



THE RARA RAG

Newsletter of The Rochester Amateur Radio Association, Inc.
Founded in 1931

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G5RV ON STEROIDS — ONLINE MEETING AND PRESENTATION

SCOTT THEIS, W2LW, RARA VICE PRESIDENT

Hopefully everybody is in a groove now at home; I am looking forward to returning to my office, so I don't constantly have pets at my feet. That being said, we are all continuing on our remote web odyssey. Our May meeting will be web-based like last month, and we will also be having a rare June General Meeting, likely online.

This month we are going to look at the world's most popular wire antenna, the G5RV — and — it has gotten better!

Jim Stefano, W2COP, along with testimonials from several area hams, will show how to get the most out of your G5RV using this simple modification he found that was derived from computer modeling. This highly efficient design works from 6-160M, with no antenna tuner required on 5 of those bands.



Jim is a Systems Administrator at Rochester Institute of Technology-Electrical Engineering and an advisor for the RIT Amateur Radio Club (K2GXT). He has wide interests in ham radio ranging from repeater network design, radio/IP and HF/VHF operation. He is also a retired police officer and current firefighter.

To register for the meeting, please go to:

<https://attendee.gotowebinar.com/register/4876202534059402765>

There are 100 available slots and the system allows overbooking, so arrive early. The event will also be broadcast via YouTube but obviously you will not be able to interact. Additional information and links will be posted on the [RARA website](#) prior to the meeting.

So, bring your own donuts or snacks and enjoy the meeting at home — Join us online on Wednesday, May 6, 2020 at 7:00PM. Please arrive a little early to make sure you are completely set up.

AGAIN — DO NOT COME TO THE BSA/SWC — YOU WILL BE ALONE!!

Important Notice! The Rochester Amateur Radio Association will not hold the 93rd Annual Rochester Hamfest on June 6, 2020, due to the Coronavirus/Covid-19 Pandemic. We have decided not to reschedule so as not to compete with other area events in the summer. We will have a presence at the RocCityNet Hamfest August 29th, 2020.





**Ham Nation—Episode 450—Wednesday April 22, 2020
Bob Heil interviewing Tim Guyot, KB1POP
Our President**

<https://twit.tv/shows/ham-nation/episodes/450?autostart=false>

Great Interview Tim

Living Up to Our Mission as Amateur Radio Operators

Our club exists to promote our hobby of Amateur Radio. In the U.S., Part 97 is the section of Federal Communications Commission (FCC) rules and regulations that pertain to Amateur Radio and the conduct of amateur radio operators. It is a part of Title 47 of the Code of Federal Regulations. Amateur Radio exists to benefit the common good in 5 ways. To paraphrase the points made in section 97.1, they are:

- A. We are a voluntary noncommercial communication service, providing emergency communications.
- B. We contribute to the advancement of the radio art.
- C. We advance skills in both the communication and technical phases of the art.
- D. We expand the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.
- E. We enhance international goodwill.

Point D is the focus of this month's Buzz. The idea of expanding the technical reservoir is stressed in the mission statement of RARA where we commit to "Promote scientific education and knowledge of radio engineering and communication skills by facilitating the exchange of information, improving individual operating efficiency and strengthening the welfare of amateur radio in the community."

Our community is facing many problems as a result of the global COVID-19 pandemic. Normal ways of working and interacting as a community have literally been turned upside down. Social distancing guidelines have forced us to seek physical separation and gathering in large groups is to be avoided as a way of slowing the spread of infection. Many of the ways that we interact have been replaced with electronic communication, especially using computers. Our own RARA meetings have been replaced with Zoom teleconferences, Gotomeeting meetings, and other electronic chat vehicles. Monday, March 16 was declared the biggest day ever for video conferencing. A Google search on the words "social networking COVID 19" yields over 2 billion results. Traffic on the majority of these services is way up. Sales of webcams, headsets, and computers have been very strong. There is currently a shortage of many types of these items.

All of these changes provide us an opportunity to help the community and be that reservoir of trained operators, technicians, and trained operators for family, friends, and community organizations. I have received many phone calls from folks asking for help in connecting new items or questions like "How do I do this or that?" I know of at least four hams who have assisted churches or civic organizations in setting up video live streams or other forms of broadcasts. The things that we have learned through Amateur Radio have applications in new

areas. Those of us who have participated in online meetings have brought our experience from ham radio and it helped us learn those new skills that are needed in the wider community. We are recognized both as individuals and as a club as having the knowledge and experience to help others realize their electronic communications needs.

Silent Key

Eric Melenbacker
KA2POP
April 16, 2020

CALENDAR OF EVENTS

WEDNESDAY MAY 6, 2020 - RARA General Meeting
7:00 PM - ON LINE

<https://attendee.gotowebinar.com/register/4876202534059402765>

TBD MAY, 2020 - RARA Board of Directors Meeting
6:30PM ON LINE
Email request for link to secretary@rochesterham.org

SATURDAY TBD HAMFEST 2020

SATURDAY JULY 11, 2020 RARA PICNIC 2020



EDUCATION

TIM BROWN, WB2PAY, EDUCATION COORDINATOR

RARA LICENSE COURSES

We have entered a unique period of education. Distance Learning will be the norm for a while.

With the Covid-19 Pandemic, license classes had to be terminated.

RARA wants students to have resources in addition to reading the License Manual.

RARA Education is offering tutoring for those having a problem with the license material or need a topic explained.

Those preparing for the Technician, General or Extra licenses may arrange for a 1 on 1 tutoring session by emailing education@rochesterham.org

Include your phone number and what topics you wish to discuss with an Elmer.

If needed, we may arrange an online video meeting using Zoom. Zoom may be downloaded at <https://zoom.us/download>

Please continue studying and taking online tests. This period of isolation will not last forever. Together we can get through this.

NOTICE — Due to the COVID-19 Pandemic Testing Has Been Cancelled Until the Fall of 2020

RARA ACADEMY WORKSHOPS

The April 11th DSTAR Academy was held using the Zoom video conference platform.

I want to thank Mike Moore, KC2NM, for being the first RARA Academy presenter to use the Zoom platform. There were 61 participants.

Thanks to Brian Duff, WM2W, for hosting the Academy and his employer Douglass Mauro of TruePath Technologies, Inc for donating the use of their business Zoom account for our training.

May 2nd (10am - Noon) -- DMR Digital Mobile Radio

The DMR radio is made up of three layers: Network, Link and Radio.

- We will start with the Brandmeister dashboard and learn about talk groups.
- Then discuss repeaters and hot spots.
- Next is the radio with zones, channels and scan lists. We will review the CPS programming tool, talk about code plugs, and then learn how to program the radio.
- We will wrap up with operations and digital nets. Come join us!

Presenter is Rich Hoffarth, K2AXP

PARKS ON THE AIR originally planned for May 9th will be rescheduled.

May 16th (10am - Noon) -- FUSION Radio

The Academy session will cover:

- What is Fusion
 - Comparison to other digital modes
- Getting started in Fusion
- Fusion product line
 - Choosing a radio
- Operating Fusion
 - Repeaters
 - Wires-X
 - Modes: PDN and HRI
 - Hotspots
 - Reflectors
 - Optimizing your hotspot
 - Radio Programming
 - Radio Etiquette
- Where to go for more information

Presenter is Steve Verzulli, KA1CNF

These Academies will use Zoom.

Pre-registration links will be available after April 27th at https://www.rochesterham.org/rara_academy.htm

PUBLIC SERVICE REPORT

MIKE MOORE, KC2NM, PUBLIC SERVICE COORDINATOR

Due to the limitations posed by the COVID-19 shutdown, the Rochester Tour de Cure will not be held as planned on June 13. The event leadership team, working with ADA on the national level, has rescheduled our Tour de Cure for Saturday, Oct. 3rd.

RARA members are encouraged to continue to sign-up at the [RARA Public Service Page](#) and prepare to participate in this event. The American Diabetes Association (ADA) Tour de Cure starts and ends in the Xerox Campus in Webster on Saturday, October 3rd. It runs from 6 AM to 4:30 PM. To sign up to help with Tour de Cure go to the Public Service Menu at the RARA Website http://rochesterham.org/public_service.htm. There you can click on the ADA Tour de Cure "Sign Up" link on the right-hand side of the page. This link leads to a Google Form for you to register your sign up information. We will guard your personal information and see that it is used only as needed by the event organizers. You will only be identified using your FCC Callsign and first name. Please complete the form and hit "Submit". You will receive a confirmation screen with instructions about radio programming. The following Amateur Operators have signed up (KC2NM, KD2DNO, KS2JEK, K5KHK). This is a start but we need several more operators to make the event the success that we want it to be. We are given pick-up trucks to use for the event and I would encourage you to opt to use one of these brand new vehicles. This sure to add to your fun! There is also a link for event information which will allow you to see the routes and get more information. If you prefer, you may sign up by contacting the event captain, Mike Moore KC2NM directly via email at mikemoore@ieee.org.

Tour de Cure is a bicycle ride with several routes and they are the same routes as in 2019 except that there will not be a 100-mile ride. The new event plan would place the 100-mile riders on the 62.5-mile route and eliminate the rest stops which only supported the 100 milers. At this time it is not known if there will be changes to the start time to accommodate this route change. The 12, 25, 40, and 62.5-mile routes follow Lake Rd East from Xerox and then loop back to

the finish. All routes feature beautiful lakefront views and travel through small towns of Wayne and Monroe Counties. There is also a short ride and walk local to the event site. If you have non-ham family members who would like to participate, we can use them as phone operators and there are many other volunteer opportunities. Teams compete in this ride and obtain sponsorships for donations to the efforts of the ADA which has as its mission to prevent and cure diabetes and to improve the lives of all those with diabetes. This is a very important event for our community. This year's Rochester goal is to have 123 teams competing with 1,623 riders to raise \$1,150,000.00! Through the efforts of volunteers such as yourselves, the 2017-2019 Tour de Cure were the most successful in the US.

