



CAARA Newsletter



AN ARRL AFFILIATED CLUB

DECEMBER ISSUE- 2012



President's Desk

by Stan-W4HIX

November 2012

Things continue to hum along at CAARA. More gear is making its way to ebay, another successful scholarship breakfast and just some generally enjoyable time spent with fellow members.

Some work is going on for VHF digital operations. We've been delayed a bit because of a failed Internet router that took a while to replace and configure. I have to admit that I gave it the old college try, but it took Dick Ober to really get things straightened out and back on the air. Fixing the router also got our security camera and seismometer communicating with the outside world.

We now have a new stainless steel chimney liner and cap. You could tell that things were bad when the brown streaks on the downstairs chimney were being replaced with a white fuzzy material. Anyone wanting to volunteer to strip off the old plaster from the chimney inside see Jake K1LDL.

The new 2m repeater has been ordered. It is a Kenwood TKR-750. I've printed out the manual and there's a lot to learn. Looks like a very nice piece of gear—one that we should be able to have serviced and get spare parts for in the future. I believe that there is a movie night fundraiser coming up soon to help pay for the new repeater—the last movie night was a lot of fun, so come on down.

It's that time of year for our annual Christmas party. I hope that everyone can make it—it is an enjoyable evening with great food, some really great raffle prizes and good fellowship. Be sure to contact Dean KB1PGH if you are coming and what you are bringing. It is a great time to meet up with folks,

especially if you haven't been able to make it to the club.

That's it for now—see you around the clubhouse.

73 de Stan, W4HIX

Clerk's Corner by Dean-KB1PGH

CAARA Christmas party will be held on Saturday December 8th at St John's Episcopal Church Hall at 48 Middle Street in Gloucester. The same place as the past couple of years. The doors will open at 5:00 PM for set up and the party will start at 6:00 PM. We will follow the same theme as in years past with a pot luck dinner. Followed by a Yankee Swap and then a door prize raffle at the end. We will be asking a \$5.00 per person entrance fee at the door in order to cover the cost of the hall. For the Yankee Swap, if you wish to participate the gift price limit is \$10.00 and feel free to be as creative as you want. At the end we will hold the door prize raffle so make sure to bring some extra cash for the tickets for the raffle. Tickets will be \$1.00 for one or 6 for \$5.00. All proceeds from the raffle go back into the club coffers. Parking for the dinner can be found next to the hall on Washington street across from Tedesci's market. If your coming from RT128 Washington Street is the first exit off of the Grant Circle rotary. Just follow that road in about a mile. You can call on the repeater if you have trouble finding your way in. If you plan on attending please e-mail me at dburg101@aol.com so we know how many to set up for and what your bringing for the pot luck dinner. If your stuck on what to bring and need ideas please let me know as well.



We are continuing our yearly membership dues drive in December as well. Now's the time to update your membership status for 2013. We did not send out

**CAARA CHRISTMAS PARTY DECEMBER
8 AT 6PM. SEE DETAILS ON PAGE 9**

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 Club 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.

mailers this year in order to save money on postage for the club, but you can easily renew your membership on the club website at www.caara.net. Just click on the "Payments and Donations" link and you can pay by your credit card or your Paypal account. Please make sure that you print a receipt for your records. Please remember that if you make any donations above your dues they are fully tax deductible since CAARA is a IRS registered 501 C 3 non profit charitable organization. You may still mail in your dues to the CAARA clubhouse at 6 Stanwood Street, Gloucester, Mass 01930 or give them to Hank at the upcoming Christmas Party. A big thanks goes out to those who have already paid their membership dues as the club just spent \$800.00 to line the chimney flue and install a chimney cap at the clubhouse. In the next order of business, we are looking for the membership to help find guest speakers and do presentations themselves for the upcoming monthly membership meetings in 2013. If you have any ideas for the meetings please e-mail me at dburg101@aol.com.

If you're wondering how the club's finances are doing CAARA Board members Hank McCarl W4RIG and Dick Ober K1VRA have made some detailed improvements on reporting the monthly income and expenses. Please go to the membership section on the club website and check it out. You can also find out the monthly meeting minutes there as well. That's it for now. See you in January 2013!

CAARA MEMBER TIDBITS

The CAARA Newsletter is inviting the membership to submit items for publication. So consider yourself asked to help make our club newsletter full of interesting amateur related items. We invite new hams and old timers to write articles, submit reviews of amateur equipment. Take a picture of your ham shack, along with a write up for the "Shack of the month" segment. Don't forget that our club's newsletter is seen worldwide and is an informative way to spread the word of CAARA and ham radio. You can send all your submittals to CAARA Newsletter editor Jon Cunningham, K1TP at k1tp@arrl.net.

Caara member Bill Canty W1OKD reported into CAARANET tonight and said that he has talked to Ralph's wife and she stated that he is currently staying at the Seacoast nursing home, which is located behind Addison Gilbert Hospital in Gloucester. She also said

that he is currently receiving visitors during the day so for those CAARA members who know Ralph- W1RK are welcome to stop by and say hello. I have no room number or telephone so hopefully we can get that information out if someone else knows.

CAARA 2012 ARRL FIELD DAY RESULTS

The ARRL has released the results for the 2012 Field Day event back in June. Under the club call W1GLO, CAARA made 207 contacts with a total of 1908 points under 3A. Considering all the issues we faced us under, "What could go wrong?". That's not too bad. We also had 45 visitors to the site. The NSRA had 2263 contacts with a point total 9282 under 3A with 40 site visitors so congrats go out to the North Shore Radio Association.

73

Dean Burgess KB1PGH
CAARA Clerk and ARRL EMA Public Information Officer

Steven Spielberg's 'Lincoln'

Members of the **Morse Telegraph Club**, an association of retired railroad and commercial telegraphers, historians, radio amateurs and others with an interest in the history and traditions of telegraphy and the telegraph industry played an important role in the production of '**Lincoln**.' According to James Wades (WB8SIW), International President of the Morse Telegraph Club, several members provided period telegraph instruments for use in the construction of the War Department Set. Most notably, Tom Perera (W1TP), Derek Cohn (WB0TUA), Kevin Saville (N7JKD), and Roger Reinke provided sufficient telegraph instruments to equip the sixteen operating positions portrayed at the War Department.

Jim Wilson (K4BAV) and his son, Matt Wilson had minor roles as Extras. Jim also worked with production staff and the actors to explain telegraph technology and the role of the telegrapher. Jim Wades (WB8SIW) who was employed as a Technical Advisor for the production, worked with set designers over a period of months to develop the War Department telegraph scenes. Mr. Wades coordinated the process of procuring the necessary instruments and served as a historical consultant as the telegraph scenes were developed.

