

CAARA NEWS



Cape Ann Amateur Radio Association
Gloucester, Massachusetts
OCTOBER 2022 EDITION



PRESIDENT'S COLUMN

by Brandon- NQ1W

It was so nice seeing many of you at the September meeting. As many of you know, we have received a grant from the ARRL to improve the clubhouse including new equipment and materials for demos and learning activities. If you are interested in teaching a course or helping to work on getting the clubhouse enhanced for these types of events, please let me know at president@caara.net. More news to follow as the grant committee meets over the next few weeks to organize the work.

A big thanks to CAARA special events crew for a great season. Those of you who submitted your shirt sizes got a hi vis t-shirt for next season as a little thank you for your time and service to the community.

I am delighted to announce a new award from the president of CAARA to two club members that have shown exemplary service to the club over the last year. Fred WA1ESU and Chris W1TAT have been given the President's award for 2022. In addition to the honor of the award, they are each receiving a year of membership to CAARA. Thanks Fred and Chris!

I hope you all have a fun Fall and will join us for a great season of radio at CAARA!

Regards,

Brandon NQ1W

THE EMCOMM MINUTE

By Dean- KB1PGH

So last month I forgot to mention to you that September is "National preparedness month". So here's a reminder to take the time to review what you have in your "Go Kit" or disaster supply kit. If you do not have a kit they



are easy to create and all you have to do is Google "72 Hour emergency kits". You can also buy them online on Amazon if you want to. The next reminder is now is the time to take a look



at your outside antennas and coax before winter hits. If you can make sure your antenna is secure and there are no loose parts. The big thing though is inspect your coax for leaks and cracks, especially at the connections. Make sure no water is getting in and make sure you still water a water tight seal with coax wrap at the connections.. A good thing is to check your SWR on occasion to make sure you have solid connections and that there is no moisture in the coax. One last reminder is to check your smoke and carbon monoxide detectors in your home. Please make sure you check them once a year and replace the batteries in them too. If they are more than 10 years old then it is time to replace the whole unit. Now since I have that housekeeping done this month I'm going to cover a couple ways to keep RFI and EMI away from your radio and your shack. These are done with ferrite cores and toroids. Another term for them is common mode chokes and isolators. So you can either reduce EMI or RFI in your HF Rig two ways. Either by the electric line going into your rig or the coax. First we will cover the coax way. Did you know that your coax can act as part of your antenna when a common mode current goes down the outer braid of the coax? This happens especially with Off Center Fed dipoles like the ones I use when I do my portable HF in your shack ops. The common mode current will make your antenna signal less efficient when you transmit and will cause interference in your shack and radio. There are a couple of ways to solve this. Take a look at the photo in the article. On the top left hand side of the photo we have a common mode choke and noise suppressor that can be installed at the antenna end of the coax. If for some reason you can't get to your antenna you can always put a noise filter at the radio end of your coax as you can see by either the ferrite clamps on the coax or the black noise filter box on the left hand bottom of the photo.

CAARA Newsletter
Cape Ann Amateur Radio Association
6 Stanwood Street
Gloucester, MA 01930

CAARA Newsletter is a monthly publication of the Cape Ann Amateur Radio Association (CAARA).

It is the policy of the editor to publish all material submitted by the membership provided such material is in good taste, relevant to amateur radio and of interest to CAARA members, and space is available. Material is accepted on a first come, first serve basis. Articles and other materials may be submitted by internet to Jon at jpcrockport@gmail.com . If possible, material should be in Word format. Material may also be submitted as hard copy to Jon-K1TP or any Club Officer.

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Jon Cunningham- K1TP Editor
Dean Burgess- KB1PGH Reporter

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Welcome to CAARA:

CAARA, an ARRL affiliated club, operates the 2 meter W1GLO repeater on 145.130 MHz with antennas located on the ATT cell tower in the Blackburn Industrial Complex in Gloucester Massachusetts. It has an average effective radius of 60 miles, and serves Eastern Massachusetts, Cape Cod, Rhode Island, Southern New Hampshire, and maritime mobile stations.

CAARA also operates the W1GLO repeater on 224.900 located at the CAARA clubhouse.

The 443.700 repeater is now on the ATT cell tower in the Blackburn Industrial Complex with greatly enhanced performance running in fusion mode and linked to 10 other repeaters in the New England area.

The Association is one of the few amateur radioclubs that has its own clubhouse. Located at 6 S tanwood Street in Gloucester, with a variety of HF stations with beam, vertical, or G5RV antennas.

Amateur radio exams are held on REQUEST at the CAARA clubhouse. Anyone who is considering a new license or an upgrade, is welcome to test with us. Currently pre-registration is necessary. Contact the head of our VE team Bill Poulin- WZ1L if you have any questions about monthly testing.

Monthly member meetings are held on the second Saturday of each month at noon except for July and August.

