CAARA NEWS

Cape Ann Amateur Radio Association
OCTOBER 2018 Edition

PRESIDENT'S COLUMN

by Jon- K1TP

As you read this, I am no longer your president, I am officially retired. Hank- W4RIG has taken over as the newly elected President. Hank has served as president, treasurer, as well as a board member in the past so he is well qualified to guide CAARA this year. Good luck Hank!

INFORMATION DESK

by Dean- KB1PGH

Well it`s October now so now`s your chance to inspect all of your outdoor antennas and coax to make sure that they survive the winter. Make sure to replace any old coax now. Check your coax to see if it is split or dried out .If not at least inspect all of the coax connections to the antennas. Make sure the coax connection is sealed up tight. If you don`t seal and check your coax you will be amazed at how water will find it`s way into the outer braid and through the dielectric. If your coax and connectors are bad now`s the time to change them out before the snow flies. Also check your masts and poles and guy lines for rust and loose connections.

Moving on we have the ARRL school club round up event coming to the airwaves on October 15th through the 19th and on the 27th and 28th we have the ARRL EME contest on 50 MHZ to 1296 MHZ .There is a full list of monthly contests and events on the ARRL website in their "Contest Corral" section. f you are interested in checking into HF nets here are a couple to check out. We have www.ecars7255.com and www.midcars.net .They are both amateur radio service nets and I talked to them both on my last HF portable ops session in September. A least take a look at their websites and see another service that amateur radio provides.

Eve though it is the bottom of the sunspot cycle please don`t forget that 10 meters still exists. he ten meter band is still usable for local groundwave communications and the band still opens up for DX once in a blue moon. here`s a group called "Ten Ten International" that promotes the use of 10 meters. Their website is www.ten-ten.org .The unofficial calling frequency for 10 meters is 28.400 MHZ as well.

Remember too that if your a technician class license holder you have privileges to operate on 10 meters so tune around and listen and give a CQ or two and you never know what you`ll hear.

This will be the last in a series of emergency and disaster prepping of food storage. As in the past two months I have covered the Mountain house freeze dried food pouches and 72 hr food boxes. For this month we will be taking in a bit further by making a quick and easy emergency food and water storage box. As you can see we have the 3 day Mountain House Emergency Food

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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 k1tp@arrl.net. If possible, material should be in Word format. Material may also be submitted as hard copy to Jon-K1TP or any Club Officer.

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 former W1RK 443.700 repeater is now on the ATT cell tower in the Blackburn Industrial Complex with greatly enhanced performance.

The Association is one of the few amateur radio clubs that has its own clubhouse. Located at 6 Stanwood Street in Gloucester, it includes a permanent HF station with beam, vertical/wire antennas along with an operating 2 meter packet station as well as 2/440 meter voice and 220 MHz Transceivers.

Amateur radio exams are held on the second Sunday of each month at 10:00 AM at the CAARA clubhouse. Anyone who is considering a new license or an upgrade, is welcome to test with us. Pre-registration necessary.

Contact the head of our VE team Rick Maybury-WZ1B if you have any questions about monthly testing.

Monthly member meetings are held on the second Saturday of each month at noon. Lunch is served at each meeting.

Each Sunday evening at 9:00 PM, the club operates a 2 meter 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.

storage box,then we have the case of bottled water for drinking and for cooking the food. Then we have the stryker portable camp stove and propane gas in order to heat the water for the Mountain House food pouches. I also threw in some paper plates and plastic utensils as well. All of this is stored in a rubbermaid storage box and placed in the cool basement. It was easy to buy and throw together. You could add any other food items as well. Such as baby formula,powdered milk,canned food goods,and any other wide variety of freeze dried food goods. The total cost to build the kit was $ 55 for the food,$50 for the stove,$10.00 for the water,plates and utensils. At least everything is in one place and kept clean and dry and I can quickly pick it up and throw it in the car if need be.

Until next month, 73, Dean KB1PGH

Foundations of Amateur Radio

Is man-made noise really vertical?

