The Compass!

Official Newsletter of the Great South Bay Amateur Radio Club, INC.

November 2025 | Volume 53 | #11

Inside this edition:

Suffolk County Marathon 2025

Long Island's Friendliest Amateur Radio Club!

Great South Bay Amateur Radio Club, Inc.
Upcoming Meeting and Events Schedule

2025

- **November 8th —** W2TE Memorial Event: Captree Park Overlook Lot
- **November 13th —** Board Meeting
- **November 20th —** General Meeting — Nominations
- **December 18th —** Annual Business Meeting and Elections

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TUNING UP THE BAND

PRESIDENT'S MESSAGE

November is here, and as the weather turns cooler, our remote station project continues to make steady progress. We are getting closer each day to having everything set up and ready for operation. Once the project is complete, we will begin evaluating the station from the EOC in the club room. Our goal is to make this station a valuable resource that everyone can enjoy, and we are optimistic about its potential to help our club and community.

In other news, we had an excellent turnout for the Suffolk County Marathon. I am extremely pleased and proud of all our members and the many volunteers who dedicated their time and effort to support this event. Your commitment and passion for amateur radio provided invaluable service and aid throughout the marathon.

To all of you who have been helping for over eleven years, year after year, your dedication is super. Thank you for your ongoing enthusiasm and dedication over the years. Your commitment has contributed to our club's success.

Our biggest public service event Is now over.

Thank you to WB2QGZ, W2DIY, KD2UQK, N2FUK, W2KFV, KD2ONC, KA2S, KD2HWE, AF2SC, WA2YBZ, N2TBH, NA2MM, KE2DOY, W2KFG, KD2DWI, KD2QWM, N2UIC, W2UV, KE2CAL, K2IZ, KC2TON, K2KAF, KD2BAH, N2RBP, K2RBM, KD2VCQ, NO2C/K2RYD, K2BAB, KD2DKU.

The W2TOB DSTAR repeater is offline due to software issues, and the Fusion repeater is down due to hardware issues. We are currently working on both and will send out an update once we have an answer as to what is going to happen and when. Please keep in mind that our RF crew will do their best to make sure we have a robust repeater.

Let's keep up the great work as we move forward this season! We can now Focus on the W2TE Parks on the air event on Nov. 8 at the Captree State Park Overlook. We are looking forward to seeing a lot of you there. There will be no open house at the EOC so please make every effort to be part of this special event.

There are many great DXpeditions, contests and Parks on the Air special events happening – and on HF, there are tons of very friendly nets to take part in. Nets exist for any need. If you are new to HF and wish to achieve Worked All States quickly, it is recommended to take part in the WAS and OMISS nets. If you're up early, check out the Graveyard Net on 3.967.00 LSB and the Breakfast Club, also known as the 3838 Net, on 3.838.00. Walt W2TE was a regular on the Breakfast Club net. Both nets start around 04:00 local time

Do you know what makes our club great? It is you, the members sharing your love for amateur radio. As we start November, we start with the ARRL CW sweepstakes Nov. 1-3. Then, on Nov. 15-17, we have the phone sweepstakes. We plan to work around the clock. So, night owls come on down.

At last month's meeting we had a great presentation on how the Meshtastic protocol works. It is a pretty neat thing. I have dabbled around my node at JFK and have connected to ninety nodes as far away as Astoria and the Upper West Side of Manhattan. The best part is you don't have to break the bank to get started in this very low-power form of wireless communication.

Amateur radio has been an ever-evolving hobby. Who would have thought when it all started with spark gap that it would evolve to the level it has today? Just think of this: If we were around when it all started you had to build your radio. This was no easy task, and my hat is off to those who started it all. We have it pretty easy as we can call up or go online and a radio shows up at our front door.

It is really hard to believe all the aspects of amateur radio – yes, there really is something for everyone. Experiment with different modes, different antennas (from dipoles to directional antennas to portable antennas for outside operations at events and parks).

Batteries have been a big part of our hobby. Look how they have changed. Now you can have a lithium iron phosphate 100Ah battery that weighs around 20 pounds compared to the flooded or agm battery at 45 pounds. A 30Ah battery that would power up your portable station is about five pounds.

