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# WAVELENGTH

Official bulletin of  
Scarborough Amateur Radio Club, Inc.  
[www.ve3we.org](http://www.ve3we.org)

PARTICIPATE – LEARN – ENJOY

February 2010

Volume 4 Issue 2

President: Bernadine Dinnard-Williams VE3YDB Sunday  
Vice-President: Ralph Muecke VE3VXY Tuesday  
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Examiner: Nick Blacklock VE3EBC  
  
Archives: Gord Hogarth VE3CNA  
Audrey Little VA3YD  
Elmer: Rod Long VE3SOY  
Nick Blacklock VE3EBC

## SARC Nets

28.730 Mhz  
CW 10:00 AM  
SSB 10:30 AM  
147.060 MHz (VE3RPT)  
7:30 PM  
Alternate frequency  
146.520 MHz simplex  
28.730 MHz  
SSB 7:00 PM

Everyone is invited to check in on CW before the nets start.

These are open nets. All licensed hams are welcome. Come and join us.

We also want to emphasize that 28.730 MHz is our calling frequency. Please monitor and/or call your friends. 7:00 PM is a good time.

# Where are the Ham Radio Hackers?

By Dan Romanchik, KB6NU

On the Ten-Tec Omni VII Yahoo Group (<http://groups.yahoo.com/group/Ten-Tec-Omni-VII/>), one ham wrote:

"If I was 17 years-old I would be hacking I-phones and other items like George Hotz, the 17 year-old from New Jersey who was able to unlock the Apple I-phone so that it could be used on other cell service networks.

"When I was his age, I was hacking dial telephones. Then one day the phone company showed up at my house. My parents were not impressed with my technical abilities.

"This morning there is a story that George has just hacked the 'un-hackable' Sony 3 Play Station. He says the hack was 95% software and 5% hardware.

"A quick check of the modifications site run by that guy over in Denmark, shows that there are NO MODS for the O7...interesting. I just wonder how many strange and wonderful things can be done with those 36 buttons/switches on the front panel. Can the O7 be made even better?"

In my reply, I asked, "Why stop at pressing some buttons on the front panel? Why doesn't someone really hack the Omni VII and develop a completely new software package for it?" Rigs like the Omni VII and the Elecraft K3 would seem to be perfect candidates for this kind of hacking.

Sure, there is an order of magnitude difference between a \$300 iPod and a \$3,000 radio, but we're big boys, aren't we? Besides, aside from overdriving the finals, what real damage can you do to the radio? It seems to me that even if you manage to screw up the software in the rig, you can get back to square one by simply re-loading the manufacturer's software.

Ham radio operators have a long history of modifying their radios. Page through any stack of QSTs or CQ Magazines from the 1950s, 60s, and 70s, and you'll find many articles describing modifications to the popular radios of the day. About the only thing hams do to their rigs today is to clip a diode to allow it to operate out-of-band.

What does it say about the technical capabilities of today's hams that we haven't yet done with our gear what some 17-year-old kid has done with the iPhone and the PlayStation? Why don't we have any third-party software for Omni VII or the K3? I think if a manufacturer actually encouraged third-party software development, they'd quickly gain a following and make their brand even stronger, don't you?

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Dan Romanchik, KB6NU, blogs about ham radio at [www.kb6nu.com](http://www.kb6nu.com), teaches the infamous One-Day Tech Class, and operates a lot of 40m CW. E-mail him your comments and questions at [cwgeek@kb6nu.com](mailto:cwgeek@kb6nu.com).

# Message from CNIB

[Editor's note: Our club has had a long association with the CNIB Amateur Radio program. While this item is not directly radio-related, the lack of funding for library service is of concern to all members of the community.]

Reading is a right, not a privilege. We read to learn, work and connect to the world. Everyone has the right to read.

But if you are blind or partially sighted, that right could go missing.

Library services for blind and partially sighted Canadians are in jeopardy. For more than 90 years, CNIB has struggled to fund these services with charitable dollars. But CNIB can't afford to go it alone any longer.

Government funding is needed now, or the consequences will be dire: isolation and an unequal playing field for Canadians who deserve better.

Help us protect their right to read. Visit <http://www.cnib.ca/righttoread> and join our campaign.

Many thanks,

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CNIB  
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## Reward Offered

A reward of 500 microfarads is offered for the information leading to the arrest of Hop-A-Long Capacity. This unrectified criminal escaped from a western primary cell where he had been clamped in ions awaiting the Gauss chamber.

He is charged with the induction of an 18 turn coil named Milli Henry who was found choked and robbed of valuable joules. He is armed with a carbon rod and is a potential killer. Capacity is also charged with driving DC motor over a Wheatstone bridge and refusing to let the band-pass.

If encountered, he may offer series of resistance. The Electromotive force spent the night searching for him in a magnetic field, where he had gone to earth. They had no success and believed he had returned ohm via a short circuit

He was last seen riding a kilocycle with his friend Eddy Current who was playing a harmonic.

# Bill's Ramblings

Our good friend Ray asked me to write something for Wavelength. And I said yes. Now that is a promise and I like to keep my promises. But it definitely is easier to say yes than to come up with something of interest.

