THE HAMSTER

May 2023

Official Monthly Newsletter of the Rochester Amateur Radio Club

*Founded In 1932 * 50+ Years Of ARRL Affiliation*

EDITOR'S NOTES

Rochester Amateur Radio Club meets the second Tuesday of each month at 6:30 PM in the EOC of Rochester Fire Station #2 (lower level) at 2185 Wheelock Drive NE, Rochester, MN

- **May's meeting program features a presentation by Taylor (WB0RSJ) about ARRL Field Day 2023. Be sure to attend or listen in on ZOOM for all the information about the new 2023 location at Chester Woods Park.**

- See the **President's Message for** comprehensive information about RARC activities **on page 2.**

- **If you can't attend the RARC meeting in person an online ZOOM broadcast is available.** See **page 4** for login information.

- Check out the **ARES Report** on **page 5** and **ARES Community Service** on **page 6.**

- **Bob (KE0EXE)** reports on Hamster Hints that will help you with your Amateur Radio hobby. Check out his article beginning on **page 7**.

- **Contest season is in full swing.** Be sure to check out **Fred's (K4IU)** comprehensive May contesting lineup report and station computer buying suggestions beginning on **page 9**.

- **RARC Buy Or Sell** **Free advertising for RARC members** to sell, trade or give away any Ham radio related gear. Send your ad to the email link on **page 19 of this Hamster**.

PRESIDENT'S MESSAGE

Steve (W0STV) - President w0stv@yahoo.com

The 125 LIVE Ham Radio station is moving ahead slowly but it is moving. The equipment cabinet is installed and we will see when we can install the antennas after the HVAC unit is replaced. The group of 20 people interested in getting their ham radio license met with the RARC educational team on April 27th. A report will be presented at the next RARC meeting and briefly in this issue on **page 11**. We are promoting being able to teach ham classes at 125 live. **See cabinet photos on page 12.**

A group of Hams meet at Roosters north every Wednesday morning starting at 9:00 am for coffee and chat. Everyone active or interested in Amateur Radio is invited. We usually leave between 11 AM and 12 PM

Do you have an item for sale or want to buy (also see **RARC Buy Or Sell** in this issue)? Do you have a problem with a Ham Radio issue? Check in to our Sunday night ARES Nets at 9:00 PM to get the latest news and activities in the area. The net is active on two repeaters. On even Sunday Calendar dates we are on the 146.820 repeater, and on the odd Sunday Calendar dates we are on the 147.255 repeater. We welcome check-ins via **EchoLink node 420993** as well. We have an ELMERS Net that meets every Monday at 8 pm on either repeater depending on who is Net Control Operator and the frequency conditions. The Net is open to all licensed Ham Radio operators

Do you want to learn or understand a radio topic? Contact our RARC program director **Taylor (WB0RSJ)** by **email**, through the RARC website, on the radio or at RARC meetings to let him know what you want for him to try to arrange a presentation. The more you know.

RARC will be connecting the D-star repeater to REF 30C. In the past our D-star repeater was the most active of all our repeaters, and we want to see this again. Thank you **Eric (KF0S)** for taking over its installation and learning how to complete the connection and set up as soon as possible.

Steve (W0STV)

Olmsted ARES-EC
The more preparation, the less confusion.

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Taylor (WB0RSJ) - Vice President

May 2023 Meeting Program
ARRL Field Day 2023
Presented by Taylor (WB0RSJ)

May 2023 RARC ZOOM Online Login Info

Here is the ZOOM login information for the May 9, 2023, 6:30 PM CDT RARC ZOOM monthly club meeting. The ZOOM login info is also posted via the RARC email reflector prior to the meeting.

- **When:** May 9, 2023 @ 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**: ######

ARES

AMATEUR RADIO EMERGENCY SERVICE

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

This May our ARES monthly training will be our first public service activation of 2023, the Med City Marathon on May 13th. We need up to 20 people to help with this event. With an HT you can communicate information and request over the radio net effectively from anywhere along the course. We will be using these P.A.C.E information: **PRIMARY/147.255**, **ALTERNET/146.820**, **CONTINGENCY/146.520**, **EMERGENCY/PHONE 254-3993**.

We plan to set up the ARES communications trailer for the Med City marathon on the west side of the course, **as a supplemental communications center to the EM-50**, and as a staging area for resources. Please email **w0stv@yahoo.com** to register and become radioactive for this event. You may call **254-3993** to discuss how and what you can do at help.

Olmsted ARES met at the county EOC garage and finished the repairs, updates and maintenance of the Minnesota state portable antenna tower that was past due. With the help of **John Dalin (KA0MYG)**, we were able to complete the training, and maintenance the trailer so it is ready to go when needed. The ARES communications trailer is getting new batteries to bring it up to operational standards.

