



Squelch Tales



Newsletter from the Merrymeeting Amateur Radio Assoc. for March 2007



November One Topsham Red Cross



Together, we can save a life

Topsham ME: Just in time for Valentines Day the Mid Coast Chapter of the American Red Cross Amateur Radio station received its new call sign, thanks to the FCC getting the vanity call sign program back on track. The chapter's original call sign of KB1OGI is now **N1TRC**, with DR Steve Kerchel, AA4AK, as call sign Trustee.

The N1TRC call will be used when ham radio communications from Red Cross HQ is involved in disasters, drills, SETs, etc. For more information on Red Cross Amateur Radio communications, contact one of the following folks:

Steve Kerchel - kercel1@suscom-maine.net

John Briggs - js_briggs@yahoo.com

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Hosstraders, SK



On Friday, February 9th information was put out throughout New England by the Hosstraders organizers that the big bi-annual ham radio flea market will be no more. The organizers stated that after 30 years of running the event they were all getting tired, plus other reasons that they would not elaborate on.

This great New England ham radio event will be missed by those of us that considered it the big ham radio event of the year.

The MARA wants to thank the organizers of Hosstraders for their years of hard work and let them know we will miss out trips to New Hampshire.

We hope you will all support the remaining Hamfest and flea markets in Maine and surrounding states so we can swap, trade and acquire those treasures we cannot live without.



HF Mobile, is it for you?

By WIZE

Most of you do Amateur Radio communications from your car, and like most folks you do it on the 2-meter FM, and maybe a few are on the 440 MHz band. Back over a half century ago there was very few hams doing mobile communications. After WWII, More hams started experimenting with mobile HF. Most hams back in the late 40s and 50s hung out on 75-meter AM and the popular frequency across the country was 3995 kHz. Gonset, Regency and a few others produced a verity of HF receiver converters that plugged into your car AM radio and use it as an IF and audio amplifier. Many of the early transmitters were homebrew, but some inventive hams used the military surplus equipment that in those days could be purchased by the pound. The AN/ARC-5 Army Air Core Command series of transmitters and



receivers were very popular. Gonset, Morrow, Regency. Multi-Elmac and a few others produced a verity of transmitters, receivers and transceivers with a few of them making mobile equipment for the VHF bands too.

COMMAND TRANSMITTERS & RECEIVERS
ARC-5 and SCR274 as available BC 455
XLNT.....\$5.95
NEW.....\$7.95
Receivers, w/o dynameters

R-25 Marine, 1.5-3 MC, new.....	\$10.95
R-25 or BC-454, 3-6 MC, used \$6.95. New.....	7.95
R-27 or BC-455, 6-9.1 Mc, used \$5.95. New.....	7.95
R-28, 100-150 MC, Exit.....	13.95
R-4/ARR-2, 234-250 MC, as is w/o tubes, \$2.95, w/tubes, used.....	4.95

Magazine ad from the 1950s for ARC-5 equipment

With the advent of single sideband (SSB) phone, several companies like Swan, SBE, WRL Drake, Collins and others produced HF transceivers that could be used mobile.



This advancement put a lot of hams on the road with their radios. The disadvantage of the early SSB equipment was it was large and if you were part of the flower-power generation, it was difficult to put one of these rigs in your VW bug.

Now that the license structure has changed, there will be many more hams on the HF bands and many of them will want to try HF mobile. It can be a lot of fun. Just think you could be driving down I-95 with your solid state HF transceiver connected to a good mobile antenna and communicate across country or have a nice friendly QSO with a chap in South Africa or some other exotic place around the world.

This article will not allow me to give you all the tricks I have learned over the years for HF mobile but I will attempt to give you a few tips and guide you to information resources that will help you if you decide to try it.

As with HF communications throughout the years, the antenna and it associated grounds

requirements is the most important part of a good mobile installation. I learned early that bigger is better when it comes to HF antennas and their loading coils. Even the best HF mobile antennas are very inefficient. If you use the average 100-watt transceiver and you get 20% efficiency, feel very happy. Putting a full quarter wavelength whip on your car for bands below 18 MHz will not fit and meet the highway height rules. Hence, whip loading is required to make the antenna resonant and have some level of radiating efficiency.

