

QST CANADA

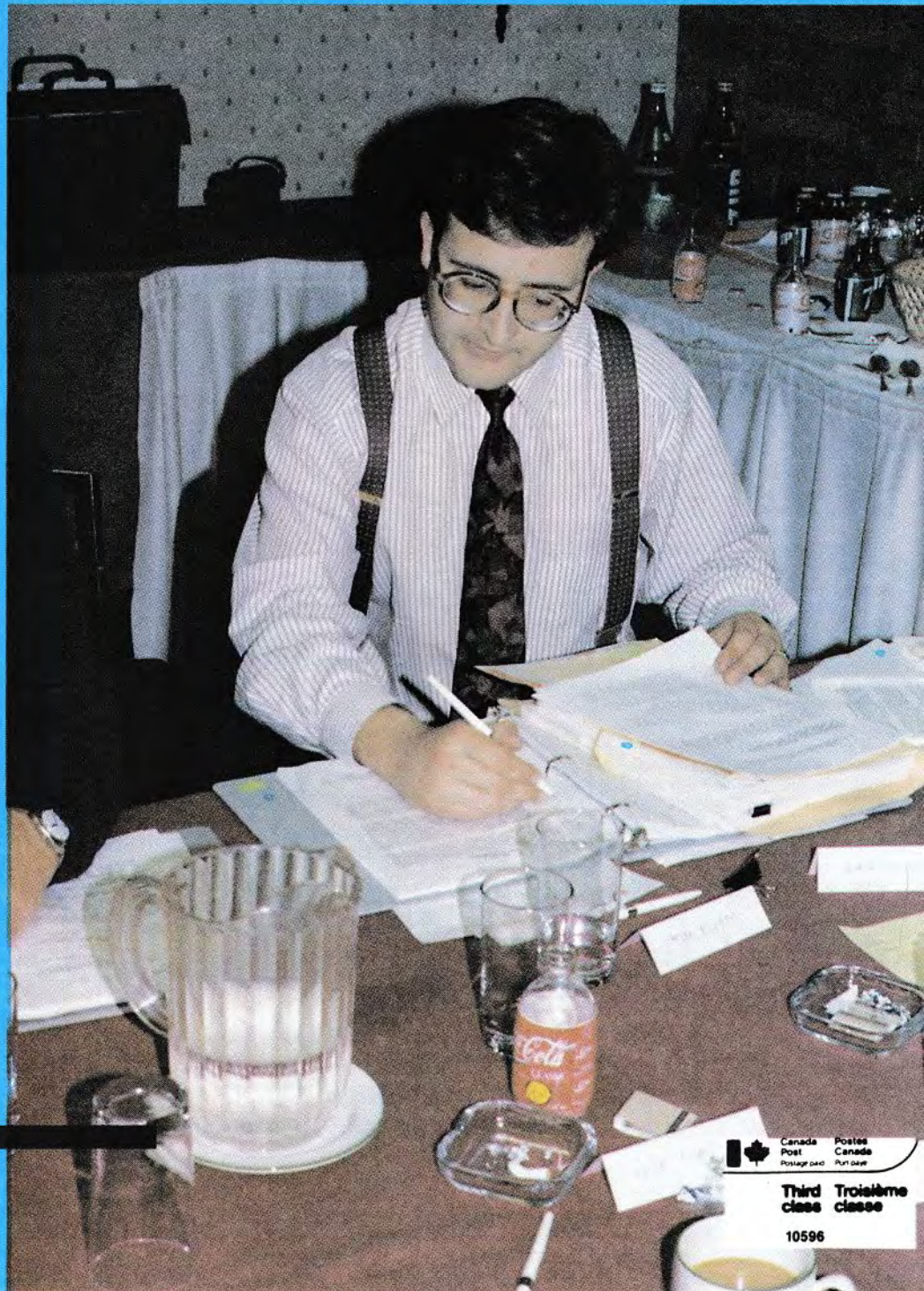
Devoted entirely to Canadian Amateur Radio
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*Amateurs
Acquitted*

*Amateur of the
Year*

*Propagation
Forecasts*

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ABOUT THE COVER



CRRL General Counsel Tim Ellam, VE6SH, seen here at the 1992 Annual Meeting of the CRRL Board of Directors, has donated much time in dealing with recent problems involving amateurs, antennas, municipalities and the police. (See page 3.)

It Seems to Us.../Il nous semble...

Annual General Meetings

Elsewhere on this page, you'll find a notice for the 1993 Annual General Meeting of CRRL members. Unlike annual meetings of the CRRL Board of Directors, this is a meeting you can attend without any special invitation. Who will be there? CRRL officers and directors from all across Canada, and key members of the CRRL staff. Purpose of the meeting will be to bring CRRL members up to date on developments in Canadian Amateur Radio and in CRRL, and to give CRRL members yet another way of providing the people who do the work in their national Amateur Radio organization with input and direction.

Provisions for annual general meetings have been buried in the CRRL by-laws for many years. The main reason that these meetings have not been held regularly is that their usefulness is limited. For practical reasons, annual general meetings can only be held in conjunction with annual meetings of the CRRL Board of Directors. And again for practical reasons, CRRL Board meetings are usually held in the Toronto area. This is not much help to CRRL members who live in Vancouver, Winnipeg or Halifax, or conducive to developing a national perspective.

