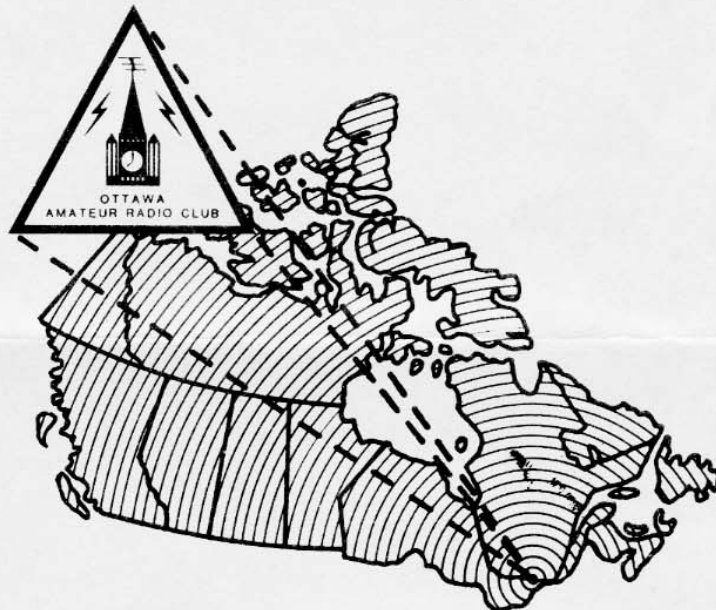


JUNE 24

THE GROUNDWAVE

RSO CONVENTION '84

October 5,6,7, 1984 - THE WESTIN HOTEL



Club Call VE3RC

Repeater VE2CRA



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THE OTTAWA AMATEUR RADIO CLUB, Inc. is an association of Radio Amateurs devoted to the promotion of interest in Amateur Radio communications in the Ottawa regional area and to the advancement of the technical competence and achievement of Club Members.

THE CAPITAL CITY NET meets every Monday at 2000 hours on the Club repeater VE2CRA (146.34/.94) to pass traffic and to make announcements of interest to Amateurs in the Ottawa regional area.

THE SWAP NET, a service of the Ottawa Valley Mobile Radio Club, Inc., is repeated on the Capital City Net and is conducted by Ed Morgan VE3GX. To list items and make enquiries, call Ed at 733-1721.

The **OARC EXECUTIVE** normally meets on the second Wednesday of each month in the Board Room of CFRA, 150 Isabella St., OTTAWA at 1930 hours. Contact the President to confirm the date of the next meeting.

DEADLINE FOR COPY is the first Wednesday of each month. **SEE YOUR NAME IN PRINT!!** -- in national and international publications. Write an article for the **GROUNDWAVE** and watch it travel! Many local articles have been reprinted in Club Bulletins across North America.

REGULAR MEETINGS of the OARC, Inc. are held on the first Wednesday of each month (except July and August) at the National Research Council Auditorium, 100 Sussex Drive, OTTAWA, at 2000 hours. A bulletin board is available for posting notices of interest to other members at about 1915 hours. For further details about the next meeting, see Page 5.

MATERIAL PUBLISHED herein does not necessarily represent the official OARC viewpoint. Items may be reprinted by Amateur Radio or similar publications, provided that the proper credit is given to the author and to the OARC, Inc.

SAFETY BELTS, TWO METRE RIG and an **ENGRAVING PENCIL** are available for loan to Club members. The two metre rig may be borrowed by members who are hospitalized and the engraving pencil (to mark valuables for positive identification in case of loss or theft) and safety belts with pole straps by any member. A \$100 refundable deposit is required for the belts. Contact the President for the two metre rig or the engraving pencil and Paul VE3ICV at 820-6643 (west-end) or Brian VE3JKZ at 523-1535 (east end) for the belts.

RADIO AMATEUR CALL BOOKS are available at many local libraries. Ask at the information desk.

MINUTES OF THE MEETING OF THE OTTAWA AMATEUR RADIO CLUB, Inc.
May 2nd, 1984

The meeting was called to order at 2008 hours by the President. About 60 members and guests were present. Joan asked for a show of hands of those who had not received their GROUNDWAVE prior to the meeting. No one indicated missing the latest issue. Joan then introduced the GROUNDWAVE staff and thanked them for their efforts in producing the monthly Club Bulletin.