## ***W4PA Buys Vibroplex***

Well known ham Scott Robbins, W4PA, (Nice suffix) has purchased the Vibroplex Company and is moving the code key maker's manufacturing facilities from Alabama to Tennessee. Robbins, who is best known as Ten-Tec's amateur radio product manager, left that company in mid-December to devote full time to his new venture. Vibroplex is the oldest continually operating business in the amateur radio industry, serving Morse code enthusiasts since Horace Martin invented the semi-automatic "Bug" key in 1904.

## ***AMSAT China launches first Satellite***

China's first amateur radio satellite is in orbit and in operation. Mode V/U with uplinks on 145 MHz and downlinks on 435 MHz, It includes an FM voice repeater, a packet bulletin board, and an SSB/CW linear transponder as well as a beacon on 435.790 CW.

This year CQ celebrates its 65th anniversary. Quite an achievement for a commercial Ham radio magazine. And.... it still is going strong. An interesting article in the February issue reads: "65 GREAT THINGS ABOUT HAM RADIO" It makes for interesting reading. See if you can lay your hands on a copy.

My favourite contest is coming up on Feb. 13/14. The Dutch PACC contest. Both SSB and CW in the same contest. I participate most years and have fun. Make a couple of QSO's and you already get a nice memento. Give it a try!!

Until next time. 73 deBill VE3ILE/VE3PA

# Propagation Forecast

QST de W1AW  
Propagation Forecast Bulletin 5 ARLP005  
From Tad Cook, K7RA  
Seattle, WA February 5, 2010  
To all radio amateurs

As soon as sunspot 1041 went over the horizon at the end of January, sunspot 1043 emerged, high in our Sun's northern hemisphere. Average daily sunspot number this week fell over 13 points to 14.6, and average daily solar flux declined nearly 7 points to 75. Geomagnetic activity was up, and the average daily planetary A index rose 2 points to 5.1.

Average daily sunspot number for January was 21.3, and the 3-month trailing average, centered on December, was approximately 15.2. Like last month, the average for the month greater than the 3-month average centered on the previous month is a good trend.

The difference between the monthly average sunspot number and the trailing 3-month average has been positive since September. The difference for November, December and January was 0.6, 5.5 and 6.2.

For 2009, the 3-month average centered on January through December resolved to two digits beyond the decimal point was 2.19, 2.02, 1.49, 2.01, 4.23, 5.2, 4, 4, 4.64, 7.1, 10.16 and 15.15.

Predicted planetary A index for February 5-9 is 5, 10, 12, 12 and 5. Predicted solar flux for those same days is 80, 82, 85, 88 and 90. Geophysical Institute Prague sees quiet conditions February 5, active February 6, quiet to unsettled February 7, quiet February 8, active February 9, quiet to unsettled February 10-11.

We received an interesting report recently from Peter Thulesen, OX3XR in Greenland. He writes:

"During the last 2 days on Tuesday February 2 and Wednesday February 3 we have in Nuuk observed shortwave conditions quite different from what we normally are used to.

"On around 21 UTC Jan/OX3DB was listening to very weak PSK signals on 20m from a VK5 station. Suddenly the signals were very strong for a short period where Jan worked the VK5 station. Thereafter the VK5 stations signals disappeared. Jan was not able to find out if the VK5 station signals were short-path or long-path.

"Later around 2200 to 0000 UTC quite heavy aurora activity was observed over Nuuk, westcoast Greenland. On February 3 around 0100 UTC the aurora observed from Nuuk area had changed from few rather strong green bands to a wide area with weak green 'clouds' covering the sky overhead from south west to north east.

"This evening the aurora situation was the same as observed yesterday evening. The K-index shown on NOAA site <http://www.swpc.noaa.gov/aviation/index.html> is quite low here late Wednesday evening and the aurora oval activity shows low activity (activity level on or below 1). When the aurora and K index are that low I wonder what causes the bad conditions observed here in Nuuk.

"On both days we have experienced the shortwave bands have been closing down very quick within few minutes around 22-23 UTC."

Carl Luetzelschwab, K9LA sent in the following item.

"A really neat picture showed up at <http://www.spaceweather.com/> on February 2, 2010 (you can view the February 2 report in the 'archives' link at the top right of the referenced web site).

"It's an image from the US military's DMSP-18 weather satellite. DMSP stands for Defense Meteorological Satellite program. The picture shows a thin intense band of aurora north of Norway at 1817 UTC on February 1.

"Why does the auroral oval image (called a pmap) indicate lots of orange, but the DMSP picture only shows a thin intense band? The reason is the auroral oval image simply indicates where visible aurora can occur based on the energy and flux of the electrons measured during the satellite pass.

"The auroral oval image is not a real-time picture of what's going on - it's one of ten canned pictures correlated to the ten activity levels.

"So don't assume an orange or red auroral oval is full of ionization. As the DMSP picture and the auroral oval image suggest, the intense auroral bands generally occur at the equatorward edge of the auroral oval.

For more on what's happening in the auroral oval, visit [http://mysite.verizon.net/k9la/A\\_Look\\_Inside\\_the\\_Auroral\\_Zone.pdf](http://mysite.verizon.net/k9la/A_Look_Inside_the_Auroral_Zone.pdf)."

