



CAARA Newsletter



CAPE ANN AMATEUR RADIO ASSOCIATION

JANUARY 2015 EDITION

President's Desk

by *Hank-W4RIG*



Happy New Year to you and your extended families. Mary and I are off to Chicago and Evanston, Illinois for a week to spend with our grandchildren and their parents in the Windy City. I hope to be back by the time of the CAARA Board meeting on January 7.

The good news for CAARA is that we now have all the papers from the purchase of the property at 6 Stanwood Street and expect to get the confirmation on filing the deed in Salem before that meeting. We have also put the property insurance into effect to cover any damage that might happen to the property due to storms or other problems that we have been lucky to avoid for the past 30 years without that insurance coverage. Since we own the property free and clear, the insurance is not required, but our CAARA Board felt it should be part of our annual budget to protect our financial interest in the structure. So we do have a good reason to celebrate the New Year 2015. We can now turn our attention to keeping the repeaters fully operational with new antennas, and repairs to our building and antenna systems at 6 Stanwood.

Stan W4HIX, our efficient treasurer, has obtained the permit for non-profit status from the Commonwealth of Massachusetts so that we can avoid sales taxes on major purchases of things such as building materials locally. Be sure to clear any significant purchases with Stan and get a copy of the permit statement to avoid the sales taxes.

There are several contests and special radio events during January – we would hope to get out the word via CAARA Mail for any special activations at 6 Stanwood. Also don't forget the members meeting on Wednesday, January 14. Our Education Chairman Gardi Winchester KA1BTK will have a special program of interest to the membership.

Once again thanks for the special efforts of Jon Cunningham K1TP for his special efforts with



eBay and as editor for this newsletter. Additional thanks to Dean Burgess KB1PGH for his contributions to the newsletter and for his organizational help with the CAARA Holiday Party in December. Our continuing gratitude is proffered to our attorney Meredith Fine for her good efforts in getting the legal documents completed and filed with the Registry of Deeds in Salem. My best wishes to all for the entire Holiday Season.

Information Desk

by *Dean-KB1PGH*



I'm writing this column on December 12th and I just received the November edition of CQ Magazine so as we can see they still are having delayed printing issues over at CQ. It's too bad so many print subscribers who have paid them ahead of time are receiving delayed issues a month and a half behind schedule with outdated information but they haven't gotten under yet so we'll see how long this lasts. For this month's column it will be part 2 in the series of "How could you possibly get bored in ham radio". I think I'll cover the aspects of contesting or "Radiosport" and "Papar Chasing" or working stations for awards. Both CQ Magazine and the ARRL have their own versions of contests and awards. If you go to www.cq-amateur-radio.com and www.arrl.org you can find plenty of contests and awards on their websites. CQ Magazine holds a contest every month and they have the CQ DX WAZ (Worked all Zones) award. On the ARRL side click the "On the Air" link to find the list of contests and awards. You can find the ARRL WAC (Worked all Continents) award, the ARRL WAS (Worked all states) award and the ARRL DXCC (1000 band point) awards. Don't forget that even if you don't have your General or Extra full HF privileges yet you can still work contests that are in the VHF and UHF bands with a Tech license and don't forget you can participate HF on 10 meters during contests. If contesting is not your thing there is still plenty to do on HF. Just about every weekend there is some

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.

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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 Cingular 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. The former W1RK 443.700 repeater with antennas located in Magnolia is now located at the CAARA clubhouse and has a very limited range.

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 rotating beam and vertical antenna along with a 2 meter packet station and 2 meter voice and 220 MHz transceivers.

Amateur radio exams are held on the second Sunday of each month at 10:00AM at the CAARA clubhouse. Anyone who is considering a new license or an upgrade, is welcome to test with us. There is no pre-registration necessary. Contact the head of our VE team Bob Quinn if you have any questions about monthly testing. Monthly member meetings are held on the first wednesday of each month at 7:30 PM except for July and August

Each Sunday evening at 9:00pm, 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.

New! The club is open every Tuesday from 4-8PM for CAARA members to stop by and socialize, as well as use the extensive collection of ham radio gear.

