

the Groundwave

PUBLISHED BY THE OTTAWA AMATEUR RADIO CLUB, BOX 8873, OTTAWA, ONT. K1G3J2

F E B R U A R Y 1973

THE FEBRUARY MEETING OF THE OTTAWA AMATEUR RADIO CLUB WILL BE HELD ON WEDNESDAY FEBRUARY 7, 1973, IN THE AUDITORIUM OF THE NATIONAL RESEARCH COUNCIL, SUSSEX DRIVE, AT 8pm. COFFEE WILL BE SERVED AFTER THE MEETING.

I'M SORRY I SUGGESTED THE MOVE TO ROOM 3001 LAST MONTH. IT WAS RATHER BAD TIMING.

THIS MONTH, MIKE, VE3BYO, IS GOING TO GIVE A TALK ON FET'S. (GUESS EVERYONE HAS THEIR FETISH) THESE LITTLE DANDIES WILL PROBABLY DO AWAY WITH TUBES EVENTUALLY, SO WE WILL HAVE TO PAY CLOSE ATTENTION.

THIS MONTH, I WELCOME TWO ASSISTANT AND ONE ASSOCIATE EDITOR TO THE RANKS. DAVE PARKS, VE3GSA, AND GORDY GRANT, VE3DY, (FORMER EDITOR) ARE THE ASSISTANTS, AND GARY FIERCE, VE3CFE IS THE ASSOCIATE EDITOR. I WOULD ALSO LIKE TO THANK VE3GDV, UD, AZY, BTS, CDC, AND THERESA (HINDLE) STANLEY WHO TYPED THE STENSILES FOR FREE, OR SO SHE THOUGHT! THIS IS A CLUB EFFORT EDITION. TNX.

DOUG, VE3CDC, TELLS ME THAT WE MAY HAVE SOME INTERESTING GUESTS AT THIS MEETING. PERHAPS THE PRES. OF CARF?

TURN THE PAGE AND SEE WHAT A CLUB BULLETIN SHOULD LOOK LIKE.

THE OFFICIAL BULLETIN OF THE OTTAWA AMATEUR RADIO CLUB, AN ASSOCIATION OF RADIO AMATEURS DEVOTED TO THE PROMOTION OF AMATEUR RADIO IN THE OTTAWA REGIONAL AREA.

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234-8765
PUBLISHER CY CHAPMAN, VE3CVK. 731-6172
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CLUB NET "THE CAPITAL CITY NET". AT 2000 HRS.
LOCAL TIME ON CLUB REPEATER VE2CRA,
INPUT 146.460 OUTPUT 146.940.
VE2CRA IS MONITORED DURING BUSINESS
HOURS BY VE3CGO, DOREEN MORGAN.



MINUTES OF THE MEETING

The regular monthly meeting of the OARC was opened by President George Roach at 2010 hours on January 3, 1973. He extended a welcome to visitors from Vancouver and Victoria, B.C. and to DK3 MO.

The minutes were drawn to the attention of the membership. VE3 FFW made a motion they be accepted, seconded by VE3 BYO. **CARRIED.**

Membership Chairman VE3 EYJ reported 178 paid-up memberships and 45 paid-up associate members. 87 members have not renewed. February 7 will be the cut-off date for the membership directory. Membership cards will be issued at the same time.

Groundwave Editor VE3 ARS is still looking for an assistant and he would also like articles of a non-technical nature for the Groundwave.

Construction Chairman VE3 CUA reported on the current project (an FM receiver). He reports that the project is going well and that we can obtain a better price if we order \$500 worth at once. This would be 12 orders. The price would then drop from \$60 to \$42 & tax and duty. Ray also reported on several QSL's he has received from his satellite work. President VE3 BNO presented Ray with a scroll for his work in organizing the December equipment display.

VE3 BTS Sonny reported for the repeater committee. \$212 was spent last year, however, more money is needed this year for repairs and up-grading of the 450 repeaters.

It was reported that VE3 QB Larry has the license for the 10 meter beacon VE3 TEN at 28.175 MHz for one sunspot cycle. The beacon puts out a continuous carrier with identification by a frequency shift.

Treasurer VE3 DIH is still holding some auction money for members who wish to collect it.

VE3 BDO Dr. Kaycock presented a most interesting talk and slide show on the Arctic. His first visit was a one year isolation posting in 1926 to Pangnirtung on Baffin Island. Last year he paid a return visit and the resulting comparison made for a Very interesting evening.