HAMS HELPING HAMS, ANOTHER BENEFIT OF BELONGING TO THE CAPE ANN AMATEUR RADIO ASSOCIATION



Hank MCarl-W4RIG, Jake Hurd-K1LDL and Bill Poulin-WZ1L help new CAARA member David Sweeney-KB1YVW check the wattage output of his Kenwood transceiver during a recent Sunday morning at the clubhouse.

NEW CHINESE DATA MODE CP-16

ANNOUNCED China makes news again this week with word that hams in that nation have developed their own new data mode. One based on characters in the Chinese alphabet. Amateur Radio Newline's Bruce Tennant, K6PZW, has the details: — Up until now, most amateur radio data modes have been based around the English alphabet. The problem is that does not work well for languages that are built around graphic characters rather than letters. Because of this the Chinese Radio Amateurs Club has been working since 2011 on a project to develop a new data mode called CP-16, which stands for Chinese character Pattern of 16 x 16 dot-matrixes. To achieve the goal of allowing easy communication at very low signal to

noise ratio, CP-16 is designed to directly transmit the graphic image of Chinese a character one line at a time at about 10 milliseconds per line but adjustable according to propagation and other conditions. This makes the total transmission speed of 2 to 5 characters per second, which is suitable for real-time reading. To make the system work, CP-16 uses 16 on-off keyed audio carriers spaced at 17 Hz intervals, with the total bandwidth under 400 Hz. A CP-16 message can be received by any Software Defined Receiver or the combination of an ordinary SSB receiver and a computer equipped with any type of S-D-R audio analyzing software that produces the traditional waterfall display. The text will be directly shown on the waterfall graph.

WHAT COULD GO WRONG WITH HARDLINE?



Well, maybe your neighbor decided to end his tv and radio interference from your high powered station by placing a nail through your hardline!

MYSTERY CHINESE SIGNALS BEING HEARD ON HF BANDS

Wolfgang Hadel, DK2OM, who is the IARU Region 1 Monitoring System coordinator reports that there are some strange signals coming from China and making their homes on various parts of the Amateur Service spectrum. DK2OM says that since October 25th hams have been hearing from mysterious signals on 7, 14, 21 and 21.010 MHz. He notes that they are also audible in the shortwave spectrum at 15, 18, 19 and 20 MHz as well. DK2OM says that initially the A3E signals sounded like grunt or cow mooing. Now reports are that they have become very strong multi-tone signals with a carrier and both sidebands and heard every morning. He speculates that this might become kind of special kind of encrypted broadcast or a new generation of Over the Horizon radar but at the moment its actual purpose is unknown. For further details visit www.iarums-r1.org/ and look under

“Latest Intruder News”. There you can also find a link to a recording of this new intruder to the High Frequency bands. (IARU-R1)

THREE ASTRO-HAMS RETURN TO EARTH

Some names in the news. First up are ISS Expedition 33 Commander Suni Williams, KD5PLB, and Flight Engineers Yuri Malenchenko, RK3DUP, and Aki Hoshide, KE5DNI. All three returned to Earth on Monday, November 19th after 127 days in space. The descent and landing took over 3.5 hours and occurred at 5:56 am U-T-C. This with a successful touchdown to the north-east of the town of Arkalyk in the Ukraine. Expedition 34 arrived at in October is now in charge of ISS operations. It consists of Russian cosmonauts Oleg Novitsky and Evgeny Tarelkin, as well as NASA astronaut Kevin Ford, KF5GPP. They will spend five months on the orbiting laboratory. (NASA, Southgate, published news reports)



MEET GLOUCESTERS NEW POLICE CHIEF

The Gloucester CERT team held their monthly meeting on Tuesday November 13th at the Fuller School. For the November meeting, the city of Gloucester's new Police Chief Leonard Campanello stopped by and introduced himself to the team. Mr Campanello gave a talk on what his plans are for the future policing of th city.

He also stated that he was quite impressed with the citizens of Gloucester and their dedication to volunteerism in supporting public safety through the CERT team and amateur radio. He said that he was grateful for the activation of the city's emergency operations center during Hurricane Sandy. He went on to say that the ongoing storm damage information that was gathered by CERT members and CAARA saved his department countless hours of trying to coordinate his officers, cruisers and other public safety agencies to solve related storm damage.

In the photo above Gloucester CERT Team leader Carol McMahon introduces Mr Campanello to the CERT team. To wrap up the meeting Carol read a letter from Gloucester City Mayor Carolyn Kirk where the mayor thanked the members of CERT and CAARA for their service to the citizens of Gloucester during Hurricane Sandy. *by Dean Burgess-kb1pgh*

RADIO IN SPACE: DARPA RECRUITING AMATEUR ASTRONOMERS FOR SPACE JUNK SURVEILLANCE

The U.S. military is launching a far-out neighborhood watch. But instead of warding off burglars, it's recruiting amateur astronomers to assist in tracking orbital debris and there- by help in avoiding possible satellite collisions in Earth orbit. The sky-monitoring project, called SpaceView, is a Defense Advanced Research Projects Agency or DARPA program that enrolls the talents of amateur astronomers to help protect American space assets from orbital trash. These dangerous objects include spent rocket stages, defunct satellites and fragments from other spacecraft that are the result of erosion, explosion and collision. DARPA says that a collision between one of these small pieces of debris and a satellite could release more than 20,000 times the energy of a head-on automobile collision at 65 miles an hour. The concept of the SpaceView program is to provide more diverse data to the Space Surveillance Network. This is a U.S. Air Force program charged with cataloguing and observing space junk and debris to identify potential near- term collisions. NASA estimates more than 500,000 pieces of hazardous space debris orbit the Earth, threatening satellites that among other things support peacekeeping and combat missions. For more information on DARPA's SpaceView project take your web browser to www.spaceviewnetwork.com.

ON THE AIR: SPECIAL EVENT STATION GB0IDD TO CELEBRATE UN INTERNATIONAL DAY OF PERSONS WITH DISABILITIES

The United Kingdom's Wakefield District Radio Society will be operating the special event station GB0IDD over the weekend of December 1st to the 3rd. This in celebration of the United Nations International Day of Persons with Disabilities. This United Nations sponsored Day of Action takes place each year. Its overall aim is to raise awareness and understanding of disability issues and to promote the independence, inclusion and choice of disabled people and their rights, abilities and well-being worldwide. This year's theme is Removing Barriers to Create an Inclusive and Accessible Society for All. Operation will be mainly on 20 through 10 meters and you should confirm this contact electronically via e-QSL only. Some 30 percent of the Wakefield District Radio Society members are disabled in some way, (GB0IDD)

DEMOCRATIC LAWMAKERS WANT HEARING ON HURRICANE SANDY COMMS FAILURES

A group of top Democrats on the House Energy and Commerce Committee is calling for a hearing to be held on the effect Hurricane Sandy had on the reliability of Internet, mobile, telephone and other communications networks. This after the massive storm whipped across the East Coast. In a letter sent to committee chairman Representative Fred Upton and Communications and Technology sub-panel chairman Representative Greg Walden, W7EQI, the Democrats emphasized that network outages put lives at risk and noted that the storm knocked out 25 percent of cell towers in the affected areas. They argue that a hearing would let lawmakers examine vulnerabilities found in wireless and mobile networks during the storm and help with preparation for the next one.

