

WEST SIDE SIGNAL

Official Bulletin of Toronto's Oldest Amateur Radio Club

Club Executive

President

Dave Karecki VE3RER
1043 Royal York Rd Toronto On M8X 2G5
(416) 234 1456
e-mail karecki@rogers.com

Vice President

Bert Almemo VE3OBU
54 Rodda Blvd Scarborough On M1E 2Z8
(416) 283 4444
balmemo@sympatico.ca

Treasurer

Mike Durrant VE3PNX
10 Crane Ave Etobivoko On M9P 1T9
(416) 241 6017
e-mail mdurrant@ArcturusNetworks.com

Secretary

Bill Catlender VE3PA
2 Norwalk St Scarborough On M1J 2V1
(416) 439 2891
bill.catlender@sympatico.ca

Signal Editor

Dave Lott VE3BHZ
51 Lincoln Ave Cambridge On N1R 4W6
(519) 621 4396
e-mail david.lott@sympatico.ca

Custodian VE3JJ

Bill Loucks VE3AR
155 Brentwood Rd N Toronto On M8X 2C8
(416) 231 8474

Club Historian

Al West VE3UT
4251 Dundas St W #525 Toronto On M8X 2Z5
(416) 622 1445

Meetings

Meetings held at 7:30pm on the third Tuesday of each month, Etobicoke. Municipal Offices (Burnhamthorpe & The West Mall) No meetings in July or August. Visitors always welcome.

Club Nets

FM Net

Wednesday 8:00pm
VE3SKY repeater 146.985 Mhz

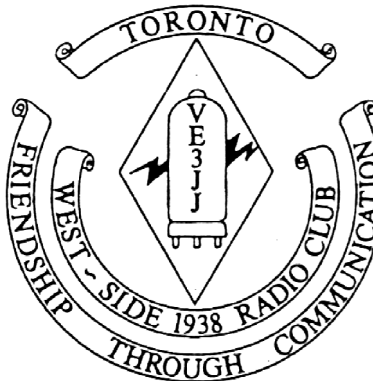
CW Net

Sunday 10:00am 7.029.5 Mhz

SSB Net

Sunday 11:00am 7.075 Mhz

Issue No.129 Mar 2010



Next Meeting

Tuesday Mar 23rd 2010

7:30pm

**Etobicoke Municipal Building
Burnhamthorpe Rd & West Mall
Etobicoke**

CLUB NEWS

February meeting was held at the home of Dave VE3RER due to a slight mix up we were unable to obtain a meeting room at our usual venue. In attendance were the usual faithfuls. VE3EQF Chris, VE3FZL Phil, VE3PNX Michael, VE3UT Al and of course Dave VE3RER. There being no business to attend to the usual casual conversations took place, everyone enjoyed a nice cup of Espresso made with Dave's newly acquired machine and then moved to Dave's shack where Michael demonstrated some of the improvements he has made to the packet set-up on the

west side of town. These improvements include setting up a 222Mhz repeater at his home VE3CON and also at the Mississauga club packet repeater. This has greatly improved and expanded the packet network. He also built a separate board which links the VHF and 222 Mhz packet controllers. Well done Michael your work is greatly appreciated. Dave showed his 40 meter software defined radio hooked up to CW Skimmer. Apparently everybody enjoyed the meeting because not one person left before 9:30pm. For the past two weeks the 40 meter CW net has been in good shape and I was able to hear everyone in Toronto with good signals. Here's something to think about. On Sunday Feb 14th (Valentines Day) Canada won their first Gold medal at any Olympics held on Canadian soil, good show Alex Bilodeau. Would you believe that on Monday Feb 15th Canada Post was selling books of stamps commemorating the event. One would have to think these were already printed and waiting for the event to happen. Pretty much egg on face time for Canada Post if we had not managed to pick up a gold medal in any of the many Olympic events. Most experts agree that we were bound to win some gold.