Still, with the coming of RAC, Radio Amateur of/du Canada, it seemed appropriate that CRRL hold an Annual General Meeting this year. What if you don't live in the Greater Toronto area and you have an idea or concern that you want to share? Contact your CRRL regional director. Names, addresses and telephone numbers appear on page two of every *QST Canada*. CRRL regional directors are always glad to hear from you. They're there to serve.
—Harry MacLean, VE3GRO

VHF-UHF—continued from page 14

Some DX indicator notes: NL7OW in Alaska reports that their 46.90-MHz meteor-burst trans-

mitter is currently off the air. Apparently, the 47.04-MHz FM highway maintenance system is still a good indicator of openings. Callsign is KDZ586.

In Central and South America, several FM broadcast transmitter links operate below six metres and are useful as DX indicators. Gord, VE3KKL, reports discovering one on 45.475 MHz carrying sports, possibly from Jamaica. Another heard in Texas and Hawaii is a high-power Continental Radio outlet, located in Bogota, Colombia, and operating on 49.575 MHz. Also look for Colombia on 45.7 MHz, Chile on 47.9 MHz and Argentina on 48.63 MHz.

Mike, VE1MQ, reports hearing CX4HS on September 11, ragchewing with XE1GE on 50.110 MHz. Thanks to a tip from another Mike, VE3UET, your editor snagged some six-metre Es on December 19–20. Contacts included VE1BVL, VE1HD (FN96) and many stations in Louisiana, Florida and Texas. During one period, a station in Maine was saturating my receiver, indicating possible two-metre Es to the east. Nothing was heard here, but we had reports of that band opening on the east coast.

From John, VE3IPR, editor of *Long Skip*, comes a letter from ZP6CW/N4PW. Doug, who lived in Caacupe, Paraguay, sent a copy of his DXCC submission for six metres, and notes that ZP6CW made 100,000 QSOs and answered all QSL requests both direct and via the bureau.

Mike, VE1MQ, reports that six-metre DX over Christmas was incredible! He notes that some US amateurs still don't understand the need to keep the DX window clear and were ragchewing there. Remember that 50.1–50.125 MHz is for DX only. North American QSOs are to be made above 50.125 MHz.

144 MHz: John VE1BVL reports that VE1ALQ recently completed the requirements his two-metre Worked All States Award (WAS). Congratulations!

John also says that in the six weeks since putting up his new two-metre EME array, consisting of six 17-element Cushcraft yagis, he has worked 40 new EME stations including LU7DZ for WAC. He has 40 states claimed toward WAS.

Mike, VE1MQ (FN65), reports activity during the CRRL Fall Sprints, and asks that everyone turn their antennas toward the Maritimes and make some noise up that way. He is surprised at the lack of activity from Quebec.

Speaking of Quebec, FN08 and FN09 are active on two metres. The people are keen and running power. Look for VE2CHJ and crew, and don't forget to turn your antennas that way when calling random CQs.

1993 CRRL Annual General Meeting

0800, Saturday, May 01, 1993

Airport West Ramada Inn

5444 Dixie Road, Mississauga, Ontario

This meeting is for all CRRL members. It will be followed at 0930 by the

1993 Annual Meeting of the CRRL Board of Directors

All letters are considered carefully. Letters are edited for clarity and may be condensed in order to have more information and readers' views presented. The publishers of *QST Canada* assume no responsibility for statements made by correspondents.

COMMERCIALISM AND IPARN

□ Paul Edgley, VE3PQ, in his letter to the editor in the January 1993 issue of *QST Canada* may have a valid point, but why limit it to IPARN? What about telephone patches? If I may borrow from his letter, "A few amateurs spent time interfacing amateur repeaters to telephone company equipment, but that is the full extent of amateur involvement. The rest is solidly commercial, commercial equipment...." I certainly hope that Paul is not making use of any of these systems.

Come to think of it, how did those OSCAR satellites get up where they are?

Surely they made no use of commercial or government facilities to get there. And while we're at it, those amateurs operating on board the Space Shuttle or MIR. Are they making use of commercial or government facilities for their operation? Speaking of commercial, maybe we should drop all advertising from commercial companies in *QST Canada*.

Let's have no more commercialism in *QST Canada* or in Amateur Radio....

—M. A. Watts, VE6ER

□ I have mixed feelings about IPARN. I am a charter member of IPARN and defi-

nately support its goal eventually to have a downlink in each province so that we might have linked VHF communication right across Canada. Reception on VHF is usually much clearer and more reliable than on HF.

It is unfortunate that there has to be a commercial unit—the satellite—included, but it is a means to the desired end.

Times are changing. Our regulations are more relaxed. If we were all *really and truly* Amateur Radio operators, I venture to say that the majority of us would not *be* amateurs. Most of us don't have the ability, the time or the interest to be a *true amateur* nowadays. Most of us use commercially built transceivers. I wonder if VE3PQ uses a homebrew or a commercially built rig?

