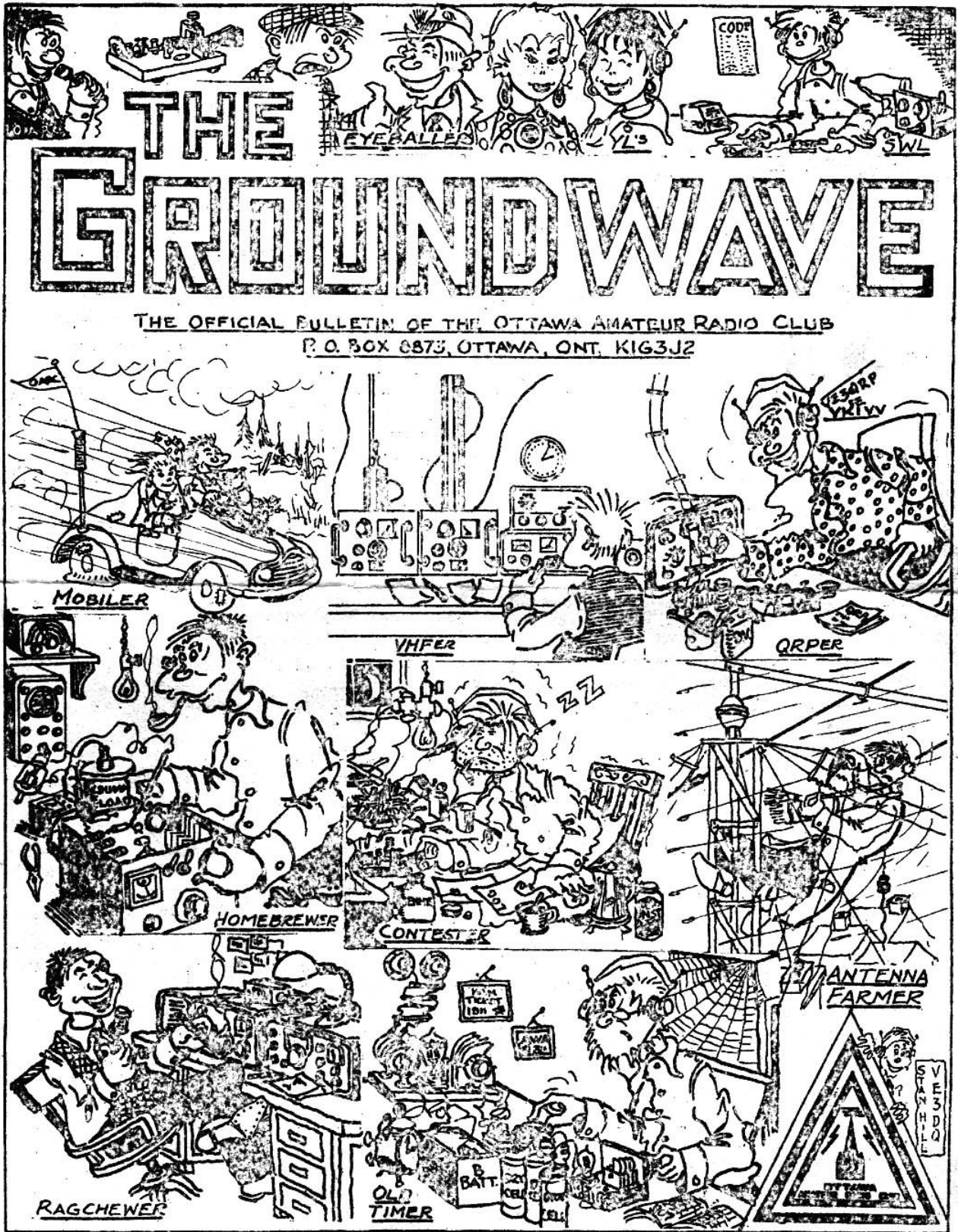


July 75'



1975 RSO CONVENTION - SKYLINE HOTEL, OTTAWA - OCT. 3 & 4, 1975

: THE GROUNDWAVE - OFFICIAL BULLETIN OF THE OTTAWA AMATEUR RADIO CLUB - JULY 1975 :
: :
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MATERIAL PUBLISHED HEREIN does not necessarily reflect the official viewpoint of the OARC. Items may be reprinted by Radio Amateur bulletins and newsletters provided that credit is given to the GROUNDWAVE and any other source mentioned.

DEADLINE FOR COPY for the September issue of THE GROUNDWAVE will be August 16 for articles of length and August 23 for short paragraphs and announcements. THERE WILL BE NO AUGUST ISSUE OF THE GROUNDWAVE. All correspondence should be addressed to:

Carl Everson, VE3BYX, Box #4, Osgoode, Ontario, KOA 2WO.

THE NEXT REGULAR MEETING of the Ottawa Amateur Radio Club will be held at the National Research Council, 100 Sussex Drive, Ottawa, on Wednesday September 3, 1975 (two days before the RSO Convention) at 2000 hours. The program will be announced later.

