Ottawa Amateur Radio Club

Groundwave

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Check out our Web Page: ***www.oarc.net***

March 2011

A reminder that the Groundwave is being mailed to members based on the membership list maintained on the new web server. The Groundwave editor no longer maintains this mailing list. If you are not receiving your Groundwave please contact the membership director who will have the list corrected.

The speakers for the March meeting will be Diane Bruce, VA3DB, and Dave Scobie, VA3AE, who will brief us on developments related to the club's new web site and the amazing new capabilities now available. Please note we are in the Honeywell Room this month.

Remember that the April meeting is Homebrew Night so heat up those soldering irons. We want to see your handiwork in April.

See you at the meeting.

Ian Jeffrey, VE3IGJ
Editor

Next Meeting 7:30 pm, Wednesday, March 9th
in the Honeywell Room at Ottawa City Hall

In This Issue....

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March 2011

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Articles may be submitted for use in this publication provided that they portray events or activities that promote Amateur Radio. Letters and comments are also welcome. Submissions may be made by mail addressed to the Editor care of the OARC, or by e-mail to "ve3igj@rac.ca". Deadline for submissions occurs three days after the regular monthly meeting of the OARC.

Please support your local radio organisations. They support you!

Club Information

The Ottawa Amateur Radio Club Inc. is an association of Radio Amateurs devoted to the promotion of interest in Amateur Radio communications in the National Capital Area and to the advancement and achievement of club members.

Regular Meetings of the OARC Inc. are held on the second Wednesday of each month (except July and August) in the Honeywell Room which is on the second floor of Ottawa City Hall, formerly Regional Municipality of Ottawa Carleton Headquarters, on Lisgar Street. Meetings commence at approximately 19:30 hours. Further details about each meeting is elsewhere in this publication.

Executive Meetings of the OARC Inc. are normally held on the first Wednesday of each month at 19:30 hours. Contact the President to confirm the date, time and place of the next meeting.

The CAPITAL CITY FM Net meets every Monday (except some holidays) at 20:00 hours on the club repeater **VE2CRA 146.940(-)** to pass traffic and to make announcements of interest to Amateurs in the National Capital Region.

The SWAP Net is a service provided and conducted by Ed Seib, VA3ES. This feature appears on the Capital City FM Net. To list items and make inquiries, got to http://www.ncswapnet.ca. You may reach Ed at 613-738 8924 or e-mail him at va3es@rac.ca.

The POT-HOLE Net is a SSB/HF net sponsored by the Ottawa Valley Mobile Radio Club and is conducted every Sunday at 10:00 hours on **3.760 MHz**. All amateurs are welcome to check in.

The POT-LID CW Net is an informal slow-speed **CW** net sponsored and conducted by Ed Morgan, VE3GX, and meets every Sunday, except during July and August, at 11:00 hours on **3.620** MHz, to promote interest in CW and CW procedures.

The QCWA CHAPTER 70 Net meets every Monday evening at 19:30 hours on repeater VE3MPC **147.150(+).** You do not have to be a QCWA member to participate.

The Ottawa Valley VHF/UHF SSB Net is sponsored by the West Carleton ARC. Look for it every Tuesday night (except the first Tuesday of the month) around 21:00 on **144.250,** (roll calls after net on 50.150, 432.150, 222.150, and 1296.100.) Horizontal polarization is preferred.

VE3TEN

Tuning in the beacon so that it makes sense requires you tune to **28.175** on **CW** and read the tone that is there . The spaces between the elements are the higher tone. If that doesn't work, tune to **28.175.28** on **lower sideband** for better results.

The Ottawa Amateur Radio Club bulletin "Groundwave" is published and distributed to club members. Publication dates may vary but it is hoped that the bulletin arrives at its destination before the events listed in it have expired. The bulletin is not published for July and August when meetings do not occur. Every effort is made to provide accurate information in the bulletin, however we are all human and mistakes can be made. The OARC accepts no responsibility for any damages that may result from this. The opinions expressed in this bulletin are those of the author.

