OFFICIAL BULLETIN OF THE OTTAWA AMATEUR RADIO CLUB, BOX 8873, OTTAWA, ONT., K1G 3J2

THE GROUNDWAVE

FEBRUARY 1977

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THE GROUNDWAVE - OFFICIAL BULLETIN OF THE OTTAWA AMATEUR RADIO CLUB / FEBRUARY 1977

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DEADLINE FOR COPY for the March issue will be February 12 for articles of length and February 19 for short items and announcements. Address all correspondence to:
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THE OTTAWA AMATEUR RADIO CLUB is an association of Radio Amateurs devoted to the promotion of interest in Amateur Radio communications in the Ottawa regional area, and to promote the advancement of the technical competence and achievement of Club members.

THE CAPITAL CITY NET meets every Monday evening at 2000 hours on the Club Repeater, VE2CRA (146.34/146.94), to pass traffic and make announcements of interest to Amateurs in the Ottawa regional area. THE SWAP NET, a service of the Ottawa Valley Mobile Radio Club Inc., and conducted by Ed, VE3GX, is also repeated at this time. To list items or make enquiries, call Ed at 733-1721.

THE NEXT REGULAR MEETING of the Ottawa Amateur Radio Club will be held at the National Research Council, 100 Sussex Drive, Ottawa on Wednesday February 2, 1977 at 2000 hours. The program for the evening will include a showing of the Amateur film "Fine Business" and a talk entitled "Long-Delayed Echos - Fact or Fiction" by Alan Goodacre, VE2AEJ/3.

THE OARC EXECUTIVE meets regularly on the second Monday following the regular Club meeting in the Board Room at CFRA, 150 Isabella Street, Ottawa, at 2000 hours.

RENEW YOUR ARRL MEMBERSHIP through the OARC and everyone benefits. From each regular membership processed through the Club, the Club retains $1.00. You still pay the regular amount but you save the postage, MO or cheque fee, and the time and trouble it takes to get everything together and into the mail. Hank Harley, VE3BR, handles this for the Club and you can do business with him or get more information at any of the meetings.

MAUREEN NEILL, VE3FZY, spends her working day around the Civic Hospital and has offered to visit any Amateur confined there. If you know of anyone who would appreciat appreciate a visit, call Maureen at 725-4581, or after 5:30 PM at 233-9941.

LISTEN TO THE GROUNDWAVE NET on the Monday evening preceeding the regular OARC meeting at 2100 hours on or near 3770 kHz. Bud, VE3UD, reads THE GROUNDWAVE for the benefit of white cane Amateurs in the area but everyone is welcome to tune in.

OTTAWA VALLEY 10-X CHAPTER NET meets every Wednesday evening at 2359Z on 28.660 kHz. For further information on joining the 10-X group, contact Adrian Brookes, VE3GOJ. To become a full-fledged member, you must work 10 10-X members on 10 metres. If anyone is interested in helping to operate VE3AHN (last year's Canadian winner) for the 10-X Contest on February 12, 1977, or in loaning a linear for the day, contact Dave Goodwin, VE2DZE. Phone Adrian at 749-9010 and Dave at 884-6173.

ANOTHER OFFER OF ASSISTANCE for photographic work in connection with PC board work has been given by Brian Kasper, VE3CXD, #201, 1150 Meadowlands Dr. E., Ottawa, K2E 6J4. Brian will do photographic templates from scale models or drawings for the cost of materials only. Thanks for the offer, Brian.

OLD HAMS NEVER DIE ----------they just etch away!

MINUTES OF THE LAST REGULAR MEETING A regular meeting of the Ottawa Amateur Radio Club was held in the Auditorium of the National Research Council, Sussex Drive, on Wednesday January 5th, 1977.

The meeting was called to order at 2015 hours by the President and all guests were welcomed.

The minutes of the previous meeting were adopted as printed in THE GROUNDWAVE on a motion by Jim, VE3AHN, seconded by George, VE3DMC.

Carl, VE3BYX, reminded members that articles were still needed for THE GROUNDWAVE.

Rick, VE3HVA, reported on the bulk buying, that he has 35,000 resistors in his living-room and that he would appreciate some help in packaging.

Larry, VE3CRX, reported that the Ski Marathon will be held on February 26 and 27 and volunteers are needed. For further information, contact Larry at 824-3753 or 993-3238.

Fred, VE2DNW, reported that some parts of the Synthesizer Project are still missing and asked for a vote from those involved on whether to go on waiting for the parts or to purchase them individually. It was agreed unanimously to wait for the missing parts to arrive.