THE RSO CONVENTION COMMITTEE WILL MEET at the call of the Chairman throughout the (busy) summer.

THE OARC ANNUAL PICNIC will be held on July 20, 1975 in Vincent Massey Park, Section V, from 1400 hours to 1800 hours. Larry, VE3CRX, is heading up the Committee and is anticipating a good turnout. Tickets are .50¢ each with a maximum of \$2.00 per family. Tickets may be obtained from Larry, or from George, VE3BNO; Gerry, VE3CNJ; Cy, VE3CVK; or Ron, VE3AUM. Tickets MUST be obtained in advance in order to plan for refreshments. Here is your chance to get back in the good graces of the family after all those nights out on your own on Ham activities!!!

THE RECENT TALK BY BILL CHOAT, VE3CO, has sparked some lively, and serious, discussion among Club members. The aiding and sponsoring of handicapped persons to become Radio Amateurs is a very worthwhile project, and a credit to Amateur Radio. Ron, VE3AUM, has committed himself to following this up after his term as OARC President is up and the RSO Convention activities have passed. But one person cannot do it all, Ron needs volunteers for all phases of the program (and, knowing Ron and his Navy training, he'll get the volunteers!).

RASO (RADIO AMATEURS SERVING THE OLYMPICS) has been accredited by COJO to organize Amateur Radio activities from the Olympic Stadium in Montreal. They will be handling traffic for the Olympic athletes, their respective delegates, and COJO. Operations will be on HF by SSB, CW, and RTTY, and on VHF by FM. Negotiations are in progress regarding third-party agreements with several more countries for this operation, and it is hoped that this can be arranged. The station will be located on the 6th floor of the Olympic Stadium in Montreal and will be operated from July 1, 1976 with call-sign of CZ20 (Charlie Zebra Two Oscar). Activities are expected to increase during the actual period of the Games. All Amateurs wishing to lend a helping hand with traffic handling, and are planning to be in Montreal either during the pre-Game period, or during the Games, are urged to give their names as soon as possible in order to be listed and recognized as operators of CZ20. Special passes or badges will be issued by COJO to give access to the station. VE2DRC is traffic manager and is responsible for operations on HF and VE2AGD is setting up operations on VHF. Anyone wishing to volunteer their services during this event should contact either of these two Amateurs. (VE2AGD via the Capital City Net)

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

QUIET PEOPLE ARE NOT THE ONLY ONES

who don't say anything.

EDITORIAL (Heaven forbid! Oh well - no-one reads the mid-summer issue anyway - so here goes-) (Besides, the minutes are being held over for the September issue and we have to fill this page up with something!)

At the June meeting of the OARC, the membership rejected the proposal of the Licence Reform Committee with respect to changing the requirements for obtaining a licence to operate an Amateur Experimental Station. I would hope that this rejection had bona fide reasons behind it, and that it was not the dog-in-the-manger, I-had-to-learn-Morse-why-shouldn't-everyone-else attitude which seemed to come through at times.

This committee was formed at the February meeting of the OARC and a request for input ideas and comments was put forward both at that meeting and in the March issue of THE GROUNDWAVE. Several known advocates of licence reform were approached specifically for comments which were then grouped with other comments and ideas received and worked into a proposal which was presented to the OARC Executive on April 8, 1975. As a result of this meeting, the original proposal was altered considerably and presented to the membership at the May meeting as printed in the May issue of THE GROUNDWAVE. The discussion carried over to the June meeting when the proposal was voted down.

It would be interesting to know how many of the NO votes had contributed any ideas for the committee to work into the proposals. It would be interesting to know how many of the NO votes are preparing notes to present to the next Reform Committee, - or for that matter, how many of the YES votes have done the same. It is the future of Amateur Radio that is at stake. Change there is going to be, whether we like it or not. If we do not have well-thought-out proposals to keep pace with the times, then some-one else is going to push for change that suits some-one else. No-one, but no-one, other than Amateurs themselves, will come up with proposals which are not to the detriment of Amateur Radio.

No doubt there were sincere, carefully-thought-out objections to the proposals submitted. I would hope that these will be presented to the next committee - in writing so that no misunderstanding, or misinterpretation of the spoken word can be formed. A few of the objections which I heard warrant some comment.

The main objection appeared to be to the elimination of the need for a knowledge of Morse code to operate above 144 MHz - yet every objection which I heard voiced was in the context of HF. I heard no-one object to this point on the grounds that satellite activity occurs on VHF using CW. True, a single-tube, home-built oscillator is a great way to get into Amateur Radio - I travelled this road myself, along with a single-tube home-built receiver, and battery-powered because we had no Hydro - but I have yet to hear of anyone beginning this way above 144 MHz. True, also, that an FM'er, if he loses his modulation or is too weak to read, can make himself known by keying with his mike button - but certainly not at 10 WPM, or at 5 WPM, and not necessarily even at 1 WPM. Only a knowledge of Morse code is required here, a knowledge of what alphabetic character is represented by what sequence of dots and dashes. Perhaps this would be the answer here.

