

# SQUAKBOX

Issaquah Amateur Radio Club

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May 2010

## FCC Seeks Comments on Newly Proposed Rules for Amateur Radio Operators and Emergency Drills

In March, the FCC released a Notice of Proposed Rulemaking (NPRM) that proposed to amend the Part 97 rules governing the Amateur Radio Service. The new rules would provide that, under certain limited conditions, Amateur Radio operators may transmit messages during emergency and disaster preparedness drills, regardless of whether the operators are employees of entities participating in the drill. On April 22, a

summary of the NPRM was published in the Federal Register and the FCC is seeking comments on it. Comments must be filed on or before May 24, 2010 (30 days after publication in the Federal Register); reply comments must be filed on or before June 7, 2010 (45

*(Continued on page 2)*

## BPL: City of Manassas to End BPL Service

Once touted as "the most successful BPL deployment in the nation," the City of Manassas has decided to get out of the BPL business, once and for all. At a Special Meeting on Monday, April 5, the Manassas City Council -- acting on a recommendation from the Manassas Utilities Commission -- unanimously voted to discontinue Broadband over Powerline (BPL) Internet service as of July 1, 2010 to the approximately 520 residents and businesses who currently subscribe to the service; these customers were told that they have three months to find a new Internet service provider.

According to Manassas City Clerk Andrea Madden, there was no discussion on the resolution to discontinue service and the motion was passed "without incident."

With the motion made by Councilman Jonathan Way and seconded by Mark Wolfe, the City Council cited three reasons for discontinuing BPL service: a declining customer base, an annual income deficit of almost \$166,000

*(Continued on page 4)*

## May Program

???

Unknown at publishing deadline. Check the WEB site copy at [www.qsl.net/w7bi](http://www.qsl.net/w7bi).

Future programs are as follows:  
June - Field Day Prep  
July - Field Day Discussions

There are openings for future programs. Contact Gerard WT0F, 425-395-4554 to volunteer.

### Also . . .

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## At the last meeting . . .

April 7, 2010

\*The meeting was called to order at 7:33pm, by president Bruce Helbert KG7OI

Seventeen members and guests present.

\*The minutes of the previous meeting were approved with one correction: The City of Issaquah's emergency incident survey is called the Rapid Impact Survey.

\* The Treasurer reported no statement was available for the meeting, but that \$172.00 had been deposited as receipts from the Mike and Key Swap Meet in March. (Actual balance was \$2297.84-RJJ)

\*Sandra KE7LXP reported on the Ham Radio Support Group operations.

The HRSG is ramping up training efforts, and persons who wish to be considered for operating positions at the EOC will need to have acceptable training completed for access.

The May 'Fifth Saturday' Drill will probably be on the Fourth Saturday, so as to not conflict with the Memorial Day Weekend.

\*Gerrard (now licensed as WT0F-ed.) mentioned possibly beginning a Technician class licensing course. He would also like to attempt to access some school science classes to assess interest in a radio related program.

\*Gil W7GIL mentioned a new item of equipment, that apparently connects between the detachable control head of some radios (The Icom 706 series of radios was specifically mentioned), and allows remote radio control via internet connections.

\*Pete WY7Z showed a very nice example of an adjustable crystal detector from his radio equipment museum. It was procured by the US Navy-Bureau of Steam Engineering, circa 1918. It used a Silicon/

*(Continued on page 3)*

## E-Mail Elmer

Got a HAM radio question and can't find an Elmer to talk to? Just send your question by E-Mail to our E-Mail Elmer at:

[IarcElmer@dhuibh.net](mailto:IarcElmer@dhuibh.net) - Ed. - S

### 2010 IARC Officers

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## Comments Cont.

days after publication in the Federal Register). Instructions on how to file comments are listed beginning on page 5 of the NPRM.

