CAARA Newsletter

AN ARRL AFFILIATED CLUB FEBRUARY ISSUE- 2013

President's Corner

by Stan-W4HIX

We finally got some winter weather—we have seen several days of West winds off Ipswich Bay combined with single digit temperatures. Classic New England deep freeze.

We just finished up a very pleasant Winter Field Day at CAARA. We had two stations operational downstairs—and Icom IC-7000 for SSB and the FLEX-3000 SDR which we ran PSK. Saturday was kind of quiet with four operators to run the show, but Sunday exploded, with many people stopping by to try their hand and some just to watch. Lunch on Saturday and breakfast on Sunday kept everyone fat and happy.

Along with operations on Sunday, Dick K1VRA brought his USB SDR dongle and we got things straightened out on his computer. We then added a 100 MHz HF shifter to move the HF ham bands into the VHF range of the SDR. After a small amount of fiddling, Dick was listening to 40m SSB. The waterfall on the software is about 2 MHz wide—you can watch all of the traffic from CW to phone in one place. It is pretty amazing for an investment of less than $100 to add a SDR to your laptop or desktop. We will probably give a presentation at an upcoming Members' meeting.

I have gotten a lot of response from our General class members for a class to study for the Extra exam. I was trilled, now terrified. This will be a lot of work and I will need to layout the coursework for this. We will not do a Tech in a Day style course—too hard for this material. I welcome suggestions on good days to do this, frequency of classes, etc. I'm open to suggestions and I'll probably put together a mailgroup for this soon.

I want to thank Jon K1TP and Jake K1LDL for their hard work on the second floor, and Ross W1RAB for lending a hand. If you have some time during the day, they use the repeater to coordinate the work—drop by and help out, it will be much appreciated.

Lastly the Ebay sales are going very well (thanks again to K1TP and K1LDL, and donations from Curtis AA3JE. This effort had cleared out a lot of surplus gear and provided funding for the second floor work. TNX!

73 de Stan, W4HIX

Clerk's Corner

by Dean- KB1PGH

As a ARRL Public Information Officer for Eastern Massachusetts I thought I would take this month's Clerks Corner to give you a break down of the past and current number of FCC Amateur Radio Licenses as reported by the Amateur radio Relay League.In the past 3 years the number of amateur radio licenses has steadily increased. In 2010 there were 696,041 licenses, in 2011 there were 702,056 licenses and in 2012 we now have 709,575 licensed operators. Out of those 709,575 licensed operators in 2012,345,369 of them were Technician class, 163,370 General Class and 130,736 were Extra class operators. In 2012, 27,082 New amateur radio licenses were issued and 10,283 licneses were upgraded. Now notice the difference that while we have an increase of a little over 7000 more people licensed from 2011 to 2012 so how can that be with 27,082 new licenses issued? Remember that we lost a certain number due to the 10 year expiration of some licenses. Putting these numbers in perspective locally in 2008 we had 33,600 licensed hams in New England and in 2012 we had 35,000 licensed hams so we had an increase of 1900 more amateur radio operators in our corner of the United States in the past 4 years. If we go back in the ham radio time machine we can see that back in 1971 there were 285,000 amateur radio operators in the

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6 Stanwood Street
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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 Cub Reporter

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.

Clerk's Corner (continued from page 1)
United States. Moving forward from that we see in 1981 there were 433,000 hams, in 1991 there were 494,000 operators and 683,000 licenses issued in 2001. One interesting fact is that there was an increase of over 188,000 new hams in the decade between 1991 and 2001 and only a increase of 26,500 hams from 2001 to 2012 so the pace has definitely slowed. I'll bet this downward trend has to do with the aging population and the passing away of the older hams and thus the expiration of their licenses, combined with the fact of FCC amateur radiio license restructuring and testing.. Also remember that the United States population has really expanded in the past 20 years so these current license numbers do represent an ever smaller percentage of the overall population. So take what you will from these numbers. My personal view is not how many licenses are issued but how active the people who hold those licenses are and the quality of their ability to properly transmit over the airwaves. It wouldn't matter if we had a million people licensed if no one got on the air. On a side note for those hams involved in Boy Scouts the Boy Scouts of America are going to offer an amateur radio operator rating strip that the scouts and their leaders can wear on their right sleeves of their uniforms for those scouts and leaders who currently hold an amateur radio operators license. This is a good move as it recognizes those scouts who have taken the time and effort to learn the communication skills,electronic skills and emergency prepardness skills that come along with ham radio which helps themselves and their communities.

AMSAT-NA WEBSITE COMPROMISED BY HACKING

AMSAT North America says that on or about January 20th its main web site at www.amsat.org was compromised by a hacker. The attack took the form of the contents of the supporting database, including non-public information, being posted on other publicly available web sites. According to AMSAT, the main site was developed roughly 10 years ago by a group of AMSAT volunteers under a more benign Internet environment of the time. The team that built that site is no longer associated with AMSAT, so work has been underway over the last several months to move to a modern, maintainable, and very secure infrastructure. AMSAT says that this recent breach will accelerate that activity. In the interim, www.amsat.org will have limited content. Neither the AMSAT store nor the Fox project web site were affected by this breach. Mail services remain operational.

NASA TRANSMITS MONA LISA IMAGE TO ORBITER AT THE MOON As part of the first demonstration of laser communication with a satellite orbiting the moon, scientists with NASA's Lunar Reconnaissance Orbiter program have successfully transmitted an image of the Mona Lisa to the spacecraft from Earth using only a high powered laser. The digitized image traveled some 240,000 miles form from the Next Generation Satellite Laser Ranging station at NASA's Goddard Space Flight Center in Greenbelt, Maryland to the Lunar Orbiter Laser Altimeter instrument on the spacecraft. By transmitting the image piggyback on laser pulses that are routinely sent to track the devices position, the team achieved simultaneous laser communication and satellite location. The success of the laser transmission was verified by returning the image to Earth using the spacecraft's radio telemetry system. Typically, satellites that go beyond Earth orbit use radio for tracking and communication. The Lunar Reconnaissance Orbiter is the only satellite in orbit around a celestial body other than Earth to be tracked by laser as well. One of many stories on this latest accomplishment can be read on- line at tinyurl.com/mona-lisa-moon (NASA, others)