SOME ANNOUNCED DXPEDITIONS

PITCAIRN ISLAND

VP6AL

Jan 1 - Mar 1

Mainly SSB on 20 meters

QSL eQSL or direct to QRZ.COM address

AFGHANISTAN

T6LC

Jan 1 - Mar 3

By W4JJ Mainly 40 and 20 CW/SSB

QSL K4MJN

WILLIS ISLAND

VK9WBM

Jan 1 - May 1

All bands and modes

QSL VK4DMC

THAILAND

HS0ZJF

Jan 12 - Mar 12

By ON4AFU

All bands CW only

QSL ON4AFU

GUINEA BISSAU

J5UAP

Jan 15 - Mar 31

By HA3AUI

All bands mostly digital

QSL HA3AUI

TANZANIA

5I3A

Jan 20 - Mar 1

By UA3DJY

All bands CW & SSB

QSL RK3AOL

UGANDA

5X1NH

Jan 21 - Mar 21

By G3RWF

All bands CW & Digital

QSL LOTW, direct or bureau to G3RWF

IARU NATIONAL RADIO SOCIETY TO CELEBRATE ITS CENTENARY

The Wireless Institute of Australia turns 100 in 2010 making it the world's oldest National Radio Society.

WIA President **Michael Owen VK3KI** says he wants the world-wide amateur radio community to join in the celebration.

In the October edition of the WIA's Amateur Radio magazine he announces a program that includes a special callsign **VK100WIA** that will be operated next May by the WIA, and then by many affiliated clubs around Australia for the next five months.

A commemorative QSL card will be issued for contacts with VK100WIA between May and October next year.

A limited edition operating award, called the **WIA Centenary Award** is also to be available and two contacts with VK100WIA are required under its rules.

A program of events will occur around the WIA's annual meeting in the nation's capital Canberra in May 2010, while radio clubs are planning events to promote the centenary of organised amateur radio in Australia.

It all began in 1910 with a meeting of wireless pioneers in Sydney to protect their interests and rights against what they considered to be harsh treatment by authorities and a high licence fee.

The Wireless Institute of Australia has continued since to protect and enhance the privileges of radio amateurs and to promote amateur radio.

Details of the centenary program can be found on the WIA website **www.wia.org.au**

TEXTING UNDERGROUND

Brad Horn

Caves are some of the last places on the planet left to explore. Though caving is relatively safe, if something goes wrong deep inside the Earth, a rescue can take days — in part because cell phones and walkie-talkies don't work underground. But a remarkable teenager in New Mexico has invented a device that may significantly speed that process with the ability to text from underground caves. The young man's invention may have other applications, as well.

Underground Transmission

Alexander Kendrick, 16, won the 2009 International Science Fair for inventing this cave-texting device. The award got the teen from Los Alamos, N.M., a new computer, a trip to Switzerland and \$12,000. A cave radio that allows you to beam data to the surface rather than visiting it in person can be extremely valuable. It could save the cave.

Diana Northup

I wanted to find out why this thing was such a big deal. The next thing I knew, I was hanging from a rope in the bowels of the Earth and groaning under my breath. I was with a team of cavers in Carlsbad Caverns National Park in New Mexico, heading 1,000 feet underground to test Kendrick's invention.

The device is something like a computer attached to a ham radio. It transmits data using low frequency radio waves that can penetrate rock more easily than high frequency transmissions, like those in FM broadcasts.

If this test succeeded, it would be the deepest known underground digital communication ever to take place in the United States.

The Difference Between Life And Death

Why would anyone want to text from nearly 1,000 feet underground?

Here's why: In a 1991 New Mexico cave rescue, it took 170 people four days to save a woman with a broken leg. The rescue team had to lay miles of telephone line in order to stay in touch with the surface.

If they'd had Kendrick's radio, the rescue time may have been cut in half.



Alexander Kendrick stands in the Lake of the Clouds after testing his invention.

He and the team of cavers executed the deepest known digital communication ever to take place in the United States.

That could make the difference between life and death.

'It Could Save The Cave'

The other reason this thing's a pretty big deal : science.

Diana Northup, a microbiologist at the University of New Mexico in Albuquerque, says cave scientists find microorganisms in these deep caves that might have the potential to kill superbugs.

