. 16th time they finally said "yes!". (Based on some of his exploits, they may have regretted that ;) - he's a pretty funny guy!)

Finally we also met Astronaut Don Petit who filmed a number of videos while on the ISS doing STEM themed experiments to pass the time. He is also the first (only?) person to have conceived and developed a now patented tool while in space and to be used in space: a drinking cup. That idea has now been reengineered into a backup for a broken space toilet.

Outside of our meeting rooms, we worked on STEM projects, shared teaching ideas, and toured the Johnson Space Center, both public and restricted areas. This was such a special event, and almost daily I'm receiving more teaching ideas and opportunities from the group. It keeps on giving.

So glad I went. Can't wait for my next adventure!



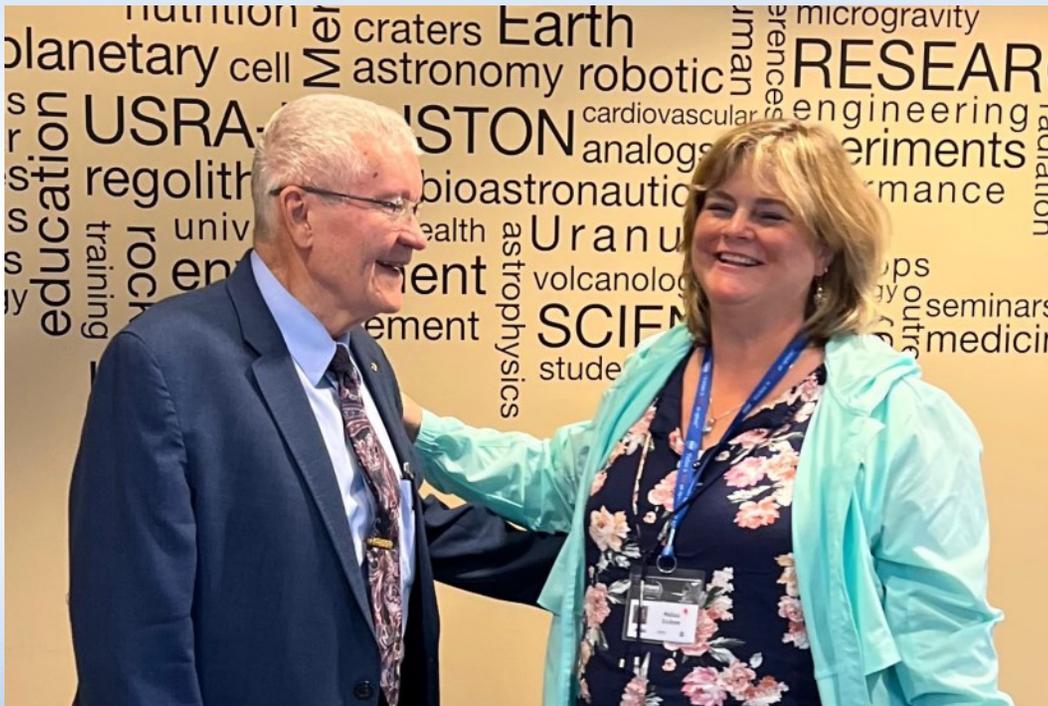
LIFTOFF PHOTOS

Fun stuff! Fun times! We flew a mission to MARS! But faced some challenges, team work and calm heads got us safely there. (Another crew wasn't quite a lucky!) .

We spent a lot of time in these seats, trying to exercise Covid Protocols, but usually took off masks for photos.







Astronaut Fred Haise & Melissa



Astronaut Clayton Anderson & Melissa

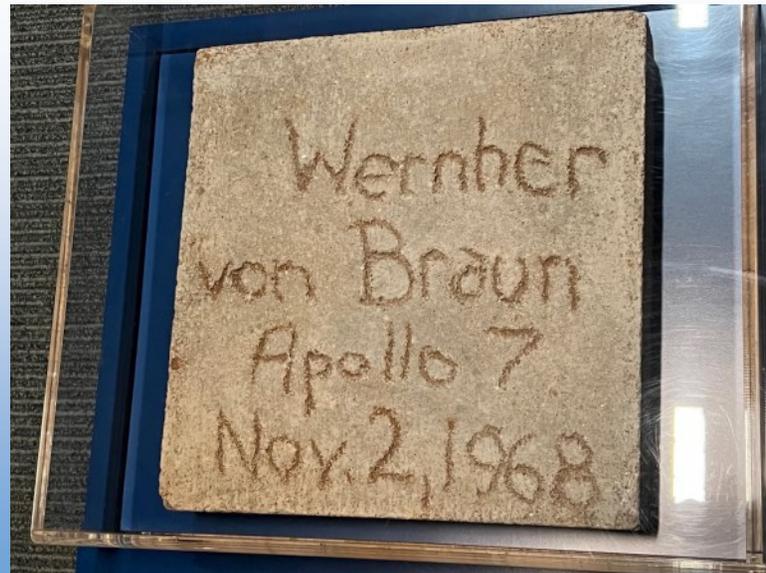
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Astronaut Don Petit and his invented coffee cup based on capillary action