Information Desk

by Dean-KB1PGH



sort of special event station transmitting. Just Google “Ham special event stations” and you’ll find something. Don’t forget that you can work satellites and the ISS (International Space Station) too if your up to the challenge. Then of course we have the ARRL Field Day event on the last full weekend in June and the SPAR Winter Field day which comes later in January. One of the great things about contests is that you can sit there and “Give away points” to the other stations who are competing with one another. I think for next month I’ll cover HF nets, ragchewing and just plain listening on HF as things to do if you find that you might start to actually feel bored in this hobby.

73

Dean Burgess ARRL EMA Public Information Officer

Editor Roundup

by Jon-K1TP



Another productive month at the radio clubhouse resulting in the 220 repeater being in full operation at the clubhouse on a single antenna mounted on the top of the tower. I might add that the club location restricts the repeater coverage and is weak in the Rockport area but average to ok in the Gloucester area. If you have a 220 rig, please try it out. We have cleaned out the parts and junk cabinet on the second floor and reorganized it neatly. Jake is in the process of sorting parts and putting them in order for member use.

We have started organizing a test area for club member use with assorted test meters, soldering stations, etc.

The vintage radio room is under construction and should be done by the end of January and equipped with selected working tube radios from each radio era.

We continue to Ebay items as they become emarked as surplus equipment but the process is slowing down.

All we need now are members to show up and enjoy the fruits of our labor.....come join us and play a little rado!

WINTER FIELD DAY UPDATE

Hello all, see below the site for the SPAR Winter Field Day. It will be held for 24 hours from 1700 UTC (noon EST) Saturday 1/24 thru 1700UTC (noon EST) Sunday

1/25. See the site for with all details at the bottom of this email. If I’m reading it right the exchange will be W1GLO, MH, EMA, the temperature F. Please let me know if you read it differently and we can discuss it with those who plan to come play.

We have had great success with this contest in the past and it’s good practice for us and a test of N1MM before Field Day this summer. <http://www.spar-hams.org/contests/winterfd/index.php?pg=2> I’ll see you there.

73, Ruth WW1N

Happy New Year to all of my friends at CAARA.

I am so proud to belong to such a great organization as the Cape Ann Amateur Radio Association! Through the years CAARA has had its up’s and down’s, but 2014 was truly a banner year, not only for the fact that we are like one signature away from owning the Comms. Center at 6 Stanwood Street! If last year was any indication. 2015 is going to be a great one for sure!

I read an article that asked if Ham Radio was dieing? When I saw the sparkle of wonder in the eyes of Boy Scouts as they made QSOs with other scouts all over the continent; When we are thanked and genuinely appreciated for our service in the YuKanRun and other events; When I see how much trust, faith and respect that the professional emergency services gives to Amateur Radio; It is pretty obvious to me that Amateur Radio is not only alive and well, it is growing!

Electro-magnetic energy is the canvas to our art and in the over-all scheme of things, I’m sure it’s still in its beginning stages. There is still so much for us to do and play with; so many discoveries to be found, and Ham Radio operators will be on the front line as we always have been. It is my hope that CAARA will be a big part of that future while we respect and honor our past as well.

My New Years resolutions are to try to make a more rewarding environment and experience for our members; help CAARA to become a more capable and efficient communications entity for the communities we serve; and to attract more members and activity from our current membership by showing our pride and enthusiasm in our organization and craft.

Let the magic continue!

73’s

Gardi Winchester II

KA1BTK

WHAT'S GOING ON AT THE CAARA EMCOM CENTER?

Hello to all CAARA members,
This is the monthly reminder and invite to all members to submit articles and pictures to the clubs monthly newsletter. Every month we are encouraging members to pen articles for the newsletter as well as send any photos of your ham equipment and shack. We hope new members and seasoned members alike will take this opportunity to contribute to the CAARA newsletter. Please remember that the newsletter cannot exist without the contributions from the membership. We are looking for reviews of ham equipment, any older photos of CAARA events and its members decades ago. Any history of CAARA and other items that are of interest to amateur radio operators. As you know the club newsletter is enjoyed every month by not just the club members but is also viewed worldwide. The newsletter is a great public relations tool for CAARA and the ham radio community at large as it reflects what we do here on Cape Ann and how active CAARA is a club and you get it all for free and on time compared to some ham radio magazines I know! So if you have the time please submit any items to the CAARA newsletter editor Jon K1TP and a thanks goes out to all of those who have submitted items in the past.
73

Dean Burgess KB1PGH ARRL/EMA
Public Information Officer

Photo's on the right are of the monthly Scholarship Breakfast which benefits graduating seniors at Rockport, Gloucester, and Manchester High School's. A great breakfast and it grossed over \$100.00 and we had a great turnout as you can see.