Each Sunday evening at 9:00 PM, the club operates a 2 meter fm net on 145.130. This is an open and informal net which disseminates club news and prepares operators for emergency communications work. All are invited to check into the net as club membership is not a requirement.

The club is open most Tuesday's from 5- 8PM for CAARA members and interested parties to stop by and socialize, as well as use the extensive collection of ham radio gear.

This newsletter is published under the auspices of the Cape Ann Amateur Radio Association (CAARA), However, all content is the work of individual contributors and may contain ideas, opinions or views not necessarily shared or supported by the CAARA Board of Directors or the membership.



Just make sure they have a high impedance enough to stop the noise coming down your coax. Now we have electrical EMI which comes through the cable from your power supply or your household outlet or generator outlet. You can reduce EMI by either clamping on toroid chokes to your power cable or by wrapping the cable around the toroid rings. As you can see in my photo there are two ways to do this. On the one on the top right of the photo you can see how I wrapped my power cord leading from the power supply to my HF rig. I took two ferrite toroid rings and wrapped the power line through them several times and then held it all together with electrical tape. The more times you wrap the cable around them the better impedance you will get. On the bottom right of the photo you can see I got a one inch ferrite clamp and wrapped the extension cord a few times around it to

interfering with your electrical appliances in your home. You can wrap the toroids around any power cables in your home to eliminate any interference. Just make sure that they are "Mix 31 1-300 MHZ" ferrites and chokes because they have different mixes for different frequency ranges. I bought this stuff at two places. At www.palomar-engineers.com and www.myantennas.com. The whole point is to drop the noise level in your HF rig as much as possible so you hear the weak signals and to eliminate your transmit signal from interfering with all the electronics in your home.

73 and see you next month.

GERATOL NET

The Worked All States Net known as the GERATOL Net, or Greetings Extra Radio Amateur Tired of Operating Lately, will resume operations this October 1st, at 0100Z on 3.668 Mhz. The net welcomes ALL properly licensed ops to join us, and as always, any formatted calls are welcomed. The net continues celebrating it's 50th Season, with the launch of the second half of our anniversary season. To celebrate, the net is offering a special award, which may be achieved by any properly licenses hams. You don't need a GERATOL # to qualify for the award. More information may be found at: www.geratol.net 73, N1KL



PORTABLE OP DAY IN ROCKPORT- ALL ARE WELCOME

Dean is operating portable with Jon- K1TP at Hospital Hill in Rockport (Field Day site) on Saturday, October 15 and Saturday, October 22 as the rain date.

Have some fun and stop by and say hello and feel free to bring your own radio and get on the air.

This site is easy to get to and maybe we will cook some hot dogs!



suppress any EMI from my generator . So i would recommend taking a look at ferrite cores for HF radios. They reduce noise getting into your rigs, eliminate common mode currents going back down your coax and will reduce or eliminate your transmit signal from

Ham Fests

by Curtis- AA3JE

A confession. I have a problem with transient episodes of mental illness. The problem is that it is not recognized by the AMA, and there is no treatment.

Hamfest Delusional Disorder.

This condition is characterized by irrational ideas that occur while standing next to the back end of a pickup truck at a Hamfest. It convinces me that I really need a WWII TBS (Talk Between Ships) transmitter-receiver. It does not matter that it has been in a barn in Maine since 1946, has been used by a nesting box by generations of mice, and is a cruel shade of green from corrosion.

I can fix it. True, it broadcasts with a bandwidth that guarantee a visit from the FCC, needs a power supply not made for 70 years, and is heavy as a lead brick. It's beautiful.

See what I mean?

I filled my shack with this stuff. I filled my garage with this stuff. I filled the basement with this stuff. Finally, I ended up facing an ultimatum.

“NO MORE DIRTY OLD RADIOS! I MEAN IT!” said SHE WHO MUST BE OBEYED.

I was good for a while, I assure you, but the next Hamfest there was a 1920's Atwater Kent, whose cabinet had collapsed (roaches had eaten the glue), but only a few mice had moved in. Lots of it was still there.

I was stuck. SHE watched my arrivals and had eagle eyes.

My buddies, on the way home, were helpful.

“We can fix it up just fine.”

“HOW?”

“We just need a plan.”



The last plan from these two involved lashing a sixty-pound oscilloscope used in the Apollo program to the spare tire carrier and dragging it back down Route 128.

“What plan?” I asked, with a tight feeling in my chest.

“Simple. We drive up, and Bud and I carry it in walking backward, so it looks like we are picking it up.”

I was dubious, but it was worth a try. Such plans only worked with lizards in animal experiments.

We arrived, the kitchen curtains parted, and SHE spotted us. The boys were indeed, walking backward carrying the radio.

Needless to say, a voice rang out!

“WHAT IS THAT? I THINK IT'S ANOTHER WRECK OF A RADIO!”

My friends fled, and I had to face the wrath of the Gods alone.

“I am fixing it for a friend.”

“I BETTER SEE IT FIXED UP AND GOING OUT OF HERE WITHIN A MONTH!”