I would like to see both terrestrial linking and satellite linking of our provincial VHF systems. A satellite is too expensive for amateurs. The alternative is the IPARN way. Their engineers are to be commended for their amateur expertise in designing the system. They should be encouraged to continue to experiment and enlarge the system. Amateur experimentation has brought many new things to radio today.

So, *QST Canada*, keep on reporting all the newsworthy developments in Amateur Radio. —Angus McDonald, VE6MCD

ASTRONET FORCED OFF VHF

□ I couldn't agree with you more regarding your editorial in January 1993 *QST Canada* deploring the use of indecent language on Amateur Radio frequencies. Almost as objectionable is the interruption of QSOs and nets by persons, whoever they may be, using keypads and other jamming techniques. Many of us regret the demise of the Astronet on two metres, very ably hosted by Dave, VE3MDK. This net became the victim of a deliberate plan to force it off the air. It subsequently moved to 80 metres, leaving behind many of us who do not have the necessary antennas.

There is a lot to be said for packet radio, which I am now looking into, and which, as far as I know, should be less vulnerable to this type of interference.

I also liked your last paragraph, a quotation from the writings of a very fine woman, Mary Baker Eddy. —William Veit, VE3BWV

The Canadian Radio Relay League, Inc La Ligue Canadienne de la Radio Amateur, Inc



The Canadian Radio Relay League (CRRL) is a noncommercial association of radio amateurs organized for the promotion of Amateur Radio communications and experimentation, for the establishment of networks to provide communications in the event of disasters or other emergencies, for the advancement of the radio art and the public welfare, for the representation of radio amateurs in legislative and other matters, and for the maintenance of fraternalism and a high standard of conduct.

CRRL is incorporated under the Canada Corporations Act. Its affairs are governed by a seven-member Board of Directors elected every two years by the CRRL general membership. CRRL is noncommercial, and no one who could gain financially by the shaping of its affairs is eligible for membership on its Board.

CRRL is the Canadian member-society of the International Amateur Radio Union (IARU). "Of, by and for the Canadian Radio Amateur", CRRL numbers within its ranks the vast majority of active amateurs in the nation and has a proud history of achievement in amateur affairs.

A bona fide interest in Amateur Radio is the only essential requirement for membership. An Amateur Radio licence is not required, although full voting membership is granted only to licensed amateurs in Canada.

Membership inquiries and general correspondence should be directed to CRRL Headquarters, Box 56, Arva, ON N0M 1C0 Tel (519) 660-1200.

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Amateurs Acquitted

Thunder Bay couple "not guilty" of criminal nuisance charge.

By Ed Rehfus, VE3LML
227 County Boulevard
Thunder Bay, ON P7A 7M8

On March 17, 1992 Ed Rehfus, VE3LML, and Ine Rehfus, VE3OTV, were contacted by the local Department of Communications (DOC) inspector regarding complaints by several neighbours that they were hearing unwanted voices on their telephones. The inspector checked the Amateur Radio station to ensure that good AC and RF grounding was in place prior to conducting any tests with the complainants.

The local telephone company became involved with the telephone problems, curing one problem by the installation of an appropriate filter, and another by replacing the telephone because the original telephone could not be filtered. There was some delay, as the first telephone repairman was not familiar with EMC problems and placed the blame on the amateur station rather than on the telephone equipment.

In April, the station's antenna rotator was removed for maintenance and the antenna was tied in a fixed position. Neighbours were given the impression that the station was off the air due to the missing rotator. In fact Ine, VE3OTV, was on the air virtually every day during the next six weeks. In statements to the police, one complainant said no interference was experienced during this period.

On June 5, 1992, the old 21-foot tower was taken down and replaced by a 40-foot tower. This triggered an avalanche of complaints. Suddenly the unwanted voices were louder than ever. One complainant later stated to police that, "Things quieted down for about six weeks. Now we have our problem back, louder than before". Of course, the neighbours had applied a simple logic: as long as the tower was only 21-feet high, they had small problems. Now with a tower twice the height, they had bigger ones.

On June 29, a series of tests were conducted at one complainant's home to determine the level of the problem. No incompatibility was evident with the television set, a consumer owned telephone, a toaster or a TV-VCR combination. On July 2, this complainant provided a videotape to the DOC which contained a very faint background voice disturbance. Toroid coils were provided to see if they would eliminate the problem, but it could not be determined if they were actually or properly installed.

Due to continued complaints, the DOC initiated intensive tests of the Amateur Radio station on August 18-19. It was tested on all bands, using all available transmitting equipment. The DOC also checked the telephones and home entertainment equipment at the amateur's home while transmitting at the maximum power of 90 watts output.

The DOC tests showed that the transmitting equipment was working as intended. The spectrum analyzer showed that no harmonics were produced by it. The DOC report said that, "The Department monitored and analyzed the Amateur Radio station signals and found no transmitter defects. It appeared the station was operating according to its licence, within established regulations and certification requirements."

The DOC arranged with the two main complainants to conduct extensive tests on September 1, 1992. With test equipment in place at the amateur station, the complainant who had been tested in June refused to allow the DOC inspector into her home. She indicated she was not interested in further tests. Revocation of the amateurs' station licences was the only solution acceptable to her.