One of the often repeated attributes of noise and antennas is that man-made noise is vertically polarised and that is why a vertical antenna sounds noisier than a horizontal dipole. It's an interesting thing to say, but it it true?

Let's start with what constitutes man-made noise. Cars driving past, solar panel inverters, pool pumps, high-tension power lines, garage door openers, broadband internet modems, LED lights, lawn mowers, leaf blowers, plasma televisions and so on. The more you think about this, the more noise makers you discover.

So, are these noise sources all aligned in the same way, making the same noise?

Clearly not. There is no alignment standard for installing a lamp, how to align your lawn mower, which direction to drive, what angle to point your garage door opener, so the statement that man-made noise is vertical is clearly bogus.

That doesn't mean that the rest of the statement is also wrong. A vertical antenna in an urban environment often sounds much noisier than a horizontal one, sometimes by several dB.

So what's going on?

One suggestion is that the difference lies in the antenna itself. What if both noise sources, horizontal and vertically polarised were the same, but the antenna heard them differently, how would that look?

For starters, a horizontal dipole has a higher sensitivity at a higher angle than a vertical antenna does. So anything arriving at a low angle is picked up by the vertical, but not by the horizontal dipole.

The noise that we're talking about is local, we'll get to why in just a moment. Being local, it gets to the antenna via ground wave propagation rather than via the ionosphere. I claimed that the man-made noise we're discussing is local. It's not all local, but if it's remote, it's coming via the ionosphere and we know that it arrives at whatever angle it pleases, so there is little or no difference between a vertical and a horizontal dipole from a noise perspective for signals arriving via the ionosphere.

There is another effect. Attenuation or signal loss. In this case loss of strength. Specifically noise strength. More attenuation is the same as more signal loss.

Combining ground wave propagation and attenuation brings us to another difference between a horizontal and a vertically polarised noise source. A horizontally polarised ground wave experiences more attenuation than a vertical one. This means that noise that is local travels further and is louder when it's vertical, compared to when it's horizontal, sometimes the difference is over 20 dB.

I've been talking about horizontal and vertically polarised noise, but what if the noise is coming at an angle, like the random noise makers around you? A simple way to think of it is that every angle has a horizontal and a vertical part, in much the same way as a right-angle triangle has three sides, one horizontal, one vertical and one on an angle.

Putting this all together, we have a number of different effects, all conspiring to make the vertically polarised part of noise travel further, be louder and received better by a vertical antenna, compared to the horizontally polarised part which doesn't travel as far, is softer and heard less by a horizontal dipole.

One more thing. The isolation between vertical and horizontal polarisation can be as much as 40 dB, so a horizontal dipole won't hear vertically polarised signals well if at all and vice versa.

Cantilever Capers

By Curt- AA3JE

With the emergency items (food, water, heat) taken care of, courtesy of "Extremely Expensive Chimney Liners" and "Chain Saws R Us", my attention was diverted to another little problem.

Actually, it was directed by "SHE WHO MUST BE OBEYED", who started a gentle morning breakfast with a rather direct statement. At top volume!

"THAT PORCH IS UNSAFE! I WANT A NEW PORCH!"

Now it is true that the porch in on the north side of the house, and has suffered from a little surface rot, and some extreme weathering, but I was not sure it was unsafe.

"SHE's concern was due to the fact that when both of us stood on the porch, the porch surface dipped about half an inch, creating a lovely "spring-board" effect. I suspected it could be used for an acrobatic act into the side yard. I think with practice I could do a 2 1/2 gainer. She was also a bit concerned about the plants growing up between the boards. Well, and the rot, the mildew and missing bits.

My suggestion regarding weight reduction was not received well.

So I took flashlight, ice pick, and notebook, and went to investigate. I discovered that in order to provide a good view from the ground floor windows, the builder had cantilevered the porch off the floor beams. The living room floor beams stuck through the side of the house and extended 8 feet outside, forming the supports for the porch.

If you jumped up and down in the house, the porch flexed.
If you jumped up and down on the porch, the living room flexed.

Weird? Yes. Unsafe? Probably not. The floor beams are 5 by 5 engineered timber on four foot centers and sound.

