

# CAARA NEWS



**Cape Ann Amateur Radio Association**  
**Gloucester, Massachusetts**  
**OCTOBER- 2025 EDITION**



## **PRESIDENT'S COLUMN**

**By Brandon- NQ1W**

Hello CAARA members,

I'd like to extend my sincere gratitude to you all for entrusting me with another term as your president. It's an honor to serve this incredible community, and I'm excited for what we will accomplish together in the coming term.



We recently had a successful test activation and collaboration at the Hammond Castle Museum. Based on the successful trial run, our work with the Hammond Castle Museum staff will continue to grow, with more exciting events planned. We're discussing larger activation events with public demonstrations, and we hope to host a few of their staff members at our clubhouse for a talk.

We are also in the early stages of planning some great STEM activities in conjunction with their curatorial staff and experts. So if you were not able to join on the 18th, there will be many more events with them to come.

Also a big thanks to Shannon Gibney KC1OHT and Thomas Stephenson AA1TS for bringing equipment and helping with the event and the many members who dropped by to check it out and see the castle. We also managed to get some of the museum staff on the air. Now we just have to get them licensed!

It's been a lot of fun on the airwaves with Jim Barber, K1TT, and the Radio Active Cape Ann Facebook group. The 2-meter and 6-meter Fishnet simplex nets every Thursday at 7:30 p.m. have been a great way for members to practice communication skills that are vital in an emergency. Being able to communicate effectively using simplex is a crucial preparedness skill for those extreme cases when no other communication is available in our area.

Coming up on October 18th, we'll be hosting our second annual Scouting USA's Jamboree on the Air at the clubhouse. We are delighted to welcome the Wenham Scout Troop 28 back this year. I'm looking forward to helping several of the scouts obtain their Radio merit badges and for new scouts to learn about Ham radio and our club. We had a blast last year and gave out awards to the scouts at their Court of Honor ceremony. Drop me a line and I can give you the details on becoming an adult member of scouting and volunteering for these events.

At our October members' meeting, I'll be talking about some directional antenna designs that I have been building, appropriate for the 2m and 6m simplex nets. We'll also be planning a future antenna build event where members can come together to get hands-on help building wire antennas and other designs. If there are any specific designs you're curious about, please let me know.

Finally, as we continue to expand our activities and outreach, your support is more important than ever.

We're always in need of volunteers to help with events and clubhouse maintenance. Your donations are also vital for keeping our repeater systems operational and supporting our programs. If you can help in any way, please reach out to me or any other board member.

73,

Brandon Hockle NQ1W

President, CAARA

## **NEXT MEMBER MEETING**

**October 11, 2025**

**12 Noon- Lunch will be served**

**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](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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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 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 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 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 sometimes amateur radio leads to carpentry as you will see. As you may have heard there is a fish net on 2 meters every other week on 146.500 MHZ simplex so I wanted to join in but I don't have a decent outdoor antenna home VHF set up and I only have a small mag mount whip antenna on my car for local repeater use so I wanted to get a better antenna for the car so I can participate in the net. Well I was already half way there since I have a mag mount that I use for my 6,10 and 20 meter mobile ham sticks so all I needed was to find an antenna to fit on that mag mount, So I took a look online and found the Firestick 2 meter ham stick antenna on Amazon.



So the Firestick brand which has been around a while also makes a lot of CB antenna sticks as well. So as you can see in the photo I purchased the Firestick 2 Meter Plus antenna model 2M-4 . One of the things though about the Firestick line of antennas is that some of them you can tune the SWR by turning a fitting on the top of the antenna but with the 2 meter version that I got one has to tune the antenna by trimming it to size until you get the right SWR. So as you can see in the photo I had to do some carpentry and I got a hacksaw to trim the antenna. So in order to tune this antenna you will need an antenna analyzer So I had to break out my Rig expert analyzer as well for this job.

So this Firestick 2 meter antenna is a 5/8 wave antenna and is 4 feet long to start and it has a solid fiberglass core with 19 gauge wire wrapped around the outside of it. It is very well built and is very stiff. This antenna is not made to be flexible and bend in installations. So I put the antenna on the mag mount on my car and tested the SWR and it came out to be over 3 to 1 so that won't work.

This antenna is built purposefully long so you can trim it to fit whatever SWR fits whatever part of the two meter band you want from 144 to 148 MHZ. So what you have to do is pop the red end cap off and start trimming the top of the antenna down to the point where your SWR is at least 1:5:1 . So I took the hack saw and started to trim off a 1/4 inch each time, then I tested the SWR to see if it was getting lower, then retrim. As you can see I had to cut 6 1/4 inch sections off until I got the SWR down to 1:5:1 on my analyzer as you see in the photo. That SWR of 1:5:1 is fine for me and I didn't want to over trim it trying to get it lower. I almost messed it all up too.

So when I was testing the SWR with the analyzer I forgot that I was standing right next to the antenna which caused the SWR to read higher than normal at a 2:1 SWR-oops. When I moved a couple feet away from

the antenna the SWR went down to 1:5:1 .That's why they call it amateur radio-so here's a helpful hint. Don't stand right next to an antenna while you are conducting SWR tests as your body will affect the SWR. So just so you know for installation this Firestick antenna has a 3/8-24 screw in base.

This antenna says it can handle up to 400 watts and up to a peak of 800 watts. So I had the opportunity to give it a test during the Fish Net on 146.500 MHZ simplex and I was mobile using 50 watts and the Firestick was on the mag mount of my car and during the simplex net I was able to receive and transmit to a station in Andover which is about 23 miles away from Gloucester so I found the performance of the Firestick antenna to be pretty good. It is made in the U S A and has a 5 year warranty. It costs \$37.00 on Amazon.