SPACE EXPLORATION: NASA TO ADD EXPANDABLE MODULE TO THE ISS

NASA has officially signed a contract to attach an inflatable private module to the International Space Station. Under the agreement announced on January 11th, NASA will pay $17.8 million to the Nevada based private spaceflight firm Bigelow Aerospace for the company's Expandable Activity Module or BEAM which will be attached to the orbital lab as a technology demonstration. BEAM is likely to be similar to Bigelow's Genesis 1 and Genesis 2 prototypes, which the company launched to orbit in 2006 and 2007, respectively. Both Genesis modules are 14.4 feet long by 8.3 feet wide, with about 406 cubic feet of pressurized volume. NASA officials have said that BEAM could be on orbit about two years after getting official approval. The module will likely be launched by one of the agency's contract cargo carriers such as SpaceX or Orbital Sciences Corporation. More is on-line at tinyurl.com/new-iss-module and bigelowaerospace.com. (NASA, Bigelow Aerospace)

A review of the Tac-Comm Emcomm go box by Dean KB1PGH

As the location of my home is in a virtual RF swamp.That leaves me with no choice but to operate HF portable. Now with operating portable I keep learning on how to do things more effeciently. Especailly on carrying gear around, like my $1200 Icom IC-7000. Since I was always paranoid of banging that $1200 investment around I wanted to find a way to keep it safe during transport and deployment. Then I saw our club President Stan Stone, W4HIX, use a TAC COMM go box to secure the Thacher Island PSK 31 station, (See August 2012 CAARA Newsletter).That got me inspired to ask Santa for 2 of these for Christmas.In this article I will show you the process of how I attatched my Icom 7000 to the go box and how the stack. Let me give you some information first on the TAC COMM go box. First of all here is the website link: www.tac-comm.com . The go box is 4.8" long by 7.5" wide by 10.5" in hieght. The box is made of 0.090 inch aluminum which has a black powder coat finish. Each TRC-1 carrier is $59.95, which to me seems a little steep. Don‘t get me wrong,the build quality is excellent and it is sturdy. The TRC also comes with a cover plate if you want one.The cover plate is $14.95. With the cover plate you could put a mag mount antenna on itThe TRC-1 is built with slots so you can install any VHF mobile rig with its mounting bracket.It also has plenty of ventilation slots to keep your radio cool

If you don‘t have a bracket then you can order a pair of webstraps that TAC-COMM sells for $4.50 a pair. So for a complete kit,it would cost you $78.50. They also sell a front plate/HT holder which I did not purchase.In picture one you can see everything laid out before assembly. In picture two you can see the mounting slots on the bottom. You can also see how the two webstraps are threaded through.In this stage I have put the two adjustable sides all the way up so you can get an idea of how far they go.

In this photo you can see

how the webstraps fit around my ICOM IC-7000 installed in the TRC-1 carrier. It took a few times to get the hang of pulling the straps the right way to get the radio snug but once I got it the radio isn‘t going anywhere!

In this photo you can see how the cover plate installs, the cover plate slides underneath the two side grooves and is screwed on with the supplied screws.

One thing about the TRC- is that you will have to compensate for your radio being inside the carrier and that means less access to all your back of the radio connections.This would be a problem to struggle connecting your antennas and power cords. In the photo you can see that I added a SO-239 extension, an Anderson powerpole connection and an extension connection for the external speaker. You can also see how the microphone wraps around to the front.

In the last photo you can see how the TAC-COMM carriers stack on top of each other as I have my power spupply and wrapped up cables on the bottom carrier and the ICOM IC-7000 on top. The carriers hold snug together with the rubber feet on the top one fitting into holes on the bottom carrier. The

TRC-1 has a heavy duty tilt bale for easier viewing.

For my final comments I would recommend the TRC-1 carrier for those who operate portable and for ARRL ARES Emergency Communications use.

It certainly makes lugging radios around easier and your radio will definitely be protected. I‘m thinking that it will keep the hot sun off the Icom-7000 as well. Too bad the price is a bit high but it‘s much better than damaging an expense ham radio.

2013 Thacher Island Activation Team News

Hello all from the 2013 Thacher Island Activation team. Here is a reminder that we will be out on the island again this year with our antennas and radios operating in CW, SSB, and PSK modes hoping to hear from you! We will be there from late Friday afternoon August 2nd thru early Monday morning August 5th . The world ARLHS "International Lighthouses and Lightships Weekend" will also be happening that weekend. Both towers will be operating so here is your chance to add an island contact and two lighthouse contacts! Team members this year (though this may change as it's still early in the year) are: Rick(WB1Z), Dave (KD1NA), Larry (AJ1Z), Al (N1QEH), Marianne (KB1TEO), and myself (Ruth WW1N).

CAARA's Thacher Island event is an exercise in emergency communications training and an opportunity to set up and operate in a unique and remote setting. It is not a contest though of course we will be making contacts … a lot of them

If you would like to see the activation in progress and get on the radio without the long weekend stay, you can instead contact Thacher Island and reserve a seat on the launch for Saturday morning August 3rd and return that afternoon.

So try to get a contact or come out and enjoy a little radio and the sights and sounds of Thacher Island.
Thacher Island offers beautiful views, an opportunity to go up to the top of a lighthouse, tree covered foot paths, a museum, and of course lots and LOTS of adult and baby seagulls! You might also see photographers, artists (painters), and kayakers out there. It does not offer food or drink though so be sure to pack a lunch (or snacks) and water.

Picture taken by Larry- AJ1Z 2012

Reason To Be Fearful

Andy Thomas G0SFJ has published his third novel in which 'ham' radio plays a part.
Called "***Reason To Be Fearful***", this terse, bleak, gritty novel of lies and layers of deception centres on a young trafficked woman from Transnistria.
Anastasia, 'Nastya' to her friends, holds the balance of power in the British Secret Intelligence Service between Bea, the Chinese expert and art historian, and 'Ammer, the radio ham who is Head of Russia.
In action from Tiraspol to Tallinn, from a brothel in Berlin to a bar in Bangalore, on board the International Space Station and the Chinese Station Tiangong, Nastya brings the "Dima" trilogy to its startling conclusion.
The book will be on sale from Amazon shortly and can also be ordered

LED lights jam city buses

The Swedish national society (SSA) reports on a case of LED lights in a shop jamming the VHF radio used by buses.
The lighting in shop windows at Punkt House in Västerås jammed the city bus system which uses 167.0375 MHz.
The lights causing the problem were LED spotlight lamps. It was found they breached the regulations on Electromagnetic Compatability (EMC) and they are now being replaced.

Read the full story in Google English at
http://tinyurl.com/LED-VHF-Interference

Are cellular and PCS towers and antennas safe?