US AND MEXICO JOIN FORCES TO COUNTER CROSS BORDER TRAFFICKING OF STOLEN MOBILE DEVICES

Its going to get a lot harder to activate a stolen smart phone or other broadband device in both the United States or Mexico. Amateur Radio Newline's Norm Seeley, KI7UP, has the details: — FCC Chairman Julius Genachowski has announced the signing of a new bilateral agreement with Mexican Communications Under- Secretary Hector Olavarria Tapia. This to combat the theft and cross-border trafficking of mobile devices between the United States and Mexico. The agreement builds further on the FCC's 'PROTECTS Initiative', and the recent participation of U.S. and Mexican mobile providers in an international stolen device database. This database will prevent mobile devices stolen in U.S. cities from being re-activated in Mexico, and stolen Mexican devices being re-activated in the U.S. market. U.S. carriers were able to join the database from October 31st. But it does not end there. The agreement also commits the FCC and Mexico's Secretariat of Communications and Transport to extend their inter-agency cooperation to crack down on the international trafficking of stolen mobile devices through a series of new action steps using technology and transparency. Among other measures, Chairman Genachowski and Under-Secretary Olavarria agreed that the respective agencies will closely track, analyze, and report progress in preventing mobile device theft.

Amateur-Radio Emergency Services and Disasters

Author: Don Tuite

The second morning after Hurricane Sandy hit the East Coast seems like a good time for Electronic Design readers to think about ham radio and emergency response issues.

I got involved in these issues myself when my neighbor, Dave, told me about his experiences after the Loma Prieta earthquake in 1989.

Dave's a lawyer, so he was down at the Courthouse when the quake struck. At the time, the courthouse and the police station were co-located. The police station had (still has) a ham radio station (HF, VHF, UHF) on the premises. Those were both good things, because what there was of a public safety communications structure in Northern California came down with the quake, and for all anybody knew, so had the overpasses on 101 and I-280, the main north-south corridors. (They hadn't, but were rumored to.)

For the first long hours, the mayor and the police and fire chiefs had no idea what was going on. During that period, Dave, who was part of a trained and drilled ham radio emergency services organization, got on the air, into an emergency net and filled them in.

You're probably thinking: *That was 1989. All they had was spotty Gen-1 cell coverage. Today, the mayor and the chiefs would be communicating on their iPads before the first aftershocks rippled under their feet.* So here's Important Thing #1:

1. *Even today, the infrastructure for cellular communication runs mostly on underground fiber.* Fiber breaks. I know a place around here where, a few years ago, some persons not yet publicly identified, went down some manholes and cut a few fiber links. In the ensuing hours, people in hospitals, ambulance services, police and fire stations, all thought, "Gee, this is a slow night."

Citizens who were calling those emergency-response guys couldn't get through by voice, so they did what? *They texted.*

Texts looked like they were getting through, but they were actually just being buffered in the cell towers.

Fortunately, it *was* a slow night. Eventually, hams did play a part in getting things straightened out, but it took most of the night and into the morning. Now, here's Important Thing #2

2. *Ham radio has changed; many citizens' desire to serve in emergency communications is a big part of that.* When I got my general license in 1960, I had to take a bus and a subway to the Federal Building in downtown New York, demonstrate an ability to send and receive Morse code at 13 words/minute, draw a Hartley oscillator, and calculate some simple resonances and stuff. Today, the code requirement is gone, and most of the questions are about differences among various operating modes and regulations. Most people can sit through a cram course and pass the test the same day.

In my experience, the reason many of them are doing that is to get involved with emergency communications. (Amusingly, some of them also go on to become CW DX-hounds for the sport of it.)

Now here's the *most* important thing.

3. *One can't just get a license, wait for a disaster, and show up.*

You're a liability if you haven't had training. The guy behind the glass at the police station won't give you the time of day. This is not a decision you make and sit on until the stuff hits the fan.

You have to work at it. The best place to start is with Community Emergency Response Team (CERT) training. That's because it's more important that you and your neighbors work together to secure your home and neighborhood and collect some information about damage and injuries to communicate to the public safety people than that you show up and immediately get cluelessly underfoot.

CERT training will also introduce you to the Incident Command System, giving you some idea of what might need to be communicated, and by whom and to whom.

There's a choice of potential organizations. The classic is the Amateur Radio Relay League's (ARRL's) ARES and RACES organizations. They're explained [here](#):

But that's not the only option, and you may find that, in your area, other groups are better organized, or have better leadership, or for whatever reason are more compatible with you. I'm a member of the local ARES group,

which has excellent organization and a wide range of practice activities. (For example, you have no idea how challenging it can be to participate in a networking operation until you have been involved in keeping up with all the groups participating in a city Fourth of July parade. Or with a day-long bicycling event for hundreds of participants over a hundred-mile course with sag-wagons, aid stops, lost bikers, and terrain that challenges the use of repeaters.)

Alternatively, in some areas, the Red Cross may be the most interesting group. When one of our communities had a major gas main explode, killing eight people and leveling 35 homes, there was a massive evacuation, and the job of the Red Cross was to manage the task of finding food and shelter for all those people. It was a massive logistics effort that the trained Red Cross hams executed brilliantly.

Locally, we also have a special unit of volunteer communicators who work with the county Sheriff's organization, particularly on Search-and Rescue activities. These are all good alternatives, but you wouldn't have time to work with them all. It's a good idea to look around before you decide where to commit your good intentions..

4. You will learn useful stuff.

Quick! What's the most unexpectedly dangerous kind of common vehicle in a highway crash? My CERT trainer, a Sheriff's deputy, says it's a pool-services truck. Mix those chemicals and you can send out a cloud of chlorine gas across a whole neighborhood. That's good to know any time you're out on the freeway.

Maybe more importantly from a ham radio perspective, is that you learn where stuff is. Most of our local hospitals, schools and firehouses, even the manager's office at the local general-aviation airport, have ham antennas, at least for 2-meters and 440-MHz. Where are the antenna drops? The local volunteers know, and without that knowledge, the drops are useless.

Then, what's the drill for getting into the police station? What do you say at the intercom by the door? Once you get in, where's the ham radio equipment? How does it work? How do you run a net with simplex, if that's what's called for? What are the fallback plans when Plan A is a bust? What's it like to "shadow" a politician or an incident commander during an event? There's stuff you learn from being taught and stuff you learn from doing.