Operating portable has been a ton of fun. When I get home early, sometimes I go to Captree set up my

Continued on page 5...

"Add-On FM" for AM Car Radios:
The FM Converters of the 1970s–80s

By Kevin AB2ZI & ChatGPT

Before factory AM/FM head units were common, a thriving aftermarket solved the "I only have AM in my dash" problem with FM converters—small under-dash boxes that let any AM car radio play the new FM stations. They were simple to hook up, surprisingly effective, and they relied on RF tricks that hams will find very familiar.

What an FM Converter Actually Did

At heart, a 70s–80s car FM converter was a complete FM receiver plus a tiny AM transmitter:

1. It tuned 88–108 MHz like a normal FM radio (RF front end, LO/mixer, 10.7 MHz IF, limiter/discriminator).
2. It recovered audio from the FM discriminator.
3. It re-modulated that audio onto a low-power AM carrier somewhere in the broadcast band (typically around 1400 kHz, often adjustable).
4. It injected that AM carrier into your existing car radio via the antenna lead. You'd set one AM preset (e.g., 1400) for "FM," and the rest of your AM presets still worked for AM. When powered off, most units hard-bypassed the antenna so your AM radio behaved normally.

A representative period unit—the Audiovox FMC-1C—explicitly advertised: "converts the FM broadcast band to the BC (MW) band" with output ≈ 1400 kHz (adjustable) and loop-through when off. That captures how most of these boxes worked.

Installation & Everyday Use

- **Inline installation:** unplug the car antenna from the radio, plug it into the converter, then from converter back to the radio's antenna jack. Power (12 V), ground, and sometimes a dimmable lamp lead for the under-dash slide-rule dial.
- **One AM preset becomes "FM":** users commonly dedicated 1400 kHz (or nearby) as their FM position. Other presets stayed AM.
- **When off, AM behaved normally:** the internal bypass/relay "looped through" the antenna.

Why It Works So Well (and What Can Go Wrong)

- **Clean handoff:** Your AM radio's RF front end now "sees" a strong local AM carrier that already contains the FM program audio. The car radio just demodulates AM—no different than a station.
- **Selectivity/noise:** The converter's own 10.7 MHz IF and FM discriminator set the real RF performance. Good converters used multi-pole ceramic filters/limiters for quieting—exactly what we expect in FM IF strips.
- **Snags:** If the injected AM frequency sat on a local AM station, or if coupling was too hot, you'd hear beating/overload; installers moved the preset a bit and retouched the trimmer.

Not Just Nostalgia: Modern DIY Echoes

Even today, restorers and hams build FM-to-AM converter boxes for vintage (home) AM sets: the design concept is unchanged—FM tuner + small AM modulator that feeds the radio's antenna. A nice modern ***write-up by Guy Fernando (M0OOX)*** shows a homebrew approach for classic AM sets.

Tying It Back to Ham Radio

If you're a ham, these boxes should feel very familiar:

- **They're cousins of *transverters***. A 2 m transverter that lets your 28 MHz rig work 144 MHz does the same architectural trick: receive/mix/filter/detect at one band, present it at another (or upconvert TX). The car FM converter

Continued on next page...

FM Converters: continued from page 4

is a receive-only analog: demodulate FM, then re-modulate onto a convenient IF—in this case, an AM broadcast RF your existing "IF" (the car radio) already understands.

- **IF-centric thinking:** The converter's FM IF at 10.7 MHz—with ceramic filters, limiters, and a discriminator—maps exactly to what we've all aligned a hundred times in VHF/UHF rigs and scanners. The parts catalogs from the era (e.g., Motorola MC33xx/MC3361/MC3371 FM-IF ICs and 10.7 MHz ceramic discriminators) are the same building blocks.
- Low-power modulators and couplers: Injecting a tiny AM carrier onto the antenna lead is basically a Part-15-ish AM micro-transmitter plus an impedance-friendly coupler—again, familiar territory to anyone who has built a mobile APRS/packet TNC audio injector, a panadapter tap, or a station monitor.

Fun ham-flavored projects inspired by the old converters

"FM to 1600 kHz" shack re-broadcaster: Feed your vintage AM table radios with FM or even the audio out of your modern rig using a tiny AM modulator (yes, within local regs).

