CAARA NEWS

Cape Ann Amateur Radio Association
Gloucester, Massachusetts
MARCH- 2026 EDITION

PRESIDENT'S COLUMN

By Brandon- NQ1W

Dear Members,

As we look forward to a busy and productive March at the Cape Ann Amateur Radio Association, I am thrilled to announce that the Gloucester City Council has officially approved the Community Preservation Grants. This includes our project to improve and repair the lot and frontage of the Stanwood Clubhouse. During the proceedings, CPC Chair Matt Lundberg gave a glowing recommendation of our club and project. We are honored to be selected alongside five other high-profile local organizations, including Hammond Castle and the historic Schooner Adventure. Thomas (AA1TS) and I enjoyed seeing the work at the City Council and meeting Gloucester's new mayor, Paul Lundberg.

Regarding our CPC grant, an anonymous member has generously offered to match donations up to $5,000 to help us reach our required matching fund total for the CPC grant and other critical needs. If you are able to contribute, your impact will be doubled during this period as we work toward these vital goals for our clubhouse.

In other news, CAARA will give a presentation on Amateur Radio and our club's activities to the Gloucester Council on Aging on March 30th at 12:30 PM. This is a wonderful opportunity to share our passion with the community.

Additionally, Kevin Lloyd and I are continuing to grow the 7:30 PM Fishnet, the 6m and 2m simplex nets. If you can get on 2m FM or 6m USB, please join us Thursday nights for fun and games without a repeater. Find out more at: https://fishnet.radioactivecapeann.com

With spring approaching, we are seeking volunteers for the Special Events Emergency Communication Team, headed by Kevin Lyons (K1KL). Their first event is the "Fools Dual" on March 28th, and they are currently looking for one additional volunteer. Many other slots are open for the upcoming season as well. These events are a fantastic way for new volunteers to shadow seasoned members and help the community stay safe during local races.

Finally, please join us at the March members meeting for a presentation on new software for remote radio access and digital modes.

As a reminder, please ensure your membership dues are current for this year. The official deadline has passed, so please submit your dues as soon as possible to maintain your status as a member in good standing.

Thank you for your continued support of CAARA during our 50th year. I am grateful to all of you for making this the best club in New England.

73,

Brandon Hockle, NQ1W
President, CAARA

CAARA Board of Directors Meeting

March 14 at 11AM- All are welcome.

Member Meeting and Lunch

March 14 at Noon

Sunday Night Net on 145.130 at 7PM

Monday-Wednesday-Friday Net on 145.130 at 6PM

Club Coffee and Donuts every Wednesday from 10AM -Noon

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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

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 radio clubs that has its own clubhouse. Located at 6 Stanwood 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 7:00 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 every Wednesday from 10- Noon 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 if you into the amateur radio hobby I hope you know that there`s more then just ham radio in the hobby. The radio hobby can cover many things. So for this month I would like to cover the public safety monitoring part of the radio hobby. Actually for many hams this is how they started in the radio hobby.

My father was a Fire Chief when I was growing up so we always had a scanner radio in our house and to this day I have a scanner where I monitor our local public safety agencies. I have always felt that it`s good to be in the loop to what`s going on in your own community. This aspect really applies if your a disaster prepper or into amateur radio emergency communications.

So public safety scanning has really evolved from when I was a kid. Back in the day everyone had to go to Radio Shack and pick up a "crystal" and you actually had to install it in your scanner in order to listen to your towns public safety frequencies. A "crystal" was actually just that. A tiny quartz crystal which sat in a tiny metal square pot with two prongs on it that you had to open up your scanner and plug it in to hear a certain frequency. The pot was smaller than a dime. Gee, talk about the dark ages and your scanner would have about 10 to 20 channels max that you could listen to with red lights that would scan across the radio as it scanned each channel.

Now 50 years later we have radio scanners that can listen to thousands of channels and you download your frequencies in seconds. We even have software defined scanners that are small dongles that you plug into your computer and now you can listen to public safety frequencies on a App on your smartphone.

It certainly has come a long way. So with a good scanner radio you can hear your local fire, police, ambulance and DPW departments. You can also listen to aircraft flying around and airports and boats and even trains. One perk about being close to water is that you can hear the marine frequencies.

You can also listen in on NOAA weather reports and of course FRS,GMRS and 2 meter and 440 ham radio repeaters. There`s much more to listen in on if you just scan around the frequency bands as well. Hey, did you know back in the day, say late 80`s and early 90`s that if you had a scanner you could listen in on private cell phone calls? Yup!, cellphone signals had not gone digital yet so I did just that with my old scanners-plus you could listen in on those 49 MHZ baby monitors that people had in their homes. It was wild back then. Of course nowadays everything is digital and encrypted so it`s a different story. So growing up we had Radio Shack which used to sell some pretty good scanners but that`s long gone. We also had a company called Uniden which made the Bearcat line of scanners and they are still around to this day. There`s another scanner company called Whistler that was around for a while but not so much any more.

Ok so lets move on to present day. So pretty much nowadays the only scanner radios around you can buy is the Uniden Bearcat brand which I think is a excellent product by the way. One minor beef is that these scanners are getting a bit expensive but then again your paying for the technology inside of them to decode the digital signals.

So what has happened in the last 15 years or so many public safety agencies have digitized their transmissions which mean you no longer hear then on a older "Analog" scanner. Some agencies have even gone further and "encrypted" their transmissions so no scanner can listen in. So you have to find out what your local town or city is transmitting first.