If you are able, please stop up and visit any Sunday morning for coffee and donuts or Tuesday afternoon from 4PM until around 9PM and help us organize the second floor, operate a radio, or just chill out and enjoy the ham fellowship.

We are in need of a volunteers to test radios and power supplies in the next few weeks as we go thru our vast inventory of donated radio gear.

RUTH-WW1N HAS NEW ARTWORK CREATED BY BOB QUINN- WV1A



Ruth had Bob Quinn-WV1A create a handcarved sign for her wall in her house and was quite pleased with Bob's creativity.

The morse code key was handmade out of plastic and painted black.

Bob recently created a hanging tube mobile for the club and it may be seen on the first floor.

You Don't Understand Girls

by *Curtis-AA3JE*

My mother had girls, only girls, at first. I was born when she was really almost too old to have children, and thus it was that I was the youngest child with five much older sisters. My father had left, almost before I was born, and I grew up in that house with no men.

Now my mother was not wealthy, and so my sisters did not receive fancy gifts for their birthdays and Christmas. But my mother took some of the precious time she had at home after work, and for each of us she made, with her own hands, any present we might receive.

For each of the girls, she would buy a doll, a good doll, one with real eyes that closed and opened, and hair that could be brushed, and each doll would receive a new blouse, or a new dress, or new slacks, every year. Each outfit was made by my mother, with her own hands, with tiny, tiny stitches and little tiny buttons and hooks.

Now my sisters ranged from eighteen to eight, and once they reached fifteen or so, they quit playing with dolls and started playing with boys. And so, one year, I asked my mother why she had bought a new doll for each sister, and not just handed the dolls down. Or at least the clothes, since all the dolls were the same size.

And she said,

“You do not understand girls.”

And as the youngest, I watched five times as each girl left would wait till they had gone, sometimes to college, own, and each time she would go through the things discarded things and put them carefully away.



the house, and each time, my mother sometimes to start a family of their they had left, and take some the

I asked her why she saved these things when my sisters

had discarded them.

“You do not understand girls,” was all she said.

Five times I watched this, and five times she performed the same ritual, going through the bin of old clothes, discarded books, papers and toys, picking out a few things and carefully preserving them.

Then it was my turn to leave and I joined the Naval service, and voyaged far and wide, to places where they spoke no English, and sometimes wrote in characters so strange I could not read any of them.

Then I got a message, and I took leave of my ship, and flew home, for my mother was very ill. She passed within a few days of my arrival. I asked her, before she died, what to do with her things, and she just smiled and said,

“You do not understand girls.”

So we buried her, and went to the little house. There were few things of value, it was mostly just cheap junk, like you get at a rummage sale, and then one of the girls found a box. Inside were the dolls, and in old, crinkled plastic bags, doll sized dresses, slacks, hand sewn blouses, each a tiny bit dirtied and faded, but carefully preserved.

“They are mine!” said my oldest sister, “I cared for you all when you were young, I deserve them as reward for the care I took of you.”

“They are mine!” said the next oldest, “everywhere I went, I was compared to you. I deserve these as reward for putting up with that all those years.”

“They are mine!” said the third, “you two were so demanding that father never noticed me at all. I deserve them in payment for the attention I never got because of you two.”

“They are mine!” said the fourth, “you were all such bullies to me, I never was treated fairly. I deserve them as compensation for all the nasty things you did.”

“They are mine!” said the youngest, “By the time I came along, mother was tired and dad was getting ready to leave. I deserve them because you four got all the good years, and I got the bitter end of a tired family.”

Since no one expected me to make a claim, I looked in the box. I held up one of the dresses, and looked carefully. Then I opened the bag to make sure.

“Ladies!” I said, “each of these dresses has a name tag sewn into it. Each clearly indicates whose property it is to be. This was done by my mother to avoid exactly this conflict.”

And then, at last, I began to understand girls. It was my mother’s parting gift to me.