I dropped my other projects, working only on the AK Model 20. Glue, stain, sandpaper, varnish, a can of Hammerite and \$40 in tubes later, I pointedly walked out, frontwards, carrying it to the car to take it to the office.

To my surprise, our finance manager was a friend of the Kent family. He showed it to them, they fell in love with it, and took it off to an appreciative home that had no working example of Grandad's products.

It worked perfectly, if you had a B+ battery, a filament battery, knew how to tune a 1920s radio and didn't try to tune it with wet hands.

Moral.

Walking backwards does not work. Try something else.

Finally—A Field Radio

A Non-Technical Review of Yaesu FT-891

by Kevin K1KL

I started to activate parks in the Parks on The Air (POTA) program in November of 2021. I have done more than 150 park activations in these last 10 months. For 130 of those activations I disconnected my HF radio (Kenwood TS-590SG) in the shack, put it into a foam-lined Home Depot storage crate, loaded it into my vehicle, and lugged it out into the parks. Each time I returned home, I carried the Kenwood back to my shack and reconnected it, all 7 cables, hoping it still worked in the shack as it did before.

I was lucky, no scratches to the radio, nothing broken, it continues to work flawlessly in the shack getting along nicely with my HF amplifier, Ham Radio Deluxe software, CW key, Signalink digital interface, and digital software programs for FT8, FT4, and PSK.

Finally, I put enough nickels together to purchase a new Yaesu FT-891 from Ham Radio Outlet last month. This purchase has increased my enjoyment of portable operation enormously. Small and light, it fits in a relatively small Apache (Harbor Freight) hard case, along with a headset, transmit trigger, and 12v zip cord that plugs into my 20Ah LifePo battery.



This is quite a trick compared to the big, heavy box I used to carry out to activations.

Do I like the radio? Well- it's growing on me. You can't beat the convenience, but I miss some of the features of my "big radio", mostly ease-of-use, when I am out in the field. It really comes down to buttons versus menus. I'll explain.

First, some data about the Yaesu FT-891:

Output power 100 Watts
Bands 10m to 80m
Modes AM/SSB/FM/FSK
Case Size 8.1"x2.0"x8.6"
Weight 4.18 lb (my "big radio" weighs 17 lb)
Current Consumption 2.0A receive, 23A Transmit
Built-in Antenna Tuner? No
HRO Price \$639.95

Because the FT-891 is so small, it has a fraction of the buttons and knobs of a big radio. It can do about anything that my big radio can do (really), it's just (much) more difficult, especially in the field where the sun might be in your eyes, or your fingers may be frozen.

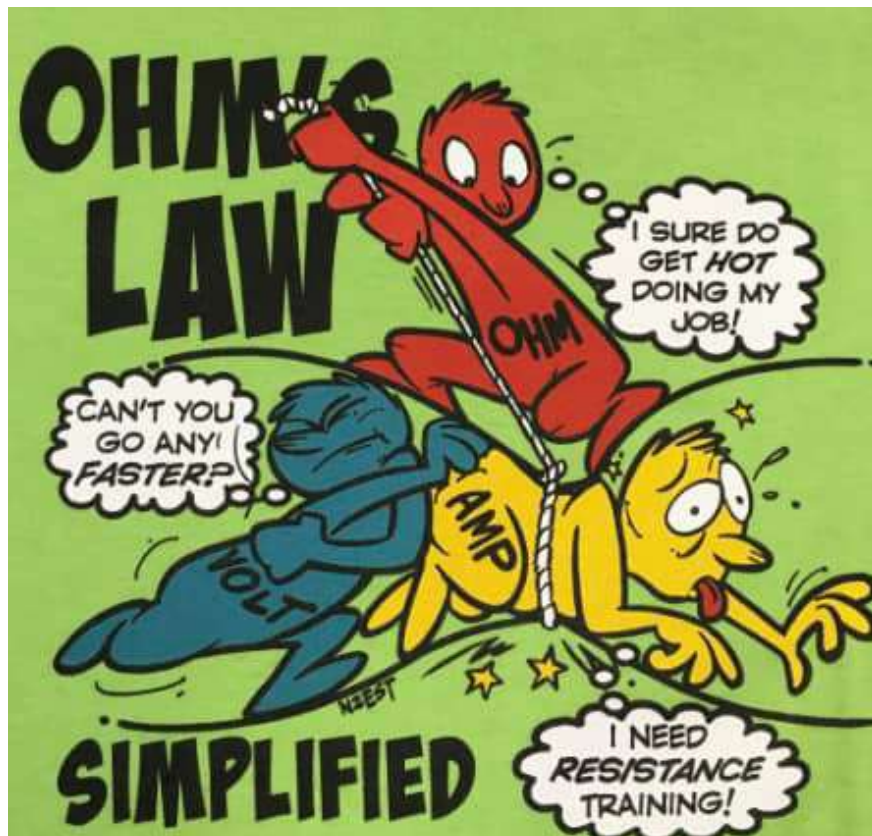
Beyond the ON/Off button, RF gain and volume, the tuning knob, and 4 customizable buttons, you must access multiple menus in order to change your settings. How many menus? Eighteen menus, yes 18 menus! That's a lot of motivation to figure out your preferred setting before you take it out into the field! To be fair, there are plenty of You Tube videos that show you how to adjust your receive and transmit settings, with recommendations by experienced users.

