



# CAARA Newsletter



AN ARRL AFFILIATED CLUB

MARCH ISSUE- 2009

## President's Corner



*by Curtis AA3JE*

Well spring is coming, if not here, and there is a lot to do in amateur radio. There is so much activity that I fear I will fail to mention it all, so if I forget your pet project, let me know and I will correct it in the next newsletter.

Contesting is going great guns at the club, with both the highly successful winter field day (we scored big!) and the contest on FEB 21-22. There are now 2-3 stations running (CW, VOICE, DATA) upstairs and it has gotten so professional we now have antenna switches at multiple locations and all the COAX is off the floor!.

Kit building has become popular, with multiple soldering guns going Saturdays and Sundays, with a stream of direct conversion receivers, QRP rigs, superhets and regenerative receivers all being crafted from kits both good, bad, and ugly.

The big news for March will be the hamfest on the 14<sup>th</sup> of March at the Pigeon Cove Circle in Rockport. This is a chance to unload some of your old gear and get some new gear as well. Older hams (and non-hams) should know that we can help by picking up larger items and taking them to the club table for members. All electronics this time, no boat anchors! (although we got a good price for the anchor last year.....)

The general upgrade course started the week of the 25<sup>th</sup>, and we hope to add a technician class as well. Not too much interest in extra classes, but once we have the new crop of generals I have high hopes.

Our outreach programs are working well, February 26<sup>th</sup> we had a visit from the health care volunteers for Cape Ann who toured the club and learned what we have to offer in support of a medical emergency.

Things are bustling, and there has never been a better time to stop by and get involved.

See you next month

Curt Wright AA3JE

**CAARA will be holding an Amateur Radio flea market on Saturday, March 14, 2009 at the Pigeon Cove Circle Center.**

The Center is located at 6 Breakwater Avenue off of RT 127 North in Rockport Massachusetts, on the north side of the old tool and die factory.

The doors will open at 7:30 AM for sellers and 9:00 AM for everyone else. Vendors can reserve a table for \$10.00 the day of the flea market or for \$8.00 in advance. There will be a \$3.00 admission fee for buyers. There will be door prizes and coffee and food will be available on-site.

Additionally there will be a club-run consignment table and donations will be negotiated. Amateur Radio license testing will be available on-site during the flea market.

We ask that this flea market content be limited to Amateur Radio equipment and accessories only. We will not sell TV's or orphan CRT monitors.

For contact information please e-mail Dick at [dickc911@yahoo.com](mailto:dickc911@yahoo.com) or call 1-508-269-4941. We will have talk-in on the CAARA repeater for the flea market on 145.13 MHz. **There is no PL tone on the repeater.**

## **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-Editor  
K1TP

### **Board of Directors- 2008-9**

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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 W1RK 443.700 repeater with antennas located in Magnolia is owned and operated by club member Ralph Karcher and it too is available for club use.

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.

## **‘CQD’ Jack Binns and the sinking of the RMS Republic**

The RMS Republic was rammed on 23 January 1909 and was the first occasion on which the ‘**CQD**’ distress call was sent by Wireless.

This story appeared in the January 2009 issue of the Radio and Communications magazine **Monitoring Monthly** and is reproduced here with permission.

Three years before *Titanic*, on January 24, 1909, a palatial and “unsinkable” White Star Line passenger liner sank 50 miles off the coast of Nantucket, North America.

The **RMS Republic** sank in one of the most treacherous parts of the North Atlantic, a heavily trafficked shipping lane, in 270 feet of water.

The RMS *Republic* (Royal Mail Ship - qualified to carry both the British and U.S. mails) and one of the largest and most luxurious passenger liners of the White Star Line departed New York on Friday, January 22, 1909, outbound to Mediterranean ports carrying 210 First Class and 250 Steerage passengers and a crew of 300.

The next day at 5.30am she was rammed in a dense fog by the smaller liner, the Italia Lloyd SS *Florida* amidships. The collision killing 3 of the *Florida*’s sailors who were asleep in her bows and 2 passengers on the *Republic* (one more died later). It also flooded the *Republic*’s engine room and electric generators leaving it without power or light, adrift in the Atlantic. The SS *Florida* was bringing 830 persons from the World’s worst Earthquake at Messina in Italy which had killed 100,000 to “safety” in America.

The Marconi Wireless Room of the *Republic* was damaged but the Operator, **Jack Binns** managed to rewire part of it to use the 24Volt Emergency batteries and signalled “CQ” (Attention All Stations) and “D” (Distress). CQD was introduced by Marconi Marine in 1904; SOS although proposed in 1906, was not ratified in America until 1912.

This was received by **Jack Irwin**, the Marconi Shore Station Operator at Siasconsett on Nantucket Island,

Massachusetts. Irwin replied “CQD” and awaited more information. Captain Sealby of the *Republic* instructed Binns to signal “**REPUBLIC RAMMED BY UNKNOWN STEAMSHIP, 26 MILES SOUTHWEST ON NANTUCKET: LATITUDE 40.17 LONGITUDE 70**”. Binns added “**BADLY IN NEED OF ASSISTANCE**”.

Siasconsett, using higher power, was able to relay this message to a number of ships within 250 miles – they responded that they were making steam towards the drifting *Republic*. The *Florida* did not have a Wireless transmitter or receiver and had moved away from the crash scene but later came back into view. It was decided that as it not so badly damaged as the *Republic* all passengers and all but 40 crew would be transferred to the *Florida* using all boats available. This took some hours and resulted in badly overloading the *Florida*.