So I got some deck timbers, my favorite (non-structural) rot fixer (JB Quick Weld), and did some dental work on all the cavities, and sanded the whole thing with a seven inch disc sander, only sustaining two wounds in the process (both superficial). Turns out that thing keeps spinning a long time after you let off on the trigger, and cuts flesh like a razor. It cauterizes the wound though, so not much blood.

So after drilling, sanding, and staining, the deck looked wonderful!

But still wiggled.

Now the mechanics of cantilevered beams have been known since the 1600s. The stress on the beam and consequent strain are calculated by a simple calculation.

Unfortunately I had forgotten it. So, it was back to my old stand by, “ABE BOOKS”. A week later I had three or four textbooks of statics, dynamics, and strength of materials.

I will skip over the month it took me to read and understand any of it. The upshot is that if a beam is wood, and is less than a foot or so tall, an eight foot lever arm will bend the sucker. Not break it, but bend it. Like a springboard. Guaranteed.

So after doodling and designing various fancy alternatives, I went to the source of structural engineering advice used by most locals.

Ed.

Ed at Home Depot.

I described the problem.

“Dey stuck de porch on de 5 by 5 floor beams? Eight feet of porch?”

“That’s right, Sir”

“Dat bastuds gonna flex like a mudder.”

“What do I do?”

“Youse needs two of dese and puts up a support beam.”

He indicated a pile of concrete things labeled “Porch Support Blocks”.

“I take it this has happened before?”

“Yup. I sells a lot of dese.”

Armed with suitable pressure treated lumber and two support blocks, I returned, only to be greeted by “SHE”.

“WHAT ARE YOU DOING?”

“Fixing the porch, dear.”

“I DO NOT WANT A FIXED PORCH, I WANT A NEW PORCH.”

“Hot Tub, Swimming pool, or New Porch, pick one.”

“WHAT ARE YOU STANDING AROUND FOR? GET BUSY!”

Now I have faced this problem before, in a house built by She’s great grandfather. If you are single handed you need PT timbers, a circular saw, a huge pot of waterproof glue, and 300 three-inch screws.

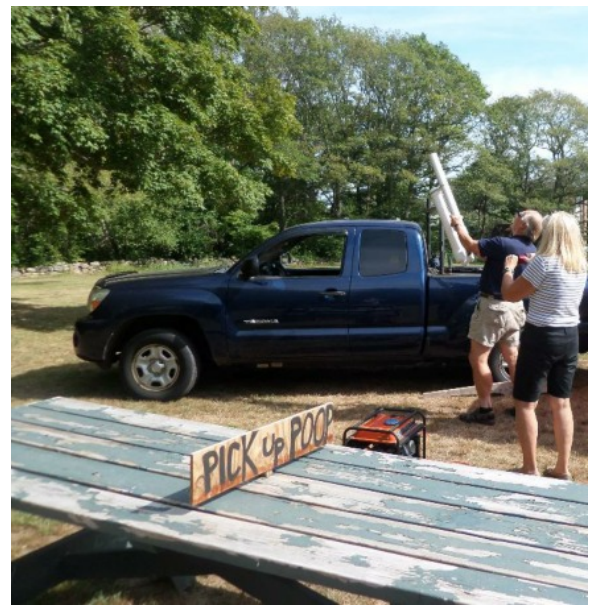
This is because if you buy a 16 foot PT beam 12 x 12, you will rupture yourself trying to lift it alone. So you glue-laminate the beam in place, using lots of glue, and lots of screws. Please be aware that PT lumber comes to you with a moisture content of 50% or greater, so don’t even try to paint it till it dries out, if it ever does.

A day later, I had a sixteen foot long, 4 by 12 beam, sitting on site built “I” beam supports, and the porch is solid as a rock.