So I found the Firestick antenna to be another good component for any fast emergency communications needs. It was a quick and easy set up from throwing the antenna and mag mount in my trunk and installing on the car roof. Once again, this antenna could be more suited to be installed on a truck or jeep or anything else for heavier rugged outdoor use.

It was very good to get on the 2 meter simplex net and try to see who I could hear and contact. When there are disasters and emergencies sometimes 2 meter repeaters can go down as well so it's another option to go to 2 meter simplex to keep emergency communications going. Of course this is a reminder that if you're bored you can always give a call out on the 2 meter simplex frequency of 146.520 MHZ and see who's out there. I have that frequency plugged into all my radios.

There are a bunch of 2 meter simplex frequencies to choose from. It's a good alternative as well if you want to have a QSO with someone without tying up a repeater. See you next month!



# BOARD MEETING FOLLOWED BY CATERED LUNCH AND MEMBER MEETING



# WHAT'S HAPPENING AT THE CLUB?



## Confirmation of Record 220 PeV Cosmic Neutrino Hit on Earth

Neutrinos are exceedingly common in the Universe, with billions of them zipping around us throughout the day from a variety of sources. Due to their extremely low mass and no electric charge they barely ever interact with other particles, making these so-called ‘ghost particles’ very hard to detect. That said, when they do interact the result is rather spectacular as they impart significant kinetic energy. The resulting flash of energy is used by neutrino detectors, with most neutrinos generally pegging out at around 10 petaelectronvolt (PeV), except for a 2023 event.

This neutrino event which occurred on February 13th back in 2023 was detected by the KM3NeT/ARCA detector and has now been classified as an ultra-high energy neutrino event at 220 PeV, suggesting that it was likely a cosmogenic neutrinos. When we originally reported on this KM3-230213A event, the data was still being analyzed based on a detected muon from the neutrino interaction even, with the researchers also having to exclude the possibility of it being a sensor glitch.

By comparing the KM3-230213A event data with data from other events at other detectors, it was possible to deduce that the most likely explanation was one of these ultra-high energy neutrinos. Since these are relatively rare compared to neutrinos that originate within or near Earth’s solar system, it’ll likely take a while for more of these detection events. As the KM3NeT/ARCA detector grid is still being expanded, we may see many more of them in Earth’s oceans. After all, if a neutrino hits a particle but there’s no sensor around to detect it, we’d never know it happened.

# Welcome to the 21<sup>st</sup> Century

by Curtis- AA3JE



I have language lessons on line. I am a slow learner, but it keeps my mind active. Each week I boot up the computer, hit the icon, and up comes my teacher. Usually. This week, I did what I had done for over 200 weeks, and instead of the program, I got a box that said “Update Required” and a little box to click for the update.

I clicked it, and nothing happened. So I restarted the computer and tried again. Still nothing. In small print it said, “click here to be connected with technical support”. So I clicked it, and a help dialog box opened.

*“To better serve our valued customers, I am Zoomie, your AI digital assistant. What’s the problem. You may type complete sentences; I am very intelligent.””*

“I am using Megamind Pals software. I got a text box to update. I clicked update, and nothing updated.” I said.

*“Pals software is a cutting-edge program that allows teams all over the world communicate effectively. Would you like to purchase Pals at this time?” it said.*

“I own Pals, the problem does not work today.”  
“We are so glad you purchased Pals. Would you like to watch a short video on its many features?”  
“It does not work. Can you help me fix it?”  
“Click the box for the advanced help application.”

I clicked.

*“HI! I am Sparks, your personal technical assistant AI. How can I help you?”*

“My Pals program does not update.”

*“Updating is simple. Just click the box marked update.”*

“I clicked the damn box, nothing happened.”

*“Be aware that use of offensive language will terminate this session due to our new civility monitor. If you clicked the box, the program will update.”*

1  
“It didn’t.”

*“Please held for a technical specialist.”*

Twenty five minutes later, listening to gunk music, I got Habib.

“What’s the problem?” he said.

“Pals won’t update.”

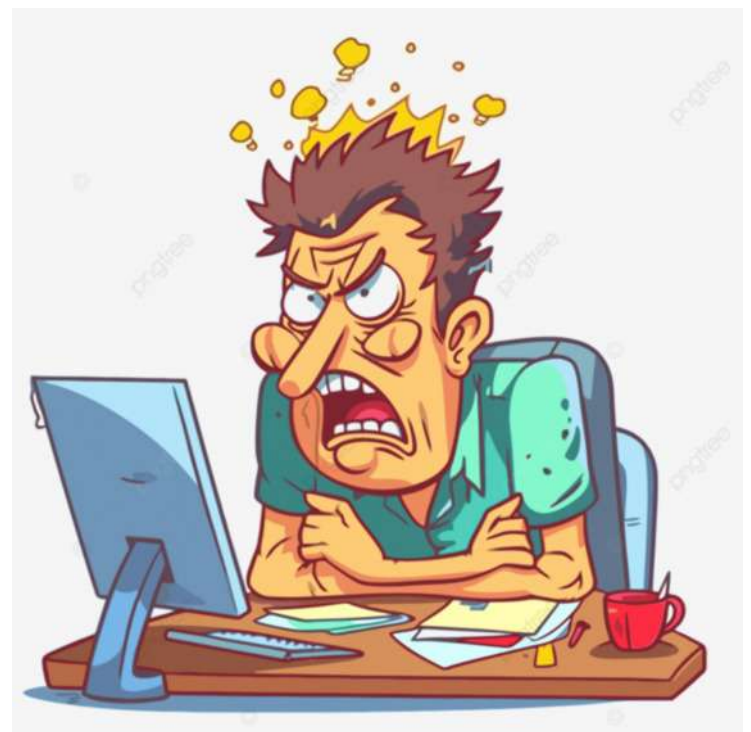
“You got a Mac, right?”

