



# Newscaster

The Official Publication of the  
Winnipeg Amateur Radio Club  
Winnipeg Senior Citizens Radio Club

February 1997

## Affordable HF Stations

*Speaker: Lee Smith,  
VE4ANC*

*How to get on HF with limited funds*

Date: **February 10, 1997**  
Time: 7:30 p.m.

### Other Important Dates:

Articles: Feb. 26 - for Mar Newsletter  
Mar. 26 - for Apr Newsletter

WARC: Feb. 10 - Meeting  
Mar. 10 - Meeting

WSC: Feb. 13 - Breakfast - Garden City

ARES: Feb 18 - Meeting

Other: Feb. 8 Hamfest, Blaine MN  
Feb. 15-16 International DX contest, CW  
Mar. 1-2 International DX contest, Phone  
Jun.. 28,29 - Field Day  
July 11-13 - International HamFest

### WARC: Executive for 1997

Past President	Barrett Filbert VE4ABA	338-2441
President	Richard Kazuk VE4KAZ	895-4778
Treasurer	Rick Lord VE4OV	896-0631
Secretary	Roxanne Byron VE4ZF	388-6114
Vice-President	Jim Ross VE4AJR	256-6366
Program	Lee Smith VE4ANC	864-2334
Membership Norm Coull	VE4EH	885-1692

### Words from the President of WARC: by Richard, VE4KAZ

By now we have all heard about the CBC broadcast aired Monday, January 27, 1997 and hopefully now that the matter is in the hands of the proper authorities and they are dealing with the problem, the Club can get back to its regular activities. Hopefully this is the last that we will be hearing from them. It's time to get on with life, and the Club.

April is fast approaching and it is a busy month for the Club. First of all, we have Home Brew Night; so all you hands-on amateurs out there get your projects going and bring them out to the April meeting. Fast on the heels of Home Brew Night comes the Spring Flea Market, which is scheduled for Sunday, April 22, 1997.

And with thoughts of Spring, and a quick glance out your window, its clear that unless we are very lucky, flooding will once again be a reality and we all need to keep our boots handy, our batteries charged, and our fingers crossed.

### Winnipeg Senior Citizens Radio Club Released by Alf, VE4ALF (President - 96)

Here's some VE4WSC Club news that should be of interest to members, and readers of the Newscaster. At our January meeting, it was announced that we have a new lease for the Fire Hall premises, for another 5 yrs. Watch for a newly updated Club document (information page) that will be placed on the Internet, RAC Homepage, and SCIP, being prepared by Gil, 4AG and Ian, 4MAC. The club is finally upgrading its satellite section, with the acquisition of a new FT936R, to replace two ailing old units. Should generate some new excitement for many members! Guides-on-the-Air is coming February 22-23; this year we have two volunteers (tentative) who will handle the activities at the club station for those Guides who will visit with us: Adam, 4SN and Colin, 4JCM. The January breakfast was attended by 24 people. In February the breakfast will take place at the Garden City Inn, McPhillips at Jefferson. We have a larger room, so we are

hoping for a large turnout. There's lots of parking space, too. All will be pleased to know that Keith, 4BC has left the Victoria Hospital, and is now recuperating at the Princess Hospital (Riverview Centre), Room 214, and is looking forward to receiving visitors.

We have some new members. We welcome George Gillespie, 4GNG; Edward Bodnar, 4BI; Roy Paisner, 4SKT; Firmin Michiels, 4THO; Burt Tompkins, 4BUR; Joe Konklin, 4WF; Lawrence Robertson, 4LER; Wilf Dowbiggan, 4WED; George Shutler. Deleted from the list is Horace Atkin, 4HWA. Present membership numbers 172. Arch, 4AAI advised the Board that he was not standing for re-election as Membership Chairman, nor to the Board. We must acknowledge an omission regarding the upgrade of the 286 machine - it is now a 386 DX-40, with 8 Meg of RAM, thanks to Alan Thoren, VE4YZ.