3864 CHRISTMAS PARTY AT HRO, SALEM NH



Left side of table, John, K9AEN; KC1AXC, Bill; Neil, AA1SB; Leo, N1BOK; Dave, N1FCC; John, AB1VA; across the table coming back, the one and only N1XW, Mike; KA1GJU, Kriss "ugly sweater" Kringle (!); Steve, K1SMD; Bob, N1EUN; Gary, N1VFU; Roger, K1PV; Joe, K1JEK.

Low Cost Email at Sea Using Ham Radio

By Cliff Robinson KC1PO

In the world of modern technology it is becoming progressively easier to communicate and stay connected with our fellow citizens. With innovations such as facebook, twitter and other social networks, to say nothing of cell phones, smart phones and all that the internet has to offer, one would think that keeping in touch would be easier than ever. But for the sailing community this is not quite the case. Internet connection may be possible via WiFi when at the marina dock and cell phones may work well when close to shore. However, venture more than a short distance away from the shore, sometimes a mile is enough, and all such means of communication suddenly disappear. No more WiFi, no more cell phone towers. As sailors we rely heavily on VHF radio but this restricts us exclusively to marine use, the essentials for safety, weather information etc and does not provide for email. For internet connectivity and sending email we can use satellite equipment but this is complex, cumbersome to install and can be very expensive. The costs involved include capital equipment, installation, regular monthly fees plus per minute of use or per byte fees. For the recreational sailor such costs are often unjustified.

SSB radio(Right) and laptop used for sending email from offshore (note the GPS position on the plotter above).



Traditionally, the low cost alternative has been the use of shortwave (or high frequency, HF) SSB radio. While restricted in available bandwidth and with no ability to connect to the internet, SSB radio does at least provide a means to send and receive email to anyone worldwide, even if isolated in the middle of the Atlantic Ocean. This is hugely useful for safety, weather information and keeping in touch with family and friends. The costs involved for the equipment can still be considerable but at least there are no recurring monthly fees or per-use fees. Of course, a laptop computer is required in addition to the SSB radio but these can be obtained relatively inexpensively these days. The more onerous contention to using HF SSB radio has always been the necessitated use of a proprietary Pactor modem which connects between the laptop computer and the radio.

There is really only one modem of choice and it is manufactured by only one company, the SCS-PTC Corp. The cost is predictably high, almost the same as the SSB radio or the computer.

In years, however, a group of ham radio enthusiasts have developed a software solution that eliminates the need for the modem entirely. The system uses ham radio frequencies (for which a ham radio license is required) and is linked to a worldwide network of shore based stations as part of the Winlink Global Radio Email System. For full information see www.winlink.org. This is an interesting website and is worth browsing. Many sailors who are hams use the system and there is a nice world map of user positions which shows the current and past positions of many world cruisers.

There are some installation technicalities, especially with regard to the antenna and grounding which I will not go into here. However, if you already own a laptop computer and pick up a relatively inexpensive but modern SSB radio, you will have all the equipment that is needed to provide a means of communication via email while at sea. The software is called RMS Express and uses a newly developed protocol called Winmor. It can be downloaded for free from the Winlink.org website. Of course, once set up, the radio/computer combination can be used for many other things as well. For example, receiving weather fax images, broadcast stations, general ham and marine communications etc.

I have been experimenting with the new system on and off for a few years now. During the summer of 2010 when I sailed from Bermuda to Newport I had the opportunity to be one of the first to field test the new system from the open ocean. Throughout the six day crossing it was possible to connect with several, permanently operational, shore based ham radio stations reliably and at all times of the day. Low bandwidth emails were sent to family, and friends every day during the voyage for a total of 51 emails sent and 38 received, including 4 grib files downloaded for weather information. All crew aboard were appreciative of the safety and security of having HF email available at all times.

During 2011 trip from Mystic, CT to Miami, Florida I again installed the HF SSB radio on board. This time we sent emails every day during the two week voyage (with the exception of one day when I was too sea sick to even think about fussing with a confounded radio!) and several family members in the U.K. were following our progress. A feature of the Winlink system is the ability to periodically post your GPS position on the website as you go, so that anyone can see where you are and follow your progress at all times.

In order to keep this brief, I have glossed over many important details of this system. It certainly has its limitations, low bandwidth, and is subject to and the vagaries of shortwave radio signal propagation over long distances. However, I have been impressed at how well it does work and wanted to make our readers aware of its existence.