Cellular radio services transmit using frequencies between 800 and 900 megahertz (MHz). Transmitters in the Personal Communications Service (PCS) use frequencies in the range of 1850-1990 MHz. Antennas used for cellular and PCS transmissions are typically located on towers, water tanks or other elevated structures including rooftops and the sides of buildings. The combination of antennas and associated electronic equipment is referred to as a cellular or PCS "base station" or "cell site." Typical heights for free-standing base station towers or structures are 50-200 feet. A cellular base station may utilize several "omni-directional" antennas that look like poles, 10 to 15 feet in length, although these types of antennas are becoming less common in urban areas.

In urban and suburban areas, cellular and PCS service providers now more commonly use "sector" antennas for their base stations. These antennas are rectangular panels, e.g., about 1 by 4 feet in dimension, typically mounted on a rooftop or other structure, but they are also mounted on towers or poles. The antennas are usually arranged in three groups of three each. One antenna in each group is used to transmit signals to mobile units (car phones or hand-held phones), and the other two antennas in each group are used to receive signals from mobile units.

At a given cell or PCS site, the total RF power that could be transmitted from each transmitting antenna at a cell site depends on the number of radio channels (transmitters) that have been authorized and the power of each transmitter. Typically, for a cellular base station, a maximum of 21 channels per sector (depending on the system) could be used. Thus, for a typical cell site utilizing sector antennas, each of the three transmitting antennas could be connected to up to 21 transmitters for a total of 63 transmitters per site. When omni-directional antennas are used, up to 96 transmitters could be implemented at a cell site, but this would be very unusual. Furthermore, while a typical base station could have as many as 63 transmitters, not all of the transmitters would be expected to operate simultaneously thus reducing overall emission levels. For the case of PCS base stations, fewer transmitters are normally required due to the relatively greater number of base stations.

The signals from a cellular or PCS base station antenna are essentially directed toward the horizon in a relatively narrow pattern in the vertical plane. The radiation pattern for an omni- directional antenna might be compared to a thin doughnut or pancake centered around the antenna while the pattern for a sector antenna is fan-shaped, like a wedge cut from a pie. As with all forms of electromagnetic energy, the power density from a cellular or PCS transmitter decreases rapidly as one moves away from the antenna. Consequently, normal ground-level exposure is much less than exposures that might be encountered if one were very close to the antenna and in its main transmitted beam.

Measurements made near typical cellular and PCS installations, especially those with tower- mounted antennas, have shown that ground-level power densities are thousands of times less than the FCC's limits for safe exposure. In fact, in order to be exposed to levels at or near the FCC limits for cellular or PCS frequencies an individual would essentially have to remain in the main transmitting beam (at the height of the antenna) and within a few feet from the antenna. This makes it extremely unlikely that a member of the general public could be exposed to RF levels in excess of these guidelines due to cellular or PCS base station transmitters.

When cellular and PCS antennas are mounted at rooftop locations it is possible that ambient RF levels could be greater than those typically encountered on the ground. However, once again, exposures approaching or exceeding the safety guidelines are only likely to be encountered very close to or directly in front of the antennas. For sector-type antennas RF levels to the side and in back of these antennas are insignificant. (Back to Index)

For further information on celluar radio systems go to www.fcc.gov/wtb/cellular/cellfaq.html

CAARA/ARRL 2013 FIELD DAY Planning Meeting Notice !!

As you can see in the photo not all things go according to plan during ARRL Field day. So that‘s why we plan for the “What could possibly go wrong?” scenarios. Once again CAARA will be particpating in the yearly ARRL Field day event which is coming up on the last full weekend in June. This years ARRL Field day dates are Saturday, June 29th and Sunday June 30th. We are

starting to plan for Field day already and the first offical planning meeting will be held on Sunday, February 17th at 10:00 AM. This meeting will coincide with February‘s CAARA Scholarship Benefit Breakfast which will be held at 8:30 AM the same morning. So we invite everybody,especially those newer CAARA members, to come down and help us plan for Field day.You never know what will happen!

2012 Marks All-Time High for Amateur Radio Licenses *courtesy ARRL*

As 2012 came to a close, ARRL VEC Manager Maria Somma, AB1FM, had a good reason to cheer: The number of radio amateurs in the US reached an all-time high of almost 710,000. “2012 was definitely a banner year for the number of Amateur Radio operators here in the US,” she said. “It is amazing to see these new numbers and to know that Amateur Radio is experiencing such a healthy trend.”

In looking at new and upgraded licenses, as well as licensees per ARRL Division (see the charts below), Somma also crunched the numbers looking for growth within each license class — and all of Amateur Radio — over the last 40 years. “This is an all-time high for Technician, General and Amateur Extra class licensees,” she said. “When looking at the three current license classes, the number of Technicians, Generals and Amateur Extras peaked in December at 345,369, 163,370 and 130,736, respectively.”

Somma explained that the total number of US amateurs in the FCC database also continues to grow each year: “As of December 31, 2012, the number of licensees reached an all-time high of 709,575; year-end totals were 702,056 for 2011 and 696,041 for 2010. The number of licensees increased at an average rate of 21 per day, while the number of US licensees has increased by 7 percent since 2008!” More than 3000 new licenses were issued in 2012 than in 2011, while upgraded license activity remained steady in 2012.

In the past 40 years, the number of Amateur Radio operators in the US has grown at a remarkable rate:

- December 1971: 285,000
- December 1981: 433,000
- December 1991: 494,000
- December 2001: 683,000
- December 2012: 709,500

*Source: 1971, 1981, 1991: print editions of **Radio Amateur Callbook**. 2001, 2012: **www.ah0a.org/FCC/Graphs.html**. **Please note:** While the number of licensees has grown considerably over the years, we realize that these numbers include some who are no longer active in Amateur Radio. A recent survey of ARRL members, however, indicates that more than 80 percent of those responding are active.*

ARRL VEC Program Statistics

The ARRL VEC is by far the largest of the 14 Volunteer Examiner Coordinator (VEC) groups in the country, coordinating approximately 70 percent of all Amateur Radio exams. “When looking at the statistics over the last year, the ARRL VEC sponsored exam sessions and exam elements taken were up in 2012, which is a good sign for Amateur Radio overall,” Somma said. “Compared with 2011, ARRL VEC exam sessions in 2012 were up by 8 percent. A total of 6831 exam sessions were administered in 2012, compared to 6352 in 2011. Exam elements were slightly up from 41,096 last year, to 42,473 this year. The total number of accredited ARRL Volunteer Examiners (VEs) has reached an all-time high of 36,682. The ARRL VEC has been busy meeting the needs of the Amateur Radio community by helping people become radio amateurs or upgrade their existing licenses. 2012 was a very good year for Amateur Radio — I can’t wait to see what 2013 brings!