George, VE3BNO, was awarded first prize in the 'foxhunt' held some time ago. Cary, VE3ARS received second prize.

Awards to members for outstanding service to the Club during the past year were presented to Rick, VE3HVA, and to Fred, VE2DNW.

Ken, VE3IHX, reported that if an amateur worked three Georgia stations in a 24-hour period on January 20, 1977, a certificate would be issued signed by President Carter and the Governor of the State of Georgia.

John, VE2DNM, reported that CARF is setting up an administration office in Ottawa and they are looking for personel experienced in administration. It will be an Honorarium position.

Syd, VE3GVI, put forward a suggestion for a nightly net on VE2CRA for traffic only. A vote taken was favourable and further details will be announced at a later date.

A new executive was elected as follows:-

President	VE3ERO, Penny Robinson
V/President	VE3HVA, Rick Van Gastel
Secretary	VE3FZY, Maureen Neill
Treasurer	VE3CVK, Cy Chapman
Directors	VE3UD, Bud Punchard
	VE3CMV, Jim Dean
	VE3GZS, Zyg Skrobanski

The outgoing President, Larry, VE3CRX, reviewed the highlights of the past year.

The incoming President, Penny, VE3ERO, gave her opening speech.

The meeting was adjourned at 2143 hours on a motion by Rick, VE3HVA, seconded by Jim, VE3CIJ.

Maureen Neill, VE3FZY, Secretary.

A NOTE FROM THE PRESIDENT First of all, a wish to all members for a happy, healthy and prosperous New Year. Also, many thanks to the 76 executive for a job well done! From Ski Marathon to Field Day to Exhibition to Club Supper, a good year was due mainly to Larry's excellent leadership.

The Club continues to profit from the experience and past record of Maureen, Cy and Bud. Ron, the '75 President, is a top-notch Amateur with a delightful sense of humour and George volunteers so much of his time to the Club that it's hard to know how he ever fin finds the time to get on OSCAR. '76 was a good year - let's keep up the good work!

A welcome to the new members of the executive - Rick, Jim and Zyg, all people I look forward to working with. I regret that elections force some people to lose but the four not elected are also good people and, since the meeting, have all volunteered to work for the Club in other ways. It will be a pleasure working with them all.

Big is not necessarily best, but it can be! - try to help - at least volunteer your suggestions if not your time - encourage regular users of VE2CRA to join the Club - let us know how to improve - events and meetings, give us ideas for entertainment - participate! Remember that Amateur Radio is a hobby to enjoy - let's keep it that way!

Penny, VE3ERO, President.

THERMAL AND MECHANICAL FREQUENCY STABILITY OF THE ICOM IC-22A

The fact that crystal temperature is an important factor (THE important factor, in most cases) in affecting the frequency stability of crystal-controlled oscillators is hardly an original statement today!

But what many of us with IC-22s or similar Japanese-made solid-state 2m FM transcievers often wonder on these cold winter mornings is,..."Just how far off am I?".

The subject has interested me for some time. Having a reliable frequency counter at home on a recent weekend, I decided to perform an experiment to establish:

1. What is the averaged inherent stability of the crystal and trimmer in the IC-22, given a constant temperature and no mechanical shock or movement of the rig -- in other words, on the bench -- ? If I set it up and record the frequency, down to 10s of Hz, how far will it have drifted off if I come back two hours later and try again -- both counter and IC-22 having been left alone, on and at a constant temperature?

2. To what degree might the transmitter frequency wander, if the rig is subject to an environment of -10 deg. C for a 10-hour period (about what happens when you leave it in the car outdoors overnight)?

3. How long will it take for the rig to recover its proper operating frequency, when returned to the workbench environment of 18 deg. C, and will the drift back to "on frequency" be more or less linear?

The results of my experiments led me to the following conclusions:

1. If you are a perfectionist with VHF equipment and you set up your transmit frequency to a given accuracy, you can expect it may be off on average of 300 Hz the next time you check it, in the circumstances described above (That's before you have even put the case back on or moved the rig back to the car!)

2. While better crystals and good trimmer capacitors exhibited drift as little as 150 Hz, the overnight "deep freeze" treatment (at -10 deg. C) can put you off from 2.2 to 2.8 kHz, in the case of a significant number of channels tested, and an overall average of 1500 Hz for the 16 channels checked. In one case I was off 4.8 kHz! This stood out so far from the average (being twice the deviation of any other channel) that I decided to change trimmers. Result: Only 900 Hz off the next time the method was tried.