I am set up so there is not much I need to change out in the field. I programmed the 4 customizable buttons on the radio to Digital Noise Reduction (DNR) off/on/adjust; Band Width off/on/adjust; Shift off/on/adjust; and the OMB key that has 5 preset memories. I have set to the bottom general class SSB frequencies on 40m, 20m, 15m, and 10m. BTW, I use a 40m,20m/15m,10m End-fed Half Wave (EFHW) antenna in the field that is resonant on all bands. The FT-891 does NOT have a built-in antenna tuner. You need to add a tuner if working with non-resonant antenna systems.

Radio and Purpose (Use) bottom line for me:

- Convenience is awesome, a game-changer for me
- Price/value cannot be beat for portable or home shack use
- Will do everything my Kenwood "big radio" will do, just takes more effort and manual reading
- Yaesu Digital Noise Reduction (DNR) works better than any other, including my Kenwood, a real plus with POTA
- The internal speaker is not bad for such a small radio, headphones make it better
- It has a detachable face plate, not important to me but may be for you
- Great transmit audio reports right out of the box

Final thought: I don't think I have missed a single contact that I would have made with my "big radio" and that is perhaps my most important consideration given the portability/convenience factor. The more I use it, the more I'm liking it. Certainly, no regrets on the purchase.



SEPTEMBER 24TH BOARD AND MEMBERS MEETING





NOTICE



**WHAT YOU ARE ABOUT TO WITNESS IS AN AMATEUR RADIO STATION,
LICENSED BY THE FEDERAL COMMUNICATIONS COMMISSION
IN WASHINGTON, D.C.**

BEFORE YOU ASK THE QUESTIONS, HERE ARE THE ANSWERS:

The total cost of this equipment cannot be discussed here as it creates marital conflicts.

No we cannot send a message to your brother in Hong Kong. We suggest you call Western Union.

This is strictly a hobby... we do not have the facilities or the time to fool around with TV sets, radios, or Wi-Fi. We suggest that you see a serviceman.

Yes, the antenna in the back yard is essential to the operation of the equipment.

The cards on the wall are called QSL cards. They are confirmation of contacts made with other stations.

It is technically impossible for this station's equipment to interfere with television reception, telephones or stereo systems. Any interference problems of that nature are caused by design flaws in the home-entertainment devices themselves.

An Amateur Radio station may only be operated by a highly qualified, technically skilled, electronics expert. It takes dedication, training, and intelligence to reach the level of competence that justifies one to be licensed by the United States Government. Therefore, it is not considered inappropriate to show proper awe, respect and general obsequiousness when I discuss my hobby or operate the controls.

**FURTHERMORE IF YOU ARE GRANTED THE EXTREME HONOR OF BEING INVITED TO
SPEAK INTO THE MICROPHONE, PLEASE OBSERVE THE FOLLOWING RULES.**

Speak in a low and soothing tone.

Do not disagree with me in any manner.

Say no bad words and tell no off-color jokes.

**It is customary for guests to make complimentary remarks about
this station and its licensed operator when talking to other hams on the air.**

DO NOT TOUCH ANYTHING. TURN ANY KNOBS, SIT ON EQUIPMENT, ETC.

I HAVE LOST SEVERAL VISITORS BY ELECTROCUTION IN THE PAST FEW WEEKS



Bush Kids

From the early 1900s, the education of isolated children across Australia was catered for by the correspondence schools in the capital cities of their respective states.

Lessons took days, and sometimes weeks, to reach their destinations, and by the time the completed lessons were dispatched to their teachers, marked and returned to the children, months could have elapsed.

As these children rarely had an opportunity to visit their teachers at the correspondence school, the children inevitably completed their entire schooling without ever meeting their teacher or schoolmates.

The aim of School of the Air was to bring isolated children out of the silence and give them a sense of belonging. The first 'School of the Air' in Australia was established at Alice Springs on 8 June 1951.

The radio network, maintained by the Royal Flying Doctor Service, was used by the school to make two-way broadcasts to the children in that area via HF Radio.

Image: The radio network, maintained by the Royal Flying Doctor Service, was used by the school to make two-way broadcasts to the children



HRO has them for \$1299.95 which includes the matching speaker and the 2 year warranty.

New Yaesu FT-710 AESS HF/50MHz 100W SDR Transceiver

The new FT-710 AESS is a compact design yet provides 100W output, utilizing the advanced digital RF technology introduced in the FT-DX101 and FT-DX10 series.