Voice (VHF) 146.94/146.34 100Hz CTCSS required
(UHF) 443.300/448.300

VE3TVA Amateur Fast Scan Television Repeater
Video/audio beacon & input 439.25 MHz (audio sub. 443.75)
Video/Audio output 914 MHz (FM)

IRLP Node 2040 146.94/146.34 (VE2CRA/VE3RC)
(Code 411 for info) (Code 204 for activity)
(Code 88 for time)
For further information please contact the Repeater Chair.

Note: The IRLP link is not connected to ECHOLINK. Please do not try to connect using the alpha keys on your keypad. It just confuses the operator.
Note: The IRLP link is disabled during the Capital City Net each Monday. It is disabled from 2000 to 2145 Mondays except for May to August when the link is disabled from 2000 to 2020.

Ottawa Amateur Radio Club
Groundwave

March 2011

February Minutes

Vistors present were: Frank Stratton VE3YY, VA3STL Allan Steele, Aritz and Joseph Cardinal.

Events: Canadian Ski Marathon update: Harold, yes they have snow, and the course this year is north-south, Montebello to Montebello.

Club Project Update: BatMon @ Rev 1.0 Boards are ordered, and the design is quite firm. Mid to end March for the build sessions. More to follow.

Interesting Contacts: Bryan, VE3QN, contacted S5R8HL on 20m cw, and recalls hearing an American experimental station near Buffalo beaconing ~600 metres. VE3BBM has contacted SR58HL and VK2GWK on 20m, and again with VP8ORK and 5N5K (Nigeria) on 30m. Mike Kelly used his folded inverted L in the CQ worldwide on 160m. He contacted all states and all provinces with some DX too,

There is every Tuesday at 7:45 AM on 223.5 MHz simplex a roundtable. Please check in.

Frank, VE3YY, mentioned the VHF SSB net on Tuesday nights on 144.250 MHz has been getting good inversions from Montreal recently.

VE3TLY reached from Manawaki to Mount St. Patrick (VE3STP repeater) and contacted VE3AAC & VE3IPC (~120 km).

Show and Tell: David Conn, VE3KF, has a very interesting lesson on antennas on you tube done in 1942. Contact him for more information.

Guest Speaker: Alan Steele, VA3STL, Professor of Electronics at Carleton, on D-Star Technology
Talk will be posted on the net.

Dates to Remember

2011

Feb. 12, 13	Canada Ski Marathon
Apr. 13	Homebrew Night
Jun. 8	OARC AGM and Elections
Jun. 25, 26	Field Day
Jul. 1	RAC Canada Day Contest
Sep. 10	Hamfest
Sep. 30	Membership Renewal Deadline
Nov. 4	Joe Norton Award Subm. Due
Dec. 17	RAC Winter Contest

RAC Director's Report

Due to Family and job commitments Stephen Mayne, VE3LWX has had to resign as Co-ordinator of Philanthropy. It is a hobby and family and job are first. I and all the Directors would like to thank him for stepping up to bat in this position. But this also now means that we are looking for a new person to take over the position. If you are interested let me know or if you have a lead on someone who would make a good Co-ordinator of Philanthropy please contact me.

We are presenting a balanced budget (and possibly a slight profit), the first one in several years. It has taken a while to turn our fortunes around but it actually seems we have and the future of Radio Amateurs of Canada is looking up. What we do need to survive is members, plain and simple. Memberships pays the bills for RAC. If you're a member, thanks, if not and you are reading this in your club magazine would you please consider becoming a member?

We also voted and approved that only RAC members will be allowed to use the callsign@rac.ca alias. It was felt that members should have extra privileges and this is one of them. If you have a RAC alias and are not a member you may loose the privilege of this feature in the future. To quote the American Express ad "Membership has its privilege".

Bill Unger, VE3XT

Ottawa Amateur Radio Club
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mk's Words

Now.. I'd like your help. I have just finished scanning in the 1989 issues of the Groundwave. These images are great for fireside reading, but pretty cumbersome for research or personal interest study. They need a detailed index. It should capture the topics covered, rather than just the article titles. We should be able to follow the rise and fall and re-rise of things like packet radio, transmitter hunts ,and club projects. Researchers should be able to follow the history of the Ravenscroft Case, the Miles for Millions walks, and the ongoing history of the Canadian Ski Marathon without having to scour each page of each issue. I think that about a page of text per issue would be more than enough. If a few people take on an issue per month, perhaps each specializing on a particular decade, it shouldn't take too long at all to put the index together. How about it? Are you willing to help? Contact me, or just give it a try and send me the results, and we'll go from there.