3. It took approximately one hour, at room temperature, for the channels affected by the cold weather instability to return, in linear fashion, to within 400 Hz of their proper operating frequencies. This was deemed close enough because, as previously stated, my experience is that you can get that much drift without moving the rig from the bench!

My overall conclusion is that it is wise -- IF YOU HAVE THE TIME AND PATIENCE -- to put that counter on 10 Hz resolution and tweek down to the greatest degree of accuracy possible. Although broad-band repeaters usually won't notice the first few kHz of off-frequency operation of your transmitter, other semi-narrow-band receivers (like the IC-22A, for example) will begin to distort at about a 3 kHz level of disagreement with the received signal. Your counter may be off a bit. Maybe the rig is going to shift 600 Hz as soon as you put it back in the case -- another 200 when you jar it a bit putting it in the bracket. Given the broad temperature variations you're going to encounter until your next session with the counter, doesn't it make sense to START FROM the greatest degree of attainable, or probable, accuracy possible? In my mind it does!

Remember that not everyone's rig is as 'forgiving' as that broadband repeater! If the guy you are working on '52 simplex hasn't set his receiver up very well, he may be receiving on 146.518. He'll never notice it much for most of the time, probably because he's working close paths to his regular pals and they have strong signals. Then on you come. If you're "bang on" at 146.520030 (our example), you'll be only 2 kHz off his receiver and he'll likely copy you without too much ignition noise. Let your rig be "up" a few hundred cycles or so, however, and to him you're almost 3 kHz off. In that situation if he has a narrow-band receiver filter, you're likely to wonder why he's telling you you're "a little noisy, old man", when you're getting him fully quieting.

Time and again the value of careful, patient and at least once-a-year sessions with a reliable frequency counter have proven themselves to me as the most important thing I can do to improve my enjoyment of 2-metre FM -- especially where I like to hang out, on the simplex channels. Remember, the more of your radiated signal that you can "centre" in the passbands of the greatest number of receivers, the better people will copy you. If your transmit frequency is as accurate as possible, your allround reports will be better.

Mike Bryan, VE3CGT

VE1SH TO VISIT OTTAWA IN FEBRUARY Radio Amateurs in the Ottawa region are invited to meet the Canadian director of the ARRL at the regular meeting of the Ottawa Valley Mobile Radio Club, Inc., on February 17, 1977.

Ron Hesler, VE1SH, will be there to address the club and visitors. Ron will be talking about activities of the CRRL, and will also have some thoughts about the International Amateur Radio Union (IARU).

Ron will also take the opportunity of his Ottawa visit to make a special presentation to Holland Shepherd, VE3DV, of Ottawa.

Shep retired last June after serving for six years as the Ontario Section Communications Manager. He'll receive a certificate of merit from VE1SH, recognizing his contribution to amateur radio, and to the league.

The meeting starts at 8 p.m., in the auditorium of the National Museum of Science and Technology, on St. Laurent Boulevard.

Guests are especially welcome to this OVMRC session. -30-

For Further Information: Ron Adams, P.R. Coordinator, OVMRC,
1771 Heron Road, Ottawa, K1V 6A2
Tel. 238-1371 (bus.), 521-0889 (home)

HAWTHORNE ELECTRONICS TO DISCONTINUE ANTENNA SALES Effective 15 January, Hawthorne Electronics of Ottawa (Gord Grant, VE3DY) discontinued antenna sales, both Cushcraft and Hy-Gain lines. The service will be continued in Ottawa, however, by Graham Ide, VE3BYT, at Bytown Electronics, 828-7039, with the same low prices and an extended product line. Gord wishes to thank all those who have seen fit to patronize Hawthorne Electronics and we wish Graham success in the years to come.

CALL-LETTER LICENCE PLATES are now available on a continuing basis. The initial charge of $25.00 is a 'one-shot' charge and the plates need not be replaced until they are no longer physically presentable. All amateurs are urged to advertise amateur radio by sporting these special plates on their passenger vehicle. Application should be made to: Dept. of Transportation and Communications, MacDonald Block, Queen's Park, TORONTO, Ont. Attn. Miss G.E. Graham. Include all details from your present vehicle registration form, front and back, including your present plate number together with the call letters requested, the address from your station licence and $25.00 payable to the Treasurer of Ontario.

STOLEN! A two-metre transceiver, model FM-144-10XRII, serial #5770, made by Kyokuto Denshi Co. Ltd. Any information would be appreciated by the owner, Manny Lightstone, VE3ARU, 729-4282 or 746-4663.

