

North Shore ARC

Vol. 2 No. 1
January, 1996

Serving the

Ralph Day
454 Holcan Ave.
Oshawa ON
L1G 5X6

VE3CRK

Happy New Year!

INSIDE

President's Message	1
Quotes	1
January Meeting	1
February Deadline	1
SPARTAN Packet Radio	
Experiment (SPRE)	1
Swap Shop	3
Contributors	3
Early Days of Wireless - Part 5	
.....	3
My Soapbox, Please	4
Thank You Velora	4
Interesting Web Sites	5
What If Dr. Seuss Did Technical	
Writing?	5
Early Days of Wireless - Part 6	
.....	5
How I Got Started in Amateur	
Radio	6

President's Message

Welcome to 1996. Did you know that this year brings us to a 100 years since GOLD was discovered in Klondike Creek, Yukon Territory, in Northwest Canada. It took 10 months for the news to sweep the U.S., and then 30,000 gold seekers rushed to the area. That was in the year 1886. Then in the year 1776, 220 years ago, did you know that barmaid Betsy Flanagan, mixed the first cocktail at Elmsford New York. When a drunk waved at the tail feathers pinned to the wall behind the bar and asked for a glassful of "those cocktails" she refilled his last order and stuck in one of the feathers. I like to read up on our pioneers. Well folks I hope everybody had a very good Christmas and a Happy New Year and you all got everything you asked for, whether it was for good health or that new radio. Here is just a thought before I sign off, did you know that a Bluefin Tuna caught off Nova Scotia Weighed 977lbs, year unknown. Until next time 73 88s

Peter, VE3ZZV

Quotes

Sending your kids to College keeps getting more educational for parents...it teaches them how to do without a lot of things.

Our grandparents were too busy earning a living to read books about how to stop worrying.

The living is easy in retirement but the payments are harder.

Peter, VE3ZZV

January Meeting

Our first meeting of the New Year will be held on January 8, 1996 at the Arts and Resource Centre behind City Hall. See you all there at 1930 sharp.

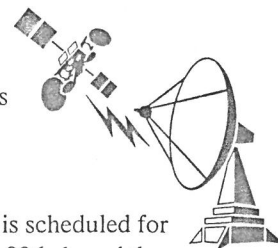
February Deadline

Deadline for info to be submitted for the February issue is **January 15**. See the Info Page for various the methods of submitting articles via internet, mail, etc.

SPARTAN Packet Radio Experiment (SPRE)

The Spartan Packet Radio Experiment (SPRE) is an Amateur Radio (HAM radio) communications experiment. The primary mission is to test satellite tracking using amateur packet radio and a Global Positioning System (GPS). SPRE was developed and built by the University of Maryland Amateur Radio Association (UMARA) with assistance from NASA, volunteer engineers, and software professionals.

SPRE is one of four experiments on NASA's Spartan/OAST-Flyer spacecraft.



The Spartan spacecraft is scheduled for launch on January 11, 1996 aboard the space shuttle Endeavour as part of mission STS-72. The spacecraft is a cube shaped, battery powered, retrievable satellite. Spartan will be deployed by the shuttle's robot arm and likewise retrieved after approximately 48 hours of free flight.

Mission Objectives:

- ▶ Promote amateur radio and amateur satellite communications.
- ▶ Test GPS and packet radio based tracking system using a Low Earth Orbit (LEO) satellite.
- ▶ Provide an educational tool to inspire elementary and high school students to pursue science and engineering.

North Shore ARC

Box 171, Oshawa, ON,
Canada, L1H 7L1

The North Shore ARC
Newsletter is published
monthly except for July and
August when it is a combined
summer edition.

Laird Solomon, VE3LKS
editor

Glen Goslin, VE3LIZ
publisher

Victor Doty, VE3LNX
distribution

- ▶ Provide a unique hands-on educational opportunity for college students.
- ▶ Provide telemetry for the REFLEX with a command uplink capability.