President Lyndon B. Johnson with NASA handprints collected from visitors at the LBJ Ranch





Mockup Floor where astronauts, engineers and scientists practice and work with making things before they go into space



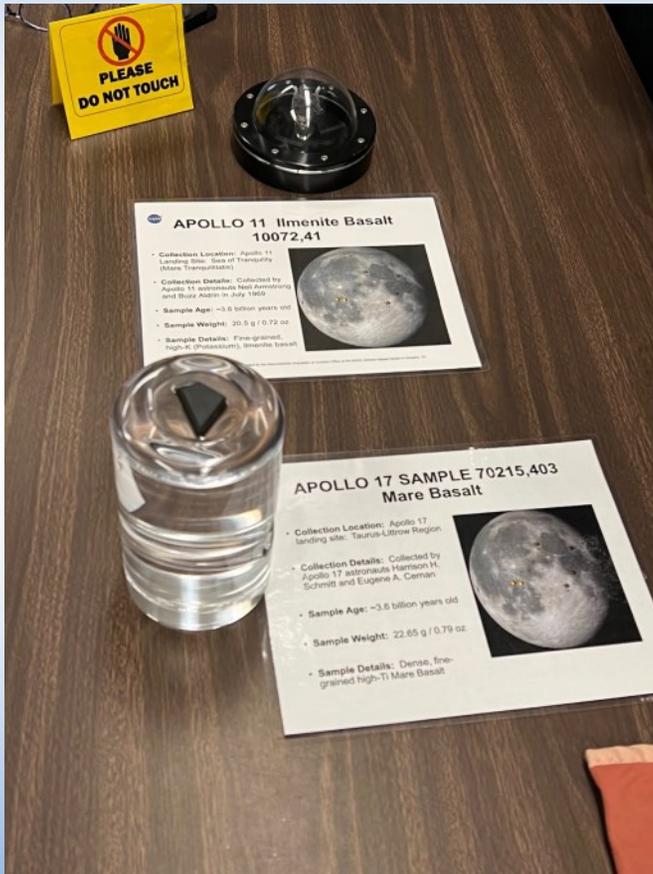


Neutral Buoyancy Laboratory: 40' deep pool with life-size mockups of space vehicles for astronauts to practice extra-vehicular activities. They are building a lunar surface on the bottom now.





Moon Rock building: Moon samples are stored in large boxes, other than the one box in the close up, all rocks in a box represent a unique mission. (Apollo 15 rocks are kept isolated from Apollo 16 rocks, etc.) I got to touch a piece of the moon on the top of this Lexan holder. Others are mounted inside a Lexan disc.





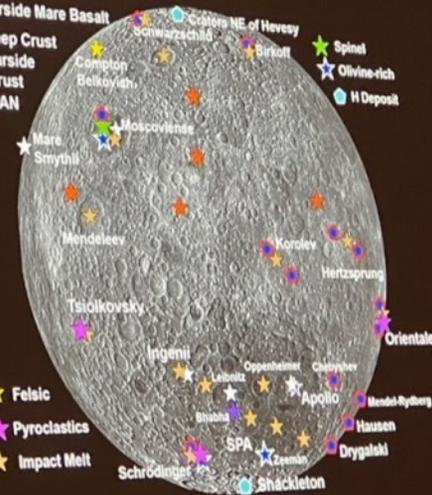
Lunar Scientists have a lot of places they would like to go!