A few of the remarkable features of the new FT-710 AESS are:

- Yaesu unmatched SDR technology emphasizes the receiving performance

- Band Pass Filters dedicated for the amateur bands to eliminate out-of-band unwanted signals

- RF Front-End design with the 250MHz HRDDS (High Resolution Direct Digital Synthesizer) enables phenomenal multi-signal receiving characteristics

- QRM rejection by the dual core 32-bit high speed floating decimal point DSP for SHIFT/WIDTH/NOTCH/CONTOUR/APF/DNR/NB and 3-stage parametric equalizer

- High Resolution 4.3 inch TFT color touch panel display

- 3DSS (3-Dimensional Spectrum Stream)

- VMI LED (VFO Mode Indicator) placed around the VFO dial shows the current operating mode (VFO-A, VFO-B, Memory Mode and Clarifier/Split Operation)

- "PRESET" Mode Function most suitable for FT8 Operation

- AESS: Acoustic Enhanced Speaker System with SP-40 creates the high-fidelity audio output

- External Display Connection Terminal (DVI-D)

- Built-in High Speed Automatic Antenna Tuner with 100 Channel Memory

- Supports the FC-40 Auto Antenna Tuner

- SD Memory Card can be used to save the communication record, transceiver setting, the memory contents, screen capture images and to update the firmware

- Two (2) USB Ports (Type-A and Type-B)

- Other essential features such as CW ZIN and SPOT, IPO (Intercept Point Optimization), and Remote Operation with Network Remote Control System

Amateur Radio Newslines Report

HAMS MUSTER SUPPORT DURING HURRICANE IAN

JIM/ANCHOR: Our top story this week looks at amateur radio's response as a life-threatening hurricane brought destruction in the southern United States. Randy Sly W4XJ brings us those details.

RANDY: As Hurricane Fiona left Canada's Maritime provinces as a tropical depression, another hurricane was beginning to form in the Caribbean tracking toward western Cuba, the Cayman Islands and the western shores of Florida. The handoff between the two storms gave little time to relax for amateur radio operators working with the Hurricane Watch Net, VoIP Net, Salvation Army Emergency Radio Network and emergency communications groups, such as ARES.

By the time Ian reached the Florida coast near Fort Myers, it was a Category 4 hurricane with sustained winds of 155 miles per hour. This catastrophic storm caused significant damage along with storm surge, torrential rains, flooding, power outages, and spin-up tornadoes.

Bobby Graves, manager of the Hurricane Watch Net, said that the net would remain in full emergency mode to assist with any emergency, medical, or priority traffic as well as working with SATERN, the Salvation Army's network, to help in handling any outgoing health and welfare traffic. The net was to remain active after Ian's downgrade so hams could assist with post-storm reports for the National Hurricane Center. The FCC has also adopted a 60-day waiver that permitted hams to use a higher symbol rate for data transmissions - above the legal limit of 300 baud -- when assisting Hurricane Ian traffic.

This is Randy Sly, W4XJ

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REPORT PINPOINTS FACTORS IN ARECIBO COLLAPSE

JIM/ANCHOR: A new report has pinpointed some contributing causes behind the collapse of what was once the largest radio telescope in the world. Kent Peterson KCØDGY brings us up to date.

KENT: Engineers have identified a number of key factors that led to the 2020 collapse of the Arecibo Telescope, once the world's largest radio telescope. A forensic examination by the New York-based firm Thornton Tomasetti identified issues that included design of the cable system with relatively low safety factors for gravity loads as well as the force of naturally occurring events in the environment. Those included Hurricane Maria in 2017 and the January 2020 earthquake tremors in Puerto Rico where the telescope was located. The report said that despite having a hurricane-resistant design, Arecibo's cable system had already led it to suffer stress under its own weight whenever storms hit. The engineers recommended higher safety factors for cable systems under such conditions.

Although the investigators said they found the telescope to be generally well maintained, they did note in their report that they found that moisture had intruded, paint had degraded and individual wires had broken within the cable system.

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AMATEURS HELP WITH REUNION ACROSS BORDERS

JIM/ANCHOR: A family in Bangladesh has been reunited with a long-missing relative thanks to hams on both sides of the border with India. Graham Kemp VK4BB gives us the rest of this story.

GRAHAM: It took 12 years and, ultimately, two groups of amateur radio operators to return a man to his home and his family in Bangladesh. The reunion took place on September 21st, allowing the man to leave the state-run home in Kolkata where he had been following a lengthy hospitalization. His family reported that he had gone missing a dozen years ago. He had apparently crossed the border into West Bengal.

Press accounts in the Millennium Post and other media outlets described the 27-year-old man as mentally challenged and thus unable to provide information about his origins either to hospital personnel or later to those at the state home. Authorities at the home contacted the West Bengal Radio Club. Club secretary Ambarish Nag Biswas, VU2JFA, visited the man and determined he was from Bangladesh. He reached out for help to Anup Bhowmick [ANOOB BOWMICK], S21TV, secretary of the Amateur Radio Society of Bangladesh. The two clubs arranged for a video call between the man and his family and after that, details were worked out for his return home.