SPRE is designed to relay ground station positions and transmit telemetry containing the GPS location of the spacecraft and housekeeping data. The GPS data is generated by another Spartan experiment.

Special software called APRtrak (tm) will be used at SPRE ground stations to plot the positions of stations and objects world-wide using SPRE transmissions. APRtrak uses full color maps and graphics with the capability to display detail maps of selected geographic regions. Amateur radio ground stations can transmit their locations to SPRE, and if heard, SPRE will relay GPS information back to Earth. All ground stations within range of SPRE will see the relayed stations plotted at the on the map at the correct geographic location. The APRtrak software will also decode and display SPRE housekeeping telemetry including temperatures, voltages, and system status. This software is freely available on the Internet for installation on IBM compatible computers.

This technology has many applications in the amateur radio as well as the commercial worlds. Low cost Low Earth Orbit (LEO) satellites could be used to track storms, weather balloons, boats at sea, trucks, etc. Satellites could collect the location data from ground targets and download it to ground control stations. If the SPRE mission is successful, this capability may be incorporated into future amateur spacecraft, thus supporting the amateur's effort for technological improvement.

The operational aspects of SPRE will include amateur radio operators throughout the world. Elementary and High Schools are encouraged to enlist the aid of local amateur radio operators to set up ground stations and participate

in the SPRE experiment. SPRE can be used as an educational tool in many classes including math, science, and geography.

SPRE can still be used as an educational tool even if a school is not in session during a fly-over. A simple amateur packet radio station can be configured to listen to the SPRE telemetry and record the data for later study.

Amateurs and schools who participate are encouraged to send the data they collect to the SPRE Project to help to piece together a composite picture of the mission. The final results will be made available to participating schools and the amateur radio community.

SPRE will use a ground control network, SPREnet, consisting of specially equipped amateur radio stations to distribute data via the Internet. These control stations will monitor the health and activity of SPRE and have the capability to send operational commands if required.

In addition to the amateur radio experiment, the SPRE system will forward to Earth a sampling of real-time telemetry for two of OAST Flyer's experiments: REFLEX and GADACS. Spartan is equipped with on-board recorders to capture data from each of the experiments. Traditionally, an experimenter must wait several weeks to receive the mission data. SPRE provides a low cost, innovative solution giving experimenters the opportunity to view data during the mission while advancing amateur radio satellite technology.

The sample REFLEX data from the mass spectrometer will be used by the experimenters to provide feedback on how well their experiment is performing. SPRE also provides a limited command uplink capability providing the ability to adjust the mass spectrometer if required.

SPRE will be providing GPS location and time information from the GADACS experiment. This information will provide some insight on the health of the

GADACS GPS receivers as well as indicate the current location of the Spartan satellite. Using the APRtrak software described above, amateur radio stations and schools will be able to observe the track of the satellite as it passes overhead.

Data is transmitted on a downlink frequency of 145.55 MHz. The is the same frequency used by the MIR space station and the Shuttle Amateur Radio Experiment (SAREX). The data format is completely printable ASCII characters and therefore is fully compatible with all amateur packet radio equipment in common use today.

All of the hardware and software has been designed and constructed by students and volunteers. This low cost project has provided a great hands-on opportunity to gain experience in space communications. So far, several students have earned college credit for their work on SPRE. It has also helped some graduating students secure employment in the aerospace industry.

Information Summary

Mission:

STS-72, Space Shuttle Endeavour (OV-105)

Launch:

January 11, 1996 at 09:18 UTC (60 minute launch window)

Orbit:

28.45 Degrees

SPRE Deployment:

3 days 2 hours mission elapsed time

SPRE mission:

Approximately 46 hours

Operating Mode:

FM, AFSK 1200 baud packet radio

Frequencies:

145.550 MHz Simplex

Landing:

January 20, 1996 at 04:54 UTC at KSC

WWW Home Page:

<http://w3eax.umd.edu>

Anon. FTP site:

w3eax.umd.edu/pub/spre directory

Ground Stations

- Any amateur radio station or school with packet radio capability
- ARPtrak Software (available on the Internet) - runs on an IBM compatible PC
- Displays SPRE telemetry - Unattended data collection capability - can replay satellite passes
- Simple packet radio station setup - Licensed Amateur Radio Operator - Terminal Node Controller (TNC) - VHF Radio (amplifier recommended if transmitting to SPRE) - VHF Antenna (beam recommended if transmitting to SPRE) - PC Compatible Computer - APRtrak Software Package4 - Satellite Tracking Software (Recommended)

To Participate

Schools wishing to participate should contact the SPRE Project for more information and the APRtrak software. Send electronic mail (e-mail) to: Ken McCaughey
kenneth@w3eax.umd.edu
Or send a self addressed stamped envelop and a 3.5 inch high density floppy disk to:
Attn: SPRE Project
Century Computing Inc.
8101 Sandy Spring Road
Laurel, MD 20707

Downloaded from University of Maryland Web page:
<http://w3eax.umd.edu/>

Swap Shop

Laird, VE3LKS, (905) 434-7339
386DX40 motherboard - no RAM \$75.
QRZ Ham Radio CD ROM Winter 1995 - over 650MB's. 1,000's of programs, radio mods, data files, TCP/IP, Packet, satellite tracking, RTTY, WEFAX, computer radio control programs, US callsign database and more. DOS & Windows interface. \$20.

Len, VE3LBN (905) 985-7120
Kenwood Transceiver Model TR 8400 440 meg. 10 Watt, New in box. \$400.
Kenwood Transceiver Model TR 7950 2 meter 45 Watts \$350. Yaesu Transceiver Model FT 625RD 6 meters 25 watts \$350. Model no. TM 411 A/E 440 meg.

Transceiver, T.T. mic, Brkt., Manual. 5-25 watts output. \$325.00 Firm. Model TR 9000 2 meter all mode transceiver cw/ssb/fm . 1 -10 watts output, mic and manuals. \$375.00 Firm

Howard, VE3TYQ (905) 579-7466
IC 701 HF Transceiver 10 -80 meters, plus the IC 701 Power Supply, IC SM 2 Desk mic for \$600.

Walter, VE3FJC, (905) 263-2338
Commodore 64, keyboard, 1541 disc drive, 1702 colour monitor, 1526 Printer.\$200 OBO. Heath 664 remote V.F.O. unused. Brand new \$100.

Len VA3LDR (905) 723-6970
For Sale , Ten tec Argosy II, HF transceiver, voice syn., AC/p, Desk mic. Ant. tuner. Package \$650. Kenwood TS 450 sat. HF Transceiver. AC/p supply , Mic. , voice syn., \$2000.

Keith VE3MZB at 905 728-8676
Micronta Reg. Power Supply 3 AMP \$25. Reg Power Supply 12 Volts \$18. Butternut HF6V-X Vertical \$150. 2 meter "J" pole H.B. copper pipe \$10.

Alex, VA3AMP
Wanted - looking for 4 - 6KD6 tubes for amplifier.

Send all listing to VE3FJC, Walter at (905) 263-2338, by packet at VA3BBS, or by phone at VE3OSH 2 meter repeater.

Contributors

Thanks to Victor VE3LNX, Earl VE3VGK, Martha VA3SBD, Walter VE3FJC, and Peter VE3ZZV for submitting items for this months newsletter.



Field Day 1995

Thank you to all who helped. We stood 112 out of 256 entries overall in the 3A category. We were #8 out of 30 Canadian entries. We had fun and will do even better in 1996. If you want to help out this year just let me know.