The DOC contacted the second complainant who was willing to have tests conducted. While one DOC inspector was at the complainant's home, the second one monitored the Amateur Radio transmitter. Tests were done on a telephone, a television, two VCRs, a stereo system and three clock radios. The DOC report stated that the results "...revealed an immunity problem. The complainant's 'radio sensitive' equipment lacks the circuitry required to operate properly in the presence of strong radio signals. It was demonstrated that the VCR will operate properly if toroid cores are installed on the VCR power line cords."

On September 2, the two DOC inspectors canvassed the neighbours around the Amateur Radio station. Their report mentions eight immediate neighbours who did not have any problems.

The DOC report stated, "It has been explained and/or demonstrated that some of the equipment will operate properly in the presence of strong radio signals if proper shielding and/or filtering is used correctly. For telephones, it was shown that certain combinations of good wiring,

proper grounding and installation of RF filters resolved the problem."

The report added that suppliers of electronic equipment should be advised by the consumer if their equipment is not functioning properly where a high level of radio signals exists. Some may offer to repair or replace it. "Installing various external and internal suppression components...was suggested. Internal components should be installed by a qualified technician."

The report urged the amateurs and the neighbours to re-establish good relations, and to cooperate regarding resolution techniques and the purchase of parts.

Police Called

On September 2, 1992, the DOC inspectors concluded their investigations, and since no restrictions were placed on the station, Ine, VE3OTV, was on the air that afternoon. Rather than taking the DOC advice, the complainants called the police. They had already filed complaints with the Mayor of Thunder Bay, their alderman, their MP and the local cable network.

That same evening, two police officers appeared at the home of the Amateur Radio operators. They said they had a noise complaint from neighbours due to the Amateurs Radio signals. The amateurs told the police that the DOC had just completed an investigation, and that their equipment had been found to be working properly, and that the equipment of the complainants had deficiencies that could be rectified if the complainants chose. They pointed out that this situation was outside police jurisdiction. It was a matter for the DOC, since Amateur Radio was operated under the authority of the federal Radiocommunications Act.

For several days, all seemed normal; but on September 18, 1992, two different police officers came. This time the complaint was apparently a neighbourhood dispute. The amateurs told the new police officers what they had told the first two. The new pair didn't want to get involved. They said the first two would take care of the matter.

On September 28, the original police officers came to lay a charge of mischief under the Criminal Code. They decided to charge Ed, VE3LML. He claimed he had not been on HF all year long. That

didn't matter to the police. Ine, VE3OTV, pointed out that Ed should not have been charged because he had not been on the air, and that she was the active operator. Thus, the police officers got another Appearance Notice, and Ine was also charged with mischief under section 430(1)(d) of the Criminal Code.

The Crown Attorney agreed to proceed with the criminal charges based on the report by the investigating police officer. In that brief the police constable wrote that, "One complainant has canvassed her neighbours and found eleven more neighbours who are having the same transmissions and problems with their appliances."

For the trial, the Crown could only muster four witness statements: one by a next door neighbour who did have problems, most of them shown to be curable; one from a neighbour who had been checked and only a minor problem found; one whose telephone problem had already been cured; and a fourth who indicated that she did not have any problems worth reporting when she had contacted the DOC at the request of one of the major complainants. The statement in the police report that eleven neighbours were affected was apparently based on information provided by one of the main complainants and had not been verified by the police. The DOC report refuted this statement, as eight neighbours contacted by the DOC stated they had no problems.

The brief to the Crown continued that the accused had advised the investigating officer to contact the local inspector of "Thunder Bay Communications". He probably meant the federal Department of Communications. The report continued that the investigating police officer had talked to the local DOC inspector who had explained "...that there is nothing Thunder Bay Communications (that is, the DOC) can do, because the accused are operating below legal limits and are following all radio guidelines."

The police had contacted the local DOC inspector on September 2. He had advised them that a full investigation had just been completed, that nothing was found wrong with the amateur station, and that a full report was being prepared which would be made available to the police. This offer was never taken up by the police.

The statement of the police constable about "operating below legal limits" caused a problem between the lawyer for the accused and the assistant Crown attorney at the preliminary hearing. After the lawyer for the accused explained the legal situation, the assistant Crown attorney was almost willing to drop the charges at that hearing, had the police report not stated "operating below legal limits". The Crown concluded that the

amateurs were operating *below permitted frequencies* when in fact they had simply been operating *below legal power limits*.

Section 430(1)(d) of the Criminal Code states that, "Everyone commits mischief who wilfully obstructs, interrupts or interferes with any person in the lawful use, enjoyment or operation of property." The penalty could be a two-year jail term.

This charge presented the possibility of tremendous consequences for the accused and all Amateur Radio operators in Canada. Therefore the accused hired a local criminal lawyer to handle the case.

CRRL Assists

Ed, VE3LML, a long-time member of CRRL, the Canadian Radio Relay League, contacted CRRL General Manager Ray Staines, VE3ZJ. Ray went into action, sending faxes across the country. One went to CRRL Legal Counsel Tim Ellam, VE6SH, of the prominent Canadian law firm, McCarthy Tétrault.