The meeting adjourned for coffee and informal discussion at 2200.

Secretary,
Marj Zuba.

EDITORIAL

I don't know if I have the room to write one, but here goes. This month the majority of the Groundwave was written by you, the members of the OARC. I don't know what did it, but from what I can gather, we are a rare publication this month. The Editor gets to keep his mouth shut for once. Please, however, keep it up. Write on anything you can think of. Funny QSO's memories, beefs, etc. It all helps. But don't be shy. There is no need to be. We are all in the same boat. We all do not write like Hemingway.

Cary VE3 ARS

P.E.I.

I've scooped just about everyone with this. For their centennial year, Prince Edward Island amateurs can use the call CI 1 followed by their last two or three original call letters.

SET-73

This year, Ottawa scored a rather dubious record for the SET, January 27/28. We did not wholly participate. However, let's not jump on anyone for it. It was just bad planning but let's not forget SET-74. Talk to VE3 VP (Howard) about it.

DISASTER - SOUTH

Ron, VE3 AUM, received many lauds for his participation in the Managua disaster

including National recognition.

One of his main complaints, however, was the lack of amateur co-ordination. The people who should have been there to help, were else where.

It may have been Christmas up here, but it was hell on earth down there, and we, as amateurs were in a better position than anyone to help.

I must hide my head in shame as well, being a long time member of NTS, but I had my reasons for not participating. (No rig, and impending exams and essays due.) However, the attitude I received from the majority of my friends in the NTS was "Too busy," "Aw, it's Christmas and the kids are down," "Didn't know," "Too busy preparing for SET-73!" It's too bad that one, if not the most efficient aspects of Amateur radio fell flat on its face. The NTS was preparing for a simulated emergency, and lifted a token effort for a real emergency. Shep, our SCM, was a big offender when he asked who was doing what, rather than, what can I or we do to help. It's no use denying this fact because the proof is there if you care to ask the participants from this area. Ron personally thanks VE3 EMO and VE3 VP for their able assistance. All amateur radio thanks Ron Belleville VE3 AUM.

Much more next month

VE3 ARS

QSL's

Scanning the lists of those hams in our area who have QSL's in the QSL Bureaus waiting for them, I can't help wondering how many other Bureaus are bogged down. The list is too long to put in this edition, however.

VE3 KF

Jim Swail, VE3 KF, fell down the basement stairs a few weeks ago and is recovering. We all wish him well and a speedy recovery. Jim is a white caner by the way.

CIVIC VISITS

Maureen Neill, VE3 FZY, works at the Civic Hospital and is very willing to visit any ailing hams who might end up there. If you know of someone, give her a call. 233-9941.

GROUNDWAVE POLL

Recently, Groundwave tried to learn your opinions regarding expansion of the Canadian H.F. phone bands. For the uninformed, the fact of expansion has been brought about by the FCC's Docket 19162 which has permitted U.S. Amateurs to use a larger portion of the H.F. phone bands. In particular on 75, they have now moved down to 3775.

The response to this survey has been minimal to say the least, however, it would tend to indicate that sixty per-cent of our subscribers favor expanding the Canadian portion of the H.F. bands to compensate the results of Docket 19162. Canadian expansion would take away from the CW portion of the band. Maybe you feel we ought to shove CW types down a few KC anyway. The CW portion of the band is used to its fullest. You obviously haven't observed the countless amount of traffic the CW boys handle.

How much would such expansion affect CW operation? There are probably about 7,500 advanced licence holders in Canada who operate H.F. I wonder how much QRM this would give our CW ops?

Are you still brooding over Docket 19162? The simple truth of the matter is, that there are 200,000 licenced amateurs in the U.S.A. and 12,000 in Canada. Even after this American Expansion we are still licenced to use a larger portion of the H.F. bands.

We haven't been forced to give up H.F. frequencies rather to share them. I wonder what "Shep" would say to sharing some of those C" frequencies? Is it really

necessary?

You should try to form your opinion on this expansion question, the DOC may be around soon to tap your brain.