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TENNESSEE AMATEURS DONATE RADIO BOOKS TO LIBRARY

JIM/ANCHOR: Nothing can compare with the gift of knowledge and that's what a group of hams in Tennessee recently gave to their local library - ham radio knowledge, of course. Skeeter Nash N5ASH picks up the story from here.

SKEETER: The Andrew Johnson Amateur Radio Club may not have written the book on amateur radio but its members recently showed they know how to share the wealth of radio knowledge contained in some valuable volumes. The Tennessee club has donated a collection of new and used ham radio-related volumes to the Greeneville-Greene County Public Library.

A press release from the club said the gift was part of the group's mission to provide community service and advocate for radio knowledge and education. The group thanked the Wal-Mart Distribution Center in Greene County for a \$500 donation that helped the club compile the book collection. The books were presented to the library by president Ian Bible KE4EAC and secretary/treasurer Larry Whiteside KN4MVH.

The books include "Ham Radio for the New Ham," by Stan W. Merrill; two copies of "Ham Radio for Dummies," by H. Ward Silver and "The World of Ham Radio, 1901-1950: A Social History." For tinkerers there is "Antique Radio Restoration Guide," by David Johnson; and "Antique Radio Repair and Restoration," (4th edition) by Alfred Corbin, which discusses vacuum tube radios. A number of ARRL publications are also in the collection, includin

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AUSTRALIAN AMATEURS INVITE THE WORLD TO PORTABLE EVENT

JIM/ANCHOR: A club in New South Wales, Australia, has big plans for some outdoor operation - and everyone is invited. John Williams VK4JJW tells how you can attend.

JOHN: The Central Coast Amateur Radio Club in New South Wales is hoping everyone can join them at their next outing, a portable-op-and-picnic event. Yes, this means hams in Europe. This also means hams in North America. The club is setting up a big festive gathering on the 15th of October at Terrigal Haven on Australia's South Pacific coastline where members will socialize with one another while promoting amateur radio to strangers. Of course, if there is an ocean or a continent - or both - in the way of your being there, that's no excuse for not participating. Starting at 11:30 a.m. local time and going through at least until 4 p.m., radio operators at the outing will have a path on 20M into New Zealand, North America and as the day wears on, signals will be favoured into Europe. Listen for the club call signs VK2AFY and VK2WFD.

As with any picnic and any radio activation, everyone will keep an eye on the weather -- terrestrial as well as solar.

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ACMA SEEKS INPUT ON NEW LICENCE CLASS

JIM/ANCHOR: Meanwhile, as Newsline went to production, the Australian Communications and Media Authority announced it was asking for amateurs to comment on the proposed class licence for non-assigned amateur and outpost stations. The ACMA is also reviewing issues related to higher-power operations. This process is part of the ACMA's ongoing five-year spectrum review. The ACMA website at [acma dot gov dot au](http://acma.gov.au) (acma.gov.au) is accepting submissions until the close of business on the 29th of November.

FAMILY OF HAMS LAUNCHES EDUCATION PROGRAM IN ROMANIA

JIM/ANCHOR: A new amateur radio education project in Romania has begun reaching thousands of students -- as well as their families. Ed Durrant DD5LP tells us more.

ED: Enjoying amateur radio is a family priority for Petrica (Patricka) YO9RIJ, his wife, Alina (R-leen-A) YO9RYJ and their son Rares (raresz), a short-wave listener with the call sign YO9 -001. Since the spring, however, spreading the word about amateur radio has become an additional priority. Alina (R-leen-A), a college professor, believes that the science of radio is an important part of students' education, inspiring Petrica (Patricka) to develop an educational curriculum with lessons mixing science and amateur radio. Called RadioScience 2.0, it was one of six projects to win funding from the Romanian American Foundation this past spring. By May, students were receiving lessons in the schools and even in the parks, with hams from the Romanian Contest Team participating to share their experiences too. Petrica (Patricka) told Newsline in an email that nearly 5,000 youngsters and teenagers - and even parents and grandparents - have since attended classes to learn and to explore kit-building. Most recently, more than 50 young people took their ANCOM exam a little more than a week ago, testing to earn their licence.

Petrica (Patricka) said this is just the beginning. His dream is to build a ham radio science centre in Buzau (BuzzOw) City. He said it is: "A real challenge but we have hope!"

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AM QSO PARTY CELEBRATES ORIGINAL VOICE MODE

JIM/ANCHOR: The annual AM QSO Party sponsored by the Antique Wireless Association isn't so much a contest as a challenge: It invites hams to get on the air using radio's original form of voice communication: amplitude modulation. Andy Morrison K9AWM tells us about this year's event.