A second objection was to the allowance of a power level of one kilowatt at these frequencies. This is what is allowed now on most of the VHF bands for persons with less technical ability, so why shouldn't a person with more technical ability be allowed to use the same power? Otherwise, we are saying that the present power limits should be reduced. And if they are reduced at 144 MHz, why shouldn't they be reduced at 50 MHz, or at 28 MHz, or at 14 MHz? Do we really want this?

Another comment was that we would be creating a GRS-type operation. I think not! Anyone with the technical qualifications required in this proposal for an Amateur Operating Technician could hardly be compared with the majority of GRS operators. I feel that, having obtained a licence on the basis of this technical, and other, knowledge, that they would be just as conscientious and strict in self-policing the VHF bands as the present Amateur operators are. And, even if not so, would it be any worse than losing a band completely to GRS along with other Amateur activities on that band such as CW, RTTY, etc.- remember, we still insist on keeping CW at these frequencies- ?

The proposal as presented, eliminated the waiting period to operate phone in the 28 MHz band. I heard no objections to this at all so I presume this is not a matter for serious discussion. It will pass with some regret, however, as that first six months was always a period of anticipation as we pecked away with our one-tube oscillators in the HF

(Continued on page 2)

EDITORIAL (Continued from page 1)

bands and awaited the day when we could put a phone station on 28 MHz and, with a little luck, talk around the world. Now we would be permitted to do this immediately and we might never get the CW bug on HF and go for our "Advanced".

Another point, the proposed lowering of the accuracy requirement for the Morse code test from 100% to 90% would only, I suspect, make "an honest woman" of the examiner in a lot of cases, and would do much to relieve that last minute build-up of tension on exam day when 100% is demanded.

Enough for now! Lets have some meaningful discussion on the subject, not just "I don't agree" comments, and lets have some letters to print expressing our individual views. Muttering to ourselves doesn't help - nor does voting down a proposal if we haven't bothered to get our views incorporated in it to begin with. Happy Holidays

THE WESTERN NEW YORK HAMFEST and VHF Conference took place in Rochester, N.Y., on Saturday May 17. About 8 Ottawa Amateurs were among the 3500 registrants. The Flea Market was the biggest yet and Stan Edwards, VE3HOU of Toronto won a HW-202, while Marion Conley, VE1NT, of Moncton won a HW-7 QRP rig. Talk about beginners luck! (VE3BNO)

THE MONTREAL HAMFEST is being held on Saturday, August 3 from 9:00 AM to 5:00 PM at MacDonald College Farm, St. Anne de Bellevue. Admission is \$2.50 and, as the location is west of Montreal (Exit 26 on the Trans-Canada Highway), it is only a short drive from Ottawa. A programme for YL's, XYL's, and children makes this an excellent outing for the whole family. (VE3BNO)

THE RSO CONVENTION COMMITTEE is in full swing. Be prepared to do your part when asked. Another brochure cum application form appears in this issue of THE GROUNDWAVE. If you used the last one for yourself, give this one to a friend. If you gave the last one to a friend, then use this one yourself and get in on the early registration discount. Better still, join RSO and save even more on registration. Above all, don't let the forms go to waste.

C O U N T D O W N T O C O N V E N T I O N

As of July 1, 93 full days remain until Convention time. Nuff said!

THE CARE AND FEEDING OF NICKEL-CADMIUM BATTERIES - There has been a recent influx of rigs into the area which are powered by rechargeable ni-cad batteries. These can be temperamental beasts (the ni-cads, not the rigs), so a few words about them may be in order. Ni-cads come in many sizes, but the most common ones that Amateurs will come across are the AA (penlight) size. These have a capacity of about 500 milliamp-hours at a 10 hour discharge rate. This means that when discharged at 50 mA, the cell will last for 10 hours (50 mA X 10 hours equals 500 mA-hours). Another common cell is the D size, with a 10-hour rating of about 4 amp-hours.

A single cell, when freshly charged and under no load, will read about 1.45 volts on a meter. This rapidly drops when load is applied to 1.2 volts where it remains until the cell is nearly discharged. The voltage then drops rapidly towards zero.

When using ni-cads in a series connection to form a battery, the group should not be discharged below one volt per cell. Thus a 12 volt battery, which will have 10 cells, should not be discharged below 10 volts. Deep discharge can result in one or more cells reversing polarity if they are weaker than other cells in the battery.