We connected the ARES 2-meter portable repeater to the Minnesota antenna tower for testing and we made several contacts on the 147.120 PL tone 100 repeater. **Thank you to Brian Stockman** for assisting me in completing this project. This is another tool for us to use for EM-COMM wherever it is needed. **Olmsted ARES mission statement: "To be so effective that we are able to be helpful to others."**

Olmsted ARES is moving toward mutual help for other Minnesota public service radio groups assisting them using our ARES equipment and manpower. There will be information and opportunities posted on the **RARC email reflector** about other county events as they become available. We will work with area ham radio groups to make their support of their served agencies more effective. The more you know!

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

ARES COMMUNITY SERVICE

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

- **Med City Marathon**: **May 13th (Help needed, please contact Steve w0stv@yahoo.com)**
- **Rochester Fest parade**: **June 25th**
- **Scheels Healthy Human Race**: **August 26th**

- *Events will updated when more information becomes available ***

Bob (KEØEXE) gettuit@charter.net

The other day, I set out to finish the design and build of a decent-sounding CPO, but this must wait...

I had a circuit in mind; I just needed to find the parts and build it. As I looked through the 120 (or so) transistors I've collected over the years--by the way, that's only the salvaged ones, and does not include my NOS--it quickly became apparent that I didn't really know what I had. Before I could make much progress on any project, using these "random" semiconductor parts, I needed to identify, organize, and inventory them.

To create the inventory list, sorted by common part number, I would first need to identify each part I owned. This was accomplished by writing down all the letters and numbers I found on each part, on a tiny square of card-stock, which I cut from 3x5 cards. Such an "id. tag" now gets placed inside a small, clear, "zip-seal" poly-bag, along with the part (or parts, if more than one). Because there is great inconsistency in the formats of part numbers, I must research each part number on the Internet, and I then add other useful information to each tag. This information often includes an alternative, modern, replacement part number (if appropriate), the device type (PNP/NPN/JFET/MOSFET/SCR/Uni-Jxn/etc.), the semiconductor material (Ge or Si), and some relevant performance parameters (e.g., $P_c/V_{ce}/I_c$ maximum ratings, f_T, minimum h_{FE}, package name, etc.--whatever seems most-relevant for the specific device).

#	Part	Type	Material/Notes
1	107274	PNP	Ge AF
2	11NN60C3 (2)	N-chan MOSFET	Si Pwr
3	121-695	NPN	Si RF
4	2N1156	NPN	Si
5	2N1305	PNP	Ge AF
6	2N1893	NPN	Si Small Sig, GP Sw
7	2N243	NPN	Si
8	2N2868	NPN	Si
9	2N328 A	PNP	Si
10	2N333	NPN	Si AF, RF
11	2N3393	NPN	Si GP
12	2N343	NPN	Si AF
13	2N3702 (2)	PNP	Si AF
14	2N3823	N-chan JFET	Si Sens VHF Amp
15	2N3904	NPN	Si Small Sig
16	2N3906	PNP	Si GP RF
17	2N404 (3)	PNP	Ge Med-Spd Sw, Fuzz Pedal
18	2N4403	PNP	Si Lo Pwr Sw/Amp
19	2N4870	P-N UniJ	Si Relax Osc
20	2N5128	NPN	Si GP
21	2N5245 (2)	N-chan JFET	Si RF
22	2N697	NPN	Si
23	2N743 (2)	NPN	Si RF
24	2SA984 (4)	PNP	Si RF
25	2SB173	PNP	Ge
26	2SB175	PNP	Ge
27	2SB176 (2)	PNP	Ge Fuzz Pedal
28	2SB186	PNP	Ge Fuzz Pedal
29	2SB364	PNP	Ge AF
30	2SB382	PNP	Ge
31	2SB544	PNP	Si
32	2SB56	PNP	Ge
33	2SC1417	NPN	Si RF
34	2SC1846	NPN	Si
35	417-108	NPN	Si
36	417-110 (2)	NPN	Si "S2090", AF, Sw
37	417-116	PNP	Si "S2091", AF/IF/RF Amp
38	417-222	NPN Darl	Si
39	417-235	PNP	Si "2N4121", UHF
40	417-818	NPN	Si
41	4JD1E21	PNP	Ge
42	6534-D	PNP	Si RF
43	6550	PNP	Si RF
44	A221	PNP	Ge RF
45	BC312 ?	NPN	Si RF
46	BF343	NPN	Si
47	BF881 ?	NPN	Si
48	C9014 (2)	NPN	Si Small Sig
49	C9015 (2)	PNP	Si Small Sig
50	CS9012	PNP	Si RF
51	CS9013 (2)	NPN	Si
52	CS9014 (11)	NPN	Si RF
53	GE-28 (10)	NPN	Si
54	GE208 (4)	PNP	Ge RF
55	IR702P (2)	NPN Darl	Si Pwr
56	IRF630B (2)	N-chan MOSFET	Si Pwr
57	L2203N	N-chan MOSFET	Si Pwr
58	MJE5979	NPN	Si Pwr
59	MPSA20 ?	NPN	Si GP, RF
60	N30AP (2)	N-chan MOSFET	Pwr
61	RS2004	PNP	Ge
62	RS2029	P-N UniJ	Si "2N4891", Relax Osc
63	STD888 ?	PNP ?	