In the 1989 issues for the first time, there is mention that the Groundwave was being uploaded to a few Bulletin Board Systems (BBSs). Do any of you have issues from that era hanging around in digital form, so we don't have to rely on pictures of pages? Even if they are in Wordstar format on a five inch floppy disk, they would be of assistance. Please check your closets.

Moving forward just a bit. We just went through issue number 45 of the Canadian Ski Marathon. A lot of regular readers were out there, so you know how it went. If you weren't there, it was a pretty typical marathon, thanks to a last minute addition of snow, and the outstanding work of all concerned. There were the usual issues of mixed up skis, lost luggage, and a handful of injuries that had to be transported to hospital. The barcode scanners seemed to work better than last year, although VE3UNK was run ragged getting the data in from the field. Once again VE3HYS had to use all of the magic in his kit to work from the deep north woods back to the repeater, but he did it. The work everyone does **IS** noticed by both organizers and skiers alike. Well done, everyone. Give yourselves a pat on the back, and we'll get to do it again next year. Meanwhile, if there is something you wished you had out there, or you could have done better, make a note for next year. Otherwise, by next Christmas you will have forgotten all about it.

Remember that once the marathon is over, spring is just around the corner (or maybe the corner after that.)

73 .. mk VE3FFK

Full Duplex Radio

By Stewart Mitchell

Wi-Fi and mobile phone radio network speeds could double after scientists showed radio is able to send and receive over the same frequency at the same time.

The technology would overcome the problem best exemplified by pilots having to say "over" each time they take turns in talking over radio, but it could also be applied to wireless data networks, scientists at Stanford University said. "Textbooks say you can't do it," said Philip Levis, assistant professor of computer science and electrical engineering at Stanford. "The new system completely reworks our assumptions about how wireless networks can be designed. Unlike radio before it has the unique ability that it can receive and transmit at the same time."

The technique mimics the way humans are able to screen out the sound of our own voices during a conversation. "It's like two people shouting messages to each other at the same time," said Levis. "If both people are shouting at the same time, neither of them will hear the other."

"When a radio is transmitting, its own transmission is millions, even billions of times stronger than anything else it might hear [from another radio]," Levis said. "It's like trying to hear a whisper while you yourself are shouting." According to the researchers, the breakthrough uses two transmitters in the hardware at each end of a conversation, with the two transmitters working in a similar way to noise-cancelling headphones.

"The two transmit signals interfere destructively at the receive antenna to create a dead signal that the receiver can't 'hear'," said Levis. "So you create this null position where the receiver can't hear that signal and so is able to receive packets from other areas."

Read more at: http://www.pcpro.co.uk/news/365275/two-way-radio-breakthrough-doubles-wi-fi-performance

Ham Radio at the Movies

Given the Oscars are just around the corner (February 27) I thought the following would be interesting. None of these are in the running for this year.

Many hams may know that ham radio was used in the plots of recent movies such as *Frequency* and *Independence Day*. However this is only the latest in a string of movies that make use of hams and radio communications in their plots. Here are some earlier examples:

Radio Hams (1939), is a classic documentary under the series "MGM Pete Smith Speciality Short Subject". It takes a look at how ham radios can become priceless aids during emergencies. The two stories shown, one dealing with sickness, the other with a missing plane, are bookended by a humorous look at a typical three-generation family's fascination with their ham radio. Clayton Moore, later famous as the Lone Ranger, appears uncredited as a ship radio operator.

Men of Boys Town (1941), is the sequel to *Boys Town* (1938). In this movie Whitey Marsh (Mickey Rooney) has frequent conversations with his friend Pee Wee (Bobs Watson) over the amateur radio waves. Whitey transmits from the home of his adoptive parents, while Pee Wee is at the amateur radio club in Boys Town.

If All the Guys in the World (original title *Si tous les gars du monde*...) (1956) is a French film largely devoted to the art of amateur radio. Jean Louis, a young Parisian ham, receives an SOS message sent from a ship in the high seas. With the help of fellow radio amateurs around the world he tries to prevent a major catastrophe from happening. This is the first movie appearance of the celebrated French actor Jean Louis Trintignant.