Classic-car ham integration: For period-correct restorations, hide a modern HT or Bluetooth receiver and re-modulate to AM so the dash radio plays your audio without visible changes—exactly what the commercial converters did.

Educational demo: Use a converter on the bench to teach superhet FM chains (RF → mixer → 10.7 MHz IF → discriminator) and then show how re-modulation works by scoping the AM carrier on the output.

TL;DR: ***Those little under-dash FM converters weren't crude adapters—they were real FM receivers that re-broadcast the program as a tiny AM station inside your car. You "tuned" FM by selecting a preset on your AM radio. The RF blocks inside map 1:1 to what hams know from superhet rigs and transverters, which is why these gadgets were reliable, clever, and very much ham-approved engineering for the mass market.***

...President's Message: Cont'd from page 3

Wolf River antenna and I get some surprisingly good DX stations from the IC7000 in my truck. By the way, it runs off a 30Ah Bioenno battery independent of the truck's DC system. That same battery also powers my IC5100. There is no noise from the truck's electronics; just some noise when an electric car drives up.

When we did the POTA event at Heckscher State Park we ran two stations off one 30Ah Bioenno battery for about six hours with no issues. A pretty amazing battery.

Here's a tip for all with battery back up for your home station. Make sure your power supply voltage is adjusted correctly. I had to ramp mine up to make sure my two 100Ah batteries actually get a charge. If this issue isn't resolved, you may only be able to run for a very limited time without AC power. My system is designed to run for a few hours but really only runs for 5 minutes until the generator fires up.

The General Class has started. If you are thinking of upgrading, don't miss out. Thanksgiving is on Nov. 27 so our meeting will be on the 20th which will be the same night as club nominations.

Speaking of Thanksgiving -- do you retreat to your shack for peace and quiet like Tim Allen did on "Last Man Standing?" From all of us here at GSBARC have a great Thanksgiving.

— John Melfi, W2HCB

Making Use of the Math Outside of Ham Radio

By Kevin, AB2ZI

So you're studying to upgrade your license and have found yourself needing to use more math than would normally come up in your regular life and may be reminiscing back to those high school math classes when someone would inevitably ask the teacher, *"yeah, but how's this going to help me in real life?"*

Here's one such example that rarely comes up in class discussions, but which I've made use of. I'm talking about *peak-to-RMS* and *RMS-to-peak* conversions. When introduced to RMS (root mean square) we learn that this is the DC equivalent voltage that provides the same amount of power as an AC voltage. So if we have 120 volts peak AC (we only look at the maximum of one half cycle, not the 'peak-to-peak' value if we went from the maximum of the positive and negative peaks) to convert to the equivalent RMS voltage we multiply the AC voltage peak value, 120 volts in this case, by 0.707. This gives us 70.7% of 120 which is 84.8 volts. We are also told that if given the RMS voltage we could convert to the equivalent AC peak value by multiplying the RMS voltage by 1.414. No one has ever asked me why 1.414? Until last night in class.

First, think about what you have when you calculate that 70.7% of the peak value. When you do that multiplication you are left with 70.7% of the whole. To get back to the peak value we are multiplying by the reciprocal of 0.707, so one divided by 0.707 equals 1.414.

Here's a real world example; say a lawn mower is on sale for 35% off and the price tag says $270. What was the original price. Well, if the lawn mower's price, $270, is 35% off, then that $270 represents 65% of the original price. That 65% is what we use for the calculation. So the original price is $270 times the reciprocal of 0.65, which is 1/0.65 = $415.38.

73 and see you in class!