ANDY: Ron Skipper, W8ACR, coordinator of the AM QSO Party for the Antique Wireless Association, considers this year's event a success. The weekend operation introduced hams to amplitude modulation - or reminded long-timers that AM is still a viable option. During the two-day activity on September 24th and 25th, Ron himself made 40 or so contacts during the QSO party. He told Newsline that three of those operators he logged said they were experiencing either their first or second time using AM mode.

Ron told Newsline [quote] "I think that once a ham operator uses AM successfully, he realizes that it is a viable alternative to SSB, and not just an outdated mode of communication." [endquote]

Ragchews were encouraged and, for others, so was simply listening. Ron reminds hams that there's plenty of time now to prepare for the next AM QSO Party. If your rig already has AM mode, try it out. If have vintage gear at home, dust it off. Or, if you are a home brewer, get busy.

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RSGB UNVEILS UPDATED TOOL TO MEASURE EMF

JIM/ANCHOR: To help amateurs in the UK comply with EMF exposure limits, the Radio Society of Great Britain has updated its calculator - and is also looking for input on the changes. Jeremy Boot G4NJH brings us the details.

JEREMY: An updated tool has become available to help hams comply with Ofcom licence requirements to monitor their stations' electromagnetic field exposure. The Radio Society of Great Britain has made changes to both its online calculator and web app and are seeking feedback on the new versions, which have been launched on a trial basis. The new calculators enable hams to determine EIRP as well as compliance distances. According to the RSGB website, the updated calculators no longer have the previous versions' 10 MHz minimum frequency restriction or the minimum separation of the near field boundary. They recommend a compliance distance of 2.4 metres to keep people from coming into contact with the antenna. The new version also calculates limits set by the International Commission on Non-Ionizing Radiation Protection for 1998 and 2020.

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WORLD OF DX

In the World of DX, listen for the special call sign TM1ØKIY (TM one zero Kay eye why), marking the 10th anniversary of the Radio Club du Pays de Nied through until October 7th. Club members will be on various HF bands using CW, SSB, RTTY, SSTV and FT8/FT4. QSL via F4KIY, through the Bureau or direct.

In Guadeloupe, listen for Sigi, DL7DF, Manfred, DK1BT, Wolf, DL4WK, Annette, DL6SAK, Tom, DL7BO and Frank DL7UFR operating as TO2DL between the 10th and 23rd of October. Guadeloupe has the IOTA designation of NA-102. Operators will be on various HF bands using different modes. QSL via DL7DF, direct or through the DARC Bureau. The full logs of the DXpedition will be uploaded to LoTW six months after the team has returned.

Members of the Calabria DX Team will be active as ID9Y from Vulcano Island, IOTA number Vulcano Island, IOTA EU-017, between October 5th and 9th. They include Alex, IK8YFU, Domenico, IW8RAO, Sal, IZ8CZR and Luigi/IU8GUK. Listen on various HF bands where the operators will be using CW, SSB, RTTY and FT8. QSL only via LoTW or eQSL.

Marco, ISØBSR, and a number of other amateurs will be using the call sign IMØB from San Pietro Island, IOTA number EU-165, between October 22nd and November 5th. QSL only via LoTW.

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KICKER: RADIO RIDES ALONG FOR MOUNT WASHINGTON HILLCLIMB

JIM/ANCHOR: For our final story, we visit Mount Washington in the United States, a summit known to pose a challenge to anyone who wants to get to the top. Amateur radio helped make that triumphant trip safer recently for some bicyclists, as we hear from Ralph Squillace KK6ITB.

RALPH: There's no question in anyone's mind that New Hampshire's Mount Washington, the highest peak in the northeastern United States, presents a climb to remember, whether by car, by foot or even by bicycle. The summit of 6,288 feet - or nearly 2 km -- is hardly a challenge for radio waves, which is why hams from clubs and emergency service units throughout the state and other parts of New England were on hand a few weeks ago for the 49th annual Mount Washington Auto Road Bicycle Hillclimb.

More than 500 cyclists turned up for the event, which is the largest fundraising event held by the Tin Mountain Conservation Center, an environmental education group in New Hampshire. Riding up what is considered by

experts to be one of the world's toughest hill climbs, cyclists were assisted only by their own stamina and muscle power -- and of course the power of amateur radio.

It was a particularly big day for one cyclist, a four-time winner who not only regained his title but set a new record of 50 minutes and 38 seconds. The ride itself raised more than \$20,000 for the nonprofit group. It was also a big win for the hams who were given a big share in everyone's victory. Race director Erin Holmes told the competitors afterward [quote]: "We could not do this event year after year without teams at the Mount Washington Auto Road and the Central New Hampshire Amateur Radio Club as our eyes on the mountain to keep you all safe." [end quote]

FCC grants an ARRL emergency request to permit higher data rate transmissions for hurricane relief communications

The Federal Communications Commission (FCC) has granted an ARRL emergency request for a 60-day temporary waiver intended to facilitate amateur radio emergency communications for hurricane relief. The waiver was adopted on Tuesday, September 27, 2022, and immediately permitted amateur radio operators supporting amateur data transmission for Hurricane Ian traffic to employ a higher symbol rate for data transmissions than the current limit of 300 baud.