Tim immediately faxed Ed that he would assist in any way. He added that he believed that this was the first time an amateur had been charged under the Criminal Code for a matter governed by the Radiocommunications Act. He also said that because Ed's station had received a clean bill of health by the DOC, he believed that section 429(2) of the Criminal Code would apply, and would override Section 430.

Criminal Code Section 429(2) states that, "No person shall be convicted of an offence under sections 430 to 446 where he proves that he acted with legal justification or excuse and with colour of right."

Although the defence lawyer acting for the Amateur Radio operators presented convincing facts, the Crown wanted a trial because of the statement by the investigating police officer that the Amateur Radio operators were "operating below legal limits".

Meanwhile Tim Ellam, VE6SH, contacted the legal department of the DOC in Ottawa to caution them about the seriousness of the situation. In this case, the police and the Crown appeared to dispute the power and right of the federal Department of Communications under the Radiocommunications Act.

In December, 1992, at the request of Ed, VE3LML, the DOC regional office in Sault Ste-Marie, released data not included in the DOC report, listing the eight parties who had no problems, although they lived in the immediate neighbourhood of the Amateur Radio station. This information was also presented by the DOC to the assistant crown attorney, who then asked for further clarification. In this telephone discussion the Crown came to realize that there really was a Radiocommunications Act that looked after Ama-

teur Radio operators, and the problems mentioned by the complainants in the case. The Crown was also made aware of the powers and remedies available to the DOC under this act. This conversation resulted in the breakthrough that brought about the happy ending.

On January 8, 1993, when Ed and Ine appeared before the judge for a fourth time, the Crown presented no evidence, and the judge's verdict was "not guilty". The amateurs were acquitted. The defence lawyer insisted on acquittal rather than withdrawal to prevent the police from laying similar charges in the future.

Both amateurs have been back on the air since January 8, 1993. They had voluntarily refrained from after the charges had been laid, to preclude further charges. They did not want to give the police reason to lay hundreds of identical, additional charges.

September to January were tough for Ed and Ine. Events certainly affected their health. In the course of their ordeal, they discovered the support of the local, national and international Amateur Radio community. They were sustained not only by the many local Amateur Radio operators who showed up on the four court dates, but by messages received by mail and fax, and on the air.

Not being able to operate from home during the more difficult days, Ine found a solution. Only weeks before they were charged, Ine and Ed had given their son Axel, VE3OPF, a set of mobile antennas as a birthday present. These were installed on the family's 3/4-ton truck. Operating mobile from the truck, Ine was able to keep in touch with her many friends in Canada, the US and overseas—stopping only when the mercury dipped to -20°C in late December! ■

March Contests

- ARRL International DX Contest – phone – March 6–7
- YL-ISSB QSO Party – phone – March 13–14
- Wisconsin QSO Party – March 14–15
- CLARA and Family HF Contest – March 16–17
- Bermuda Contest – March 20–21
- BARTG Spring RTTY Contest – March 20–22
- CQ WW WPX Contest – phone – March 27–28
- ARRL 144-MHz Spring Sprint – April 5
- ARRL 222-MHz Spring Sprint – April 13

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15 MARS 1993

Gulf of Georgia Cannery Amateur Radio Station VE7GOG

VE7GOG is operated by the Richmond (BC) Amateur Radio Club. It is located at the Gulf of Georgia Cannery, a national historic site owned by Parks Canada, and is operated jointly with the Gulf of Georgia Cannery Society. The location is the fishing village of Steveston at the mouth of the Fraser River. It is being developed as an industrial museum depicting the West Coast fishing and canning industries.

The amateurs involved with the Society have been operating from a small kiosk using borrowed rigs and equipment. Now a donated trailer is being fitted out as a fully operating Amateur Radio station. It will also be able to function in emergency situations as a part of BC's Provincial Emergency Program (PEP).

The mandate of the amateur group is to mount displays of radio gear used in the canning and fishing industries. This will include a 1914-18 spark transmitter and a variety of HF radio used on fishing boats. The collection will include radar, loran, direction finding and VHF equipment.

VE7GOG will be on the air by spring. Many of the operators are seniors. A "New Horizons" grant has been applied for, to help with equipment costs.

The Cannery will be 100 years old in 1994, and a special opening is planned.

MARCONI STATION VA1S

10,000 QSOs were made during December 1992 by the special-event station VA1S operated by the Marconi Amateur Wireless Society of Sydney, Nova Scotia.

The event marked the 90th anniversary of the first successful transatlantic west-to-east transmission made by Marconi from Glace Bay, Nova Scotia to Cornwall, England on December 15, 1902.

The certificate shown opposite is available to stations that contacted VA1S in 1992. The cost is US \$4 or eight IRCs. No envelope is required for the certificate. QSL requests, however, should include return postage and a self-addressed envelope. Send to Marconi Amateur Wireless Society, 846 George St, Sydney, NS B1P 1L9.

CI2QK MARKS CURLING CLASSIC

Special event station CI2QK will be on the air on 1993 April 3-11, during the Canadian Postal Employees Curling Classic. The event is being held for the first time in Trois Rivières, Quebec. The station will operate on CW and SSB, in the 10-, 15- and 20-metre bands.