Gary Pierce
VE3 CFE,

A TRANS CANADA "HAPPENING"

A rather unique happening occurred on the evening of December 9, 1972 on 3.772 MHz beginning about 0300 GMT. But VE3 UD in Ottawa, heard Web VE4IE in Thompson, Manitoba in QSO with Al VELARD St. John, New Brunswick, both with 5/8 SSB signals. Recognizing fairly long skip conditions, Budbroke in to tell them they were loud and clear. Al said "good evening" and signed off (too soon); and then Web said he had worked all Canadian districts on this band except VO1 and VO2. He asked Bud to call for a station in those districts on his behalf. Nate VO1NP in St. John's, Newfoundland immediately replied and reported he could hear Web but Web couldn't copy him very well. In the meantime VELALP Stan in Weymouth, Nova Scotia, called in to replace VELARD. While information was being passed back and forth, VE7 BYR Hugh in Kinnaird, B.C. broke in to say he was receiving all stations. At once it was decided to see if all Canadian districts could be raised. Acting as Net Control, Bud began calling for VE2, VE5 and VE6 stations, and almost immediately had calls from Real VE2BAO in Montreal, Al VE5RU in Yorkton, Saskatchewan, and Doug VE6ALU in Northern Alberta. Imagine the surprise when VEONEA, the HMS Yukon, anchored in Bermuda with Jim at the mike, broke in to report he was copying everybody! Now only a VE8 in the Yukon or Northwest Territories and a VO2 was needed. VE5RU said he thought he could find a VE8 down the band, and lo and behold, a few minutes later VE8PS Carl was on Frequency! By 0400 GMT stations all over Canada and U.S. began to cotton to what was happening. By 0430 GMT there were 24 Canadian stations on the frequency including other VE7's, VE6's, VO1's, VE2's and VE3's. With no prearrangement, all Canada, except VO2 in Labrador, was on frequency at the same time. Unfortunately, the frequency was out of band for the U.S. hams but conditions were such that perhaps all Canadian and U.S. districts could have been worked on a slightly higher frequency at one time! How about that for 80 meters!!!

VE3UD
'Bud' Punchard, Ottawa,
Ontario, Canada

I've been hearing quite a bit about Bud lately. All good too. I know from first hand experience that what happened to him can happen to anyone. Try the lower band some time. Put up with SSB splatter, and broaden your QSL file.

ANYWHERE REPEATER OPERATION FOR BEGINNERS

What frequency is used on -----? What is the local ragchew frequency in -----? This is a phrase commonly heard on the repeater these days particularly by newer amateurs. This is the first of a series of articles to help clarify the situation. We will list some of the more active repeaters plus local ragchew frequencies starting with the area within 200 miles of Ottawa.

If you have a 2 channel rig and travel quite a bit, it is recommended you crystal up with 146.460 and 146.340 MHz transmit and have the receiver crystallized with 146.940 and 147.060 MHz. If you look at the list of repeaters below you will see why. Grant you, it may mean switching back and forth but I think most of us are capable of at least that much effort. If you do not travel very much then it is recommended you have 146.460 and 146.760 MHz transmit with 146.940 and 146.760 MHz receive. This will allow you to use the local repeater plus the local ragchew frequency. Some say what about the range. Well, if you have monitored the repeater

you will find that the range is quite extensive with only 12watts output. As far as the ragchew channel goes, it depends on power and antenna. 20-25 miles on direct is by no means exceptional. 146.940 MHz transmit/receive is not recommended in the Ottawa area for several reasons, firstly you stand the chance of being clobbered by the repeater because someone cannot hear you and secondly it quite often happens that the second person has to use the repeater and therefore, it makes it difficult for someone to break in.

In the Toronto-London area there are several repeaters on split channel operation. VE3KSR (Kitchener-Waterloo area) is an example. It has an input of 146.370 and outputs on 146.970 MHz. If a person were to have to buy all the crystals required for split channel it could amount to a great deal of money. Apparently, there is an easier way. I have not tried it personally but I have been assured that it works. All that is required is crystal switching in the high IF stage. You will have to purchase 2 crystals, one 30 KHz higher than the present if, and the other 30 KHz lower, a rotary switch and some wire plus a little labour. Install the crystals on either side of the present IF crystal, install the switch on your front panel and mark it PLUS-NORMAL-MINUS and behold you have split channel reception. Transmit presents a little more of a problem, however, most split channel repeaters have the capability of normal inputs as well as their split channel.