In the mean time the French Liner *La Lorraine* had heard the CQD calls and was acting as another relay station when the weak signals from the *Republic* could not always be heard by other ships. It searched for over 12 hours in the fog and travelled 200 miles but never made contact with the *Republic*.

Another White Star Liner, the **RMS Baltic** was inbound for New York and equipped with Wireless and the Chief Operator, Henry J Tattersall was at last in contact with the *Republic* who was able to give it directions. After zig zagging for 12 hours and hundreds of miles did find the *Republic* – speed had to be kept low for fear of ramming it as well!

The decision was made to transfer all passengers from the *Florida* (as water was found in its forward compartment) to the *Baltic* (second transfer for the *Republic*’s passengers) but by now the fog had lifted a little, the sea had produced an 8 foot swell and it was raining. This transfer was completed with no loss of life and is still the largest sea transfer of 1,240 passengers and 300 crew undertaken to this day. The *Baltic* continued to shadow and was in Wireless contact with the *Republic* while the *Florida* slowly made her way to New York.

Tugs attached ropes to the *Republic* and slowly towed

it to towards New York but it was obvious that it was sinking. At 5pm on the 24 th January Jack Binns stopped mid sentence and signalled “Current going, Wireless now closed”. He and most of the crew then took to the boats. Captain Sealby and Second Officer Williams who stayed, were swept into the sea but rescued as the *Republic* sank, stern first, at 8pm that evening.

Jack Binns had demonstrated the “miracle” of commercial Wireless to a number of American Congress Members on previous voyages. At that time few thought of it as a “life saving device” – this all changed when they found themselves saved by the Marconi Wireless and Jack Binns who operated it for 39 hours. Henry J Tattersall was at his Wireless post on the *Baltic* for 52 hours during which time he and his assistant, Balfour sent 800 paid and received 400 besides sending 100s of emergency messages. Captain Ransom of the *Baltic* was at his post for 80 hours!

This was a practical demonstration of this “new” technology’s ability to aid victims of disasters at sea - and this “miracle” captured the world’s attention. It was the world’s first “breaking-news” “live” mass-media event. It also gave Marconi a wonderful advertisement to the power of Wireless at sea and improved its finances!

The *Republic* was the largest, most technologically advanced vessel to sink at that time; she was succeeded in that ignominious role only by the loss of another virtually “unsinkable” White Star Liner, *Titanic*, which was to sink just three years later, both being built by Harland and Wolff, Belfast.

The *Republic*’s cargos, however, did not fare as well as her passengers. Most of her mail, baggage and other cargos (including at least one shipment of Gold) were lost. After all, there was no need to remove cargo from an “unsinkable” ship. There was also no power to operate her winches, and no time; saving lives always came first.

Jack Binns went on to serve on the White Star *Adriatic* for two years under Captain E J Smith (of *Titanic* fame). In 1912 he resigned from Marconi with a change of career to a journalist in New York and to

meet this commitment travelled from Liverpool on the *Minnewaska* as a passenger 3 days before the *Titanic* sailed on its maiden voyage.

On the outbreak of WW1 he moved to Canada where he joined the Canadian Flying Corps as a Wireless and Aviation Instructor. After the War he returned to journalism and was a founder member of the New York Newspaper Club and served as Radio Editor of the New York Tribune before leaving journalism in 1924 to form the Hazeltine Corporation. He was Director the next year – Vice President in 1935, President in 1952 and Honorary Chairman in 1957.

He died 8th December, 1959 aged 75.

To commemorate this event Radio Amateurs around the World are going to transmit using Special Event Call-Signs on Saturday, 24 th and Sunday, 25th January, 2009.

In England, Ofcom have issued the following Call-Signs:- The Lizard Marconi Station has the call sign **GB100MSC** and will represent the Siasconsett coast station.

From Jack Binns home town of Scunthorpe the call **GB5CQD** will be used.

Chelmsford will use **GB0MWT** and represent the Marconi Company who made all the equipment involved with the rescue 100 years before.

Other Radio Societies and Clubs are encouraged to take part.

#### *References and Acknowledgements.*

Virginia , Grand-Daughter of Jack Binns.

David H Barlow, Radio Officers Association,

Captain Martin Bayerle, WebMaster of [www.rms-republic.com](http://www.rms-republic.com) who is proposing to mount a salvage operation during 2009 on the *RMS Republic*. If anyone reading this can contribute to information about the cargo lost on the *Republic*, Martin would be grateful to hear about it via the above website.

John H Bowen. C.Eng. MIET. G8DET.  
Chairman of the Chelmsford Amateur Radio Society <http://www.g0mwt.org.uk/>



# WINTER FIELD DAY AT CAARA



Allison Williams, N1QEH (L) and Mark Watson, W1MAW (R) log in a voice contact while Mike Burke, K1MB, Bill Poulin, WZ1L, and Briggs Longbothum, AB2NJ, watch Rick Maybury, WZ1B log in a CW contact during Winter Field Day 2009



Nat-NG1Z adding some points to the log



Dean working phone



Glenn enjoying some quality operating time. I can't remember the last time so many club members have visited the club to socialize and operate a contest in the past few years!

Rumor has it that Winter Field Day was such a success that many hams have asked if the club could do the same thing with some future contests. Well, it is a distinct possibility...stay tuned!