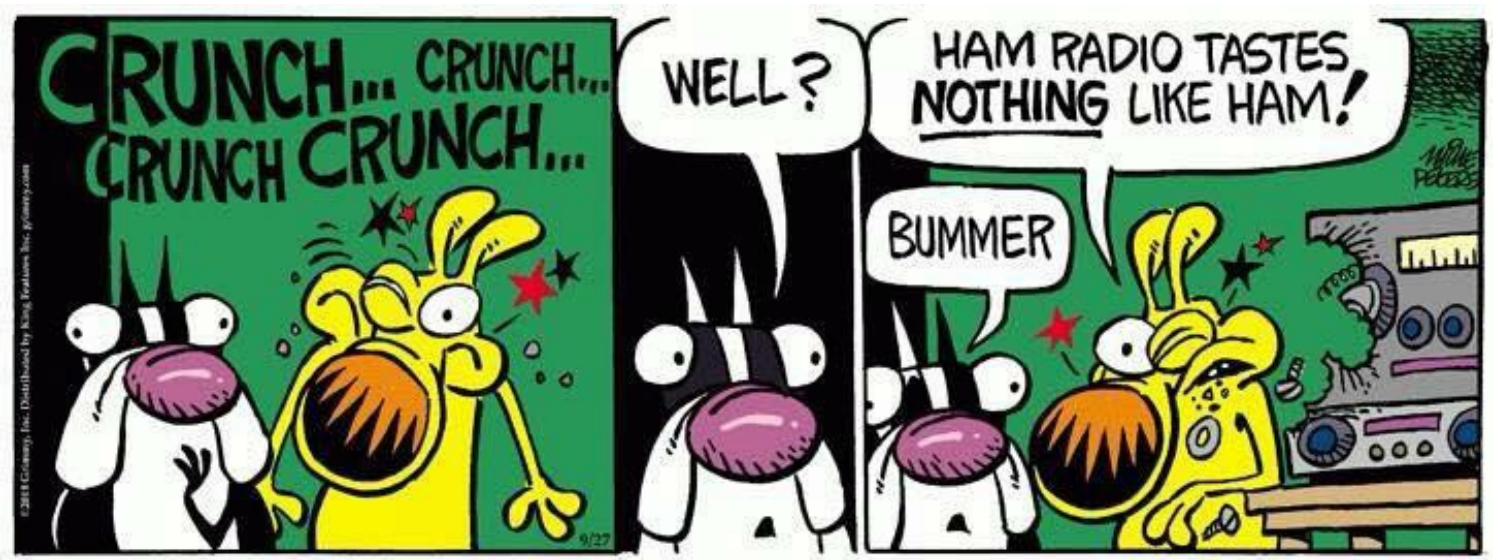
(Liability notice- I am an amateur. If you have a similar problem, either consult a qualified engineer or see “Ed” at Home Depot.)

The next project will be to figure out where to put the (expletive deleted), hot tub.

“Hospital Hill” Portable Operations in Rockport on a perfect Sunday afternoon…



A few hams decided to give portable operations a whirl in Rockport a few weeks ago and many contacts were made as well as a good time by all. Hospital Hill is at the top of Summit Avenue and is 200 feet above sea level which makes for great antenna propagation.



WE ALL HAVE MUCH TO BE PROUD OF

LOTS OF GOOD NEWS AT THE CAARA ANNUAL MEETING

Sat. Sept. 22, 2018

By David Linsky N1CDL

It would be a huge understatement to say that this year's CAARA annual meeting went well. The fact of the matter is that this year's CAARA annual meeting went as smoothly and calm as the glass like surface of the Mill Pond on a clear day when there is no breeze.

CAARA President of the past two years Jon Cunningham K1TP presided over a very well attended meeting. To add to the good news was that CAARA'S meeting room was steadily filling up as the meeting progressed. Jon has been a very steady and able Captain of the ship over these past two years, as well as **since Jon first joined CAARA way back in 1980.**

We are pleased to report that several new folks attended our annual meeting and expressed their interest in the very worthwhile activity of Amateur Radio. **They all liked what they saw at CAARA** and intend to join CAARA soon. Get ready to make several new friends and fellow Amateur Radio Operators. **Good people automatically gravitate towards CAARA.**

Packets of ARRL informational brochures were handed out and are now available at CAARA for your friends who may be interested in Amateur Radio and would feel right at home at CAARA. These are excellent pamphlets and describe the many fun and serious aspects of Amateur Radio. **Please take several with you during your next visit to CAARA.**

An awards and recognition committee was created by Jon recently. As is the case with anything Jon is involved with, it has become a huge success. Committee members are CAARA President Jon Cunningham K1TP, Bill Morris W1WMM & David Linsky N1CDL.