Thanks, Carl!

Doc Kelly, K4WY of the NASA Space Operations Mission Directorate sent a link <http://sdo.gsfc.nasa.gov/> to information on the new Solar Dynamics Observatory, set to launch Tuesday, February 9, 2010 around 1530z from Florida.

Whitham Reeve of Anchorage, Alaska operates a magnetometer, and sent a printout showing recent geomagnetic activity. You can observe his magnetometer in action at, [http://www.reeve.com/SAM/SAM\\_simple.html](http://www.reeve.com/SAM/SAM_simple.html).

Jon Jones, N0JK of Kansas says 6 meters really opened up on February 1, with openings all over the eastern U.S. and the southeast.

Jon reports: "Big 6 Meter E-skip opening January 31 and February 1. After a long dry spell, 6 Meters opened up with a bang on the last day of January.

"Noted Es spots on DX Summit from 1630 UTC on for stations along the Atlantic seaboard. Long duration opening, over 8 hours continuous for some along the east coast. C6AGN just spotted by K4ZOO at 0050 UTC Feb. 1.

"Es stayed east of Kansas most of the day until late Sunday afternoon. Around 2340 UTC Florida and the Carolinas begin coming in. The eastern stations that poked through had large pileups of 4s, 5s, and 0s calling them.

"Worked from Wichita on 6M:

"January 31

"2349 KA4YMY 50.145 North Carolina EM95 5x9++ large pileup on him

"February 1

"0013 N2XQM 50.130 Virginia EM26 "rare grid" 5x9++ said a "hornet's nest of a pileup!"

"Some foreign DX spotted - C6AGN and C6AMN among others. Heard C6AGN on 50.118 MHz ~ 2355 UTC Jan. 31. Nice opening for February 1!"

John sent a long list of calls heard. The next day, he reported:

"After getting off work at 7:30 pm CST (0130 UTC Feb 2) I worked the following from Topeka, KS from the hospital parking garage roof.

"Feb 2 6 Meters

"0145 KA2FWN FN22 0149 KE1LI FN41 0156 N2LID FN12

"5/8 wave 2M mag. mount whip, FT-897. All were loud.

"While driving back to Wichita copied KA2LIM FN12 ragchewing for quite a while. Also heard AI1C FN34 work N0LL. Had a partial QSO with K2MPE FN13, just after he answered me, my whip fell off the car. Had freezing fog and the ice built up on the whip until it got too heavy and off it went. It was dangling off the car by the coax with the tip dragging on the road. I pulled off the turnpike and put it away."

If you would like to make a comment or have a tip for our readers, email the author at, [k7ra@arrl.net](mailto:k7ra@arrl.net).

For more information concerning radio propagation, see the ARRL Technical Information Service web page at, <http://www.arrl.org/tis/info/propagation.html>. For a detailed explanation of the numbers used in this bulletin, see <http://www.arrl.org/tis/info/k9la-prop.html>. An archive of past propagation bulletins is at <http://www.arrl.org/wlaw/prop/>.

Monthly propagation charts between four USA regions and twelve overseas locations are at <http://www.arrl.org/qst/propcharts/>.

Instructions for starting or ending email distribution of this bulletin are at <http://www.arrl.org/w1aw.html#email>.

Sunspot numbers for January 28 through February 3 were 13, 12, 25, 14, 16, 11, and 11 with a mean of 14.6. 10.7 cm flux was 76.3, 73.3, 75, 75.3, 75.3, 75.2, and 74.4 with a mean of 75. Estimated planetary A indices were 3, 2, 4, 3, 6, 9 and 9 with a mean of 5.1. Estimated mid-latitude A indices were 2, 0, 3, 3, 7, 7 and 7 with a mean of 4.1.

## Repeater Project

Work continues on the repeater project. Two repeaters are currently operating in test mode.

- 2 m (10 W): 147.000 MHz output, 147.600 MHz input – no tones required (Luc VA3LMS)
- 70 cm (5 W): 443.950 MHz, 100.0 Hz tone (Nick VE3EBC)

We are currently looking for equipment donations and have already received some via the Ontario Swap Shop. Thanks to the South Pickering Amateur Radio Club for their donation.

## 2010 Field Day Packets Now Available

From ARRL, <http://www.arrl.org/?artid=9414>

It's that time of year again -- time to start gearing up for ARRL Field Day, June 26-27, 2010! ARRL's flagship operating event -- always held the fourth full weekend in June -- brings together new and experienced hams for 24 hours of operating fun. Field Day packets are now [available for download](#) and include the complete rules (including changes for 2010), as well as other reference items such as forms, ARRL Section abbreviation list, entry submission instructions, a Frequently Asked Questions section, guidelines for getting bonus points, instructions for GOTA stations, a kit to publicize your event with the local press and more.

Thanks to Gord VE3CNA for sending this in.

## Assistant Secretary/Assistant Treasurer

Dean VA3DBD has kindly volunteered to be our assistant secretary and assistant treasurer. These positions have been vacant since the election. Welcome Dean!