Jerry VE3CDS, Vice-President, then introduced Allan Waltho, Chief Engineer for ADGA, the guest speaker for the evening. Allan has been developing SSB systems for VHF and UHF communications systems. He outlined the theory of SSB and illustrated the difficulties of using this mode at higher frequencies, especially for mobile applications. He demonstrated techniques which may be used to overcome the difficulties with tape recordings of speech and music transmitted by SSB before and after correction. His talk was followed by a very lively discussion period during which he answered many questions.

Jerry VE3CDS then welcomed the following visitors to the meeting: Cec VE3OJB, Rick VE3MJM, Ken VE3MUV, Lee Evans who is interested in becoming an Amateur and Subandhu VU2SNM/VE3 from India. Bruce VE3MJV, Treasurer, provided a balance statement showing cash on hand as \$9,162.07 which includes \$6,676.01 held in trust, \$973.52 in the Savings Account and \$1,512.54 in the Current Account. Joan VE3FVO then moved that the Minutes of the April Meeting be adopted as published in the GROUNDWAVE. The motion carried after being seconded by Bill VE3BDO. Joan also announced that the EMI Clinic held at CJOH the weekend before the meeting was a success.

Bill VE3NPG announced that he needed eight more volunteers to provide communications assistance for a half day in support of the Metres for Millions event. Wally VE3CDE reported that a committee was being formed to consider appropriate action to deal with CATVI. Those interested in participating, or experiencing problems (especially on two metres) should contact Wally or Ralph VE3BBM. Bill VE3NR added further information regarding the CATVI leakage problems in Vancouver and Halifax.

Gerry VE3GK gave a short talk on matching the helical antenna which he displayed at the Home Brew Night. The technique was interesting and very simple.

A correction to the Minutes of the April meeting was identified--the call of Doug Burrill is VE3CDC not VE3CDS. The revised minutes were adopted on a motion by VE3CV seconded by Bill VE3BDO. Bob VE3KLLK again asked for assistance for the Talk-In service to be provided for the RSO Convention to be held in Ottawa in the fall.

The raffle was won by Bill VE3FXG and Peter VE3LBW and the door prize by guest Subandhu VU2SNM. Bob VE3JDB is the 1984 Field Day coordinator and he is looking for assistance.

Congratulations were extended to VE3GAT, VE3GIP and VE3NJY who recently obtained their Advanced Amateur certificates.

The meeting was adjourned at 2230 by the President, Joan VE3FVO.

THE TWENTY-METRE AMATEUR BAND

by George Schuthe VE3DMC

QUESTION: What is ever changing, sometimes capricious, often surprising, generally challenging and frequently rewarding?

ANSWER: The twenty-metre band.

Just over sixty years ago, when radio amateurs were experimenting with wavelengths down to 100 metres, there were startling demonstrations of unsuspected DX characteristics when contacts were made across the Atlantic which were soon followed by two-way communication across the Pacific. With suddenly expanded commercial interest in the short waves, the United States established harmonically related bands of frequencies for radio amateurs, including 14.0-16.0 MHz. Thus, the "Twenty-Metre Band" was originated.

An international radio telegraph conference, held in Washington in 1927, redefined the twenty-metre band as extending from 14.0 to 14.4 MHz, and in 1929, the Federal Radio Commission opened the segment above 14.1 MHz to radiotelephone operation. In Canada, amateurs were authorized to use 14.0-14.4 MHz for type A1 emissions (CW) with a power limitation of 500 watts. Most amateurs operated with power levels well below 100 watts.

A survey conducted in the mid-1930's indicated that 18% of amateur radio activity was taking place in the twenty-metre band. The upper 50 kHz of the pre-war band was lost to amateurs after the Second World War. Today, the band from 14.0 to 14.35 is authorized for radiotelegraphy by Canadian amateurs (except Digital Class) and those holding Advanced Amateur Certificates may also use radiotelephony from 14.1 to 14.35 MHz.