RARA provides primary communications for this event with sweep operators driving on the course who identify problems on the course and communicate with net control at the command center using mobile radios. SAG (Support and Gear) vehicles can help riders with minor mechanical problems or transport them to rest stops where mechanical help is available. Net Control is located at the command center and coordinates communications using Amateur Radio volunteers and with telephone operators from the ADA. Hams are needed for the sweep, SAG, and Net Control Operations. This event is a chance for us to hone our skills as radio operators in a setting that provides real help to our community. Please consider signing up to help as soon as you can so that we can communicate the route information and other needs. The training and safety meeting (with sandwiches) that was to be held on June 1 will be rescheduled to September.

Please mark your calendars for our upcoming RARA Public Service Events

Bike MS: ROC the Ride	Genesee Valley Park - Rochester, NY	Saturday	Sept 12, 2020
Fairport Lift Bridge Regatta	Erie Canal – Fairport, NY	Saturday	Sept 19, 2020
Tour de Cure	Xerox Campus Webster	Saturday	Oct. 3, 2020
Pumpkin Patrol	Overpasses of the New York State Thruway	Friday & Saturday	Oct. 30-31, 2020
Holiday Science & Technology Days	Rochester Museum & Science Center	Monday - Wednesday	Dec. 28-30, 2020

THE QUARANTINE Q-19 REGEN RECEIVER (DESIGN BY C. KITCHIN)

BY BILL HOPKINS, AA2YV

Geeky Grandparent Gifts

Last year I built the little "Sawdust" receiver for a grandson in the Midwest. It certainly doesn't look like a radio; it also produces a very weak output. Still, Colin faithfully listens to 40 meter SSB signals on 30 feet of 28 gauge magnet wire and proudly informs me that the 9 volt battery is still going strong; no ground connection available, BTW.

This gift turned out to be an embarrassment for me. Still, I didn't want to over-challenge Boo and his digital-gadget savvy, but non-radio, super-busy parents by supplying them with a used eBay general coverage receiver that would fill half a desk. What to do?

What about a Regen?

I may have made, possibly, my second mistake by deciding on a regenerative receiver for the lad. (I don't really know this yet. Let's see how he manages the constant settings and squealing oscillation, once he gets it in the mail. He's a bright kid.)

I decided on one of the many solid-state designs by Charles Kitchin (N1TEV). It uses a 2N2222 for the RF amp - providing some attenuation of any re-transmitted signal onto the antenna - an MPF102 (JFET) for the amplifier-detector-regen stage, and an LM386 IC as low impedance output to a speaker

or earphones. I opted for the speaker. (I briefly mentioned this receiver in last month's RAG.)



Would this design be any better than receivers using double triodes? (BTW, a tube regen would require a power supply connected to 117VAC, a no-go region for kids.) For what it's worth, I've found that tubes like the 12AT7 or 6SN7 usually provide for smoother regeneration transition points over solid-state architecture. Pedro Arnaud's (6H1YZY) YouTube demonstration of the Kitchin design ([youtube.com/watch?v=O9QQ6GkiINQ&t=33s](https://www.youtube.com/watch?v=O9QQ6GkiINQ&t=33s))

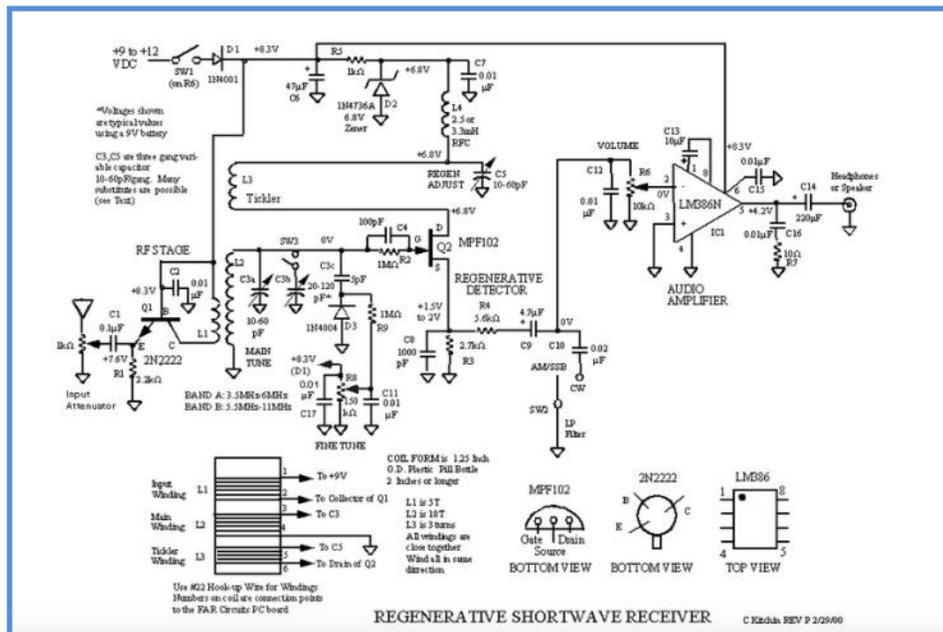
tipped the balance for me. It is super simple, and a prefabricated PC board would shorten the build.



FAR Circuits still sells the 2 1/2-by-4-inch PC board for \$6.00 (at: [farcircuits.net/receiver1.htm](https://www.farcircuits.net/receiver1.htm) - look for "Billerica"). Fortunately, I purchased two of them in January. All I needed to do was to find the parts in my semi-organized stash in the basement workshop. I already had wood framing pieces pre-cut from a former regen project. Instead of an aluminum front panel to reduce hand capacitance, I could simply glue aluminum foil to the inside of the Masonite.

The Quarantine Blues

Then came March 2020, and everything shut down. I can't even order parts from China, frequent a hamfest or drop into Mayer Hardware for specialty items. Why not, I thought, find everything at the QTH and where necessary connect components in series or parallel to achieve accurate values? I already knew I could locate all three "solid" components. I collected enough for both PC boards. The biggest challenge was to identify a suitable tuning capacitor and one for the tickler circuit. (I have three boxes of junked variable caps.) This job required a bit of thought, to avoid irreversible construction mistakes. Just a hint:



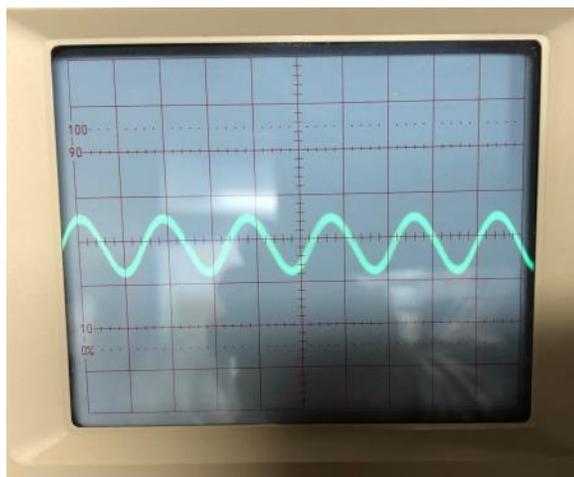
Should you find a pitiable, old AM broadcast radio at a garage sale (“some time” this summer), buy it!

Everything soldered, I did the smoke test; I got nothing, *nada*. First, I checked out the PC board for manufacturing errors. AOK. Then I found two cold solder joints connecting the coaxial jumpers on the bottom of the PC board. Second try. Nothing. Ah yes, I said, just rotate the regen control cap. No sound – just a click on power. With the tickler capacitor unsoldered, I tested it and found the shiny object to be defective.

So it was back to the three boxes to find a replacement. In the process, I decided to add a small bandspread cap (5-20pfd) to make close-in tuning a whole lot easier. The new tickler cap was larger than the defective one, so it juts out over the side of the chassis box by a smidgen and appears as a design flaw! Two large holes in the birch 1/4 inch side skirt and some Dremel-ing on the inside now clears a path for the tickler cap to rotate.

The Q-19, as I shall now call this receiver, fired right up. The radio is hot! The tickler transitions from AM to CW/Sideband at about 70pfd. The added little “fine tuning” POT that Kitchin put on the 1N4004 at the grid-leak gives an extra fine tuning capability: four ways, now to tune in a signal. I could fall in love with this radio.

Just for fun, I put it on the oscilloscope – connecting to the grid-leak – at 3.33MHz, the frequency for CHU Canadian Time. The signal appears regular all the way from about 2.5 up through 6MHz.



Seventy-five meter SSB and AM are a pleasure to copy. So is 60 meters. The signals are stable, even when the long wire whips around in the wind. On strong signals I often have to turn down the RF gain (1K POT) to avoid distortion. Up at 5.9 to 6.1MHz I found several Spanish stations, among them Radio Marti and Radio Havana, of course. Then to my surprise, in boomed the Japanese Nikkei Radio 1 (JOZ2) up at 6.055MHz from Chiba, Nagara Prefect, loud and clear. I believe I copied it around 8:30 p.m. Rochester time.

Roll your own

You can build this radio using ugly construction (or Manhattan style), or you can order the FAR Circuit PC board. Ease your effort by downloading the guidelines at: <http://www.tuberadio.com/receivers.html>.

HOW ARE YOU KEEPING BUSY?

FOREST SHICK, WA2MZG

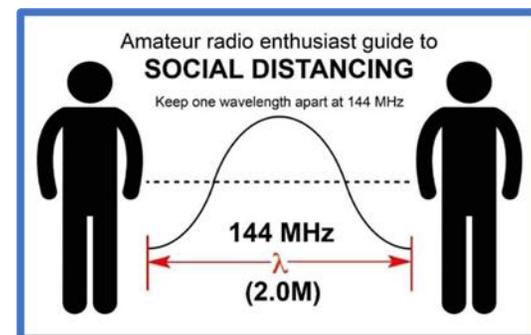
I hope everyone is practicing SOCIAL DISTANCING.