As new permanent shore stations proliferate and the sun spot cycle picks up in coming years, the RMS Express/ Winmor system will likely become an important new mode for global data communications. It is currently being used by some branches of the military and will be especially useful for offshore sailors, emergency communications from disaster areas and expeditions into remote places on earth where no internet is available.

If anyone is interested in this please do not hesitate to contact me.

Cliff Robinson KC1PO
cjrobinso@comcast.net



Ideal Noalox Anti Joint Compound

I thought I would let other know about this product since I have been using it on my Buddipole Antenna. It's an Anti Oxidant Joint Compound called Noalox from Ideal. This is a gel that contains suspended zinc particles. I learned of this product when the accessory antenna arms and whip antennas started to stick together during use. I actually had a small

metal burr and a bit of metal dust from the factory in one of the connectors which caused them to seize together. Luckily I got them apart. Plus just from general use of taking the antenna apart and putting it back together out in the field a bit of dust and dirt can build up in the joints. I then began to think that this compound would work great for any hams who currently have, or plan to install any outdoor verticals or beams. Of course most of the outdoor ham antennas are made of aluminum and we all know that on Cape Ann the salt from the sea air can corrode anything. The Ideal Noalox compound reduces galling and seizing on all aluminum conduit joints. It also promotes good ground continuity which comes in handy for anyone planning to install a vertical with a bunch of ground radials. Noalox also provides additional inner strand and inner conductor current paths for improved conductivity. So it helps provide more of your electromagnetic energy leave your antenna instead of having that typical white coating of aluminum oxide on your antenna connections. Electricians use this product too for any outside applications. A 4 oz tube of Noalox is about \$6.00 and can be found at the electrical department at Home Depot or online at Amazon. Now just a word of caution. This compound CONDUCTS electricity at antenna joints. For all other aluminum joints that do not conduct electricity such as the nuts that go onto u clamps that hold the antenna together and at the tower you can use just regular "Anti Seize" compound which you can find at you local auto parts dealer. Mechanics use this stuff to keep spark plugs from seizing in their sockets inside the motor.



Club Christmas Party Pictures



Club President- Hank-W4RIG with his wife.

I have been told that fun was had by all, the food was great, and the door prizes were a big hit.

John-WA1JG taking pictures he never sent to me to publish in the newsletter, Dean-KB1PGH looking baffled, and Jake- W1LDL in the background figuring it all out.







Great looking door prizes and the food was superb as usual with an abundance of tasty desserts.



RUSSIAN SSTV FROM THE ISS

Russian Slow Scan Television or SSTV transmissions are planned from the International Space Station on December 18 and 20. The transmit frequency will be 145.800 MHz with a 3 minute off time between transmissions. The expected mode is PD180 producing a high quality image with a frame scan of 187 seconds. A total of 12 different photos will be sent throughout an operation period. Image transmissions for December 18th should begin around 14:20 UTC and on December 20th look for signals to start around 12:40 UTC. For both days, operation is expected to terminate around 21:30 UTC. Please note that the SSTV operation times may change due to any launch delays of the SpaceX CRS-5 scheduled for December 16th. Received images can be uploaded to the image gallery found at tinyurl.com/december-2014-ariss-sstv (ARISS, AA4KN) **

DX UP FRONT: K1N NAVASSA ISLAND DXPEDITION In DX up front, preparations for the early 2015 Nevassa Island operation are well underway. This according to a press release from planners Bob Allphin, K4UEE, Glenn Johnson, W0GJ, and Mike Thomas, NA5U. According to the trio, all of their equipment is being assembled, tested and packed. The container of equipment and supplies will depart late in December enroute to the helicopter staging area. The group says that it has contracted with the largest helicopter operations group in the Caribbean to transfer personnel and equipment to the island. Although the actual dates may still vary, it now appears the group of fifteen operators will begin transport to the Island during the last week of January. More information and regular updates are on the web at www.navassadx.com for details.