Now for some repeater and ragchew channels. The basic ragchew frequency in the Ottawa area is 146.760 transmit and receive. It is used by both mobiles and base stations. Quite a few base stations are now doing all their rag chewing on 146.760 which is a good sign. I personally feel that base to base operation should be done on the direct channel leaving the repeater for mobile to mobile, mobile to base and base to mobile operation. There is nothing wrong with monitoring the repeater and if someone calls you from another base station and you know they have ragchew frequencies ask them to change over and continue from there. Another direct frequency is 146.520 which is commonly used by the locals between Ottawa and Deep River. Repeater frequencies are as follows:

VE2CRA - Ottawa	Input 146.460	Output 146.940
VE3STP - Renfrew	Input 146.340	Output 147.060
VE3KBR - Roblin (Belleville)	Input 146.460	Output 146.940
VE3KER - Kingston	Input 146.340	Output 147.060
VE3RPT - Toronto	Input 146.460	Output 147.060
VE2RM - Montreal	Input 146.400	Output 147.180
VE2ZO - Montreal	Input 146.460	Output 147.060
VE2TA - Montreal	Input 146.580	Output 147.500

Next month we will list a few more both East and West and show you an easy way to set up your multi-channel rig for best operation. If, in the meantime, there is a specific area that you are interested in feel free to give me a call.

73s VE3BTS

Most of you know Sonny because most of you got on VE2CRA. Thanks to Sonny four are still on the repeater frequency due to Sonny's efforts. He tunes up a mean receiver, too! I should know.

(ed.)

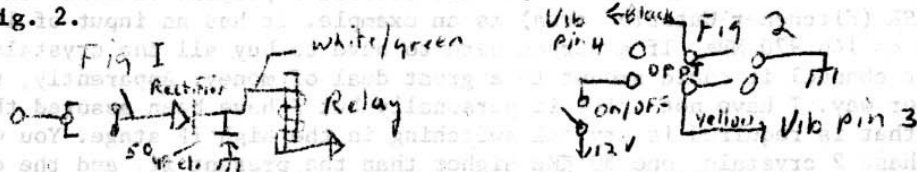
AC DC DT23

For those who are too poor to afford both a mobile and base station, the DT-23 can be easily modified to serve both purposes.

The following simple changes are required:

- 1) Install a rectifier (point arrow towards relay)(for neg gnd cars) and a 50yfd, 50 volt capacitor (values not critical) between on/off switch and white/green wire running to relay as fig 1.

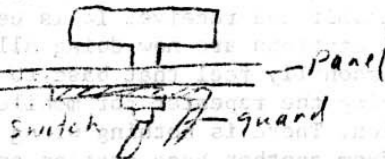
- 2) Install a DPDT switch on front panel above volume control (leave room for vibrator removal if required).
- 3) Run a lead from vibrator lead #4 at feed thru capacitor (black wire) to centre pole of top side of switch. Connect top right pole to ground. As fig. 2.
- 4) Disconnect yellow lead at on/off switch that runs to vibrator #3 feed thru and connect to bottom centre pole of new switch. Connect bottom left pole of switch to on/off switch where yellow lead was disconnected as fig. 2.



To operate as base, throw switch to right and connect 12 Volt AC to regular power terminals.

To operate as mobile, throw switch to the left and connect 12 Volt DC to regular power terminals.

A note of caution, a guard should be installed on AC/DC switch to prevent inadvertent movement of switch which when use on AC can apply 12 AC to vibrator.



Cliff Moffett
VE3FZX

Another article similar to this one appeared recently in the GW, but I thought that perhaps it wouldn't hurt to run Cliff's article as it adds a few new twists to an old theme.

LINEAR INTEGRATED CIRCUITS PART II More on OP-AMPS

by Colin Rowe VE3AZY

In the last section, I discussed the operational amplifier connected in the inverting configuration. Consider now the amplifier connect in the non-inverting mode as shown in fig. 1.



The voltage at the inverting terminal is simply a proportion of that at the output determined by the resistors R₁ and R_{fb} or mathematically:

$$V_s = \left(\frac{R_1}{R_1 + R_{fb}} \right) E_{out} \quad \text{---(1)}$$

This is true because no current flows through the input terminals of the operational amplifier.

