

# CAARA NEWS



Cape Ann Amateur Radio Association  
Gloucester, Massachusetts  
MARCH- 2024 EDITION



## PRESIDENT'S COLUMN

by Brandon- NQ1W

Dear Members,

It was great seeing so many of you at the February members meeting! We packed the Stanwood clubhouse standing-room only as we welcomed Phil Temples, our Section Vice Director, to talk about his new program to get technicians more active on the air, including steps we're taking to connect them to clubs like ours for mentorship. CAARA will do our part to welcome them as members, and we always need experienced HAMs and Elmers to mentor new technicians.

One thing we can do as a club is continue to put forward opportunities for HAMs to learn new skills and to matriculate into higher license classes. To that end we will be standing up a General class of study at the clubhouse. We've identified teachers and are working out a schedule to be published shortly. Tell all your technician friends to get in touch with us to be part of those programs.

Another thing we do to keep HAMs active is supporting public events with our CAARA communication team. This committee handles every YuKanRun race and the Gloucester Parade of Horribles every year. We are looking for volunteers to help organize procedures for that committee during the race season, including keeping race materials up to date, managing volunteer signup for each event, and emailing details before the events. Chris Winczewski W1TAT and Fred Beaulieu WA1ESU will continue to focus on operations during the actual events where they run the network. If you are interested, please contact us as soon as possible, as the kickoff meeting for this committee is happening in the next few weeks.



In other news, the Board has approved a multi thousand dollar renovation of the repeater site at Blackburn Park. We are actively seeking donations and grant funding to support this critical club infrastructure. We are planning that a new commercial grade antenna, feedline, weather resistant mounting brackets and connectors will vastly improve the reliability and footprint of the W1GLO 2m repeater. The project is well advanced, and we're hoping to complete it within a few weeks. We'll have a celebration when it concludes, as this is a major investment and upgrade for CAARA. We thank our comrades at North Shore Radio Association for the use of their 2m repeater during our renovation work. They have been incredibly gracious.

Finally, we are looking forward to the third talk in Paul Krueger's antenna design series. I always learn something new from these talks! The last two covered verticals and the basic dipole. On March 9th, at our members' meeting, we'll be treated to an overview of the magnetic loop antenna. Paul will give us the basics and show us models of this type of antenna so that we may understand its strengths and weaknesses and visualize the radiation pattern it generates. We hope to see you up to the club to check out this informative discussion.

Wow so much is happening right now. It is an exciting time to be a member of CAARA. Thanks to all of you who renewed your membership for this year. Your membership and donations keep the club running and the lights on at the club house. We can't do it without your support. And to those who have not yet renewed, please do so quickly to remain a member in good standing with all the benefits that come with membership.

Regards,

Brandon NQ1W

**CAARA Newsletter**  
**Cape Ann Amateur Radio Association**  
**6 Stanwood Street**  
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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](mailto: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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**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.**