- ★ Spinel-rich
- ★ Impact Melt/Basin
- ★ Felsic
- ★ Potentially Felsic
- ★ Young Crater
- ★ Pyroclastic Deposits
- ★ Olivine-rich (Mantle?)
- ★ H-Deposits
- ★ PAN
- ★ Young Igneous



Near Side

- ★ Farside Mare Basalt
- ★ Deep Crust
- ★ Farside Crust
- ★ PAN
- ★ Spinel
- ★ Olivine-rich
- ★ H Deposit



Far Side



Falcon 9, which actually flew into space a few times, is now on display. Shuttle used to test flying it across country on back of an airplane. Buildings at Johnson Space Center are built to withstand Cat 5 Hurricane, so very few windows.



ARES

AMATEUR RADIO EMERGENCY SERVICE

Steve (WØSTV) w0stv@yahoo.com
Olmsted County ARES-EC



The Olmsted ARES group went through the field equipment trailer in August. We inventoried, sold, discarded, organized and grouped the equipment for better deployment and access. We also did maintenance to the trailer, to be ready to roll if and when needed.

Olmsted ARES will be training on the use of microwave digital communications for data and photo transmissions. We may have a speaker attend and show training videos. We will set up systems to actually transmit these modes in the future. We will also train in September how to effectively be a communications shadow both in the field environment, and in structures.

The ARES communications trailer now has drive on antenna mast stands, with masts. The screwdriver HF antenna system will be constructed on the front of the trailer too. We have ordered a Comet GP-6 antenna for better gain and coverage. The GP-3 antenna will be used at the 125 Live site.

Olmsted ARES needs to train people to effectively operate the Rochester EOC radio room equipment. I have asked **John (KA0MYJ)** and **Colin (AA0CN)** to head this. If you would like to be a member of this sub team, please contact me at 254-3993. When the subgroup is ready, we will train with field stations submitting information that the ARES radio room will forward to other ARES groups using communications modes and protocol, both digital and analog. This will be incorporated into this year's SET drill. If you are interested in Olmsted ARES, send an email to w0stv@yahoo.com and I will send you the date and time we meet for you to look us over.



HAMSTER HINTS

Bob (KEØEXE) gettuit@charter.net



The other day I needed to put threads on the end of a very short rod, but my good vise was tied-up in another project that I didn't want to interrupt. How could I hold this tiny rod without a good vice? (I could have clamped it in a vice-

grips, but then I would have had to hold the vice-grips somehow, too, to keep that from turning.)

Okay, so how about using a drill press chuck? Bingo! I quickly learned that this has other advantages, too. It keeps the die-handle nicely perpendicular to the rod; the chuck can be turned a little with one hand, while holding the die-assembly motionless with the other; the table can be raised just a little, between each pass, to allow the thread to advance, while keeping the die-handle close to the table, for perpendicularity. This all worked amazingly well. It made me want to do it again! I know that commercial threading operations work with a specially-sequenced, rotary tool that also employs a chuck. Here, I was just controlling the turning and advancement manually. I should have thought of this years ago! Here's the photo...