FCC LICENSE FEES SUSPENDED! Effective Jan 1, 1977, all FCC license fees were suspended, including broadcast and commercial as well as amateur and CB. This is not the result of any kindness or compassion on the part of that regulatory body but rather the result of a suit brought by cable TV and other interests, who had charged that the FCC's fee structure was arbitrary and thus improper. Anyone want to bet that it won't last!

(Info from HR Report via RaRa Rag)

WE WISH A SPEEDY RECOVERY to Norm Lewrey, VE3HO, who has been in the Civic Hospital recently but is reported home again and progressing nicely.

ARRL 1977 NATIONAL CONVENTION will be held this year in Toronto at the Sheraton Centre Hotel on June 3,4 and 5. A full program of outstanding events include special programs for Ladies and children, exhibition of world's leading HAM equipment, contests and awards, QCWA luncheon, Royal Order of Wouff Hong, microprocessor forums, outstanding speakers and forums, CLARA luncheon plus a memorable Saturday night dinner and dance. For further details write: '77 ARRL National Convention, PO Box 1011, Station "C", Scarborough, Ontario, M1H 2Z4. This convention is being hosted by the Scarborough ARC and promises to be a 'bang-up' affair and the RSO have cancelled their 'do' this year in deference to the ARRL gathering.

EFFECTIVE HANDLING OF EMERGENCY CALLS TO PUBLIC SAFETY AGENCIES:

--A Matter of Calmness, Speed and Simplicity-- by Mike Bryan, VE3CGT

Twice within a recent 10-day period, I found myself thrust into emergency situations, involving serious motor vehicle collisions, which both occurred on isolated stretches of rural roads.

They teach important lessons about the proper origination and handling of calls for assistance from mobiles to fixed stations -- specifically, about the need for a calm voice, speed and simplicity in getting the police or other appropriate public safety agency notified.

In the first case, on a lonely, snow-swept stretch of highway, I encountered the steaming wreckage of a car in which a fatally injured young man lay pinned. I was without my 2-metre FM rig and touch-tone pad: I'd been too lazy and short-sighted to spend 30 seconds transferring it into my wife's larger car for a family shopping trip over icy roads! Impact had occurred about two minutes before my arrival. 'Someone' had just sped towards the nearest community to telephone for help. Two minutes later, a CBer happened along.

It took this plucky little gal between three and five minutes (God bless her!) to pass a highly-excited, wordy and disorganized message through heavy QRM to the nearest CB base station that could copy. (A later check revealed the responsible police force had not received the call until 15 to 17 minutes after the crash.)

Result?

The victim spent almost 40 minutes pinned in the wreckage, before being removed. The fact that he exhibited no signs of life from the outset is irrelevant. What counts is that he might well have died while a handful of inexperienced and frustrated would-be rescuers clawed helplessly at the twisted metal and cursed their lack of communications.

Needless to say, I'll never venture out in similar circumstances without my 2-metre rig. With it, I could have spoken directly to the police; implored them to get the lead out; put the rush on that ambulance and get some heavy wrecking and rescue equipment on the move!

It should now be obvious that the primary lesson I'm talking about is that what counts, in boxcar letters, is RESPONSE TIME. The difference between life and death is often measured in just seconds -- in the timely or late arrival of an oxygen or hypo-equipped ambulance crew, for example. Response time is the factor by which the pros -- fire department, police and ambulance planners -- measure their own performance. It's also something we amateurs need think about, in the light of our emphasis on public service capabilities as a primary justification for the frequencies we hold down.

And so, with response time in mind, on to my second incident. Let's see how, in retrospect, not to do it.

In front of my eyes, a car, sideswiped by another, sailed out of control.

It soared through the air, off the road, and landed with a sickening crunch at the bottom of a 12-foot ditch. Its occupants emerged, badly-shaken and in mild shock, but able to clamber up the wall of the ditch.

With a long-winded QSO in progress on the local autopatch facility I had been working, I moved quickly to our other major area repeater and called: "Break! Break!", our recognized signal for emergency traffic.

Reaching a fixed station, I asked for a named police force to be notified, passed on a phone number memorized from my police reporting days, stated the location and advised there were no apparent injuries. Fine, so far.

But, failing to recognize my contact's inexperience in handling such traffic, I injudiciously added that he could tell the police a heavy tow truck would be needed to haul the car out of the deep, steep ditch.

What's wrong with that? Simple. I had allowed my voice to rise a bit, exciting him and, perhaps, myself. I overloaded him with information -- exceeding his ability to memorize or write down what was required of him.

Half a minute or so later, while the shaken occupants of the car shivered in the warm shelter of my back seat, he enquired, casually, "Are the police usually responsible for calling the tow truck?".