VE7GOG volunteers with their newly acquired trailer, about to be fitted out as a fully equipped Amateur Radio station at the Gulf of Georgia Cannery.

90th Anniversary
1902-1992

MARCONI AMATEUR WIRELESS SOCIETY

VA1S

This is to certify that _____ successfully made a 2 X _____ contact with Special Event Station VA1S at _____ Z _____ December 199_____ on _____ MHz.

VA1S is a commemorative station to mark the _____th anniversary of the first successful trans-Atlantic communication from West to East on 15 December 1902 from Glace Bay, Nova Scotia, to Poldhu, Cornwall, England. VAS was the call sign of the original Marconi Wireless Station at Glace Bay.

1902-1992

Jack Columbus - VE1XT

Alan Leith - VE1AL

The VA1S Award shows young Marconi and the wooden transmission towers at radio station VAS, Glace Bay, Nova Scotia, in 1902.

Participants at the Curling Classic will come from all ten provinces and the Yukon and Northwest Territories.

For a special QSL card, send your QSL with self-addressed envelope and \$1

or one IRC to the CI2QK QSL Manager, Jacques Dubé, 875 St-Sévère, Trois-Rivières, PQ G9A 4G4. For a commemorative certificate send your QSL and \$3 or three IRCs to same address. ■

DX Nets

User nets may be found on most of the HF bands. Amateurs with similar interests gather at a specified time and frequency with the aim of sharing a particular interest. These interests may run the gamut from cars, trains, aeroplanes and medicine to computers, antique radios, satellites, chess to plain old ragchewing. The number of nets, each with its own particular theme, is legion. Most nets ebb and flow with the solar tide, but many are constant.

And so it is that DX nets exist, with a strong following of participating amateurs.

DX nets are not well accepted by many DXers. It is argued that DX is "handed out on a platter" to those whose calls have been placed on a list by the net control station. The reality is that it is often as difficult to get on the list as it would be to "freelance" working the DX.

packet clusters, alert repeaters and "one ringers" is our choice. It is the individual who must be content with his or her chosen path to reach DX goals.

Great technical strides have resulted in the state-of-the-art rigs we use today. A prominent feature of a rig is the tuning dial and the on/off switch. A "well rounded amateur" will always know when to use them.

DX NETS: SUGGESTED READING

- *DX Nets Around the World* by OE2DYL
- *The Complete DXer* by W9KNI
- *Where Do We Go Next?* by OH2BH
- *The ARRL Net Directory*

NEW DXCC COUNTRIES

The ARRL DXCC Countries List recently moved from 323 to 326 active

Also, a recent operation by Carl and Martha Henderson (9ER1TB and 9ER1TA) from Eritrea and a subsequent petition for reinstatement will be considered.

The DXAC special study on operating ethics for DXpeditions and disqualifying criteria was concluded in 1992 December. It will be interesting to hear the recommendations. The DXAC was directed by the ARRL Executive Committee to research and report back with its findings. Will the final ruling by the ARRL be a "bombshell" or a "pussycat"? The implications will be something to ponder at the very least!

CAMERON ISLAND DXPEDITION

CARA (Calgary Amateur Radio Association) is planning a DXpedition to Cameron Island, IOTA NA-009, using the special call CH8NMP. This will be a new one on six metres.

BERMUDA CONTEST

Don't forget the 35th edition of Bermuda Contest to be held on March 20-21. Complete rules appear on page 17 of last month's *QST Canada*. ■

DX Nets: the Pros and Cons

The following list is by no means exhaustive.

Pros

- Modest stations can work DX in a QRM-free situation most of the time.
- Many DX stations prefer a net operation providing a regulated situation. Special status may be enjoyed, and language barriers removed by a language facilitator. DX chores may be managed, such as QSLs, logs.
- Good net controllers can be very good teachers. Legal operating, thoughtfulness, good manners can be insisted upon.
- Many net users may feel they are part of a DX family.
- A well run net can be very efficient and many contacts realized.
- Precious radio spectrum is preserved.

Cons

- Exclusive users of DX nets do not develop and hone DX skills.
- Individual stations may not be developed to be more efficient.
- Unless net controllers operate well run nets, with perceived fairness and apparent knowledge, and unless they demonstrate the ability to manage people in a fair, firm and friendly manner, the net can falter.
- A net out of control brings discredit to all participants, and to the Amateur Radio hobby in general. A net controller must have the courage to close down a net when the circumstances justify such a course of action.

DX purists make a strong case that those skills necessary to search, find and work new DX successfully are not mastered by the many. As a consequence, they argue, DX nets can contribute to mediocrity.

But DX nets exist. They are legal and popular and they can't be denied. Nor should they be. On this basis alone, DX Nets should be accepted. The spirit of give and take must apply here, as with all other aspects of the hobby.

The ground rules followed by those who pursue DX are set by the individual and are self imposed. The use of DX

countries. As of 1993 January 1, the ARRL DXCC desk will accept QSL submissions for Croatia, Slovenia and Bosnia-Herzegovina. (See 1992 December *QST Canada*). No word yet on Macedonia, so hold those QSL cards for now.

Also awaited is a ruling on Slovakia and the Czech Republic, for new country status on the ARRL Countries List. This division of Czechoslovakia occurred on 1993 January 1.