Many serious mobile HFers use the screwdriver type antennas or big coil Bug-Catcher type antennas. Why? Because most of them use large (2-inch + diameter) coils. The bigger the coil the lower the coil loss. You want your transceiver's power to be radiated, not used to heat up the coil. Many hams use the "Ham Stick" type whips because they have a modest profile and moderate cost. On the higher HF bands they work OK, but the models for bands below 14 MHz are lossy. If you have one, put your hand on the coil area after having a long QSO you will find it warm to the touch, if not hot. That was power that did not make it out into the air.

I like the screwdriver antenna because I can change bands or move frequency without pulling over to the side of the road to replace the resonator, adjust the whip length or move a coil tap. The screwdriver antenna is not inexpensive. You can expect to spend several hundred dollars. The Electraslide and W6AAQ DK3 can be purchased for just under \$200. I have both of them and they work just fine. The Newtronics Hustler HF whip system is a good selection if you do not mind swapping resonators when you change bands. They are very well built and will give you years of trouble free service.

I recommend that you use the S series (large) resonators on the 75, 40 and 20 meter bands to keep coil loss to a minimum.

Wither you use a screwdriver, Hustler or other HF mobile antenna you will have to have a good antenna mount ground. On the



Amateur Radio Emergency Volunteers may get state ID.



lower bands you most likely will need some form of simple antenna base impedance matching. Some antennas like the DK3 screwdriver have a matching coil built into the base of the antenna. The Electraslide screwdriver and others provides a matching toroid coil to provide a good match between 50-ohm coax and antenna feed impedance of less than 20-ohms. With the Hustler or fiberglass “Hamstick” type antennas you will need some form of simple matching on the lower bands. I have used a simple disc capacitor across the input of the antenna and was able to get the SWR down below 1.2:1 at resonance. I have found that 1000pF works well on the 75/80-meter band, 470pF for the 40-meter band and 170 to 220pF for the 20-meter band. You may not need base matching capacitor for the bands above 14 MHz.

Grounding: Make sure your transceiver has a good vehicle ground and so should your antenna. If not, you may chase SWR problems and noise (QRN) for hours. On 10-meters, some hams have used modified CB antennas with magnet-mounts. That may be OK for power levels fewer than 20 watts but they can cause your transmissions to go squirrely if you try to use power levels higher than that.

If you want to read more about HF mobile operation and installations, check out the following web sites.

- <http://www.k0bg.com> Good mobile info site
- <http://ka6wke.blogspot.com> Installation
- <http://www.hamradiotoys.com/dk2.htm> info on the DK3 screwdriver + CD book Worldradio-2000 40+5years of HF mobileering by W6AAQ, a good resource
- <http://www.qsl.net/w5es/electro.htm> ElectroSlide screwdriver antenna site
- <http://www.new-tronics.com> Hustler Antenna web site.
- <http://www.arrl.org/tis/info/carproblems.html> (RFI/EMI help)

Publications:

- ARRL – *Your Mobile Companion*, \$12 from ARRL Books
- *50+5 Years of HF Mobileering CD book* by Don Johnson W6AAQ (see DK3 site above)

Happy mobileering & 73, Bruce

A bill has been drafted by drafted by Brunswick State Representative, Stan Groboski that would have Amateur Radio communication volunteers be registered and credentialed. Prior to the issuance of the proposed bill, MARA member and Sagadahoc County AEC, John Goran, K1JJS provided input to help Rep. Gazofski get the bill drafted. At that point it looked like there was a good chance that Amateur Radio operators in Maine would have a significant impact as part of the Maine Emergency Management Agency’s (MEMA) emergency preparedness. However on Friday February 16th the proposed Bill hit the street and the Ham Radio folks viewing the proposed document went into shock, Especially John Goran and ARRL Maine Section Manage, Bill Woodhead, N1KAT. Emails and telephone calls started flying around asking some serious questions like, “Who in the Maine Amateur radio community had input in the drafting this bill?” According to John Goran, some of the input he offered was put into the bill but a lot of his recommendations were not in the bill. John advised the concerned hams that he would contact Rep. Gavofski and get some answers, because if enacted as it is now written it would get little or no support from the Amateur radio community here in Maine.

