

THE RAMBLER

MAY 1989 ISSUE

The Ottawa Valley Mobile Radio
Club Incorporated

P.O.Box 5530

Station F

Ottawa Ontario

K2C 3M1



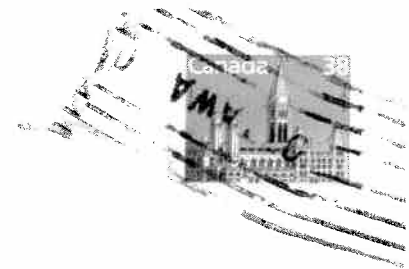
NEXT MEETING: THURSDAY, MAY 18, 1989

PLACE: CANTERBURY COMMUNITY CENTER, 2185 ARCH STREET

TIME: 7:30 P.M.



The Ottawa Valley Mobile Radio Club Inc.
P.O. Box 5530
Station F
Ottawa, Ontario
K2C 3M1



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MAY 1989 ISSUE

RAMBLINGS

By Alan Boyce VE3LNH

Nothing is ever as simple and straightforward as it seems.

When the National Museum of Science and Technology summarily closed down VE3JW, we thought that it would be a simple matter for the club to organize an eager team, redesign the station, and proceed with the rebuilding exercise. The VE3JW committee did a thoroughly professional job of answering the call on extremely short notice.

Unfortunately, the National Museums of Canada have complicated the problem. In response to the report and preliminary design from the VE3JW committee, the Museum's Acting Director sent the OVMRC the letter printed elsewhere in this issue. In his letter Mr. Gordon Bruce states that the radio station will not be rebuilt now, and that it will be "considered" in the plans for 1990.

Aside from the probability that 1990 in governmentese really

means 1991 or 1992, this "consideration" sounds to me like the Ottawa Valley Mobile Radio Club has been put on probation. Again we are being asked to demonstrate our commitment to the Museum and to the VE3JW Radio Station project.

Some have suggested that we give up the management of the station and devote our energies to other projects. I would counter that there are few projects that fit as well with the objectives of the OMVRC and with those of the Amateur Radio hobby in general. By its very existence a station such as this promotes amateur radio to the public. It promotes Canada to hams of other countries. It encourages international contact and exchange of ideas. It is used for training new hams. It provides amateurs with equipment that they may not have at home. It provides an opportunity for experimentation and it stimulates technical excellence.

Now it is fair, I think, that we

insist that the Museum make clear their real intentions for our club and our station. Being a volunteer organization with limited financial and human resources, we cannot spend all of our cash, sweat, and tears for projects that are going to be repeatedly dropped. A letter is being sent to Mr. Bruce asking for a commitment on this issue.

I believe that they will have to commit to us. VE3JW is a national resource, and we have a duty to rebuild and support it. Hams from all across the country know of this station; the comments from your executive, from representatives of other amateur organizations, and from individual hams have been strongly in favour of resurrecting VE3JW.

I would also add that if we do not resurrect it, then someone else probably will.

So it looks like the club has its work cut out for us for the next while. Just when we thought we had the problem solved.

EDITORIAL

By Bob Baillargeon
VE3MPG



The editorial content of this column will not pertain entirely to amateur radio this month. I must comment on activities happening not far from Ottawa East.

Specifically the ARMEX89 show just across the canal from my home is morally discomforting. Four hundred and twenty corporations from 16 nations will be exhibiting their latest in military hardware to about 13,000 "buyers and users" from 60 countries in Lansdowne Park between May 23 and 25. A show of this sort in any civilized country is most disturbing. Weapons of obliteration and death used to disrupt and eradicate large populations, being sold and exhibited in my backyard is repulsive. The countries sending delegations to Armx89 will be many of the most repressive human rights violators in the world. Corporations exhibiting at the show will be several of the world's largest nuclear weapons contractors. The notion of Canada as a peacekeeper, is a misrepresentation.

The Ottawa City Council opposes the show and vows that next year it will not take place in the Capital. Why not ban this type of commercial sale of weapons of devastation from Canada?