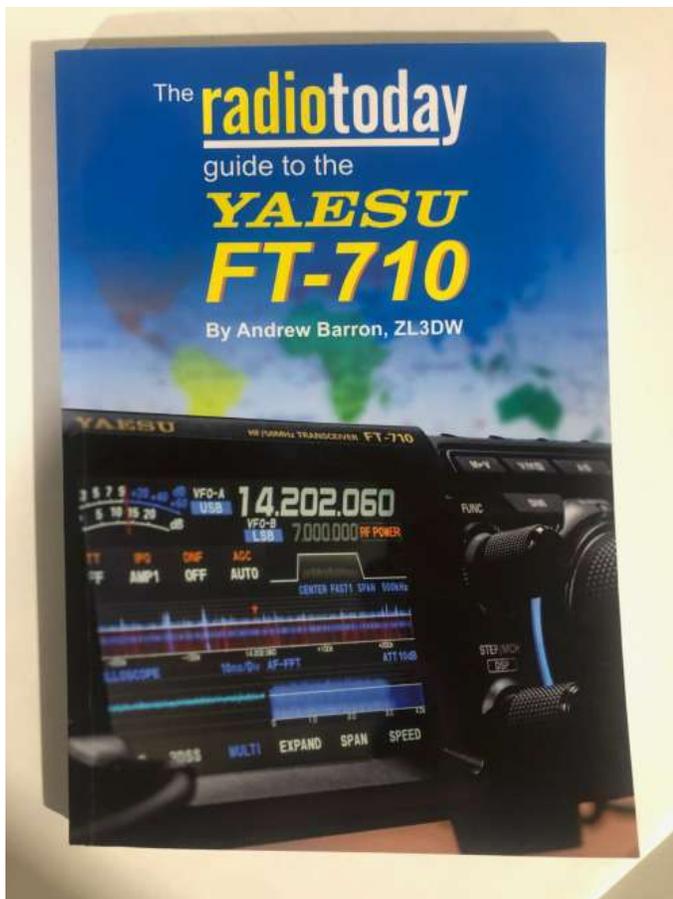


## THE EMCOMM MINUTE

By Dean- KB1PGH

So once and a while I like to switch up HF radios and buy the newest technology that's out there. I had bought the Icom 7300 back in 2016 because it was a SDR and it was and still is a great radio today but it has been 8 years and SDR technology has gotten more advanced. So I began to look at the Yaesu FT 710 SDR HF rig. I also noticed that it was #4 on Rob Sherwoods HF receiver performance list and outperformed the Icom 7300 in RMDR so I decided to sell the Icom 7300 and purchase the Yaesu FT 710 so this month's article will be a quick look at it in comparison to the Icom 7300.

Just so you know there are two versions of the FT 710. There is the FT 710 AESS which comes with its own external speaker for around \$1000 and the "Field" version of the FT 710 which does not come with the external speaker which sells for around \$900. I purchased the FT AESS version which I will get into more detail later.



So I have yet to get into any outdoor HF operations yet but here are my first few thoughts on the Yaesu FT 710 AESS and the comparisons to the Icom 7300 which hopefully will help you decide to get one or not. So I would have to say right out of the box that the FT 710 has a better look and build quality compared to the Icom 7300. The knobs are tight and push buttons are sturdy but they are not backlit which is too bad. It just feels more solid compared to the 7300. It's basically the exact same size as the 7300 which works great for portable use and it has a layer of metal shielding inside of it as well to prevent interference.

The display is bright and has good contrast and I like the traditional needle meter instead of the bar meter on the 7300. Now the menu system on the Ft 710 is a completely different animal compared to the Icom 7300. The 7300 menu system is much more intuitive. The menu system on the Ft 710 can seem complicated at first. It gets much more involved and with more detail on the radio functions.

One HUGE improvement over the Icom 7300 is that the FT 710 supports a wireless mouse to operate the touch screen. It's really like operating a real computer. A right click brings you to the menu functions and with the left click you can change modes and frequencies with ease. You can even click on the scope what signal you want to listen to and it will take you right there-that's a great function.

I am using the Inphic PM 6 wireless mouse which you can get on Amazon and I have had no problem with it. The Ft 710 now uses the SD card approach to update the radio and other functions like the Icom 7300. I had owned the Yaesu 991 and it was a bear to download updates via the USB cable.

So the FT 710 has an autotuner like the Icom 7300. One difference though is that with the 7300 you can just click the mike to activate the autotuner on whatever frequency you are on but you can do that with the ft 710. One way I went around it though is that I programmed one of the 4 function buttons on the mike to do it.

The scope on the display reminds me of the Icom 7300 but the Yaesu FT 710 has no averaging on the scope like the 7300 which is a shame but you can adjust the seed of the water section of the scope.

The microphone is typical of most HF rigs out there with programmable buttons. One thing about the FT 710 is that it has a parametric equalizer for the audio for the



microphone which helps emphasize your type of voice.



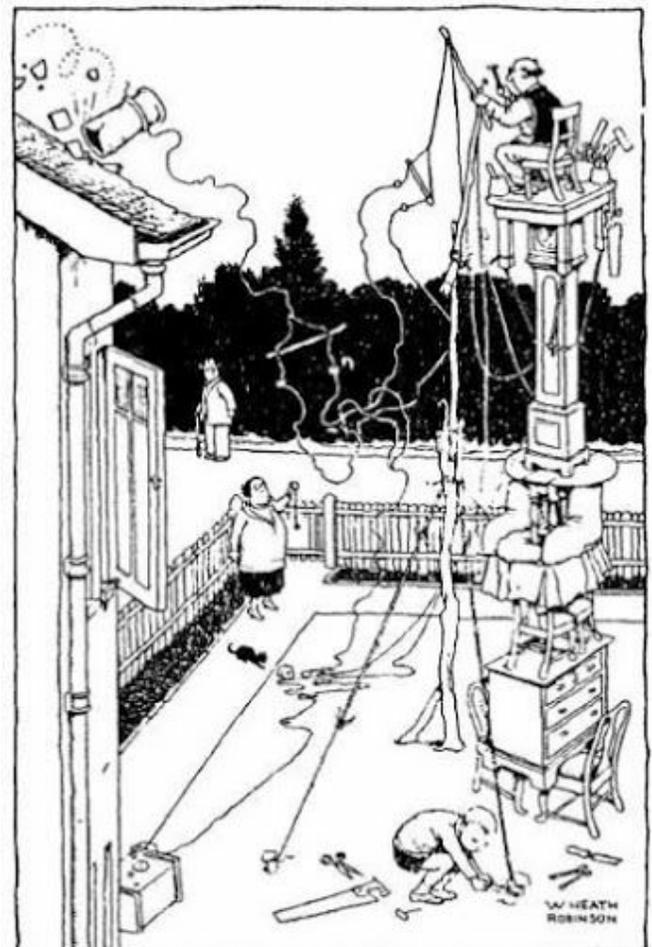
So I bought the Yaesu FT 710 AESS version which comes with it's own matching speaker for the radio. The AESS means Acoustic enhanced sound system which means they split the lower speaker frequencies to the top speakers and the higher ones to the SP 40 side speaker and it is supposed to give you more high fidelity sound. So far what I have tried of it, it sounds ok. I'll have to give it more a go out in the field. Of course I like a forward facing speaker anyway which the Icom 7300 did not have.