So I live in Gloucester Mass which has digitized both their Fire and Police frequencies so I had to buy a digital scanner to listen in. These transmissions are called APCO 25. Almost the same of digital transmissions as Yaesu System Fusion that CAARA has on our 440 repeater. There are a few other types of digital transmissions for public safety agencies so be aware that your scanner is able to receive those too before you buy it.

So with all that said lets take a look at a few Uniden scanners you can buy. So be prepared to save your

pennies if you wish to, or have to get get a digital scanner to monitor your city or towns frequencies.

So as you can see in the photo I have the Uniden Bearcat BCD 325 P2 handheld scanner to monitor Gloucester`s digital police and fire departments. This scanner now costs $ 449 .It was $379 a year ago so that`s quite a jump in price. The Uniden base station model BCD 996 P2 which does the exact same thing costs $499.

Now if you want to go top of the line Uniden just put out a digital handheld scanner called the SDS 150 for $949 -YIKES ! I never thought scanners would be this expensive but as always you get what you pay for.

These more expensive scanners you can even pay more for a download to cover some extras digitized frequencies. Plus you can download all your local frequencies to listen too instead of having to program them your self.

So let`s take a look at my Uniden BCD 325 P2 scanner. I have a couple of these. One for the house and one for my car. It works great at monitoring Gloucester`s APCO P 25 digital transmissions from the Police and Fire Departments. It is very sensitive and can pick up the Beverly airport tower from my home in Gloucester. The screen itself is very basic and the build quality is ok. It is very light and I`m not sure if it would survive a fall of 3 feet off a belt. It should be built better like one of my Yaesu HT`s .

So programing the frequencies in I did by hand, call me old school but it wasn`t that hard once you get the hang of it. I think I would recommend this scanner for the beginner or average user like me. I like that you can run it off of USB power or two AA batteries. One thing is that it does eat batteries pretty quick. So if your taking the 325 P2 outside bring some extra batteries with you. The audio from the speaker is fine and the display reads nice and is backlit.

This scanner also has the NOAA SAME weather alert on it and you can scan pre made service bands such as the aircraft, marine and railroad frequency bands. This scanner has 25,000 channels in it so you will never run out of room. One last thing, this scanner is also a "trunktracking" scanner for radio systems such as the Massachusetts state police.

You can buy the Uniden BCD 325 P2 at several stores online. Just Google it and look around for the best price. So if you are totally desperate and can`t afford a digital scanner you can still listen in on a audio stream of some public safety agencies at broadcastify.com .

So that`s it for this month and don`t forget that the radio hobby is a lot more than just ham radio **!**

AMSAT 'STUDENTS ON THE AIR DAY' ENCOURAGES SATELLITE QSOS

In addition, if you're a student who's also a licensed ham, you now have a good excuse for looking out the window or staring up at the sky: AMSAT has declared the first and third Tuesday of each month to be STOTA DAY - that's Students on the Air Day. Starting in March, students everywhere in the US will be encouraged to get out there and make as many QSOs by satellite as they can - and work as many satellites as they can. Have fun - just don't do this in the middle of class... unless your teacher approves, of course.

Please pay your dues, it keeps our club functioning and providing for the CAARA club building, repeaters, and monthly luncheon meetings.

Computer Adventures

by Curtis- AA3JE

I got up this morning, brushed my teeth, put in my hearing aids, had a cup of coffee and plowed the snow. For those of you that do not know, daily snowstorms are an early spring event in some parts of New Hampshire. I went back inside and booted up the Software Defined Radio on my computer to see who was on.

Or tried to.

Instead of my desktop, there was a lurid banner saying "You may have been hacked, open your security app immediately."

So I clicked on the "Total Security" icon. It opened to a blank screen, and a circle with pretty little blue bars that spun around.

And spun around. And around, for 20 minutes. I got out my phone and called up the website. I clicked on "Log In Trouble".

I followed all the prompts, Still nothing. I hit the "Assistance Button".

"Hello, I am an Advanced AI. I can help. Type your problem in the box."

I typed in my complaint, followed all the suggestions, still nothing.

Finally, the AI said, " You appear to have a complex problem, wait for an attendant."
A bleary voice answered.

"Hello, my name is Habib. How may I help you Mister White?"

I explained my problem.

"Oh, common problem. Your computer is in security lockdown."

"What do I do?"

"Turn it off and on again, then click our icon."

It would not turn off. I pressed the "crash" button. Still no action.

"Hmmm. Press Control, Alt, Flower and Enter, and say a prayer to Ganesh."

"Ganesh?"

"God of undertakings. Always helps."

The screen blanked, and reopened in a very surly manner.

"May I share your screen?" said Habib.

"Sure."

Habib was a fast typer. Really fast. I looked up the time in Mumbai. He was doing great for someone working at 3 AM. Windows opened and closed with amazing speed.

"I have found the problem," said Habib, " What is "Friends of the Muskrat?"

"A non-profit that protects habitat for a small rodent."

"Ah, a local deity. Your account has been stolen. I have fixed it."

"What do I do now?"

"Change your password. Security in small temples usually consists of turning the computer off at night."
"So I change the password and all will be good?"

"Yes, I have reset your computer's security, your phone's security, flagged the account and set your screening to "really suspicious". You are all set."