The output voltage is the open loop gain "A" times the voltage difference between the inverting and non-inverting terminals or:

$$E_{out} = A (E_{in} - V_s) \quad \text{---(2)}$$

If we eliminate the voltage V_s from the second equation, we can obtain the ratio

$$\frac{E_{in}}{E_{out}} = \frac{1 + R_1}{R_1 + R_{fb}} \quad \text{---(3)}$$

For a very large open loop gain A , the first term in equation 3 becomes small, i.e. The voltage gain becomes

$$\text{Voltage Gain} = \frac{E_{out}}{E_{in}} = \frac{1 + (R_{fb})}{(R_1)} \quad \text{---(4)}$$

As before we note the voltage gain is dependent only upon the values of the two resistors R_{fb} and R_1 . This statement is only valid where the open loop gain is high (at the lower frequencies in the amplifiers frequency range). Note also that a simple modification of equation 4 shows that the circuit connected as shown in fig. 2 is simply a voltage follower.



Fig 2 Voltage Follower

(Try putting $R_{fb} = 0$, R_1 then $E_{out} = E_{in}$).

In our discussion to date, I have considered only resistors as feedback elements in amplifier configurations. The theory discussed so far, is valid if we replace the resistors with more general impedances. In this way, many non-linear functions can be obtained using operational amplifiers. To digress on this subject a moment; the current through a diode depends exponentially upon the applied voltage. By using a diode as the feedback element in an operational amplifier configuration, a circuit whose output voltage depends upon the logarithm of the input current can be obtained. (This can be quite useful in using a linear voltmeter to display a power scale in decibels).

THE SUMMING AMPLIFIER

Let's look at an extension of the inverting amplifier discussed in Part I as shown below in fig. 3.

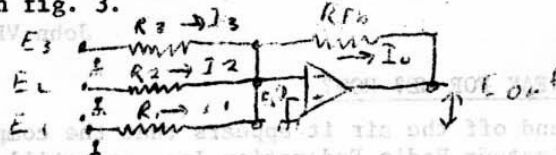


Fig 3 Summing Amp.

The currents through the input resistors are:

$$I_1 = \frac{E_1 - E_s}{R_1} \quad (1); \quad I_2 = \frac{E_2 - E_s}{R_2} \quad (2); \quad I_3 = \frac{E_3 - E_s}{R_3} \quad (3)$$

The output current is given as:

$$\frac{E_s - E_{out}}{R_{fb}} = I_0 = I_1 + I_2 + I_3 \quad (4)$$

The source voltage E_s is:

$$E_s = - \frac{E \text{ out}}{A} \quad (5)$$

which becomes vanishingly small as the open loop gain "A" becomes large, i.e. E_s is negligible.

Solving for E out from (4) gives:

$$E \text{ out} = - E_1 \frac{(R_{fb})}{(R_1)} - E_2 \frac{(R_{fb})}{(R_2)} - E_3 \frac{(R_{fb})}{(R_3)}$$

This result shows that the output voltage is a weighted sum (depending on the feedback resistors) of the input voltages E_1 , E_2 and E_3 .

To date, we have examined ideal operational amplifiers - those having infinite open loop gain. In the next part of this series, I'll attempt to discuss some of the OP AMP specs and effects of finite gain. As in the logic series, I am relying upon you, the reader, to provide feedback in order that this series can be directed towards some use.

VE3TEN - OTTAWA HAS A 10 METER BEACON.

As of the 2nd of January 1973, VE3TEN began 24 hour operation on 28.175 MHz, sending a 45 second carrier and 10 second call sign identification in slow C.W. To receive the call sign properly, the receiver must be in upper side band mode, because the carrier shifts down some 850 Hz and returns for the duration of each C.W. bit, try L.S.B. if you must, everything is reversed. The Ottawa beacon joins a rather elite group which includes:

DLØIGI on 28.200 from Bavaria, Germany, 3B8MS on 28.190 from the Mauritius Islands and GB3SX on 28.185 from Sussex, England. Listening for these transmitters is one way to follow this band's unpredictable openings. The Ottawa rig was an inspiration of IARU (Region 2), requested by RSGB, DARC and others, funded by A.R.R.L., but the credit for construction and maintenance fell on Larry VE3QB. The operational success can be measured by reception reports in Europe and Doppler Shift Recordings of a recent meteor shower.

10 METER UPDATE

Look for the novices on 28.100 to 28.200, better openings for the next few months and some sporadic "E" openings down the Eastern Seaboard (W4-LAND). So give it another try.

John VE3GDV

CARF? WHAT IS IT? DOES IT SPEAK FOR ME? HOW?