The speaker is the SP 40 which Yaesu sells separately for \$100 but I don't think I would pay that much for it. I've heard of people stuffing the speaker with cotton or foam to make it sound better because the speaker case is long and completely empty.

Maybe I will try that. Just so you know that the FT 710 comes with a 3 year warranty which is a bonus. Even though the FT 710 comes with its own manual I would highly recommend purchasing "The Radio Today" guide to the FT 710 by Andrew Barron ZL3DW. It cost only \$19 and you can order one on Amazon. The book is well written and goes into greater detail on how to operate and get the most out the rig plus it's small enough to go in a portable HF bag.

So I have yet to fully operate the FT 710 out in the field in my HF portable ops sessions so we shall see how it performs. So if your a Yaesu fanboy I would definitely

grab the Ft 710. It's the little brother to the more base station like Yaesu Ft DX 10 which ironically is not a true direct sampling SDR radio like the FT 710.





**FEBRUARY MEMBER MEETING**



**Phil Temples, our Section Vice Director, spoke at the member meeting.**

# Amateur Radio Newline Report

## QUESTIONS LINGER OVER MISSING RADIO TOWER

STEPHEN/ANCHOR: For our top story this week, we return to Jasper, Alabama, where a broadcast tower mysteriously disappeared in early February. For now, that mystery remains. Kent Peterson KCØDGY gives us a closer look.

KENT: As police in Jasper, Alabama, continue to puzzle over the apparent overnight disappearance of a 200-foot radio tower, listeners bemoan the loss of the AM station that has been a mainstay in the metropolitan Birmingham area since it first went on the air in 1957. A recent report in the New York Times quoted longtime listeners as praising station WJLX - "The Sound of Walker County" - as being a trusted voice carrying information, storm warnings, traffic reports and sports scores.

The voice went mysteriously silent from AM as the theft of its tower was reported in a case that has baffled local authorities and cast doubts for many - including the police - as to what really happened. The absence of an AM station also prevented the broadcaster from keeping its FM counterpart on the air, in compliance with FCC regulations. The station's programming was carried only online until iHeart Media provided one of its HD3 channel on the broadcaster's WDXB station in Birmingham. According to a report in RadioWorld, iHeart received the FCC's approval and the broadcaster is now providing a signal to the WJLX FM translator on 101.5 MHz.

Meanwhile, concern remains over the fate of its AM outlet. The station has begun raising funds by establishing a GoFundMe page. The station manager, Brett Elmore, is quoted in the New York Times as asking: "Who in the world steals a radio tower?"

Jasper police and listeners are asking the same question.

For now, not quite a month later, there are unproven theories - but as Newline went to production, there were still no answers.

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## SCOUTS ACHIEVE DIRECT CONTACT WITH ISS ASTRONAUT

STEPHEN/ANCHOR: In California, Girl Scouts who were involved in the planning and design of an amateur radio station finally got to use it on Thursday, February 22nd, in a 10-minute contact with the International Space Station. Unlike many of the typical ARISS contacts that have been made using a Telebridge station, this was a direct contact from the station created at Girl Scouts Headquarters in California. The girls were involved in its creation from the start with help from the River City Amateur Radio Communications Society and Girl Scout Heart of Central California coordinated by Jen Garland, KI1TTY [KAY EYE ONE TTY]. The girls' instruction provided a look at hams' emergency response roles -- and of course a possible career as an astronaut.