"Thank you."

"No problem, do you want to upgrade to Cosmic Security? Much more powerful."
"No thanks."

Habib was as good as his word. It was all good. They don't pay that boy enough. The only guy on VHF was Seymour, taking about his prostate. I logged off.

A CW Decoder

Maurice N1UV

I've built and used many CW keyers over the years, starting with those made from discrete TTL/CMOS ICs in the 70s and 80s (yes, the Accu-Keyer being one of them), the then-available Curtis 8044(BM) IC, through to the excellent designs from Steve, K1EL. Of late, I've started thinking about developing a keyer that has the features I prefer, so as a starting point I began researching what has been developed so far for both the PIC and Arduino platforms (maybe a future article).

In doing so, I ran across a sketch (ie, a "program" for the Arduino platform) that can be used to decode CW with minimal components. It even included a DSP of-sorts to filter and lock onto an audio tone. That intrigued me. I had come across other designs that use tone-decoder ICs, op-amp filters, and similar circuitry to condition the signal before passing it to the Arduino, but this is the first one I encountered that handled this exclusively within the Arduino itself.

While the Arduino is a capable microcontroller, it's hardly a powerhouse. In this application, it must accept an analog audio input, isolate a tone from noise, convert it into digital logic, determine the sending speed, distinguish dits from dahs, assemble a viable character group, decode them, and display the result—a tall order, to say the least.

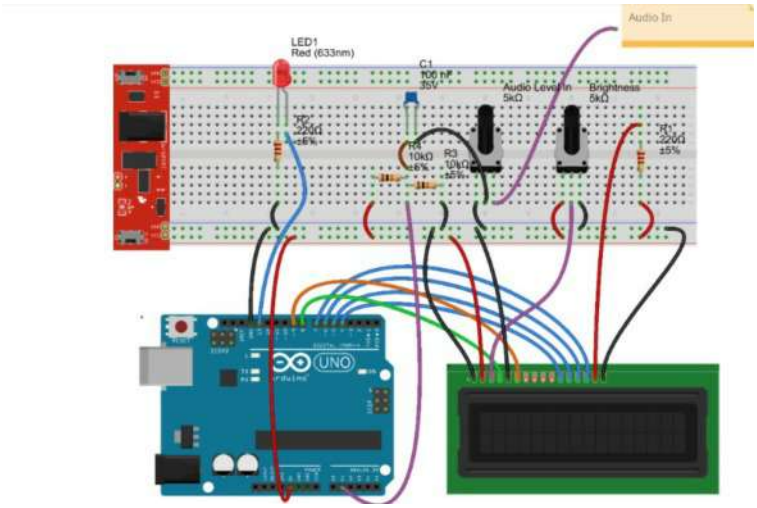
So, using the information contained here http://oz1jhm.dk/content/very-simpel-cw-decoder-easy-build, I decided to build a prototype since I already had an Arduino UNO, a 16x2 character display, and the required small amount of discrete components laying around.

After a few small changes to the code to accommodate my 16x2 character display (instead of the 20x4 display as used in the article), left justify the WPM count (instead of the middle), and to fix a discrepancy around what pins are used for the display, I uploaded the sketch and it wasn't all that long before I had a working prototype.

By the way, the Goertzel algorithm is the DSP technique used to lock onto and decode the tone. This algorithm is lightweight and very suitable for microcontrollers. There's plenty of information on the internet about this, should you be interested.

Using the decoder is simple. Adjust the radio's VFO until the "Tuning" LED flashes in sync with the incoming CW. Adjust the "Level" pot so that the LED does not flash with noise present. At this point, it should be decoding the incoming CW along with the approximate speed.

Prototype CW Decoder using the Arduino UNO and 16x2 display



How does it work? Well, let's just say it's not as good as what is available between your ears. It seems to do a reasonable job of machine/keyer generated CW when the signal-to-noise ratio is good. For example, I was using the prototype on the W1AW CW code practice sessions on 80M and it did an excellent job of decoding.

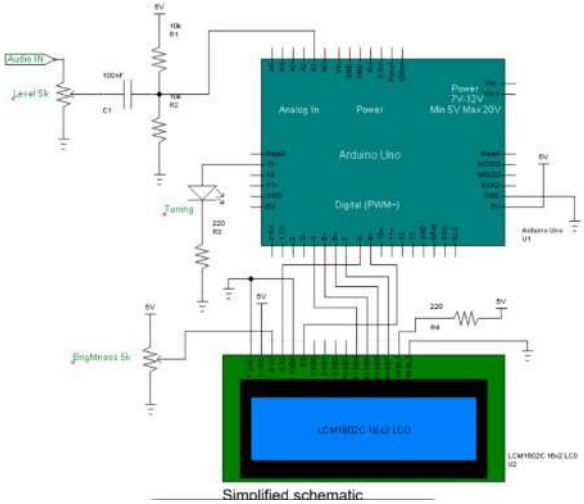
However, it falls flat with hand-sent CW on a straight key, unless the fist on the other end is exceptionally good.

Will it help you decode some of the fast CW heard during a contest? Yes, it will. Will it help you improve your own sending if you feed your own signal into this decoder? Yes, it will!

The Arduino code is fully open and well commented, so there is plenty of scope for experimentation.