Issues to be studied by the ARRL DX Advisory Committee (DXAC) include the question of deleting Abu Ail and Mount Athos from the DXCC countries list.

Silent Keys—

Conducted By Ray Staines, VE3ZJ

It is with deep regret that we record the passing of these amateurs:

VE3AAD, Les Leutchford, Cochrane, ON
VE3BJL, Ralph Fuller, Hillier, ON
VE3BYH, Richard Boutet, Noelville, ON
VE3CL, Clive Taylor, London, ON
VE3CU, Jim Patterson, Barrie, ON
VE3GOM, Al Lasalle, Thunder Bay, ON
VE3NFB, Allan Johnson, Kingston, ON
VE3VDL, Doris Valler, Toronto, ON
VE3VU, Frank Brien, London, ON
VE4GB, Charlie Precious, Abbotsford, BC, formerly of Winnipeg, MB
VE5XU, Gordon Wightman, Regina, SK
VE6AI, George Parkinson, Calgary, AB
VE7BTS, Ben Ailslie, Burnaby, BC
VE7CTJ, John Buchanan, Squamish, BC
VE7DY, David Scholes, Victoria, BC
VE7GCN, Cedric Nicholls, Victoria, BC
VE7IBG, Alex Clark, Burnaby, BC

Note: Silent Key reports sent to *QST Canada* must include name, address and callsign of the reporter. To avoid unfortunate errors, reports are confirmed only through acknowledgement from the family of the deceased. Thus, those who report a Silent Key may not receive an acknowledgement from *QST Canada*. ■

1992 CRRL Amateur of the Year

Will Melhuish, VE3AOY, has been elected 1992 CRRL Amateur of the Year. The award is in recognition of Will's volunteer contribution since 1989 as manager of the Amateur Radio program of the Canadian National Institute for the Blind (CNIB).

Will is 71 years old, and has himself been registered with the CNIB as visually impaired since 1938. He was first licensed in 1970, and has been an active amateur since that date.

Will took over the volunteer post of manager of the Amateur Radio program

of the CNIB in 1989. The objective of this program is to foster Amateur Radio as a hobby for blind and visually impaired persons in Canada.

The program arranges classes for blind and visually impaired people to help them obtain an Amateur Radio licence. It tries to obtain sponsors who will help these blind and visually impaired people maintain their stations. It makes equipment available to them at cost, for lease or sale, and generally provides assistance in all matters related to Amateur Radio.

At present, there are 486 blind and

visually impaired amateurs in the program, an increase of 56 since Will took over as manager. This, says one of those who nominated him, is due in large measure to Will's efforts. He has visited several regional and district offices of CNIB to publicize the program, and he has supplied sponsors, clubs and prospective blind amateurs, with the program's Amateur Radio course, in printed form, in braille form, or on tape. These and many other activities keep him busy at the CNIB office in Toronto from 8 a.m. to 3:30 p.m., four days a week. ■

CRRL and CARF Request Meeting with Minister of Communications

CARF and CRRL officials have asked for a special meeting with the Minister of Communications, Perrin Beatty. The two national organizations feel that amateurs need to be better supported in many key areas of DOC administration.

Some municipalities are overriding DOC's rightful authority over most antenna installation matters. DOC appears to want to distance itself from the resulting disputes between amateurs and municipal authorities, rather than to defend federal jurisdiction under the Radiocommunications Act.

The lack of EMC standards for VCRs, TVs, stereos, radios, telephones, alert and security systems and other home electronic equipment is causing costly problems for the public and for amateurs.

So-called "self policing" by amateurs is hampered by a lack of clear information on the validity of operator certificates and station licences, and the difficulty of initiating effective action against those who violate the law.

Administrative problems are increasing, and there is an urgent need for an ongoing advisory or steering committee arrangement with the DOC to discuss and deal with key issues on a continuing basis. As amateurs, we can no longer afford to wait for months and years to address and resolve these and other pressing problems that threaten our ability to operate.

The formation of the new Radio Amateurs of/du Canada (RAC) as the single organization to represent all Canadian amateurs presents a unique opportunity to

establish a more effective relationship with DOC.

The Minister has shown a personal interest in Canada's Amateur Radio operators. CRRL and CARF hope that this interest may prompt meaningful improvements in the process of serving the needs of the 35,000 Amateur Radio operators in Canada.

DOC MESSAGE TO CANADIAN AMATEURS OPERATING IN THE UNITED STATES

Many retired Canadian amateurs spend

winter months in the southern United States to take advantage of the milder weather. Many others take vacations or travel on business throughout the States. Canadians do not require an authorization to operate Amateur Radio in the US. This is covered by a treaty signed by both countries some years ago. However, Canadians are reminded that when operating in the United States, whether sitting in Orlando or Los Angeles, whether tied up to a wharf in Key West or Seattle or plying waterways along the Atlantic Coast or the Mississippi, or whether driving down on I-75 or Route 66, they must operate in accordance with US regulations.