In its Order (DA 22-1011), the FCC concluded "that granting the requested waiver is in the public interest. Puerto Rico was recently hit by Hurricane Fiona and Hurricane Ian is predicted to cause significant damage, including disruption to electricity and communications services. Thus, to accommodate amateur radio operators assisting in the recovery efforts, we grant the ARRL's waiver request for the period of 60 days from the date of this Order to operate in any parts of the United States and its territories impacted by hurricanes. The waiver is limited to amateur radio operators in the United States and its territories using publicly documented data protocols that are compatible with FCC rules, with the exception of the data rate limit waived here, for those directly involved with HF hurricane relief communications."

ARRL's request stated that trained amateur radio operators are working with emergency management officials and relief organizations to assist with disaster relief communications in anticipation of the arrival on the Gulf Coast of Hurricane Ian. ARRL sought the waiver for Amateur Radio Emergency Service (ARES) volunteers, and other amateur radio support groups working with federal, state, and local emergency management officials to assist with disaster relief.

Pursuant to ARRL's request and similar to written waivers granted by the FCC in earlier years, to qualify, a protocol or mode exceeding the 300 baud symbol rate limit must (1) be publicly documented, (2) use no more bandwidth than the currently permissible slower protocols (generally accepted to be the bandwidth of an SSB signal, or 2.8 kHz), and (3) be used solely for communications related to hurricane relief.

Section 97.307(f) of the FCC's rules prevents the use of certain protocols capable of higher data rate emissions in the High Frequency (HF) bands that many amateur stations active in emergency communications preparedness are capable of using. ARRL described that equipment they plan to use exceeds the 300 baud symbol limit and that the higher data rates are critical in sending relief communications. Many use radio modems and personal computers capable of using digital protocols and modes that would permit faster messaging rates than normally permitted under the FCC's rules. ARRL pointed out that higher data rates can be critical to timely transmission of relief communications, such as lists of needed and distributed supplies.

ARRL also explained that radio amateurs using higher-speed emissions for hurricane-related messages in the United States and its territories must be able to communicate with similar stations in the US, possibly with Caribbean-based stations that are directly involved with hurricane relief efforts, and also with Federal stations on the five channels in the 5 MHz band involved with the SHARES network and other interoperability partners on those frequencies.

ARRL also pointed out that the past FCC temporary waivers have allowed such protocols in similar events including Hurricanes Maria, Dorian, Laura, and Ida, typhoon relief communications in Hawaii, and wildfires in the western areas of the US.

In 2016, in response to an ARRL petition for rulemaking, the FCC proposed to remove the symbol rate limitations, which it tentatively concluded had become unnecessary due to advances in modulation techniques and no longer served a useful purpose. That proceeding, WT Docket 16-239, is still pending.

Ukraine amateur radio satellite may launch November

Students at the National Technical University of Ukraine 'Igor Sikorsky Kyiv Polytechnic Institute' have built an amateur radio CubeSat expected to launch soon

The IARU satellite frequency coordination pages carry this information:

A 2U CubeSat. QBUA01 is a project driven by Kiev National University -Igor Sikorsky Kyiv Polytechnic Institute.

Mission is to launch Ukrainian educational satellite built by KPI students and space exploration enthusiasts for solving a number of educational, scientific and technological university problems.

Specific mission targets are:

- construction and launch of a nanosatellite to test advanced space technologies, study the available capabilities and find new tasks for the development of near space
- study of the operation of solar sensors, GPS / Glonass receiver, magnetometers, gyroscopes, electromagnets and flywheel in the system of orientation and stabilization in space
- study of thermal regulation of a local heat source based on MICRO-heat pipes in low orbit
- a new space experiment on thermal regulation of the payload on heat pipes;
- testing the operation of new software to control satellite systems and obtain telemetry by the ground station.

Amateur operators around the world will be able to participate in the mission by receiving satellite telemetry, beacon and science payload data on the mission QBUA01 micro heat pipe.

Amateur radio satellite from Zimbabwe

IOL reports Zimbabwe's first satellite ZimSat-1, carrying an amateur radio APRS digipeater is expected to be launched to the ISS in October

The IOL article says:

The satellite will host a multispectral camera and image classification tool, as well as a device to transmit and receive signals from amateur radio operators.

Named ZimSat-1, the Sunday Mail in Zimbabwe reported that the nanosatellite will reach the International Space Station next month before its launch into orbit, scheduled for November.

“ZimSat-1 will be on board the Cygnus NG-18, an uncrewed spacecraft that provides commercial cargo resupply to the International Space Station on behalf of the National Aeronautics and Space Administration (NASA), when it is released into space in October,” the state-owned newspaper reported online.

Zimbabwe’s ambitious satellite is reportedly scheduled to reach the International Space Station by 28 October, before being launched from the Japanese Kibo – the Asian country’s science module for the International Space Station.