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## DIGIPEATER IS BACK IN ACTION ON THE ISS

STEPHEN/ANCHOR: In other news about the ISS, the onboard packet radio digipeater resumed activity on 145.825 MHz as of the 15th of February. Additional digipeater access is expected to become available starting on March 1st, with the launch of two new ham radio satellites: Germany's SONATE-2 and CROCUBE from Croatia. Both satellites are on educational missions. SONATE-2, from the University of Wuerzburg (PRON: Vertz Berg), has a CW beacon and a SSTV transmitter in addition to the digipeater. CROCUBE has a similar configuration, however it will use an experimental SSDV downlink and have the capacity to send anniversary and special occasion messages via AX.25 and CW.

## NEW RULES IN EFFECT FOR UK AMATEURS

STEPHEN/ANCHOR: Hams in the UK have begun experiencing the first of many sweeping changes Ofcom has made to licences and the licensing process. Jeremy Boot G4NJH tells us more.

JEREMY: With the first rule changes from Ofcom having come into effect on the 21st, the regulator will send out a new licence document to all UK operators no later than autumn of this year. As reported earlier, Ofcom's new rules not only simplify the licence process but permit ham radio equipment to be operated under the supervision of a licensee. Regional secondary locators have also become optional. Ofcom has also raised the maximum power hams can use on most of the bands. The regulator has promoted the changes for giving amateurs what it calls [quote] "freedom to innovate."

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## INDIAN DXPEDITION TESTS DX ABILITIES OF VHF REPEATER

STEPHEN/ANCHOR: An island DXpedition by Indian amateurs successfully tested the DX capabilities of an important VHF repeater on the mainland. Jim Meachen ZL2BHF has those details.

JIM: A strategically located VHF repeater in India was put to the test over the weekend of February 18th during a Beaches on the Air DXpedition that reached 27 countries on SSB from Henry's Island. The island location is significant because it is located in the Sunderbans Reserve Forest, an area in Bengal that is prone to violent cyclones and from time to time in need of emergency radio support.

A six-member team of hams from the West Bengal Radio Club made the QSOs while studying the changes in propagation that occur during the seasonal change from winter to summer. Although the hams are proud of the DX contacts they made during the weekend, they are prouder still of the successful connection they can rely on from the island to the VHF repeater located atop the highest building in Kolkata. (ARRL)

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## LUNAR LANDER DELAYS LAUNCH OF CREW-8 ASTRONAUTS

STEPHEN/ANCHOR: NASA's Crew-8 astronauts have had to wait a little longer for their launch but the space agency gave them a good reason. Andy Morrison K9AWM explains.

ANDY: The launch of a robotic lunar lander has delayed the departure of SpaceX's eighth crewed operational mission to the ISS. NASA's Crew-8 astronauts include Matthew Dominick, KCØTOR, the commander; Michael Barratt, KD5MIJ, the pilot; and Jeanette Epps, KF5QNU, the mission specialist. They are to be accompanied by mission specialist and Roscosmos cosmonaut Alexander Grebenkin.

Their date with the launch pad was moved from the 22nd of February to no earlier than the 28th when they will be aboard a SpaceX Crew Dragon as part of NASA's Commercial Crew Program.

Meanwhile, the robotic lander known as Odysseus - nicknamed Odie - lifted off on February 15th and is expected to become the first private spacecraft to land on the moon. It was built by Intuitive Machines, a company based in Houston. The US has not touched the surface of the moon since the Apollo 17 mission in 1972.

## SKYWARN NEEDS TRAINED SPOTTERS

STEPHEN/ANCHOR: Looking for a way to get ready for hurricane season? Randy Sly W4XJ is here to give us one option.

RANDY: We're approaching that time of year when the National Weather Service begins SKYWARN spotter training in the US for the start of hurricanes and other storms of spring and summer. Lloyd Colston, KC5FM, told Newsline that in his area of the United States, Wichita, Kansas as well as the Norman and Tulsa, Oklahoma

weather forecast offices have already announced their upcoming classes. He said preparation is an important and serious undertaking.

LLOYD: “You can be aware or you can be scared. The National Weather Service offers training locally and virtually so you can be aware.”

RANDY: Christopher Strong, warning coordination meteorologist for the Baltimore/Washington DC Weather Forecast Office told Amateur Radio Newsline that hams can play a big part in being [quote] “weather aware, by knowing what threats are possible.” Amateur radio operators not only need to keep our equipment ready to go but also keep our training up to date.

You can attend spotter training online or find out about classes in your area by visiting [Weather.gov](http://Weather.gov), then locate your local office by entering your zip code in the search box. When you find your local office, look for the Skywarn link.

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### AWARD HONORS THE OPEN INNOVATIVE SPIRIT OF HAM RADIO

STEPHEN/ANCHOR: The window is closing to submit names of candidates for an award that honors the open, innovative spirit of ham radio. Sel Embee KB3 T ZED D tells us how to apply.