CONTEST CORNER

Fred (K4IU) k4iu@me.com

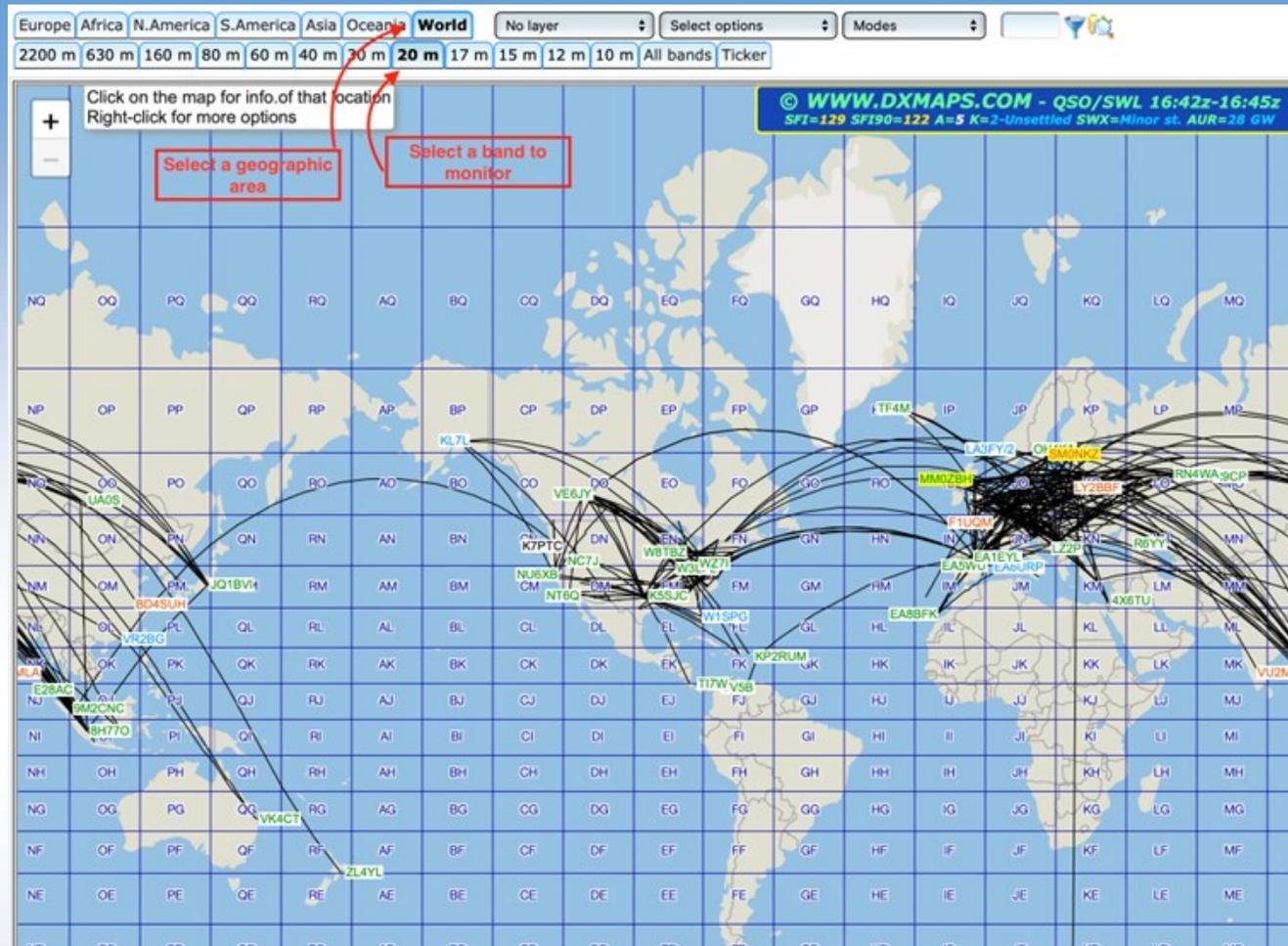
The seasons are changing! Fall equinox occurs on Thursday, September 22. Right at the equinox, the *terminator* between day and night will be aligned exactly with the North and South Poles. As a result equal amounts of solar UV hitting the ionosphere propagation paths between the north and south hemispheres will open earlier and stay open longer. Hams in both hemispheres will have better chances for really long-distance F region propagation on the high bands, 20-10 meters. With the frequency of summer thunderstorms diminishing, the lower bands, 40-160 meters should be quieter too. These changes will be great for the fall contest season after a summer of mediocre conditions.

The preliminary results for the NAQP RTTY contest are out. A couple of our local hams KBØGT and KØGMK posted some excellent scores which can be seen here <http://www.ncjweb.com/current-naqp-rtty-results/> Congratulations Bob and Mark!

Also returning September 22-23 is the [QSO Today Virtual Ham Expo](#). The cost is \$10. There are a wide variety of presentations, building projects and exhibitors participating.

So with the potential for some great conditions lets check out the upcoming activity:

- ♦ **Sep 10-11 [Worked All Europe \(WAE\) SSB Contest](#):** This is the SSB version of the popular WAE. Keep in mind you can only work EU stations. Non European stations can exchange with Europeans a report from their log called a **QTC** for additional points. It's like handling traffic. Review the rules and find a logging program that can automate the QTCs twist such as N1MM. If you don't want to do this, just say "no" when asked for QTCs. There's usually broad contest participation and if conditions are good you will have no trouble hearing EU stations. Don't forget to check out the 10 and 15 meter bands mid-morning. 20 meters can still open well into the evening. You can operate 36 of the 48 hours. Sunday may be better for modest stations using low power or dipole antennas! Try using DXmaps.com to see who is hearing whom. As in the example you can configure the map for your personal needs using the tabs at the top. Users of PSK reporter will find this menu on the next page familiar:



- ♦ **Sep 10-12 ARRL September VHF QSO party**: this is happening the same weekend as the SSB WAE. It starts at 1800 UTC Saturday and ends 0259 UTC Monday. SSB/CW/FM are the popular modes but look for others on FT8.
- ♦ **Sep 24-25 CQWW RTTY DX Contest** CQ magazine sponsors this contest. If you are an RTTY aficionado, you will find a worldwide participation.