Charging of ni-cads must be done with care. There is no practical way to determine how much charge is left in a cell, unlike the lead-acid type. Once a ni-cad cell is fully charged (and this point cannot be determined either) all the charging current is dissipated as heat. If the cell is being charged at a high rate, it may then be damaged. Ni-cads should be charged at a constant current, never at a constant voltage. If you charge them from a regulated power supply, for example, you must put a resistance in series to limit the charging current. If a battery is known to be fully discharged (ie, the voltage is less than one volt per cell), then it may be charged for 14 hours at a current equal to 1/10 of its amp-hour rating. (Continued on page 4)

QSL BUREAU EXPANDED - Effective immediately, the services of the CARF National QSL Bureau are expanded to provide the following for Associate Members:- (1) Cards for countries (other than USA) may be sent in bulk to CARF National QSL Bureau, Box 66, Islington, Ont., M9A 4X1. They will be forwarded free of charge to the world bureaus. Please arrange alphabetically. (2) VE's/VO's may exchange cards with each other at no charge but an SASE must be on hand to receive them. Please arrange by district when mailing bulk. (3) This bureau will now accept SASE's and any DX or Canadian cards on hand will be sent out in them. (4) Amateurs are advised to also keep SASE's at the ARRL district bureau as the CARF bureau supplants, but does not replace the ARRL bureau service for incoming cards. Members are invited to make full use of these facilities. For VE3's, an SASE on file with the district bureau is sufficient for this service but you should be an Associate Member of CARF to participate. The district bureau Manager is Russ Buckley, VE3UW, 30 Almont Rd., DOWNSVIEW, Ont., M3H 3E3, but SASE's and other inquiries may be sent directly to the person responsible for your particular call-block as follows:-

2-letter calls--Murray Powell, VE3GZY, 61 Collins Cresc, Aurora, Ont. 787-4530
 3-ltr A&B calls--Walter Anderson, VE3AAZ, 146 Deloraine Ave, Toronto, Ont. 487-2979
 3-ltr C calls--Jean Evans, VE3DGG, 124 Gilley Rd, Downsview, Ont. 635-8911
 3-ltr D calls--Pam and Bob Gorman, VE3BVG, 7 Jackes Ave, Apt 2003, Toronto 920-0221
 3-ltr E&F calls--Gail Murray, VE3GSQ, 79 Driftwood Ave, House 67, Downsview 630-4774
 3-ltr G calls--Cathy Hrischenko, VE3GJH, 30 Lisburn Cr, Willowdale, Ont. 491-5530
 3-ltr H calls--David Adams, VE3HBF, 46 Marble Arch Cresc, Scarborough, 759-1039
 Club, etc calls
 above H (3-ltr)--Linda Jane France, VE3VPH, Villa Private Hosp., Thornhill. 889-0857

SASE's (self-addressed stamped envelopes) should be the 5 by 7 inch size as many foreign cards are larger than letter size. A lot of effort goes into these operations on behalf of The Ontario Trilliums, of handicapped amateurs at the Queen Elizabeth Hospital, and of other interested parties. The least we can do is to keep SASE's on file for them to use. The district bureau for VE2 calls is operated by A.G.Daemen, 2960 Douglas Ave., Montreal 301, Québec. Distance prohibits it working as closely with the CARF bureau so SASE's should be supplied to both bureaus if you are in this call-area. (Thanks to The Canadian Amateur and to Jean, VE3DGG, via Penny, VE3ERO for the above info)

NEW MULTIPLE-CHOICE AMATEUR EXAMS are being introduced by the Department of Communications this year. Revisions to the existing procedures include---an updating of the content of both classes of exam---adoption of the multiple-choice format---increased stress on state-of-the-art devices such as transistors, SSB, FM, etc.---a pass-mark change from 75% to 70%---and improved Morse tapes for code testing. A new syllabus is being prepared and will soon be available. Prospective Amateurs who have based their preparations on the current syllabus should have little difficulty with the new-look exams. They continue to be based on the minimum knowledge the department considers necessary to satisfy the Radio Act and international regulations. The Department plans to update the Amateur exams each year and believes adoption of the multiple-choice format will greatly streamline the exams and make them less time-consuming for candidates and examiners alike. (DOC Press Release)

INFORMATION WANTED on the history of the Canadian YL/XYL in Amateur Radio. Such information as YL pioneers in different facets of Amateur Radio, the youngest, the oldest (who would admit that - Ed!), those who were radio ops in the service, on ships, in the public service, in traffic, etc. Canadian YL-hams well known in other fields, etc. Any info you might be able to contribute would be appreciated by:- Cathy Hrischenko, VE3GJH, 30 Lisburn Cresc., Willowdale, Ont., M2J 2Z5 (From The Ontario Trilliums' Totopics)

A MAN-MADE NON-DIRECTIONAL ANTENNA was used on the hidden transmitter in a 75-meter transmitter hunt. It consisted of the CNR railway tracks running in and around the city and the non-directional properties were out of this world! (Reprinted in the April 1975 Bulletin of the Halifax ARC from their Bulletin of September 1957)

-----Vic and Ken, DON'T YOU DARE!!!-----

A PERSON WITH NO EDUCATION.....just has to use his brains!

JUNE 28/29, FIELD DAY 1975 - Blessed with delightful, though warm, weather, blue skies, and little wind, a small group of hard-working Club members contributed to another successful Field Day for VE3RC/3. Bill's, VE3EKA's, bow and arrow, and Bud's, VE3UD's, casting rod placed lanyards high in two obliging elms for the dipole and inverted-V antennas at right angles. These were used effectively by Bud's Collins phone equipment in Dick Gagne's camper. CW was pumped out from Hank's, VE3BR's, tent by his Kenwood TS-520 into a 155 foot vertical radiator supported by a helium-filled "Kytocn" for 80 meters thanks to Bill, VE3EKA, and Bart, VE3TT. In the quiet air, this 5/8-wave antenna hung obediently above its numerous ground radials and "got out on eighty like sixty", causing pile-ups when the key was pressed! The Club's vertical, less the eighty meter section, performed well on CW on the other bands.