Let us inform our Honourable Members of Parliament that permitting these merchants to market their wares is intolerable in Canada. On May 22 a peace rally to oppose Armx will

begin at 1:30 p.m. at Confederation Park (Elgin and Laurier) for a march to Lansdowne Park. Be a part of it.

The Museum has an odd approach in dealing with the club. You will notice the letter from the museum informing me of their decision. Mr. Souque is no longer dealing with us. Another bureaucrat has entered the picture. I assure you that the committee intends to continue to keep VE3JW alive. Should the club expend its energy on keeping VE3JW alive? Something to think about. Maybe the Museum decision was based on the amount of inaction at VE3JW. If, as a club we focus on a new endeavor, and forget about VE3JW, will we realize more participation? Ask VE3NVL how difficult it was to relegate bodies to oper-

ate the station.

A letter will be drafted to express our disappointment at the Museum's decision. Throughout the three planning meetings that took place, many good ideas were generated. The Museum, through Mr. Souque, was kept informed about our ideas and proposals. We did the best with what little time was available. I intend to obtain a more affirmative answer from Mr. Bruce. You will be kept informed.

1990 will be upon us in a short time. This extra time should be optimized by the committee to better plan the implementation of VE3JW. A more important consideration is the active participation of club members in the operation of VE3JW, if the Museum gives us a second chance.



National Museum
of Science
and Technology

Musée national
des sciences
et de la technologie

April 3, 1989

Mr. Robert Baillargeon
Ottawa Valley Mobile Radio Club
179 McGillveray Street
Ottawa, Ontario
K1S 1K7

Dear Mr. Baillargeon:

On behalf of the National Museum of Science and Technology, I want to thank you for your proposal for the new amateur radio station. It is obvious that a good deal of thought has gone into making the station more relevant to the needs of our visitors.

I discussed the proposal at length with my senior colleagues. Our reluctant conclusion is that, although this proposal has considerable merit, the Museum cannot implement it now as our renovation and exhibit plan leave us with no available location for the station.

You have my assurance, however, that we will reconsider your proposal when the new Communication Gallery is being planned, in 1990, as space will then become available.

I regret not to be able to guarantee a prompt relocation of the amateur radio station but hope you will understand the problem we face at the moment.

Sincerely,

Gordon Bruce
Acting Director

c.c. Jean-Pascal Souque

P.O. Box 8724
Ottawa Terminal
Ottawa, Ontario
K1G 5A3

C.P. 8724
Terminal d'Ottawa
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Canada

NEWS and VIEWS
from
HERE and THERE

By
Pat Brewer, VE3KJQ

Welcome to our monthly roundup of news from across the country gleaned from the bulletins of other amateur radio clubs. Last month we missed the Scarborough Amateur Radio Club from Toronto. Let's start there. This club takes Field Day quite seriously. Their objective this year is to get "full participation, even if only for a short period". They have finished number one in Canada a number of times, so they must be doing something right. At their February meeting Francois, VE3PXS, gave a remote control presentation. Using his hand-held he activated various circuits in his car including starting the engine.

The Chatham Kent ARC is now involved in the Environment Canada CANWARN system. YOU will remember that CANWARN uses Amateur Radio to report severe weather to Environment Canada. This club also holds bingos. Last year they raised \$11,945.34 for charity and \$11,145.14 for emergency communications equipment. In their DX News column VE3BX warns that the "very poor propagation conditions will probably continue throughout the year, and will get even worse".

In the London Amateur Radio "Bulletin" there is an article by VE3EWO on building a code practice oscillator in an empty ball point pen case. The pen and a speaker and battery then go in a plastic pocket saver. The pen clip is the key. He also has a breath activated key modified from a March 1989 QST article.

The Halifax Amateur Radio Club adds a little incentive to their Field Day by competing with the Cowichan Valley ARC for the "challenge plaque". Their bulletin also contains a warning about a potential explosive danger when replacing lithium cells. "The cell contains *Thionyl Chloride*, which is both volatile and toxic. Any attempt to force current back into these cells results in a large explosion".