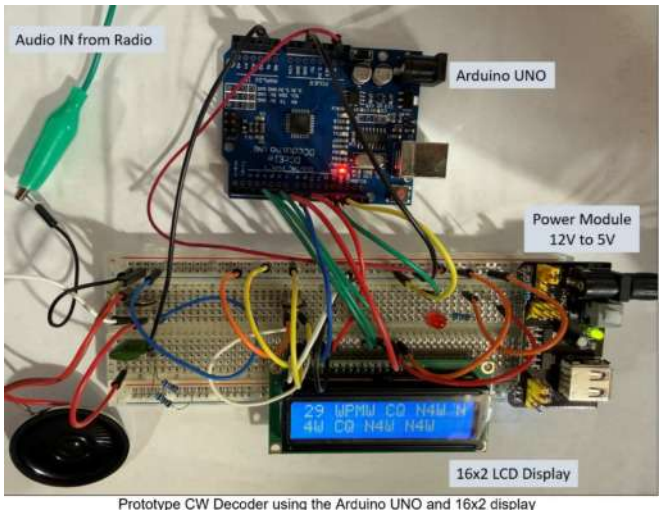
Redrawn schematic and Fritzing diagram of the circuit I used is below.

Simplified schematic



Simplified schematic

Wiring diagram



Prototype CW Decoder using the Arduino UNO and 16x2 display

AMSAT YOUTH PROGRAM HAS NEW COURSE, KIDS' COLORING BOOK

NEIL/ANCHOR: AMSAT's Youth Initiative has been busy on a number of fronts with projects to encourage youngsters to learn more about satellites and their impact on our lives. With this report, we welcome the newest member of the Newsline team, Daniel Garcia, W2DIY.

DANIEL: In its continued effort to connect the next generation with satellite initiatives, AMSAT's Youth Initiative has produced a new installment in its online satellite course and, in a separate effort, has introduced a free downloadable coloring book for younger students.

The coloring book, called "Satellites in Space Help Us Live a Better Life on Earth," focuses on ways that satellites have an impact on almost everyone's daily activities. Produced with a grant from Amateur Radio Digital Communications, it contains illustrations on 12 two-page spreads and is available in English and Spanish with accompanying discussion guides. Details and downloadable copies are available at the website buzzsat dot com (buzzsat.com).

Meanwhile, the third installment of AMSAT's free online satellite course is being prepared for release. It was produced by Eric Sonnenwald, N2XSE, a retired science teacher, and examines the ways satellites assist with the control of pollution on earth. It will be available with the two other courses released earlier in the program: "Introduction to Satellite Meteorology" and "Satellites and Climate Change."

AMSAT rolled out its community-based Youth Initiative Program in 2022 to provide age-appropriate lessons for students living in the satellite age.

JOINT BALLOON LAUNCH FOR FLORIDA HAMS, STUDENTS

NEIL/ANCHOR: A solar-powered high-altitude balloon was launched recently by middle schoolers in Florida -- and though it weighed only 15 grams, it carried an ambitious agenda for science - and the students. Jack Parker W8ISH tells us more.

JACK: Accompanied by their parents and some school staffers, 63 students at the Sky Academy in Englewood, Florida watched on the 18th of February as their little Sky Tracker pico balloon soared away from the earth with the help of hams from the Englewood Amateur Radio Society. Equipped to communicate via APRS, the balloon transmits such data as time, date, altitude, ascent, humidity, grid square - and of course its callsign, N4EAR-1.

The launch was a first for the students, who are in the school's STEM program - and it was the first partnership of its kind for the amateur radio society, said its president, Bill Reed, K7WWR.

The students have been able to track its international journey on their smart phones and on a big screen in their classroom.

Bill told Newsline that the students aren't the only ones who have been immersed in this project. He said [quote]: "Our club members are very excitedly tracking the balloon. It has generated much excitement as we are wondering how our baby is doing.

We are hoping for at least one circumnavigation of the globe." [endquote] At the time that Bill spoke to Newsline, the balloon was nearly over Africa and well on its way. That's a particular point of pride for the club's officers who supported this first-time collaboration with the school. It opens up the world, even as the little balloon soars high above it.

Amateur Radio is Good for Your Brain Health

Or: Why Your Family Should Stop Worrying and Learn to Love the Antenna Farm

Paul Krueger, N1JD

There you are, hunched over your radio at 2:00 AM, squinting at an S-meter, trying to copy a faint CW signal from some Antarctic expedition station through a wall of static, while simultaneously logging the contact, checking the cluster, and explaining to your spouse why, no, the flashing red light on the power supply is probably not a fire hazard. Your family thinks you've lost your mind. Science, it turns out, begs to differ.

Recent research into cognitive neuroscience has begun to illuminate something the amateur radio community has quietly known for decades: that rapid pattern recognition — the kind that gets your neurons firing like a 100-watt rig into a resonant dipole — is genuinely, measurably good for your brain. And not just "good for you" in the way that broccoli is good for you (beneficial but joyless).

We're talking about the kind of cognitive workout that researchers believe actively builds what neurologists call cognitive reserve — the brain's own shock absorber against the ravages of Alzheimer's disease and dementia.

Think of your brain as a city with an elaborate road network. Every time you learn something new or perform a complex task, you're not just using the existing roads — you're paving new ones. Neurologists call this neuroplasticity, and it is, to borrow a technical term, a very big deal.