(KP1-5 Project) **

DX UPFRONT: COOK ISLANDS SPECIAL CALL PREFIX E51AND has told the Ohio Penn DX Newsletter that Cook Island's resident hams will be allowed a special 1 by1 callsign for use during the 50th anniversary of Self Governance in 2015. The special call is available for use at the operator's discretion only during the period January 1st, 2015 to December 31st. Visitors to the island will be issued callsigns in accordance with current practice. (OPDX) ** **BREAK 1** Time for you to identify your station. We are the Amateur Radio Newline, heard on bulletinstations around the world including the W6VPZ repeater located atop Palos Verdes California.

ENFORCEMENT: COPPER THIEVES TAKE NORTH CAROLINA STATION OFF THE AIR A Morgantown North Carolina radio station was taken off the air after thieves struck sometime on Thursday December 4th. The owners of the station came to work to find thieves had ripped the building apart and done thousands of dollars in damage to the transmitter. The damage was so bad, the station can't even get on the air. Owner John Whisnant said that he knew something was wrong when he turned the dial to AM 760 and didn't hear a thing. He said that the thieves got in by cutting their way through a fence topped with barbed wire on the top. They then climbed through a window where they gutted the stations two transmitters of its copper wiring. The actual value of the copper wire taken is estimated at only about \$250 but the overall damage to the station will be in the area of \$50,000 to repair. (Published news reports) **

HAM HAPPENINGS: BOY

SCOUTS OF AMERICA NATIONAL JOTA REPORT The Boy Scouts of America have released their 2014 report for the Jamboree On The Air or JOTA held in October. The report shows an across the board decline in participation by Boy Scout Councils, individual Scouts, and by amateur stations. Attendance at JOTA took a big jump in 2012 with 18,566 Scouts and visitors. Since then the number has fallen by more than 5,000 to this year's total of 13,326. Likewise only 148 Boy Scout Councils were active this year. That number is down from 173 in 2013. Jim Wilson K5ND is the National Jamboree On The Air Coordinator. He says that 354 stations had registered this year, but only 205 submitted operating reports. This makes it difficult for organizers to have an accurate picture of exactly how many stations and scouts were really involved. But the news was not all negative. The report noted growth in the number of Radio Merit Badges earned in 2013 at 7208. In addition, some 6800 Amateur Radio Operator Rating Strips were sold in its first year. This uniform insignia indicates the wearer's availability as an Amateur Radio operator. (N7UR, Nevada Amateur Radio Newswire, ARRL)

HAM BUSINESS: DX ENGINEERING ACQUIRES BENCHER AND BUTTERNUT ANTENNAS Talmadge, Ohio-based **DX Engineering** has announced acquisition of Bencher Incorporated's antenna product lines. This includes the rights Bencher Skyhawk, Skylark, and Butternut antenna products. The deal does not include the Bencher line of Iambic Morse paddles. Bencher will remain located in Antioch, Illinois. (Press Release) **

The VLF Transmitter Cutler is the United States Navy's very low frequency (VLF) station at Cutler, Maine. The station provides one-way communication to the United States strategic submarine forces.

History

The station began operations in 1913 as a radio telegraphy station in Arlington, Virginia, at a facility next to Fort Myer. Although its broadcasts occasionally included band concerts and speeches, it was most famous for its nightly



time signals. The current Cutler Naval Station was built in 1960 and became operational on January 4, 1961.

Transmitter

Cutler Naval Station has a transmission power of 1800 kW, making it to one of the most powerful VLF-transmitters in the world. The transmission consists of a continuous encrypted FSK (F1B) signal at 200 baud. The transmitter operates on 24.0 kHz. In the past it operated on 17.8 kHz. The callsign of the station is NAA.

Antenna

The extensive antenna system consists of two completely separate arrays, designated the “north array” and the “south array”.

Each array consists of six diamond shaped panels supported by 13 towers. The system was designed to allow transmission by one array (single) or both arrays (dual). The central tower of each antenna system is 304 m (997.5 ft) tall. It is surrounded by six 266.7 m (875 ft) tall masts, placed on a ring with a radius of 556 m around the central tower. The remaining six towers of the array are 243.5 m (799 ft) tall and placed on a circle of 935.7 m (3070 ft)

around the central tower. [3]

Each radiating element (“panel”) of the antenna is spun between the central tower, two towers of the inner ring and one tower of the outer ring.

The masts are surrounded by free-standing lattice towers. At least one of them is partially guyed.