The Calgary Amateur Radio Association recently received a certificate of appreciation from CFB Calgary for support given during the Canadian Peacekeeping duties in Iran/Iraq last year. On the packet scene in Calgary there are four digipeaters, two BBSs', one HF gateway, and the Ottawa "Wormhole". The club is also gearing up to man all 195 polls in this fall's municipal election. In 1986 they manned all 190 polls to radio results back to city hall.

From the Saskatchewan Amateur Radio League comes news that the door prize at the Regina Hamfest August 11, 12, 13th is a trip for two anywhere Air Canada flies in Canada. Watch out for a special call sign for the Canada Summer Games station in Saskatoon. The Saskatoon club also provided 18 Amateur Radio operators for the transportation dispatch center at the Brier this year. A survey of Saskatchewan Amateurs found that 97 percent favored having one national Amateur Radio organization.

Finally, if you were intrigued by the Pioneer Club's talk of a fast scan TV repeater you will be happy to know that the cost of a fast scan receiver is less than a hundred bucks and you can "watch the other guy in full motion color video".

MINUTES

By
Arch McKenzie
VE3NJY

Alan Boyce VE3LNH, opened the meeting at 7:45 p.m. Pat Brewer, VE3KJQ spoke about the Fleamarket coming up on April 29. In addition to the first prize of an ICOM handheld, a consolation prize will be awarded—a one year membership in CARF.

Bob Baillargeon, was sorry to announce that the Museum has postponed the new VE3JW until such time as it can be included in a larger section on Communications. Bob's planning group had three meetings, and had presented their "blueprint" to the Museum staff. No indication was given, at the time, that renovation plans did not include a new VE3JW. Bob said we should show that we are still committed to the project, which will involve a lot of work by the members of the Club. Suggestions were made such as emphasizing that VE3JW had been part of the Museum for 20 years or more. Amateurs in Canada should be told, through CARF and CRRL, that the station is down. One suggestion was to write to the Museum, with participation of CARF and our Club. The subject will be pursued further by the Executive.

The President asked for suggestions for nominations for Life Membership in the Club.

The main speaker, Ralph Cameron, VE3BBM, gave a very interesting talk on problems of electromagnetic compatibility and interference, and modelling high frequency pulses. This was followed by the main event, the testing of members rigs by Ralph, using a spectrum analyzer. Not all rigs were as clean as their owners had believed, but none were given the "Totally Unsatisfactory" label. Many thanks to Ralph !!

Refreshments were provided by Evelyn MacKinnon, VE3OAM.

SOME LOCAL MILITARY HISTORY

by

Paul
Ozorak

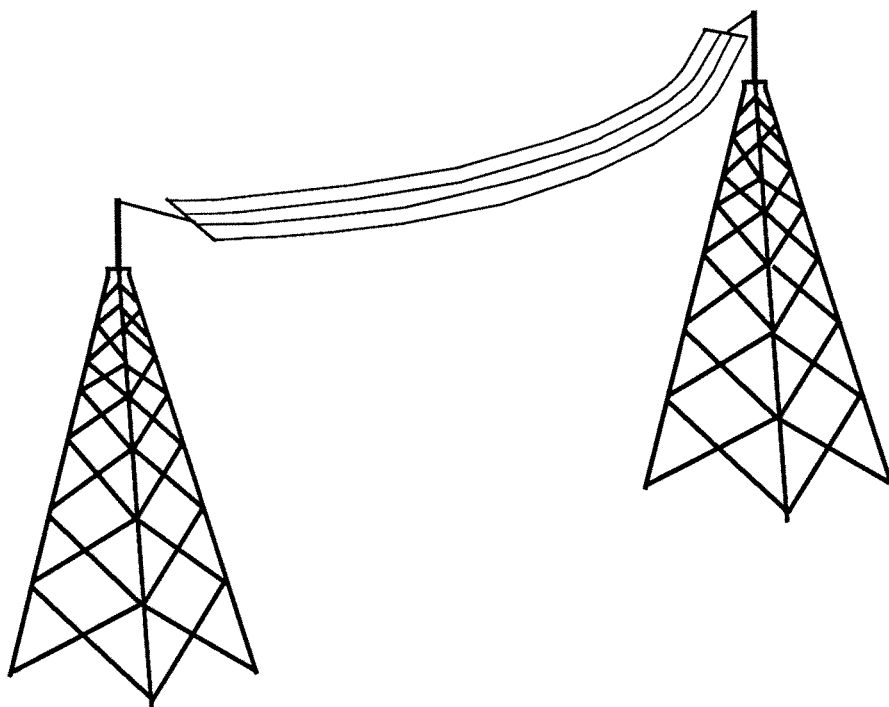
A spy station in Gloucester and maybe another in Chelsea? An aircraft repair depot within sight of the Parliament Buildings? A bomb disposal school near downtown Ottawa? Can it be true?