I hope you and your families are all safe and healthy.

That said, for me, this situation seems to have created a lot of free time. How about you?

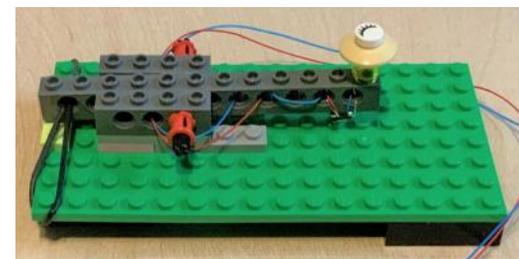
What are you doing with your free time? Have you tried anything new?

I've worked on my antennas, operated a bit, did some radio maintenance, worked around the yard, tried to come up with ideas to keep my grandkids busy so their mothers can get some rest.



Let's start with the grandkids. I challenged them to make a picture with their Legos.

Of course, one thing led to another and all of a sudden, I had this!



A straight key made from Lego's. And it works!!

Challenge!

What novel ham radio related item can you make out of Legos, Tinker Toys, Erector Set, the junk drawer in your kitchen, etc. Send me pictures with a title and I will put it in the June RAG.

I was making sauce the other day and ended up with 2 large cans: 6 in tall and 6 in diameter.

As a joke, I asked the RXCW group, what home project would this be good for?



Here are their ideas:

- A 2M antenna—Ed Wilkonski, K1EM (See Below)
- A container for used medical masks and gloves before recycling them. - Peter Fournia, W2SKY
- Crush up some charcoal, place it in the can, return the lid to the can after attaching leads – a carbon microphone—Bob Mooney



Todd Spath
N2TMS

- Jackie Boershleim, KD2RAE



Challenge!

Send in pictures of your ideas with a title and they will appear in the June RAG.

2M Antenna

My coffee can antenna consisted of a 1 Lb (Maxwell House) coffee can, a BNC connector, a variable capacitor and a 1/4" , 1/2 wave-length brass tube and some stones.

The Brass rod was soldered to the base of the can. The BNC connector was connected about two inches up from the bottom with a lead to the 1/4' rod. The trimmer cap was mounted at the top of the can with a lead to the rod.



A working microphone

CW QSO ACHIEVEMENT RECOGNITION FOR BEGINNERS AND RE-LEARNERS



Your Morse Code Elmers appreciate the large interest in CW and the response to our meetings. You may have attended some of our Morse Code sessions, practiced at home or have participated in on-air sessions. We would like to assist your journey by recognizing your achievement. Your mentors have designed a program to acknowledge this achievement.

Those of you who have expressed an interest in CW, through membership in RXCWG, have been emailed an invitation to participate in our RXCWG Achievement Challenge. This Challenge is for all Beginners and Re-Learners of Morse Code. Details on the Challenge are contained in the invitation.

The Challenge runs between May 1st and August 31st. If you are a CW Beginner or Re-Learner and are not participating in our group, you may sign up by May 1. Send an email to Forest Shick, WA2MZG, fshick3@gmail.com with your name and call sign.

We expect that your Morse Code may be very slow and contain errors in procedures. Many of you may need help getting your station on the air or refreshers on Morse Code. Your Elmers are available to help. We are available to assist you with development of your station. We will offer on-air practices as groups or one-on-one. Please use your Elmers.

For those of you that do not feel comfortable holding a CW QSO, we have a special CW SWL achievement award.

KLARA 2 METER FM SIMPLEX PHONE CHALLENGE CANCELLED FOR 2020

As most of you are aware, this event was scheduled for May 8, 2020. The organizers have decided, as a result of pleas from our elected officials and, out of an abundance of caution, **we need to cancel this event for 2020.**

Our thought process is as follows:

- 1) Our elected officials have left no doubt that they wish for all of us to self quarantine to the maximum extent possible. We wish to follow their direction.
- 2) While it would be possible to reconfigure this to work without the rover teams; those teams are really the heart and soul of the contest. Most of us already know what simplex is capable of from our homes!

So, we believe the decision to cancel is the correct one. Indeed, really, it's the only decision we can make. **We want all of you with us to participate next year!**

Please watch for us in 2021!

WHY RADIO?

MARTIN PEPE, (585) 298 – 0246 (c)

Experiences with the development of a Website for Radio Astronomy

Some of you that were 'at' our last RARA (virtual) meeting know that I expressed an interest in establishing a special interest section in Radio Astronomy. There are many people interested, but they're in diverse locations spread across WNY & upstate (ASRAS, RARA, VHF, BAA, etc.). Did you know that modern Radio Astronomy was STARTED by a ham radio operator (Grote Reber) back in the 1930's?

Towards that end I've started writing a set of webpages related to Radio Astronomy (Intro, History, etc.), rooted in the [ASRAS](http://www.asras.org) astronomy website, meant for word-press.

The intention is to expand this into both completed and ongoing projects that both individuals and groups can begin to build and operate, then share actual hardware (& software) results.

Below please find the first few (images) of pages. I ask you be patient, as we try to bring these items online. *A webmaster I'm not.*

Do you have an interest in Radio Astronomy or have a related special project? Drop me a line, and I'll add you to the DL list.

Check out some of the related links.

Ham Radio Club RARA – www.rochesterham.org

Astronomy @ ASRAS - <http://www.rochesterastronomy.org/>

Why Radio? - <http://www.rochesterastronomy.org/radio-astronomy/why-radio/>

Radio Astronomy Intro

Astronomy & Radio

Today, the fields of Astronomy & Radio are tightly linked. From the time of Galileo (1609) people have peered into the heavens looking through glass. In 1897 Marconi sent his first 'wireless (radio) telegram' message.

Who would have thought that a mere 31 years later (1934) these two disciplines would stumble across each other, and, create the most powerful tool with which to understand our very existence and place in the universe.

Galileo Galilei – Although NOT the inventor of the Telescope – He was the first to perfect it. Galileo discovered four of the many moons of Jupiter by using a telescope like this one (right). Its glass lenses were no better than that of the bottom of a common pop bottle. Today, on a clear night, you can see the 4 Galilean moons (Io, Europa, Ganymede, Callisto) by using a pair of simple binoculars from Walmart.

Why Radio? Atmospheric Absorption

Only VISIBLE & RADIO waves make it all the way to the ground. X-Rays, UV, IR, etc. get absorbed by our atmosphere. With Lake Ontario to our North, and Lake Erie to our West, WNY easily makes the cloudiest area of the country (more partly cloudy days than Seattle!) You cannot use an optical telescope when it's cloudy, so..... Switch to a longer Wavelength ☺ The Longer Radio Waves go right through clouds & moisture.

A Brief History

1928: Karl Jansky – Bell Laboratories

In 1928 Karl Jansky started working on a long wire antenna for Bell Laboratories to Europe using the 20.5 MHz band. Results were erratic as they encountered a 'hiss' that repeated exactly every 23 hrs. & 56 min (NOT 24 hrs.). Furthermore, the baseline noise level, repeated & tracked each month in every year. Unknowingly, they were receiving celestial radio emissions from planets, the Sun, stars, galaxies, etc. The reason for the 23 hrs. 56 min. repeat, was that's exactly how long it takes for the Earth to make one complete revolution (1 day) on its axis (not 24 hrs.). Additionally, the baseline repeat each month of the year, was that their antenna was pointed out to a different location in deep sky (for the same reason you don't see the constellation Orion in the summer & Scorpius in the winter), and they were also receiving synchrotron radiation from the cosmic ray background (CMB).

A bright grad student, and avid ham radio operator, **Grote Reber** wanted to join this team to continue this work. But alas, the project was canceled & he was not hired. Undaunted, Grote built a dish antenna in his mother's back yard of suburban Chicago, then added a chart recorder to give himself a hardcopy record of his experiments. He had to switch to evening work, as there was too much interference (RFI) during the day from car ignitions, and industry. I'm sure he raised some suspicions from the neighbors & government as the year was 1943! But it helped to put Ham Radio research on the map during and after WW II.

Book - Cosmic Noise --> A History of early Radio Astronomy

FROM VHF GREENHORN TO JOURNEYMAN YOUR HF RADIO'S UNUSED 2 METER SSB SETTING

(AKA: A SIMPLE ANTENNA FOR 2 METER DX)

EV TUPIS, W2EV

You have an HF radio with 2 meters in it, but no horizontal antenna for SSB DX? Change that during the "social distancing" initiative by building your own 2 meter antenna, cut for 144 MHz SSB and 145 MHz satellites.

The June VHF Contest is just far enough away to give you time to make the antenna...but close enough that you shouldn't delay too long before you start. You will be amazed how far you can work with a simple, horizontal antenna.

Below is an article written by Kent Brittain, WA5VJB. I've transcribed it here, to give you some ideas and motivation.

This antenna is a GREAT performer for both home stations and rovers, who are looking to add some "volume" to their "voice" on the 2 meter "DX" mode...SSB and CW and FT8 (tropo) and FSK144 (meteors).



Full credit (and thanks) goes to Kent, WA5VJB.

Typically a high gain antenna is designed in the computer, then you try to come up with a driven element matching arrangement for some weird impedance. In this design, compromises for the feed impedance, asymmetrical feed, simple measurements, wide bandwidth, and trade-offs for a very clean pattern cost about 1/2 dB of gain (undetectable to the ear, by the way). You can build these antennas for under \$10!

The antennas were designed with YagiMax, tweaked in NEC and the driven elements experimentally determined on the antenna range.