Form the most part, the hams involved in ARES and RACES are in favor of state recognition and official identification, but they would like to have a larger input on drafted proposals that affect them.

This proposed bill will be a topic of conversation at the February MARA meeting at MidCoast Hospital. ME SM Bill Woodhead will attend the meeting to have input on the conversation. For those of you that have not read the proposed bill, we are adding it to this issue of Squelch Tales so you all can read it and understand what the fuss is all about.



An Act To Require Credentials for Amateur Radio Emergency Communications Volunteers

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 37-B MRSA §703, sub-§2-C is enacted to read:

2-C. Emergency communications volunteer. “Emergency communications volunteer” means a person who is registered with the agency to engage in emergency communications activities in accordance with approved federal, state or local emergency operations and communications plans and holds a valid identification card.

Sec. 2. 37-B MRSA §703, sub-§2-D is enacted to read:

2-D. Identification card. “Identification card” means a one-piece document that clearly indicates its nature as an official state document issued to an emergency communications volunteer by the agency following registration. The card shows the agency’s logo, a photograph of the person to whom the card is issued and other information required or appropriate for the identification of the volunteer.

Sec. 3. 37-B MRSA §705-A is enacted to read:

§ 705-A. **Emergency communications; rules**

1. Emergency communications. The director shall adopt rules governing registration requirement levels for emergency communications volunteers and adopt rules to implement a state radio amateur civil emergency services plan to establish guidelines for volunteers to support state and local emergency management agencies during a disaster or widespread power outage. Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

2. Rules. The director shall adopt rules to implement a state radio amateur civil emergency services plan, in accordance with Federal Communications Commission and Federal Emergency Management Agency guidelines, to support back-up communications between state and local emergency operations centers; back-up communications for E-9-1-1 centers, fire departments and police departments; emergency communications for shelters; and other emergency support as needed. The director shall also adopt rules governing registration requirement levels for emergency communications volunteers that include, but are not limited to, a valid amateur radio license from the Federal Communications Commission, certifications from relevant training courses provided by the Federal Emergency Management Agency, relevant certifications from the American Radio Relay League and procedures for local authorized officials to perform criminal history and driving record background checks during the registration process. Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

Sec. 4. 37-B MRSA §784-A, as amended by PL 2005, c. 630, §2, is further amended to read:

§ 784-A. **Right to call for and employ assistance**

The Maine Emergency Management Agency and local organizations for emergency management may employ any person considered necessary to assist with emergency management activities. All persons called and employed for assistance including, but not limited to, emergency communications volunteers, shall proceed as directed by the Maine Emergency Management Agency. Any person called and employed for assistance is deemed to be an employee of the State for purposes of immunity from liability pursuant to section 822 and for purposes of workers' compensation insurance pursuant to section 823, except for persons excluded from the definition of employee pursuant to Title 39-A, section 102, subsection 11. A health care worker licensed in this State, either designated by the Maine Emergency Management Agency to perform emergency management or health activities in this State in a declared disaster or civil emergency pursuant to section 742 or designated by the Maine Emergency Management Agency to render aid in another state under chapter 16, is deemed to be an employee of the State for purposes of immunity from liability pursuant to this section and section 926 and for purposes of workers' compensation insurance pursuant to sections 823 and 928, except for persons excluded from the definition of employee pursuant to Title 39-A, section 102, subsection 11.

SUMMARY

This bill includes registered emergency communications volunteers among those individuals that the Maine Emergency Management Agency may employ to assist with emergency management activities. This bill creates a definition for emergency communications volunteer that requires volunteers to meet certain requirements before they may receive a valid identification card from the agency. This bill also directs the Director of the Maine Emergency Management Agency to adopt rules to implement a state radio amateur civil emergency services plan in accordance with Federal Communications Commission and Federal Emergency Management Agency guidelines. It also requires the director to adopt rules governing registration requirement levels for emergency communications volunteers.