73 & 88 de

Martha, VA3SBD

Early Days of Wireless - Part 5

From "Modern Electrics" - Nov, 1911

DURALUMIN -A modest, yet important invention, is the production of a metal alloy, having the same weight as aluminum, yet possessing the same tensile strength as medium steel. It is similar appearing metal as aluminum, and takes a brilliant polish identical to nickel plating. The specific gravity is 2.8, while the melting point is 650 degrees C. It is easily machined, and can be obtained in bars, sheets, and rods of any dimensions. It can also be supplied in any special shapes desired. The demand for such metal should be particularly strong from airship builders, aeroplane constructors, and all parties seeking a strong and light construction material.

THE INTERNATIONAL AMPERE SIGN - The algebraical sign "C", which has been in use for many years, has recently been changed to "I", which will be the recognized sign used in denoting amperes in equations. A NEW

MARCONI RECORD - On November 19th (1911), the following message was sent from the new Marconi station at Coltano, near Pisa (Italy), to the Glace Bay (Nova Scotia) station, a distance of approximately 4,000 miles in an air line.

"To the Editor of The New York Times: My greetings transmitted by wireless telegraph from Italy to America.

G. Narconi, Pisa 5:47 P. M."

The Coltano station has been built for the Italian Government so that it may be in wireless communication with the Massowah station in Africa. The New York Times has always displayed a great interest in wireless, patronizing the Clifden and Glace Bay stations for its trans-Atlantic press messages. Owing to the large Italian population in Argentine Republic in South America, the Marconi interests have been planning the erecting of a high powered station in Buenos Aires, which will be in direct wireless communication with the station at Coltano, the distance being almost 7,000 miles.

THE RADIO CLUB OF AMERICA - (from 'Modern Electrics and Mechanics' - January, 1914) The Radio Club of America, just completing the fifth year of its existence, wishes to announce to all who are practically interested in the science of radio communications, and whose researches have been retarded by lack of acquaintance with others similarly interested, that here is an organization whose object is to bring such men together. As the Junior Wireless Club, Ltd., it was among the first organizations to take a definite stand in the defense of the amateur against unsatisfactory legislation, sending a delegation to Washington in 1910. Although the club was at first purely composed of amateurs, membership has in recent years been greatly increased by a score of professional operators, university graduates, and business men, interested in wireless. The club has as a consulting engineer, Prof. R. A. FESSENDEN. Several of the members have made inventions of no small note. Meetings are held monthly, and an interesting program

always is prepared for the occasion. Applicants for membership are passed upon by a committee, and the name is then submitted for the approval of the club members. The secretary, GEORGE BURGHARD, 1 East 93rd Street, New York, will be pleased to answer any inquiries.

Victor Doty, VE3LNX

My Soapbox, Please

Happy New Year! Well, lets hope so anyway. The start of another year.

A time to wipe the slate clean and start all over again. The dawn of the tax season. New Year resolutions - some kept, most broken...



Yes, New Year resolutions. This year I have set only one New Years resolution and that is to remain bulletin editor for another year and not to quit on my own. If you decide to toss me out, well that is another story. However, I will need your help to fulfill this resolution. You all showed tremendous support last year when I took over the position both morally and by submitting articles. I have to give you high marks for both of these. I just hope that you all made a resolution that you would submit at least one article to be published this year. Vic, VE3LNX, has already fulfilled this on his end as I have at least 14 more article on old time radio that he has sent me and I believe more will be on the way. Starting in this issue I may use two of these articles instead of just one.

"What can I write about?" you may ask. Well, anything that is radio or computer related for starters. Maybe you have found a short route to digipeat into WIAW pbbs or you have found a neat Amateur radio Web page that others would be interested in. Special events in your life like your 25th wedding anniversary, your 40th birthday, or a child graduating from grade 8, high school, college/university, etc. Antennas

you have built (include diagrams) and other projects. How about telling us how you got started in Amateur Radio... Popular Communications does it so why can't we!? Everyone can write an article on that, in fact I will make this a regular column and will start this month with my own story. Get those keyboards out and start sending me messages via packet or internet. For those without keyboards than a pen or pencil will do but please make sure it is readable.