“How did you guess?”

“Sending you a patch now. click on it and check “Update”

Habib knew his job, and the patch worked. My guess is that the real plan here is to get you to chuck the computer into the field and buy a new one. I will say that whoever invents an AI to call technical support and notify you when they finally connect you with some human help, will make a fortune.

“  
“



## HAMMOND CASTLE ACTIVATION BY CAARA





## Radio Shack Rebirth May Have Gone Awry in Alleged Ponzi-Like Scheme

Oh, Radio Shack. What a beautiful place you once were, a commercial haven for those seeking RC cars, resistors, and universal remotes. Then, the downfall, as you veered away from your origins, only to lead to an ultimate collapse. More recently, the brand was supposed to return to new heights online... only to fall afoul of the Securities and Exchange Commission. (via Yahoo Finance, Bloomberg)

The Radio Shack brand was picked up a few years ago by a company known as Retail Ecommerce Ventures (REV). The company's modus operandi was to take well-known but beleaguered brands and relaunch them as online-only operations. Beyond Radio Shack, REV also owned a number of other notable brand names, like Pier 1, Modell's Sporting Goods, and Dress Barn.

Unfortunately, the Radio Shack rebirth probably won't reach the stellar heights of the past. Namely, because REV has been accused of operating a Ponzi-like scheme by the SEC. Despite huge boasts allegedly made to investors, none of REV's portfolio of brands were actually making profits, and the SEC has charged that the company was paying investor returns with cash raised from other investors — unsustainable, and a major no-no, legally speaking.

We were cautiously optimistic when we heard about the REV buyout back in 2020, but at this point, it's probably best to come to terms with the fact that Radio Shack won't be coming back. The name will linger in our hearts for some time to come, but the business we knew is long gone. Sometimes it's better to look to the future than to try and recreate the magic of the past, especially if you're doing inappropriate things with other people's money in the process.

# CAARA PUBLIC SERVICE FOR YUKAN

By-The-Sea Staffing 9-14-25 : Sheet1

**By-The-Sea Staffing 9/14/2025** Communications Team

Event date: **Sunday, September 14, 2024**

Location: Manchester By the Sea and Hamilton

Start/Finish Location: Manchester-Essex High School 36 Lincoln St |

Freq: **W1GLO 2m 145.13 (Dup-) PL Tone 107.2**

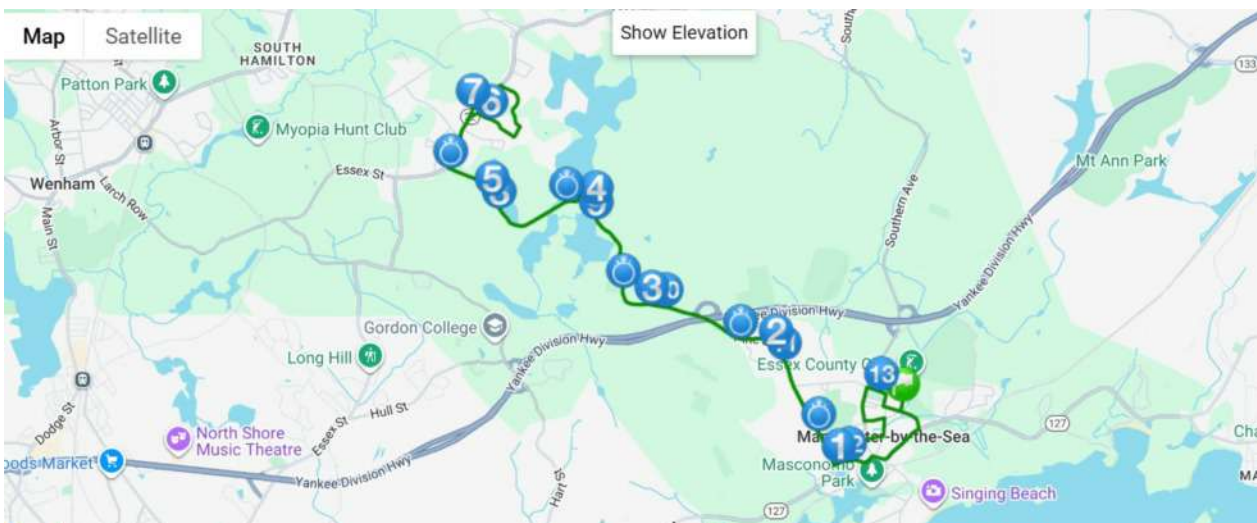
Backup: Danvers NS1RA 2m 145.47 (Dup-) PL Tone 136.5