AB2ZI's YouTube Pics

The Bizarre Bases of Antenna Towers

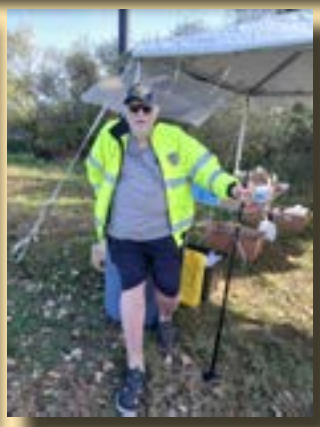
Were We Wrong About the Solar Cycles? NASA Reports Extreme Activity Nobody Expected

How to use an oscilloscope - The Byte Sized Engineer | DigiKey

SUFFOLK COUNTY MARATHON 2025


bella pazz
DEER PA
RAILROA


First Aid Station



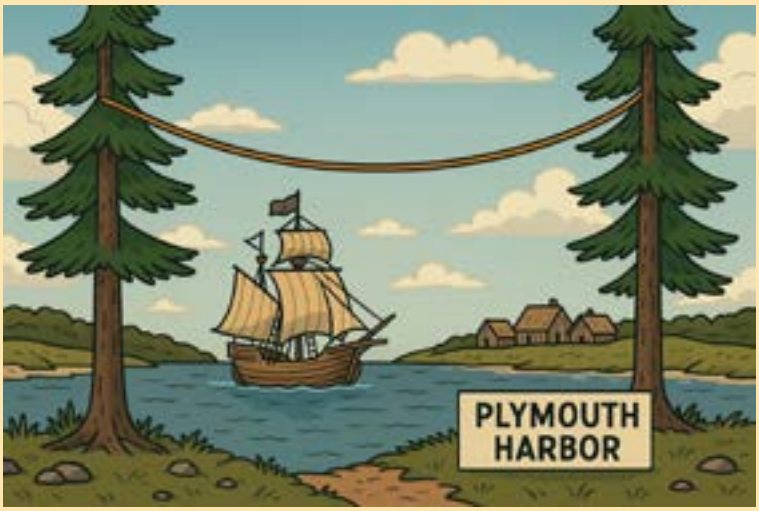
The Unbalanced Load:

Satire, Ramblings and Nonsense for Your Amusement from AB2ZI and ChatGPT

The Forgotten QSO of Plymouth Rock

(As recorded in the Colonial Radio Logs, 1621)

When the Mayflower dropped anchor in 1620, among the few chests to survive the Atlantic crossing was a curious wooden box labeled “Ye Transceiver Experimental.” It was said to have belonged to William Brewster, a man “most skilled in wire and spark.” Using copper scavenged from ship’s fittings and a crank-driven induction coil, Brewster erected what may have been the New World’s first long-wire antenna, strung between two tall pines overlooking Plymouth Harbor.



By autumn of the following year, Brewster and his apprentice, young John Alden, had tuned their device to what they called “the ether winds.” Late one November night, while trying to raise the Dutch outpost at Manhattan, they instead received rhythmic bursts — three dots, three dashes, three dots. It was not the Dutch. It was Tisquantum (Squanto), sending from a hand-built set fashioned from a carved conch shell, quartz crystals, and bear-gut wire.

Tisquantum, who had learned “the speaking thunder” from English fishermen years before, had cobbled his transmitter using a fire-spark exciter powered by a spinning cedar disk. The signal was faint but intelligible on the settlers’ crystal set. Thus began the first trans-tribal QSO (contact) in the New World — callsigns W1PLY and N1WAM (for “Wampanoag”).

Their Morse was crude:

“HAVE CORN. BRING TURKEY. NEED HELP WITH ANTENNA MATCH.”

Brewster replied:

“QSL. WILL BRING PUMPKIN PIE. ADVISE ON BETTER GROUND ROD.”

By sunrise, both parties met in person — guided, according to legend, by the faint carrier wave of Squanto’s transmitter. The great feast that followed became known as the First Thanksgiving Net, a gathering of mutual aid, fine signal reports, and strong fellowship.

In later winters, pilgrims recorded in their journals hearing distant crackles from the forests: Indian operators checking into the nightly Powhatan Traffic Net, trading weather reports and venison recipes across the 160-meter band (though propagation was poor after sunset).

Historians today dismiss these accounts as myth — no copper wire of colonial origin has ever been found in Wampanoag lands. Yet every November, as the wind howls through the pines, modern operators swear they can still hear faint CW drifting through the static:

“DE N1WAM … HAPPY THANKSGIVING … 73.”