The Internet...how many of you are on it yet? You are missing a lot of fun. Fred VE3TIG tells me that he is just about finished designing our Web page and so soon the NSARC will be one of the Amateur sites on the Web. You say you are too old to get into computers... nonsense!! My wifes grandparents Bruce N4TNL (80 years old) and Adele N4TNK (XX years old) purchased a computer and are having a ball with it and are also working on upgrading their licence. You are NEVER too old. It's easy to get going on the internet and starting in the next issue I will start explaining the different functions. Until then, call Ike VA3IKE, at (905) 723-2750 to get set up with internet access. Ike's rates are reasonalbe and his system is great...very seldom do I get a busy signal. The only thing I would recommend to you is to have at least a 14.4 modem on your computer system if you are going to use internet.

Well, enough of my hot air for now. See you at the next meeting.

Laird, VE3LKS

Thank You Velora

We came, we saw, we devoured. The Christmas Party is always a nice event but when you mention the name of the person who organized it, **Velora Gibson**, that just about sums it up and not much more needs to be said. But I will say more anyway for those unfortunates that were unable to attend. Velora puts the Christmas Party in a class of its own and I dare say that no other club comes close unless they have a full course sit down style of dinner. If anyone walked away

hungry than that was your own fault. Everything was fantastic and delicious. As I walked around talking to different groups the main topic of discussion was the food and not radios. (Now that is an accomplishment at our club meetings!) Thank You again Velora for the time and effort that you put into making our Christmas Party a success.

Laird, VE3LKS

PS - the frozen raspberries in the fruit punch was my personal favorite!

Interesting Web Sites

Boy, did I find some great Web pages to visit this month. They are all University ARC pages with lots of great information on them. As a matter of fact the SPRE article earlier in the newsletter is from the University of Maryland ARC page. Have fun exploring these.

University of Cincinnati

<http://www.uc.edu/www/w8yx>

Contains: more Ham Web links, FTP sites, club info, "Amateur Radio Newline" by Bill Pasternak WA6ITF, QRZ callbook, repeater directory, and Amateur store locations.

University of Maryland ARC

<http://w3eax.umd.edu>

Contains: SAREX info including pictures and block diagrams, club info, QSL card gallery.

Stanford ARC

<http://w6yx.stanford.edu>

Contains: satellite info (they have aeronautics and astronautics majors and there is lots of neat info here), QSL card gallery, and club info.

Well, until next month....happy surfing
Laird, VE3LKS

What If Dr. Seuss Did Technical Writing?

If a packet hits a pocket on a socket on a port,

And the bus is interrupted as a very last resort,

And the address of the memory makes your floppy disk abort

Then the socket packet pocket has an error to report!

If your cursor finds a menu item followed by a dash,

And the double-clicking icon puts your window in the trash,

And your data is corrupted 'cause the index doesn't hash,

Then your situation's hopeless, and your system's gonna crash!

You can't say this? What a shame sir!

We'll find you Another game sir

If the label on the cable on the table at your house,

Says the network is connected to the button on your mouse,

But your packets want to tunnel on another protocol,

That's repeatedly rejected by the printer down the hall,

And your screen is all distorted by the side effects of Gauss

So your icons in the window are as wavy as a souse,

Then you may as well reboot and then you go out with a bang,

'Cause as sure as I'm a poet, the sucker's gonna hang!

When the copy of your floppy's getting sloppy on the disk,

And the microcode instructions cause unnecessary risk,

Then you have to flash your memory and you'll want to RAM your ROM.

Quickly turn off the computer and be sure to tell your mom!

(Author unknown)

Earl, VE3VKG

Early Days of Wireless - Part 6

This bulletin is about the Amateur vs TV back in 1936

From "RADIO", issue of July, 1936,

page 67, we find the caption "The Television Situation" heading a block of text which reads as follows: "The amateur 5 meter band may be vitally affected by the placement of the ultra-high-frequency "standardized" television band. From present indications, it looks as though there is a good chance of the band being located between 42 and 90 mega-cycles. Naturally, in this event, a continuous band would be desirable. What about the amateurs' pet ultra-high-frequency band at 56-60?"