Parts list:

- Boom: 3/4" square or 1/2 x 3/4" wood
- Driven element: Silicon bronze welding rod, hobby tube or #10 solid copper wire
- Other elements: Aluminum solid ground wire or tube
- Adhesive to keep elements in place: "Super Glue", Epoxy or RTV
- Securing your coax to the wood boom: Tie wraps

NOTE: All dimensions in inches

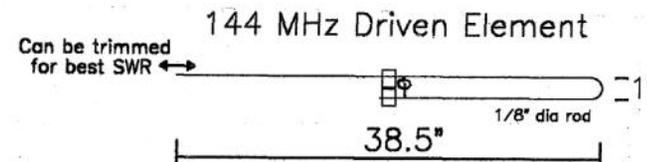
NOTE: All elements are 3/16" diameter

	Ref	Driven	D1	D2	D3	D4
3 Element	Length Spacing	41 0	----- 8 1/2	37 20		
4 Element	Length Spacing	41 0	----- 8 1/2	37 1/2 19 1/4	33 40 1/2	
6 Element	Length Spacing	40 1/2 0	----- 7 1/2	37 1/2 16 1/2	36 1/2 34	36 1/2 52 32 3/4 70

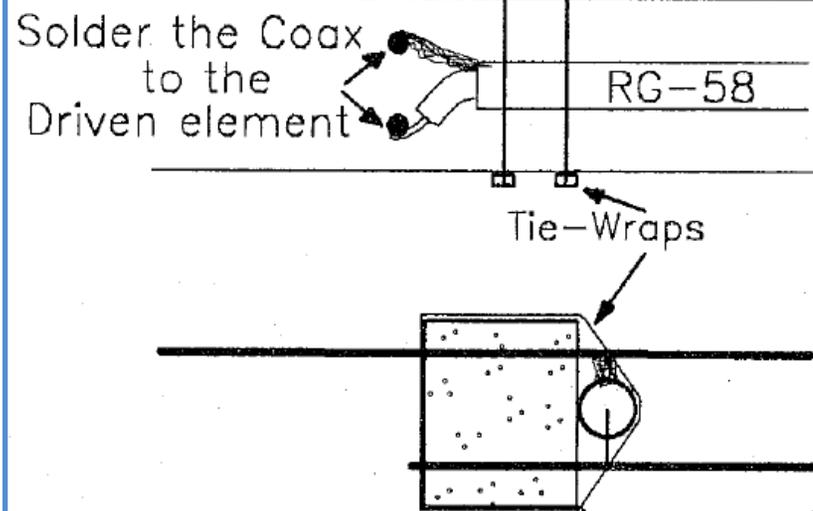
Driven Element

144 MHz

Driven Element: All versions



Driven Element Detail



BLAST FROM THE PAST

FOREST SHICK, WA2MZG

Recently I stumbled on this newsletter from June 1967. It is from the Kekionga Amateur Radio Club, W9BHR, Indiana Institute of Technology in Fort Wayne, Indiana. It was in the archives of Chuck Bliley, K3NAU.

http://www.bliley.net/K3NAU/K3NAU_Welcome.html



Here are a few of the interesting articles, if you can read them.

First line: Hriczo and Paragi

OO: Official Observer

WOULD YOU BELIEVE (OO)?
Hriczo and Paragi are tied in their contest to see who can get the most "OO" reports. There will be a playoff during the fall quarter. Anyone wishing to join the contest must show proof that he has received at least two "OO" reports, or one "OO" report and an FCC Pink ticket, or one FCC "green" ticket. Ed WN2WMM

A few VHF articles.

RULE OF THUMB FOR VHF
Ground everything in sight;
If you can't ground it, bypass it;
If you can't bypass it, shield it;
If you can't shield it, forget it;
If you can't forget it, do homework.
Jerry WA9QKO

SIX METER FM

Long past due is club thanks to Jim Dougherty, K9ZYH, who graciously loaned us his six meter FM fixed frequency transmitter and receiver. In order to make fixed frequency operation the same throughout the country, the ARRL has asked that 52.525 Mc. be used on six, and 146.825 Mc on two. In practically all sections of the US, these frequencies are used. In the Ft. Wayne area, 6 FM has been established on these frequencies for quite a few years, while 2 FM is steadily gaining in popularity. The rig that Jim loaned us has about 35 watts of output and has worked stations up to 25 miles away. Considering the 4 db loss in the 100 ft. of RG-58 feed line used, that isn't too bad.

VHF BOYS GET READY

I was recently thumbing through the latest QST and happened upon the VHF section. This was a pure accident, you understand. My eyes fell upon the 50 Mhz section. I started to read and my eyes got bigger and bigger. Six meters is really coming back to life. The article mentioned that 6-land has been working consistently into South America since January. Six-land is a long way from us; but the article also mentioned that several K8's reported hearing a South African station about 50.250 for a solid half-hour.

Paging through Z3 I found similar results plus the propagation forecast mentioning a 50% or better chance of South American QSO's between 3 and 12 in the morning and 5 and 8 in the evening.

Could six meters ever replace twenty meters??

Jerry WA9QKO

(Do you also realize that they are soon expecting some rare 2 meter skip? Editor)

A COUPLE OF CW PROJECTS FOR QUARANTINE

DON KISER

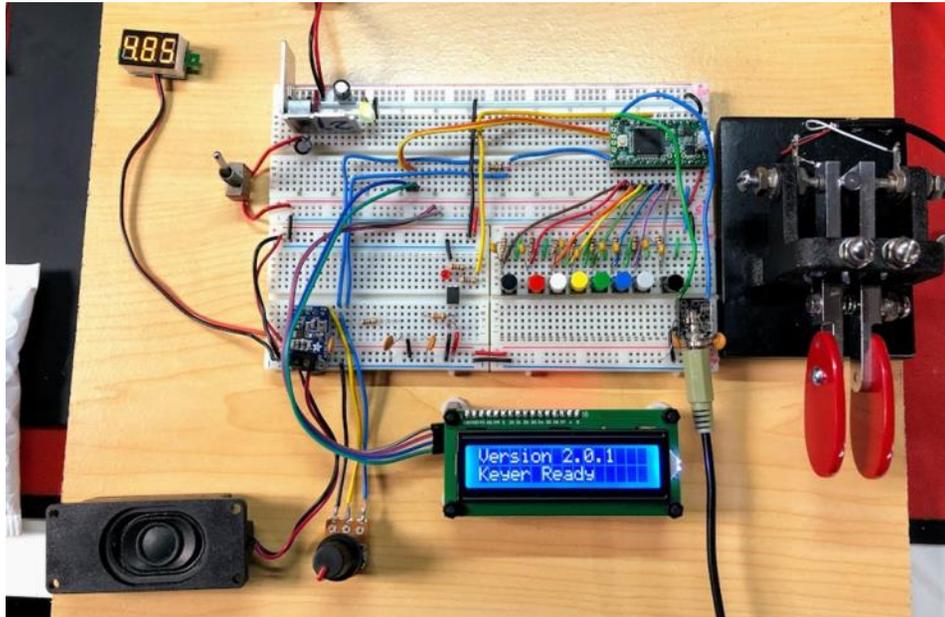
Whether you're retired, furloughed, unemployed, or working from home you may have found yourself with some extra time on your hands. Now, is a good time to put those extra minutes/hours/days to use and either work on a new project, resurrect an old one, learn Morse code, or a little bit of everything.

March and April has had me with unusually free weekends so I bring you not one but two CW keyers. Both projects utilize c in the Arduino IDE and don't utilize pure c. If you're reading this in May then hopefully the Covid-19 quarantine has just ended.

Rather than pepper the article with links, I'll put them all at the end of the article.

WB8NBS Keyer

This is a work in progress as I patiently wait for some parts to arrive. For this reason, not pictured are the following: Battery charger and PS/2 keyboard connector. This project is destined for a permanent home in an enclosure after testing.



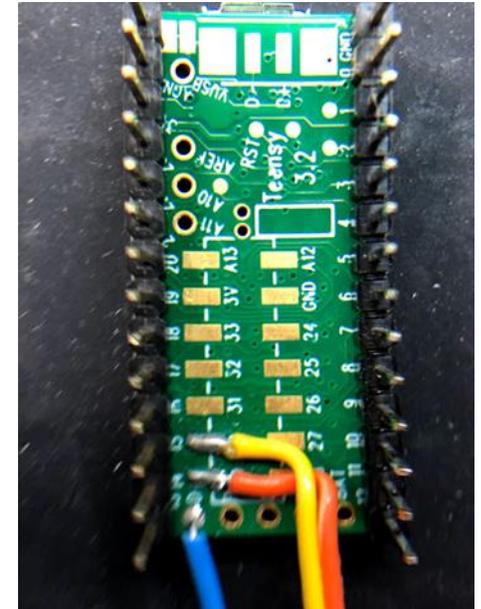
The project uses a Teensy 3.2 micro-controller available from pjrc.com. This device has the distinct privilege of having a 12 bit DAC (Digital to Analog Converter) which provides a pleasing audio output also the keying output ain't too shabby either. Along with this it also has not 1 but 2 I²C buses and built in firm-

ware to act as a USB keyboard.

What the heck is I²C? Well I'm glad you asked.