A landmark long-term study published in The New England Journal of Medicine (Wilson et al.) found that individuals who engaged regularly in cognitively stimulating activities showed a significantly slower rate of cognitive decline as they aged. More recent work, including studies emerging from the Rush Memory and Aging Project, has demonstrated that mentally stimulating leisure activities are associated with a reduced risk of Alzheimer's disease — with the benefit scaling upward with the complexity of the activity. Simply put: the harder your brain has to work, the more resilient it becomes.

Consider the ham copying CW at 20 words per minute. What is actually happening inside that skull? The operator is simultaneously decoding an auditory stream of dots and dashes into letters, assembling

letters into words, parsing words for meaning, logging callsigns, and — if they are particularly talented — also making a fresh pot of coffee. This is not passive entertainment. This is a full-contact cognitive sport.

Dr. Ryuta Kawashima, the Japanese neuroscientist whose brain-training research became internationally famous (and eventually a Nintendo game, which tells you something about its cultural reach), demonstrated that rapid symbol recognition and arithmetic exercises dramatically increased frontal lobe activity in study participants. The frontal lobe, conveniently, is the part of the brain responsible for memory, planning, and not accidentally calling CQ on a frequency that's already in use — all functions worth preserving.

A CW operator isn't consciously translating dashes and dots anymore than a fluent reader sounds out each letter. The pattern goes directly from ear to brain in a kind of neural shorthand that represents one of the more elegant tricks the human mind can teach itself. Building that shorthand requires — and therefore builds — exactly the kind of dense neural pathway architecture that protects against cognitive decline. You are not wasting time in the shack. You are doing preventive medicine.

There are, no doubt, family members who will say, "He's been out there for three hours, adjusting the feedpoint impedance of a dipole by fractions of a millimeter." To them, science says: he is building cognitive reserve. "She has seventeen radios." Diverse, complex skill sets. "There's a forty-foot tower in our backyard." That's more of a zoning matter, admittedly, and science has its limits.

The evidence is compelling, even if it was not collected specifically with amateur radio operators in mind — an oversight the research community will surely correct once someone explains the hobby to them. Rapid pattern recognition, continuous learning, manual dexterity, spatial reasoning, social engagement, and the particular satisfaction of making contact with a station in a country you'd previously only encountered in a geography puzzle: these are not the characteristics of a frivolous hobby. These are the characteristics of a comprehensive brain health regimen that also, incidentally, lets you talk to Antarctica.

So the next time someone asks why you spend so much time with your radios, you may look them calmly in the eye and say: "I'm protecting my neurological function through cognitively enriching pattern recognition activities." Or you could just say: "It's good for for my brain."


We will be holding a
FREE
Snow Shoveling Class
at CAARA's driveway.
Come and join the class and
learn proper ways to shovel snow.
CAARA's actual driveway will be provided,
so that the training simulates
real world conditions.
Bring your own shovel.


CAARA MEMBERS
RESPONDED TO
THE AD...THANK
YOU!

What is Pirate Radio? – A brief history of Pirate Radio

Pirate Radio doesn't involve peg-legged swashbucklers attacking radio stations. Rather, it's the illegal use of broadcast signals for personal purposes.

Has there ever been a time when, while listening to the radio, the station normally at a certain frequency wasn't? Or perhaps there was a new station on a frequency that was totally unknown? If so, this may be an instance of what is known as Pirate Radio.

Though it may invoke images of wooden ships and buried treasure, Pirate Radio is simply an illegal or unregulated radio transmission. Normally, a radio pirate will occupy an empty frequency on the AM or FM dial to promote entertainment or opinions that wouldn't normally be found on commercial stations. Sometimes, their signal ends up bleeding into a station with a licensed frequency, which upsets both listeners and licensed station owners.

History of Pirate Radio

Pirate radio has been around since the early 1900s. Named pirate radio, or pirate broadcasting for the way frequency were hijacked by non-authorized users, it began on both British and US Naval ships as they already had reserved radiowave rights. It was those same naval personnel that began complaining when amateur signals interrupted their military communications.

As radio became more popular and commercial, rules and regulations were set up to stem the creation of these illegal stations. Yet, people were still successful at taking over frequencies and producing broadcasts that were both entertaining and popular.

Famous Radio Pirates

The most famous of these were the European pirates of the 1960s. The first was Radio Luxembourg, a commercial radio station based out of the duchy of Luxembourg that broadcast English-speaking programs into the United Kingdom.

Joining Radio Luxembourg in the mid 1960s were Radio Caroline, Radio Atlanta and Radio London — three stations that broadcast from vessels just outside British waters, Designed to circumvent BBC regulations on what music could be played, Caroline and its sisters broadcast all day to a British public dying for Top 40 music. These three stations were eventually joined by Swinging Radio England, another Top 40 commercial station, and sister Radio Britain, which played easy listening tunes.

Soon enough, due to the increasing popularity of Radio Caroline, the British government created the Marine Broadcasting Offences Act of 1967 to make it illegal to advertise or supply an offshore radio station. Once that happened, all but the original Radio Caroline (which moved to the Netherlands), went off the air. To replace the void, the BBC finally ventured into the popular music scene with Radio1.

In the U.S. the most famous example of a Pirate Radio station was Mexico's XERF. Broadcasting at 250,000 watts, XERF was five times as powerful as the most high-powered Top 40 AM stations on the West Coast.