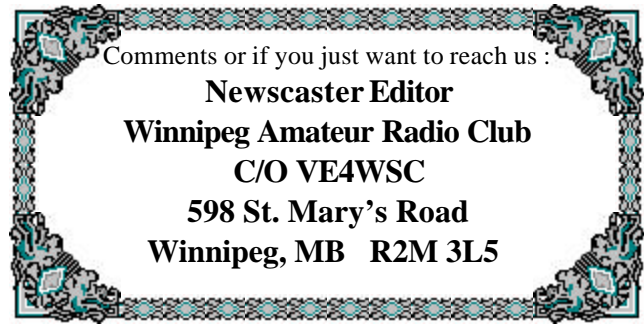
We hope readers saw the CBC 'Coleman & Co.' program profiling Vern, 4VQ, and including a segment with Gil, 4AG in the radio club program that they are running in a local school. A tape of this program is at the Club for viewing. Here is the Standing Committee Chairpersons (and assistants) for 1997: Breakfast: Keith, 4BC; Computer: Harsha, 4SAI; Education: Sandy, 4SZ; Emergency Coordinator: Bruce, 4GR; Equipment & Satellite: Ebe, 4ZI (John, 4CCW, Roy, 4ROY); Finance: Gladys, 4GLA; Health & Welfare: Lila, 4LIL (Bill, 4WU, Paul, 4OPC); Housekeeping & Security: Colin, 4JCM; Membership: Jeff, 4JEM; Newsletters: Gil, 4AG and Len, 4LEN; Phone: Scott, 4SM; Public Relations: Gil, 4AG; Social: Len, 4LEN and Mabel, 4MPE. Monthly General meetings are the 3rd Wednesdays of each month, with the exception of July and August, from 1 p.m. until 3 p.m. These meetings consist of (max.) ½ hour business, 1 hour program, and ½ hour refreshments and socializing. Prior to this meeting on the same day, a Board meeting will be held.

The program last meeting was on 'Cameras', presented by Ed, 4YU. Future programs will be co-ordinated by Paul, 4OPC. On Monday, Jan. 27, an excellent program was presented on Packet Radio by Dan, 4SYG. Those attending owe a big 'thanks' to Dan- much was learned. In closing, we remind all Committee Chairpersons that your budgets are to be ready for the next meeting in February (19th).

-de Gil, VE4AG

## Happy Valentines Day

### ARES Committee Report



by Jeff, VE4MBQ - Winnipeg EC

### WINNIPEG ARES

Thirteen members participated in Exercise #5 which was held the evening of 18JAN97. To date our operations have been carried out in spring, summer, and fall but never yet in the winter or in the dark. After a telephone fan-out and check-in of available members on VE4WPG members were dispatched to positions along the River Skating Trail operated by Festival du Voyager from Osborne Bridge along the Assiniboine River to Tache Promenade on the Red River. Lessons learned included:

- ⊕ bring a flashlight for an evening or night operation
- ⊕ use pencils as pens freeze
- ⊕ keep HT inside coat to avoid freezing
- ⊕ keep spare batteries inside coat
- ⊕ dress in layers.

The participants were VE4s: AJR, AND, DAR, DDW, DUG, HK, KAZ, MBQ, MJM, MMG, MUD, RST, and VE6PIG.

Winnipeg ARES welcomes Bill Nickerson VE4DL to the membership. Approximately twenty members will be providing amateur communications for the Festival du Voyager Sled Dog Races 8,9 FEB97.

WPS Chief David Cassels was the guest speaker at our JAN meeting at the HSC. Chief Cassels spoke about his experiences as Incident Commander with Edmonton Police during the Edmonton Tornado. Our next meeting 18 FEB97 at the City EOC will begin at 1900 hrs sharp. This is a closed meeting for WARES members only - bring your ID cards! Access the City Hall tunnel system thru the PSB Public Parkade Tunnel. Derek Hay will be speaking about Net Control, Richard Kazuk will review our Emergency Plan.

### Manitoba ARES

Manitoba ARES will be reviewing its southern Manitoba communications plan and publishing it BEFORE spring flooding season begins.

**MINUTES for W.A.R.C. January 13, 1996**

## Recorded by Norm, VE4EH

Meeting was called to order by Richard, VE4KAZ. There were 55 in attendance. Introductions were made in the usual manner.

Moved by VE4MP and seconded by VE4GV that the minutes of the December meeting be accepted as printed in the newscaster. — Motion carried.

### *Treasurer's Report:*

- ♥ - Balance \$5782.54

### *Flea Market:*

- ♥ Apr 20, 1997 Sunday

### *Program:*

- ♥ Tonight's presentation involved all forms of interference. Speaker Bill- East.
- ♥ Next month Old Equipment, will be the topic of discussion.

### *ARES:*

- ♥ #5 outdoors exercise 18 or 25 Jan 97, 8 & 9 Feb/97

### *DX Sleuths:*

- ♥ Adam reports a current membership of 22. Heard Island is now on the air. Beacon on the air on 14100MHz.

### *RAC:*

- ♥ VE4OV thanked VE4SN & VE4YU for their performance as VE4RAC for the RAC Winter Contest.