"Microorganisms that live in such a low-nutrient environment actually put out antibiotics, they produce them," Northup says.

But scientists think one of the biggest threats to this emerging source of antibiotics is actually the scientists themselves.

In fact, researchers believe the more they visit a cave, the less likely they are to find antibiotics. People contaminate the sensitive cave environment just by being there.

Northup thinks that by connecting data recorders to Kendrick's radio, scientists could remotely transmit information about the cave environment.

"So a cave radio that allows you to beam data to the surface rather than visiting it in person can be extremely valuable," she says. "It could save the cave."

Success

Back in the cave, we arrived at the test spot exactly 946 feet underground. The radio was being set up on the edge of a big pool of blue-green water pocked with stalagmite islands. It was 68 degrees, but incredibly humid.

Kendrick and the team pulled pieces of white PVC tubing from their backpacks and assembled the radio's antenna, which looks like a 6-foot-wide tick-tack-toe frame with wire wrapped around it. Kendrick's dad, Brian, was about to hike to an identical unit sitting directly above us on the surface.

They synchronized their watches, and Brian Kendrick and another caver climbed the steep, dusty slope above us. Then we waited.

Two hours later, after calibrating the devices, Alexander Kendrick typed the word "happy" on a rubber keyboard and pushed send. Up above on the surface, his father stared at a small screen hoping to see the word.

The message "appy" appears. Not the entire word, but good enough. "That's digital data coming through at 950 feet," says Brian.

Now Alexander Kendrick has to fine-tune the radio to make it smaller and tougher and easier for rescue crews to get down into caves.

That will have to wait, though, because he's busy working on his 2010 science fair project — a device that finds underground rivers by measuring their electromagnetic currents.

I don't know what problem he'll solve next, but I hear there's this thing called global warming.

Alexander Kendrick, 16, won the 2009 International Science Fair for inventing this cave-texting device. The award got the teen from Los Alamos, N.M., a new computer, a trip to Switzerland and \$12,000.

CB WEB SITE WARNS TRUCKERS TO STAY AWAY FROM 10 METERS

World Radio

A CB website is warning trucker CB'ers and Freebanders to keep out of the 10 meter ham band. The home page post on LiveCBRadio.com tells readers that mobile ham operators all over the United States are now observing and reporting truckers talking above 28 MHz. The website notes that the hams will not just report the truck and its company to the FCC, but that they often include video and audio as evidence with their complaints.

The website goes on to note that the FCC contacts the trucking company warning them of potential fines. It says that already there have been cases where both truckers and trucking companies have been fined.

The website warns readers, especially truckers with modified export type CB sets that what is called CB channel 19 High is actually 28.085 MHz. When someone with one of these illegal export radios tunes to 19 High he or she is transmitting full carrier AM in the Morse only area of 10 meters. The website warns that is best to stay within the common CB channels from 1 to 40. It notes that trucker CB'ers using the 19 High frequency might think that they are gaining extra privacy. In reality what they are doing is drawing national attention from the United States ham radio community and through them from the FCC.

LORAN GOES SILENT

CNN/Reuters

In a series of small ceremonies, the U.S. Coast Guard on Monday shut down Loran-C, a navigation and timing system that has guided mariners and aviators since World War II.

The death blow came last May when President Obama called the system obsolete, saying it is no longer needed in an age in which Global Positioning System devices are nearly ubiquitous in cars, planes and boats.

Killing Loran-C will save the government \$190 million over five years, Obama said. But supporters of Loran -- including the man known as "the father of GPS" -- say the nation's increasing reliance on GPS paradoxically has increased the importance of maintaining Loran as a backup.

At 3 p.m. Monday, the U.S. Coast Guard turned off Loran signals at 19 of the 24 Loran stations. Signals remain at five stations because of agreements with Russia and Canada, but the Coast Guard expects those stations to be decommissioned by June after the United States receives verification that those countries have been notified of the change.

The five stations that temporarily remain on line are at Attu, in Alaska's Aleutian Islands, and Caribou, Maine; Nantucket, Massachusetts; Shoal Cove, Alaska; and George, Washington.