Yes, it certainly is! Last year, I wrote a book that briefly describes all the military installations in Ontario that have closed down or have been abandoned since World War II, including those that operated after the war. This includes flying stations, internment camps, army basic training centers, radio stations, Pine-tree radar sites, supply depots, defence plants and the surface to air missile site near North Bay. These descriptions include dates of formation of these installations, roles, squadron or equipment assigned to them, mottoes, change of names, dates of disbandment, reason for closure and what's left of them today. As the information on these places was not always available or existent, descriptions run from one small paragraph to a couple of pages.

The book has also approximately 156 black and white pictures of these places. Included are a dozen or so maps of those installations and a map of Ontario showing every town that has an installation of interest, several appendices and a long list of references. This book is designed for military buffs like myself who like to visit these places. Veterans who want to know what became of their old camp and historians and librarians will find it invaluable for reference. It will be a small 6 x 9 inch softcover book selling for about \$15.

Mention has been made in this book of the several ex-military radio stations in the Ottawa area. There was one operated by the Canadian Army on Greenbank road near Fallowfield (it's now used by the NRC). Another was located where Jeanne D'Arc and Orleans Boulevard meet (that was the Army's Orleans wireless station). A naval wireless site was located on the south side of Mann Ave. in Sandy Hill. A naval direction-finding station in Gloucester (HMCS Gloucester), and an FIS station in Chelsea (someone told me that stood for *Foreign Intelligence Service*. The "I" could also stand for *Intercept*). All of these and many others, except the Chelsea station will be mentioned in my first book.

What you'll be seeing in the Rambler in upcoming issues are excerpts of my book, just in case it doesn't come out. You might want to keep an eye out for it anyway in a few months. The title will probably be something like *"Abandoned Military Installations of Canada. Volume I: Ontario."*



Our Future

By

Ed Leblanc
VE3VLF

There has been a lot of discussion and concern expressed recently in various Canadian and American amateur radio journals over the future of our hobby. This has been spurred on mainly over the issues of a no code VHF entry licence and the recent decision of the American FCC to take away the 220-222 MHz portion of the radio spectrum from U.S. amateurs. These issues have forced hams in both countries to come to grips with slow growth of our hobby in terms of numbers and the need to increase our ranks, especially among the young.

The growing concern over our fate has dramatically increased deviate in the United States over a no code licence class and has led to the restructuring of the Amateur service in Canada and a new no code VHF/UHF class designed to attract more people to the world of amateur radio. While the battle continues to rage south of the border, it appears (from the various letters and editorials I've read) that Canadian hams recognize the need to increase our ranks with most seeing the new licence classes as a means of achieving this objective. In fact, most hams are not asking "if" we should have a new no code licence but "when" is DOC going to make it official. With any luck,

the new system should be in place by the fall and no doubt many in the Amateur class can't wait to be "grandfathered" into the HF phone bands.

To me, a no code VHF class entry licence makes sense as it will help to increase our numbers and establish a greater presence where we need it most, namely the VHF and UHF bands. A recent article reminded me of the simple fact that most of our frequency spectrum lies above 30 MHz. We have less than 4 MHz of total bandwidth in the HF spectrum and over 100 MHz worth of space above 30 MHz. The bands above two meters are the resources the Canadian amateur community seems to use the least and are under the most pressure from other groups. In contrast, the HF bands are more heavily used, giving us a firm presence. They are less likely (although by no means impossible!) to be taken from us. At least not easily.