The result was a border-blaster that covered a wide geographical area. Because of its power it was able to give prominence to its talent, one of them being Wolfman Jack. As FM came into fashion in the late 60s, and as problems with the 250kw transmitter mounted, XERF switched to a 50,000 watt transmitter; thus ending its reign.

21st Century Pirate Radio

Today there are numerous Pirate Radio stations around the world. Pirate Stations have also infiltrated new media, such as the Internet. Instead of broadcasting in international waters, these on-line pirates break the law by playing music without paying copyright fees; similar to their AM and FM predecessors of the past and present.

New Book Release: Digital Networking for Ham Radio

ARRL The National Association for Amateur Radio®'s new book, Digital Networking for Ham Radio, a practical, hands-on guide to designing and implementing high-speed data networks for amateur radio stations, is now shipping.

Written by Glen Popiel, KW5GP, the book brings together in one comprehensive resource the knowledge needed to build, configure, and expand digital networks for ham radio. From TCP/IP fundamentals to deploying mesh technologies such as AREDN®, HamWAN, and Meshtastic®, readers will find clear explanations and step-by-step guidance.

"When I began experimenting with amateur radio data networking, I realized there wasn't a single resource that clearly explained how it all works — especially TCP/IP in terms the average ham could relate to," said Popiel. "That inspired me to create a practical guide to designing and implementing high-speed amateur radio networks. Since there's no speed limit above 70 centimeters, operators can integrate webcams, IP phones, and other networked devices. I hope this book encourages hams to explore, experiment, and enjoy networking on the microwave bands."

Digital Networking for Ham Radio covers selecting hardware, choosing network topologies, configuring systems, and staying compliant with FCC Part 97 rules. The book is designed for both newcomers and experienced operators who want to expand their stations with resilient, high-speed networking capabilities.

Digital Networking for Ham Radio is now shipping. Order from the ARRL online store or through an ARRL publication dealer. ARRL Item No. 2349, ISBN: 978-1-62595-234-9, $29.95 ARRL member price, $34.95 retail.

Hams Help Forecasters with Real-Time Data on Northeast Blizzard

A historic blizzard paralyzed much of the Northeast in late February, and amateur radio operators were on the air to help forecasters keep track of the storm's impact. Southeastern New England was one of the hardest-hit areas. ARRL Eastern Massachusetts Section Emergency Coordinator and Boston-area SKYWARN Coordinator Rob Macedo, KD1CY, provided this summary for ARRL News:

A severe blizzard left its mark on Southeast New England with massive amounts of snow, vehicles and even plows getting stuck, damaging winds gusts to hurricane force causing ~350,000 customers to lose power in Massachusetts and Rhode Island, and some coastal flooding issues at high tide. The blizzard broke Rhode Island's state record for snowfall with 37.8 inches of snow in Providence. ARES-SKYWARN Nets across southern New England were activated with the WX1BOX amateur radio team to support the National Weather Service (NWS) Boston/Norton office, as well as local and state emergency management and broadcast media, with timely updates on the storm.

We had ARES-SKYWARN nets activating on an every 1-2 hour basis providing snowfall, wind gust, wind damage and coastal flood reports. The nets were very active with great participation, allowing a comprehensive situational awareness. We also interacted with many non-amateur radio SKYWARN spotters via social media.

Reports of snowfall as high as 43 inches in Tiverton, Rhode Island, and 41 inches in Fall River, Massachusetts, were received from SKYWARN spotters. Macedo's hometown of New Bedford, Msssachusetts, recorded 37 inches of snow.

Amateur Radio SKYWARN Nets were active on over a dozen repeaters across southern New England, along with the New England Amateur Radio VoIP Reflector system with snowfall, wind damage and wind gust reports. The Amateur Radio Net Plan for Massachusetts was sent into Massachusetts Emergency Management in an ICS-205 to ESF-2 as part of a closer working relationship with state emergency management. Well over 1,000 reports were generated from these nets and shared with partner agencies and the media. Blizzard conditions were met at numerous sites across southern New England.

Eastern Massachusetts ARES was placed on stand-by on Sunday 2/22/26 for any partner agencies and to augment and enhance support for the ARES-SKYWARN Nets for participation. Cape Cod ARES members Chris Ranney, WA1CMR, and Dennis Driscoll, N1DRN, deployed to support operations in the town of Sandwich, providing auxiliary communications between their EOC and a shelter for the town. Their operation secured on Wednesday evening, February 25.

Amateur radio received media attention on The Weather Channel several times throughout the blizzard. Jim Cantore stated, "When we get all these observations, it comes from SKYWARN spotters and amateur radio operators because when people can't communicate and the phone lines down, the amateur radio operators are all we got."

The WX1BOX website will be updated with a Post Blizzard Coordination Message at the end of the week with more detailed information on the blizzard across southern New England.

Icom America Named Official Sponsor of the ARRL Year of the Club

Newington, CT – ARRL The National Association for Amateur Radio® is pleased to announce that Icom America is the Official Sponsor of the ARRL Year of the Club, supporting the initiatives that spotlight and strengthen ARRL Affiliated Clubs throughout 2026.

The ARRL Board of Directors designated 2026 as the ARRL Year of the Club, recognizing the essential role that local amateur radio clubs play in building community, mentoring new operators, and delivering public service at the grassroots level. This nationwide focus celebrates clubs as engines of civic engagement and increases public awareness of the Amateur Radio Service through local connections across the United States.