George, VE3BNO, and John, VE2DNM, provided an OSCAR station with a vertical whip for 28 MHz and a 5-element Yagi for 144 MHz. Running from an inverter for 110 VAC, the stations made numerous CW contacts through OSCAR VI and OSCAR VII. George also provided the 1½ and 3 KW motor-generators which ran perfectly except that the frequency was high and the digital clock just ran away!

Your operating President Ron, VE3AUM, did yeoman service at the mike and knocked off the contacts one after the other in professional style, as did Neil, VE3EXA, on both mike and keyer, and Ernie, VE3EKP, on keyer.

Dick Gagne was always there with a helping hand and use of his beautiful camper was much appreciated. Gerry, VE3CNJ, was his usual cheerful self and kept the coffee flowing round the clock, and was ready and willing for any job.

Old faithful Hank, VE3BR, not only provided the CW tent and the TS-520 which performed excellently, but also served breakfast at 5 AM on Saturday morning for the bleary eyed. Glen, VE3GWY, turned a mean pancake for breakfast desert later in the morning. Glen also provided the telephone system between the CW and phone stations.

Ed, VE3EKC, and Dick, VE3HVA, were welcomed as relatively new Hams and had a chance to operate under field conditions. We had hoped that more newcomers would turn up to gain Field Day experience.

Not counting the many visitors who turned up and gave a helping hand, the Club members participating included:

Hank	VE3BR	Bill	VE3EKA	Stan	VE3DQ
Ernie	VE3EKP	Dick	VE3HVA	Bart	VE3TT
Merv	VE3CV	T.R.	VE3AXC		
Neil	VE3EXA	Ed	VE3EKC	Dick	VE3HVA
Ziggie	VE3GZS	Ron	VE3AUM		
George	VE3BNO	Fran	VE3HKG	John	VE2DNM
Bob	VE3HBQ	Glen	VE3GWY		
Gerry	VE3CNJ	and		Bud	VE3UD

and I hope no-one has been omitted.

Final results are tabulated as follows:

MHz	CW Contacts	Phone Contacts	Totals
3.5	112	137	249
7.0	98	269	367
14.0	63	20	83
21.0	26	55	81
Totals	299	481	780
Satellite	10	Grand Total	790

In spite of some delays due to equipment problems, and unbelievable QRM, the main restraint was lack of operators to keep the stations running continuously. There were long periods when neither the CW or Phone station was on the air. Those who stayed through the whole period were "some very tired fell-o-o-o-ws" to be sure, but it was truly an unforgettable experience to be sure.

(Bud, VE3UD)

THE CARE AND FEEDING OF NI-CADS (Continued from page 2) Thus a battery of AA cells, rated at 500 mA-hours, may be charged at 50 mA for 14 hours, if it is fully discharged. If the state is unknown, it should be trickle-charged at 1/50 of its amp-hour rating (10 mA for AA cells) or less. This rate of charge may be maintained indefinitely.

A constant-current charger may be had by using a resistor in series with a power supply. Eg. a 24-volt supply used to charge a 12-volt AA cell battery at 10 mA would require a (24-12)/.01 or 1200 ohm resistor. Charging current will range from 8 to 12 mA depending on battery condition. Filtering is not needed, a ½-wave rectifier is fine. Properly cared for, a ni-cad battery should give reliable service for a long time. (VE3CRX)



RADIO SOCIETY OF ONTARIO
OTTAWA AMATEUR RADIO CLUB



CONVENTION

SKYLINE HOTEL OTTAWA OCTOBER 3,4,5.

INFORMATION AND TICKETS WILL BE MAILED TO THOSE WHOSE REGISTRATION FORMS ARE RECEIVED BEFORE SEPTEMBER 15. THOSE RECEIVED LATER WILL BE HELD AT THE REGISTRATION DESK.

SKYLINE HOTEL ROOM RESERVATIONS CAN BE GUARANTEED UP TO SEPTEMBER 3. AFTER THAT YOU TAKE YOUR CHANCES. WE WILL MAIL A HOTEL RESERVATION FORM WITH YOUR TICKETS, AND IF YOU IDENTIFY YOURSELF AS WITH THE CONVENTION SPECIAL RATES ARE AVAILABLE.

PARKING IS AVAILABLE ADJACENT TO AND UNDER THE HOTEL. MAXIMUM VEHICLE CLEARANCE FOR UNDER HOTEL PARKING IS SIX FEET.

ARRANGEMENTS CAN BE MADE AT THE CONVENTION FOR GROUP RESERVATION OF TABLES FOR THE SATURDAY BANQUET.

TALK IN STATIONS WILL BE ACTIVE FROM NOON ON FRIDAY ON 3765 SSB, 146.52, 146.94, AND REPEATER VE2CRA 146.34/94.