### *Newscaster*

- ♥ VE4HAY requests items for the Newscaster.

### *New Business:*

- ♥ WARC Logo - VE4RY offered some samples of his logo for WARC.
- ♥ HamFest - July 12-14 International Peace garden, is soliciting prizes for the event.
- ♥ Licence plates - Information handout now available.
- ♥ Radio Interference:- VE4OV summerized the situation to date. - Discussion followed

Moved by VE4DDW that the meeting be adjourned.

## Flea Market

## D AND E WELDING

Aluminium, Galvanized, Steel & Various Other Metals  
102 Devos Road  
Garage Door #24 A & B, Winnipeg, MB

Specialized Welding Repairs of  
Antennas and Towers  
Custom Built Aluminium Cabinets  
for Repeaters or Ham Shacks

Ernie Vosper

Ph:(204) 261-3099

## By Dan, VE4SYG

Hi there one and all. It's WARC flea market time again, so set aside April 20/97 for this springs' event. Admission will be \$1.00 per person including vendors. Tables are \$5.00 for members of WARC, MRS and WSC. All non members are \$10.00 per table. If you want a table contact us on packet, telephone or arrange during the MRS nets.

We could use a few more "good" volunteers, so please come and give us a hand if you can. We are not in the bluebook, so you can contact us at 339-3018 or on packet as VE4PLG@VE4KV (Pat) or VE4SYG@VE4KV (Dan).

## The WARC DX SLEUTHS Report by Ed, VE4YU

Well the Heard Island DX Expedition for 1997 has come and gone. Starting on January 14, it ended on January 27 at 1155Z. This was a first rate operation and was easily workable with a little persistence and being in the right place at the right time.

VK0IR was about as far away from Winnipeg as you can get on earth. In spite of the so-so band conditions, they were heard here on 80M, 40M, 30M, 20M and 17M. DX Sleuth members appearing in their log (final figures are 80,673 contacts) are: VE4COZ, VE4SN and VE4YU. Who else in the club was able to snag this one? We all await the next challenge!

Irek, VE4COZ, an RTTY enthusiast, is using an innovative RTTY software package that works with your soundblaster and a modem PC board. It is really impressive in action. See Irek for info.

Look for special event station VO500JC throughout 1997 celebrating the 500th anniversary of Jean Cabot's voyage to the New World.

### Upcoming events:

- ARRL DX contest CW February 15/16
- CQWW 160M contest SSB February 21-23
- RSGB 7mhz contest CW February 22/23
- REF French contest SSB February 22/23
- ARRL DX contest SSB March 1/2

Have you worked 10 WARC DX SLEUTHS on HF yet?



**INTERNATIONAL PEACE GARDENS  
HAMFEST JULY 11-13, 1997**  
By Dick, VE4HK

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VE4MMG and I just returned from a wonderful week in sunny, warm Mazatlan, Mexico. I actually spent a few seconds thinking about the Hamfest, while we were there. (The sun and warm beach reminded me about summer in Manitoba, honest.)

Actually, the Hamfest is getting closer and closer every day! Mark the weekend of July 11-13 on your calendar TODAY. The Hamfest promises to be among the top three ham radio events of the summer in Manitoba. The weather WILL be perfect. Pack your tent, your toothbrush, and your sleeping bag. You will not regret spending Saturday, or all three days, at the International Peace Gardens. Your spouse and children will have lots to do, as well. The Peace Gardens are truly beautiful in July.

Our friends from Burghardts will be in the Pavilion with a trailer load of goodies for your purchasing pleasure. Other commercial vendors will also be on hand.

There are always dozens of hams from the US and Canada in the "Field of Dreams" selling junkie, everything from antennae for a B52 bomber to strange glowing glass things (also known as tubes), to state of the art rigs. If it involves electronics, it has probably been available at the tailgate flea market.

There will be exciting contests for hams, spouses and children. There will be opportunities to eyeball those friends you see only at the Hamfest, and to share a cool bubbly one beside the campfire. Everyone will find time to kick back, relax, and enjoy the flora and fauna.

Begin preparations today for a brand new Olympic calibre contest! Everyone who registers will be eligible to compete in the Olympic challenge, and all other contests. Pat VE4PLG and I have arranged an impressive array of prizes, and we are still adding.

I encourage everyone to register for the Hamfest on arrival. The cost is a very reasonable \$13.00 per person. Registration makes one eligible to win prizes, including the grand prize. It also allows the registrant to attend the exciting Saturday evening dance, and the delicious pancake breakfast, Sunday morning. Only registered hams, spouses and children will be allowed to participate in the contests.