*(Copies will be available at the meeting.) - S*

## FCC Looks to Lower Fees for Vanity Call Signs

The FCC released a Notice of Proposed Rulemaking and Order (NPRM) on April 13 seeking to lower the fee for Amateur Radio vanity call signs. Currently, a vanity call sign costs \$13.40 and is good for 10 years; the new fee, if the FCC plan goes through, will go down to \$13.30 for 10 years, an decrease of 10 cents. The FCC is authorized by the Communications Act of 1934 (as amended) to collect vanity call sign fees to recover the costs associated with that program. The vanity call sign regulatory fee is payable not only when applying for a new vanity call sign, but also upon renewing a vanity call sign for a new term.

Instructions on how to comment on this NPRM are available on the FCC Web site.

The vanity call sign fee has fluctuated over the 13 years of the current program -- from a low of \$11.70 in 2007 to a high of \$70 (as first proposed in the FCC's 1994 Report and Order). In 2007, the Commission lowered the fee

## Minutes Cont.

Antimony crystal and has very fine mechanical positioning adjustments, which allow precise positioning and stability for use onboard ships.

\* The official business meeting was adjourned at 8:15pm.

\* The program for the evening was by Bruce KG7OI.

We were lead through a maze of obscure, mostly radio and electronics related, statements; carefully crafted to tease and antagonize us; and asked to determine which were valid, and which were false.

The IARC provided a Lowes gift card to the person who could best get inside Bruce's head and come up with the most correct answers. John MacDuff KA7TTY was the eventual winner

There was an added event, which was required reaching into a paper sack, and determining the contents, by touch only. Barry Hansen WA7KVC won that event and received a nice LED flashlight for his effort.

Rod Johnson WE7X  
IARC Secretary/Treasurer



Still on the search for guest columnists. Hearing very little, so will continue with miscellaneous musings.

### RADIOS THAT GLOWED IN THE DARK

It seems a bit odd that I might have to explain the title for this month's column, but what we are talking about here are radios with tubes, vacuum tubes to be exact. These were the kind of radios that would hold down a bench, or often a whole house. Past tense as well since I am sure most all of these radios are deeply buried in some nameless landfill.

Back in the dark ages, when I first got interested in radio, my first "real" radio was a Hallicrafters S40 receiver. I can't even remember anymore where it came from, but when I got it had obviously been well used and was non-operating. It was also a mess, heavily encrusted with years of shack and garage grunge. Also not inculcated were various missing parts, including all the tubes. Did I mention it was FREE? What a deal!

If you happen to do a Goggle on the rig, you will find it was a vintage 1950 radio, original cost was about \$100, and was basically the bottom of the line. These old radios were not cheap back then, even the "low end" versions. To get some idea of what a dollar was worth in the late 1960's consider gas sold for around \$0.15/gallon, ETHYL. Yes, \$100 was "real" money for a high school student.

## From the Shack in the Corner

Additionally, most any decent new radio was well over the \$100 price, so a used boat anchor looked pretty good at the time.

So with the help of a local Elmer, we undertook to get this old timer restored. First project was to find the tubes. Well actually that was second, first was to find a manual, which turned out to be the easy part. Many tubes were in this beast, 9 in all, "octal" types except one. And that last one turned out to be a real bugaboo, almost canned the whole project. This elusive bottle was a 4-pin type "80" which is a rectifier. I spent many hours scrounging various surplus and electronic junk stores before I finally found a couple ... only need one, but spares are good, especially with tubes and used tubes even more so. (Turns out the 80 was replaced with the octal 5Y3GT or there about, but that is another story.)

Next project was to fix the dials and tuning. This radio had two tuning knobs (more later) with two tuning dials and two tuning (variable) capacitors. All this was held together with an amazing array of "cat gut" (string) routed around various pulleys, shafts, and dials, with a random array of twists and turns. I am very surprised someone has not released an expert puzzle based on stringing the tuning dials on an old radio, hours and hours of fun! Also replacing the power cord seemed like a good idea. It was frayed cloth/cracked rubber with the cop-

*(Continued on page 5)*

## BPL Cont.

from providing Internet service, and a determination that AMI [Advanced Metering Infrastructure] platforms don't require BPL. Way and Wolfe favored shutting down the BPL system in November 2009, the last time this matter was brought to the Council's attention. "The City needs to get out of BPL forthwith," Way said back in 2009. "It's not a good product. The whole business is not financially sound and it never has been."