SEL: Now in its fifth year, the Amateur Radio Software Award recognizes the contributions that free, open source software has made to enhance the experience of ham radio. The international award's judges are now in search of this year's recipient from anywhere in the world.

Last year's winner was Stephen Loomis, NØTTL, whose development of GridTracker has helped hams simplify the tracking of contacts by visualizing radio traffic on such modes as FT8. Earlier winners were David Rowe, VK5DGR, for his Codec 2 project, which gives digital voice communications access to other software and hardware projects without the need for licensing, fees and other concerns. Jordan Sherer, KN4CRD, and his project, JS8Call, won the award in 2021 and the first award recipient was Anthony Good, K3NG, for the K3NG Arduino CW Keyer.

In addition to receiving the award, winners are also celebrated later in the year with a special event station calling attention to the innovative spirit they represent. For details, visit [arsaward.com](http://arsaward.com). Deadline is the 29th of February.

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### DX CENTURY CLUB AWARD HONORS THE ELMERS BEHIND THE CHASERS

STEPHEN/ANCHOR: Behind every achievement of a young DX chaser, there is at least one mentor who has cheered them on with moral support and technical guidance. Working quietly behind the scenes, these seasoned hams become big achievers too. Now these Elmers are getting a moment in the sun as well, as we hear from Newsline's newest correspondent, Travis Lisk N3ILS.

TRAVIS: The DX Century Club award is a top amateur radio honor that recognizes hams who have confirmed contacts with 100 entities. Now those hams who have guided younger achievers on their journey to DXCC are in line for a top award themselves. A team of DX organizations is preparing to give a mentor recognition award this May at the annual DX Dinner, which coincides with Hamvention in Xenia.

To qualify for the award, mentors must have assisted a DX chaser who is under the age of 30. Applicants will be reviewed by a judging committee made up of representatives from the Southwest Ohio DX Association, the Northern California DX Foundation and the International DX Association.

For an application form, send an email to thedxmentor at gmail dot com (thedxmentor@gmail.com)

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## WORLD OF DX

In the World of DX, listen for the Intrepid DX Group's DXpedition to Pigeon Island, IOTA Number OC-065, from the 22nd of February to the 7th of March. The team will be operating CW, SSB and FT8 in fox and hound mode on 160 through 6 metres. There will be as many as six stations operational. Watch the team's Facebook page for updates. See QRZ.com for QSL details.

You have until the 26th of February to work Chuck, KC4KQE, who is on the air as TF/KC4KQE from Iceland. He is operating SSB and FT8, activating several POTA and SOTA locations during daylight hours. See QRZ.com for QSL details.

Timo, OH1NA, will be operating holiday style as 3B8/OH1NA from Mauritius, IOTA Number AF-049, from the 25th of February to the 7th of March. He will operate CW, SSB, FT8 and FT4. See QRZ.com for QSL details.

Listen for Nobby, G0VJG, operating holiday style as 5H3VJG from Zanzibar Island, IOTA Number AF-032, Tanzania from the 7th to the 20th of March. He will be using mainly SSB with some CW and FT8. He is expecting to operate in the RSGB Commonwealth Contest on the 9th and 10th of March. See QRZ.com for QSL details.

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## KICKER: NETS OF NOTE: THE PUN-IN-LIFE NET

STEPHEN/ANCHOR: We end this week's report by putting the spotlight on a new net as part of our occasional series "Nets of Note." Newline visits this week with a startup net for hams who take radio seriously enough to know there's also a time for laughter. As Ralph Squillace KK6ITB tells us, this is no joke - or...is it?

RALPH: The multi-mode digital network known as the QuadNet Array doesn't just unite fans of D-STAR, DMR and C4FM Fusion. Starting next month, a new mode will be added to the mix once a week: Pun Mode. Pun Mode is neither digital nor analogue and it's not the exclusive practice of ham radio operators. Hams who have a reputation for groan-inducing wordplay now have a refuge in which to practice their craft. The Pun in Life Net is starting up on the QuadNet array beginning on Saturday the 2nd of March at 4 p.m. Eastern Time, 1 p.m. Pacific Time. The net control and punster-in-chief is Daryl Stout, N5VLZ, a past participant in the World Championship Pun-Off held every May at the O. Henry Museum in Austin Texas. Humor must conform to on-the-air standards of decency -- and because this is a digital mode, the only QRM you are likely to hear are the loud groans from everyone else.

Visit the website openquad dot net (openquad.net) to check it out before you check in. Daryl is hoping for a big enough crowd to make this a pun-in-a-million experience.