HAMSTER HINTS

Doing the bulk of this was arduous, but perseverance, with breaks to do other things, did make it possible. Once I had everything properly identified, I used a highlighter on each tag, to identify the actual part number I would use in the inventory list. After all of that preliminary work, I quite easily created the inventory list (a text file on computer, with one part per line, which I can lexicographically sort, using the Notepad++ file editor). I then printed the list, to go into the box that will contain all of the little bags. Near the end, my XYL graciously helped me to double-check the list, against the actual bags of parts (about 75, as some contain multiples).

This whole process took many hours, but I'm glad I did it. Now I'll be able to experiment with (and optimize) my designs much easier. ("Why have the parts if you don't know what you have?") It makes the hobby more fun, and I still hope to do the CPO project soon!

KE0EXE's entire semiconductor collection (almost!), on the kitchen table.

CONTEST CORNER

Fred (K4IU) k4iu@me.com

Every weekend in May offers a radio related opportunity ranging from contests, epic Hamventions to local public service. Although we don't often discuss weekday activities, there are many to chose from especially if you like CW. These include CWTs (CWops) mini tests, K1USN slow speed tests (SSTs) and NCCC RTTY sprints on Thursday evenings. However, these are the main May events:

- **May 6-7** 7QP/IN/DE/New England QSO parties: This is a full weekend activity. You can use the templates in either N3FJP or N1MM to participate and submit your logs

- **May 12** Med City Marathon public service opportunity: contact Steve, WØSTV if you can help out

- **May 13-14** Volta WW RTTY: This a 24 hour event and very popular amoung RTTY enthusiasts. There are several categories to include a limited time, 6 hour version.

- **May 18-21** Dayton Hamvention: This extravaganza attracts hams from everywhere so there aren't many noteworthy contest activities this weekend.

- **May 27-28** CQ WPX CW: The phone version of this was last month. Everyone works everyone. If you are trying to improve your CW skills this one will help in building your proficiency.

You can find out more about these events and others on the ARRL and WA7BNM calendars.

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CONTEST CORNER

In the early 1980s computers made their entrance into the world of amateur radio. Today they are an essential component to most ham stations and especially for those hams who also contest. One of the frequent contributors to the **RARC Elmers Net** posed this question to the group: " What should one consider when purchasing a ham station computer?" Excellent question! Here are some the responses which I have edited. I thought they were helpful.

The recommended specs for a computer for ham radio purposes depend on the specific needs and preferences of the user. As a rule of thumb, you will have to plan to spend anywhere between $600 and $1200 or so for a dedicated ham radio computer although refurbished or surplus computers can save hundreds of dollars. The CPU (or processor) should be as high-powered as possible, with anything between a 2 GHz and 3 GHz Quad core processor being more than adequate to handle most ham radio needs. Several recommended prioritizing faster CPU capabilities, RAM (more is better), and getting a solid-state hard drive if the budget permits.
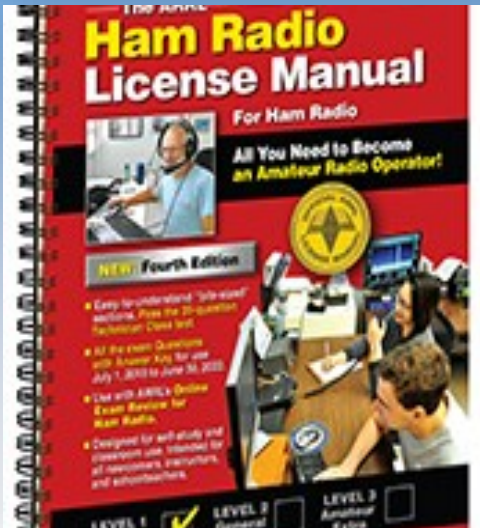
A few hams use Macs and Mac-OS but most ham-shack computers are Windows based machines. It should be noted that most of the software available for ham applications runs on the Windows operating system. Additionally, a soundcard and at least one free USB2.0 (or higher) port are required for those planning to use with SDRs and/or give you ham computer more flexibility.