Perhaps some additional allocation on 160 for amateur use now ?

GPS set for problems from the Sun

Researchers say the Sun is awakening after a period of low activity, which does not bode well for a world ever more dependent on satellite navigation. The Sun's irregular activity can wreak havoc with the weak sat-nav signals we use. The last time the Sun reached a peak in activity, satellite navigation was barely a consumer product, but the Sun is on its way to another solar maximum, which could generate large and unpredictable sat-nav errors.

The satellite navigation concept is embodied currently by the US GPS system and Russia's Glonass network, with contenders to come in the form of Europe's Galileo constellation and China's Compass system. It depends on what is - at its root - a simple triangulation calculation. A fleet of satellites circling the Earth are constantly beaming a radio signal with two bits of exceptionally precise information: where exactly they are, and at exactly what time. A sat-nav receiver on Earth - or on a ship or plane - is equipped with a fairly precise clock and the means to collect signals from the satellites that happen to be in its line of sight. It then works out, based on how long it took those signals to arrive, how far it is from each of those satellites. Some simple geometry yields its position.

- 1. Satellites advertise their exact position, and the precise time at which they are sending it
- 2. The signal travels through the outer atmosphere, the ionosphere; its speed depends on how much the Sun's radiation and particle winds are affecting the ionosphere's composition
- 3. A receiver on Earth determines how long the signals took to arrive from a number of satellites, calculating the position from the time differences

But those signals are incredibly weak and, as researchers have only recently begun to learn, sensitive to the activity on the Sun.

Solar flares - vast exhalations of magnetic energy from the Sun's surface - spray out radiation across the electromagnetic spectrum, from low-energy radio waves through to high-energy gamma-rays, along with bursts of high-energy particles toward the Earth.

The radiation or waves that come from the Sun can make sat-nav receivers unable to pick out the weak signal from satellites from the solar flare's aftermath.

There is little that current technology can do to mitigate this problem, with the exception of complex directional antennas used in military applications. Sat-nav receivers will be blinded for tens of minutes, probably a few times a year at the solar maximum.

Charged up

A further complication comes from the nature of the outermost layer of the Earth's atmosphere, the ionosphere. That is composed in part of particles that have ionised, or been ripped apart by radiation from the Sun, with the composition dependent on how much radiation is coming from the Sun at a given time.

The problem comes about because sat-nav technology assumes that signals pass through at a constant speed - which in the ionosphere isn't necessarily the case.

"The key point is how fast the signals actually travelled," said Cathryn Mitchell of the University of Bath.

"When they come through the ionosphere, they slow down by an amount that is actually quite variable, and that adds an error into the system when you do the calculations for your position," Professor Mitchell told BBC News.

The amount of solar activity runs on many cycles; the ionisation will be different on the sun-lit side of the Earth from the night side, and different between summer and winter; each of these cycles imparts a small error to a sat-nav's position.

But the disruption caused by solar flares is significantly higher.

The increased radiation will ionise more molecules, and the bursts of particles can become trapped in the ionosphere as the Earth's magnetic field drags them in.

The effects that sat-nav users will face, however, are difficult to predict.

"We can look at the measurements from the last solar maximum," Professor Mitchell said.

"If we project those forward, it varies quite a lot across the Earth; looking at the UK it will be about 10-metre errors in the positioning."

The errors would be much more long-lasting than the "blindness" problem, lasting hours or even days.

"Ten metres out is probably going to be OK for a sat-nav system in a car, but if you're using the system for something safety-critical like ships coming into harbour for navigation or possibly in the future landing aircraft, you're looking for much greater accuracy and more importantly, much greater reliability."

Bob Cockshott, a director of the government-funded Digital Systems Knowledge Transfer Network, said that for most consumer applications such as sat-nav for cars, the problem will be more troublesome than dangerous.

"You might find for a number of hours or even a day or two you couldn't go out surveying or be able to dock your oil tanker at the deep-ocean oil well," he told BBC News.

"It's more at the annoyance level than something that's going to bankrupt your business."