## **Man in Backyard Talks to Orbiting Astronaut Using Homemade Antenna**

A Michigan ham radio operator used a homemade setup with a handheld antenna to talk to an astronaut orbiting the Earth on the International Space Station. I didn't know this was a thing! The astronaut even sent him a QSL card acknowledging the conversation (included at the end of the video). There's more info on Reddit about the radio, antenna, and conversation. VIDEO

The ISS even has an unofficial program that allows students to talk to astronauts on the station via ham radio.

An almost-all-volunteer organization called Amateur Radio on the International Space Station, or ARISS, now helps arrange contact between students and astronauts on the space station. Students prepare to ask questions rapid-fire, one after another, into the ham radio microphone for the brief 10-minute window before the space station flies out of range.

“We try to think of ourselves as planting seeds and hoping that we get some mighty oaks to grow,” said Kenneth G. Ransom, the ISS Ham project coordinator at NASA’s Johnson Space Center in Houston.

That this is even possible with low-powered communication devices underscores just how close the ISS is to Earth: 200-250 miles above the surface. That’s the distance between Dallas & Houston or NYC to Boston.

## **SpaceX seeks a waiver to launch Starship “at least” nine times this year**

"They're looking at a pretty aggressive launch schedule this year."

As SpaceX nears its first Starship launch of 2024—possibly as soon as within three weeks—from its Starbase facility in South Texas, the company is pressing regulators to increase its cadence of flights.

During a press availability this week, the administrator for Commercial Space Transportation at the Federal Aviation Administration, Kelvin Coleman, said the agency is working with the company to try to facilitate the Starship launch-licensing process.

"They're looking at a pretty aggressive launch schedule this year," he said. "They're looking at, I believe, at least nine launches this year. That's a lot of launches. If you're doing modifications and doing them one by one, that's a lot of work. We've been talking to SpaceX constantly around the clock, coming together and trying to figure out how do we do this. We're invested with the company, and so we'll work with them to get them back going as soon as they can."

After SpaceX decided to launch and attempt to land its Starship vehicle in Texas about five years ago, the company had to undergo an enhanced environmental review of the site. As a part of this process, the FAA completed a Final Programmatic Environmental Assessment in June 2022. Following that review, SpaceX received approval to conduct up to five Starship launches from South Texas annually. An FAA official confirmed to Ars that the company is seeking a modification of this five-launch limit to accommodate a higher flight rate.

Next launch, next month?

SpaceX launched its first Starship vehicle, which is the largest rocket ever built and is intended to eventually be fully reusable, in April 2023. That flight caused serious damage to the launch site near Boca Chica Beach and raised environmental concerns after it kicked up large chunks of concrete and dust into the surrounding wetlands. Coleman said the anomaly investigation and regulatory review process after that flight took about six months, which he believes is commensurate with the work involved.

The company's second launch attempt in November was more successful, as the first-stage booster, Super Heavy, had a mostly nominal flight, and the Starship upper stage managed to separate from the booster before it experienced an anomaly and was lost. There was no damage on the ground this time. The work entailed by the FAA for this anomaly review was about one-third as much, Coleman said.

SpaceX founder Elon Musk has said his company is now targeting early to mid-March for the third launch attempt of Starship. This flight of the highly experimental vehicle, Musk said, has a reasonably good chance of successfully reaching orbit. Coleman said that, from a regulatory standpoint, that timeline sounds "about right."

Staffing up

During congressional testimony last October, SpaceX Vice President of Build and Flight Reliability Bill Gerstenmaier said he wanted to see the US House and Senate provide more resources to the FAA for its licensing review processes. The number of US launches has grown from a few dozen per year to more than 100, and there is a multiplicity of new companies seeking regulatory approval for spaceflight activities. The agency expects to license more than 150 launches and reentries this year. Its primary task is to protect people and property on the ground from spaceflight hazards.

"Well, I think Gerst was right," Coleman said, referring to Gerstenmaier by his commonly used sobriquet. "And I appreciated what he had to say so far as advocating for more resources."

Coleman said that when he joined the Commercial Space Transportation arm of the FAA in 1996, the organization had 40 employees. A decade ago, there were 73. Now there are 143, and the organization is "aggressively" seeking to grow to 157 staffers in Florida, California, Texas, and Washington, DC.

"Right now, we're at about 140 people, and they're pedaling as fast as they can," he said. "We're working on the weekends. We're working late into the night. We do need additional staff."

## **This month's quiz: What is this homemade device and what is it used for?**



## REMEMBERING Roger C. Smith KB1YTJ

CAARA member Roger C. Smith KB1YTJ aged 57 of Gloucester, MA, passed away surrounded by his family on April 5th, 2021 after a battle with COVID-19.