If you're reading this blog, you're probably an alpha geek. You may or may not have a ham license, or if you once had one, it may be defunct or out of date. Or you may be young enough to have decided that ham radio is just too "twentieth-century," too much "getting the serum through to Nome" to be relevant. Well, yeah. Until the next time the text messages start backing up in the cell-tower buffers and the freeways are blocked by fallen overpasses. . . *or the subway tunnels are full of seawater.* Give it a thought. You're needed. *courtesy Electronic Design.com*

CAARA CHRISTMAS PARTY

The annual CAARA Christmas Party will be held on Saturday December 8th at St John's Episcopal Church Function Hall on 48 Middle Street in Gloucester. The same place as the past couple of years. The doors will open at 5 PM for set up and the party will start at 6 PM. We will follow the same theme as years past with a Pot Luck dinner, Yankee Swap and a door prize raffle at the end. The parking lot is off of Washington Street. As the date gets closer we'll put out the call of who is coming and what pot luck dishes to make. So mark your calendars!

DECEMBER 8 AT 6PM



FCC Seeks to Assign Entire Amateur Portion of 160 Meter Band to Primary Status to Amateur Radio Service, Proposes New LF Amateur Band at 135.7-137.8 kHz....COURTESY ARRL WEBSITE

On Tuesday, November 20, the FCC released a *Notice of Proposed Rulemaking* ([ET Docket No. 12-338](#)) that proposes to amend Parts 1, 2, 74, 78, 87, 90 and 97 of the Commission's rules. [Part 97](#) governs the Amateur Radio Service. These changes will implement allocation decisions from the 2007 World Radiocommunication Conference (WRC-07) that concern those portions of the radio frequency spectrum between 108 MHz and 20.2 GHz and make certain updates to the rules in this frequency range.

Most of the *NPRM* does not concern the Amateur Radio Service, but the FCC is requesting comments on the three parts that do: changing the allocation to the amateur portion of the 160 meter band, allocating a new Amateur Service band at 135.7-137.8 kHz and cleaning up the rules for the 10.0-10.5 GHz band. Comments on these proposed rules changes will be accepted until 60 days after the *NPRM* is published in the [Federal Register](#) (this can take up to six weeks after release of the *NPRM*). Reply comments will be accepted until 90 days after publication in the *Federal Register*.

Allocation Changes to 160 Meter Band

The FCC is proposing to change the Amateur Radio Service allocation to the 160 meter band (1800-2000 kHz), reallocating the 1900-2000 kHz segment to the Amateur Radio Service on a primary basis. In the *NPRM*, the FCC noted that "the ARRL has identified the 160 meter band and the amateur HF bands as '[b]y far, the heaviest-used [Amateur Service] allocations.'"

Historically, the 1715-2000 kHz band was allocated exclusively to the Amateur Service. In 1953, the FCC removed the 1715-1800 kHz segment from the Amateur Radio Service and allocated the 1800-2000 kHz band to the Amateur Service on a shared basis with the Radiolocation Service. Then in 1983, the FCC allocated the 1800-1900 kHz band to the Amateur Service on an exclusive basis and the 1900-2000 kHz band to the Radiolocation Service on a primary basis for federal and non-federal use and to the Amateur Service on a secondary basis. The FCC stated that "[t]he purpose of allocating this band [1900-2000 kHz] to the Radiolocation Service was to provide reaccommodation spectrum for radiolocation users that will have to move out of the 1605-1705 kHz band when AM broadcasting is implemented in that band." The AM broadcasting proceeding was resolved in 2000, and a review of the FCC's Universal Licensing System (ULS) database finds that no one is licensed to use this non-federal Radiolocation Service allocation.

Currently, federal use of the 1900-2000 kHz segment is light, with only 10 assignments authorized to operate in this segment. "A single federal assignment authorizes land and mobile stations in the Radiolocation Service to transmit on 1922 kHz using a necessary bandwidth of 600 Hz within a protected radius of 193 kilometers centered on San Diego, California," the FCC noted in the *NPRM*. "All other federal assignments in the 1900-2000 kHz band are for unallocated uses, and thus, these assignments operate on an unprotected and non-interference basis."

The FCC is proposing to amend the US Table of Allocations and remove the federal and non-federal Radiolocation Service allocations from the 1900-2000 kHz band and the raise the secondary Amateur Radio Service allocation to primary status because "there appear to be few (if any) Radiolocation Service stations operating in this band," it said. "In addition, we note [from WARC-79] that 'this [Radiolocation Service] allocation was made for reaccommodation purposes and not to provide additional spectrum for radiolocations needs,' that the Commission has concluded its AM Expanded Band proceeding that would have prompted non-federal RLS licensees to relocate to the 1900-2000 kHz band and that this band was historically allocated to the Amateur Service on an exclusive basis."

New Amateur Service Band at 135.7-137.8 kHz

In the US, the 130-160 kHz portion of spectrum is allocated to the Fixed Service and the Maritime Mobile Service on a primary basis for both federal and non-federal use. Delegates at WRC-07 allocated 135.7-137.8 kHz to the Amateur Radio Service in all ITU Regions on a secondary basis. Delegates also chose to restrict the

use of this low frequency allocation to those Amateur Radio stations transmitting with a maximum equivalent isotropically radiated power (EIRP) of 1 W, as set forth in RR 5.67A.

Even though there are no non-federal stations in the Fixed Service or the Maritime Mobile Service that are licensed to operate at 135.7-137.8 kHz and federal use of this portion of spectrum is light, the FCC noted that electric utilities operate Power Line Carrier (PLC) systems in the 9-490 kHz band for “communications important to the reliability and security of electric service to the public.” In ET Docket No. 02-98, the FCC considered allocating the 135.7-137.8 kHz band to the Amateur Radio Service on a secondary basis and examined the potential for amateur transmissions to cause harmful interference to the PLC systems. At that time, however, the FCC declined to do so “after finding the potential for interference between amateur operations proposed at that time and the incumbent PLCs, and noting the importance of the PLC operations in helping maintain critical electric infrastructure.” The FCC noted the potential for some limited amateur operations in this band under individual experimental licenses and observed that such operations would “allow empirical data to be developed on the sharing possibilities in this band for future consideration.”