The *Glass Bottom Boat* (1966) starring Doris Day, who has a "20-foot antenna," shows her corkboard full of DX QSL cards above her Collins and marine band gear. Day uses the marine band equipment to talk to "Pop" (played by real-life ham Arthur Godfrey, K4LIB).

The Red Tent (1971) is based on actual facts. The dirigible Italia crashed over the Arctic ices after flying over the North Pole in 1928. The authorities believed no one could have possibly survived the accident and soon gave up searching for survivors, until a young Russian radio amateur, Nikolai Schmidt (Nikolai Ivanov), heard on his modest radio set the faint SOS signals sent from the wreck site by Roberto Biagi (Mario Adorf). Thanks to the information provided by Schmidt, the rescue of the survivors was organized. The Norwegian Roald Amundsen, first man on the South Pole, perished in the course of the rescue operation.

Magnetic Problem #1

I have a couple of magnetic problems for clever readers. The first one (easier) is below and the second one (harder) will be in next month's issue.

Suppose you are given 2 metal rods: one is a magnet, the other is made of iron. However, both of them are painted so they appear to be the same. Their weight is the same. You are in a room with no windows so you can't tell where North is located. You have no other objects with you. How will you be able to determine which rod is the magnet and which rod is iron?

Fame and glory to the first one to email me the correct answer.

Ian

Bucket List

By Jim Kocsis

Some thoughts on radio activities worth trying before you say your last 73.

Okay, you've finally realized that you're not getting any younger and you've thought about what you want to do before you head out for that big "ham shack in the sky." The phrase in common use today to describe your situation is "Bucket List" — a list of things you want to do before you kick the bucket. I've seen bucket lists for other interest groups — car enthusiasts, bicyclists, sports fans, travelers, even a movie by the same name — but none for hams. One list even had getting a ham radio license on it!

The situation is literally a case of woulda-shoulda-coulda for opportunities in the past and a list in your head of things you still want to do in the very near future. I looked back on my 45+ years as a ham and realized that I've had a lot of fun, but wish that I would have acted on several things that I wanted to do but for some reason didn't. I've composed a list of things that some hams may have wanted to do but may not have done. Now is the time to quit dreaming about them and start doing. Below is a list with some things that I have either done or wanted to do. You can use it as a guide to form your own list or use it as is.

1. Operate a contest for 24 hours with no sleep. This may be a tough one but it's the way to really rack up some points. You will recover from the loss of sleep. Don't spend just 2 or 3 hours but make a real, dedicated effort. Get some extra sleep the day before. Plan your station operation and layout so that you're not strained and become so exhausted that you quit early.

2. Go on a DXpedition. This is shooting pretty high, I know, because of the expenses and time involved. If you can't swing a DXpedition, operate from a foreign country you are planning to visit. Obtain permission or a license if required.

3. Operate from a large hill, the top of (or part way up) a mountain, or the top of a tall building with a VHF/UHF rig and gain antenna to see how far you can work simplex. I've operated from a tall building and with 10 W on 2 meter FM simplex was able to reach out well over 80 miles to mobile stations. Another time I was part of a group of hams who operated from the top of a 120 foot sand dune on Field Day and worked out several hundred miles with 5 W on SSB and a small Yagi. It was a blast but exhausting hauling the equipment up and down the hill. You might try paying your kids or grandkids to help haul the equipment and maybe get a chance to show them what ham radio is all about.

4. Operate from a motorcycle or bicycle. If you choose to operate from a bicycle see the article in the May 2009 QST by WA3LKN. Presently I use a handheld transceiver with a flexible antenna but reception isn't great. I have plans to add an antenna like that shown in the article.

5. Erect an antenna so large that it is capable of staying up for only a contest weekend (think Field Day, DX contests). Use the following guideline: If it stays up then it's too small. A directional multi-wire array between some really tall supports (trees, towers, flagpoles, etc) will provide a killer signal in the favoured direction.