Manassas residents pay \$24.95 each month to receive Internet service via BPL. In November 2009, the Utility Commission showed the Council that little more than 500 residents and 46 businesses currently subscribed to the service, which since 2008, has been run by the City. "It's costing a little more to maintain the system than we projected in the budget," Manassas Director of Utilities Michael Moon told the Council. "The original projections were that the customer base would be double this." In September 2008, the Manassas City Council voted to assume control of the BPL service from COMTek, the private company that served (back then) approximately 675 residents.

In January 2009, there were 637 residential and 51 commercial BPL subscribers in Manassas. In February 2010, those numbers had shrunk to 457 residential and 50 commercial subscribers. The Utilities Commission said that the total revenue brought in by BPL for FY2010 was almost \$186,000, but the expense of keeping up the City

-owned system was costing the ratepayers a little more than \$351,000, resulting in a net loss of almost \$166,000.

"In October 2003, the Manassas City Council was told that it could expect as much as \$4.5 million in revenue from awarding a 10 year BPL franchise," said ARRL Chief Executive Officer David Sumner, K1ZZ. "Instead, six months later, BPL had turned into a money pit for the City of Manassas. Anyone thinking of investing in BPL would do well to learn from the Manassas experience."

BPL technology uses the electricity grid in a city and the wiring in individual homes to provide direct "plug in" broadband access through electricity sockets, rather than over phone or cable TV lines.

In November 2009, Manassas' Assistant Utilities Director (Electric) Gregg Paulson told the ARRL that they had "every intention of putting BPL Internet service in the budget and the Council can decide its fate as they work through the budget process." Paulson also said that while Internet service to consumers would "probably" be the only thing that would be cut if the Council decided to forego BPL, he left the door open as to using the BPL infrastructure for other purposes: "We still own the BPL network, but we may or may not use this network for utility monitoring or other AMI purposes."

But according to the resolution passed by the Council, the Manassas Utilities Department will not

be using BPL for AMI, but instead will use "a combination of fiber and wireless technology exclusive of the BPL." According to the Agenda Statement for the Special Meeting, the BPL equipment will be removed from the system and "inquiries will be made regarding the salvage value."

Sumner said that the ARRL's concern was not with the business plan -- that he termed "obviously flawed" -- but with "the interference to licensed radio services -- and in particular the Amateur Radio Service -- inevitably caused by putting radio frequency energy on unshielded, unbalanced conductors. Manassas was touted as 'the most successful BPL deployment in the nation' when FCC Chairman Michael Powell visited the site with much fanfare -- and, the ARRL maintains, in violation of the FCC's own rules -- on the eve of the FCC's vote to adopt inadequate protection for licensed radio services against interference from BPL systems. The taxpayers and ratepayers of Manassas are not the only ones who benefit from the end of this ill-considered foray into BPL. Radio amateurs in the Manassas area have good reason to celebrate, for they have spent countless hours documenting the widespread interference caused by the system."

BPL technology uses the electricity grid in a city and the wiring in individual homes to provide direct "plug in" broadband access through electricity sockets, rather than over phone or cable TV lines.

## Shack Cont.

per exposed in various places and featured a light-bulb socket on the end to “screw it” into the power. Looking back I was lucky the caps seemed to still be OK, caps are one of the components that seem to always go bad in old radios.