RADIO SOCIETY OF ONTARIO
OTTAWA AMATEUR RADIO CLUB



CONVENTION

CONVENTION ACTIVITIES-

FRIDAY 3 PM Registration desk opens.

8 PM German Beer Garden, Buffet, & Dancing.

SATURDAY 9 AM

8 Technical sessions including an antennae seminar, program for the handicapped, repeater forum, amateur band spectrum management, new class of licencing forum, DX forum, Etc. RSO Forum --RSO Delegates meeting. Operating displays of RTTY & SSTV. Department of Communications display. Hospitality rooms-PARC(Ottawa), OVMRC, QCWA(Capital Chapter), Etc.

LADIES PROGRAM

Information Centre (Shopping, dining, tourist.)
Pamphlet Table. (help yourself)
Ottawa City Tour. (2 hours)
"Kitten " factory trip (3 hours)
Displays and demonstrations including:
leatherwork, leaded glass, beaded necklaces,
spinning, weaving, copper enamelling, batik,
needlepoint, CNIB arts, microwave cooking, etc
CLARA & TOT displays and forum.
Prizes galore.

SATURDAY 7 PM

Annual RSO Banquet, followed by dancing and draw for Major Prizes (incl. TS-520 transceiver and a brand new Model 28 KSR Teletype.)

SUNDAY 10.30 AM

Technical Forum (for survivors only)

TEMPERATURE INVERSIONS, WHAT ARE THEY? Most of us talk about these things freely, and make use of them for good DX'ing on the higher bands, but what are they? Unlike the sunspot cycle activity of a few years ago which brought 'skip' conditions and allowed the use of flea-power to work world-wide, temperature inversions, while giving the same result to the VHF bands, derive from a different source. It deals with VHF and UHF propagation only but in some ways can affect the upper reaches of the HF bands (10 meters).

The atmosphere is composed of many gases and in the troposphere (the first 35 thousand feet), water vapour amounts to from zero to 3.2%. Thus the atmosphere will follow the laws of physics in expansion and contraction of gases. Keep these basic laws in mind:

1. Temperature will increase when the gas is compressed, and vice versa.
2. Warm air exerts less pressure than colder air; that is, it occupies more volume.
3. Warm air can contain a greater volume of water vapour than cold air.
4. A mass of warm air, when surrounded by cold air, will be forced to rise. Cool air will force its way under the warm air and push the warmer air up until it cools.
5. The density of a gas is a direct function of its temperature; ie. the cooler the gas, the greater the density.

As we ascend, the temperature decreases at about 3.4 deg F per 1,000 feet. The atmospheric pressure also decreases, as there is a lesser volume of air pushing down from above. At the same time, the density of the air decreases to a certain point. When a temperature inversion takes place, the above is reversed and, at some point, the temperature begins to increase with altitude. Most temperature inversions take place during the summer. In a cloudless sky, the sun heats the atmosphere all day, as well as the ground. When the sun disappears, the atmosphere begins to cool off, and the earth gives off its accumulated heat. This heat is conducted in waves which spiral upward into the atmosphere. The loss continues until the sun rises again.

Now at a certain time, the ground will be rapidly cooling off and it will become cooler than the surrounding air. This is due to the difference in the densities of air and earth. The ground will then commence cooling off that layer of air closest to the ground. The maximum amount of cooling does not usually exceed 1500 feet altitude. (See Fig. I). Note that at point "X", the temperature suddenly increases with altitude. The sudden change in temperature also causes a change in the air density. Thus, at altitude "X", the air will act like a mirror, and reflect the signals hitting it. If the angle of the signal striking point "X" is fairly low, the maximum amount of reflection takes place. The reflecting will be different for stations in different areas. Thus you may hear another station working DX while you cannot.

Temperature inversions are also caused by the meeting of cold and warm fronts. (See Fig. II). Remember the laws for gases and the reason for the action of the air should be clear to you.

Some interesting effects of this heating and cooling are often found. The 'ducting' so often heard about on the air is the reflecting of signals as mentioned previously. The tunnel, or duct, effect is the result of reflection over only a small geographical area, ie along the Great Lakes from east to west, or along Lake Huron from north to south. If you are not located so that your signals are reflected at the proper angle, then you do not experience the duct effect.