Pre-Race Information and Updates: <https://sites.google.com/view/ca>

Manchester-By-The-Sea Police 978-5261212 Fire 978-526-404-

Hamilton Police 978-468-1212 Fire 978-468-5560

	<b>Station Location</b>	<b>Call sign</b>	<b>Name</b>
NC	Net Control at CP5	WA1ESU	Fred
S/F	Start/Finish	WA1ESU	Fred
L/V	Lead Vehicle	AA1TS	Tom
TV	Trail Vehicle	W1PAG	Paul
CP1	Central St. and Pine St. Mile 1 & 12 (Manchester B-T-S)	KC1SJR	Aaron
CP2	Pine St. and Crooked Ln. Mile 2 & 11 (Manchester B-T-S)	KC1BAZ	Charlie
CP3	Pine St. and Pond St. and Chebacco Rd Mile 3 & 9 (Hamilton)	WINHD	Nate
CP4	340 Chebacco Rd. Near Boat Access Mile 4 & 9 (S. Hamilton)	W1CAF	Charles
CP5	Chebacco Rd. and Essex St. Mile 5+ & 8 (Hamilton)	N1LKS	Lars
CP6	Forest St. and Essex St. Mile 7 (Hamilton)	K8ZBE	Steve



# Why does electricity make a humming noise?

You may have heard it when flipping on a light, switching on your TV or walking near power lines — that unmistakable hum of electricity. But what, exactly, is that hum? And more important, is it ever a sign of danger?

The sound electricity makes is known as the "mains hum," and it happens because of the way electricity is produced. The electricity that comes from power plants uses alternating current (AC), so named because the current changes direction, or alternates, many times per second.

The number of times per second the current alternates depends on the standard of the particular country. In places such as the United States, Canada and several Central and South American countries, AC power alternates at 60 hertz, or 60 times per second. In much of the rest of the world, it alternates at 50 hertz, or 50 times per second.

The hum you hear is usually about twice the frequency of the AC power being used, according to Gary Woods, a professor in the practice in the electrical and computer and engineering department at Rice University in Texas. That means that in the U.S., electricity hums at 120 hertz, or between a B and B-flat two octaves below middle C. In Europe, it hums at 100 hertz, or between an A-flat and G two octaves below middle C.

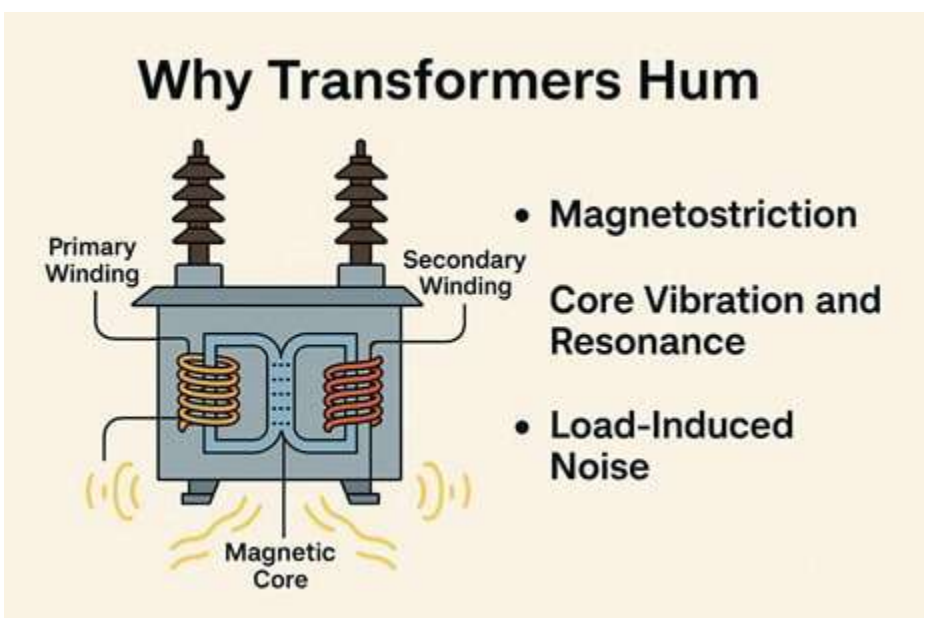
But what, exactly, is vibrating to create that hum? It's usually a magnetic element inside the device. For example, when you're near power lines, you might hear an electric hum coming from an electromagnetic device called a transformer, which is used to decrease the voltage of the power as it travels from the power plant to people's homes, so the high voltage from the power plant doesn't overload household electronics.

"A transformer has an inductor inside it, which is just a magnetic element — it's an electromagnet," Woods told Live Science. "It's a piece of iron that has a coil of wire wrapped around it. That's inside every transformer.

"For reasons of electrical engineering, you need to have an electromagnet inside the electronics to get the function that you want," Woods told Live Science. "And so you can think of these magnetic elements as being like little magnets, and they're being energized by the electric power. And so they're turning on and off [reversing their polarity] 60 times a second. So they're actually vibrating a little bit."

The same thing happens in all sorts of electronics, from fluorescent bulbs to toaster ovens, Woods said.

The reason power lines themselves might hum is due to a different phenomenon called corona discharge. This hum, or discharge of energy, happens when the electrical field around the power lines is greater than what is needed to start a flow of electric current from the power line to the surrounding air. The likelihood of that happening can depend on the weather, as water increases the conductivity of air. Most modern power lines are designed to avoid this problem, at least during dry conditions. If corona discharge does occur, it can be dangerous; there's evidence that corona discharge can produce toxic gases like ozone, which can harm human lungs if inhaled.