Mike Burke, K1MB, Bill Poulin, WZ1L, and Briggs Longbothum, AB2NJ, watch Rick Maybury, WZ1B log in a CW contact during Winter Field Day 2009





Dave operating the contest on the first floor. It should be noted that the club now has HF and VHF stations operating on both floors of the clubhouse with antennas that can be switched between floors. A triband beam, vhf and UHF antennas, an hf verticle as well as a hf dipole. Members can enjoy the stations at any meeting as well as every Sunday morning.

# Official Winter Field Day Results

## Multiplier Checklist (List additional bands if necessary)

Band	CW	PH	RY	TV	Total
SAT	0	0	0	0	0
1.8	0	0	0	0	0
3.5	0	0	0	0	0
7	46	2	0	0	48
14	0	280	2	0	282
21	0	0	0	0	0
28	0	148	0	0	148
54	0	25	0	0	25
1					
<b>Total</b>	46	455	2	0	<b>503</b>

### Claimed Score

QSO's	503
Multipliers	503
Subtotal	253009
	0
	0
	1000
<b>Total</b>	<b>254009</b>

**Operators** NG1Z, W1MAW, AB2NJ, KB1PGH, W1RK, WZ1B, N1UGM, WA1JG, K1MB, KB9YOZ, N1QEH

**Club Name** Cape Ann Amateur Radio Association

**Name** Briggs Longbothum, ab2nj

**Address** 6 Stanwood Street

### General Class License Course

When: Wednesday, February 25 2009 @ 07:30 PM EST - 09:00PM

Event Type: Education

Where: CAARA Clubhouse

6 Stanwood Street

Gloucester, MA 01930

Description: CAARA is holding a General Class License course headed by Curtis Wright AA3JE and Bill Canty W1OKD. The course is free but we do ask that you sign up in advance by e-mailing CAARA's Clerk, Dean Burgess at [dburg101@aol.com](mailto:dburg101@aol.com). This course is open to all amateurs. Following sessions will be held every last wednesday of each month.



Mike-K1MB works CW at the Winter Field Day



# KR1G SAVES THE DAY!



Dave survives a “flux” fire while putting together one of his many radio kits.....slow down Dave!



CAARA clubhouse as it looked during Winter Field Day



W1MAW, K1NKA, and KB1RBR

## **CAARA Emergency Communications Group Meeting**

Cape Ann Amateur Radio Association held its monthly Emergency Communications Group meeting on Wednesday January 21 2009. This month we had Mr Robert Macedo KD1CY the A.R.R.L. Eastern Massachusetts ARES Section Emergency and Skywarn Coordinator come and do a presentation of the North Shore Amateur Radio Emergency Services response to our regions severe ice storm that occurred during the middle part of December 2008. Rob made an excellent powerpoint presentation going into great detail of the North Shore ARES activation that started on December 11th and ran thru December 22nd. Rob was stationed at the National Weather Service in Taunton Mass. Rob stated that 25 amateur radio operators answered the call for help and a total of about 300 hours of communications service was provided in situational awareness and intelligence gathering. He also mentioned that the ice storm event ARES response was the biggest since 9/11. Mr Macedo stated that during this event there came to the conclusion that there was a great need for more hams to get involved in Emergency Services Communications. If you are interested in learning more about Emergency Communications CAARA's EmComm group meets every 3rd Wednesday of the month at 7:30 Pm at the clubhouse. CAARA's Emergency Communication Group consists of:

Curtis Wright AA3JE-Emcomm Group leader

Charles Downey N1OCT

Bill Poulin WZ1L

Bill Canty W1OKD

Linda Wright KB1MWG

Dick Copithorne KR1G

Briggs Longbothum AB2NJ

Sue Downey N1XQW

Rick Maybury WZ1B

Hank McCarl W4RIG

Jen Downey

Jon Cunningham K1TP

Ralph Karcher W1RK

Robert Quinn WV1A

Dean Burgess KB1PGH

Stanley Stone W4HIX

Donald Calnan KB1NWL

**CAARA held an ARRL Volunteer Examiner Amateur Radio License test session** on Sunday, February 8th at noon at the Clubhouse. We had 3 Technician Exam Test takers and only 1 passed scoring a perfect 35 out of 35 questions. Her name is Judith Knickle from Gloucester and we also welcome her as a new CAARA club member. The CAARA VE team consists of :

Bob Quinn WV1A VE Team Leader and Liaison

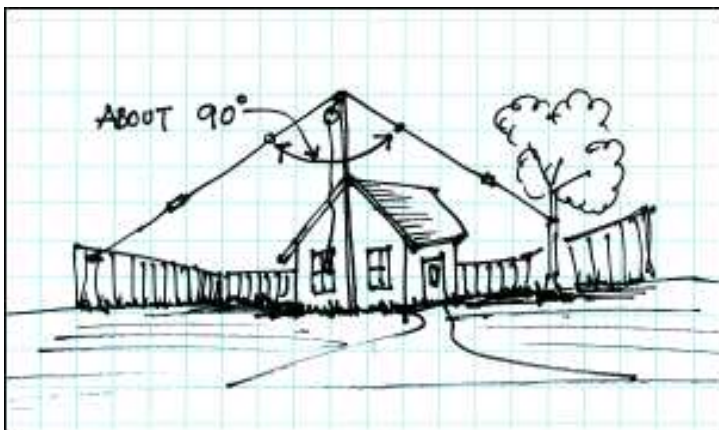
Briggs Longbothum AB2NJ Curtis Wright AA3JE Henry McCarl W4RIG

Bill Poulin WZ1L Charles Downey N1OCT Rick Maybury WZ1B

Dean Burgess KB1PGH Nat Henrickson NG1Z Stanley Stone W4HIX

Ralph Karcher W1RK

The next VE Test Session will be Sunday March 8th at Noon at the clubhouse.