From various discussions and off the air it appears that the composition and objectives of the Canadian Amateur Radio Federation Inc. are still either unknown or misunderstood by some. At the risk of seeming repetitive it is pointed out that the Federation is just that, a federation of provincial radio societies, compose its corporate, voting, full members. The directors and executives are democratically elected by the member societies either through their sending a representative from their societies or instructing a provincial delegate resident in Ottawa and other centres near the Ottawa area as to their wishes. These delegates are amateurs originally from the province they represent and they ensure the views of their parent society are represented at the annual meeting and election of officers.

The delegate systems is necessary because in many cases the society officials cannot afford the time to attend and the expenses would be beyond the present CARF budget if they all could attend.

Funding the Federation is a perennial problem and is underwritten by the member provincial societies which allot 25 cents per society member to CARF support. Up until now, this has just barely covered costs of travel for those who could attend the annual meeting. In fact, the travel expenses for the two executive meetings are borne by the executive and committee chairman themselves.

The objectives of CARF have been printed before but to correct the impression voiced by some amateurs "CARF doesn't represent ME" here is the related objective of the Federation. "To act as a liason and advisory agency between its members and the ministry of the Canadian Government concerned with issuing licenses for radio stations performing in an amateur experimental service."

Thus, CARF indirectly represents to government those amateurs who belong to a provincial society or (in some provinces) whose club belongs to a provincial society. Thus, if you belong to RSO, your viewpoint or wishes are represented by your district Radio Society of Ontario delegated and the RSO executive representatives to CARF.

There are many amateurs who for various reasons are not affiliated with a CARF member society. Beginning in January, such amateurs have been at the same time, able to obtain news of amateur radio in Canada while it is still news and feed their opinions direct to CARF, an officially recognized amateur organization. By becoming an Associate Member of CARF, which gives them a subscription to the CARF monthly publication, THE CANADIAN AMATEUR, which started publication in January. While associate members do not have the voting status accorded to full members (provincial societies) their opinions and wishes can be made known to their provincial societies for action on an informed basis.

Thus, CARF has the machinery for informing and consulting large numbers of individual operators on amateur matters in a democratic fashion and presenting them to DOC head office on an official basis, through correspondence or personal representations by its CARF/DOC liason Committee Chairman, who is resided in Ottawa.

VE3CDC

OTTAWA 'HAM' RADIO MAN KEEPING SATELLITE WORKING (U.S. station ice-bound)

Ottawa Journal - December 9, 1972

A snowstorm in the U.S. has made an Ottawa amateur radio operator vitally important to the operation of an American amateur radio satellite.

Larry Kayser, a local amateur radio operator, is helping to keep a U.S. amateur communications satellite in working order while a primary operating station at Talcott Mountain Science Centre, Avon, Connecticut, is ice-bound.

The satellite, built by the radio Amateur Satellite Corp., was launched Oct. 15 from Lontoc, Calif. It rode 900 miles up on the back of a satellite sent up by the National Aeronautical and Space Administration NASCA.

On reaching orbit, it broke off from the NASCA satellite. The 40-pound radio satellite has solar cells which recharged the batteries.

Mr. Kayser is one of several operators around the world who is controlling the satellite so the batteries are not used up. This means that the satellite must be turned on for use by radio operators only three days a week.

Mr. Kayser said Friday he happened to write a letter to the U.S. operators of the satellite and about 10 days ago they telephoned him to request his help in controlling the satellite. The U.S. group sent him the control information--the key to operating the satellite radio system, he said.

The primary operating station at Talcott Mountain has been unreachable for three days following a snowstorm. This makes Mr. Kayser an important factor in keeping the satellite running.

The satellite is the sixth sent up by the U.S. group. It is being used to transmit radio signals around the world.

"It is the first time ever that they have allowed control of an amateur satellite outside the U.S." said Mr. Kayser.

The Canadian Press

CONSTITUTIONAL CHANGES

Changes are coming!! After considerable deliberation, the club executive, in consultation with many knowledgeable and aged (but not necessarily old) members of the OARL have come up with a few proposals for changes to the club constitution. These proposals will be presented to the club at the March meeting and printed in the March G.W.

Among things under consideration are: 1) changing the time of elections, so that new executives can take over well before the summer break; 2) making allowances for the appointment of a club administrator for a 2-year term, to provide continuity between executives.

OBS - WHAT'S THAT??

- 1) Official Bulletin Station.
- 2) Appointed by the SCM (Shep, VE3DV).
- 3) Receive and retransmit official ARRC bulletins at least 3 times a week (possibly in edited format on VE2CRA).
- 4) Reports to SCM monthly.