Then it was finally time to plug the beast in and see what would happen. Surprisingly, it actually came alive and proceeded to make various noises out of the speaker. I tuned down to the broadcast band and quickly was listening to a SF Giants game on KSFO, 560. WOW! A few hours on a bench and an alignment was complete, I now had a working “real” radio. Final steps were a cosmetic clean up and replacing the dial indicator lamps (#47’s) and I was good to go. Ah, but not so fast grasshopper. Like any radio of that period, it took a certain amount of familiarity and twiddling to make things play properly (and I specifically avoid the word “skill” here). This old timer had a pile of various knobs and switches, and while most were labeled to do one function, some kind of adjusted other things as well.

First this radio, like any tube radio needed to “warm up”. And that was a bit more than just turning it on and waiting for the tubes to wake up. What I am talking about here is the WHOLE RADIO needed to warm up, because before it did, tuning in anything was a little like watching a dog chasing its tail, round and round, but never getting anywhere. This

radio drifted, and it drifted A LOT. So before any listening could be done of a more than casual nature, it needed to be on for at least an hour or more. Even after that the drift was always there. It also generated a lot of heat, and more than once I got yelled at for leaving my radio on when no one was listening. I remember threats to have to have to pay the electric bill had little effect.

The next issue I remember was you never knew exactly what frequency you were listening to. A good example would be sending a reception report to a Short Wave station in the hopes of getting a QSL card. Unless the station announced what frequency they were actually broadcasting on, determining the frequency to put in the report was at best a guess. The dial readouts were about 20 KC and the indicator could easily be that far off as well. So a “good” guess might be +/- 25 KC and a bad one could be off 50 KC or more. This also made “finding” the ham bands interesting.

Listening to the AM Broadcast band was also exciting. I was at one time or another able to log all of the North American “clear channel” 50,000 Watt broadcast stations, and many others. I remember to this day listening to KSL, Salt Lake City, loud and clear.

But this radio was really intended to be a ham receiver, so how did it work in that role? Well, lets just say it was tough.

First problem was actually find-

ing the ham band. Yes, they were where they still are today, but what I am talking about here is locating the actual “edges” of the band. That was the key to making the dials work correctly.

See, these radios had a second dial called a band spread. In reality all this was is a fine tuning dial with expanded scales. (Hence the second cat gut routing puzzle). All well and good, except the calibration of the band spread was set by the position of the main tuning dial, so say the main tuning was off 25 KC, well the band spread would be off that far as well, and than at times seem like a quarter of it’s its total indication. Let’s just say nailing down exact frequencies was not this radio’s prime quality. I eventually paid real money for a Heathkit Crystal Calibrator, that when turned on would put out a carrier every 100 KC, so at least I had reference points.

As to receiving actual ham signals, well that too was interesting. There were CW, SSB and AM, probably in roughly equal proportions. The AM was easy, just tune and listen. As the radio drifted off channel the signal would very gradually start to distort, but a quick retune brought it right back. As today, the AM signals consisted of mostly old timers on 80 Meters ... boring!

For CW and SSB things were not quite so easy. Consider CW first. This radio had a BFO (that is a Beat Frequency Oscillator by the way). Since CW has no in-

*(Continued on page 6)*

## Types of Antennas for Satellite Work

*This script from the Houston AMSAT Net was written by AMSAT Area Coordinator Bruce Paige, KK5DO. Authorization is given for the use of this information over any ham band. Please give credit for the script where credit is due.*

This should be the final step in getting your satellite station up and running. What type of antenna should I get? Well, the best type of antenna for working the OSCAR satellites are circular polarized antennas. These are antennas either for 2m or 70cm that have elements in both the horizontal and vertical plane. They are phased so that the signal normally rotates to the right. This means they are right hand polarized. Some manufacturers make relay switches which will change the polarity from right to left hand. We will talk about this in a minute.

The circular polarized antennas are the most expensive. Be prepared to spend around \$500 for a pair of 2m and 70cm antennas. You do not have to purchase both antennas from the same manufacturer. If you like brand X's 2m and brand Y's 70cm, that is fine.