The Cape Ann Amateur Radio Association mission is to:

- Provide health and safety communication services for emergencies and disasters on Cape Ann and in other areas when requested
- Provide health, safety and coordination services for community events
- Maintain disaster and emergency readiness by conducting regular simulation drills and participating in national disaster simulations
- Educate and train new amateur radio operators and to maintain a well-tuned disaster team
- Conduct FCC testing for new licenses and those wishing to upgrade
- Provide educational services and demonstrations to local area schools and community organizations such as the Boy Scouts
- Conduct public demonstrations and educational events
- Assist public utilities, such as the Mass Electric Company, in finding radio frequency interferences that could potentially harm or hinder emergency communication activities
- Create a positive, supportive environment for our members that promotes camaraderie and fellowship.

Cape Ann Amateur Radio Association members will serve the public unselfishly, will not take any form of remuneration for their services, and will only undertake activities that are 100% for the general good.

Vinage photo of a 1960's radio station. Heathkit Transmitter and a Hallicrafter's receiver, Vibroplex and straight keyer, and a JT30 mike.

You keep up with friends and family with Facebook. Now keep up on all the CAARA activities and fun! Join the club in the official CAARA Facebook group! If you are new to Facebook, this is a good reason to join! Meet fellow hams and maybe meet a few new friends in the process. The group is wide open to the world so you never know who you may meet. Join us today and write on our wall, add a few pictures or video of your ham radio activities!

Follow us on Twitter! @w1glo

BSA to Offer Amateur Radio Operator Rating Strip

The Boy Scouts of America (BSA) has approved an Amateur Radio Operator rating strip for Scouts and Scouters to wear on their uniforms. According to BSA Communication Services Director Jim Wilson, K5ND, the strip recognizes the Scout or Scouter's availability as an Amateur Radio operator for communication services for events and activities, as well as emergencies. All registered youth members and adult leaders who also hold a valid FCC-issued Amateur Radio license of any class are eligible to wear the rating strip.

"Last year, the BSA Awards and Insignia Committee introduced the Morse Code Interpreter Strip upon the recommendation of the BSA's National Radio Scouting Committee," Wilson told the ARRL. "We are always looking for ways to promote Amateur Radio, both within Scouting and to the world. The National Radio Scouting Committee thought this new Amateur Radio rating strip was a wonderful way to do exactly that, as it readily identifies to everyone that the wearer is a licensed radio amateur, prepared to be useful and to help others."

Wilson, who heads up the National Radio Scouting Committee, said that the Amateur Radio Operator rating strip is similar to the Amateur Radio Operator badge offered as a proficiency badge by Scouts Australia, as well as the badge recently introduced by Scouting Netherlands. It follows in the footsteps of the Scout Radioman personal interest badge for Senior Scouts and Explorer Scouts that was offered by the Boy Scouts of America in the 1940s

Second Floor Renovation Progress

I have taken a few pictures to give you a sneak peak at what the second floor is looking like. We have decided to go with 2 HF stations capable of CW, FM, AM, and SSB. The picture on the left is one of the HF stations with several shelves above adorned with cw keys, vintage radios, and meters.

The picture below is another HF station capable of all modes. Please note the tall rack to the right of the table. This is where the antenna patch panel is located and allows any station to use any antenna in just seconds. We have eliminated a hundred feet of unecessary lossy cable, adaptors, and antenna switches....and made it very simple to switch antennas and radio stations. This rack will also house the 220 and 440 repeaters for easy access.

We have not decided which radio's will be placed at each station yet.....more news next month. As always, your input in this removation is valuable to the BOD, if you have suggestions, contact a board member.

Each station will have 2 sets of headphones as well as an external speaker. In the room behind the table Jake is sitting at will be an operating vintage station consisting of a Kenwood 830S with all matching accessories (tuner, speaker, external vfo, linear amplifier), as well as vintage Clegg VHF gear. (courtesy Brigg's estate)

This will be the digital station and will house the APRS station as a HF packet station. Note the vintage Hallicrafters receiver and the magnificent collection of club microphones, meters, and test equipment on the shelving. All the brown trim paint is being replaced with white and the gaudy yellow wall paint toned down with a mellow yellow color.

America's #1 Amateurby Donna Halper, PhD

If you were alive during the formative years of amateur radio, you knew Irving Vermilya. From the time he was 12 and he traveled with his dad and his family's minister to Canada to hear Marconi speak, amateur radio was his first love, and he was a life-long ambassador for it. (The story goes that after the talk, which was mainly attended by adults, Marconi came over to the young lad and encouraged him in his interest in wireless. He even gave young Irving a piece of equipment, which became Irv's first receiving set.)

Born in June of 1890, Vermilya grew up in Mt. Vernon, New York, where he built that first rather primitive set in December of 1901, after returning from his trip to see Marconi (as he later recalled, it looked strange, but it worked). Other more advanced (and more professional-looking) sets followed, and his dedication to wireless increased. His spark transmissions were so frequently heard that he was offered jobs on ships that needed a wireless operator. He became a member of the newly formed Radio Club of America in 1911, using the calls VN. (Later, he would use 1HAA, but he was best known as W1-ZE). In late 1912, the government began to require that all wireless operators be licensed. Irv hurried to the Brooklyn Navy Yard to take the test, and was given Certificate of Skill #1. For the rest of his life, he would be known as America's Number 1 Amateur—which he truly was.

Irv Vermilya's involvement with radio continued; at the age of 16, he did in fact go to sea as a wireless operator; a few years later, he was given the important job of running the Marconi Wireless Station, WCC, on Cape Cod. During World War I, he served in the Navy, and then returned to Massachusetts to run the RCA wireless station at Marion. His engineering and wireless skills brought him into contact with such legendary figures as David Sarnoff, Lee DeForest, and Edwin Howard Armstrong.