Certificates of Appreciation were presented to several CAARA members who have gone above and beyond the call of duty (Or I should say above and beyond the call of CAARA).

There were many surprised looks and smiles as the recipients received their **Certificates of Appreciation** during the meeting for their volunteer efforts on behalf of **CAARA.**

Please watch your mail in the coming weeks. Several certificate recipients were unable to attend the meeting. They continue to help CAARA with their **extraordinary skills and countless hours of their time.** Please know that **your help has never gone un-noticed!**

Suffice it to say, you know who you are, we all know what you have done and what you continue to do to help CAARA to be the fine club that it is today.

A SINCERE THANK YOU FOR YOUR FINE WORK HELPING CAARA! Again, please watch your mail over the next few weeks for you certificate!

One more thing! You are cordially invited to take to the key board and create an article or two, or three, or four for the CAARA newsletter.

All of us have interesting tales to tell. How about when you set up at Hospital Hill in Rockport? Or an article detailing some of your HF contacts and the new friendships that you have made from around the world? The possibilities for articles are endless! Please email them to Jon K1TP. **PRETTY PLEASE? P.S., CAARA NEEDS BUBBLE WRAP.**

Dave- N1CDL presenting Jon- K1TP a certificate of appreciation

OCTOBER MEMBER MEETING

OCTOBER 13, SATURDAY AT NOON

CHEF BILL'S HOMEMADE SPAGHETTI AND MEATBALLS FOR LUNCH!

SEPTEMBER ANNUAL MEETING

An intent looking group getting ready to vote in the new slate of officers and board of directors. We followed the meeting up with pizza and an open social event.

PUBLIC SERVICE ROAD RACES

Sunday, November 4th YUKANRUN - Ocean View - 5K & Half Marathon Ipswich, MA

Sunday, November 25th Santa Claus Parade Gloucester, MA

Sunday, December 2nd YUKANRUN - Merrython - Gloucester, MA

Why should you participate in race events?

It helps the club financially, we receive a donation for each race. You are using amateur radio to provide a needed public service to ensure the safety and smooth running of a public event in local communities.

I would but I do not have a radio.

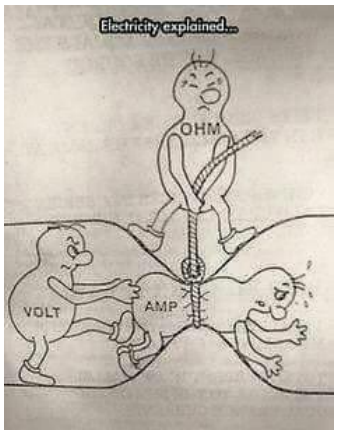
No excuse, we have loaner radio's available with a mag mount that will work in your car just by just plugging it into the cigarette lighter socket. We have loaner hand held radios as well!

I don't have transportation.

No excuse, we will pick you up and drop you off at your house.

I do not have the time to spare for a whole race.

Well, you can commit to a time slot, for just two hours. We will bend over backwards to get you to participate.



CAPE ANN AMATEUR RADIO ASSOCIATION

OCTOBER 2018

6 Stanwood Street
Gloucester, MA 01930

978-282-7645
www.caara.net

**Repeaters on 145.130
224.900 & 443.700**

S	M	T	W	T	F	S
	1	2 Open House-5-10pm	3	4	5	6
7 EVERY SUNDAY	8	9 Open House-5-10pm	10	11	12	13 BOD 11am Member-Meeting Noon
14 2 METER NET AT	15	16 Open House-5-10pm	17	18	19	20
21 9PM 145.13	22	23 Open House-5-10pm	24	25	26	27
28	29	30 Open House-5-10pm	31			