The article mentions the F.C. C. hearing which started on June 16, to discuss frequency allocations and standard picture specifications. "Naturally it is desirable to standardize the specifications of all broadcast pictures so that all receivers may utilize all programs available."

The Radio Manufacturers' Association suggests that the television bands should start at about 42 megacycles and should extend to about 90 megacycles. They also suggest that the television band should be continuous, if possible.

Remarks of Mr. James M. Skinner, President of Philco and Chairman of the special committee on television of the R.M.A. will be of interest to amateurs. The following is an excerpt from Mr. Skinner's report to the Federal Communications Commission.

"... The most valuable part of the spectrum for television starts at 42 megacycles. At this frequency, a given amount of broadcasting power provides the greatest signal intensity in the surrounding territory. The R.M.A. Television Committee report will request, therefore, a television band extending from 42 to 90 megacycles. "From 56 to 60 megacycles, there is a band allocated to amateurs. R.M.A. recognizes the service the amateurs have contributed to radio development and their importance to the nation in providing a reserve of trained radio operators in times of emergency. R.M.A. will therefore not request these frequencies for television

unless it is found by the Commission that this band is not urgently needed by the amateurs, or is not especially well suited for amateur work. If so, another desirable television channel could be provided from 54 to 60 megacycles and a highly desirable continuous television band would result...."

"RADIO" makes the comment that Mr. Skinner's remarks, obviously, are pertinent and he is quite right in suggesting that we have no right to the 5 meter band unless we can show that this band is (*italics used*) urgently needed by the amateurs and also is (*italics again*) better suited than any substitute band would be. "Thus it is up to us to hurry up and put the band to all possible use and to clean up the unnecessarily broad signals common in this band."

(My note): Of course, we all know the outcome which kept the band in roughly the same part of the spectrum; we gave up the 5-metre band (CH.2 TV), and took over the 6-metre band (CH.1 TV). And it gave a lot of people who use TV today a real problem of wondering why the TV channel knob starts at 2!

Victor, VE3LNX

How I Got Started in Amateur Radio

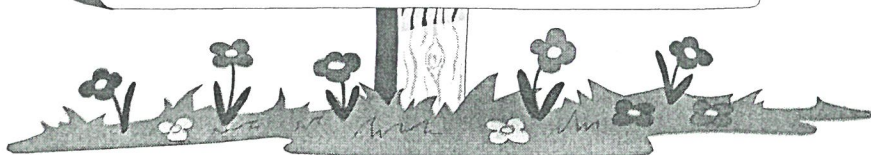
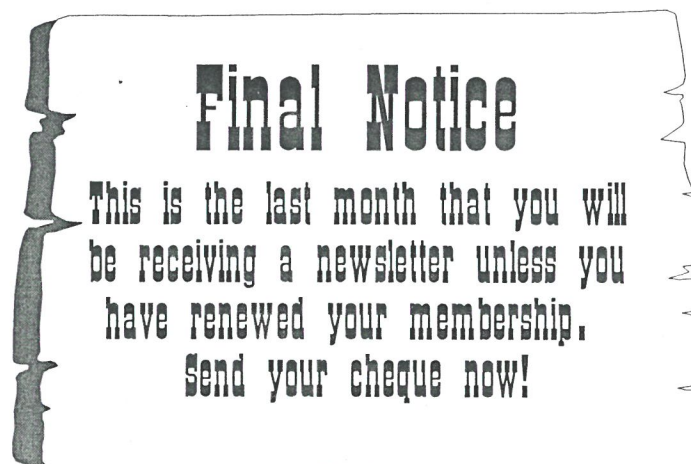
When I was in Grade 5 I read a Hardy Boys mystery book in which they solicited the aid of an Amateur radio operator. The thought of communicating without wires intrigued me and that year I received a pair of walkie-talkies for my birthday. I put those walkie-talkies to good use and even chatted to local CB operators on channel 14. In 1977 when CB was exploding I received a Realistic 3 channel CB walkie-talkie for my birthday. I had channels 9, 11, and 14 installed and I figured I had the world by the tail since I could then talk all over Oshawa. In 1978 I saved my money and purchased a Citizen 40 channel CB mobile which I connected to a power supply. At first I used a back-of-the-set antenna but in a couple of months I had saved enough to purchase a 5/8 wave