In the U.S., the privileges on twenty-metres depend upon the class of licence held. Novices may not use the band at all. Advanced and General class operators may use the whole band for radiotelegraphy, while General class licencees are barred from 14.0 to 14.025 MHz. Extra Class may operate SSB from 14.15 MHz upward, Advanced from 14.2 and General from 14.275 MHz.

Twenty-metres is basically a daytime DX band, although at the peak of the propagation cycle, it may be "open" throughout the twenty-four hour day. At the bottom of the cycle, the band usually opens around sunrise and "goes out" soon after sunset. There may be aberrations in the pattern when the alert and patient operator will find DX when the band appears to be dead.

In the past year, there was daytime propagation to most parts of the world during the spring, autumn and winter--sometimes good and sometimes not so good. July and August were disappointing: good months to be away on vacation!. Late night propagation was good in May and June, especially in the direction of New Zealand and Australia. Some late night activity was possible from November to February, as well as pre-dawn operation, although conditions were generally spotty. Long-path signals from Oceania and the Indian Ocean were sometimes heard in the afternoons.

WHAT NEXT?

The next regular meeting of the Ottawa Amateur Radio Club, Inc. will be held on Wednesday June 6th, 1984 at 2000 hours in the National Research Council Auditorium, 100 Sussex Drive, Ottawa.

The main topic for the June meeting will be *Field Day Planning*

September will be devoted to *The Care of NiCad Batteries.*

How about "signing-in" at each meeting? A clip board will be located at each side of the auditorium as you enter. Your name listed here gives you an opportunity to win the door prize and helps the Executive in future planning.

At each meeting, a "suggestion box" will be located at the back of the room. We would appreciate any ideas, criticisms, compliments, etc. Just drop in a note.

Remember our Club Bulletin Board at the front of the room. It is set up at about 1915 hours on meeting nights. Come early, and make use of it!

Enjoy talking with other members of the Club; enjoy the meetings--see you there!

=====

FIELD DAY -- by Gord Grant VE3DY

Field Day is supposed to be an exercise in resourcefulness and ingenuity while operating under adverse circumstances in order to develop skills that can be put to good use in times of emergency or natural disaster. Although the operating period is approximately 24 hours, it should always be borne in mind that at the end of that time, one should be prepared to continue for as many 24 hour periods as might be necessary in a real emergency. It is important, therefore, that the participants enter the operating period with enthusiasm and confidence and that they terminate the period without a feeling of exhaustion or utter distaste for anything related to Amateur Radio for several weeks. This may not be easy or practical to do. Nevertheless, it is a goal worth aiming for. If you discover how to do it, write it down for the benefit of future Field Day participants. Perhaps you can prevent them from falling into the trap which has caught many of us in the past!

In this regard, ORGANISATION and DISCIPLINE are the watchwords. For purposes of the group and the individual, Organization should be on a cooperative basis and should guide the efforts of the group toward a common end. If the organization is cooperative, the group discipline is much simplified. It remains for the individual to exercise his or her own self-discipline, to contribute equitably to the required tasks, but to avoid exhaustion to the detriment of efficiency and safety, even if the task at hand seems enjoyable at the time. Part of the exercise is a matter of ensuring that less-skilled persons gain some skills so that they proceed to greater skills on their own. In a real emergency, the most highly skilled persons cannot operate continuously and must have well-defined rest periods, so this should be an important aim. -- Continued on Page 9