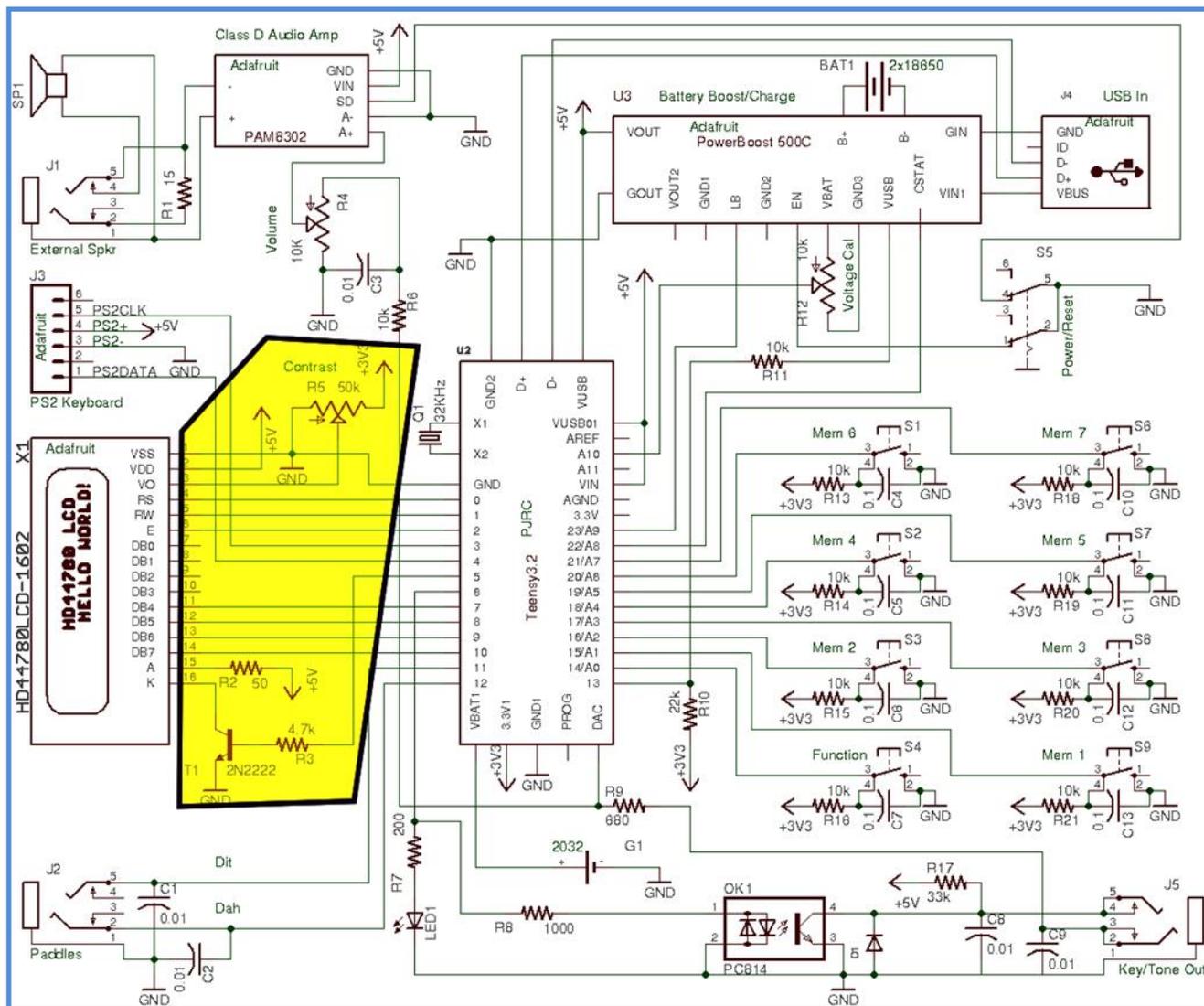
"I²C, pronounced I-squared-C, is a synchronous, multi-master, multi-slave, packet switched, single-ended, serial computer bus invented in 1982 by Philips Semiconductor. It is widely used for attaching lower-speed peripheral ICs to processors and microcontrollers in short-distance, intra-board communication." -Wikipedia

My version of the keyer is 90% WB8NBS's code with some enhancements. Instead of a standard LCD which requires 9 I/O pins I decided to use an I²C version which only requires 4. Jim uses the pins of the first I²C bus on the Teensy for the push buttons so I've compiled a new version of the LCD driver to use the second I²C bus which is located on the bottom side of the board on two small pads (29, 30).



The driver is available on Github, link below. Don't forget the pull-up resistors for the Data and Clock pins, 4.7K Ω will work well.

On the next page is WB8NBS's schematic using the standard LCD. The crudely highlighted components can be removed as the I²C bus requires only +5V, Gnd, SCL (29), SDA (30).



Jim's version is portable with a built in battery and charging circuit. At the time of writing this I have not implemented this functionality. It's quite simple to omit if desired. I also like that Jim has optically coupled the keyer output. This means less interference and cleaner output.

The second improvement I made was to utilize the Teensy's ability to act as a HID (Human Interface Device), in this case a keyboard. This is selectable at compile in the Arduino IDE. With this option you can send Morse Code and the device will output keyboard key presses of the characters sent. Who doesn't like typing in Morse? The device will also act a serial device and send the same characters as ASCII over the USB to Serial interface.

The PS/2 port is available to plug in a keyboard and type on the keyboard and send Morse out.

For fun, I may add a relay so that I can switch a lamp and have yet another output method. Social distancing via signal lamp for the win.

K3KNG Keyer

The second project comes by the way of K3KNG. If you want a keyer that has options then this is the keyer for you. There are over 900 options/features available at compile time. Because of this the Radio Artisan community has maintained an extensive wiki on all the features and a forum for help. I highly suggest reading the manual on this one.

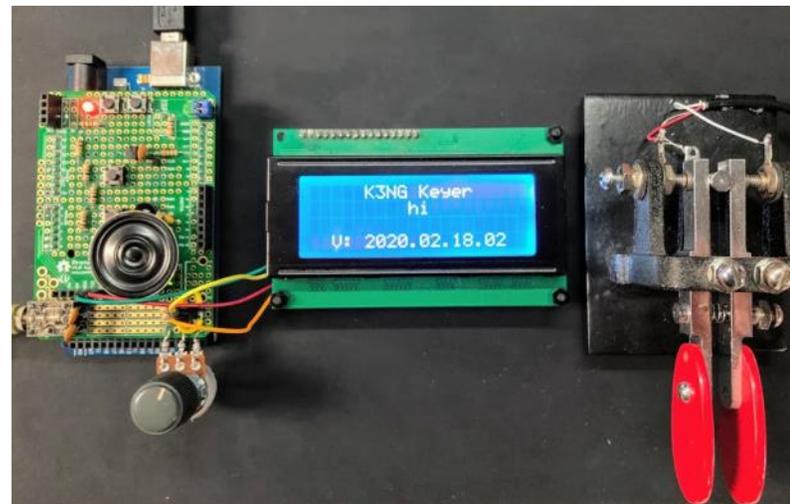
The K3KNG is programmable via the serial interface or by pressing the command button to put it in command mode then you can send CW to set various settings. As you add more features, at compile time, you'll use more space and the code will no longer fit on an Arduino UNO so a Mega2560 is recommended for the most fun. Careful pruning of the options may allow it to fit on an UNO.

The keyer is available as a kit/product from several vendors from the simple Mortty (\$23) to the full featured Open Interface III (\$320). I chose to DIY a version that I can add to as I desire.

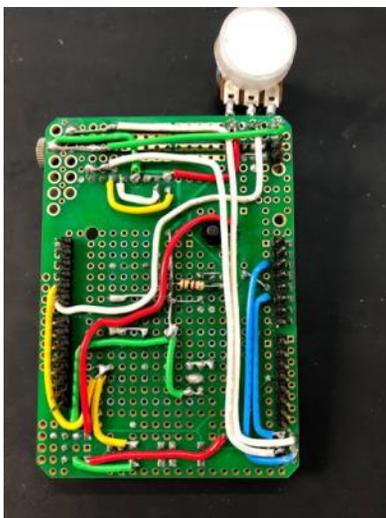
For this, I raided the storage bins and found the parts I bought from RadioShack at 90% off. I had two Seedstudio Protoshields that had been waiting for a project. The Protoshield is compatible with the Uno and Mega as long as you don't put the potentiometer in the way, I had to extend mine out a bit to

clear the extra I/O header on the Mega.

This product is still for sale from Seedstudio.com for \$9.90. It's got just enough parts to get you started. Take care to look at their documentation as not all the power points are connected to the Arduino and are meant for powering via secondary source.



The Protoshield is mostly free-form which can make for some very interesting wiring choices on the backside. I revised the layout several times before settling on the somewhat final incarnation seen here. I added the option to manually switch the left/right paddles, which as I found was unnecessary as the software supports reversing the paddles (command N), 900+ features of course that's an option. Remember what I wrote about reading the documentation.



Here is my finished K3NG keyer. I tried to keep the top as clean as possible as I most likely won't be putting this in a project box. Here's a quick tip the I2C pins are different between the Uno and the Mega. This is why the SCL and SDA are tucked next to the WPM pot. I chose to only place 2 memory push buttons at this time. The command button is top left, reset to the right. This LCD is also I2C and has a feature line that needs to be enabled. I tried several versions of the simple 1-transistor audio amplifier. I raided the junk drawer and settled on a 2N3638 button top. Why? Because it worked and sounded decent.

Hopefully this will give you some ideas. Happy coding.