Ham Radio University

Spreading Ham Radio Knowledge and Know-How

Saturday, January 10, 2026

8 AM to 4 PM

"A day of education to share ideas, experiences, knowledge and fellowship among Amateur Radio operators"

Our 27th annual event!
Free Admission with $10 suggested donation

LIU-POST

Hillwood Commons Student Center

720 Northern Boulevard, Brookville, NY 11548

Forums are the heart of HRU!

There will be over 20 forums about different aspects of Amateur Radio.

Forum topics will range from Introduction to Amateur Radio, how to get started setting up your station, the basics of operating, to the latest in digital communications and everything in between!

HamRadioUniversity.org

Babylon ARES/RACES Information

Div. 1: Town of Babylon ARES/ RACES

Net: 440.850/R, Sundays 8:45 AM

EC/RO: John Melfi, W2HCB, 631-669-6321

Suffolk County ARES/RACES Net:

Mon 2100 Local, 145.330/R (136. 5PL)

Alt. Frequency—146.820 (136.5 PL)

Current License Pool Expirations

Technician (Element 2)

July 1, 2022 through June 30, 2026

General (Element 3)

July 1, 2023 through June 30, 2027

Amateur Extra (Element 4)

July 1, 2024 through June 30, 2028

Great South Bay Amateur Radio Club, Inc., currently has all ***Arrl License Manuals*** in stock and available for purchase at the discounted rate of $30 (normally $32.95 plus shipping).

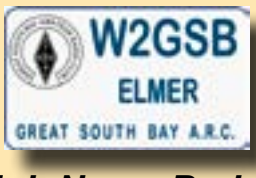
2025 VE Sessions

- ~~January 25th~~
- ~~February 22nd~~
- ~~March 29th~~
- ~~April 26th~~
- ~~May 31st~~
- ~~June 21st~~
- ~~July 26th~~
- ~~August 30th~~
- ~~September 27th~~
- ~~October 25th~~
- November 29th
- December 27th

All sessions are at the Town of Babylon EOC at 10 a.m., located in the basement in the rear of town hall. Please bring photo ID, a copy and your original amateur radio license (if you have one) and any CSCEs you may have. Nonprogrammable calculators are allowed. The exam fee is $15 payable by cash or a check made out to "ARRL VEC."

IMPORTANT!

If you do NOT already have an FCC FRN (Federal Registration Number) you MUST Visit the FCC Universal Licensing page to register for an FRN to use on the paperwork.



Club Name Badges

Club name badges are available from ***The Sign Man*** (***thesignman.com***) of Baton Rouge, LA.

The badges which are 1-3/4 in. x 3 in. If you visit The Sign Man's webpage you can order the badges by using a drop down selection on the orders page and clicking on:

"Great South Bay ARC, NY"

GSBARC Repeaters

LINKED REPEATERS

146.685 W2GSB -shift 110.9 Hz Encode - 127.3 or CSQ decode

146.685 -shift 127.3 Encode/ Decode (south — receiver site linked to 146.685)

445.725 W2TOB -shift 110.9 PL Enc/Dec *Note: No Longer DSTAR*

438.475 - shift 136.5 Hz Encode/ Decode

223.860 W2GSB -shift 110.9 PL Enc/ Dec w/ECHOLINK

223.860 -shift 156.7 PL Enc/Dec Local use

440.850 W2GSB + shift 110.9 PL ***Encode, 127.3 PL Decode (NEW)***

446.775 KB2UR -shift 110.9 PL Enc/Dec Fusion Steerable

927.3125 W2YMM -shift D606 Enc/ Dec

440.250 W2TOB/B + shift DSTAR REF020A Babylon

147.255 W2TOB/C + shift DSTAR Steerable

Echolink W2GSB-R
AllStar ACESS NODE 465710 affiliated repeater

KB2UQK 449.23750 - SHIFT 114.8 ENCODE / DECODE

Portable Event Repeater (Trailer): KB2UR 446.3875 - 110.9 Enc/Dec W2GSB TRP

Club Apparel

Want a shirt, jacket, hat, sweatshirt or T-shirt with a Great South Bay club logo?

We use ***VIKING*** *(previously Mr. Shirt)* located at 80 East Montauk Hwy. in Lindenhurst. We now have a group order page.

Click Here to Place an Order

Now you can get color matched backgrounds on your logo too. Check them out...