COMING EVENTS * * * COMING EVENTS * * * COMING EVENTS * * * COMING EVENTS

- June 2 Guelph ARC 10th Annual Central Ontario Flea Market and Computerfest 8:00 a.m. to 4:00 p.m. at Regal Hall, 340 Woodlawn West, Guelph.
- June 6 The Ottawa Amateur Radio Club meets this date only at the Museum of Science and Technology at 1930 Hrs. NOT AT NRC THIS MONTH.
- June 21 Teleconference. The 7th in the series of continent wide nets featuring a subject of importance to the amateur radio world. This time the net originates in the national Capital with Dr. J.R. Belrose VE2CV speaking on "Multi-band, Broadband, and Frequency Independent Antennae." Look for the first activity on VE2KPG slightly after 1900 local time. The audience for these teleconferences is estimated to reach 30,000.
- July 14 The Tenth Annual Ontario Hamfest hosted by the Burlington Amateur Radio Club at the Milton Fairgrounds. Weekend camping, prizes, superprize—HF station, flea market, etc. Registration after June 15 will be \$4.00. Early registration \$2.50 each, weekend campsite res. \$10.00. Tickets from ONTARIO HAMFEST '84, P.O. Box 836, Burlington, Ontario L7R 3Y7.
- June 23 CRRL Field Day. Contact Bob Brown VE3JDB if you wish to help out or want more information. You can reach Bob at 729-6440.
- Sept 14 Teleconference. The speaker will be Bob Heil K9EID on "Microphone Equalization for the Amateur." Look for it on VE2KPG shortly after 1900 hours.
- Oct 6-8 RSO CONVENTION '84 hosted by the Ottawa Amateur Radio Club Inc. Registration before September 1 is \$7.00 for RSO members and \$8.00 for non-members. Ladies pay \$4.00 before September 1 and \$4.50 afterward. Friday night Eyeball and dance is \$6.00 and the banquet and dance is \$27.00. Information may be obtained from the official address — CONVENTION COMMITTEE, P.O. Box 15806, Stn. 'F' Ottawa, Ontario K2C 3S7

NOTICE — GROUNDWAVE will continue to list coming events of interest to the ham community. If you know of something going on, some special on-the-air activity, some special interest group, some event within driving range, or some particularly important event further afield (many of members have jobs that take them out of town), pass the details to Gord VE3JMT (613) 733-6583 for inclusion in coming events.

STATISTICS ON PASS RATES — DOC EXAMS, NATIONAL RESULTS

From February 1982 through October 1983

	<u>Attempt</u>	<u>Pass</u>	<u>Percentage Pass</u>
Amateur Theory	2873	1313	45.7
Reg's	2514	1784	71.0
Code	1773	578	32.6
Advance Theory	1473	723	49.1
Reg's	1039	794	76.4
Code	796	361	45.4

LOCAL ACTIVITY

- Monday Capital City FM Net meets at 2000 hrs. on VE2CRA 146.94/.34
An important part of the proceedings is the Swap Net organized
by Ed VE3GX. Call him at 733-1721 for listings to be included.
- Tuesday We're looking.
- Wednesday Code practice on VE3TWO at 1900 hrs. Transmittal rates of 18,
15, 13, 10, and 7 words per minute.
- Thursday We're still looking.
- Friday The Wise Owl Net at 2000 hrs. on VE3TWO 147.30/.90 rag chew
with the Ottawa Valley Mobile Radio Club Inc.
Code practice at 1900 hrs. on VE3TWO. Transmittal rates of
40, 30, 25, 20, 18, 15, and 13 words per minute. (An opportunity
to blow out some of the rust.
- Saturday Pot Hole Net of the OVMRC at 1000 hrs. on 3760 KHz. All welcome.
- Sunday Pot Lid Net featuring slow speed CW at 1100 hrs on 3620 KHz
except during the months of July and August.
Pot Hole Net also operates on Sunday at the same time as the
Saturday listing. On Sunday, part of the proceedings is devoted
to a Swap Net operated by Ed VE3 GX. Pass your listings of
available goodies to Ed at 733-1721.

INTERESTING QSL

A recent edition of SARC NEWS (Scarborough) carried a photostat of a QSL sent by Anatol UT5HP to VE3BZQ in Toronto confirming a two-way QSO on CW, 20 metres and a 579 report. UT5HP has a homemade transceiver and a 200 watt linear to a 4 element Yagi. This was UT5HP's QSO Number 81153. His hobby, not surprisingly, is reported as collecting awards and QSL cards.

FROM CARF

- XXXX Western amateurs will have an opportunity to meet and discuss problems with DOC and Regional officials at the eighth annual CARF National Amateur Radio Symposium in Kelowna early in October.
- XXXX The CARF annual general meeting of members will be held in Ottawa on Saturday, June 23, followed by the Board of Directors meeting. QTH is the Park Plaza Hotel.
- XXXX CARF has been receiving orders for 1984 Canadian Call Book. Pen Publishing advises that the book should be off the press by the end of May. CARF will ship orders as soon as supplies are received.
- XXXX Shades of the early Marconi experiments have been evoked by the news that GW4UHF will try for a two-metre trans-Atlantic link on 144.44 MHz May 12 and 13. VO and VE1 operators have been alerted to listen out for the 400 watt signal from a 27 db gain antenna, located in Wales.