The main reason for this is the very nature of HF, i.e. its worldwide coverage. It would be difficult for Canada to give its Amateur HF allocations to other users simply because the conflicts with amateur services in other nations would be so great. As long as amateur radio strength on HF grows worldwide, it becomes harder for a single nation to act on its own.

The situation on the VHF/UHF bands is different where propagation, for the most part, is "line of sight". The effects of allocation conflicts with other countries is less, making it easier for single nations to change allocations in these bands on their own. It is in this case that the strength of amateur radio in each country must be strong enough to resist having their VHF/UHF bands taken from them. Therefore, it is important for our

strength and growth and presence in the VHF/UHF spectrum to be strong and well established if we are to maintain these bands.

Although the entry of a no code licence and simpler theory exams will help to boost our presence in the upper bands, it is important to realize that the Class aA certificate is not going to solve all our problems. It will not by itself bring in the needed numbers overnight. The great danger is that the amateur community will feel that the problem has been solved and that nothing more needs to be done.

Much work is yet to be done. The Class A certificate is an important step in accomplishing this work but it is not the magic formula to solve our growth problem. The public is still largely ignorant of our hobby and still needs to be introduced to it. This can only be done by ourselves. People need to know not only that one can get a ham licence without knowing morse code but also what our hobby has to offer, its many challenges and facets.

People still need to be taught the theory, get help in establishing a station, become familiar with operating procedures, encouraged to join a club, stay active on the air, are the things that must be done to get people interested in the hobby and then stick with it. All of this won't be accomplished just with the Class A but also with our help.

Get involved with the Club's radio course. Become a part of any public relations activities the club puts on. Sign up to operate the soon coming and new VE3JW and be willing not just to work DX but to talk to visitors who come by about our hobby. Let's not be lulled into a false sense of security by the coming licence restructuring. The work to preserve and expand amateur radio in Canada is just beginning.

Here is a simple experiment that will teach you an important electrical lesson. On a cool, dry day, scuff your feet along a carpet, then reach your hand into a friend's mouth and touch one of his dental fillings. Did you notice your friend twitched violently and cried out in pain? This teaches us that electricity can be a very powerful force, but we must never use it to hurt others.

It also teaches us how an electrical circuit works. When you scuffed your feet, you picked up a batch of "electrons", which are very small objects that carpet manufacturers weave into carpet so they will attract dirt. The electrons travel through your bloodstream and collect in your finger, where they form a spark that leaps to your friend's filling, then travels down to his feet and back into the carpet, thus completing the circuit. Amazing electronic fact! If you scuffed your feet long enough without touching anything, you would build up so many electrons that your finger would explode. But this is nothing to worry about unless you have carpeting.

Although we modern persons tend to take our electric lights, radios, mixers, etc. for granted, hundreds of years ago people did not have any of these things, which is just as well because there was no place to plug them in. Then along came the first Electrical Pioneer, Benjamin Franklin, who flew a kite in a lightning storm and received a serious electrical shock. This proved that lightning was powered by the same forces as carpets, but it also damaged Franklin's brain so severely that

ELECTRICITY - Where Does it Go After it Leaves the Toaster?

he started speaking only in incomprehensible maxims, such as, "A penny saved is a penny earned." Eventually, he had to be given a job running the post office.

After Franklin, came a herd of Electrical Pioneers whose names have become part of our electrical terminology: Myron Volt, Mary Louise Amp, James Watt, Bob Transformer, etc. These pioneers conducted many important electrical experiments. For example, in 1780, Luigi Galvani discovered (this is the truth) that when he attached two different kinds of metal to the leg of a frog, an electrical current developed and the frog's leg kicked, even though it was no longer actually attached to the frog, which was dead anyway. Galvani's discovery led to enormous advances in the field of amphibian medicine. Today, skilled veterinary surgeons can take a frog that has been seriously injured or killed, implant pieces of metal in its muscles, and watch it hop back into the pond just like a normal frog, except for the fact that it sinks like a stone.