A number of schemes have been proposed to do real-time corrections to the signals as the atmosphere changes, allowing for local adjustments that are broadcast to receivers by other means such as the mobile phone network.

However, Mr Cockshott said that it remains unclear whether such a correction makes sense economically for manufacturers of sat-nav-enabled technology.

So as the Sun builds up to its crescendo in a few years' time, be aware that your sat-nav may for a time give some strange results - or for a short while none at all.

IS OLD BETTER THAN NEW ?

KB2DHG

Being into Amateur Radio for the better part of 30 years, I often reminisce about the days gone by and the rigs and equipment of by-gone days... I was sitting in my shack one wintry Saturday afternoon and just listening in on a QSO of two hams talking about a flex radio the one ham was using. They were exchanging reports and commenting on the audio. To me there was really no difference or should I say better performance than my good old Drake B-line. As the QSO continued, I decided to fire up the Drake T-4XB. After it settled in I broke into their QSO. I was received with a good S-9+15 signal report and a good audio report. The fellow with the Flex asks what rig I was using? I thought I would have a little fun and asked him to see if he could figure out if this was a new rig or a boat anchor. Well he was not receptive to this game so I simply gave him the answer. I am using my DRAKE T-4XB with the R-4B Receiver! WOW he replied. GREAT sounding rig! We chatted for a little while and then passed on our 73's

This got me to thinking? Is it really necessary to have all this? All the bells and whistles, the compact computer aided equipment that is state of the art today? Why spend tons of big bucks on a radio when there are great deals on old gear? I guess you will say it is because the new stuff is easier to use? Maybe you like computers or simply do not care to deal with tubes and adjusting plate and load? As was written many times before, it will be debated as far as old versus new...

I happen to love the older rigs... They are more mechanical and to me will out last the new stuff today! I really doubt that today's rigs will have the longevity of the good ol rigs of the 50's 60's and 70's. The newest rig in my shack is my Kenwood TS 430S. It has been on the air flawlessly since 1988. I also have a Yaesu FT 101EE, The Drake B lines and my original Icom 745. ALL still on the air and performing beautifully.

Will today's rigs still be around 20 or 30 years from now? I think if I had the money to shell out for a new rig today I would rather spend it on a mint condition Collins set up. To me the Collins had it all!

I did have comments with some older seasoned hams that used these rigs back when they were new and they tell me that they love the new rigs of today but what is lost is the mystique of the glowing tubes, that distinct warm smell and that wonderful powerful tube audio sound. We did lose something when we lost tube rigs. Having both solid state and tube rigs here in my shack, I truly do see a big difference in performance. To me there is nothing like the sound of my tube rigs. I will admit, YES it is just so much easier to fire up the Kenwood or Icom, but the little extra effort of warming up them tubes and tweaking that plate and load is so worth it. If you are willing, I would recommend getting your hands on an older tube rig and trying it out. The best for the money is the Yaesu FT 101 series, they are plentiful and can be purchased for \$2-\$3 hundred bucks for a really good one. If you really want a top class station I recommend the DRAKE A, B or C lines or the Collins... I think you will have fun and will appreciate a whole new world OR SHOULD I SAY, Old world of Amateur Radio. In the end, it is all fun isn't it?

A man goes to visit his 85-year old grandpa in the hospital. "How are you grandpa?" he asks "Feeling fine" says the old man. What's the food like? "Terrific, wonderful menus" "And the nursing?" "Just couldn't be better. These young nurses really take care of you" "What about sleeping? Do you sleep okay?" "No problem at all, nine hours solid every night. At 10 o'clock they bring me a cup of hot chocolate and a Viagra tablet and that's it. I go out like a light." The grandson, puzzled and a little alarmed by this, rushes off to question the nurse in charge. "What are you people doing" he says. "I'm told you're giving an 85 year old Viagra on a daily basis. Surely that can't be true?" "Oh, yes" replies the nurse. "Every night at 10 o'clock we give him a cup of chocolate and a Viagra tablet. It works wonderfully well". "The chocolate makes him sleep, and the Viagra stops him from rolling out of bed".