# NEW HAM PRODUCTS

## ZT-7500 HF/750MHZ SDR SHORT WAVE RADIO FULL MODE SDR SHORTWAVE TRANSCEIVER AMATEUR RADIO INDUSTRY'S NEW FAVORITE

### FUNCTION INTRODUCTION:

- 0-750MHZ widescreen full mode reception
- 7-inch high color TFT LCD capacitor Multi-touch display
- +24KHZ broadband spectrum display, waterfall display, optional 3D spectrum
- Built in cw decoder, 5-segment cw recording
- TF memory card management
- Wolf system software defines a narrowband filter (cw mode with the narrowest adjustable 5hz)
- 0-60MHZ, 136-174MHZ (Only amateur frequency transmission)
- Wireless WiFi network settings
- 35 channel storage
- Built-in standing wave scanner
- Broadband FM stereo



### REVIEW BY G0NIG

If you want/need a radio that is good to go out of the box then you would be better off looking at other DDC/DUC transceivers.

Like many of the OpenSource and kit based SDR designs Chinese manufacturers have tried to mass produce these radios, unfortunately with less than stellar results. You only have to investigate the performance of the McHF clones, the Q900 and it's variants, even the offerings from Xiegu. None are what I'd call out of the box solutions and will need a lot of work on the part of the purchaser to get anywhere close to acceptable. With this in mind the Zastone ZT-7500 is no exception.

I have both the 20Watt and the 100Watt versions. In this review I'll be referring to the 100Watt version but the same criticism's apply to the 20Watt version.

Documentation: This is non-existent except for a a basic manual that details the buttons and the menu tree. The purpose of the functions is mainly left up to the users imagination. Construction. At first glance this doesn't look

too bad. But under closer scrutiny it's apparent that some components differ both in value and device designators than those specified by the original designer, Dmtry (UA3REO). Even of greater concern is that some major circuit components are missing, such as the total omission of the 6m LP filter. I must add here that the 20Watt version only has a single 170MHz LP filter after the PA which results in very strong odd harmonics, even the 7th harmonic is less than 10dB down from the fundamental, therefore you will need a separate LP filter array to prevent your country's radio authority from knocking on your door.

Overall performance: The receiver is good, in fact it is very good. The reproduced audio, even on very weak signals, is clear and I find it a joy to listen to. Unfortunately the transmit side of the radio is severely lacking. Power output is only close to the 100Watt on a couple of the lower bands. Above 10MHz the output severely drops off even though the current draw doesn't. Again this is an example of substituted and incorrect value of components being used.

Everything is fixable. But to rectify these problems you'll will need a good understanding of circuit principles and/or an ability to translate all the good information from Russian to your preferred language.

The original Wolf DDC/DUC transceiver project is one to be admired and commended. However this mass produced clone is a very poor facsimile.

Cost \$900+



## Adjustable Allen Key After All These Years

The Allen key turns 115 this year. It's strange to believe that in all that time, no one has come up with an adjustable version, but apparently true. Luckily Chronova Engineering has taken up the challenge in his latest video.

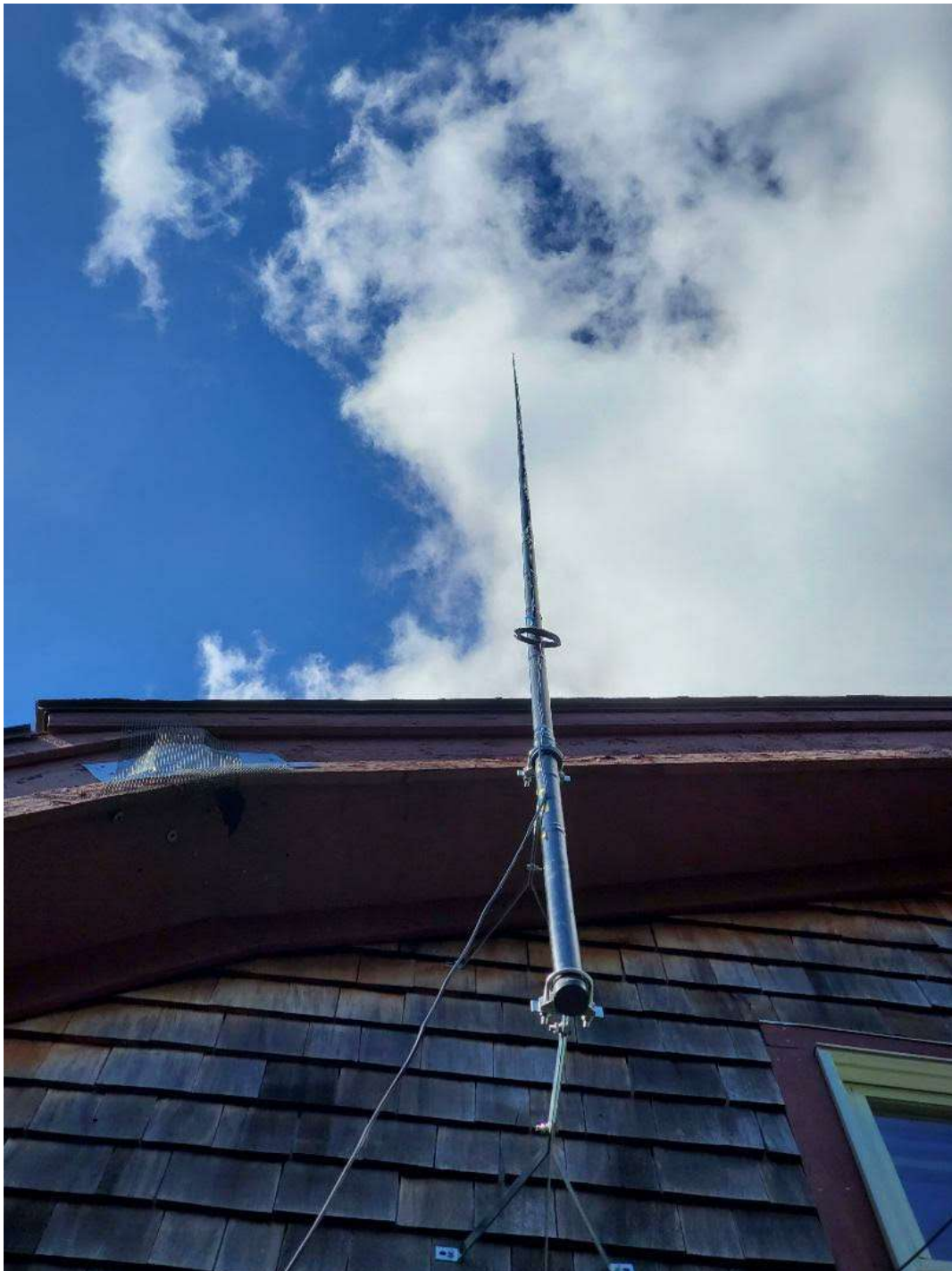
The final version is has classic hexagonal rod split in two, so that a chisel-shaped rod can spread the two prongs out to engage the sides of the Allen bolt. Even with that settled, the prongs and wedge had to be redesigned several times to find exact shape and heat-treatment that would work. At this point the range is anything between 4 mm and 6 mm, which is admittedly narrow, but Chronova Engineering believes the mechanism has the potential to go wider.