(From an original article in the Montreal Marcogram by Claude, VE2DPE, and edited by Bill, VE3CSK, in the LARC Bulletin and by yours truly herewith - Ed)

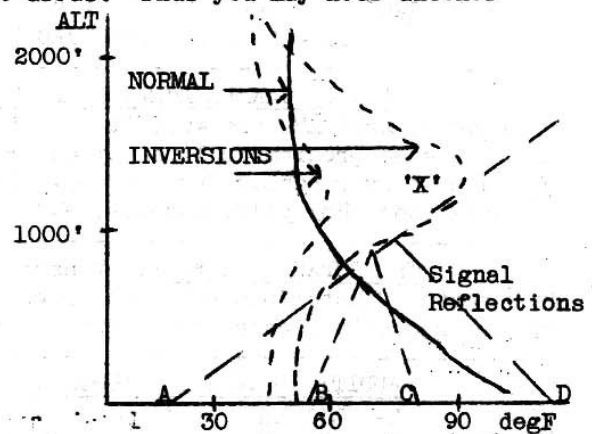


Figure I

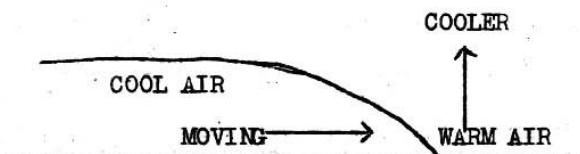


Figure II

WWV IS PROPOSING A REDUCTION OF HOURS, of power, and of the frequencies on which it operates. These proposed changes are in response to a government-wide effort to reduce operating expenses and to conserve energy. The National Bureau of Standards would appreciate comments from interested users of the station. They have a questionnaire that they would like you to fill out and return to them. It can be obtained by writing to: Time and Frequency Division, National Bureau of Standards, Boulder, Colorado, 80302. (Hamilton ARC)

THE NATIONAL CAPITAL CHAPTER OF THE QUARTER CENTURY WIRELESS ASSOCIATION held a dinner meeting in the Carousel Dining Lounge on May 28, 1975. Forty-two members and guests enjoyed a delightful dinner which was followed by a short business meeting and election of officers for the ensuing year. Elected were: Harold Parsons (Hal), VE3QA, Chairman; Henry Harley (Hank), VE3BR, Sec'y/Treas; J.C.R. Punchard (Bud), VE3UD, and A.K. Scrivens (Ken), VE3LJ, Directors. The guest speaker for the evening was Dr. Peter Millman, a scientist with the National Research Council who spoke on UFO facts and fallacies. This will also be the subject of a scientific paper to be published later this year by Dr. Millman, and which will be made available to those attending this meeting if they leave their name with Ken, VE3LJ. Dr. Millman was thanked by Hal Parsons for the very interesting and informative talk.

THE OLD TIMERS CLUB AWARD is issued by the ARRL to any Amateur who held an Amateur 20 or more years ago, but it is only issued when applied for. Send the date of your first licence, if 1955 or earlier, to ARRL, Newington, Conn., 06111. (Kitchener-Waterloo ARC)

NEW PREFIXES HAVE BEEN AUTHORIZED by the DOC to commemorate the holding of the Olympic Games in Montreal. During the period Aug 1, 1975 to July 31, 1976, Newfoundland Amateurs may use the prefix XO and the remainder of Canada may use the prefix XJ. Other prefixes in use on a special basis include: CY6, Calgary, Alta.; XO3, North Bay, Ont.; XK3, Peterborough, Ont.; CG3, Listowel, Ont.; CJ3, Wellaceburg, Ont.; CH1, Truro, N.S.; VC1, New Glasgow, N.S.; CZ3, Wilno, Ont. (Credit: CARF and RSO)

WE HAVE BEEN HEARING RUMBLES: That CARF is instituting a new Personal Membership, but we also hear CARF has asked the present member Societies for a further TWO YEAR mandate, which leads one to wonder if it will take two years for the individual membership to materialize. We also hear that the Ontario interests are heavily dominating CARF and maybe other than interests. Maybe it's time to review the whole scene to find out if CARF is truly democratic as many amateurs have been clamoring for. We do not want DICTATORSHIP!

(Credit - Loyalist City ARC Bulletin, Saint John, New Brunswick - April & May 1975)

ATLANTIC CANADA AMATEUR RADIO CONVENTION (ARRL affiliated) is being sponsored by the Moncton Area ARC and will be held in the Beausejour Hotel, Moncton on Aug 29 to Sept 1, 1975. A good program is lined up and warrants the consideration of any Amateur able to be in the area over Labour Day weekend. Further information may be obtained from the Convention Committee, Box #115, Moncton, N.B. (Convention Committee)

THE ONTARIO HAMFEST, sponsored by the Burlington ARC will be held at Lawson Park, just north of Waterdown and east of Freelton on July 11 and 12, 1975. Keep this in mind for an enjoyable picnic-type outing if you can manage to be in the area.

ADDITIONS TO THE MEMBERSHIP LIST---

VE3HTL	Ken Wilson	35 Pentry Lane, OTTAWA, Ontario	
VE3HRN	D.M. Baker	Box 17, HAZELDEAN, Ontario	
		KOA 2B0	
VE3XE	E. Ilott	19 Heathview Ave., WILLOWDALE, Ontario	226-2860
		MEK 2C2	

CURRENT OSCAR ORBIT INFORMATION

Oscar VI: July 1, 1975; Orbit #12376; Equator crossing (S-N) 51 deg.; Time 0002 GMT.
 Oscar VII: July 1, 1975; Orbit # 2848; Equator crossing (S-N) 56 deg.; Time 0024 GMT.
 and may be updated as per the February issue of THE GROUNDWAVE.