There is only one OBS in Ontario. One is needed now in the Ottawa Area. Call Shep, VE3DV.

POTENTIAL HAMS NEED OUR HELP!

Fifteen teenage boys and one teenage girl need sponsors for a ham station located at Boy Scout headquarters, Baseline Road at Maitland. Trustee for the station is Dave Parks, VE3GSA. Sponsors with advanced licenses are required on an occasional basis to help in supervision of the station. Time required would be a few hours on a night or weekend once a month. If you are interested in helping, please call Dave Parks NOW at 828-9191 ext. 426 or 232-6255.

Dave VE3GSA.

OARC SPECIAL MEETING

On Tuesday, April 24th, a representative of the ARRL Technical staff will present a technical talk on a subject, as yet not decided. This will be a joint meeting with the mobile club. Further details next month.

REPEATER GROUPS MEETING

Time - in early March--Place - to be found--Topic - What have you. Actual time and place of the meeting will be announced on the Capital City Net several weeks prior to the meeting.

CANADIAN AMATEUR

CARF is publishing a Canadian newsletter (called The Canadian Amateur and edited by Gil VE3BBQ) starting in January, 1973. Be a subscribing patron. Send \$4.00 to:

Treasurer CARF
Box 356
KINGSTON, Ontario K7L 4W2.

DO IT NOW

H. F. BEACON STATIONS

Back in 1969 the RSGB was gathering material, masts, antennas, gear, etc., to put a beacon station on 28 MHz. It would run continuously and when heard by hams in other countries would be an indicator of whether the band was usable to Great Britain. After some delays GB3SX was put on the air on 28.185 MHz. As a project of the IARU, now there are a number of beacons operating in various parts of the world. Any ham wishing to check propagation paths need only to monitor the beacon of his choice to determine if the band is suitable. With the approach of the sunspot low (Fall '74 approx.) this information becomes more interesting, and more useful. We are perhaps fortunate that the North American beacon VE3TEN is right beside us, and although not as useful for propagation, we can hear it at any time (in the Ottawa area). The list of beacons below is the best information that we have at this time:

Germany	DLØIGI	28.195	identification not clear.
Great Britain	GB3SX	28.185	
Japan	JALIGY	28.200	
"	"	21.150	
"	"	51.500	
Canada	VE3TEN	28.175	ident every minute by freq. shift.
Mauritius	3B8MS	28.190	
Cyprus	ZC4CY	28.180	(proposed)

This information was gleaned from several sources and there may be errors. If you hear a beacon, note and report the identification system and perhaps we can keep this up to date.

SKEDS ANYONE ?

Ever been awaysomewhere, with a rig, 10,000 hams on the air, and not a VE3 to be heard, much less an Ottawa station ?. Those who travel, some for short periods and some for longer, must sometime run into this situation. And yet many hams have regular skeds with various parts of the country that if you knew about them, you could get traffic back home at the right time.

A registry of skeds could be useful for this sort of thing and it might even be published in the GROUNDWAVE occasionally. VE3DY has volunteered to list skeds for a start. Anyone who keeps regular skeds, daily, weekly, or monthly, could list them with him, and in turn get a listing for other places.

Last summer, VE3DY was at Mahone Bay with traffic for Ottawa. Thru 9Y4MH in Trinidad he learned that Ron, VE3AUM, would be on very shortly and so was able to get the traffic directly back to Ottawa easily. Here are a couple for a start:

VE3DY --- VE3PG/w4, Naples FL, Sundays 12.30Z 14255 or 21255.
VE3EFP --- VE3CNO/w4 Daytona Beh, Saturday 12.30Z 14255
VE3CNO/w4, daily 7263 19.00Z for Florida area net.

Circuits are wanted to Fort Myers FL; St Petersburg FL;
If you keep a sked, call Gord, VE3DY, 733-4892 and give the time and freq. and we'll see how useful it can be.

RSO MEMBERSHIP LIST.

There is a partial(well almost complete) list of RSO members in the Ottawa and Eastern Ontario area available for any RSO member who wants one. A self addressed (and stamped) envelope to VE3DY will get you one by return mail (barring strikes) or there will be some copies at the next club meeting. VE3DY is at: 2050 Balharrie Ave., Ottawa 8, Ont., K1G 1G3.