It is worthwhile to register, even if there for Saturday only. It is not necessary to be on hand Sunday morning to win prizes. In 1996, all three grand prize winners were at the Hamfest on Saturday only. Someone will deliver prizes to anyone who wins at the closing ceremonies.

Pat VE4PLG and I invite everyone to join us for a fantastic weekend at the International Peace Gardens Hamfest, July 11-13, 1996

**'HAM' RADIO OPERATOR'S COURSE**  
**COURSE INSTRUCTOR**  
**Larry R. Burkhardt, VE4LRB**  
**Electronics Engineer**

Once again, regrettably, the Amateur Radio Operator's course was cancelled at the last minute because the required minimum of 10 students per class was not met. For those interested parties who still wish to take this course, I am pleased to announce that I can now offer an alternative venue and am willing to teach classes of less than 10 students. My goal is to offer this course at the beginning of 1997. As I do not have a list of the students who enrolled to take this course at Sturgeon Creek Collegiate, I cannot contact each one of them individually to advise them of these new arrangements. I would, therefore, appreciate it if members of WARC who know of anyone who is interested in taking this course would pass on this information and ask interested parties to contact me *PERSONALLY* after 6 p.m. at 487-0509.

**Test Your knowledge**  
by H. Ward Silver, N0AX

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*Extracted from QST January 1997*

- 1) Doubling the voltage across a load causes the power dissipated to:
  - a. double
  - b. triple
  - c. quadruple
  - d. remain unchanged
  
- 2) The smallest noticeable change in audio volume detectable by the human ear is :
  - a. 1 dB
  - b. 3 dB
  - c. 6 dB
  - d. 10 dB
  
- 3) Calculate the power ratio from the equivalent dB change:
  - a. 3 dB= \_\_\_ : 1
  - b. 6 dB= \_\_\_ : 1
  - c. 10 dB= \_\_\_ : 1
  - d. 16 dB= \_\_\_ : 1
  
- 4) If a load resistance is doubled and the voltage across it doesn't change, the power dissipation...
  - a. doubles
  - b. remains the same
  - c. is halved
  - d. is quartered

5) Match the reciprocals of the units:

- |               |                |
|---------------|----------------|
| a. resistance | d. admittance  |
| b. impedance  | e. conductance |
| c. reactance  | f. susceptance |

6) Match the units of physical quantity

- |                      |             |
|----------------------|-------------|
| a. electrical charge | d. coulombs |
| b. energy            | e. mhos     |
| c. conductance       | f. joules   |

7) A kilowatt amplifier that is 50% efficient needs about how much current from a 220-V ac circuit when producing full output?

- 5A
- 8A
- 9A
- 15A

8) If a 13.2 -V lead-acid battery has an internal impedance of 0.05  $\Omega$ , how much current will it supply through a dead short?

- 125 A
- 210 A
- 264 A
- 353 A

9) A lamp-driver IC's output is rated at 100mA. What is the lowest value of load resistance the IC can handle in a 24-V circuit?

- 120  $\Omega$
- 240  $\Omega$
- 360  $\Omega$
- 480  $\Omega$

10) An amplifier tube screen supply ballast, or loading, resistor needs to draw 20mA from an 800 V supply. What is the lowest power rating for the resistor that will allow it to dissipate the necessary energy?

- 1W
- 5W
- 10W
- 20W

11) A transistor power amplifier's bias resistor needs to produce a 0.7 -V drop at a current of 5A. What's the correct resistance value and power dissipation?

- 7.1  $\Omega$  and 3.5W
- 3.5  $\Omega$  and 7.1W
- 7.1  $\Omega$  and 2.5W
- 3.5  $\Omega$  and 3.5W

12) All you have is a 24-V power supply to drive a 12-V light bulb. The bulb needs 10mA of current for full brightness. What value of series resistor will allow the 24-V supply to fully light the bulb without overloading it?

- 600  $\Omega$

- 1200  $\Omega$
- 1800  $\Omega$
- 2400  $\Omega$

13) Which of the following is a unit of power?

- joules/second
- watt-hour
- coulombs/second
- joules/coulomb

14) what is the DC feed-point current of a 75  $\Omega$  dipole driven with 500W at 7.05MHz?

Bonus! What is the nationality of Georg Ohm?

(Answers at the end of the Newscaster)

## 59 Light Years From Here

What are they hearing right now, some 59 light years away from us. VE4MP has graciously loaned me 3 Radio news magazines from Oct & Nov 1937, and Jan. 1938. The following is a excerpt from those magazines.