Now that 135.7-137.8 kHz is now allocated internationally to the Amateur Radio Service on a secondary basis in all ITU Regions, the FCC has concluded that “it is an appropriate time to re-examine the potential for shared Amateur Service-PLC use of this band.” It stated in the *NPRM* that it is seeking comments on whether 135.7-137.8 kHz band should be allocated to the Amateur Service on a secondary basis in accordance with RR 5.67A. “Because PLC systems operating under Section 15.113 of the rules serve important functions, such as tripping protection circuits if a downed power line or other fault is detected in the power grid, we would only consider adding an amateur allocation if we were comfortable that Amateur Radio and utility PLC systems could successfully co-exist in this band,” it stated in the *NPRM*. “We seek comment on the advantages and disadvantages, and other costs and benefits associated with changing our rules. For example, what benefits might accrue to the Amateur Radio community? To what extent do utilities deploy PLC systems on distribution lines in the 9-490 kHz band under our Part 15 rules, and how would those operations be affected were we to add a new secondary amateur radio service allocation in this band? What specific actions would PLC systems operators need to take if there were a secondary amateur radio service allocation in the band, and what are the associated costs?”

In addition, the FCC stated that it is looking for comments on the whether the concept of requiring individual amateur stations to be “quasi-coordinated” for fixed use at a specific location still holds merit. The FCC did not pursue this option in 2003. “Are there other steps, such as limiting operating privileges in this frequency band (e.g., to Amateur Extra Class licensees) that would better facilitate amateur use of the band?” the FCC asked. “We also seek comment on the relevance of studies that discuss the potential for in-band Amateur Service radio transmitters to operate compatibly with PLC systems in light of any developments since our 2003 decision. In particular, we seek comment on the appropriate maximum field strength level and minimum separation distance from PLC systems for secondary Amateur Service operations in this band.”

Cleaning Up the 10.0-10.5 GHz Band Rules

With the concurrence of the National Telecommunications and Information Administration ([NTIA](#)), the FCC proposes to amend the Federal Table by revising the “10-10.45” GHz band and the reference to “G2” to read “10-10.5” and “G32,” respectively. In the WRC-07 Table Clean-up Order, the FCC combined the 10-10.45 GHz and 10.45-10.5 GHz bands in the Federal Table. In doing so, the frequency band was inadvertently not changed to 10-10.5 GHz. In addition, the reference to G32 was mistakenly changed to G2.

The FCC will also revise the text of three footnotes (US58, NG42, NG134) that pertain to the 10-10.5 GHz band. First, it will revise US58 by adding the existing Amateur-Satellite Service allocation to the list of permitted non-federal services in the 10-10.5 GHz band so that this footnote correctly lists all permitted non-federal services, and it will renumber this footnote in frequency order as US128. Second, it will combine the text of NG42 and NG134 (which require that non-federal stations in the Radiolocation Service not cause harmful interference to the Amateur Service in the 10-10.5 GHz band and that these stations not cause harmful interference to the Amateur-Satellite Service in the 10.45-10.5 GHz sub-band, respectively) and renumber the new footnote in frequency order as NG50.



Full factory production begins December 1st with estimated delivery date of December 15th. Prepaid orders are first come, first served for our initial shipment of 100 radios.

FREE ACCESSORIES — First 100 prepaid orders receive a UBS Programming Cable (\$18.95) and a 3 meter Head Separation Cable (\$14.95) for FREE.

\$275.00.....FROM <http://wouxun.us/>

www.tlcfun.com

This is something that every ham in America needs to know about. The documentary alone will literally blow you away. This is a great opportunity for hams everywhere to walk the talk when it comes to taking our knowledge and passions to the community. I promise you'll be motivated to do something. It's that powerful!

Those in the ham community know me as someone who will always take the time to answer every e-mail whenever a ham has a question or needs help. This is my time to ask you for your help. I am not asking for money. Social media can literally reach millions in a few days. So please, do whatever you can to help make this happen.

One last thing, after watching the Documentary, would you please hit the Donate button? It's something we feel every ham will be proud of.

Thank you.

Jim & Shelly Phillips AB2CD AB1CD

Joe Taylor, K1JT has a new digital mode called JT9

Great new mode. I just had my first JT9 QSO this morning. It's a lot like WSPR but with loggable QSOs with callsign exchange and signal reports.

Mostly designed for top band but it works for the rest of the spectrum as well. Here's a couple links, This is a discussion:

<http://www.amateurradio.com/wsjt-x-f...#comment-36058>

Here's a download page:

<http://physics.princeton.edu/pulsar/K1JT/wsjt.html>

And here's a place to sked and work the mode in real time. Very helpful.

<http://obriensweb.com/sked/index.php?board=digitalradio>

If you're an adventurous ham looking for ways to increase DX and lower power, here's another great mode from Joe Taylor.

NEW WIND TURBINE JUST A FEW HUNDRED FEET FROM OUR 2METER REPEATER SITE

The imminent construction of the largest wind turbine in Massachusetts on the property of Varian Semiconductor Equipment Associates in Gloucester is a big deal, both literally and figuratively. When completed, the turbine will feature a 100-meter tall steel tower, and a 100-meter rotor, which will power a 2.5 megawatt generator. Once completed, the structure will be the largest of its kind in New England. “There are several turbines in Massachusetts, but I understand this is the largest to date,” explains Varian Director of Facilities Rick Johnson. “There are four in Plymouth, Mass., that are 2.0 megawatt on 80 meter towers. There are others in New Hampshire, Maine, Rhode Island, but I understand this is the largest in the area at this time.” Even delivery of the parts needed to construct the turbine could be termed a “big deal.” The turbine components were delivered overseas from Wismar, Germany to Boston. From there, the components were loaded onto a barge for transport to Cruiseport Gloucester, with Cruiseport allowing use of the pier and parking lot for off-



loading and transportation to the Varian site. Police escorts were necessary for the next leg of the journey. “We used state and local police,” explains Johnson. “Very large pieces were transported over the road very slowly; [it took] two hours for a two-mile trip.”

With the components now on site at Varian (employees have had to make alternate plans for parking as the company has had to close two parking lots for storage and construction purposes), construction is already under way for the turbine, with the “final lift” of the rotor estimated for Oct. 31, and National Grid “Witness Testing” – the process by which the turbine can gain final grid interconnection approval – scheduled for Nov. 19. JK Scanlan and Baldwin Crane and Equipment have been tasked by Varian to handle site storage and erection logistics for the turbine.

“The construction portion – foundation, electrical – was a regular size-job for us,” says Johnson. “The logistics and erection were a whole new ballgame.”

Once completed and functioning, it’s estimated that the turbine will produce approximately 9.0 million kWh, which translates to a huge savings in power consumption for the company, and reduce emissions into the

environment.

“This will supply more than 30 percent of our power consumption here at Varian,” explains Johnson. “By not purchasing that power from the grid – which is generated by fossil fuels – Varian will be improving the regional air quality by reducing carbon dioxide by 3,900 tons a year, nitrous oxide by 0.7 tons a year, sulfur dioxides and particulates by 0.9 tons a year. He adds, “Ninety-nine of the power generated will be used on site here at Varian. One percent will be sold back to the grid at wholesale price.”

The inclusion of the wind turbine makes sense for a company like Varian, which is a 24-hour-a-day, year-round operation.