6. Run low power from the beach, park, woods, parking lot at work at lunchtime, hotel balcony, vacation spot, boat, or ship. For all but the ship, put up a mobile whip antenna or simple pole and dipole depending upon what space is available. A ship may require special clearance. Bring a dual-band handheld transceiver with a small dual-band handheld Yagi and work through the low orbit ham satellites.

7. Visit a high power AM station transmitter site. These stations consist of power supplies, amplifiers, antennas, coax, etc — just like ours, only much larger. Back in the '70s I went to one of our local TV/FM/AM broadcast sites and was amazed at the size of the equipment. At least one of the

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broadcast engineers at a station in your town is probably a ham. Be sure to thank him
and the station management (in writing) for their time.

8. Operate a classic ham station — this means tubes, separate receiver /transmitter/VFO and a straight key.

9. Build a kit. There are many station accessories that can improve your operation, don't cost much and will be fun to build. If it's been a long time since you've built a kit, pick something simple but be sure to enjoy the actual building process — remember "the journey is the reward." A low-power rig is relatively simple, inexpensive and can be used for vacation, portable operation, etc.

10. Homebrew an antenna even if it's just with wires. (Remember to keep away from the power lines).

11. Increase your CW speed to 10, 15, 20+ WPM. W1AW still sends code every night and day of the year. Read up on techniques to help you increase your speed.

12. Operate PSK. It really isn't all that hard to set up and operate. You probably already own most of the needed equipment, such as a PC, HF SSB rig, and antenna. All you need to add is some free software, a simple and inexpensive audio interface, and a means of keying your rig.

13. Participate in Field Day. Go it alone, with a buddy, or a local club. If you don't feel comfortable operating, help put up the antennas or cook the hot dogs and hamburgers. If you choose to operate for the first time, volunteer for the overnight shift — the bands really open up, the site gets quiet so you're not distracted, and it's really fun being out there when everyone else is asleep. Things get kind of surreal around 3 am.

14. Demonstrate ham radio at your child's (or grandchild's') school science class. I gave a presentation on one of my ham radio side hobbies (weather satellites) and it was an absolute blast. See my article in 73 magazine, September 2000.

15. Write an article for QST. If you haven't written anything since high school (or ever), the editors will help you and you will become famous in your local ham group. I've written a few over the past 15 years. The e-mails and letters I've received asking for help, more information or to tell me what they've done are absolutely priceless! I treasure each and every one. Also, I've got my wife involved. She proofreads the articles before I submit them.

16. DX on the AM and FM broadcast bands to see how many stations you can "log." My friend John, N7LQR, and I used to see who could hear the most stations on the AM broadcast band. The last I recall, in the 1960s, he was well over 125. You probably won't get a QSL, but you can record the audio using a PC for proof. In the early mornings of spring and summer the FM band goes crazy sometimes filling every available channel with a station. Remember to stay away from your local broadcast station antenna sites so the receiver isn't overloaded.

17. Set up a table at a hamfest. Make sure you label everything with prices and clean up the items to make them look more attractive. It's really different "being on the other side of the table." The experience of meeting new hams this way is definitely worth the trouble of setting up.

18. Learn simple satellite operation, how to track them, how to use a PC program to find them and predict when they will be visible. After that you can advance to actually transmitting through them with the help of other satellite experts. Visit the AMSAT to learn the basics. Study the ARRL publications to learn more. AMSAT offers a free trial version of their full featured tracking program so you can test drive it before you buy it.

19. Become an Elmer to a neighbour, friend, or relative. If you had an Elmer, maybe it's time to give back to ham radio what it has given to you. I had two Elmers and each one inspired me to try building, operating different modes, or become involved in different ham activities. You guys in

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the South Bend, Indiana area know them — Big Smitty, W9EPT, and Wayne, K9IXU, both SK.

20. Demonstrate ham radio at a nursing home. They may not understand all of it but they enjoy seeing people from "outside." You may actually help a resident get his or her license and provide a link to the outside world (even if it's just via a handheld transceiver and the IRLP).

21. Provide communications during a marathon, parade, bike race, foot race, etc. This is a good chance to see an event up close, provide a useful service to your community and promote ham radio. The compliments and thanks you will get from the event organizers will be worth it.