(Continued on page 5)

EFFECTIVE HANDLING OF EMERGENCY CALLS (Continued from page 4)

"You mean you haven't called them yet?" I asked in exasperation.

"Forgot it." Back to the autopatch.

Instead of explaining to him that the tow truck matter could wait and that he needn't bother wasting time double-checking the phone number I had given him, I secured a break on the autopatch and got my call through.

# # #

From the vantage point of one with a lot of experience working around police stations, and as a former member of our national association of chiefs of police communications committee, let me offer the following tips:

1. Regardless of whether you are originating or handling the emergency call, try to stay calm. It may not always be easy. Even veteran police officers have been known to become excited on the air. But this loss of cool is contagious. It can cut your effectiveness and potential usefulness in half.

2. There are only three things the police want to know: What has happened? Where? Are there any injuries? They are NOT, at least for the moment, interested in how many vehicles are involved, their colour, or the fact that one of them is a '69 station wagon in the ditch. Nor do they really care who you are (unless you are a witness), from whom you're getting the message, or that you're passing this traffic thanks to your brand new two-metre FM rig (of which you're so proud!)!

We amateurs are understandably anxious to claim credit for our public service deeds, especially in the light of public indifference and ignorance concerning the differences between the CB and amateur services. But for heaven's sake, claim that credit after you've hung up with the police!

Don't diminish your credibility and waste response time by making a big thing of the fact that "...the following message is coming your way courtesy of amateur radio!"

The police, they tell me, have "had it up to here" with kookie flashing-light-on-the-roof types who thrive on gore. Such people are noted for two things: 1. They tend to fall over one another, filing exaggerated reports on accidents that the neighbourhood housewife at the corner reported 10 minutes ago. 2. They are more interested in "playing accident reporter" than with the smooth, professional handling of vital emergency information which has as its first objective the relief of human suffering and hazard to life.

3. After you've got your basic facts across, give the dispatcher a chance to get his unit(s) on the way and use his direct lines to ambulance or fire crews. Then, if the mishap looks really serious, offer to provide further information or keep the communications link to the scene open.

4. Information which should then be passed should be handled in roughly the following order: The number and apparent severity of injuries (avoid absolute statements such as "no injuries..." or "very badly...". Even doctors wouldn't venture such opinions so quickly.); the number of injured parties; whether there is gasoline spillage or hydro damage; whether other utility cables or light standards have been knocked out and the number of vehicles involved. But bear in mind that many police forces prefer to have their own man size up the scene and call in such traffic himself. With good reason! They've heard enough from excited kooks who have no concept of what constitutes the vital information and how to handle it. -30-

A TIP FOR THE WORKBENCH A square of sponge rubber carpet underlay is a handy thing to have on the workbench under a piece of electronic equipment when you are working on it. It provides a non-slip surface for holding a chassis or circuit board and if the dimpled side is up, nuts, bolts, other little bits and the pencil soldering iron will not roll off onto the floor. Bill Wilson, VE3NR

HAMFEST '77, sponsored by the All Saints Amateur Group at Saint Andrews-by-the-Sea, is scheduled for Sept 3,4,5, 1977. A family-holiday hamfest with an International flavour is planned and further details can be obtained from: Hamfest '77, R.R. 325-8, Rothesay, New Brunswick, Canada, E0G 2W0.

THREE FAITHFUL FRIENDS: An old wife, an old dog, and READY CASH!

ESPERANTO - More About Its Regularity and Consistency by Bruce Spanton, VE3BRS

For many years we have been led to believe that English was spoken everywhere; that it was the language of world commerce, of tourism and science. Some people believe this claim for English has been greatly exaggerated. But if it was true to some extent, it was not because English was a better, more efficient language, or because it was easy to learn. In fact, English is one of the more difficult languages to learn, and we should have some tolerance and sympathy for those who have to learn it as a second or third (foreign) language. The late Bernard Shaw was once asked why he had never aquired a second language. His reply was that he didn't have the time. He had had to study English all his life in order to be good at it.

The popularity or predominance of English has been declining in recent years for reasons we do not have space enough to discuss here. Nevertheless, anyone who has travelled much overseas, must surely have found many places where few people can speak English, and fewer still can speak it well enough for really good communication. In this "age of communication" we should not easily be satisfied with hearing a clumsy smattering of our mother tongue from foreigners. We should desire to have some good converstaion with people in any country we find sufficiently important and interesting to visit. Therefore, those of us who are not clever enough to learn well two or three extra languages, should welcome the chance to learn, to use and to help popularize one easy inter-language for the whole world.