Here are the links:

WB8NBS well documented project
<https://wb8nbs.wordpress.com/2016/02/11/arduino-iambic-keyer-2016-part-1-hardware/>

My version of the I2C LCD driver using the 2nd I2C bus
https://github.com/ac2ev/LiquidCrystal_I2C_T3

You'll also need nox771 wire.h replacement driver that uses the 2nd bus
https://github.com/nox771/i2c_t3

AC2EV Finished Project
https://github.com/ac2ev/MemoryKeyerTeensy3.2_V2.0

K3NG Keyer
<https://blog.radioartisan.com/arduino-cw-keyer/>

Support Group for K3NG
<https://blog.radioartisan.com/support-for-k3ng-projects/>

Keyer WIKI
https://github.com/k3ng/k3ng_cw_keyer/wiki

Seedstudio Protoshield
<https://www.seedstudio.com/Protoshield-Kit-for-Arduino-p-318.html>

Mortty Keyer
<https://hamprojects.info/mortty/>

RAGS OF THE PAST

ED GABLE, K2MP, RARA HISTORIAN

20 Years Ago, May 2000

At this time the RARA Vice President was Keith Freeberg (sk) N2BEL. True to a long term RARA tradition the sitting VP also had the role as Program Chmn for the year. As the VP also automatically moved to the position of President the following year, the Program Chmn position was never for more than one year. With that small bit of RARA history, this issue had Keith introducing RARA's annual Old Timers Night with Ed Gable K2MP/W2AN, then Curator of the A.W.A. Electronic Communication Museum as our host. Ed spoke on the formation of the ARRL, RARA and brought vintage ham gear for Show N' Tell. The May meeting is also RARA's annual business meeting where elections are held and other business is conducted. Nominated for the 2000-2001 season were Vice-President Peter Fournia W2SKY, Treasurer Dick Goslee K2VCZ and Secretary Howard Greenwald KC2ERG. For the Board of Directors: MaryKay Vesco KC2DPG, Ed Holdsworth (sk) N2EH, Cliff Milner K2SKO, Jack Tripp N2SNL, Allen Skiles Sr. W2AES, Jamie Anaanko N3ZSS, Scott Blystone K9EEE and Tom English N2YJY. Each nominee had a biography published in this issue. Peter Fournia W2SKY, wrote to announce the June 17th RARA Picnic to be held at the South Lodge in Ellison Park. Peter told of how last year's attendance was very high and anticipated the same in 2000. Jon Dickason N2JAC, challenged all to participate in what he called a challenging transmitter hunt. Lloyd Caves WB2EFU (N2PU) who for recent years wrote as the announcer of all things having to do with the Rochester Hamfest, in this issue appears as a guest author for an important announcement of New York State Bill PRB-1. This is the successfully implemented Bill that disallowed local laws prohibiting installation of Amateur Radio Antennas. The DX Happenings column proudly told that popular local DX'er Fred Gern W2TZ, was the recipient of RDXA's annual KE2WK Memorial Award. The article continued to announce the addition of two new Entities to the DXCC list; 4W East Timor and TX0 Chesterfield Island. At the seemingly exact minute 4W/W3UR and TX0DX appeared on the bands to give immediate satisfaction to all in need. April 15, 2000! Who remembers that historic date in Amateur Radio? Frank Fallon W2FF, wrote to tell us that this date was the start of code free HF operations in the U.S. Frank's well written article went on to say how important it was to meet, greet and help these new hams into our ranks. Ed Gable K2MP, wearing his Assistant Director, ARRL Atlantic Division hat, wrote to recognize and congratulate our own Ev Tupis W2EV, for his winning of QST's Cover Plaque Award. Ev's award winning article on how to use standard APRS software and modest 2M FM equipment as an automated Meteor Scatter station, appeared in the November 1999, QST. Taking the RARA Rag to a previously not obtained level of technical reporting was Bill McDonnell's (sk) KG2F, six part article on Amateur TV in Rochester. With regret it was announced that Charles Butterfield WA2VUF and William (Hank) Resch III, K4VOS, were reported as Silent Keys. There were no Want Ads in this issue, however Connecticut, an internet access provider by Kitt Diebold N2NNJ, remained a newish commercial advertiser.



the RARA RAG

Published by
ROCHESTER AMATEUR RADIO ASSOCIATION, INC.

VOL.52

May 2000

NO. 9

Old Timers Night

Keith Freeberg, N2BEL

For year 2000 we will be going waaaaay back into the history of ham radio, back to the very beginnings of the first licenses in 1912. We will look at the formation of the ARRL, RARA and even touch some real ham rigs of the period. A video tape depicting the actual voices of those who were there during the formative years will delight all attending. So come and hear Ed Gable, K2MP/W2AN, Curator of the A.W.A. Electronic Communication Museum, share these fascinating times.

RARA Picnic - June 17, Ellison Park

Peter Fournia, W2SKY

Will we beat last year's attendance?

Last years annual picnic was well attended. Maybe it was because of the free food or maybe it was because of the laid back enjoyment of eyeball QSO's. This year will be more of the same. Please join us Saturday June 17 at the South Lodge in Ellison Park after 11:00 AM. Ellison Park is on Blossom Rd. between the Browncroft Blvd. and Blossom Rd. exits of NY Rt. 590. There will be a sign to the South Lodge at the park entrance on Blossom Rd.

Look forward to a relaxed picnic with your fellow hams and significant others. Jon Dickason, N2JAC will challenge us to find his hidden transmitter, so bring your HT and your best body fade technique. We'll also be ready to play volleyball and baseball. The picnic is an enjoyable benefit of your RARA membership.

RARA Annual Meeting
May 5, 2000
Henrietta Fire Hall, 3129 E. Henrietta Rd.
Election Night and
Old Timers Night
Presented by Ed Gable, K2MP/W2AN

NOTICE OF ANNUAL MEETING

The Annual Meeting of the Membership of the Rochester Amateur Radio Association, Inc. will be held at the Henrietta Fire Hall, 3129 E. Henrietta Road, Henrietta, New York on May 5, 2000 at 8:00 p.m. for the following purposes:

- To elect officers
- To elect a Board of Directors
- To determine the dues for 2000-01.

NYS PRB-1 Bill

Lloyd R. Caves, WB2EFU

If you are not aware of it yet, there was a bill introduced in the New York State Assembly on March 7, 2000 that is very important to every Amateur Radio Operator in the state. That is Bill A9947 that concerns Amateur Radio antenna support structures.

Thanks to the effort of Frank Fallon, N2FF, ARRL Hudson Division Director there is a bill that has been introduced that would ease an amateur's ability to install towers or other antenna support structures. In part the bill reads "no local ordinance, by-law, rule or regulation, or other local law shall: (a) restrict amateur radio support structure height to less than ninety-five feet above ground level; or (b) restrict the number of antenna support structures". Complete wording and detail can be found at <http://www.arrl-hudson.org/a9947.html>. Frank encourages everyone to write their state assembly and state senate members to ask them to support the bill and/or to sign on as a co-sponsor.

In the past few years many of us have had to deal with the town zoning boards and get permits to install a very modest antenna. This experience has not been easy for most of us. In some cases it was even an expensive proposition. Now we have the chance to get a law passed in New York that could change all that. Lets all support this bill as Frank has requested. Remember that this is an election year and the governor was a Ham at one time. There is a good chance that if we all show our representatives that we support this bill it could be passed and put into law in a very short time period. Now is the time to act!!

RARA members this month were treated to a program by Scott Simpson W2UYY, and Leo Heiland N9TE, both guests from nearby Batavia, NY. Scott and Leo presented a professionally produced slide program on the Batavia based GRAM ARA's Field Day operations. This meeting also saw a change in venue where RARA members were guests of the Gleason Works Recreation Center. Also RARA's Annual business meeting was announced where the RARA Leadership nominees were; Otto Bluntzer WB2RJB, President, Don Drennan (sk) W2EBF to Vice-President, Dave Coleman N2AOB, Secretary and Gil Chapin WB2UTI, Treasurer. Hamfest ticket chairman Ed Gable K2MP, wrote urging folks to order their hamfest tickets ahead of time for one dollar off the \$5.00 gate price. You could also visit JR Amateur Radio on Scottsville Road who was acting as a ticket agent. Membership Chairman Bob Erskine W2NVZ, informed readers that RARA Membership then stood at 823 members. Writing his often seen articles on local DX happenings was Rick Berg WA2RLW, who this time offered his thoughts on how a well equipped station, capable of working multiple bands and modes, is the key to good DX totals. Tom Richmond WB2IEY, writing for the Rochester VHF Group, reported their six and two meter nets are getting more and more check-ins from stations further out and on AM, SSB and CW modes. With regret it was reported that Ed Barry WB2AMC, was reported a silent key. Ed was very well liked and known on the local six and two meter bands. He is responsible for encouraging enhanced local activity by starting the morning Liars Club net and the evening Champagne net. (The Champagne net is still going on 147.48 Mhz - Ed) Also reported as a silent key was Jim Fisk W1HR. Jim was the Editor-in-Chief of Ham Radio magazine and a good friend and supporter of RARA and their hamfests. From the Want Ads you could buy a complete Collins S-line from Don Bremer K2ISP. Superior Design, performing Engineering placement, with Dick Jenk WB2EEU, remains a commercial advertiser.

The RARA RAG

Published by

The Rochester Amateur Radio Association
INCORPORATED

VOL 32

MAY 1980

NO. 9

RaRa ANNUAL MEETING MAY 2nd GLEASON RECREATION CENTER

by Otto Bluntzer, WB2RJB

The May 2nd RaRa meeting will feature a field day lap dissolve slide program with keyed audio. The program was produced by Scott Simpson, W2UYY, a member of the Fort Wayne Radio Club. Scott has shown the feature at several Dayton Hamventions. His updated format will be shown here by Leo Heiland, N9TE, who lives in East Bethany near Batavia. Leo currently is President and Field Day Chairman for GRAM. ARRL has commented that this is the finest field day program they have seen. We hope that you too will enjoy the May 2nd presentation. At this meeting we hold election of Officers and Board Members for the 1980/1981 season. Elsewhere in this issue is the report of the Nominating Committee. Nominations will be accepted from the floor at the May meeting. It is common courtesy and practice to obtain prior acceptance from someone before nominating him or her from the floor.

As usual meeting time is promptly at 8:00 p.m. but again note the different meeting location which is the *Gleason Recreation Center, 1044 University Avenue.*

NOTICE OF ANNUAL MEETING

To the members:

The Annual Meeting of the Membership of Rochester Amateur Radio Association, Inc. will be held at the Gleason Works Recreation Center, 1044 University Avenue, Rochester, New York on May 2, 1980 at 8:00 p.m. for the following purposes:

- (1) To elect officers
- (2) To elect a Board of Directors
- (3) To determine the dues for 1980-81.