Whether you buy or build a computer for ham radio purposes depends on your abilities and preferences. Building a computer allows for customization and can be a fun project for those interested and skilled in technology but it is beyond this ham's abilities!!! Buying a pre-built computer can save time and ensure that all components are compatible with each other. These days it's hard to imagine ham radio not having computers tightly integrated with a contemporary station.

73 Fred K4IU

EDUCATION

Dave (KØVH) dcnaatz@gmail.com

- **On Thursday April 27th Dave (K0VH), Steve (W0STV)** and **Bill (K0RGR)** presented information on **"What Is Ham Radio"** to a group interested in learning more and possibly becoming licensed Hams in 2023. During the 90 minutes we had a lot of Q & As covering many parts of Ham Radio especially related to emergency services and for communicating in disasters. The meeting was attended by 14 people.

- We have also been requested to repeat our presentation for a **men's group in Pine Island** in May. More later.

- Check out the **YouTube videos** for **new license training** from **ARRL** and **Dave Casler (KE0OG)** There are a LOT of videos, but we do have something to point new hams at along with the License Manual. **https://learn.arrl.org/courses/?pathPage=%2Farrl%2Fcourses**

73 **Dave Naatz** (K0VH)

125 LIVE RADIO PROJECT

Steve Wiebke (W0STV) w0stv@yahoo.com

The 125 LIVE ham radio station is moving ahead slowly but it is moving. The **equipment cabinet** is installed (**photos below**) and we will see when we can install the antennas after the roof HVAC unit is replaced. The group of people interested in getting their Ham radio license met with the RARC educational team on April 27th. A report will be presented at the next RARC meeting and in this issue on **page 11**. We are promoting being able to teach Ham radio classes at 125 Live.

TECHNICAL COMMITTEE

Eric (KF0S) - <u>kf0s@yahoo.com</u>

Technical Committee Meeting - April 10, 2023

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

Post meeting and RARC meeting comments in italics

- **443.85 D-Star repeater:**

In the process up reinstalling CentOS and the Gateway software on the Dell from Mayo. I noticed there is some fan noise, but not sure which fan at this point, CPU or muffin?

Taylor may have a HP we can use instead (already has a SSD). This would allow us to keep the current data as a backup.

This machine is not available.

Eric and Taylor to touch base and determine a path forward with hardware.

- **146.625 Fusion repeater:**

SM MN Net on Fusion side. Can we put on calendar and into the pre-amble/

- **Rochester EOC facility and computers:**

Batteries. John will talk with Kyle.

- **125 Live:**

Cabinet status. Should be done by the 15th.

April was planned for antenna work (maybe a Saturday), but there is now some HVAC worked planned on the roof and we will want to wait until that is completed.

- **Education:**

4/27 at St. James Coffee House. 20 or so people are interest in various license classes. Local and long range (mission work).

- **Other Items:**

Cans:

Steve to work with selling these cans, possibly with ANCOM. Maybe John would like a set for his repeater.

They use E-bay sales history to determine price of used equipment.

Parks On The Air ® (POTA)

Mark (K0GMK) gmkelm@charter.net **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!

Be sure to watch this page for upcoming spring and summer RARC POTA get-togethers.

JM ROCKET RADIO CLUB

Melissa (KE0WNH) - Mentor melissa.ke0wnh@gmail.com

Melissa with Astronaut Fred Haise

Mel (KCOP) Rover

RARC BUY OR SELL

Icom ic-7410 HF/60 MHz Transceiver

160m-6m. Full power into dummy load. Comes with mic, DC power cord and printed user manual. It does not have either optional roofing filter. Cash only.

Rob (KE0PWN) rgolley2@hotmail.com Price: $650.00

FT-991A ALL-BAND, MULTIMODE PORTABLE TRANSCEIVER The FT-991A is the next generation in all mode, all band MF/HF/VHF/UHF transceiver with C4FM (System Fusion) Digital capability. The FT-991A includes multi-mode operation on CW, AM, FM, SSB, and Digital Modes (Packet, PSK31, RTTY and C4FM), with 100 Watts of HF/50mhz Capability (50 Watts VHF/UHF). This transceiver is owned by a ham radio friend of mine. Please contact me directly. Price: $975.00

Bob Dubke (K0SIR) red@bobdubke.com (507) 398-5964

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

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. 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 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 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. 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 benefit 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 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
- **Email:**   If not a member, 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

- **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** 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