But the greatest Electrical Pioneer of all was Thomas Edison, who was a brilliant inventor despite the fact that he had little formal education and lived in New Jersey. Edison's first major invention, in 1877, was the phonograph, which could soon

be found in thousands of American homes, where it basically sat until 1923, when the record was invented. But Edison's greatest achievements came in 1879, when he invented the electric company. Edison's design was a brilliant adaptation of the simple electrical circuit: the electric company sends electricity through a wire to a customer, then immediately gets the electricity back through another wire, then (this is the brilliant part) sends it right back to the customer again.

This means that an electric company can sell a customer the same batch of electricity thousands of times a day and never get caught, since very few customers take the time to examine their electricity closely. In fact, the last year in which any new electricity was generated in the United States was 1937. The electric companies have been merely re-selling it ever since. Which is why they have so much free time to apply for rate increases.

Today, thanks to men like Edison and Franklin, and frogs like Galvani's, we receive almost unlimited benefits from electricity. For example, in the past decade, scientist have perfected the laser, an electronic appliance that emits a beam of light so powerful that it can vaporize a bulldozer 20,00 yards away, yet so precise that doctors can use it to perform delicate operation on the human eyeball...provided they remember to change the power setting from *Vaporize Bulldozer to Delicate.*

-Glenn R. Johnson, *Journal of Irreproducible Results.*

YOUR FIRST STATION

By

Leo Desjardins
VE3NVL

You are now a licensed amateur radio operator. What comes next? Setting up your station, of course. The fun and enjoyment of operating an amateur radio station begins in your own shack. For many of us, getting on the air for the first time presents some fears and uncertainties, with the result that some of the enjoyment of the hobby is lost.

This does not have to be the case because with proper planning, training and a positive attitude one can enjoy the many facets of amateur radio. Setting up an amateur radio station is perhaps the most difficult and confusing task for a new-licensed ham. It is safe to say that no two amateur radio stations are exactly alike. (In fact, I have my station set up in my darkroom which was a "temporary" set up seven years ago but is still in the same location). It is not necessary to spend large sums of money on the best of equipment to get on the air. You should consider purchasing gear that has reasonably good selectivity, sensitivity, and stability. Perhaps the most essential accessories, although no absolutely necessary, are a 24 hour clock set for UTC (Universal Coordinated Time), a SWR/wattmeter and a keyer. It is an excellent idea to speak to other radio amateurs, getting opinions and advice in setting up an amateur radio station.

Bravo! The equipment is all in place, and you are ready to go on the air. Now comes the time for you to sharpen your operating skills. The CW operator who has a slow but steady method of sending will have a big advantage over the poor operator. It is equally important for the voice operator to speak with precise and connected phrases.

Skills and self-discipline are pre-requisites of a good operator. Having a good "fist" is not necessarily an indication of a good operator. Good operating techniques are only acquired through much

practice but judgement are important qualities of any operator.

Interference is something that we have to accept and learn to tolerate as part of the hobby. However, we can conduct ourselves in such a manner as to reduce QRM to a minimum. It is only courtesy to listen and note if the frequency is busy. If you hear nothing, ask if the frequency is in use (QRL? "is this frequency in use?") and simply shift to another frequency if the first one is busy. We must work together, each respecting the rights of others. Operating courtesy and tolerance are very important considerations when on the air.

Operating interests vary considerably in amateur radio. Some are interested in rag-chew! others enjoy handling traffic, working DX, or simply getting on the air for an occasional contact with a fellow ham.

One important characteristic of amateur radio is that anyone can enjoy the hobby. Amateur radio has a basic appeal and is enjoyed by many visually/physically disabled persons. It provides, for the operator, a means of person-to-person contact of absolute equality, with other people and places around the globe. It is a perfect avenue for those with limited mobility. With proper training, patience, and determination almost any disability can be overcome.

In conclusion, the many facets of amateur radio provides a wide variety of enjoyment, and lets you be your own master as you participate in its many activities. In understanding the proper operating techniques, and having developed good habits in your operating skills, hamming can be more enjoyable for all concerned, and will indicate to your fellow amateur that you are simply a good operator. The most important requirements are that you operate a "CLEAN" station and show courtesy to your fellow radio operator.