The antenna plays a very important role in working the satellite. It is the first part of your station that will receive the signal and the last one to transmit it. If you have a crummy receive antenna and a good transmit antenna, you will be calling CQ and lots of people will hear you but you won't hear them.

jected carrier, the BFO would do that and make the CW come out as a clear, crisp tone. That's what the manual said anyway. So by turning on the BFO and tuning around the CW portion of the band it was easy to hear the various stations. But to tune in on a specific station required very careful tuning of the band spread dial and the BFO to get it "just right". Of course just right only lasted for a minute or two before the radio would drift off and the whole process had to be repeated. Since at the time my code speed was between slow and "what letter was that?" I was usually listening in the novice bands. Novice rules required crystal operation, so typically a QSO would be on two separate frequencies. I usually was only able to copy one side of the QSO, and then when the station came back was lucky if the radio had not drifted off the station altogether.

If the main tuning got brushed, the signal would go away, probably forever. If the table got bumped: same thing. If the front door got opened and closed...well you get the idea. So listening to CW was pretty much a hunt for the signal, listen for a while, lose it and then start over.

SSB presented even greater challenges. First with CW the BFO could be on either "side" of the carrier. But with SSB the BFO needed to be correctly set for the band, and this assumed the station was transmitting on the "proper side". Tuning was even more critical than CW but at huge fac-

tor. So usually SSB was like looking for ships in the fog at night, you might see a mast light go by once and a while, but where it came from and where it went was anybody's guess.

Still I spent many happy hours, mostly in the dead on night, listening to my first "real" radio. The shortcomings were always there, but it did work after a fashion.

*(Continued on page 8)*

## BPL Cont.

Because BPL wiring is physically large, is often overhead and extends across entire communities, these systems pose a significant interference potential to over-the-air radio services, including Amateur Radio. ARRL Letter, April 8, 2010 - S

## Vanity Cont.

from \$20.80 to \$11.70. The FCC said it anticipates some 14,800 Amateur Radio vanity call sign "payment units" or applications during the next fiscal year, collecting \$196,840 in fees from the program.

Vanity Fee Due for New, Renewal Applications

The vanity call sign regulatory fee is payable not only when applying for a new vanity call sign, but also upon renewing a vanity call sign for a new term. The first

*(Continued on page 7)*

## Vanity Cont.

vanity call sign licenses issued under the current Amateur Radio vanity call sign program that began in 1996 came up for renewal four years ago.

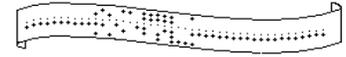
Those holding vanity call signs issued prior to 1996 are exempt from having to pay the vanity call sign regulatory fee at renewal, however. That's because Congress did not authorize the FCC to collect regulatory fees until 1993. Such "heritage" vanity call sign holders do not appear as vanity licensees in the FCC Amateur Radio database.

Amateur Radio licensees may file for renewal only within 90 days of their license expiration date. All radio amateurs must have an FCC Registration Number (FRN) before filing any application with the Commission. Applicants can obtain an FRN by going to the ULS and clicking on the "New Users Register" link. You must supply your Social Security Number to obtain an FRN. ARRL Processes License Renewals, Including Vanities

The ARRL VEC will process license renewals for vanity call sign holders for a modest fee. The service is available to ARRL members and nonmembers, although League members pay less. Routine, non-vanity renewals continue to be free for ARRL members. Trustees of club stations with vanity call signs may renew either via the ULS or through a Club Station Call Sign Administrator, such as ARRL VEC.

The ARRL VEC will handle vanity license renewals for ARRL

# RYRYRYRY...



DE KA7TTY

Hello there,

Wow, the meetings keep coming so close together. I guess its all your prospective. The newsletter was a little problem this month. It wouldn't fit on 6 pages, so I added 2 more, then there was space left over, so I added another article, but it wouldn't fit. Oh well, you'll just have to wait until next month to get the rest. But, hey, they keep getting closer so you won't have too long to wait. Hi hi.