Field Day -- Continued

Selection of the appropriate equipment for the tasks at hand is something that often only experience gets through to us. If the task of assembling and dismantling a lot of equipment for marginal results becomes a bugbear, then perhaps some amount of rethinking is in order. These are some of the experiences that pay off, but often they detract from the enthusiasm for the following year. Simplicity should be sought. There is much to be said for this.

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Twenty-Metre Band -- Continued

Propagation may be judged by listening for the eight beacons operating on 14.1 MHz. These are located around the world and they transmit in sequence every ten minutes, progressively reducing power from 100 to 0.1 watts. Strong signals only rarely emerge from the "skip zone" extending from about ten miles to about 500 miles from the operating position. Accordingly, the ham across town may be very weak, while far distant stations are booming in. A directional antenna is highly desirable on twenty-metres, both for directing your signal to the station you wish to work and for minimizing QRM on other bearings.

If you are a DX-er, you will find that DX-peditions and many of the "rare prefix" stations tend to transmit on CW between 14.02 and 14.035 MHz, generally specifying calling frequencies up from their transmitting frequency. On SSB, they tend to transmit between 14.18 and 14.2 MHz, indicating listening ranges above 14.2 MHz. To call on top of the DX station is a blunder that can trigger curt and uncomplimentary interjections by "policemen"--usually self-appointed guardians of the sanctity of the DX-pedition's transmitting frequency.

Apart from DX, twenty-metres is used by "special event" stations and for regional celebrations, generally around 14.065 MHz on CW and 14.25 MHz on SSB. Contesting, particularly on weekends, may extend over wide segments of the band, often to the dismay of non-participants. As CW and SSB contests are not usually held concurrently, non-participants may wish to change to the mode of operation not in use in the contest.

ARRL Bulletins and code practice from W1AW are transmitted daily on 14.080 MHz. DX Bulletins are sent weekly, one from the Southern New England DX Club by W1AW and another from the Northern California DX Club by W6TI on 14.003 MHz.

A number of fraternal groups use specified frequencies for promoting QSOs among members. FCC (First Class Operators' Club) members are frequently heard around 14.025 MHz; Royal Naval Amateur Radio Society members use 14.052 MHz; and Royal Signals Radio Society members use 14.065 MHz as world-wide calling frequencies.

RTTY stations are usually found between 14.08 and 14.1 MHz. SSTV stations use 14.23 MHz as a calling frequency. Various networks may be found across the band. The U.S. SSB nets concentrate their activities in the upper 50 kHz, 14.3-14.35 MHz. There are traffic nets, DX nets, county-hunters nets, and other nets for special interests of many kinds. The Trans Canada Net operates on 14.140 MHz on weekends to facilitate phone patch traffic across the country.

Twenty Metre-Band -- Continued

This is necessarily a cursory sketch of the characteristics and use made of the twenty-metre band. While it is primarily a daytime DX band, it provides a varied range of amateur radio activities, whether for working across Canada or working around the world. Rag-chewer or rapid fire DXer, you will find twenty-metres an exciting band!

PROFILES

Samson Pierre VE3JSP -- Secretary, OARC Inc.

Samson was born in Haiti, where he received his education. He became interested in radio communications during his teenage years and synthesized his own lead-sulfide crystal to be used in very crude L.W. receivers. Because of his interest, he was approached to become a radio announcer. However, he chose to further his studies and become a science teacher. He built audio and Hi-Fi kits, pre-amplifiers, amplifiers, power supplies, etc.

It was not until the mid-70's that he really became involved in Ham radio, thanks to the help and encouragement of VE2KN of Montreal. He was also inspired by the enthusiasm of Gerry King VE3GK, who taught him "more than how to pass the DOC exams".

He operates a Kenwood TS-820, mostly on 80 and 40 metres, with an inverted-Vee trap antenna. He is the proud owner of a fifty foot tower and, someday, he hopes to work up enough courage to climb up there to install a 15 metre Yagi. He dreams of talking, in French, to the hams in some of the African countries. Next, he will be investigating ways of integrating the 6502 board into his activities in the ham shack.