“Varian has a great electricity use load profile; we are located on one of the strongest, land-based wind production sites in Massachusetts. Wind is much more efficient, with a faster return on investment than solar,” said Johnson.

The erection of the turbine marks the end of a process that began almost a decade ago.

“It has been nine years from initiation of the Varian turbine to delivery,” says Mayor Carolyn Kirk.

“During that time, it took tremendous effort and coordination of many people including City Council, Planning Board, city staff, mayor’s office, the neighborhood and the company. It is a thrill to see such efforts come to fruition.”

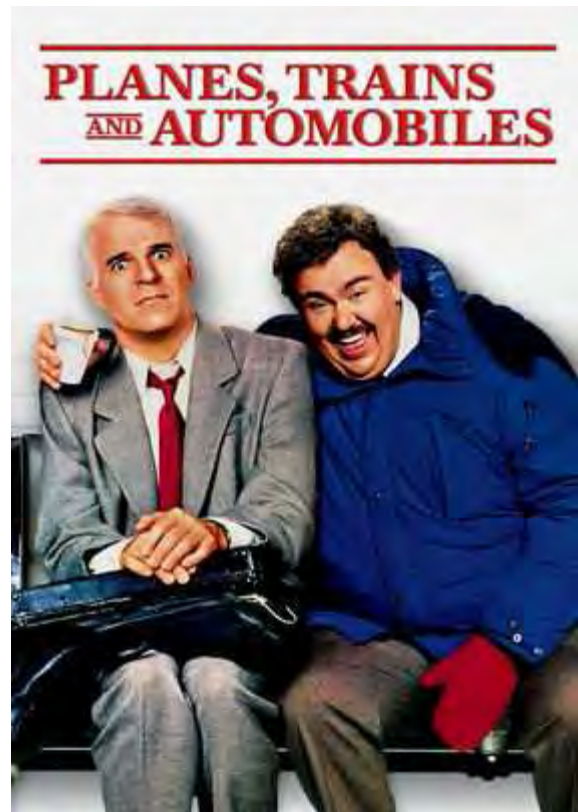
Kirk said at a Sawyer Free Library meeting Monday night that Gloucester Engineering is also planning to install two wind turbines. She predicted the savings for the city could be \$450,000 a year by powering municipal buildings with wind power.



MOVIE NIGHT AT THE CAARA CLYBHOUSE

**\$5.00 INCLUDES THE MOVIE,
SOFT DRINKS, AND
POPCORN!**

**SATURDAY AT 7PM ON
DECEMBER 15TH!**



Think you’ve had a bad day? At every turn, marketing exec Neal Page’s (Steve Martin) plans to get home to his family for Thanksgiving get foiled, and somehow the loudmouthed, idiosyncratic fellow traveler Del Griffith (John Candy) is always right next to him driving him nuts. Will this odd couple make it to Chicago without killing each other? Ben Stein and Edie McClurg also appear in writer-director John Hughes’s comedy classic.

CAARA Activates Gloucester EOC for Hurricane Sandy !!



The Cape Ann Amateur Radio Associations Emergency Communications Group, along with Gloucesters CERT team, activated the city's Emergency Operations Center at the Fuller School all day Monday October 29th in order to assist the city during Hurricane Sandy. Amateur Radio Emergency Services provided back up communications starting at 6:00 AM Monday morning with CAARA President Stan Stone W4HX beginning the storm net on Caara's 2 meter frequency of 145.130 MHZ with no PI tone. Then at 3:00 PM Ruth Hodsdon WW1N arrived at the EOC to back up Stan. Then at 6:00 PM Dean

Burgess KB1PGH arrived at the EOC to take over net control with Ruth until 10:00 PM Monday evening. During those 16 hours several CAARA members throughout Cape Ann reported in weather damage related information, along with power outage information to the EOC and that information was passed along to the proper officials. Hams at Gloucester EOC were able to establish a link with Essex EOC at their fire station as well. We would like to thank the following amateur radio operators for checking into the emergency nets and passing along information:



K1TP- Jon Cunningham, K1LDL- Jake Hurd, WA1JG- John Graves, W1DDX- Jim Mondello, AA3JE- Curtis Wright, W1OKD- Bill Canty, W1MAW- Mark Watson, KB1PVN, KB1WGI- Ron Beck, W1RAB- Ross Burton, W4RIG- Hank McCarl, WB1EAZ- Ron Richards, WE2Q- Craig Hodsdon, K1VDE, K1LJO- Rob Chadbourne, K1VDE- Gilbert Guerin, KB1VST- Nate Dewolf. There were 23 total volunteer man hours from CAARA at the EOC alone, not to mention about another 100 volunteer hours combined from those reporting stations that monitored the storm.

Submitted by Dean Burgess- KB1PGH

Radio Hams first to discover disappearance of Sandy Island

The *Daily Mail* newspaper notes that radio amateurs first reported **Sandy Island** didn't exist over 12 years ago.

It seems that although Sandy Island appears on Google maps, world maps and marine charts mid-way between Australia and New Caledonia it doesn't in fact exist.

The Daily Mail newspaper refers to a story by **Richard Chirgwin** that appeared on *The Register*. It says the hams in question reported that they sought Sandy Island in 2000 because its existence would have disqualified the Chesterfields from being a worthy DXpedition location. Its existence "was one of the key issues in determining whether the Chesterfield Islands qualified for addition to the DXCC List as another new entity,"

Read the Daily Mail Story at

<http://www.dailymail.co.uk/sciencetech/article-2237499/How-reliance-satellite-images-led-mystery-South-Pacific-island-wasnt-there.html>

Read The Register story at

http://www.theregister.co.uk/2012/11/22/undiscovered_sandy_island/

N0D special event station celebrating the End of the World

That's right, the end is finally near. According to one of the three Mayan Calendars, the **End of the World** will occur on December 21, 2012.

To celebrate this literally once in a lifetime event, Special Event Station **N0D** (Now Zero Days) will be activated for three days during and after(?) the end of the world.

December 20 is a celebration of the end of the world. December 21, the day of destruction, we will be on the air as long as possible. December 22nd, that is a little iffy right now.

N0D will be activated on the satellites by **Allen Mattis, N5AFV**, on

December 20, 2012, on December 21, 2012 unless the day of destruction makes that impossible, and on December 22, 2012 if the world survives.

More information is available on the Official N0D

website:

<http://www.nowzeroday.com>

You can also e-mail the N0D team at

N0D.Doomsday@gmail.com

Amateur radio stations around the crumbling globe are invited to contact N0D, who will be operating from a secret undisclosed location.

QSL with SASE to the address in QRZ. If Doomsday actually does happen, we regret that a QSL will not be possible, so hold on to your SASE until the 22nd at least. Check out the website for a preview of the N0D QSL card.