# HOMEBREW HAMMING

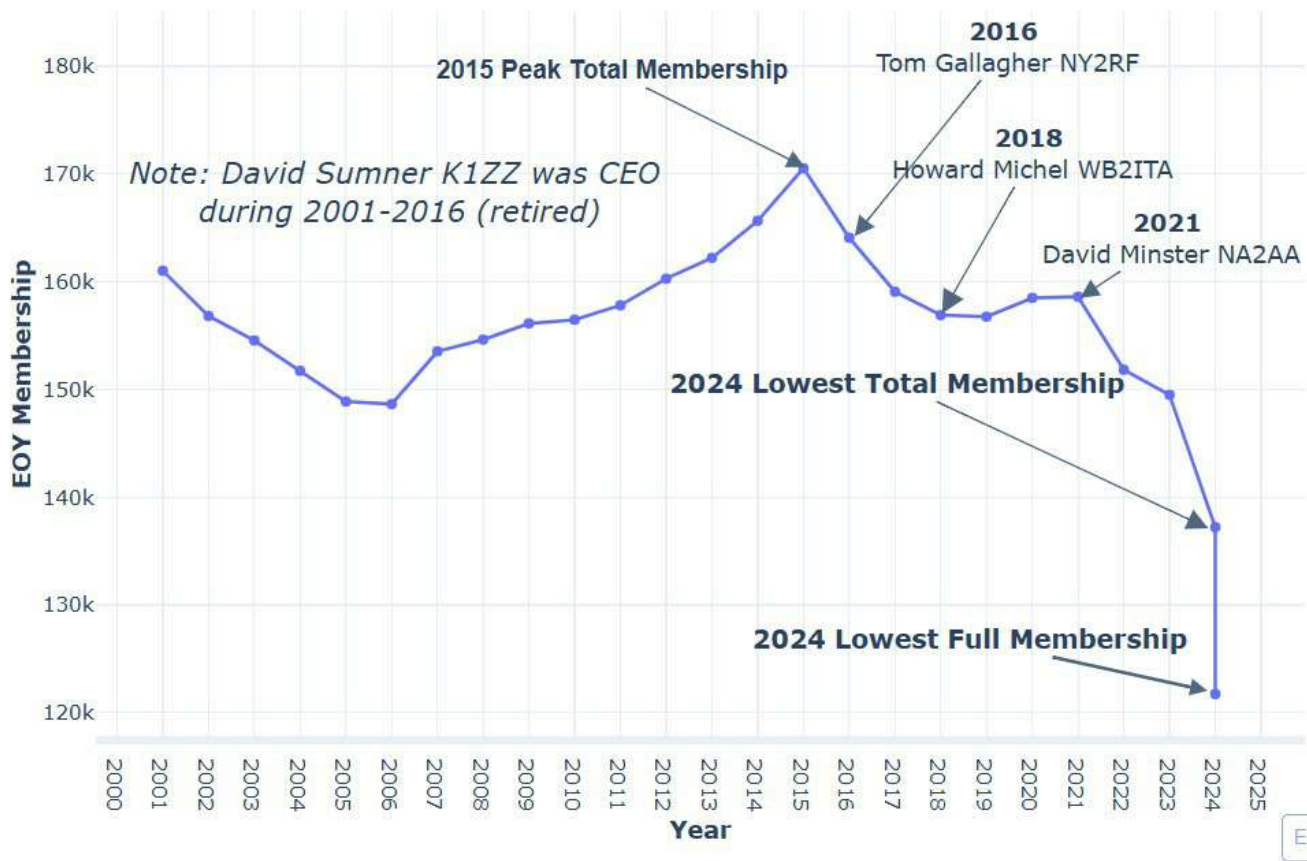
Here's a nice picture of a ho-hum 15m 1/2 wave dipole antenna on my house in Gloucester. The 30' flagpole is leftover from a long wave directional array built up last solar minimum for NDB DXing. Coax is taped on "flowerpot antenna" style with a coil of coax for a choke near the bottom.