Antenna maintenance

Antenna maintenance is performed during the summer months. During maintenance periods the station transmits on one array while people work on the other array, which is grounded. This allows continuous transmission, crucial since the Navy closed Annapolis (NSS), the only other East Coast VLF station.

The region where the two arrays come close together, near the transmitter house, is called the "bow-tie area". There are two panels and three towers from each array in this area. The fields on the grounded array are highest in the bow-tie area due to proximity to the active array. The present station operating procedure, based on a past RADHAZ survey, does not allow work on the bow-tie area towers or panels while transmitting on the other array. There is an ongoing tower painting project at Cutler scheduled for completion over the next few years. Under the present station policy, completion of this project would require several months of total downtime, which is unacceptable.

Test transmissions have been arranged, during which only four panels of one array shall be connected to the transmitter. The objective of the four-panel tests was to allow painting and normal maintenance on the bow-tie area towers of an inactive array. A secondary objective of the tests is to determine the antenna operating parameters which had not been measured since changing to 24.0 kHz.

CAARA YEAR IN REVIEW



YEA



Happy faces and a lot of activity in and around the CAARA Clubhouse, the most radioactive amateur radio club on the North Shore with it's own clubhouse!





Can YOU solve the mystery of UVB-76?

The *Daily Mail* newspaper asks its readers if they can explain the mysterious radio signal on 4625 kHz known as the **Buzzer**

The mysterious transmissions from Russia are thought to have started in 1982 and have continued ever since. Up until September 2010, the station identified itself as UVB-76 (Cyrillic: #•-76), and it is still often referred to by that name.

The station transmits using AM with a suppressed lower sideband (R3E), but it has also used full double-sideband AM (A3E). The signal consists of a buzzing sound that lasts 1.2 seconds, pausing for 1–1.3 seconds, and repeating 21–34 times per minute. Until November 2010, the buzz tones lasted approximately 0.8 seconds each. One minute before the hour, the repeating tone was previously replaced by a continuous, uninterrupted alternating tone, which continued for one minute until the short repeating buzz resumed, although this no longer occurs since June 2010.

Read the Daily Mail story at

<http://www.dailymail.co.uk/sciencetech/article-2877988/Can-solve-mystery-UVB-76-Radio-station-buzzed-second-1970s-no-one-knows-why.html>

K1N Navassa DXpedition Team is Ready to Roll for Early February Start

The [K1N Navassa Island](#) team has announced that it will hit the airwaves in about 4 weeks. While the team's exact departure date from its staging area depends on the weather and the availability of US Fish and Wildlife Service ([USFWS](#)) transportation, it appears that K1N will be up and running during the first 2 weeks in February. It's been more than 22 years since Navassa Island (KP1) was last activated, and, according to the team, the USFWS will not allow another operation for at least another decade.

"This is a *once in 32 years* opportunity to work Navassa!" the team stressed in a December 30 media release. "Everyone can make the most of this opportunity by *listening* to the operator's instructions and following the

cadence of the operator."

The team has estimated that it will take 2 full days of helicopter shuttles to transport everything needed to begin operations. "Because of the helicopter logistics, this will be a no-frills, minimum-comfort operation for the team," the team said. "Meals will be MREs [military 'meals ready to eat']. The [shipping] container has been organized for a quick camp setup and quick radio/antenna setup to take advantage of every moment."

[ClubLog's DXCC Most Wanted List](#) puts Navassa Island at #1 on phone, #5 on CW, and #4 on digital modes. K1N will not be operating on all modes on all bands, the team's statement noted, but plans to limit most bands to a specific mode, "so that we can work the pileups down to the last little pistol."

According to the media release, a small team of USFWS personnel will accompany the radio amateurs, and the contingent will include "armed federal law enforcement officers."

The DXpedition's organizer, [The](#)

[KP1-5 Project](#), received word from the USFWS in October that it would be allowed to activate Navassa Island in early 2015, taking advantage of a time of year when bird nesting activity is minimal.

Headed by KP1-5 Project President Bob Allphin, K4UEE, the team includes 15 experienced operators. Navassa is more than 100 miles from the nearest helicopter staging point, and as many as 10 round trips may be needed at the start and finish of the operation.

NEXT ISSUE:
Winter Field Day photos of the contest held at the clubhouse by Ruth-WW1N.

New pictures of "Vintage Room" as it is being built on the second floor by Jake and Jon