**It is very easy to build an Inverted Vee Antenna to get on the air with your new Ham Radio Station.**

The Inverted Vee is the most popular antenna used by Ham Radio Operators. I suppose that's because it's very inexpensive and requires very little time to put up in the air. All you need is wire (about 12 to 16 gauge stranded or solid with or without the insulation), 3 insulators, some chord to tied off the ends and to hold the center insulator and the coaxial feed line. RG58 will do very well for feed lines of short length of less than 100 feet at the lower Ham Radio Frequencies and for power levels about 100 watts.

RG8X is a little better because it will have less signal loss on the higher frequencies. For high power transmitters and/or much less signal loss buy either RG213 or LMR-400 coax.

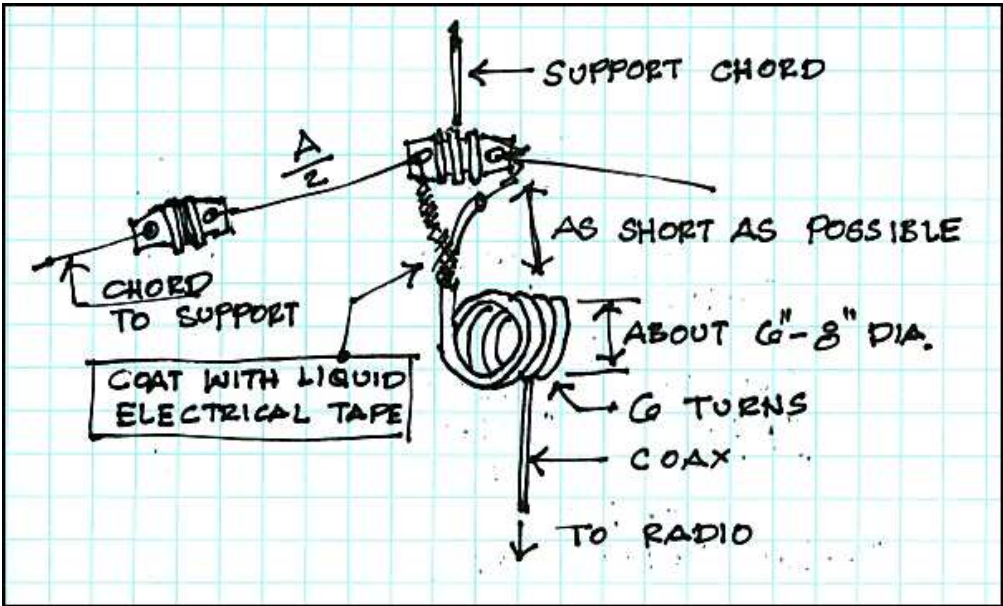
Below is a chart of over-all lengths of your antenna for the various bands. If you remember on your Ham Radio License test, the formula is  $468/\text{frequency in megahertz}$ . The lower bands such as 160, 75/80 and 40 meters will be rather narrow banded in resonant frequencies. In other words, you can only safely operate about 20KHz around the center frequency of your antenna.

Band	CW (Code) Length "A"	SSB (Voice) Length "A"
160 meters	246'-4" center of band	
75/80 meters	131'-10"	123'-2"
40 meters	66'-6"	64'-10"
30 meters	46'-2" for entire band	
20 meters	33'-4"	32'-10"
17 meters	25'-9" for entire band	
15 meters	22'-2"	22'-0"
12 meters	18'-9" for entire band	
10 meters	16'-6" CW & SSB	15'-10" FM

Begin by determining which band you might use most often. If you plan on operating at night then the 160 through 30 meter bands would give you more stations to operate. If you plan on operating more during daylight hours then the 30 through 10 meter bands would give you more stations to operate. However, during periods of low sun spot activity, the daylight or higher bands will only have short sporadic openings. 30 meters seem to have the same qualities of both the higher bands and the lower bands. Also consider how much real estate you have for an antenna. Many city dwellers find it difficult installing a full size 75/80 meter (or larger) antenna because of the large amount of space required.

Measure off a length of wire according to the chart above plus about 12" more for the amount needed to attach