By 1921, professional radio stations were springing up, and Irv was interested in this new technology too. Using his newly acquired license for a land station, 1ZE, he began doing radio broadcasts in late April (according to the Boston *Traveller*'s ham radio column, he got special permission to be on even before he received the official license in May); his plan for 1ZE was to both promote amateur radio and to entertain his neighbours in and around New Bedford and upper Cape Cod with concerts and local information. His work came to the immediate attention of the Slocum and Kilburn Company, which was planning to open a station at their mill (the mill was similar to what we would call a "general store", since it also sold electrical equipment, tools, and building supplies; the station would be located in the radio department). They hired Irv to build it and run it, and the station went on the air officially the last week of May 1922 as WDAU. (A "cousin" of WDAU still exists, although today, it is known as WNBH; these initials stand for New Bedford Hotel, where its studios once were located. Interestingly, thanks to the consistent link of Irving Vermilya as owner or engineer, WNBH claims to be the 11th station in the US, tracing itself back to 1ZE in mid 1921 and then to WDAU. However, the evidence seems to suggest that while Irv worked at 1ZE, WDAU, amd WBBG, the first two never directly evolved into WNBH. 1ZE remained on the air, in fact, long after he was hired to build WDAU. 1ZE was renamed by the government as W1-ZE, but Irv still owned and operated this well-respected ham station for over 40 years. Slocum & Kilburn kept WDAU on the air briefly even after Irv left to put WBBG on. It was WBBG that really evolved into WNBH; the station first began to broadcast under those calls in early November of 1925. But being the 11th station in the US makes a great story, and it has been repeatedly stated as a fact both by WNBH and by the New Bedford media. Given Irving Vermilya's many achievements, it doesn't surprise me that he receives credit for one that may not totally be accurate.)

When financial problems beset Slocum and Kilburn in late 1923, Irving acquired the station's equipment and moved it to his house (imagine his wife's surprise) in January of 1924. He began to operate it under the call letters WBBG until mid-1925. (His was one of many small stations that suffered when ASCAP required all

stations, no matter what their size, to pay large fees to play ASCAP music; such fees almost drove Irv's little station off the air, but it made him even more determined to find some financial backers so that he could keep the station operating.) He was finally able, with business partner and fellow ham radio operator, Armand J. Lopez, to move his radio station back to New Bedford in November of 1925, requesting the aforementioned WNBH call letters. It was common in radio's early days for stations to have studios at hotels, since this provided a studio audience as well as a house dance band, and it certainly gave WNBH a good community image to have the hotel as its location. Irv continued to play a major role in WNBH's operation, serving as its General Manager, as well as helping to hire the talent and getting the station publicity. His ability as an engineer was well-known, and he frequently kept the station up and running during winter storms or other weather-related problems. In May of 1934, he sold WNBH to the owners of the New Bedford *Standard-Times* newspaper, but he continued to work there, first as station manager and later as the chief engineer until he retired in 1955.

While Irv Vermilya's career in professional radio earned him considerable praise, he never stopped being involved with ham radio. In 1921, he was named the New England Manager of the ARRL. He was the mentor to Eunice Randall, the district's first woman amateur, and at a time when women were not expected to know anything about radio, Irv was totally supportive of Eunice and encouraged other men to give her a chance—Irv and Eunice were friends for many years, participating in various conventions together, and of course, keeping in touch via their ham sets. Irv wrote columns on ham radio for *QST* and for various newspapers, and won virtually every award a ham could win—it was impossible to read any magazine about ham radio without seeing another country or continent that W1-ZE had received or been received by. (In the early 1920s, amateur 'tests' were often held to see how far a transmission could go, and Irv was one of the few whose messages were received as far away as Europe.) And as you might expect, he also put a mobile transmitter in his car, and in the early 1930s, he set up the first police radio station for the New Bedford Police department (WPFN). In fact, whenever he could put his radio skills to a positive use, Irv was right there to volunteer, whether it was relaying messages during a hurricane or attracting some publicity for ham radio by engaging in a "foot-sending" contest with Eunice Randall (Eunice usually won). Years later, he was one of the founding members of the Old Old Timers Club, and served on its board. He was also the first American citizen ever given a permit to operate his mobile station in Canada.

I would like to tell you that such a distinguished career and such a highly respected man lived to a ripe old age, but not every story has a Hollywood ending. Depressed by the death of his wife, in failing health, and perhaps feeling the radio industry no longer had a place for him, in late January 1964, Irv Vermilya committed suicide. His death came as a shock to the many people who had admired him; even the *Standard-Times* editorialized about what a fine human being he was, and how much he had contributed to broadcasting.

Irving Vermilya elevated the status of ham radio, and was an able spokesperson and emissary, whose outgoing personality made friends wherever he went. If it were not for him, New Bedford and large parts of Cape Cod would not have had a professional radio station until the 1930s, and thousands of people who met him via ham radio would not have known what fun this hobby could be. He was a strong believer in community involvement, and whatever station he ran, be it amateur or profession, it would always do its part to help the community. Perhaps he never invented something major the way Marconi did, perhaps his name is not as famous as Sarnoff's, but it is radio's early pioneers who paved the way for the fledgeling industry to grow and succeed. Irving Vermilya devoted his life to radio, and he deserves our thanks for that dedication and his many years of service to the industry he loved so much.

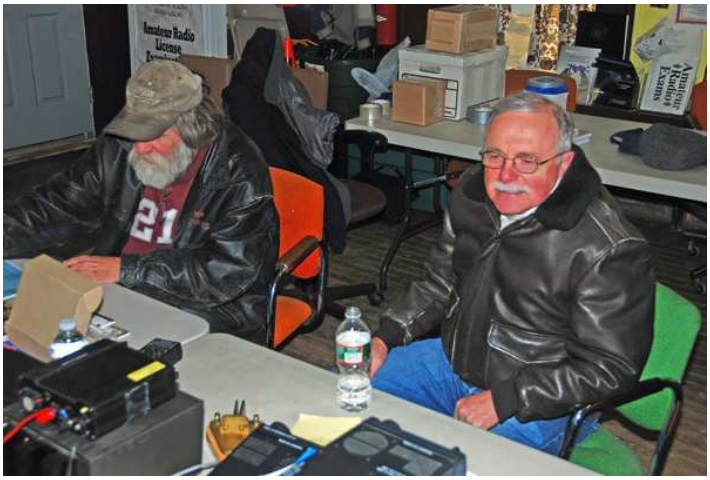
WINTER FIELD DAY JANUARY 26-27 AT THE CAARA CLUBHOUSE