Life Membership Nominations

By Alan Boyce, VE3LNH

The constitution of the Ottawa Valley Mobile Radio Club provides for several classes of membership. Full membership exists for those who hold an amateur radio certificate, and associate and family memberships exist for those who do not. The most prestigious is the class of Life Membership.

Life membership allows all of the privileges of full membership, without the requirement of paying annual membership dues. The honour of life membership can be granted by the club to amateurs who have made an outstanding contribution to amateur radio or to the community.

Club records indicate that only two life memberships have been conferred in the history of the OVMRC. There are currently no life members in the club.

The procedure for conferring life membership is by a nomination from a member of the executive plus three full members with five years tenure in the club. The nomination must be printed in the Rambler, and must be approved by a two-thirds majority vote of the full members attending the next regular club meeting.

The executive of the Ottawa Valley Mobile Radio Club believes that the granting of life

membership is an important means of recognizing outstanding contribution. In the last few years there has been considerable discussion of possible candidates. We have learned of several club members who have made extremely valuable contributions to the club, to the hobby, and to the community.

Two names, however, are mentioned most in these discussions.

Fred Noble, VE3BAJ, has been a member of the OVMRC for many years. Most members know Fred, since he always makes a point of personally welcoming visitors and newcomers to the club.

Fred's contribution has been consistent and reliable. He has served by supporting those in official positions. He regularly chairs the nominating committee. He is one of the most frequent operators of VE3JW, and can be counted on to do special demonstrations for visiting groups and media events at the station. Fred has been a long-standing member of the Emergency Measures Amateur Radio Group. He regularly assists in community service operations. Fred also acted as a mentor to students of the club's amateur radio course.

Jerry Wells, VE3CDS, has most recently been part of the team running the club's amateur radio course. This not his first involvement with a course, however; he taught an amateur radio course many years ago, as well. Jerry regularly assists with Field Day and the Flea Market, and is a reliable contributor to public service exercises. Jerry published the Rambler for six years. The club has always been able to count on Jerry's assistance with any undertaking.

The undersigned believe that the long standing contribution made by Fred Noble, VE3BAJ, and by Jerry Wells, VE3CDS, are excellent examples of service to the OVMRC, amateur radio, and the Community. Their official and unofficial contributions, their unflinching willingness to help with club projects, and their demonstrated assistance and encouragement to new hams represent the qualities that we feel should be recognized and encouraged in the club.

The undersigned take great pride in nominating Fred Noble, VE3BAJ, and Jerry Wells, VE3CDS to be awarded the status of Life Members in the Ottawa Valley Mobile Radio Club. We encourage the membership to approve the nomination of both Fred and Jerry in a vote to be held at the May 17, 1989 meeting of the Ottawa Valley Mobile Radio Club.

*Bob Baillargeon, VE3MPG
Alan Boyce, VE3LNH
Pat Brewer, VE3KJQ
Doug Carswell, VE3ATY
Leo Desjardins, VE3NVL
George Dew, VE2OWW
Ed LeBlanc, VE3VLF
Archie MacKenzie, VE3NJY*



**6 Meter Flea-Power
Modification Project:
Part 2**

By
Dave Harris, VE3KMV

The TRC-503 synthesizer and 1st IF are controlled by a single 10.24 MHz crystal. The LC7150 phase-lock loop IC divides this frequency by a fixed ratio down to a reference frequency. There are separate voltage-controlled oscillators (VCO's) for Tx and Rx: one at half the transmit frequency, and the other running 10.695 MHz below the receive frequency. The Tx VCO is doubled, and the Rx VCO is injected into the 1st IF.

A specific frequency is synthesized by dividing the VCO frequency by a preset ratio, locking it to the reference frequency (in effect "multiplying" the reference frequency by this number). The LC7150 is very application-specific, having only certain division ratios stored internally, which are selected by control inputs.

The 5-position channel switch is encoded into three lines; this leaves three binary codes unaccounted for. Besides the five 15 KHz channels, three other frequencies appeared: 49.670, 49.770, and 49.970 MHz. These are cordless phone channels, not surprising since the LC7150 and an equivalent Motorola chip are targeted at cordless phone applications. These extra channels should not be used for other than the intended use.