Hope you are getting more operating time than I seem to find. See you at the meeting,

73, John KA7TTY

## Satellite Cont.

Now, let's say that these antennas are a bit too expensive for you right now. You can get away with using a single plane antenna. It does not matter if you mount it vertical or horizontal when operating the satellite. The problem you

will find is that the satellite is spinning and you will hear the signals fade in and out. This is eliminated with the circular polarized antennas. There are many Europeans that use a single plane antenna.

members for a small fee (license renewals for members with non-vanity call signs are free). Visit the "Call Sign Renewals or Changes" page for complete instructions on how to have the ARRL renew your license for you or for how to do it yourself. There is additional information on the ARRL VEC's "FCC License Renewals and ARRL License Expiration Notices" page.

License application and renewal information and links to the required forms are available on the ARRL Amateur Application Filing FAQ Web page. The FCC's forms page also offers the required forms. – ARRL Newsletter, 04/13/2010 - S

One thing that is mandatory if you are to work the OSCARs is that you have a means to point the antenna at the satellite. This means having an azimuth and elevation rotor. If you are new and going to purchase your equipment you should think about the Yaesu 5400 rotor. This has both azimuth and elevation controls in one box and has a special connector so that you can later add computer control of the rotors. There are many good products on the market for controlling the rotors from stand-alone boxes to those that plug into the parallel port to those that have a card that goes in the computer. A simple XT computer will work just fine for the tracking, speed is not important. More next month. - by Bruce Paige, KK5DO, kk5do@amsat.org - S

## SQUAKBOX

This newsletter is published monthly for the members of the Issaquah ARC W7BI. Items for publication must be received by the 15th day of the month preceding publication. Send items to:

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Material may also be sent via E-Mail at w7bi@qsl.net.

The IARC is a nonprofit organization registered in the State of Washington and is affiliated with the American Radio Relay League (ARRL). Visit our WEB page at: <http://www.qsl.net/w7bi/>

Membership is open to anyone regardless of age, sex, race, national origin, religion, or amateur radio license status. Dues are \$20 per year for a family membership, free for those under 19 years of age.

A two-month courtesy mailing of this newsletter will be made to meeting visitors and others upon request.

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## - Coming Events -

- **May 5, 2010** - Monthly Issaquah ARC meeting at the Issaquah Valley Senior Citizens Center, 75 NE Creek Way, Issaquah. Doors open at 7:00 PM, the meeting begins promptly at 7:30 PM and the program begins at 8:00 PM. Refreshments are provided.
- **May 8, 2010** - Stanwood Camano Amateur Radio Club Hamfest, Stanwood Middle School, Stanwood, WA. Always the second Saturday in May. Contact Vic, N7KRE (360)387-7705). [nwecop@tgi.net](mailto:nwecop@tgi.net) . <http://www.scarcwa.org/>
- **May 24, 2010** - Issaquah Ham Radio Support Group meeting, Police Station, Issaquah, talk-in 146.56 MHz at 7:00 PM, Meeting at 7:30 PM.
- **June 2, 2010** - Monthly Issaquah ARC meeting. See May 5th for time and location.
- **June 4-6, 2010** - Sea-Pac Hamfest. Seaside Convention Center, Seaside, Oregon.
- **June 11-13, 2010** - 41st Annual Wenatchee Hamfest, Apple City ARC, Dryden Gun Club, Dryden, WA. Contact Jim W7JBP at [shultzjims@aol.com](mailto:shultzjims@aol.com) or Judy at [ka7zna@msn.com](mailto:ka7zna@msn.com), info <http://www.qsl.net/w7td/>
- **June 12, 2010** - Port Ludlow ARC tailgate swap meet. Port Ludlow, WA. <http://www.n7pl.org/>

## Shack Cont.

One thing was clear however, I knew now I really wanted to get a ham ticket, and a better receiver. CUL n 73s/88s, de KG7OI



NEXT MEETING: Wednesday, May 5, 2010 - 7:30 PM

Talk-in frequency: 146.56 MHz

FIRST CLASS POSTAGE  
--- TIME SENSITIVE MATERIAL

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