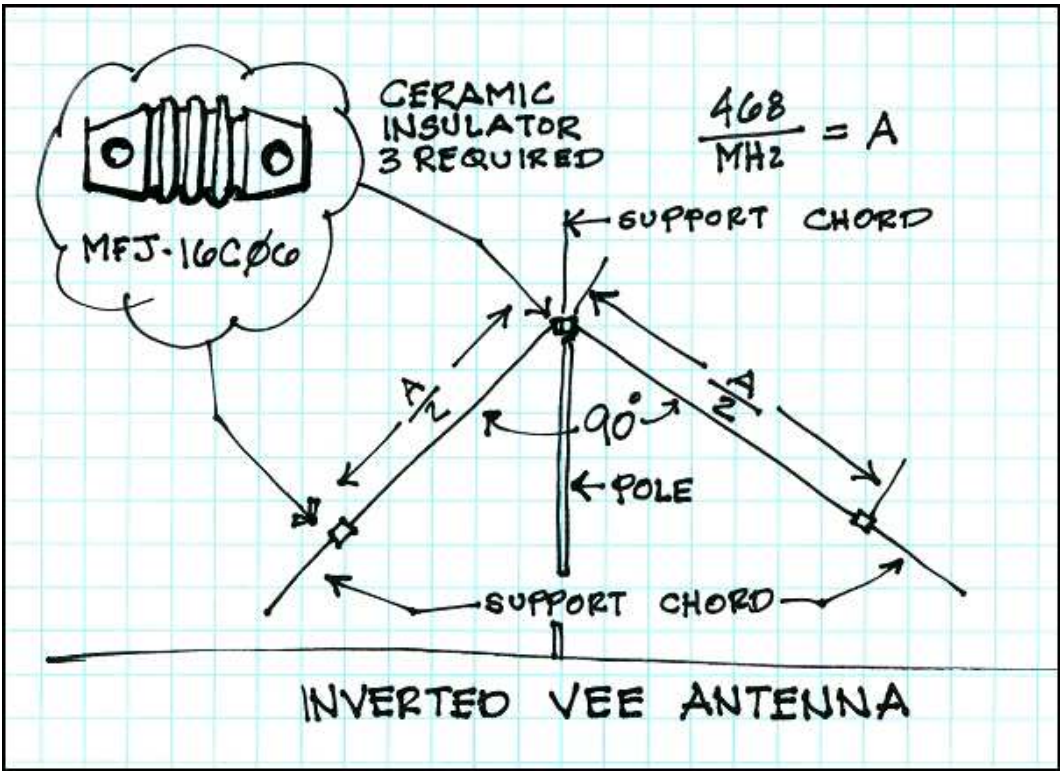


the insulators. Fold this length of wire in two and cut at the center. This is where we will attach a center insulator. Strip off about 3 inches of wire, feed it through the ends of the insulator, twist and solder to secure it. Do the same to the opposite outer ends and solder to the other two insulators. Opposite the end insulators you can use more wire or I like to use chord to support the ends to something about 6 feet above ground like a tree limb or a fence post. You now have your half wave antenna and

you need to connect the coaxial feed line.

Figure about how much coax you will need to go from the top of your support and to your operating location, then add about 3 more feet for the coax loop RF choke. On the antenna end roll the coax into 6 turns about 6 to 8 inches in diameter. Secure the loops with electrical tape. This creates a RF choke to prevent the coax from radiating as part of the antenna. Leave about 4 inches straight and strip the coax down exposing the center conductor and exterior braid. Keep this part as short as physically possible. Now solder the center conductor to one side of the center insulator and then solder the braid to the other side. I like to use liquid electrical tape

(available from Home Depot) and coat the exposed wires to prevent rain water from contaminating the coax. You do not want moisture from seeping into the coax for that will cause problems in time. Don't use a silicon cement because that kind of cement has a corrosive effect on copper parts. Now tie a non-conductive chord to the center insulator so to hoist it up on your support.



## Preserve and Encourage CW Activity in 2009!

New Years 2009 may have come and gone but its never too late to resolve to help preserve and encourage CW activity across our amateur bands.

To celebrate the new year, come and join the NAQCC (North American QRP CW Club), a club for any and ALL CW enthusiasts around the world.

Our members include “Big Gun” contesters, hard-core QRPers, experimenters, ragchewers and SWLers; young and old alike. As different as we may be, we all share one thing in common, and that is our love for CW.

We welcome all who want to help support CW and have at least some interest in using QRP from time-to-time. Our club runs monthly sprints and challenges. Plus we sponsor some additional special on-air activities during the year.

Membership is free and once you join you’re automatically a lifetime member! So sign up today and help us keep CW alive and well.

Visit our web site at <http://www.usatek.net/~yoel/>. You’ll find info on all of our various activities plus an online membership application.

We look forward to your support and hope to soon see your call added to our membership roster.

73,

*Paul/KD2MX*

### THE GREAT 2009 VACUMN CLEANER CAPER

It has been reported that the vacumn cleaner at the clubhouse is missing. If anyone has “borrowed” the vacumn cleaner, we would appreciate it’s swift return. We want to keep the club clean for all to enjoy!

## Laura L. Smith Named to Amateur Radio Enforcement Role

Laura L. Smith of Pennsylvania has been named by the FCC to fill the vacancy created when Riley Hollingsworth, K4ZDH, [retired](#) in 2008 as Special Counsel for the Spectrum Enforcement Division of the FCC’s Enforcement Bureau. Hollingsworth served in that position for more than 10 years as the FCC’s enforcement watchdog over the Amateur Radio Service.

A 1990 graduate of the Pepperdine University School of Law, Smith began her legal career with the FCC, working in the Mass Media Bureau and Wireless Telecommunications Bureau.

She also served as Deputy Division Chief of the Public Safety and Private Wireless Division. Smith is currently licensed to practice in the Commonwealth of Virginia.

In 1998, Smith left the FCC to become Executive Director of Governmental Affairs for the Industrial Telecommunications Association, now Enterprise Wireless Alliance. In that role, she monitored FCC and legislative proceedings and participated in all regulatory proceedings relevant to the private wireless industry. In 2001, Smith became ITA’s President and Chief Executive Officer. While in that position, she was instrumental in the formation of the Consensus Group, a group of public safety and private wireless entities responsible for drafting the “Consensus Plan,” a proposed resolution for interference in the 800 MHz band; this was adopted by the FCC in 2004.