I worked Chile with this last night at 100W. The vertical is supposed to give me a low angle for 15m DX, but it only seems slightly better than my 68' end-fed. Note also squirrel holes.

Cheers, Mike KC1WQK.



## ARRL End-of-Year Membership Trends, 2001-2024 (provisional), and CEO Tenure



### NEAR-Fest XXXVIII is Almost Here!

October 3 & 4, 2025, are just around the corner! Join us for two incredible days of ham radio, camaraderie, and fun against the backdrop of crisp autumn air and breathtaking New England fall foliage.

Explore the legendary NEAR-Fest flea market, where the thrill of the hunt is half the fun, and you're bound to discover treasures (and parts you didn't even know you needed). With the weather forecast shaping up beautifully, the fairgrounds are the perfect place to experience it all.

Gates open at 8 am on Friday and 7 am on Saturday. Advanced ticket holders can get in early starting at 7 am!

Closing ceremonies at 2 pm on Saturday

### Grand Prize for NEAR-Fest XXXVIII

The winner will be drawn at the 2 PM closing ceremony on October 4th.

Grand Prize: YAESU FT-891



## My Remote Station Journey (Maurice, N1UV)

Living close to downtown Newburyport poses many challenges when wanting to operate on the HF bands. Generally, man-made noise from powerlines and cable systems will thwart any attempt to hear anything except for the strongest signals. Well, that's assuming you can put up an antenna in the first place! In my case, living in a deed-restricted condo meant no antennas at all (I don't have the "luxury" of attic crawl spaces etc). Stringing a random wire antenna in the bedroom results in an S9+ noise floor (buzzing, birdies, hash, etc) pretty much right through to the VHF bands. For the longest time, I had scrapped the idea of having an HF capable station here at home, effectively limiting me to mobile or portable HF, or running HF from our small camp in Maine when there.



Early last year, I started to entertain the idea of building and running a remote station located at the camp. There are several solutions out there (some have already been discussed in earlier newsletters), but rather than doing everything from a computer screen, I really wanted to "spin an actual VFO dial", press real buttons etc.



Since I had an old FT-857d that I used a long time ago in the car, I thought, "Why not explore using that?" After a little searching, I came across a solution from RemoteRig (appropriately named!) and involved the purchase of a pair of interface boxes; one for the remote end at the camp, and the other for the control end at home. The connection between them was via the internet, and it handled the audio conversion (for two channels if I needed that), as well as all

the control functions between the FT-857d control head and main radio unit. No PC was required, no subscriptions, and it's designed to work with varying levels/quality of internet speed and latency. Should I decide to use CW, it also handles ether a straight key or set of paddles. Beautiful! HRO had the interfaces in stock, so a quick trip to Salem, NH, was in order.



Some logistical problems came to mind. The big one in my mind was how would it handle the situation where the radio is in transmit mode and the internet connection is lost. Would it keep transmitting? How will I, at the control end, know mid-stream that the internet connection is lost? I'd need to test for that once I get everything running.

With the boxes now in-hand, the only physical configuration steps I had to complete was to set some jumpers inside each unit, and make up a set of cables between the FT-857d main unit/control head and each RemoteRig box. The latter involved crimping some 6-pin RJ12 connectors with a particular pin order that is unique to the FT-857d. The rest of the configuration was done using a browser and web interface when connected to each box. The documentation covered this well.

The rest of the configuration was straightforward and was done using the web interface. This involved setting some network parameters (eg, IP address, etc), what radio is being used, and any extra features I wish to use (eg, paddle/keyer/key, control rotators, etc).

The only tricky bit I need to mention is that three inbound internet ports need to be opened up in the remote router firewall. This is the method used by the control end to connect to the radio to pass audio

and other interface commands. By default, most routers are configured to deny any inbound internet requests from the outside as a security measure. Most routers allow you to add “rules” governing the firewall. In my case, I opened up the three ports and limited access to them to only my IP address at home. Ie, no one else can probe or connect to those ports. In the end, using a commercial port scanning tool verified that even allowing general access to those ports did not result in a security issue. The software developers at RemoteRig took that into consideration.



*At home in Newburyport*



*In Maine*

To make things a little more resilient, everything at the remote end in Maine was connected to a UPS, including the internet router. It does help that I do have a whole-house generator! To allow me to remotely power down the station, I used Kasa smart switches. With this, I can remotely control power to the FT-857d main unit and the antenna disconnect appliance (from Paradan Radio). Great for when thunderstorms are predicted.

So, how does it all work? In a word – fantastic!

I’ve been using this configuration for many months now to access HF and have noticed no perceptible voice or control latency (e.g., spinning the VFO results in virtually instantaneous frequency changes). The audio—both receive and transmit—is virtually identical to what you’d expect if the control head were directly connected to the main unit. I certainly can’t tell the difference. FT8 also runs flawlessly. All of this is using the default audio Codec<sup>1</sup> (linear 16-bit, 8 kHz sampling rate). Other audio codecs are available, either for higher audio quality or for situations where it’s necessary to reduce internet bandwidth usage.

Speaking of internet bandwidth, using the default audio Codec results in an approximate 180kbps data stream. Running this configuration fulltime, which I tend to do, results in an approximate 60GB of data transferred per month.

To answer the question of what happens when the internet connection is lost, what better way to test it than by simply unplugging the cables during actual operation?

In a nutshell, losing the internet connection results in the main unit reverting to receive mode (it stays powered up though), while the control head powers down. The link LED on the RemoteRig control end changes from solid to flashing. There's no confusion for the operator about what's happening. Perfect!