You can celebrate Doomsday by contacting N0D directly on the air.

Amateurs can also become an official Doomsday station by registering on the website. You will be given a registration number and the authority to identify yourself as "Official Doomsday Station" followed by your Doomsday number.

Official N0D Doomsday apparel will be available soon; T-shirts, Caps and buttons.

Official Doomsday stations will receive the Doomsday Station Certificate. Stations contacting at least 10 Official Doomsday Stations during the event will be recognized on the web site.

It is not entirely clear exactly how it will happen. Will it be a cataclysmic shift in the earth's magnetic field, Global Warming on steroids, earthquakes, volcanoes floods, global thermonuclear war, Meteor collision, the 10 plagues of Egypt, UFO invasion. who knows? There are scientists, soothsayers and philosophers on both sides of the question. Either way it will be an event worth remembering ... or maybe there will be no one left to remember it?

Check the website for the latest updates: <http://www.nowzeroday.com>

**NEW 440 REPEATER
LOCATED IN GLOUCESTER
OPEN TO ALL AND
SPONSORED BY CLUB
MEMBER ROSS-W1RAB**

442.075/447.075 (pl 114.8)

The Digital Follies by Curtis- AA3JE

I have the great good fortune to belong to a ham radio club. Rated by the ARRL as one of the most successful clubs in the Northeast, the Cape Ann Amateur Radio Association is an eclectic (synonym for weird) group of enthusiastic lads and lasses that spend their spare time messing about with radio waves. As with all clubs, it is a mixture of hobbyists, semi-professionals (electronic wizards), and historical relics (the hams, and sometimes the radios). This has the unfortunate effect of causing you to sit down at the meetings, or the social breakfasts, with someone who can do things that you consider PFM (Pure Freakish Magic).

Now it occurs at both ends of the technical scale. It could be a person who restores radios from the 1920s, someone who knows how to tune in a tube linear, a person who scores amazing and fantastic QSOs and has a QSL card count in the thousands, or someone who assembles surface mount components that you cannot see, much less identify, into weird and wonderful gadgets that allow them to listen in on NASA tracking telemetry for the Mars rover.

And that's where I get in trouble. Those of you who followed my adventures with the software defined radio, (AKA the doorstop), know that I am a marginal computer user at best, and am easily baffled by things that the average 12 year old finds easy-peasy. On this occasion, I got an e-mail from the club president, who suggested that digital VHF might be a good way to deal with the ever present problem of "the list".

"The list" is the curse of Emergency Communications. It can be a list of runners, a list of shelter occupants, or even a list of how many of what kind of cots and blankets are needed. Either way, it can turn into a vocal nightmare.

"Ready to copy?"

"Go ahead."

"Theodoscius F. Scattergood"

"Say again, please?"

"T...H...E...O..."

You get the picture. Do this thirty or forty times and you wish you were not. So the idea of typing into a window, clicking "send" and settling back while the machine does it all seems like a good idea. The problem is, that I can't remember where I put the digital interface, and I sold the laptop I had all set up this summer. "Fear not", I thought, as I dug through the unlabeled boxes of stuff in the basement, "you can find it."

"It", was a digital interface. Digital software codes letters and numbers into audio frequency signals of the "tweededeedlertweeddledoodle" variety, that can then be sent to the radio, transmitted, and decoded at the other end. Even I know that. The problem is that unless you use the "put the mike in a sock with the headphone" strategy, you need to have some kind of box that plugs into the computer, which has the right plugs to plug into the radio.



It would be easy if I had one. But I don't. I have three different kinds from West Mountain Radio, and two different kinds from Signalink, and, of course, the sock. Most of these I have had working, but working with radios I don't have any more, since I have newer radios, and I have forgotten which box goes with which radio.

I clean off the desk, (a worthwhile task in itself), and spread out all this stuff. I find one with plugs that look like they might fit something on the back of my current radio, and might plug into a USB port on some computer. Oh, yeah, I got rid of that computer. Well, I have a new laptop, how hard could it be?

I plug it all in, turn it all on, and realize I have no sound card software on the computer. I troll on the internet, find something called FLDIGI, and download it. I click on the program, and then the trouble starts.

"Please click the confuser tab to configure the radio" it says.

I click and am led through a series of screens that refer to multiple options that I do not comprehend at all. I click about as best I can, open the program, connect the rig to a dummy load, and type a test message, and hit "send".

Nothing happens. I reconfigure and try again. Nothing happens. I curse and beg strange gods for assistance. Nothing happens. I close the program, go to the company website, and find the box labeled "I AM SCREWED UP AND NOTHING WORKS". I click it. The website suggests that I might have the jumpers bugged up, and offers to sell me a pre-wired set of jumpers for my interface and my specific radio. I buy two, and flee the shack.

Three days later the "I AM A DORK" kit arrives, and I follow the instructions and install the jumpers and the new cables. I restart the program, and it works. I shut it down, bask in my glory, and plan to give it a try the next night.

I sit down, I turn it on, I compose a test message, and hit "send". Nothing happens.

In order I:

1. Reload the program. Nothing happens
2. Re-configure the jumpers. Nothing happens.
3. Call the interface manufacturer. They are on break.
4. Call the radio manufacturer. They are sorry , but can't help.
5. Review the ARRL Digital Manual. Not a clue.
6. Give up and send Email to Stan.

The next morning, in my inbox, is an email that says.

"Is green light on box lit?"

I check, it is.

"When you send, does green light turn red?"

I check, It stays green.

"If light stays green, audio signal is not getting to interface box. Check computer volume settings."

Now this is a problem. Modern computers don't have a manual that tells you anything, but I eventually find a box that says "Sounds" and click it.

"Please select sound input."

The choices are "default" and "USB CODEC". I try each in turn, Nothing. Eventually, I find a slider that looks like it might set the volume on something, and rack it to the max.

Great Day in The Morning! The red light comes on.

Flushed with pride, I turn the darn thing off, and go to bed. The next day, I turn the computer on, and sure enough, nothing works. This time I know where to go, and in short order I have the darn thing working. ON HF.

Now I have to figure this all out on the VHF rig.

Tell Stan I'm trying, I really am. Honest. As hard as I can. It just may take a while.....

New 70 cms Repeater available for Cape Ann area users.

With the growing number of ham in the Cape Ann area interested in participating in emergency response activities, there is an additional resource now available to help handle the need for area geographical coordination and dialogue without having to tie up the W1GLO repeater with non essential emergency traffic.

This need may be helped by the use of W1RAB /R. This repeater has been on the air since May of this year as an experiment by W1RAB (CAARA member) in north Gloucester. He recently upgraded the repeater and the antenna. The repeater is a used set of commercial Motorola radios with a CSI controller.