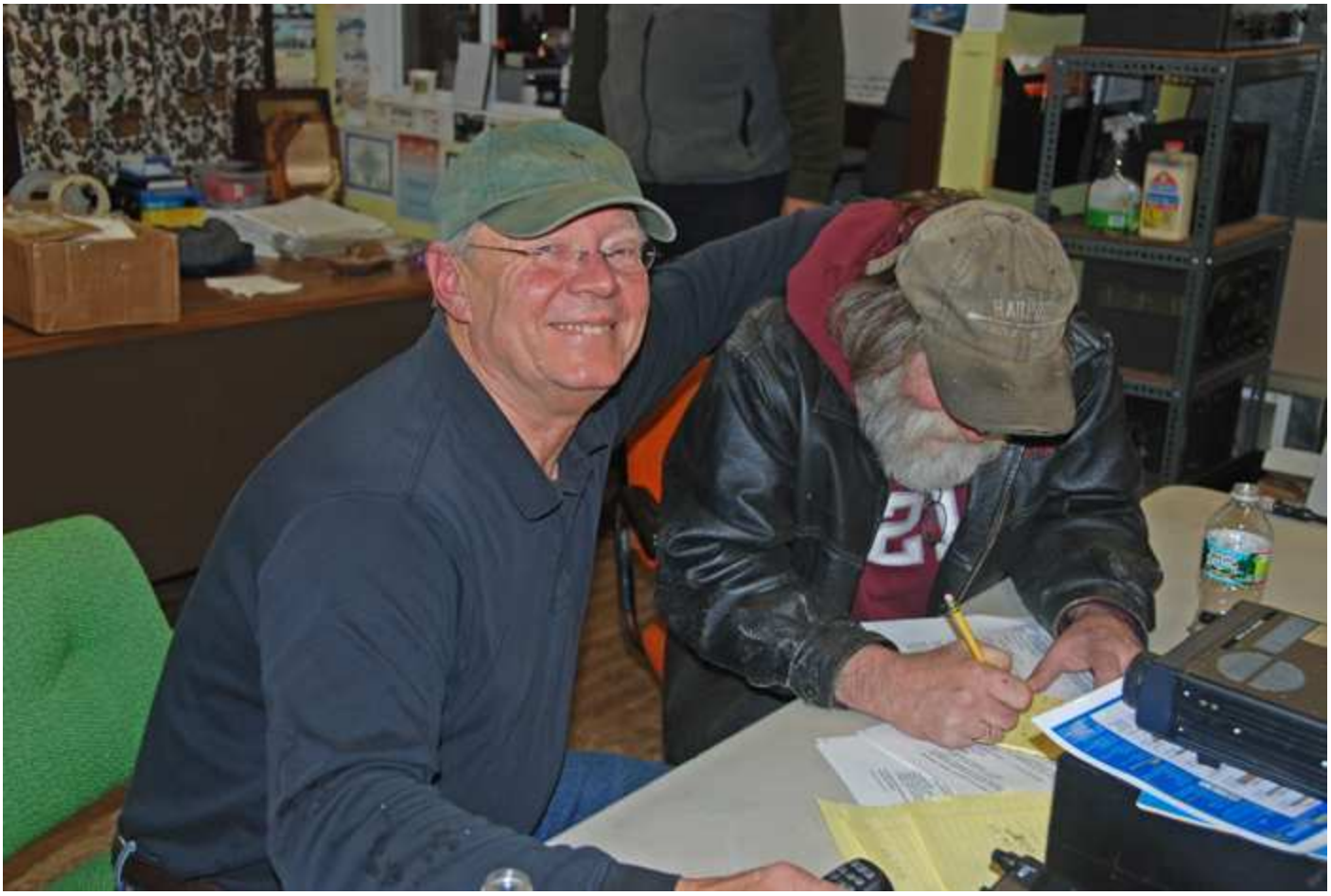
Even with the second floor in the renovation phase, we managed to get a few stations on the first floor ready for the contest. We had the new SDR Flex radio that Curtis donated operating on Packet on 20 meters using the club's 3 element beam. We checked the SWR and it was perfect on 10-20 meters without using a tuner.

The second station utilized was the newly acquired Icom 7000 HF radio with a Drake tuner and a G5RV antenna that Larry and Ruth installed a few month's earlier. It was used on 20 and 40 meters to make contacts and it worked without a hitch.

About a dozen club members operated the stations over the two days, checked out the renovations, enjoyed each others company, helped box and label Ebay items for shipment, and enjoy a lunch/breakfast prepared by Stan- W4HIX.

We didn't score a lot of points but it should be mentioned that we never measure the success of a club sponsored contest by the point scores. Our philosophy is that contests are treated as social events utilized to get club members together, emergency operating preparedness, exercising the radio equipment, and enjoying each others company. With that said, Winter Field Day was a success and we look forward to next year's event.





SPAR Winter Field Day

Purpose: To encourage emergency operating preparedness in the winter.

When: The contest runs for 24 hours during the last full weekend in January each year from 1700 UTC (12:00 noon EST) Saturday to 1700 UTC (12:00 noon EST) Sunday. For 2013, the dates are January 26 and 27, 2013. Station set up may begin no earlier than 1300 UTC (8:00 AM EST) on January 26, 2013.
Bands: All bands, except 12, 17, 30 and 60 meters.
Modes: Any mode.
Categories:

- a) Number of operators: 1, 2, Multi
- b) Site: Indoor, Outdoor, Home

For example, 2 operators at a remote campground would be 2O, 1 person at home would be 1H, 5 club members operating from a community center would be MI.
Exchange: Callsign, True RS/T (not all 599), Category, local outside temperature (with F or C). For example 1 person from a campground where the temperature is 28 F might send “KX5XYZ 449 1O 28F” or “KX5XYZ 449 1O -2C”
QSO Points: 1 point per QSO, regardless of band and mode. The object is to be able to communicate and in an emergency it doesn’t matter what band and mode is used. Busted exchanges will be penalized by 1 additional point for each missed exchange or callsign. Duplicate contacts (same station, band and mode) will not be counted, but will not be penalized.
Multiplier: Count 1 multiplier for each mode operated per band. For example, operating CW and Phone on 80, 40, 15 and 10 meters, CW and PSK31 on 20m, FM on 2meters and satellite on 1.2 GHz would be a total multiplier of 12.
Bonus: Count 1000 points if commercial power is not used, 1000 points if outdoors and 1000 points if not at home.

You can get your

FCC Technician Amateur Radio License

in *One Day* with

TECH-IN-A-DAY

How?

If you can spare one Saturday, chances are very good you can get your FCC amateur radio Technician license. Don't worry if you're not technically inclined, this method depends much more on short-term memory than technical knowledge or background. By spending six hours studying the questions and answers from the FCC exam question pool, you'll remember enough to pass the exam given at the end of the class. The test is 35 multiple-choice questions and you need 26 correct to pass. This method has worked with teenagers to senior citizens.