Smith returns to the FCC after serving Of Counsel with the Maryland law firm of Shulman Rogers. While there, she dealt with telecommunications matters and provided counsel to numerous entities in the private radio and public safety communities.

Smith has served as an industry consultant and written columns for a variety of trade publications including *Mobile Radio Technology Magazine* and *The Private Wireless Magazine*.

## **EVERYTHING YOU WANTED TO KNOW ABOUT PL-259 CONNECTORS...AND MORE!**

I have seen nearly a hundred websites, YouTube videos, and even manufacturer's instructions, for installing the good old PL-259. I'm going to comment on a lot of the content I have seen, the tools that have been made available, and the techniques shown by others. I will then also show a step by step pictorial on how to install a connector, basically how I have been doing them for years myself!

When it comes to the PL-259 I prefer the solder on variety. Crimp on connectors are usually cheaply constructed, have a poor fit to the SO-239 due to the center pin being under or even oversized, and the crimping tool required to install them is out of the budget of most hams. If you're installing a few connectors a year tops then investing in a crimping tool is simply not economical. If you put on dozens or hundreds per year then by all means go for it, but then you also have to deal with fitment and quality issues on a regular basis as well.

### **Connector Selection:**

There are a lot of choices when it comes to the PL-259.

Silver plated body and tip.

Silver plated body, gold plated tip.

Gold plated body and gold plated tip.

Cheap connectors that are chrome plated.



Let me first say that I prefer one of the first two, I generally use the type with a silver plated body and a silver plated tip. But recently came across a deal on a large batch of silver plated body with gold plated tip, and they work great as well. The main issue here is solder ability! But you also want ones with a good Teflon center insulator. How many of you have bought PL-259's from Radio Shack and melted the coax before the solder will flow into the braid holes? I know I have! All of the PL-259's out there seem to be Brass, and then plated with various metals. The cheapest of which seem to have chrome plating, which is hard to get a nice result soldering. I've seen many of them with file marks around the holes for the braid in an attempt to remove enough of the plating to get a good solder joint to the underlying brass! And now there are even tools that have been created to circumvent soldering it, I will touch on that shortly as well. The thing here is the connector will last for years and years of service, I have had them literally outlast the coax, but you need to spend a little money here and buy good connectors! Silver plated PL-259's can be had for about \$2-3 depending on where you buy them from and what brand they are. I have actually had very good luck with the cheaper \$2 variety that have no brand name on them at all, most are simply stamped Made In USA on the shield and that's it. They are silver plated, heat up very quickly and wick up the solder very nicely.

### **Tools:**

There are two categories here, preparation, and installation.

When it comes to prep tools I have tried many, and returned or sold them all. The coax prep tools available are ok at best. Most of them use razor type blades that dull quickly, are a pain to replace, and just not worth the cost. The biggest pain is you usually can make the first cut with one of these, through the jacket, braid, and center dielectric, only a few times before the blade no longer makes a clean cut through the braid. So what do I use? A plain old utility knife with a new blade, though that new blade will last for



a dozen or so connectors before I need to replace it. There are a lot of arguments here; the so-called “experts” claim that this step cannot be done correctly with a utility knife as you will nick the center conductor. After doing dozens of connectors, if not nearly a hundred or more, I can tell you that it does take a little practice and a feel for the knife blade but it's easily do-able. I will explain my method in detail shortly, but it's easy guys! Installation:

Now it's time to get down to business!

Installing a connector on RG-8U size coax is simple. The first thing you need to do is remove that outer shield and slide it over the cable, you will hate yourself later if you forget this step, and I think we have all done it at least once! If you want to install heat shrink tubing over the back end of the connector, to give it a more professional look or to help with sealing it for outdoor use then slide that over first and then the shield. A quick note on this, I have used the heat shrink tubing that has a coating of hot melt glue inside of it for this purpose, it really seals up the back end of the connector against water intrusion, but the rest of the connector still needs to be sealed if used outdoors. More on that later..



Next is to make some cuts. First you want to remove 3/4" of the outer jacket, braid, and center dielectric. Again being careful not to nick the center conductor. I have been asked many times why that's important. There are probably as many explanations for this out there as there is for how to install the connector. Some say it can affect the impedance of the connection, others say it creates a stress point where the center conductor can break if flexed. I tend to agree with the latter more than anything.



Next step is to remove 3/8" of the outer jacket, being careful to avoid cutting the braid. If any of the braid is hanging past the end of the center dielectric after this step take a wire cutter of your choice and snip them flush.



Now you want to screw on the barrel of the connector. A lot of the guides out there claim you need to tin the braid or the center before doing so. I never have and never will. This is just adding additional heat that isn't needed when it comes to the braid. All too many have melted the center dielectric by taking this step and tinning the braid. If you have good quality coax this isn't needed as it will wick up the solder just fine through the holes when soldering the connector.

Now that the barrel is on the coax I like to take my VOM set to the continuity setting and make a quick check that there is no short between the center and the braid. Why? Because despite good preparation there is always a possibility that a small piece of braid wire got in there and shorted it out, or the connector



was faulty to begin with. I had one instance where I put the connector on and the VOM showed a short, took it back off and the coax looked fine, checked the connector while off the coax and it still showed a short! Looking down in the connector from the back end showed a metal shaving that was across the center to the shield, a small dental pick was used to remove it and all was well. You want to find problems like this before you solder it all on!