For anyone intending to travel in foreign countries, or expecting to attend international conventions, time spent now on the study of Esperanto could be quite rewarding. For example, of the many organizations that hold regular international conventions or conferences, twenty-four already have only one official language - Esperanto - at their international meetings. Many other organizations which have three, four or five official languages, have Esperanto as one of those official languages.

Esperanto is very easy to learn when compared with the difficulty encountered with other languages. Let us consider just one of the several features designed to make Esperanto easy to learn. I refer to the regular and consistent method of pluralizing a noun. But first let us examine English for the sake of comparison. We find many exceptions in English to the rule of adding the letter "S" to make a word plural. A lifelong student and teacher of languages, who became an Esperantist, has expressed this criticism of English as follows:

"We speak of a BOX and the plural is BOXES
But the plural of OX is OXEN, not OXES.
You may find a lone MOUSE or a whole nest of MICE
But the plural of HOUSE is HOUSES, not HICE.
If the plural of MAN is always called MEN,
Why shouldn't the plural of PAN be called PEN?
When I speak of a FOOT and you show me two FEET,
And I give you a BOOT, would a pair be called BEET?
We speak of a BROTHER and also of BRETHREN,
But though we say MOTHER, we never say METHREN."

Without such an illustration you might seldom become aware of how irregular English is, and how difficult it is for people to learn it as a foreign language. In Esperanto there is only one way to pluralize a noun. You add the letter "J" (pronounced like the English letter "Y") to the singular form. Example: LANDO - country, LANDOJ - countries. There are no exceptions to this rule.

There are, of course, many other difficulties encountered in learning English because of the exceptions and irregularities. These will be discussed in a later article to show you, in contrast, how consistent and logical Esperanto is. VE3BRS

THE ANNUAL CANADIAN ESPERANTO CONGRESS will be held on Easter weekend (April 8-9-10) 1977 in Victoria B.C. Usually a few Americans attend as well, just as a few Canadians attend the U.S. Congress.

A COURSE IN ESPERANTO is being given by Algonquin College, Heron Park Campus, on Wednesday evenings at 7:30 PM, having begun on January 19.

AN ESPERANTO AMATEUR NET meets on 14266 kHz every Monday at 1800 GMT.

IN A NUT SHELL (Continued from page 8)

TVI. It is slowly coming back now with the aid of better-built commercial gear and is a retreat from the well-populated 2 metre band.

2 metres - FM and repeaters is the name of the game here although other modes will be found. The majority of operating is done from low power rigs working through a "repeater" station which greatly increases the range. Most amateur mobile stations are now using this mode and band due to freedom from noise, small-sized equipment, short antennas and aid in range from the almighty repeater. The low end of the band is used by satellite users together with SSB and CW enthusiasts.

220 MHz - This band is almost identical to 2 metres with its short range and freed freedom from noise. It is just recently gaining popularity, especially in areas of high population density where space on 2 metres is at a premium.

450 MHz - This is our lowest UHF band and like 220 MHz, it is just starting to "blossom". Like all VHF bands, it is usable 24 hours a day and should prove useful for local range communications. It is also used by those working moon-bounce.

This concludes the resume of the ten most popular bands. Next month we will look at antennas, power, modes, station set-up and equipment servicing.

THE CANADIAN SKI MARATHON is being held this year on Feb. 26 and 27. The OARC are again providing communications for this 100-mile event from Lachute to Hull and volunteers are still needed for both days. If you can help on either, or both, days, contact Larry, VE3CRX, at 824-3753 or 993-3238. There will be six checkpoints on each of the two days of the tour which will require communications, there will be data collection stations at Hawkesbury on the Saturday and at Hull on the Sunday, stations at Papineauville and Montebello and a Net Control Station at Thurso plus two or three mobiles for the use of Marathon Safety Officials. The network will handle three types of traffic - safety, data (skier times) and administration. Most points will be operating two stations at once with the resulting interference and desensing problems. An innovation this year will be an attempt to handle the data by RTTY punched tape so that it can be fed directly into a mini-computer to do all the laborious calculations for the Marathon officials. Yet another scheme will be tried to provide communications between Hawkesbury and the elusive Checkpoint 5. This is the name of the game, however, innovation and experimentation, operating under field conditions, and gaining expertise in what our equipment can, and cannot, do. The Marathon certainly provides us with ample opportunity to do our thing.

RUMOUR HAS IT that John, VE3CPY, is moving to the West Coast in the near future. We are sorry to lose John from our midst but wish him well in this new venture in life.