Why?

With a Technician license, you can use VHF and UHF amateur radio bands, meaning when the phones go dead and your cell phone doesn't get reception, you will be able to get a message out with a simple hand-held radio. For emergency workers, adding Amateur Radio capability adds to your communications abilities. And, it is great fun with interesting people to meet.

Help!

So after I get my license, what next? The Cape Ann Amateur Radio Association is ready and willing to teach you the practical matters on getting "on the air". We can answer your questions on how to operate, what radio to buy, etc. We get together every Sunday morning for coffee and donuts—come join us sometime. We also have members' meetings once a month with interesting presentations.

Schedule

Date: **Saturday, April 27th, 2013**
Time: 8:30 AM to 5:00 PM (includes exam)
Place: Lanesville Community Center
8 Vulcan St
Gloucester (Lanesville), MA

Contact

Stan Stone, W4HIX
978 283-2015 e-mail: techinaday@caara.net
You must pre-register for this course.

Cost & Requirements

Fee: $5 (includes materials & snacks)
Test Cost: $15 (required by FCC)
Bring photo ID & Social Security Number

COMING SOON:

CAARA EXTRA

CLASS LICENSE IN A DAY COURSE!

SPACE AN ISSUE FOR YOUR RADIO STATION? This compact package owned by Stan-W4HIX will get you on the air on 220/440, 2/6 meters, as well as 10-160 meters on all modes including packet, just add an antenna. A Jetstream 110 volt supply provides the 12vdc, the LDG automatic tuner makes life easy matching antennas, the versatile Icom 7000 hf, vhf, and uhf transceiver, Signal Link digital interface, and power/swr meter.....it's all you need to enjoy ham radio!

History This Week

Monday, 28 January, 2013

1788 A patent for a steamboat was issued by the state of Georgia to Isaac Briggs and William Longstreet.
1838 A U.S. patent was issued for the screw propellor to John Ericsson (No. 588). A Swedish American.
1839 Fox Talbot read a paper before the Royal Society, London, to describe his photographic process using solar light.
1879 The first practical, usable incandescent filament electric light bulb was demonstrated to an audience of 700 by its inventor J.W.Swan
1880 The steamship *SS Strathleven* arrived in London with first successful shipment of frozen mutton from Australia.
1893 Edison's patent concerning the "Manufacture of Carbon Filaments for Electric Lamps" (No. 490,954).
1901 The world's tallest geyser was discovered by Dr Humphrey Haines on the North Island of New Zealand.
1913 A patent for a "demountable tire-carrying rim", was issued to Louis Henry Perlman of New York City.
1918 Thomas A. Edison was issued a U.S. patent for a "Starting and Current-Supplying System for Automobiles"

What is Amateur Radio?

Amateur Radio — or “Ham” radio as it is sometimes called — is recognized, sanctioned, and regulated by the federal government as a “radio service.” That is, it exists to serve the public by

- Offering a training ground for high tech knowledge and skills
- Providing communication in disasters and emgencies
- Developing new techniques and technologies for the future

Amateur Radio is a fascinating, life-long avocation that offers dozens of “hobbies within the hobby” to be explored. “Hams” aren’t just a bunch of “CB radio nuts” running around with radios. Unlike Citizens’ Band (CB) operators, amateurs must pass a technical examination to earn their operating priviledges. Exams are given at several different levels of difficulty, with additional operating priviledges granted with each level of technical knowledge and skill. Amateurs have access not only to channels that provide local communication, but to bands of frequencies that permit global communication. Among the common interest areas enjoyed by Amateur Radio operators are:

- “DX” or attempting to collect verified two way communications with stations in as many different countries as possible.
- “Contesting” is a method of collecting many such contacts in a short period of time, as various organizations, such as the · ARRL sponsor events in which points are scored for the most contacts in a given weekend or other time period.
- “Ragchewing” is simply enjoying long conversations with friends made over the airwaves.
- “Homebrew” has nothing to do with home made beer, but everything to do with home made radio equipment and tinkering with equipment or antennas to try to get optimum results.
- “FM” local communication through “repeater” stations is a technology that paved the way for the cellular phones so popular today. Hams have been pioneering FM communication for over fifty years.
- “Digital” modes of communication are popular with hams, who do not use out of date technologies. Various types of medium- and high-speed computer-to-computer operation are a constant on the Amateur frequency bands.
- “Public Service” is something that all Hams provide in one way or another, but some specialize in this aspect of the hobby, using their stations to allow military personnel stationed overseas to talk back home, or organizing storm spotting and disaster response teams.
- “ATV” or Amateur TV — yes, it’s possible to have your very own TV station and send video to friends miles away. Hundreds of Hams do it daily! There are even Amateur FAX modes.
- “Satellites” — this is the space age, afterall!

THE 21ST CENTURY PHONE BOOTH EMERGES IN NYC

New York City has officially launched a plan to transform pay phones into giant touch screens that provide city information, emergency broadcasts and local business deals. Located in the same places as existing phone booths, the new platforms are to be operated as a partnership between New York City, Cisco Corporation and City 24/7. These smart screens were tested in a pilot project but now are live across the city and appear to be very reliable. Soon, there will be 250 of the new devices in all five New York City boroughs. This means that a person strolling through a given area would only have to pause a moment to tap on the public screen to find information about the closest subway or a city park. While there, he or she might also tap on the “deals” icon to bring up a list of coupons for nearby shops and restaurants that could instantly be transferred to a smartphone or other wireless device. But maps and coupons are only one dimension of the new platforms role. Like traditional phone booths they will also serve as a communication tool during emergencies but in a far more sophisticated way. For instance, in the event of another disaster like Hurricane Sandy, the screens will become two-way distress devices that let citizens call for help or receive instructions about how to find safety.

NASA observes Day of Remembrance

NASA will pay will tribute to the crews of Apollo 1 and space shuttles Challenger and Columbia, as well as other NASA colleagues, during the agency's Day of Remembrance on Friday, Feb. 1, the 10th anniversary of the Columbia accident.

NASA's Day of Remembrance honors members of the NASA family who lost their lives while furthering the cause of exploration and discovery.

Flags across the agency will be flown at half-staff in their memory.

NASA Administrator Charles Bolden and other NASA senior officials will hold an observance at the astronaut memorial at Arlington National Cemetery Friday morning.

At 10 a.m. EST, NASA Television will provide live coverage of a wreath-laying ceremony at the Space Mirror Memorial located in the Kennedy Space Center Visitor Complex in Florida. The observance is hosted by the Astronauts Memorial Foundation.