By Order of the Board of Directors
Don Drennan, Secretary

Rochester, New York
April 26, 1980

GET HAMFEST TICKETS NOW

There are three ways to get your advanced 1980 Rochester Hamfest and New York State ARRL Convention tickets. One convenient method would be to pick them up in person at the May 2nd RaRa meeting. Another way would be to pick them up at JR Amateur Radio of Rochester at 1185 Scottsville Road. Last but not least, you can order your tickets by mail from Rochester Hamfest - Tickets, 737 Latta Road, Rochester, NY 14612. All advanced registration tickets are \$4.00, a full one dollar savings over the at-the-gate price of \$5.00. Other ticket prices are: Advanced registration and Banquet - \$14.00. Indoor Flea Market table - \$10.00. Outdoor Flea Market space - \$2.00. You can order tickets for the Ladies Program at no charge but a registration ticket is required. Children 12 years and under are free.

Ed Gable, K2MP



VE TEAM

The next **ALWAYS FREE** testing session:

Rochester Institute of Technology
 Kate Gleason College of Engineering
 Gleason School of Engineering
 Room 3139, Bldg. 9
 Use "J" parking lot

Registration at 9:45AM
 Testing at 10:00AM

Please continue to check either the RARA webpage or Laurel VE page at <https://www.laurelvec.com/index.php?team=RARA> for the latest information.

You do not have to preregister.

To avoid giving your SSN go to:

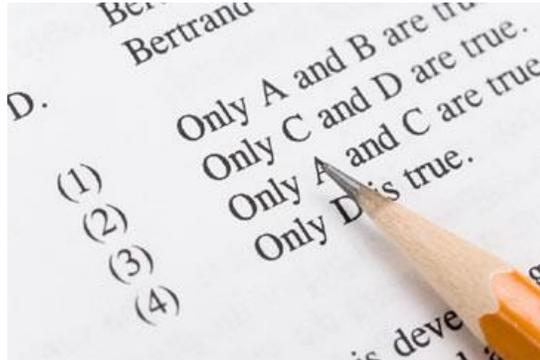
<http://wireless.fcc.gov/uls/index.htm?job=home>

Register and bring the resultant FRN to the exam.

For more info and a map:

https://rochesterham.org/license_testing.htm

Don Kiser - AC2EV
 RARA Board member
 VE Team Leader
 585-613-1035



Dave Enright	K3WHD	E	
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May TESTING SESSION CANCELLED

New licensees names are in BOLD

CW ELMERS

Name	Call	Area	Email
Ned Asam	W2NED	Pittsford	w2ned@frontiernet.net
Tim Brown	WB2PAY	Ogden	tjbrown@rochester.rr.com
Pete Fournia	W2SKY	Penfield	pfournia@gmail.com
Bill Hopkins	AA2YV	Brighton	whopkin4@naz.edu
Bob Karz	K2OID	Webster	rkarz@rochester.rr.com
Joe Rowe	AG2Y	Webster	ag2y@rochester.rr.com

RADIO ELMERS

Name	Call	Area	Email
Tim Brown	WB2PAY	Ogden	tjbrown@rochester.rr.com
Dave Carlson	N2OA	Batavia	kdcarlso@gmail.com
Lawrence Hill	N2AJX	Henrietta	lawrence.hill@rit.edu
Bill Kasperkoski	WB2SXY	Pittsford	wb2sxy@gmail.com
Don Kiser	AC2EV	N Greece	dkiser100@gmail.com
Karl Heinz Kremer	K5KHK	Chili	k5khk@khk.net
Tim Magee	WB2KAO	Greece	585-704-5747
Peter Schuch	WB2UAQ	Perinton	pschuch@rochester.rr.com
Forest Shick	WA2MZG	Webster	fshick3@gmail.com
Dave Timmons	W2DST	N Greece	dstimmons@gmail.com
Dan Waterstraat	W2DEW	Henrietta	higreen@rochester.rr.com

RARA CALENDAR

TIM BARRETT, K9VB, MEMBERSHIP SECRETARY

May 2020						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 AGCW QRP/QRP Party	2 Araucaria WW VHF Contest 10-10 Contest CW ARI DX Contest 7th Call Area QSO Party IN, DE, New Eng QSO Parties FISTS Slow Speed Sprint RSGB Hope QSO Party CW
3 Araucaria WW VHF Contest 10-10 Contest CW ARI DX Contest 7th Call Area QSO Party IN, DE, New Eng QSO Parties	4 AWA Net 145.110 MHz, 7pm RSGB Hope QSO Party FT4 MIE 33 Contest (Japan) RSGB 80M Club Contest SSB	5 RXCWG CW Practice Net 9pm Phone Fray RSGB Hope QSO Party SSB	6 RaRa Monthly Mtg ONLINE 7pm ROC City Net 3.810 MHz, 8pm CWOps Mini-CWT Test RSGB Hope QSO Party UKEICC 80M Summer Series	7 RaRa BoD 6:30pm ONLINE ARES Net 146.61 MHz 7pm NCCC Sprint RSGB Hope QSO Party RTTY NRAU 10M Activity Contest	8	9 Volta WW RTTY Contest CQ-M Int DX Contest AR QSO Party SKCC Sprintathon FISTS Sprint
10 Volta WW RTTY Contest CQ-M Contest AR QSO Party SKCC Sprintathon WAB 7MHz Contest SSB / CW 4 States QRP Sprint	11 AWA Net 145.110 MHz, 7pm RSGB Hope QSO Party CW	12 RXCWG CW Practice Net 9pm Phone Fray RSGB Hope QSO Party FT4	13 ROC City Net 3.810 MHz, 8pm CWOps Mini-CWT Test RSGB Hope QSO Party SSB RSGB 80M Club Contest Data	14 ARES Net 146.61 MHz 7pm NCCC Sprint UKEICC 80M Summer Series	15	16 HAMVENTION QSO Party Portuguese Navy Day Contest UN DX Contest King of Spain Contest CW NZART Sangster Shield Aegean RTTY Contest Feld Hell Sprint
17 Portuguese Navy Day Contest King of Spain Contest CW NZART Sangster Shield Feld Hell Sprint Run for the Bacon QRP Contest	18 AWA Net 145.110 MHz, 7pm RSGB RT4 Contest Series	19 RXCWG CW Practice Net 9pm Phone Fray	20 ROC City Net 3.810 MHz, 8pm CWOps Mini-CWT Test UKEICC 80M Summer Series	21 ARES Net 146.61 MHz 7pm NCCC Sprint QRP Minimal Art Session	22	23 Baltic Contest
24 Day of the YLs Contest QRP ARCI Hootowl Sprint QCX Challenge	25 AWA Net 145.110 MHz, 7pm	26 RXCWG CW Practice Net 9pm Phone Fray SKCC Sprint	27 ROC City Net 3.810 MHz, 8pm CWOps Mini-CWT Test UKEICC 80M Summer Series	28 ARES Net 146.61 MHz 7pm NCCC Sprint RSGB Club Champ 80M CW	29	30 Feld Hell Sprint CQ WW WPX Contest CW
31 CQ WW WPX Contest CW						

NEWS FROM AREA CLUBS

MONROE COUNTY ARES / RACES NEWS

Monroe County Amateur Radio Emergency Service (ARES)® is an amateur radio public service organization based in Monroe County, New York, and is open to all licensed amateur radio operators. Monroe County Radio Amateur Civil Emergency Service (RACES) is a program of the Monroe County Office of Emergency Management. We participate in training and emergency exercises so that we can serve other agencies during times of communication failure.



The Monroe County Amateur Radio Emergency Service, Inc. holds its meetings on the fourth Thursday of each month except in July, August, November and December. Anyone interested, members and non-members, are welcome to attend.

On even numbered months the meetings are held at the Monroe County EOC, 1190 Scottsville Rd. (Media Room, 2nd floor, north end). On odd numbered months we meet at the Red Cross, 825 John St.. W Henrietta. at 6:00 PM. Please check our website for any schedule changes.

If the doors are locked, call WB2EOC on the 146.61 MHz (-) 110.9 Hz PL repeater.

Monroe County ARES/RACES meets on the air every Thursday of the month at 7:00 PM, on the N2MPE 146.61 MHz (-) 110.9 Hz PL and 444.45 (+) 110.9 Hz PL repeaters. Our club callsign is WB2EOC.

There is no net on nights when we hold our regular meeting, generally on the 4th Thursday of the month.

WEB: www.monroecountymcomm.org

Facebook : Monroe County Amateur Radio Emergency Service, Inc.

Twitter @MCARESNY

Severe Weather Alerts: Winter may bring severe weather in the form of heavy snow storms, strong winds, and flooding. If you experience severe weather, especially when accompanied by damage to property in your area, listen to your local ARES/RACES repeaters for information. While official ARES/RACES activation could be a possibility, it is more important that we open a spontaneous net simply to share information about weather conditions in your immediate area. Don't wait for someone else to do it. Pick up the microphone and start a net. Have each check-in station give you a situational awareness report and emergency power report. If you don't have a copy of the directed net protocol, you can find one at the WEB address listed above. (Activities/ARES Net/ Net Script/

Downloads). We encourage all amateur radio operators to take a free Skywarn TM class offered by the National Weather Service. The schedule of classes can be found at <https://www.weather.gov/buf/skywarn>

Monroe County ARES
Ralph Dutcher, Net Control - KD2BDZ@arrl.net

ROCHESTER DX ASSOCIATION, RDXA

RDXA meets the 3rd Tuesday of every month (September through June) except for December, which is the Annual Holiday Banquet. Meetings are open to everyone and all are encouraged to attend.



Check rdxa.com for details

ROCHESTER RADIO REPEATER ASSOCIATION

Due to the Covid-19 virus and most of our members being older, the RRRR Board apologizes for canceling our April 17th meeting and Auction. Hopefully conditions will change for our next scheduled meeting.