After completing a 2 year Electronics degree from ITT Tech he joined the Navy in the Submarine Service and served for 6 years on the USS Augusta (SSN-710), a Los Angeles-class Fast Attack Submarine, as a nuclear machinists mate operating it's nuclear reactors. Roger earned many commendations for performing his duties with skill, dedication and an always cheerful and willing attitude.

Roger was a regular at the club and would tackle any building project we had going on. We were replacing the ceiling and rewiring the lights and I really didn't want to tear down the ceiling. It was infested with rodent crap, etc. Next thing I knew Roger tore down the ceiling and cleaned everything up. All I had to do was rewire and put the ceiling back up. He is missed at CAARA...RIP Roger

Jon- K1TP



### REPEATER NEWS:

The repeater group of Larry-AJ1Z and Jon- K1TP has been busy while the 2 meter repeater is down at the cellular site. Larry loaned us his spare Yaesu repeater and it is running on 145.130, pl 107.2 using an existing vertical antenna at the club. The range is very limited but it is usable around the Gloucester area.

We have ordered a new 2 meter antenna, new hard line, new antenna brackets, lightning surge device, etc. to the tune of around \$6000+. The climber fee is \$1600 for two days of work.

The duplexers have been sent out to be checked out and retuned if necessary.

We have been given a 5-6 week window for all to arrive and start the project.

We have received a donation at the site of a \$1000 plus Dell rack which will house both the 2 and 440 repeaters and duplexers. It is well ventilated and lockable.

So if you were wondering, we are working behind the scene.....

## Working the 160 Meter Band from a Small Urban Lot

Paul Krueger N1JDH

Just because you reside on a small lot does not mean you cannot work the 160-meter band! If you have a tree that you can hang a wire at height of 30 feet or more, and you can run 100 feet of a counterpoise wire in a relatively straight line on the ground you can operate on 160 meters! You do not need a huge radial field and a tall tower to operate on this band. Build a shortened sloper.



**Figure 1. 160 Shortened Meter Slopers**

First find yourself tree or mast that is at least 30 feet (~9 meters) high. Put a ground rod at the base and connect 100 feet of wire to use as a counterpoise. Run this wire out to its full length. It does not have to be perfectly straight, just nearly so. Connect this wire to the ground rod.

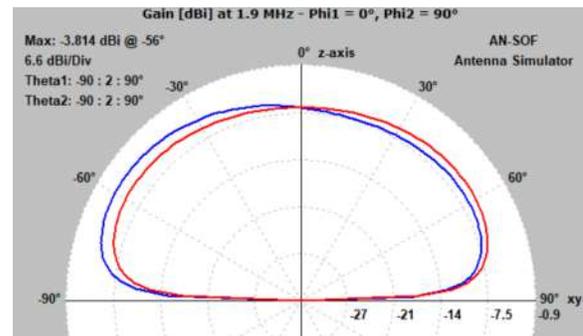
Next build yourself a 5 microhenry coil. These are easy to build by using 14-gauge solid core THHN wire. This type of coil is fine for use with 100 watts. I use an inexpensive LCR meter when building coils; you can buy one on Amazon for about \$30. There are also many websites and ARRL references on how to build coils. The coil value does not have to be exact just get in the ballpark.

Attach to one end of the coil 120 feet of wire, and connect to the other end of the coil to 1:1

UNUN. Raise the wire to the top of your tree or mast. Run the remaining wire out over the counterpoise. Attach an insulator and a short piece of rope to the end. Tie the rope to a 6-foot post.

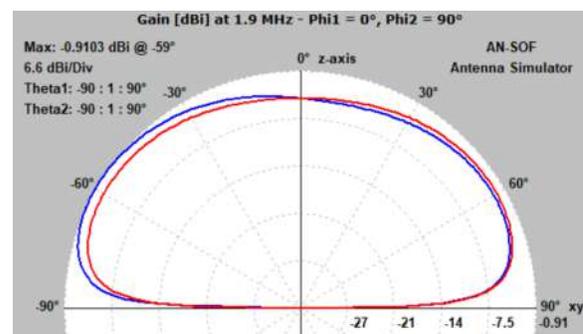
Using an antenna analyzer measure the VSWR and adjust the length of the sloped leg near the post, to obtain a low VSWR for the portion of the band you plan to operate. You now have built yourself a shortened 160-meter sloper!

Figure 2 shows the gain pattern you can expect.



**Figure 2. Gain Pattern of Shortened Slopers**

Figure 3 shows the gain pattern for a sloper that one of the "big guns" on the 160-meter band might use. A full length sloper off a 50-foot tower with a radial system that uses 32-20 meter buried radials.