The MC3357 IF chip requires a 10.24 MHz signal, pulled directly from the LC7150 oscillator. Changing this frequency would also change the 1st IF, which is undesirable (the fixed 10.7 MHz filters being the major reason). The most promising approach seemed to separate the two oscillators and change the 7150 crystal.

Calculations showed that

10.7938 MHz would place channel 1 on 52.525 MHz, the most common 6m FM channel; this crystal would have to be specially made. I found a stock microprocessor crystal of 10.7376 MHz, locally available for \$2.50, which would place channel 1 at 52.251 MHz (good enough at this stage). One caution is that this is not a radio-grade crystal, and could not be expected to have the same accuracy and stability.

Another minor side effect is a proportional increase in channel spacing, from 15.0 kHz to 15.7 kHz. This is of no concern except when operating with other equipment having fixed 5 kHz spacing. Even so, channels sufficiently off the 5 KHz steps need not be used.

Modification was easy because both IC's contain internal oscillator components. The original crystal and two capacitors were connected to the 3357, and the new crystal attached to the 7150. With careful tweaking of the Tx VCO coil, PLL lock was achieved on 5 new 52 MHz frequencies. The new crystal oscillated slightly high, putting channel 1 around 52.270. The three out-of-sequence channels could be selected by playing with the encoded switch lines.

The Rx VCO was adjusted until lockup, but was not where expected; channel 1 receive was down at 51.745 MHz! After carefully re-examining the frequency scheme, it was clear this modification cannot provide simplex Tx and Rx as we had hoped. I did discover a unique method of providing simplex Tx/Rx on a single frequency around 51.1 MHz, but it is messy and hardly worth the trouble.

It is unfortunate that this mod did not work out. On the other hand, if it had been too easy, unauthorized users could have ended up intruding on 6 metres, or below, near the top of the 30-50 MHz commercial band.

Winners!

Grand prize winner of the Icom hand-held 2 meter rig at the OVMRC Flea Market was René Beaudry, VE3JKR. Congratulations René!

Other winners were Earl Andrews, VE3YOU, who won a CARF membership, Joe Walcott, VE3PDS, and Janet Brewer who both won the AR-RL repeater directories.

Thanks to all those who purchased tickets and the organizations that donated prizes.

-Editor

PACKET NEWS

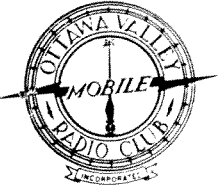
Heath Company recently donated three HK-21 Pocket Packet TNCs (Terminal Node Controller) to the NASA Johnson Space Center Amateur Radio Club in Houston. As part of the Shuttle Amateur Radio Experiment (SAREX), it is proposed that an HK-21 be used on a March, 1990 shuttle flight.

Packet allows digitized information - voices, images and data - to be transmitted. In this experiment, Amateur frequencies will be used to transmit packetized data to and from the shuttle.

If the project is approved, one of the Packet radios will be specially adapted for space travel. NASA will mount it into a protective SAREX casing unit and modification will be made for zero gravity.

-CARF

MEMBERSHIP APPLICATION/RENEWAL



Ottawa Valley Mobile Radio Club Inc.,
 P.O. Box 5530, Station "F",
 OTTAWA, Ontario K2C 3M1

Radio Call Sign

Date

Family Name		Given Name & Initials		Preferred Radio Name	
Address - Apartment, House Number, Street				Home Phone	
City/Town		Province	Postal Code	Business Phone	

New Member Membership Renewal

Association Memberships
 CARF CRRL
 OARC Other

Applies for membership/renewal for the Membership Year.....in the following category:

- REGULAR MEMBER* - as a licensed amateur.....\$15.00 _____
- ASSOCIATE MEMBER* - as a radio enthusiast.....\$15.00 _____
- FAMILY MEMBER(S) - of a Regular or Associate Member.....\$1.00 _____

Given Names

Total: \$ _____ Enclosed Cheque Cash

For Office Use

Membership Number

Membership Registered

Receipt Issued

Card(s) Issued

Subscription Registered

* Includes subscription to *The Rambler*