He wishes to thank the Club Membership for giving him the opportunity of serving on the executive.

Wally Clarke VE3CBE -- Director, OARC, Inc.

Wally became interested in ham radio during high school. His first contact was made illegally during the second World War using a one-tube six metre transceiver (UV227 transmitter absorption modulated with a carbon button and grid leak switched to make it work as a superregenerative receiver).

Wally was licensed in 1947 as VE1SU from Yarmouth, NS and he later operated a Club station using the same call at Acadia University in Wolfville, NS. He moved to Montreal in 1950 and obtained the call VE2AOE. Following a twelve year sabbatical "to establish a family and a career with Northern Electric", he acquired a Heath "Two-er" and started "Hamming it up" again from Belleville, Ont. using his present call VE3CBE. He moved to Ottawa in 1967. He can usually be found on the low end of either 40 or 80 metres rattling along in a CW ragchew or occasionally chasing DX.

VIDEO TAPES AND MOVIES

Video Tapes and Movies of interest to Radio Hams are required for showing at the RSO Convention. Please forward suggestions to Lloyd VE3AYE at 722-5431

PROFILES

Bruce Lauer VE3MJV -- Treasurer, OARC, Inc.

Bruce was born in Montreal in 1944, attended St. Lambert Elementary School in the '50's and graduated from Chambly County High School in St. Lambert in 1961. He then obtained his B. Sc. (Chemistry and Biochemistry) in 1966, his M. Sc. (Agricultural Chemistry) in 1968 and his Ph. D. (Food Science) in 1971 -- all from McGill University. He is now married with four children, lives in the Craig Henry area of Nepean and works as a scientific advisor with the Food Directorate, Health Protection Branch, Department of National Health and Welfare. Bruce is also Organist and Choirmaster at Northwestern United Church in Ottawa. He is a member of the Chemical Institute of Canada and the Royal Canadian College of Organists.

Bruce "stumbled" upon Amateur Radio in 1979 while searching for an evening general interest course at Algonquin College. Due, in part, to the enthusiasm and excellence of his teacher Dan Holmes VE3EBI, he obtained his Amateur licence in 1980 and his Advanced ticket in 1981. He found the theory easy, but the code did pose some problems!

Bruce uses a Kenwood TS-830S, an AT-230 antenna tuner, an MC-50 mike, a PC-1A phone patch, a Heathkit SA-5010 Keyer and SB-610 Monitorscope, a Sinclair ZX-81 microcomputer and a Hy-Gain 18 AVT/WB all-band trapped vertical antenna. He is active on 80, 20 and 15 metres and you may also hear him on two metres using his IC-2AT. Bruce is a member of the CRRL.

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Keith Bedal VE3GFI -- Director, OARC, Inc.

Keith was born in 1926 of farming parents. His schooling was obtained in Brighton and Belleville, Ontario. He obtained his first Amateur call VE3BPQ in 1947. That year, he also obtained a certificate in Electronic Technology from the Radio College of Canada in Toronto. His first job was with a radio service shop in Belleville. In 1948, he joined the Defence Research Board and moved to Ottawa. Thereupon, he took evening courses at Carleton University where he obtained a B. Sc. in Mathematics and Physics in 1959. In 1960, he was posted to the Prince Albert Radar Laboratory (now the Prince Albert Satellite Station-Ed.) where he held the call VE5KE. He returned to Ottawa in 1965 and obtained his present call, VE3GFI. Through his work with DRB and the Communications Research Centre of DCC, Keith has made several trips to the High Arctic and has visited VE8RCS in Alert and VE8MA in Eureka, NWT. Keith is married and has three children and three grandchildren.

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THE EDITOR'S LAST WORDS -- by Murray Strome VE3PY

The June meeting will be the last before summer. We have had a very successful year, with many activities and many interesting meetings. Thanks to the assistance of the many contributors, and the Editorial and Publishing staff, we have managed to get the GROUNDWAVE out on time since January. We will try to publish two issues of the Bulletin this summer. However, because it will not be possible to print the GROUNDWAVE during the summer, deadline for copy for BOTH the Summer and September issues will be June 2, 1984. Remember the RSO Convention--and offer your assistance!

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