The Rochester Radio Repeater Association, RRRR invites you to attend its May 15th, 2020 meeting. Meetings are held on the 3rd Friday of the month in the Pittsford Town Hall Basement starting at 7:30 PM.

Tonight's program will be on the operation of the club station K2RRR on 146.88MHz.

RRRR will try to reschedule the Auction for later this year. The May 15th meeting will be open for nominations for becoming a RRRR Board officer. If you would like to be on the RRRR Board feel free to nominate yourself. Offices open will be Treasurer, Secretary, and Vice President. The current Vice President ascends to President. Check out our web site for any last minute cancellation notices. www.k2rra.org Remember, This club can't exist without members. Please consider joining and volunteering to become an officer of RRRR.

The elected RRRR officers for 2019 - 2020 are, Bob Shewell, N2HJD, President, Bob ODell, N2BZX, Vice President, ED Wilkonski, KC2WM Secretary, and Bob Smith, NS2B-Treasurer / Membership Chairman. RRRR also accepts donations to the club. If you are not currently a member and want to support RRRR, you can join at our monthly meeting or on our web site. www.k2rra.org

Due to our current health crisis please check your organizations web site for the status of meetings and events.

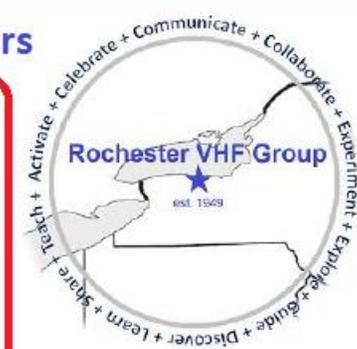
ROCHESTER VHF GROUP

Spring Online! Seminars

"Social Distancing" is still in effect, but the seminars continue! Watch the RARA email list for links to join!

All are welcome, but only the first 100 get to attend.

Seminars & demos, just like "the old days". More info soon!



write a higher amount
sincerely appreciated.

XRX AMATEUR RADIO CLUB

The XRX Amateur Radio Club meets the 2nd Thursday of each month. The meetings are 6PM at the Webster Recreation Center. Look for details on our website <http://xarc.us>

AMATEUR RADIO ASSOCIATION OF THE SOUTHERN TIER, ARAST

ARAST meets the third Thursday of every month at the Town and Country Fire Department on Gardner Rd in Horseheads New York. Chemung County ARES (CCARES) meets the first Tuesday of the month except February on Harris Hill, next to the National Soaring Museum. See <http://www.ccares.info> for details. CCARES serves the entire area in Chemung, Schuyler and Steuben counties and all are welcome.

Our new website is up and running, although future enhancements are still planned. Check it out at <http://www.arast.info>.

Both CCARES and ARAST monthly meetings will be held online until further notice. Check out the Upcoming Events on [arast.info](http://www.arast.info) for particulars.

Our 2020 Hamfest, one of the largest in Upstate New York, will be held this year on September 26, 2020 at the Chemung County Fairgrounds in Horseheads, New York. Details and tickets are now available online at http://www.arast.info/arast_website/public/hamfest.php.

Communicators are needed to help with the 2020 Guthrie Wineglass Marathon on October 4, 2020 in the Corning area. If you would like to help, contact the emergency coordinator, Elliott N2OJM, at emergencycoordinator@stny.rr.com

Don't forget to check out our repeaters when you visit the area. N3AQ 147.36(+) and the W2ZJ 146.70(-) are the principal 2-meter repeaters. The latter can also be accessed via Echolink node 672027 with the call sign KA2BED-R. A full list of repeaters that can be heard in the Twin Tiers area surrounding Chemung County can be found at http://www.arast.info/arast_website/public/repeaters.php.

COMMUNITY AMATEUR RADIO CLUB, CARC

If you are interested in being a part of this forward thinking and active club, visit us at a meeting or join us on one of our weekly nets. We meet at the Hoag Library (134 S. Main St. Albion, NY) on the first Saturday of each month at 7PM. Each meeting has a brief training/refresher period with upcoming topics including: net protocol, repeater set-up/maintenance, and digital signaling. The club holds a net every Sunday evening at 8pm (winter) and 9PM (summer) - 0100 UTC Monday - on 147.585 simplex, and we host the Thursday Night Social Net, Thursday at 8:30PM on 147.285+. We'd love to hear you check-in!

DIGITAL COMMUNICATIONS ASSOCIATION OF PERINTON, DCAP

DCAP members continue to experiment with leading edge digital communication modes. We were formed in 1994 to foster the development of local and regional packet radio networks using AX25 and TCP/IP. Today we have members using the club sponsored DSTAR repeater (KB2VZS on 444.8MHz), several personal and publicly accessible DSTAR hotspots, Yaesu System Fusion systems on non-club repeaters and DMR systems through repeaters and personal hotspots. DCAP members meet for breakfast at 7AM nearly every Saturday morning at Rikki's Family Restaurant in the village of Fairport and everyone is welcome to join us. Talk in is on the KB2VZS analog repeater on 146.715MHz with a PL tone of 110.9Hz.

DRUMLINS AMATEUR RADIO CLUB

The Drumlins Amateur Radio Club meets every third Wednesday of the month at 7:30 PM at the Wayne County EMO/Sheriff's Office 7376 State Hwy 31 #1000, Lyons, NY 14489. Doors open at 7 pm, meeting starts at 7:30 pm. Announcements will be made on the 146.685 repeater. The Drumlins ARC website address is <http://drumlinsarc.us/>

Due to our current health crisis please check your organizations web site for the status of meetings and events.

KEUKA LAKE AMATEUR RADIO ASSOCIATION, KLARA

The purpose of our association is to:

- promote interest in Amateur Radio communication and advancement of the radio art.
- conduct programs, training, and exercises that enhance the skills of the members, and educate the community.
- develop ties with other services and establish relationships with community organizations.
- provide emergency communication services.
- promote enjoyable Amateur Radio related events.

The association was incorporated in 1991 and has been a vibrant part of the community ever since. We have a very active VE testing program. We also participate in numerous public events (the Wineglass Marathon and the Wine Country Classic Boat Regatta are two of the largest).

We operate a system of three repeaters (which are linked), providing a large area footprint for two meter FM amateur use. Please see our website for details. (klara.us)

Our meetings are held on the second Wednesday of each month at the Civil Defense and Fire Training Center on Route 54 in Bath, NY.

ORLEANS COUNTY AMATEUR RADIO CLUB

The Orleans County ARC meets every 2nd Monday of the month at the Orleans County Emergency Operations Center, 14064 West County House Road, Albion, NY 14411. Doors open at 6:00PM, meeting starts at 7:30PM. Anyone with an interest in amateur radio is welcome. Program topics vary from month to month.

The club has an open two meter net every Tuesday night at 9:00PM local time on the club repeater, WA2DQL/R (145.27 -600KHz offset, 141.3 tone). Everyone is welcome to check in.

See the club website <http://ocarc.us> or contact club Secretary Ron Craig, N5BNO for more information.

SQUAW ISLAND AMATEUR RADIO CLUB, SIARC

The Squaw Island Amateur Radio Club (SIARC) meets every second Wednesday of the month at 7:30PM at the Ontario County Safety Training Facility, 2914 County Road48, Town of Hopewell. We have License Exam Testing every other month which begins at 6:30PM.

The meeting for May has been cancelled due to the Covid 19. We may hold the June meeting by Video Conference. Still to be determined.

SIARC is holding a Health and Welfare NET Monday through Saturday each week at 2000 hours on the 146.820 repeater (located in Canandaigua, NY), Tone 110.9. This net is to pass along general information and keep hams in touch. All hams are invited to participate.

INTERLOCK ROCHESTER - K2HAX - ROCHESTER'S HACKERSPACE

Visit our website at <http://www.interlockroc.org/>, contact us at info@interlockroc.org, or find us in #interlock on Freenode IRC.

ROCHESTER MAKERSPACE

For more information visit <https://www.makerspacerochester.org/hamradio>

Due to our current health crisis please check your organizations web site for the status of meetings and events.

THE AMATEUR'S CODE

Originally written by Paul M. Segal, W9EEA (1928)

THE RADIO AMATEUR IS:

- | | |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONSIDERATE | Never knowingly operating in such a way as to lessen the pleasure of others. |
| LOYAL | Offering loyalty, encouragement and support to other amateurs, local club, and the American Radio Relay League, through which Amateur Radio in the United States is represented nationally and internationally. |
| PROGRESSIVE | With knowledge abreast of science, a well built and efficient station and operation beyond reproach. |
| FRIENDLY | With slow and patient operation when requested, friendly advice and counsel to the beginner, kindly assistance, co-operation and consideration for the interests of others. These are the hallmarks of the amateur spirit. |
| BALANCED | Radio is an avocation, never interfering with duties owed to family, job, school or community. |
| PATRIOTIC | With station and skill always ready for service to country and community. |

GENESEE VALLEY AMATEUR RADIO ASSOCIATION

Email n3dsp@lafireline.net for details.

ASTRONOMY SECTION ROCHESTER ACADEMY OF SCIENCE

For more information visit <http://www.rochesterastronomy.org/>

**Due to our current health crisis please
check your organizations web site for the
status of meetings and events.**

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- KCS-25LS Rapid Charger

DMR Anytone AT-D878uv \$150

- QBC 45L 12v 1amp charger

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education@rochesterham.org

or

585-750-2087

Kenwood TS2000 in good condition

Contact Jay, K2JSG at:

K2JSG@yahoo.com

RARA MARKETPLACE

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RARA OFFICERS, DIRECTORS AND COORDINATORS

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XRX Amateur Radio Club

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JUNE RAG DEADLINE MAY 15, 2020



**RARA meets at 7PM on the first
Wednesday of each month. Join us at:**

<https://attendee.gotowebinar.com/register/4876202534059402765>

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Rochester Area Repeater Listing

THE RARA RAG

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