**I like to start with soldering the center conductor. I use a Hakko 936 temperature controlled soldering station as mentioned previously. This takes very little time to accomplish**

**Next is the part that all too many people have troubles with. By using a chisel shaped tip you can lay it across the hole leaving a small gap through which to apply the solder. This traps the melted solder underneath the tip in the hole and against the braid. Give it a little time and it will wick into the braid, and then just repeat for the other three holes. The first one is always the hardest as you're initially heating the barrel and most of the heat applied is being taken away from the connection you're trying to make. Be**



**patient! Also, you will notice that while doing this I have the connector suspended in the air, you don't want the connector laying against something, and not just for the obvious reason of melting or burning something, but also to allow the connector to heat up quicker since it's not resting against something that would be taking away the heat your putting into it!**

**That's it! Soldered and ready to go. Slide the shield forward and screw it onto the connector. Use caution here however, the connector is still going to be hot, or allow it some time to cool first. If you're going to**

**apply heat shrink tubing to the back end of the connector you might want to allow it to cool for a minute or two or the heat shrink will start shrinking as your trying to put it over the connector from it still being hot.**



As I mentioned earlier there is another method for soldering the barrel to the shield if you're in a situation where you do not have a sufficient iron to do so, or if you're outside. Outside installation can be a challenge, cooler temps or a bit of a breeze can quickly cool the connector while you're trying to heat it enough to solder it on. In these situations I have been able to do it two ways. One is with a butane soldering iron, they are harder to control temperature wise, but if you follow the same precautions here, work quickly, don't apply heat for too long, you can do just as good as if you were working at your bench. The second method I have used is to apply a large glob of solder to each hole with a pencil iron or butane iron and then use the butane torch to quickly heat around each hole until the solder wicks into the braid, this works really well in cold weather! The connector and the coax are cold, and there is very little risk of melting the center dielectric or jacket by overheating as you're usually only able to heat enough of each hole, one at a time, and the braid below it to flow the solder. I have done this in the middle of the winter here in the Midwest and you can usually handle the connector seconds after soldering, it just cools that fast! As with anything practice and patience makes for good connections!

### Sealing:

Let's take a moment to talk about sealing up a PL-259 when used outdoors. A PL-259 exposed is water intrusion waiting to happen when it's in a location that is exposed completely to the weather, even when up inside the mounting tube of some

popular dual band vertical antennas this can be a problem as well. I like to take a two step approach to sealing these. First is a couple layers of tightly wrapped butyl tape, some call it *Self-Amalgamating Tape* as well, this plus a couple layers of 3M Super 33+ as a UV barrier for the butyl makes a connection that will last for years! Most of the Butyl tapes that I have used are not 100% UV resistant, so the layers of electricians tape over the top of it helps prevent breakdown. A couple years ago I moved all of my antennas from one location to another, when I installed my first tower, after cutting the Butyl tape down one side it came off in a perfect molded shell, with the knurled portion of the connector being a perfect mirror image. The



connector looked brand new as if just installed! This is very impressive stuff, and FAR better than the coax seal products sold, it has no adhesive to dry out and rolls of it can sit on the shelf for years. If you're going to use one of those other products beware, they stick to everything, it's hard to remove and clean up, and it discolors the connector after being on there for a year or two. With the Butyl if you need to replace/repair an antenna it's just, slit, remove, and disconnect. Then rewrap when you reconnect. It can actually be cheaper than the coaxial seal or other mastic type products, rolls of it can be had for merely a few dollars if you shop around!

## APRS – An Overview and Some Ideas

On February 4<sup>th</sup>, Stan Stone (W4HIX) gave a presentation on APRS and some ideas he has on creating a weather buoy on Ipswich Bay to the CAARA members' meeting.

APRS is a packet system developed by Bob Bruninga that is primarily used on VHF (144.39 MHz in the US). It has many purposes, but it is probably best known for transmitting position information derived from a GPS unit. APRS can be monitored easily without any receiver on several websites, like <http://aprs.fi/> (try tracking W4HIX-10). Stan described the method for putting together an APRS digipeater to relay packets from local stations to other APRS stations, or on to servers that store the packets in an online database through the use of an IGate. APRS can be used for many purposes including relaying weather data, telemetry, text messages, bulletins, emergency messages and more. Hardware and software was discussed in the presentation.

What got Stan interested in APRS and ham radio was figuring out how to relay weather information from a buoy. Stan lives on Lanes Cove and runs a webcam/weather station site (<http://www.lanescove.us/webcam>). Though he has very good weather data, he was always curious about the weather on Ipswich Bay, just offshore from his home. After some research, he decided that it would be possible to relay the data from a buoy to his home using APRS. Currently he has an Argent Data Systems Tracker2 and a Yaesu FT-1500M operating a digipeater/IGate. Also presented were some of the buoys that are currently scattered off of the New England coast and the GoMOOS (Gulf of Maine Ocean Observing System) buoys operated by the University of Maine <http://www.gomoos.org/>.

Stan's presentation can be found on the web at <http://www.lanescove.us/APRS.html>.