APPLICATION FOR MEMBERSHIP in the RADIO SOCIETY OF ONTARIO, INC.

NAME.....CALL SIGN.....
 ADDRESS.....(Street).....(City or Town).....(Postal Code).....
 PROVINCE.....D.O.C. DISTRICT.....(Where licence is applied for).....

I hereby apply for Membership in the Radio Society of Ontario, Inc., in the class indicated below.

-LIFETIME Full membership for life. Must be a VE3. Fee \$90.00.
-CONDITIONAL Same as Lifetime but fees may be paid \$30.00 with application, \$30.00 on the first anniversary of application and \$35.00 on the second anniversary. On completion of payments becomes a Lifetime member. No refund provided for in case of default of payments but money paid in applied on full membership on annual basis.
-LIFETIME
-FULL Full membership rights for one year from date of application. Must be a holder of an Amateur certificate or licence and be a resident of Ontario. Fee \$5.00.
-ASSOCIATE Non-voting membership with privilage of converting to other classes on qualification. Licenced amateurs residing outside Ontario or non-licenced persons anywhere. Fee \$3.00.
-FAMILY Full membership for applicant and associate membership for other members of family in same household. Applicant must qualify as full member. Only one copy of the Ontario Amateur mailed under this class of membership. Fee \$5.00 for Full member and \$2.00 for each additional member of family listed below.

Amount enclosed with application \$.....Signature.....Date.....
 YOUR PROVINCIAL ORGANIZATION HELPS TO PROTECT THE UNIQUE AND SPECIAL PRIVILEGES ENJOYED BY ALL AMATEURS. MAIL TO-DAY TO:

Radio Society of Ontario, Inc.,
 P.O. Box 334,
 Toronto, Ontario, M8Z 5P7

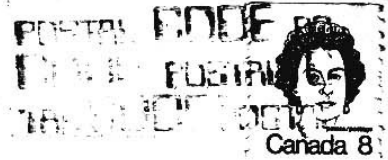
If applicable, Sponsored by.....

HERE IS YOUR APPLICATION for membership in RSO if you do not already belong. You can save money on Convention registration as well as support a worthwhile Amateur organization by being a member. Consider it now!

ADDITIONS TO THE MEMBERSHIP LIST

VE3ANT	A.C. Stinson	948 Dresden Cresc., OTTAWA, Ontario	722-6080
		K2B 5J1	233-4626
VE3ARU	E. Lightstone	1341 Coldrey Ave., OTTAWA, Ontario	746-4663
		K1Z 7P6	
VE3GBH	K. Dean	19 Castor Ave., OTTAWA, Ontario	
		K1H 2H5	
VE3GK	G. King	1152 Tara Drive, OTTAWA, Ontario	225-5428
		K2C 2H2	725-2148
VE3HRD	J. Dewar	RR#3, NORTH GOWER, Ontario	838-2428
		KOA 2TO	

THE OTTAWA AMATEUR RADIO CLUB
 BOX 8873, OTTAWA, ONTARIO,
 CANADA, K1G 3J2



FIRST CLASS MAIL

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: THE OTTAWA AMATEUR RADIO CLUB, P.O. BOX 8873, OTTAWA, ONT., CAN. K1G 3J2 :			
: President	Ron Belleville VE3AUM	1405 Marime Street, Ottawa, Ontario. K1B 3L2	746-2484
: Vice-President	Larry Bradley VE3CRX	9 Chartrand Avenue, Orleans, Ontario. KOA 2V0	824-3753 993-3238
: Secretary	Maureen Neill VE3FZY	148 Fentiman Avenue, Ottawa, Ontario. K1S 0T8	233-9941
: Treasurer	Cy Chapman VE3CVK	2244 Kipling Street, Ottawa, Ontario. K1H 8T5	731-6172
: Directors	Larry O'Brien VE3GRJ	Box 11072, Station B, Ottawa, Ontario K2H 7T8	225-9760
	Bud Punchard VE3UD	3193 Riverside Dr., Ottawa, Ontario. K1V 8N8	733-3990
	George Roach VE3BNO	104 Strathcona Ave., Ottawa, Ontario. K1S 1X6	234-0885 233-6241
: Membership	Vic Cyr VE3DEP	1969 Belcourt Blvd., Orleans, Ontario KOA 2V0	824-1204 993-2559
: Beginners Class	Bob Clayton VE3HBQ	1174 Tawney Road, Ottawa, Ontario. K1G 1B7	731-2691 737-0007
: RSO Convention	George Roach VE3BNO	104 Strathcona Ave., Ottawa, Ontario. K1S 1X6	234-0885 233-6241
: Net Manager and	Larry Bradley	9 Chartrand Avenue, Orleans, Ontario.	824-3753
: Emergency Comm.	VE3CRX	KOA 2V0	993-3238
: Custodian and	Gerry Martin	1771 Hutton Avenue, Ottawa, Ontario.	731-3280
: Archivist	VE3CNU	K1G 1M1	
: Coffee	Ernst Meier	RR#1, Bourget, Quebec, Box #77.	487-8928