**Figure 3. "Big Gun's" Gain Pattern**

Guess what your shortened sloper has a gain that is only 6-9 dB below the "big gun." That is 1-1.5 S units!



# **SEACOAST AMATEUR RADIO FLEA MARKET**



SPONSORED BY THE PORT CITY AMATEUR RADIO CLUB

**SATURDAY APRIL 6, 2024 8:00AM-12:00PM**

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**\*\* AMATEUR RADIO LICENSE EXAM SESSION STARTING AT 1:00PM \*\***

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**Port City Amateur Radio Club**

[www.w1wqm.org](http://www.w1wqm.org)

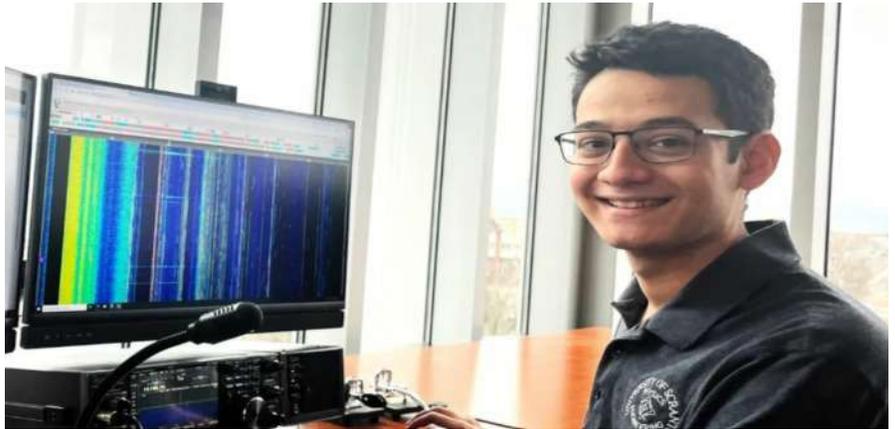
# Pioneering the Frontier of Amateur Radio and Robotics: The Gerard Piccini Story

Gerard Piccini, a senior electrical engineering student, is pioneering a low-cost ionospheric research project and leading a robotics team. His work bridges the gap between amateur radio, robotics, and scientific advancements.

In the bustling corridors of the University of Scranton, where the future's engineers and technologists hone their skills, Gerard Piccini stands out. A senior electrical engineering student and IEEE Student Member, Piccini is at the forefront of blending traditional engineering disciplines with the expansive world of amateur radio and robotics. Leading the university's W3USR amateur radio club as its president, Piccini is not just another student; he is a pioneer in a low-cost ionospheric research project that could redefine how we understand the Earth's upper atmosphere.

## Engineering Meets Amateur Radio

Amateur radio, or ham radio as it is affectionately known, has long been a hobby for those fascinated by wireless communication. Gerard Piccini, however, sees it as more than a pastime. Under his leadership, the W3USR club has become a hub for innovation and learning. His passion for the airwaves has led him to a groundbreaking project: developing a low-power system that sends signals into the ionosphere to measure their return time.



This project not only showcases the practical applications of amateur radio but also highlights the potential for significant scientific research on a budget.

## The Robotics Frontier

But Piccini's interests and talents extend beyond the ionosphere. In the realm of robotics, he led a team to compete in the Micro Mouse competition, where miniature robots navigate a maze as quickly as possible. This endeavor, fueled by creativity and technical skill, demonstrates Piccini's versatility and his ability to lead and inspire. Robotics, with its blend of problem-solving, design, and engineering, complements his work in amateur radio, painting a picture of a technologist with a broad vision for the future.

## A Future Shaped by Innovation

Looking ahead, Piccini envisions a career path that traverses the fields of RF engineering or digital signal processing. His involvement with the Ham Radio Science Citizen Investigation, a collaborative effort between amateur radio enthusiasts and professional scientists, underscores his commitment to leveraging amateur radio for scientific advancement. Through these endeavors, Piccini exemplifies how IEEE membership can serve as a platform for leadership and professional development, bridging the gap between academic pursuits and real-world applications. His story is a testament to the power of curiosity, innovation, and the relentless pursuit of knowledge.

As Gerard Piccini continues his journey, he represents a new generation of engineers and scientists. His work in amateur radio and robotics is not just about technical mastery; it's about exploring the unknown and making a tangible impact on the world. Through his leadership and vision, Piccini demonstrates that with passion and dedication, the possibilities are limitless. Whether it's sending signals into the ionosphere or navigating the complexities of robotics, Piccini is charting a course for the future, one innovation at a time.