### World Short Wave Time Table

*extracted from Radio News for January 1938*

The following are the short wave stations operating from Canada

<u>meters</u>	<u>callsign</u>	<u>frequency</u>	<u>city</u>
25.58	CJRX	11730 kc	Winnipeg
48.70	CJRO	6160 kc	Winnipeg
48.78	VE9CL	6150 kc	Winnipeg
49.26	CRCX	6090 kc	Toronto
49.96	CFCX	6005 kc	Montreal

### The Amateur Observer

*Conducted by W2JCR*

*extracted from Radio News for Nov. 1937- Jan. 1938*

Calls heard on Amateur bands by M J Markuson, Fittsimmons General Hospital, Denver,CO.

📞 20 meters - Phone - VE4KF

Calls heard on Amateur bands by W2JCY;

📞 10 meters - VE4GD-9, VE4OEO, VE4AW-9, VE4LX-7

Calls heard on Amateur bands by H Westman, "Stoney Hill" listening post Huguenot Cape, S. Africa.

📞 20 meter - Phone - VE4KZ-8, VE4MO-6, VE4WJ, VE4MO-7

## Letter to the Editor

## Delivered by anonymous letter

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Wilful interference on the amateur radio bands in Winnipeg continues to be met with little opposition. We feel that if Winnipeg's amateur radio organization(s) played a greater role in deterring wilful interference by actively shunning those involved, it would eliminate the cloak of illusion and deception used by some of these deranged beings.

All too often the source of the problem is right under our nose. By attending amateur meetings and functions, these parasites pretend to represent the very things that they belittle on the airwaves. As if it were some kind a ritual to proclaim their accomplishment of deception they make mockery of everything the amateur radio community stands for.

Individuals within the group that use the excuse that they can't prove who is responsible for the interference have already admitted defeat. For the rest of us there is still hope.

Several prominent members of the amateur community have been made aware of the problem and know the source.

Signed

Just Another Radio Interference Alliance

## Radio Interference By anonymous letter

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Sometime during the week of January 21-26, 1997 at least two individuals were charged with a number of offences (some of which may be criminal). These charges are partly as of a result of a few amateurs who decided that they have had enough harassment & interference directed toward them by either radio, telephone, fax, pager, buy & sell advertising, pizza deliveries, taxi cab requests, etc....

Formal complaints were made with the Winnipeg Police Service. At least two of the individuals charged are young offenders, and as a result their names and or callsigns can not be printed or divulged.

It is not clear at the moment if the charges laid involved radio-related offences or not. It is however, understood that telephone use charges have been laid. It is urged that every amateur who has experienced any radio interference wilfully caused to them during the last year, to contact Industry Canada and request that radio charges be laid against these individuals. A grateful pat on the back should be extended to those few amateurs who took the effort to formally lay the complaints that have resulted in these charges.

While it is understood that Industry Canada should have stopped this activity a long time ago, and that this is most likely a RCMP matter compared to a Winnipeg Police Service matter, it was partly because of the persistence of a

few Amateurs who did not want to see our great hobby go down the tubes that charges were laid.

I do however find it appalling that the Winnipeg Amateur Radio Club (WARC) did practically nothing to deter the blatant interference. The only time the club became involved was when they were pressured to form a committee as a result of the October general meeting. However why did it take 3 months to form that Committee? Why did the committee hid from the members of WARC? Why did the committee do nothing to deter the interference once they were formed? Why did the committee refuse to "black ball" the 3-4 amateurs who were involved with the interference? The committee looks and acts just like the 3 monkeys (hear no evil, see no evil, speak no evil). They must all be wearing horse blinders. Now it is my impression that WARC has consulted a lawyer to review our bylaws, to see what can be done about any particular member who breaks our code of ethics. I ask all members to look at the inside cover of your bylaws and to read the first sentence. "The Amateur is Considerate... He never knowingly uses the air in such a way as to lessen the pleasure of others."

Under the bylaws Article One

1:(c) Member - A radio amateur who has been accepted for membership in WARC and whose dues have been paid for the current fiscal year.

Please note the word **accepted**. These is nothing in the bylaws that states that we have to accept everyone who applies. There is however nothing that states we can remove a member either. Maybe some changes should be made to the bylaws that will give the club some power to weed out these undesirable people.

signed

anonymous, in fear of reprisals if not convicted.