*Stan Stone (W4HIX) is a new ham and lives in Lanesville. He operates on 2m and is interested in data communications. He is working on a long distance WiFi link for the Thatchers Island Committee to bring Internet service to Thatchers Island. He is also working on a precursor to the Ipswich Bay weather buoy—a drifting buoy to measure current flow in Ipswich Bay.*

## ORLANDO HAMFEST BY K1TP



I attended the Orlando Hamfest on Friday the 13th of February. It is easy to find and has lots of free parking close to the gates. The food was great and it was the largest flea market I have ever attended. It was 85 and very hot at the outside fleamarket so I spent most of my time in the airconditioned commercial vendor buildings. It is larger than the Boxboro Event and very well attended. What surprises me the most is that I left without buying anything!

### **Greetings to all CAARA members,**

One of our club members, Nat Henrickson NG1Z, is heading up a couple of contests at the clubhouse. The first one is coming up this weekend and it is the A.R.R.L. CW DX contest. It begins on 1900 local time this Friday night and goes through 2400 UTC on Sunday. Nat is once again setting up the computer logging stations as well as computer keying abilities. There will be a total of 144 operating hours available. This is a perfect opportunity for those who even just want to put on a pair of headphones and see how contesting works. If you are interested in participating in the CW competition please e-mail Nat to reserve some space at [NG1Z@nsradio.org](mailto:NG1Z@nsradio.org). There will also be the SSB version of the same DX contest coming up at the clubhouse on March 6-7. If you wish to look up the rules you may go to the [www.arrrl.org](http://www.arrrl.org) and go to the contest link.

73's

Dean Burgess KB1PGH  
CAARA Clerk

# Amateur Radio Contests for March

SARL Hamnet 40m Simulated Emerg Contest	1200Z-1400Z, Mar 1
North Carolina QSO Party	1700Z, Mar 1 to 0300Z, Mar 2
RSGB 80m Club Championship, Data	2000Z-2130Z, Mar 2
ARS Spartan Sprint	0200Z-0400Z, Mar 3
AGCW YL-CW Party	1900Z-2100Z, Mar 4
NCCC Sprint	0230Z-0300Z, Mar 6
ARRL Inter. DX Contest, SSB	0000Z, Mar 7 to 2400Z, Mar 8
Wake-Up! QRP Sprint	0400Z-0429Z, Mar 7 and 0430Z-0459Z, Mar 7 and 0500Z-0529Z, Mar 7 and 0530Z-0600Z, Mar 7
Open Ukraine RTTY Championship	2200Z-2359Z, Mar 7 (Low Band) and 0000Z-0159Z, Mar 8 (Low Band) and 0800Z-1159Z, Mar 8 (High Band)
SKCC Weekend Sprint	0000Z-2400Z, Mar 8
UBA Spring Contest, CW	0700Z-1100Z, Mar 8
DARC 10-Meter Digital Contest	1100Z-1700Z, Mar 8
NSARA Contest	1100Z-1500Z, Mar 8 and 1700Z-2100Z, Mar 8
CLARA HF Contest	1700Z, Mar 10 to 1700Z, Mar 11 and 1700Z, Mar 14 to 1700Z, Mar 15
RSGB 80m Club Championship, CW	2000Z-2130Z, Mar 11
NCCC Sprint	0230Z-0300Z, Mar 13
HA3NS Sprint Memorial Contest	1830Z-1900Z, Mar 13 (80m) and 1900Z-1930Z, Mar 13 (40m)
RSGB Commonwealth Contest	1000Z, Mar 14 to 1000Z, Mar 15
AGCW QRP Contest	1400Z-2000Z, Mar 14



ARCI HF Grid Square Sprint	1500Z-1800Z, Mar 14
EA PSK31 Contest	1600Z, Mar 14 to 1600Z, Mar 15
SOC Marathon Sprint	1800Z-2400Z, Mar 14
Idaho QSO Party	1900Z, Mar 14 to 1900Z, Mar 15
North American Sprint, RTTY	0000Z-0400Z, Mar 15
UBA Spring Contest, 6m	0700Z-1100Z, Mar 15
Wisconsin QSO Party	1800Z, Mar 15 to 0100Z, Mar 16
Run for the Bacon QRP Contest	0200Z-0400Z, Mar 16
Bucharest Contest	1600Z-1729Z, Mar 16 and 1730Z-1859Z, Mar 16
NAQCC Straight Key/Bug Sprint	0130Z-0330Z, Mar 19
RSGB 80m Club Championship, SSB	2000Z-2130Z, Mar 19
Feld Hell Sprint	0000Z-2400Z, Mar 21
10-10 Int. Mobile Contest	0001Z-2359Z, Mar 21
BARTG HF RTTY Contest	0200Z, Mar 21 to 0200Z, Mar 23
SARL VHF/UHF Contest	1000Z, Mar 21 to 1000Z, Mar 22
Russian DX Contest	1200Z, Mar 21 to 1200Z, Mar 22
Oklahoma QSO Party	1300Z, Mar 21 to 0100Z, Mar 22 and 1300Z-1900Z, Mar 22
AGCW VHF/UHF Contest	1600Z-1900Z, Mar 21 (144) and 1900Z-2100Z, Mar 21 (432)
North Dakota QSO Party	1700Z, Mar 21 to 0100Z, Mar 22
Virginia QSO Party	1800Z, Mar 21 to 0100Z, Mar 23
UBA Spring Contest, 2m	0700Z-1100Z, Mar 22
9K 15-Meter Contest	1200Z-1600Z, Mar 22
QRP Homebrewer Sprint	0000Z-0400Z, Mar 23
SKCC Sprint	0000Z-0200Z, Mar 25
CQ WW WPX Contest, SSB	0000Z, Mar 28 to 2359Z, Mar 29