Ceremony speakers include NASA Associate Administrator Robert Lightfoot; William Gerstenmaier, NASA's associate administrator for human exploration and operations; Robert Cabana, director of NASA's Kennedy Space Center; Thad Altman, president and chief executive officer of the Astronauts Memorial Foundation; Jon McBride, chairman of the board of directors of the Astronauts Memorial Foundation; Mick Ukleja, chairman of the board of trustees of the Astronauts Memorial Foundation; Evelyn Husband-Thompson, widow of Col. Rick Husband, who was commander of space shuttle Columbia's final mission, STS-107, in 2003; and Eileen Collins, commander of shuttle Discovery for the mission in 2005 that returned shuttles to flight after the Columbia accident.

The Astronauts Memorial Foundation is a private, not-for-profit organization which built and maintains the Space Mirror Memorial. The mirror was dedicated in 1991 to honor all astronauts who lost their lives on missions or during training. It has been designated a National Memorial by Congress.

PHOTO ON THE LEFT comes from an article titled, "The Weirdest Photo Research of 2012." The caption reads, "Sam Harris, of Medfield, MA, trims his beard with electronic scissors controlled by moon bounce signals. Bettmann/Corbis" Glowbug members quickly identified the ham in the photo as Sam Harris, W1FZJ, who is famous for the first 1296 MHz moonbounce contact.

Not only that, they identified the receiver as the Lafayette HE-10 (fully assembled) or KT-200 (kit). Says, Bob, W9RAN, "Really a nice receiver with and RF stage and transformer isolated power supply – definitely a cut or two above the S-38 that the dial was borrowed from. I like receivers like this for casual listening, as you can just spin the dial and always find something interesting to listen to. It certainly would have been usable by Novices and on AM, although tuning SSB on receivers like this or my Hallicrafters SX-110 kept the operator busy, tuning to compensate for drift and controlling the audio with the RF gain, but this soon became second nature."

Why should you get involved with CAARA?

I can think of many reasons. First and foremost among them, the opportunity to meet and get to know other ham operators in your community. There are almost one million amateur radio operators in The United States, but within your local community they are probably not on every block. Ham radio is no different than any other hobby, be it model aircraft builders or Civil War re-enactors. We are a minority of the general public, so we band together to assist each other with our hobby, and to socialize with like minded individuals. Particularly for the newcomer, joining a club is almost a necessity, and here is why.

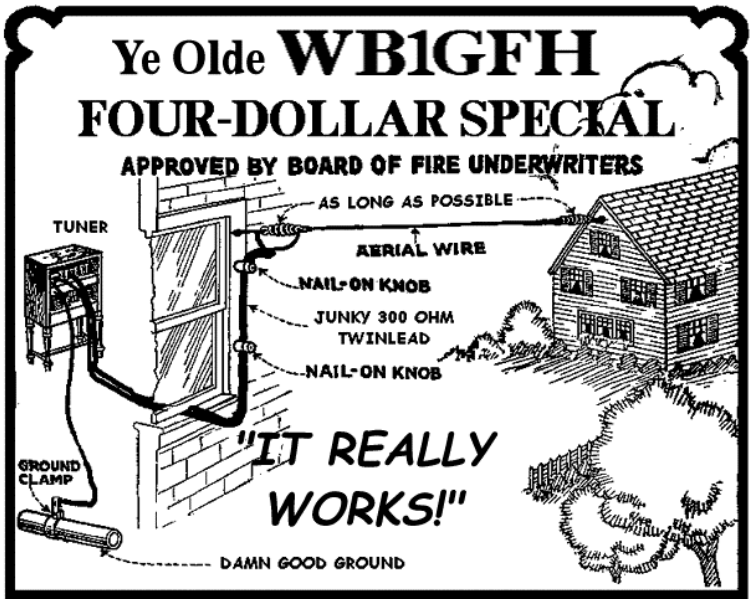
When anyone first gets into a hobby, they have questions, lots of questions. Some of the answers can be found in books or on line, but like any hobby, ham radio has a lingo all its own. For the newcomer, the lingo can be very intimidating. Being in a club allows one to absorb some of the language just by hearing it in context. Most hams are only too happy to explain it to someone else as well.

Where the question of equipment is concerned, the choices are overwhelming. Club members can make sense of the choices and direct the tyro to solutions that make sense for his or her unique situation. People live in different kinds of communities and have different restrictions on what they can put up for antennas. Within the home, the space available for amateur radio might be a whole room, or it might be just a little space on a desk somewhere. Spouses also have different ideas on what and where they will be happy with radios in the house or the car. Since family always must come first, the advice of more experienced operators can be invaluable in getting amateur radio and your own personal zoning board to happily co-exist.

Inevitably, at some point the new ham operator is going to come up against a problem. It could be equipment related or antenna related or any of dozens of other problems. Trying to work it out alone can be difficult to say the least. If you belong to a club, it is a simple task to ask another member with more experience for help or advice. Down the road, someone will be asking you similar questions and suddenly you realize that you have become the expert that newcomers look to for help.

Most ham operators have more interests than just amateur radio. They may be expert gardeners or woodworkers or collectors. By joining a club and participating actively in it, you can avail yourself of the friendships and social contacts that the club provides. Who knows, you likely bring a skill or an experience level to the club that others will see as valuable too.

Another area where belonging to a club brings benefits is in the area of what I call “the big project”. If there is a need for a tower to be erected, or some other large job, club members can be counted on to band together to get it done, whether for the club as a group, or for the benefit of an individual member. Just remember to reciprocate on the next “big project” for someone else.



We are one of the few clubs in New England 100 member strong, a healthy financial statement, and an active and well stocked clubhouse with hf operating stations and test equipment for use by all the members, not to mention ouir functional Emegency Operation Trailer. Weekly Sunday morning coffee and donut socials, and monthly speaker meetings, sponsoring ham events like Field Day, and on and on and on....Drop in and have some fun!

Also JOIN THE ARRL. The services provided to the members and the publications they put out are a cornerstone of the hobby. You will find the ARRL Handbook (as just one example) on the bookshelf of almost every professional electronics engineer in the world. The ARRL is amateur radio’s most important representative to the FCC and to the world. They protect our spectrum from encroachment by vested interests and speak for us to the government. They also do much more, but that would take a whole book to describe. Just a few of the benefits are affordable insurance on your radio equipment, awards, email forwarding, license renewal, technical information, regulatory information and on and on.