## Amateur Radio and Your Health By Robert, VE4RST

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Welcome to the middle of Winter. This is the time of year that we all have settled into the routines of coping with the cold and the darkness that the shortened days bring. Some of us have the opportunity to travel south for a well deserved vacation in the sun. The majority of us have to tuff it out in the hope that a warm spell for Calgary will extend to Winnipeg. Either way our ham shack and radio activities are reaching their peak for indoor activity.

Last month I talked about the proper positioning of your computer and the accessories that come with it. This month we will be discussing very basic exercises that can be of use to decrease stiffness and increase our operating time in the ham shack. It is very important to note that these exercises

are only a guideline to light stretching. The amateur community encompasses people of all different ages and health levels. If you have any physical disability, feel any discomfort while doing these routines or any discomfort afterwards, discontinue the program. The best professionals to give you an individual stretching and strengthening program are physiotherapists in consultation with your physician. That being said, here a few tips you might want to try.

### Exercising

Exercising is a good way to reduce stress while you are working in your ham shack. There are many areas of the body that you can work on. Here are a few;

### Breathing

Perform diaphragmatic breathing to help relax your body and to reduce stress and tension. While you are doing this slow breathing let your head relax along with your shoulders and arms. You will be surprised at the effects a few slow, deep breaths will have.

### Eye Exercises

Look away from your station and focus on an object at a distance for a few seconds.

Try to blink your eyes frequently to provide moisture. Slowly move your eyes to the left, then the right. Do the same technique only with an up and down motion.

### Stretching

These following techniques can help reduce tension or muscle strain that occurs while in your shack for long periods.

### Shoulders and Neck

Raise your shoulders toward your ears, and hold the slight tension for just a moment. Relax your shoulders and arms. Repeat this five times to prevent tightness in the shoulder and neck area.




### Upper Back






Make sure that you are sitting up straight. Put your hands behind your head so that your elbows point out to each side. Pull your shoulder blades toward each other until you feel a slight tightness in you upper back. Hold this for about 10 seconds. Then release and relax.

### Hands

You can do two exercises for the hand. It will make pushing that PTT button alot easier.

 1st

-  Make a fist.
-  Hold for a few seconds.
-  Relax your hands.

-  2nd
-  Straighten you finger out in front of you.
-  Spread them as far apart from one another as you can.
-  Hold the spread until you feel slight tension.
-  Relax.

### General Stretching

A good general exercise is just to get up from your station and walk around, swinging you arms and moving your body.

All of these examples are very easy ways to reduce stiffness and stress in your body while you are transmitting at home. The old saying “ if you don’t use it, you lose it” certainly applies in this case. The more moving around you do the better your body will work for you. So while you are dreaming of that upcoming southern vacation or hoping spring will come early, try a few of the routines mentioned. That long time ache might just decrease or even go away letting you enjoy your amateur radio activities with more vigour.

## **Coalhurst Man Reaching Out to World With Ham Radio**

**By GARRY ALLISON, Lethbridge Herald, January 21, 1997**

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### Relayed by Alexander, VE4APN

COALHURST - Gus Vander Linden is trilingual. He speaks English, Dutch and Morse Code. And he’s excited about a recent coup Jan. 17, when he managed to make contact with a remote station on Heard Island - in the south Indian Ocean - through Morse Code, from his Coalhurst ham-radio shack.

The contact was made on the first day of a two-week experiment to reach Heard Island, after several attempts at voice contact failed. Vander Linden and other amateur radio operators world-wide were poised to attempt contact with the special transmitting base on Heard, close to Antarctica.

Heard Island is south of Crozet Island - to date the most remote place in the world Vander Linden has contacted from his radio shack. He has confirmed contacts with more than 214 countries world-wide, all marked on a map on his wall.

Within hours of talking about the Heard Island exercise, the Internet carried the news the 12 operators selected for the project had arrived on the island. It took five hours and 51

helicopter flights to carry the 30 tons of equipment from the supply ship.

Vander Linden has been an amateur radio operator since 1981. He is classed as an Advanced Operator and is a Designated Examiner in southern Alberta for Industries Canada. He can send and receive Morse Code comfortably at more than 25 words per minute.

Vander Linden, who serves as supervisor of maintenance for Lethbridge Public School District 51, is actually in better health due to his ham radio exploits. "I quit smoking because of my radio," he says. "My equipment is up to date and paid for from my smoking money. I started out with a short-wave in 1962, joined the CB craze, and in 1981 passed the exam for Amateur Radio. Morse is still my favourite part of the hobby, but I do use voice and other signal modes."