"Amateur radio clubs are the backbone of the hobby," said Ray Novak, N9JA, Senior Sales Manager at Icom America. "Icom works closely with them to support education, growth, and engagement. Strong clubs create strong communities, and Icom is proud to support them."

Supporting Clubs On the Air and Beyond

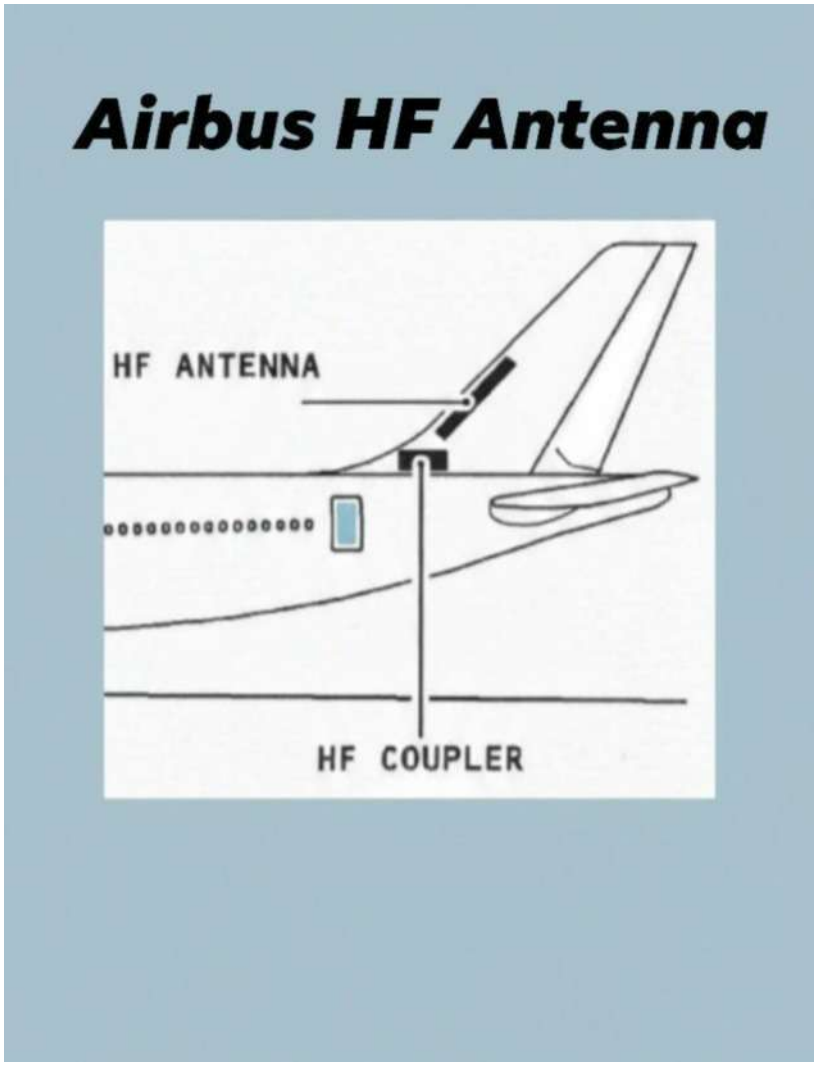
ARRL has emphasized the broader impact of the initiative. "The Year of the Club places a spotlight on the vibrant community of radio clubs," said ARRL CEO David Minster, NA2AA. "By investing in clubs, Icom and ARRL are reinforcing the local foundation of amateur radio—where mentorship begins, technical skills are shared, and public service takes root," said Minster.

Through its sponsorship, Icom is supporting content that highlights the work of radio clubs in QST, ARRL newsletters and publications, and through resources and activities designed to help clubs thrive.

As part of ARRL's broader 2026 activities, ARRL has launched the America250 Worked All States (WAS) operating event, a year-long on-air activity encouraging amateur radio operators worldwide to make contact with all 50 US states in honor of America's 250th anniversary. Radio clubs are participating and supporting a special endorsement for operators who contact ARRL Affiliated Clubs in all 50 states during the year. In addition, clubs and hamfests are hosting W1AW/portable activations in all 50 states, creating another endorsement opportunity for participants.

ARRL also announced that the theme of 2026 ARRL Field Day, held June 27–28, will be "Amateur Radio: A National Resource." Since 1933, Field Day has been the largest on-the-air operating event in North America, showcasing amateur radio's readiness to provide resilient communications in times of need while engaging the public through hands-on demonstrations and community outreach. This year's Field Day will emphasize club participation and the use of club call signs.

For more information about the ARRL Year of the Club, the America250 Worked All States operating event, and 2026 ARRL Field Day, visit www.arrl.org.



How Do Short HF Antennas on Airbuses Transmit Long Wavelengths?