22. Go to the Dayton Hamvention. If you have never been to Dayton you owe it to yourself to see it at least once. Dayton has been held for a long, long time. I've been going nearly every year since 1974 and still have not seen everything. If Dayton is too far away, attend the biggest one in your area.

23. Organize your QSLs into a photo album and your logs in a three-ring binder in chronological order. Display them proudly and review them when you feel like reminiscing or just to see who and where you've worked. I look back on mine and realize what fun I've had working locals, rare DX, and some famous stations like W1AW.

I also kept a citation I got from the FCC for operating out of band with a homebrew VFO. I was shaking at the time (age 15) because I didn't think they would hear a 40 W CW station in Indiana and I was afraid they might take away my license. It was scary but it made me a better homebrewer. I've also kept all the mail (that's before e-mail) I got from contacting authors of articles. Keep it all but get it organized. Make photocopies of paper that is too brittle to put into a binder.

24. Teach or help teach a ham license class. You probably attended one to get your license so return the favour to upcoming hams.

25. Operate from W1AW. They have quite a station and antenna farm from what I see in QST. It's free but remember to bring your license.

There you have it — a list to get you started. Use it as is, or modify it to suit your needs, desires, and capabilities. But remember, "time's a wasting" so get out there and start working on your Bucket List!

Jim Kocsis, WA9PYH, an ARRL member, is a test engineer at Honeywell Aerospace. He has homebrewed small projects his entire ham career, including a weather satellite down converter and parabolic dish for 1691 MHz, and a 2400

ARISSat-1 Current Status

The ARISSat-1 satellite is still inside the ISS. Roscosmos has announced that the satellite will be deployed during the next EVA in July of this year. The US team is trying to get clarification from Roscosmos about the"weak batteries" condition causing the satellite not to be deployed this week. The news item can be found on the Roscosmos web site,

Roscosmos also announced that the satellite will be turned on inside the ISS and use an external antenna on 12 April 2011. This is to celebrate the 50th anniversary of Yuri Gagarin's first manned space flight. AMSAT will support this event and issue certificates to those stations reporting reception of the ARISSat-1 signals. [Frequency 145.950 Ed.]

Tony Monteiro, AA2TX has an excellent article describing the ARISSat-1 power system using the Russian Olan suit battery in the upcoming AMSAT Journal.

Liquid Antenna

America's navy is developing an antenna made of seawater.

A big American warship bristles with more than 100 large copper antennae that send and receive signals for its weapons, its radar, and its voice and data communications. A lot of aerials, then, but still not enough. The navy wants its ships to carry even more of them. Fulfilling that desire has, however, stymied experts for decades. If placed too close together, antennae interfere with each other's signals. They also get in the way of aircraft and weapons. And, crucially, naval antennae many of them more than 20 metres tall, make warships more easily visible to enemy radar.

At the American navy's Space and Naval Warfare Systems Command (known as SPAWAR for short), in San Diego, a team of more than 30 engineers is trying to solve such problems. In 2007 the team's leader, Daniel Tam, thought of a possible answer, appropriately enough, while taking his morning shower. The sodium and chloride ions in salt water conduct electricity. Could a spout of seawater, he mused, replace a metal antenna?

After a trip to a hardware store, Mr Tam discovered that indeed it could. With an $80 water pump, a $15 rubber hose, and a $20 electrical device called a current probe that was easily plugged into a hand-held radio, he produced a spout roughly four metres tall from the waters of San Diego Bay. With this he could send and receive a clear signal. Over the intervening years his invention, dubbed the "pee antenna" by incredulous colleagues, has been tweaked and improved to the point where it can transmit over a distance of more than 50 km (30 miles).

To make a seawater antenna, the current probe (an electrical coil roughly the size and shape of a large doughnut) is attached to a radio's antenna jack. When salt water is squirted through the hole in the middle of the probe, signals are transferred to the water stream by electromagnetic induction. The aerial can be adjusted to the frequency of those signals by lengthening or shortening the spout. To fashion antennae for shortwave radio, for example, spouts between 18 and 24 metres high are about right. To increase bandwidth, and thus transmit more data, such as a video, all you need do is thicken the spout. And the system is economical. The probe consumes less electricity than three incandescent desk lamps.