His Coalhurst home is easily spotted, with its 14-metre tower. Each weekend he has a scheduled voice contact with a friend in Holland. If conditions allow he can contact hams around the world through Internet gateways. Vander Linden met with King Hussein of Jordan, a fellow ham operator, in Calgary in October 1989. He proudly shows a picture of the occasion, shaking hands with the king. Later that evening he was able to communicate with the king from his Coalhurst shack while Hussein was flying to England.

A phenomena of nature is affecting the radio airwaves, with the wave strength being at the bottom of an 11-year cycle. "Everything in nature has a cycle, even the airwaves, just like the lemmings," says Vander Linden. "We are at the bottom of the 22nd cycle and the 23rd will be starting between now and summer. Five years from now we will have peak conditions. You can throw a noodle out the window then, use it as an antenna, and talk all over."

Vander Linden is affiliated with Canadian Amateur Radio Emergency Services and a generator on standby to operate his equipment. On June 28-29 the Southern Alberta Amateur Radio Club and the Border radio Club will set up emergency equipment at Park Lake Provincial Park as part of the yearly North American field day exercise. The exercise will be open to the public.

## **DESIGNATION OF RADIO EMISSIONS** *by Ian Kennedy, VE4MUD*

Over the years I have noticed that the Amateur radio community has its own particular way of describing the signals they use. This is of referring to the signal by either its Method of Modulation (MOM) eg: SSB for SSB voice, its

Functional System eg: RTTY or interchangeably such as CW - MOM or Morse - Functional System. This can create confusion in the minds of both newcomer and old-timer alike. The Method of Modulation is how a signal is transmitted. The Functional System on the other hand refers to what is being transmitted.

Referring to signals in the above manner leaves the impression that a particular functional system can only be sent using a particular method of modulation or that the inverse is true. This is definitely not the case, in fact any method of modulation can be used to send any functional system you care to name.

An example of this is the functional system RTTY or BAUDOT as it is sometimes known. Normally when one mentions RTTY what probably jumps to most peoples mind is a two condition frequency shift keyed carrier with a bandwidth of 170 Hz start-stop teleprinter utilising the BAUDOT code being keyed at 45 words per minute (wpm). This is the normal RTTY signal that one would expect to encounter tuning through the Amateur bands. However there is nothing to prevent one from sending RTTY using any of the following methods of modulation:

- a) on-off keyed carrier (OOK);
- b) double sideband (each sideband carries the same info and is the exact mirror of the other) (DSB);
- c) single sideband (SSB) (with full, reduced or suppressed carrier) - in fact this the MOM that is most commonly used by today's amateurs, SSB with a suppressed carrier appears to be the same on the air as the 2-condition frequency shift keyed carrier and are very hard to tell from each other;
- d) Independent Sideband (ISB) - using this MOM, one can send a different functional system in each sideband. eg: using the upper sideband to send RTTY to Vancouver and the lower sideband to complete a Voice QSO with Toronto, or

As one can see a functional system can be sent using any one of a number of MOMs. And just in case you Morse enthusiasts think you have been left off the hook I have seen MORSE sent using OOK (normal), FSK, as one of the sidebands in an ISB signal and even using the functional system of VOICE (as in a voice saying di-dah-dit da-di-dah etc - don't ask me why as I don't know, maybe it had something to do with the lousy band conditions at the time).

As in all things confusing you just had to know that somebody, somewhere was going to come up with a system where as you would be able to use a code to write in your log what type of signal you were copying in a simplified manner and they did. Lets take as an example our two condition frequency shift keyed carrier with a bandwidth of 170 Hz start-stop teleprinter utilising the BAUDOT code being keyed at 45 words per minute, using the code they come up with it can now be written as F1B.



On 1 January 1982 a new convention started to be used world-wide to designate the characteristics of each individual type of radio emission. This method was adopted at the 1979 World Administrative Radio Conference in Geneva and provided not only a global standard for designating radio emission, but also facilitated the introduction of computerised frequency management.

Three mandatory symbols are used to describe the class of emission employed and these may be supplemented, where appropriate, by up to two additional optional symbols. The first of these symbols describes the type of modulation of the main carrier, the second symbol shows the nature of the signal(s) modulating the main carrier, and the third symbol indicates the type of information to be transmitted.