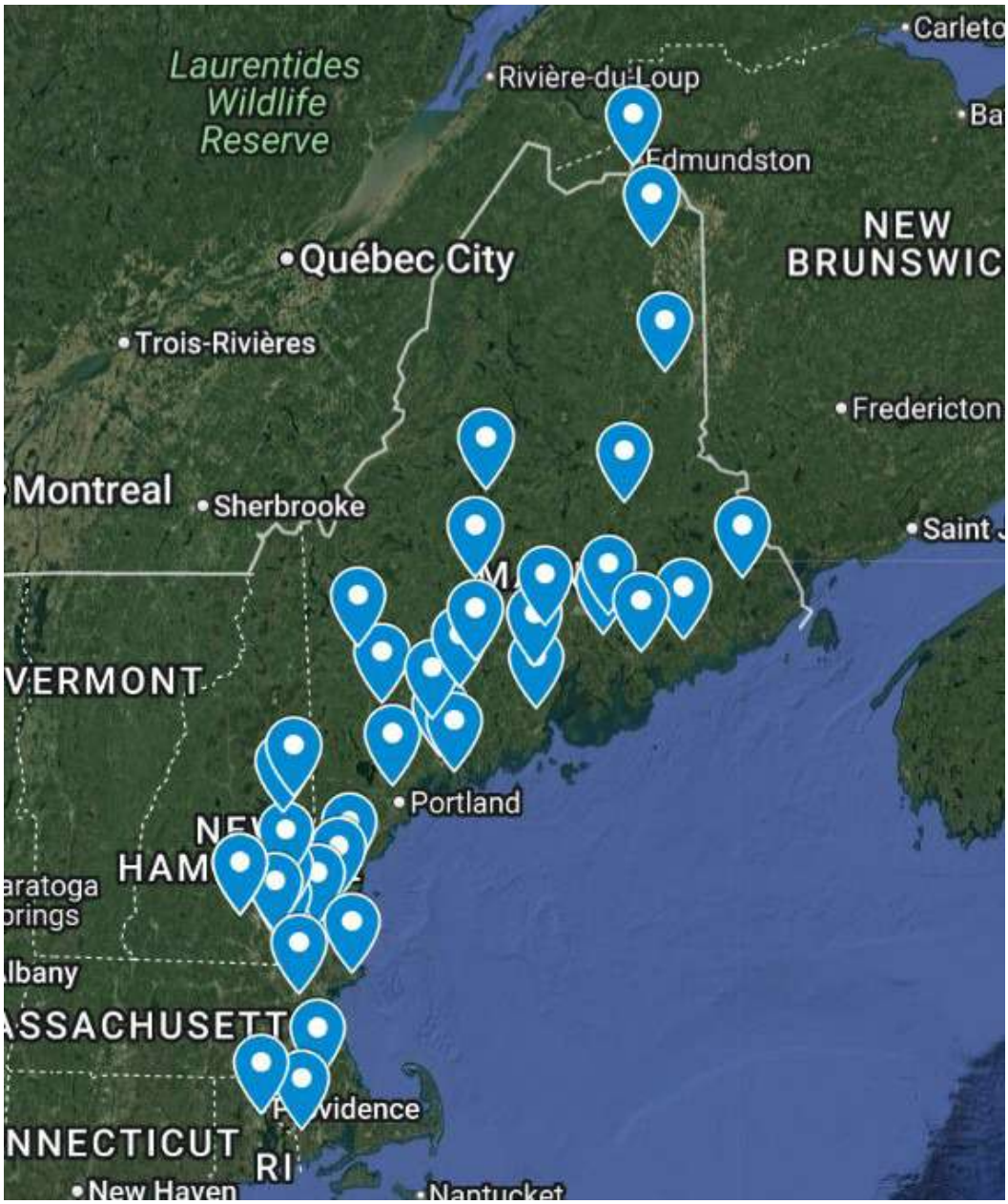
Airbus aircraft are equipped with short HF antennas, yet they effectively transmit and receive signals with wavelengths of tens of meters.

This is possible because these antennas are designed to work efficiently at high altitudes, where the atmospheric conditions are more favorable.

Additionally, the antennas are part of a resonant system that allows them to effectively radiate and capture signals despite their small size.

CAARA 443.700 repeater is now connected to the UFB New England Fusion Network

The UFB New England is an organization of repeater owners, trustees, officers, and licensed amateur radio operators. Membership is open to all licensed amateurs and those who support amateur radio operations, systems and Fusion/Wires-X/C4FM networks. Through routine Nets, newsletters, website presence and meetings we will provide awareness, education and support to the Membership, owners and trustees. Financial support for construction, operations, and maintenance of the network will be funded by membership dues and contributions.



The linked repeaters are go from Rhode Island to the Maine/Canadian border

UFB NETWORK OF REPEATERS IN MA, NH, RI, AND MAINE

Mt Agamenticus 147.180

Falmouth 146.775

Topsham 147.570 Simplex

Phippsburg 444.400

Streaked Mnt 146.880

Black Mnt 145.170

Litchfield 147.375

Ragged Mt 146.820

Morrill 146.715

Augusta 146.670

Vassalboro 146.625

Cherryfield, ME 444.500

Cooper 146.895

Athens 146.775

Dedham 146.805

Eddington, ME 145.130

Hancock 146.835

Dixmont 147.015

Greenville, ME 444.500

Lincoln 147.000

Smyrna 146.850

Perham Hill 147.255

Madawaska 146.820

Portsmouth, NH 441.950

Kensington, NH 444.400

Salem, NH 439.900 Simplex

Chester NH 146.910

Northwood, NH 146.700

Derry, NH 146.745

Goffstown, NH 444.200

Goffstown, NH 147.135

Wolfeboro, NH 146.865

Ossipee, NH 442.100

Gloucester, MA 443.700

Reading, MA

Bridgewater MA 444.550

Westport, MA 449.625

Cranston, RI 443.450