Looking for something else in September? There is a full schedule and you can see it all on the [DL2NBY](#) and [WA7BNM](#) calendars.

Almost all modern radios have a **spectrum** and **waterfall** displays which contesters can use to improve their scores. Here's a list of tips using these displays to improve your contesting enjoyment in either the **run** or **search and pounce**, (S&Ping), mode:

- ◆ Help identify clear spots to call CQ and avoid QRM or to find the action!
- ◆ If operating assisted (with a cluster) you can find the next signal quickly without tuning. In N1MM try **Ctrl+Up/Dn arrow = Grab next QSO from your band map**. You can do this whether you're running or S&Ping. If you are running, you can jump to a new multiplier and then return to the run frequency with the shortcut **Alt+Q = Return to CQ-frequency**
- ◆ Depending on the "span" of your spectrum display you see the amount of band activity and improve situational awareness of what's happening.
- ◆ Lastly, you can see where the local competition is!

73 for now

Fred (K4IU)

TECHNICAL COMMITTEE

Eric (KF0S) kf0s@yahoo.com



Notes from the August Tech Committee meeting:

- ◆ **125 Live:**

 - Order 300' of coax (LMR-240 Flex). 10 or 12 connectors (PL-259).

- ◆ **D-Star repeater:**

 - Off the air.

 - Doesn't sound like we can do anything to repair it economical and satisfactory.

 - Right now looking at a replacement. Will allow us to get on MN ARES reflectors which we can't with old repeater.

 - Waiting to see if Icom has another fall repeater rebate. Current consumer rebates end 9/30.

- ◆ **Discussion on Mayo location.**

 - Is Mayo moving communications equipment?

 - Is there someplace with better accessibility?

TECHNICAL COMMITTEE

Eric (KF0S) kf0s@yahoo.com

- ◆ **Trailer inventory:**

 - August 13th at 9 am.

 - Eric notified Ken to look at military mast.

 - Not sure what else might be available.

- ◆ **Signalink for city EOC radio:**

 - Computer nearly ready to go. Frees up a laptop for use elsewhere.

 - Could use a good monitor in that room.

 - Could possibly need a new mouse (will check current stock in the room).

- ◆ **Wholesale replacement of laptops**

 - Maybe ruggedized.

 - Possible specs:

 - Lots of USB ports

 - DC power supplies

 - Outdoor readable screens

 - Maybe can get wholesale Dells from city

- ◆ **255 Repeater:**

 - Seems that output is lower for outlying areas as well as lower receive sensitivity.

 - Seems to imply something with antenna or feed line.

 - Steve will let the county know.



125 LIVE RADIO PROJECT

Dave Naatz (KØVH) dcnaatz@gmail.com

Steve (WØSTV) brought his vertical antenna base up on the roof of the building. The Comet GP-3 antenna from the ARES trailer (Replaced by a Comet GP-6) will be used at the 125 Live site.

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 (KØVH)





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

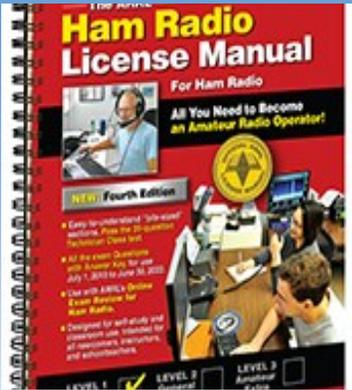


For Sale: KB9VBR - Copper J-Pole for 2 meters. Well made-heavy duty. Never mounted or used. Can't use it with the mount I have on the house currently. \$40 Taylor (WB0RSJ) - tbbauman@gmail.com



I'm still **looking for a Johnson 250-39 T/R Switch in great condition.** Bob (KE0EXE) - 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](#) or Trade.



EDUCATION

Bill (KØRGR) k0rgr@arrl.net

Dave (KØVH) dcnaatz@gmail.com

The committee will be meeting in September after a summer hiatus. Watch this space for upcoming reports.

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 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.





JM ROCKET RADIO CLUB

Melissa (KE0WNH) - Mentor 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!





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](#) is a simple and automatic way to [support the RARC](#) every time you shop at [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.** 146.820 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.