### **FIRST SYMBOL - TYPE OF MODULATION OF MAIN CARRIER (Methods of Modulation)**

N emission of unmodulated carrier

Emission in which main carrier is amplitude modulated (include cases where subcarriers are angle modulated)

- A DSB (Double Sideband)
- H SSB (Single Sideband), full carrier
- R SSB, reduced or variable level carrier
- J SSB, suppressed carrier
- B ISB (Independent Sideband)
- C Vestigial Sideband

Emission in which main carrier is angle modulated

- F FM (Frequency Modulation)
- G PM (Phase Modulation)
- D emission in which main carrier is amplitude and angle modulated either simultaneously or in pre-established sequence

Emission of Pulse

- P unmodulated sequence of pulses
- K sequence of pulses modulated in amplitude
- L sequence of pulses modulated in width/duration
- M sequence of pulses in position/phase
- Q sequence of pulses in which carrier is angle modulated during period of pulse
- V sequence of pulses which is a combination of foregoing or produced by other means
- W cases not covered in foregoing in which emission consists of main carrier modulated either simultaneously or in pre-established sequence in combination of 2 or more of the following modes: amplitude, angle, pulse
- X cases not otherwise covered

Note that emission of pulses where the main carrier is directly modulated by a signal which has been coded into quantised form (eg PCM (Pulse Code Modulation)), should

be designated under amplitude or angle modulation as appropriate.

### **SECOND SYMBOL - NATURE OF SIGNAL(S) MODULATING THE MAIN CARRIER**

- 0 no modulating signal
- 1 single channel containing quantised or digital information without use of modulating sub-carrier (excluding TDM (Time Division Multiplex))
- 2 single channel containing quantised or digital information with use of modulating sub-carrier (excluding TDM)
- 3 single channel containing analogue information
- 7 2 or more channels containing quantised or digital information
- 8 2 or more channels containing analogue information
- 9 composite system with 1 or more channels containing quantised or digital information, together with 1 or more channels containing analogue information
- X cases not otherwise covered

### **THIRD SYMBOL - TYPE OF INFORMATION TO BE TRANSMITTED (Functional System)**

Note: In this context, the word "information" does not include information of a constant, unvarying nature such as provided by standard frequency emissions, CW and pulse radars, etc.

- N no information transmitted
- A telegraphy (for aural reception)
- B telegraphy (for automatic reception)
- C facsimile
- D data transmission, telemetry, telecommand
- E telephony (including sound broadcasting)
- F television (video)
- W combination of any of the foregoing
- X cases not otherwise covered

### **Some common codes for Amateur use:**

Straight Carrier	NON
On/Off keyed Carrier (CW)	A1A
Single Sideband Voice (SSB)	J3E
Radio Teletype (RTTY/Baudot)	F1B
FM Voice	F3E
AMTOR	D1B
AM Broadcast/AM Voice	A3E

Hopefully this article has at least pointed out the fact that any signal you transmit is comprised of at least two parts, the method of modulation and the functional system. These are two distinct and separate parts of a signal and one cannot function without the other.

**Editors Ramblings**

**BY Derek, VE4HAY**

By now most people have seen the news reports or have heard about it. It's really to bad that our hobby had degraded to such a low level. But now it's time to rebuild our hobby. It's time to leave the past in the past and to venture ahead. Take a look at the coming events. There will be lots of contests, events, community service and just plain fun. The marathon will be coming up soon, as will Field Day, and of course the International HamFest, the RAC Canada contest and other events through out the summer, with the windup being the Manitoba Hamfest in Austin around the beginning of September. So while there may still be some snow on the ground, (ok, mounds of snow, well even mountains of snow) it's still the right time to start the planning for the various events. If you are interested in helping out with any of these events, please contact the WARC executive, who will be please to take your name and guide you to the right committee. The following is a stolen tag line (thanks VE4LI)

/dev/earth is 98% full, please delete any unwanted people

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Bonus - Georg Ohm was Swedish.

- Answers:
1. C - Power is proportional to the square of the voltage
  2. A
  3. A-2:1, B-4:1, C-10:1, D-40:1
  4. C
  5. A-E, B-D, C-F
  6. A-D, B-F, C-E (who is ohm spelled backward!)
  7. The amplifier needs 2000W, which at 220V requires 9.09A of current
  8. C-13.2V divided by 0.05 W Don't drop a wrench across those terminals!
  9. B-24V divided by 0.1A
  10. D-20mA at 800V is 16W. Choose a 20W or larger resistor.
  11. A-5A divided by the drop of 0.7V = 7.1 W, while 5A x 0.7V equal 3.5W
  12. B-dropping 12V across a resistor at a current of 10mA requires a 1200 W resistor.
  13. A-1 J/sec is 1 watt, B-is energy, C-is current, D-is voltage
  14. Zero! The dc component of an RF waveform is zero.