A warship's metal antennae, which often weigh more than 312 tonnes apiece, can be damaged in storms or combat. Seawater antennae, whose components weigh next to nothing and are easily stowable, could provide handy backups - and, eventually, more than backups. Not all of a ship's antennae are used at once, so the spouts could be adjusted continuously to obtain the types needed at a given moment. According to SPAWAR, ten such antennae could replace 80 copper ones.

Fewer antennae mean fewer things for enemy radar to reflect from. Seawater is in any case less reflective of radar waves than metal. And if a ship needed to be particularly stealthy (which would mean keeping its transmissions to a minimum), her captain could simply switch the water spouts off altogether.

One disadvantage of water spouts is that they can be torn apart by the wind. SPAWAR'S researchers have, however, found that their antennae work just as well if encased in a plastic tube. The tube can be sealed at the top so that the water goes up the middle, bounces off the top and then trickles down the inside of the tube's wall to the bottom, where it may be recycled.

That innovation also means that SPAWAR'S invention need not be restricted to the navy. The closed-tube design allows saline aerials to be deployed on land, too. Indeed, one has already been tested successfully by a group of marines. It worked, as expected, with brine made from fresh water and a few pinches of salt. But if salt is not to hand, never fear. It also worked fine when the spout was fed with Gatorade.

The Economist, January 29, 2011

RAC Bulletin

Special Event Staion VY1T - Teslin Historical and Museum Society . Grand Opening of Aeradio Exhibit. 2011-02-08

The VY1T Special Event Station will be on the air from June 29, 2011 to July 1, 2011 for the Grand Opening of Aeradio Exhibit at the Teslin Historical and Museum Society in Teslin, YT.

Eric, VY1EI, our resident contester, will use VY1T on June 29 from Whitehorse. Club station VY1T will be on the air from Teslin, Yukon at the George Johnson Museum on June 30 from early morning to late afternoon. VY1T will be on the air from Whitehorse on Canada Day as a club station. QSL cards will be available

On June 30 please find us on 20 meters around 14.180 or so, and perhaps 14.140 MHz.

QSL via Hugh Henderson, VY1EEN, at P.O. Box 33062, Whitehorse, YT Y1A 5Y5

More information to be found on the Yukon Amateur Radio Association website at <http://www.yara.ca/> or contact Ron McFadyen at <mcfadyen@northwestel.net>

On June 30 2011, the Teslin Historical and Museum Society, owner and operator of the George Johnston Museum, Mile 804 Alaska Highway, Teslin, will host a large gathering to celebrate the grand opening of its historical and (now) unique Aeradio Navigation Range Building, with its interior exhibits.

The exhibits tell the story of Teslin from 1940-1955 when its quiet and simple northern village life was overturned with the coming of RCAF Teslin base, the Aeradio Navigation Range, and the Alcan Highway. The story is told with transmitters, other artefacts, text, and photographs inside a rare 1941 radio range air navigation building.

We would be delighted if Yukon ham operators, former DOT telegraphers, amateur radio, and radio telecommunication enthusiasts would attend the opening. We feel that this is appropriate because DOT staff of RCAF Teslin not only handled hundreds of thousands, perhaps millions, of radio messages from 1940-1955 but were also avid amateur radio operators in their off duty hours. They controlled this aeradio building and were central to Teslin's wartime role.

The society will welcome dignitaries and guests, such as yourselves, to Teslin for a formal ribbon-cutting, a sit-down traditional Dominion Day Silver Tea, to view other new exhibits inside the Museum, a display of ham radio (so popular in the 1940s) and other events recalling that era in Teslin. Guests will be invited to "make a day of it" and visit the local high-quality Yukon Wildlife Gallery and the Teslin Tlingit Council's elegant Heritage Centre exhibits. This invitation is a preview to the formal invitation to be sent in Spring of 2011.

Should you wish to arrange overnight accommodation, please contact Yukon Motel (1-867-390-2443), Teslin Lake Motel (390-2521) or Dawson Peaks (390-2244) for a selection of rooms, cabins and meals. Teslin Lake offers superb trout, grayling, burbot and pike fishing. Charters and leisure boat rides are available. Excursions for small groups can be arranged by the Museum.