In summary, I've thoroughly enjoyed using the RemoteRig system for both voice and FT8 operations. I have not yet ventured into using the system for CW or any other digital modes. As an aside, RemoteRig supports several radios that have detachable front ends, some of which are:

- Kenwood: TS-480, TM-D710, TS-2000
- Yaesu: FT-857, FT-8800, FT-8900
- ICOM: IC-7100, IC-703, IC-706, IC-R2500, IC-2725, IC-2820, ID-E880
- Alinco: DX-SR8

**Notes**

*1 – A Codec (Coder/Decoder) is a computer hardware and/or software application that encodes (in the above case) analog signals to a digital stream and/or decodes a digital stream back to an analog signal. Digital data compression may also be applied in the process.*

**TOP DX COUNTRIES**

1. P5 DPRK (NORTH KOREA)
2. BS7H SCARBOROUGH REEF
3. CE0X SAN FELIX ISLANDS
4. BV9P PRATAS ISLAND
5. KH7K KURE ISLAND
6. KH3 JOHNSTON ISLAND
7. 3Y/P PETER 1 ISLAND
8. FT5/X KERGUELEN ISLAND
9. YV0 AVES ISLAND
10. 3Y/B BOUVET ISLAND
11. VK0M MACQUARIE ISLAND
12. KH4 MIDWAY ISLAND
13. PY0S SAINT PETER AND PAUL ROCKS
14. KP5 DESECHEO ISLAND
15. VP0S SOUTH SANDWICH ISLANDS
16. ZL9 NEW ZEALAND SUBANTARCTIC ISLANDS
17. FK/C CHESTERFIELD ISLANDS
18. VK0H HEARD ISLAND
19. FT/T TROMELIN ISLAND
20. EZ TURKMENISTAN

21. ZL8 KERMADEC ISLAND
22. YK SYRIA
23. VP0G SOUTH GEORGIA ISLAND
24. XF4 REVILLAGIGEDO
25. KH1 BAKER HOWLAND ISLANDS
26. ZS8 PRINCE EDWARD & MARION ISLANDS
27. FT5/W CROZET ISLAND
28. VK9M MELLISH REEF
29. FT/J JUAN DE NOVA, EUROPA
30. SV/A MOUNT ATHOS
31. HK0/M MALPELO ISLAND
32. PY0T TRINDADE & MARTIM VAZ ISLANDS
33. JD/M MINAMI TORISHIMA
34. KP1 NAVASSA ISLAND
35. KH9 WAKE ISLAND
36. TI9 COCOS ISLAND
37. FT/G GLORIOSO ISLAND
38. VK9W WILLIS ISLAND
39. FT5Z AMSTERDAM & ST PAUL ISLANDS
40. VP8O SOUTH ORKNEY ISLANDS
41. XZ MYANMAR
42. ZK3 TOKELAU ISLANDS
43. 3C0 ANNOBON
44. 1S SPRATLY ISLANDS
45. T5 SOMALIA
46. R1F FRANZ JOSEF LAND
47. KH5 PALMYRA & JARVIS ISLANDS
48. T31 CENTRAL KIRIBATI
49. T33 BANABA ISLAND
50. H40 TEMOTU PROVINCE

## Sunday Morning

by Curtis- AA3JE



I have a dream. In my dream I get up, put on my smoking jacket, toddle to the kitchen, make a cup of cocoa, and sit quietly reading the paper. But it never goes like that. This week, the tree guys came. Every year we have to take down one or two trees on the property that are within striking distance of the house. This year there were supposed to be three, but the tree guy found out there were actually five.

He asked me if I wanted to take them away, and as usual, I said, "Just drop them, I'll cut them up." Next time I will say "yes, please remove them". .

So he did, and two were dropped on the side of the road. This was a problem, as the two-lane road is actually a one and a half lane road when passing a logging truck. So I had to get those trees off the road berm.

This meant finding the chain saws, sharpening the chains, mixing the fuel and getting them all set. I had worked all day Saturday and had 95% of it cleared up. So I decided to delay my newspaper Sunday morning and get the berm clear before the church rush. I hauled three loads, using the tractor and had the last load on the bucket, when the tractor died.

I have been through this before with the Kubota, which has a mechanical system that never quits, but it has six different safety systems that kills the motor if the tractor thinks you are doing something stupid. I got a flashlight and peered into the innards, but no luck. Now I had all the brush cleared but had stuck a big orange tractor blocking one lane of the road. It was stuck only 250 feet from the drive, so I put it in neutral, gave a big push, and the tractor did not move. I gave another push, and the tractor just snickered. So I went and got the riding mower and a rope and started pulling.

It was a two-man job, really, one to pull and one to steer, and it turned into pull five feet, get off, adjust the tractor steering wheel, get back on the mower, move another five feet, and do it again. Half way through I heard the screech of brakes, and a beautiful corvette was sitting fifty feet away. I expected a chewing out, but the driver just said, "Need a hand?"

I declined, imagining someone coming over the hill and creaming a 80,000-dollar car, and five feet at a time got the tractor in the drive. After three tries I got it situated, found the manual, and started the checklist. The problem was that brush had jammed under the seat and the "empty seat" system was actuating.

That's the one that stops the tractor if you fall off. I cleaned out the debris and the tractor started right up.

Then I was out there, already filthy dirty, so I started cutting brush. Two hours later, I had a lot trimmed and was beat. I went inside, and my wife suggested I sit and have a coffee till I stopped swearing, sweating and panting.

Maybe cocoa and a newspaper next week.