THINGS TO THINK ABOUT Several ideas, proposals, etc. have been mentioned for Club activities and projects. What should we be doing as a Club? Should we consider an advanced technical seminar series geared to preparing members for the Advanced exam? Should we consider a beginners course for those young people who find that they cannot attend or keep up with the courses at Algonquin College? Are there any changes required to the Club constitution? Should we send code practice on VE2CRA? Should we set up a co-ordinating committee to gather evidence on the increasing interference and illegal operation in the 28 MHz band? Should we.....

MEMBERS ARE REMINDED that VE2CRA has been made available to the Bell Telephone Pioneers on February 5, 1977 for their use in providing communications for the Civitan Snowmobile Rally (Sno-Doo). They expect to require its use periodically throughout most of the daylight hours and members are asked to govern themselves accordingly. TNX

THE ST. LAWRENCE VALLEY REPEATER ADVISORY COUNCIL met in Kemptville on Sat. January 22 with approximately 25 representatives in attendance. This good attendance represented such places as Montreal, Deep River, Kingston, upstate New York, Seaway valley and the Ottawa-Hull regional area. A good exchange of thoughts and ideas resulted and plans for several new repeaters were presented. However, nothing is available for publication at this time.

IN A NUT SHELL by Rob Bareham, VE3ACY

When a person starts out in Amateur Radio, he has at his disposal many publications and articles which will tell him how to get a ticket and how to set up a station. There are whole books written on what procedure to use and what to say, but put yourself in the position of the new-comer and you will soon realize that these are only a small part of what you will need to know. What the experienced Ham fails to see, when he is instructing a novice, is that what is common knowledge to him is all "Greek" to the new-comer. The following is common knowledge to one who has been active a few years but is intended to show the novice, "in a nut shell", what is going on.

It is a known fact that whatever type of operating the new-comer is introduced to, that is the type of operator he will turn out to be. For example, if the new fellow is introduced to Ham Radio by an avid traffic man, the chances are that he will also be a traffic man; if it is a DXer who shows him what Amateur Radio is all about, the chances are that he will also be a DXer. The same applies for VHF, Rag Chewing, Contesters, etc.

The new-comer needs an unbiased look at all types of operating and an idea what to expect on different bands, modes, etc. so he can choose for himself or at least get a general idea what goes on where. This article is not intended to be technical or completely accurate but should be used as a general guide only.

There are ten bands in popular use. These range from the MF (medium frequency) band known as 160 metres to our lowest UHF (ultra-high frequency) band at 450 MHz (70 cm.). The following will generalize what is to be found in each of these bands.

160 metres - Here we have a band which will give dependable coverage 24 hours a day over short distances with medium distances easily covered during the dark hours. It is a shared band with other services and is relatively unpopulated due to the fact that very long antennas are required and commercial equipment has not been readily available until just recently.

80 metres - This is probably the most popular of the HF bands. Like 160, it is mostly active during the dark hours. Most traffic nets will be found here along with rag chewing in almost every mode. During the light hours, it is useful only for short ranges (under 500 miles) with moderate power but up to 1500 miles are not uncommon during dark periods.

40 metres - This is probably our most versatile band and is a real CW man's meeting-place. In the bottom 50 kHz or so you will find DXers and contesters. Up a little farther are the CW rag-chewers and up a little farther still are the Novices. Still farther up is the phone portion and many interesting rag-chews occur here. The big downfall with this band is the QRM from commercial short-wave broadcast stations which pretty well take over the band at dusk and make QSOs most difficult. The bottom CW portion, however, is open 24 hours a day and contacts can be expected from 25 to 6000 miles depending upon the time of day.

20 metres - This is a DX haven and is primarily a light-hour band. Contacts can easily be made around the world on moderate power and the band is second in popularity only to 80 metres. The lower 20 kHz portion is the CW DXer's land and above 14.100 are the phone men. Above 14.200 it's hard to find an empty spot. All types of communications take place on this band and the big advantage is the long range possible for the greater part of the day.

15 metres - This band is also very effective for long-range communication but for short distances it is almost useless other than for ground-wave coverage. However, it is only "open" at certain times and usually only during the light hours.

10 metres - At certain periods (the peak of the sun-spot cycles) this is a great DX band but has been "closed" much of the time recently and very few people use it. When it does open, however, long-distance contacts on low power are very common. Very little QRN is encountered and if one keeps an eye on it, one is in for some very pleasant surprises when it opens. It is often used for local contacts of 20 miles or so and near the high end is found a down-link from the OSCAR satellites.