Radio Shack base antenna. That went up on the garage and I was in business. Now, talking to stations in Port Perry and Toronto was common place. Unfortunately, with the extra gain from the antenna I was wiping out our neighbors old tube TV and no matter what I tried nothing was filtering out my signal. I had the DOC inspect my station and they gave it a clean bill of health but when they checked the ancient TV next door they said that there was no filter anywhere that could stop a signal from entering the unprotected circuitry. I tried to arrange a schedule that I would use my radio when they were not watching TV but they were inconsiderate and simply said that they watched TV 24 hours a day. Not wanting to stoop to their level I pulled the plug as they were going to take me to court for invasion of privacy. (These people still live next to my parents and not many people on the street care for them.) In 1988 I purchased a Realistic 2010 scanner and started listening to the local police, fire department, and Amateur repeaters. Then in 1990 my wife gave me a Realistic DX-440 shortwave radio for my birthday. (I get lots of radio stuff for birthdays but I am not complaining). That was the final straw. I signed up for the Amateur radio course taught by Rick VE3ASH and received my Basic

licence. George VE3INB taught the code and I was able to get the 5wpm. I purchased an old tube rig from Peter VE3PLM and worked 80m for a while but now I am hooked on packet radio and with the exception of the odd chit chat on 2m you will have better luck connecting to my pbbs than actually talking to me.

Laird, VE3LKS

There, I went first and now I will be expecting a flood of reports with information as to how YOU got started.



The Info Page

Executive

President		
	Peter Rogers, VE3ZZV	655-5180
Vice President		
	Steve Dinsmore, VE3SBD	571-4716
Treasurer		
	Earl Matthews, VE3VGK	725-5606
Secretary		
Program Director		
	Fred Bengel, VE3TIG	576-4839

Co-ordinators

A.R.E.S.		
	Fred Bengel, VE3TIG	576-4839
Special Events Co-ordinator		
	Ralph Day, VE3CRK	576-8738
Bulletin Editor		
	Laird Solomon, VE3LKS	434-7339
Bulletin Publisher		
	Glen Goslin, VE3LIZ	725-1545
Club Historian		
	Mike Sherba, VE3DKW	723-7674
Net Controller		
	Roy Miller, VE3AAF	852-5447
Code Senders		
	Peter Rogers, VE3ZZV	655-5180
	Bernie Sandbrook, VE3ATI	655-4156
Registrar		
	Victor Doty, VE3LNX	983-5831
Get Well Cards		
	Anne Jones, VE3KWI	324-0638
Nonquon Canoe Races		
	Glen Goslin, VE3LIZ	725-1545
Field Day		
	Martha Dinsmore, VA3SBD	571-4716
Instruction		
	John Nicholls, VE3SII	683-2495
Auditor		
	Rick Gibson, VE3ASH	434-2886
Lists and Labels		
	Len Nixon, VA3LBN	985-7120
J.O.T.A.		
	Ries Wytenburg, VE3UEA	434-5550
Club Inventory		
	Howard Mugford, VE3TYQ	579-7466
Club Photographer		
	Don Foster, VE3GXH	985-2668

Club Repeaters

2m	147.120	VE3OSH	Voice
70cm	443.000	VE3NAA	Voice
2m	144.970	VE3USH	Packet

Net and Code Practice

Club Net every Thursday at 1930 with CW practice at 2030 followed by more Net at 2130.

EMO Net every Wednesday at 2030 on VE3OSH.