Operating frequency and conditions of equipment:

Output of repeater 442.075 Input 447.075 PL tone 114.8

Height of antenna 65 feet over ground.

Time out 2 minutes. No beep . Just drop the carrier.

Output 20 watts from the duplexer (currently).

This repeater is an open repeater and all are invited to use it at any time.

Over the winter months we will attempt to make it available through Echolink.

Submitted by Ross-W1RAB

Ham Radio vs Robotics for Luring Kids into Technology

Author: [Don Tuite](#) ELECTRONIC DESIGN BLOG

I'm turning the place over to Brian Cieslak, K9WIS, who writes about his personal experiences with [FIRST](#), an organization that runs robotic competitions for kids. I answered Brian's CQ on 20 meters, and in the ensuing QSO, I mentioned that I was just back from Renesas' DevCon in Orange County, where Renesas had turned over an entire lunch session, packed with hundreds of engineers, to Dean Kamen, so that Kamen could encourage attendees to participate in the program. (Wikipedia says: "FIRST (For Inspiration and Recognition of Science and Technology) is an organization founded by inventor Dean Kamen in 1989 to develop ways to inspire students in engineering and technology fields. The organization is the foundation for the FIRST Robotics Competition, FIRST LEGO League, Junior FIRST LEGO League, and FIRST Tech Challenge competitions.") I remarked to Brian that I admired the program as Kamen explained it, but I had some questions, which I'll bring up in a later blog. Brian told me that he had been a FIRST volunteer for years, that he was extremely positive about the program and that he had written an article for the American Radio Relay League (ARRL) Website, "[The Ham Radio Spirit Lives — in Robots?.](#)"

Then he sent me a email, with more about his personal experience in the program than we had covered on-air. I have his permission to repeat it here:

"I got involved in FIRST back in 2005. Rockwell sent out an email asking if anyone would be interested in talking to a group of kids at the high school down the street with a programming project. They needed to learn C.

"It was the school I graduated from back in 1973 so I volunteered, made contact with the instructor. When I arrived after work that day I was basically tackled by 3 highly motivated kids interested in learning programming. I asked them what their project was and the escorted me to the backroom where a 120 pound robot stood. they showed me a video that illustrated the game rules and from that point on I was hooked.

"The kids learn about the game on the first weekend in January and have 6 weeks to design, build and test the robot. If they miss the drop dead date, their season is over. Its amazing to see those kids stick around until 10 at night to work on the robot and give up their Saturdays too. If the robot is complete (defined loosely) it is shipped to their first competition. I gone through several generations of kids since then. I am proud do say most of my programmers have gone on to engineering careers.

"One recently joined me here at Rockwell. Other kids have returned after graduation to mentor the team. I am sort of a mentors mentor these days.

"There are several flavors of FIRST.

There is Lego League for kids in grades 4- 8. I like getting kids from this program on my teams because there robots missions are all autonomous.

"The Lego Mindstorm kit is the kit used to build a robot to fulfill a specific mission. But is not just robots. The kids have to do a presentation of some theme, environment, energy, medicine, space exploration, that is chosen by FIRST at the beginning of the season

"Then there is FTC a cross between LEGO league and FRC. The robots are tele-operated to play a game. FTC uses the same controller as FTC but instead of Lego's its more like an erector set. FTC is a low cost solution. A team can get set up for around \$1000.

"Then there is FRC, the big robots, 125 lbs if unleashed fury.both tele-operated and autonomous. Currently using the National Instruments cRIO programmable controller, wireless Ethernet. FRC is expensive. It probably costs as much to field an FRC team as a football team. So kids have to approach sponsors for funding.

"FRC is more than just robots, its more like Junior Achievement on steroids.

Some team members may be interested in marketing and not robots so they take on the challenge of PR and raising funds. Others are into logistics, making all the arrangements for travel or demonstrations. There is an entrepreneurs award to reward those kids.

"There is a web page competition, so kids who are interested in that facet can have an opportunity to support the team.

"There is an animation competition, sponsored by Autodesk who provides teams with 3ds max as well as all

their other software like Autocad and inventor.

“There a design contests using inventor. There is an innovation award.

“And the most coveted award the Chairman’s for teams using innovation in community service.

“I could go on and on. The cool part is as a programming mentor I spend 6 weeks working with the kids to give them confidence to try ideas. Some work some don’t but its all learning experience. After the build cycle I let the kids take over maintaining the robot code, tweaking at competitions. I just standby to make sure they don’t kill anyone..hi hi .They have never disappointed me and I let them know it.

“I work with high school kids at a public school. Here is a story about the kids on my team. During the whole season I never met a parent. Even when we had an open house for parents to see what the kids were up to they didn’t show. Our team did quite well that year, even went to the National Championships in Atlanta. Three mentors and two teachers accompanied a team of 8 kids. We were worried about what kind of trouble we were going to have to deal with. But those kids were so engrossed in doing well at the competition that they were very professional during the whole trip.

“The finished 23rd out of 600 robots in the competition. Not bad, we had a team banquet later that spring. Guess what? no parents showed. Finally I sat down with one of the teachers to ask him about it. He said a lot of these kids come from single parent homes. Mom or dad is home watching little brother or little sister. Chances are that for the three months I am working with the kids I am the only male figure in there lives..Very scary since I don’t have any kids, also very cool.

“I can go on forever with what FIRST has done for these kids, But I can also go on talking about what those kids have done for me.

“One last note. I was one of the first employees at Rockwell to get involved with FIRST. I had pay all my own expenses and take vacation time to travel with the team. Today, 8 years later, Rockwell has adopted FIRST as their STEM school activity of choice and is a big sponsor, funding any team that has a Rockwell employee as mentor. And now they even cover travel and lodging expenses for mentor employees.”



CAARA HAMS IN THE NEWS:

American Red Cross volunteers from Eastern Massachusetts, after working in our communities during Hurricane Sandy, are accepting deployments to states devastated by the superstorm.

Ron Beckley of Gloucester, who specializes in disaster services technology, has been deployed to New Jersey. Disaster Services Technology specialists are responsible for all the technology that is deployed on disaster relief operations. DST volunteers set up satellites where all phone and internet services have been disrupted, they set up computer services in remote locations for Red Cross caseworkers and often have to repair equipment in crisis situations.

The American Red Cross has mobilized more than 14,900 disaster workers from all over the country who have supported relief efforts. Volunteers have served more than 7.6 million meals and snacks so far, and

have handed out more than 5.5 million relief items.

Ron Beckley, in accepting this deployment, is gaining more experience working with Red Cross experts throughout the U.S. When he returns to Massachusetts, his knowledge will help better inform our efforts, and help make our local region stronger.

Many in your community want to know how to help. They could train to become disaster volunteers, or fund this long-term relief effort by calling 1-800-REDCROSS or visiting RedCross.Org.