6 metres - This band is much like 10 except that it's openings occur even less frequently. It is the lowest VHF (very-high frequency) band and carries very unusual propagation characteristics at times. It was once the most popular VHF band but the majority of stations have now left for 2 metres because older equipment was very prone to

(Continued inside back cover)

IN A NUT SHELL (Continued from page 8)

TVI. It is slowly coming back now with the aid of better-built commercial gear and is a retreat from the well-populated 2 metre band.

2 metres - FM and repeaters is the name of the game here although other modes will be found. The majority of operating is done from low power rigs working through a "repeater" station which greatly increases the range. Most amateur mobile stations are now using this mode and band due to freedom from noise, small-sized equipment, short antennas and aid in range from the almighty repeater. The low end of the band is used by satellite users together with SSB and CW enthusiasts.

220 MHz - This band is almost identical to 2 metres with its short range and freed freedom from noise. It is just recently gaining popularity, especially in areas of high population density where space on 2 metres is at a premium.

450 MHz - This is our lowest UHF band and like 220 MHz, it is just starting to "blossom". Like all VHF bands, it is usable 24 hours a day and should prove useful for local range communications. It is also used by those working moon-bounce.

This concludes the resume of the ten most popular bands. Next month we will look at antennas, power, modes, station set-up and equipment servicing.

THE CANADIAN SKI MARATHON is being held this year on Feb. 26 and 27. The OARC are again providing communications for this 100-mile event from Lachute to Hull and volunteers are still needed for both days. If you can help on either, or both, days, contact Larry, VE3CRX, at 824-3753 or 993-3238. There will be six checkpoints on each of the two days of the tour which will require communications, there will be data collection stations at Hawkesbury on the Saturday and at Hull on the Sunday, stations at Papineauville and Montebello and a Net Control Station at Thurso plus two or three mobiles for the use of Marathon Safety Officials. The network will handle three types of traffic - safety, data (skier times) and administration. Most points will be operating two stations at once with the resulting interference and desensing problems. An innovation this year will be an attempt to handle the data by RTTY punched tape so that it can be fed directly into a mini-computer to do all the laborious calculations for the Marathon officials. Yet another scheme will be tried to provide communications between Hawkesbury and the elusive Checkpoint 5. This is the name of the game, however, innovation and experimentation, operating under field conditions, and gaining expertise in what our equipment can, and cannot, do. The Marathon certainly provides us with ample opportunity to do our thing.

RUMOUR HAS IT that John, VE3CPY, is moving to the West Coast in the near future. We are sorry to lose John from our midst but wish him well in this new venture in life.

THINGS TO THINK ABOUT Several ideas, proposals, etc. have been mentioned for Club activities and projects. What should we be doing as a Club? Should we consider an advanced technical seminar series geared to preparing members for the Advanced exam? Should we consider a beginners course for those young people who find that they cannot attend or keep up with the courses at Algonquin College? Are there any changes required to the Club constitution? Should we send code practice on VE2CRA? Should we set up a co-ordinating committee to gather evidence on the increasing interference and illegal operation in the 28 MHz band? Should we.....

MEMBERS ARE REMINDED that VE2CRA has been made available to the Bell Telephone Pioneers on February 5, 1977 for their use in providing communications for the Civitan Snowmobile Rally (Sno-Doo). They expect to require its use periodically throughout most of the daylight hours and members are asked to govern themselves accordingly. TNX

THE ST. LAWRENCE VALLEY REPEATER ADVISORY COUNCIL met in Kemptville on Sat. January 22 with approximately 25 representatives in attendance. This good attendance represented such places as Montreal, Deep River, Kingston, upstate New York, Seaway valley and the Ottawa-Hull regional area. A good exchange of thoughts and ideas resulted and plans for several new repeaters were presented. However, nothing is available for publication at this time.

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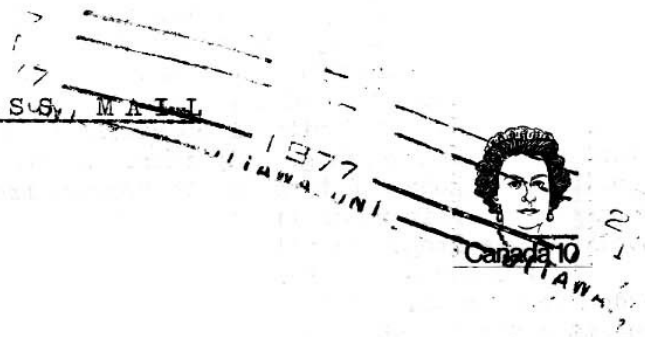

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