Informal Nets and Gatherings

Evenings at 2130 hours local time on 3740 +- a few kc you will find a bunch of local rag chewers.

Saturday mornings, 0930, at Mama's Restaurant in the Five Points Mall you can devour some breakfast, coffee, or both and have a chit chat with some of the locals. This is an informal event and discussion topics are totally up to you. Great time to chat about equipment problems, software, etc.

NSARC 1995 Calendar

Jan 8	Meeting
Feb 12	Meeting
Mar 11	Meeting
Apr 8	Meeting
May 13	Meeting
June 10	Meeting



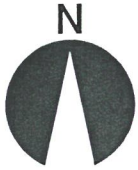
D.R.A.R.E.O.

Randy Elliot, VE3JPU (905) 427-6853 - Coordinator
Fred Bengel, VE3TIG (905) 576-4839 - Asst. Coord.

Contact the Editor

VE3LKS-1 on VE3USH
VE3LKS@VA3BBS
Isolomon@osha.igs.net
Snail Mail - 171 Thornton Rd. N., Oshawa, ON, L1J 6T4

Meaningless bits of information - this newsletter is laid out using WordPerfect 6.1 for Windows and the original copy is printed on a Brother HL-660 laser printer. Also, if you happen to have any complaints you are more than welcome to become the next bulletin Editor. Seriously, all constructive criticism will be accepted and treated accordingly. If you would like to see more technical articles then get the lead out and get writing. I can write till I'm blue in the face about computers and some of it you can apply to Amateur Radio but it would be nice to see some technical stuff as well.



North Shore ARC

Membership Request Form



Please Print!

Name: _____ Callsign: _____

Address: _____ City: _____

Prov/State: _____ Postal: _____ Phone: _____

Membership Required: Full \$20 Family \$5 Associate \$15

- Full Full member privileges including monthly newsletter.
- Family Full member privileges but no monthly newsletter. One member of the household must have a "Full" membership.
- Associate Monthly newsletter and a warm hearty welcome to all our meetings/events.

Donations: General Use \$ _____ Repeater \$ _____

I am interested in helping or leading out in the following:

- | Help | Lead | Activity | Help | Lead | Activity |
|--------------------------|--------------------------|---|--------------------------|--------------------------|---------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Sermon on the Mount | <input type="checkbox"/> | <input type="checkbox"/> | Jamboree On The Air (JOTA) |
| <input type="checkbox"/> | <input type="checkbox"/> | Corn Roast | <input type="checkbox"/> | <input type="checkbox"/> | Guides On The Air (GOTA) |
| <input type="checkbox"/> | <input type="checkbox"/> | Christmas Party | <input type="checkbox"/> | <input type="checkbox"/> | EMO |
| <input type="checkbox"/> | <input type="checkbox"/> | Field Day | <input type="checkbox"/> | <input type="checkbox"/> | Dxpeditons |
| <input type="checkbox"/> | <input type="checkbox"/> | Net Controller | <input type="checkbox"/> | <input type="checkbox"/> | Canoe the Nonquon |
| <input type="checkbox"/> | <input type="checkbox"/> | Code Sender | <input type="checkbox"/> | <input type="checkbox"/> | CNE Station (Air Show Saturday) |
| <input type="checkbox"/> | <input type="checkbox"/> | Sysop a packet node/BBS | <input type="checkbox"/> | <input type="checkbox"/> | Kit building |
| <input type="checkbox"/> | <input type="checkbox"/> | Hamfest security/setup/take down | <input type="checkbox"/> | <input type="checkbox"/> | Newsletter articles |
| <input type="checkbox"/> | <input type="checkbox"/> | Executive - President/Vice/Treasurer/Secretary/Program Director | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | Other _____ | | | |

 Please list any topics you would like to see presented at our monthly meetings:

I am willing to make a presentation on one or more of the topics listed above!

Please send cheque payable to:

North Shore ARC

c/o Victor Doty, 5222 Ochonski Rd., R.R.2, Orono, ON, L0B 1M0