Amateurs holding the Basic *plus* the 12-wpm Morse code qualification or their equivalent are granted Extra Class privileges when operating in the US. Extra-Class holders in the US are permitted to operate radiotelephone on 1800-2000 kHz, 3750-4000 kHz, 7150-7300 kHz, 14150-14350 kHz, 18110-18168 kHz, 21200-21450 kHz, 24930-24990 kHz and 28300-29700 kHz, and on all VHF bands and above.

Holders of only the Basic qualification may operate on VHF bands and above.

Holders of the Basic qualification *plus* the five-wpm Morse code qualification may operate phone on 1800-2000 kHz and 3750-4000 kHz, and on all VHF bands and above.

Amateur Radio is a wonderful hobby. Enjoy, but remember your responsibilities when you visit a foreign country like the United States. You are a guest, and their rules will apply. ■

Calendar



Attention: Deadline for items is the 20th of the second month preceding month of publication. For example, information should reach *QST Canada* by January 20 to be included in a March issue.

Ajax, ON: Durham Region Amateur Radio and Computer Fleamarket, Saturday 1993 April 03 at Pickering High School, Church Street North, Pickering Village, Ajax. Sponsored by South Pickering ARC (SPARC) and North Shore ARC (NSARC). Open 9 a.m.-2 p.m. Admission \$5. Vendor tables \$12. Advance registration for vendors only to SPARC, Box 53, Pickering, ON L1V 2R2. For more information contact Ron Brown VE3WZ, Tel (416) 839-3711; Kim Becker, VE3SWZ, Tel (416) 683-6883, or Garry Brisbane, VE3REP, Tel (416) 683-4335. ■

ICOM IC-737 HF *NEW!*



ICOM's new IC-737 gives you the most desired features at a most desirable price. Look at the features that ICOM has included. Who says vendors don't listen?

- 2 Antenna connections
- Full Break-in (QSK)
- Automatic Antenna Tuner 160-10M
- DDS Direct Digital Synthesis
- Internal Automatic Keyer
- Direct frequency entry
- Retain you last selected frequency as you change bands
- Pass Band Tuning
- Notch Filter
- 101 memories
- 100 watts output

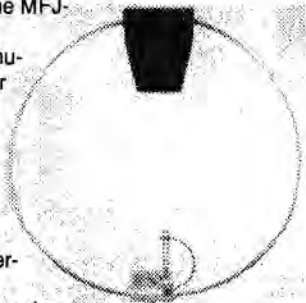
AEA PK-900 *NEW*

AEA claims that this controller is the next generation in multi-mode controllers. This is the successor to the PK-232 and like its predecessor, also includes Packet, ASCII, Baudot, Morse Code, Amtor, Navtex, TDM and SIAM. The new PK-900 features dual port HF or VHF on either port; low cost 9600 baud plug-in option; optional Pactor; memory ARQ and VHF DCD state machine circuit; powerful triple processor system; zero crossing detector for the sharpest Gray Scale FAX you've ever seen (*Fax software is optional*); and many other new software selectable features. **NEW PC-Pakratt for Windows software (optional)** will control the PK-900 for best functionality.

Data rates from 45-1200 baud standard and up to 19.2K baud with external modems. The front panel display has a wealth of information and is packaged in a 11.75"x11.75"x3.5" box. Contact us for more details.

MFJ-1784 HI-Q LOOP ANTENNA

With a 36 inch diameter, the MFJ-1784 is the smallest high efficiency 10-30MHz continuous coverage antenna ever made for ham radio. The MFJ-1784 is a remotely tuned high-Q antenna with a narrow bandwidth that reduces transmitter harmonics, receiver overloading, and out-of-band interference. It does not need a ground, radials or a counterpoise. It handles up to 150 watts and no external antenna tuner is needed. MFJ's exclusive Automatic Band Selection feature auto-tunes to your desired band and lets you know with a beep. Control signals are carried through the coax feedline to the antenna, eliminating the need an additional control cable.



ICOM IC-W21AT HANDHELD

- Dual Band Handy
- Cross Band Full Duplex (2nd mic in battery pack)
- Auto power control senses incoming signal strength and adjusts output power to match
- Auto On/Off at preset time
- Auto Low Power output with low battery (15mW)
- Priority Channel Feature
- 70 Memories
- Battery Capacity Indicator (% of Nicad Battery Voltage)
- Cross Band Repeat
- Page and Code Squelch Features
- much, much more...



PACTOR FOR THE KAM!

Kantronics now offers Pactor for the Kam. Pactor is a combination of Packet and Amtor. It offers the speed of Packet radio with the accuracy of Amtor when running on HF. The pactor upgrade only requires that you replace the EPROM chip in your Kam.

If you are already at Version 5.0 of Kam firmware, then you only require the V6.0 software. The Upgrade also includes a software update for your HostMaster II Plus. **\$95**

If you are currently running a version somewhere between 2.85 and 4.0, then you will require the other upgrade option. Please let us know when you are ordering **\$119**

PACKAGE DEAL SPECIAL!

Try a new ICOM IC-728 HF Rig with 100 Watts output, their new AT-160 Automatic Antenna Tuner and a PS-55 power supply. This special is good only until March 27, 1993. *This special is limited to stock on hand.*

IC-728 with Pass Band Tuning	\$1175
AT-160 Auto Antenna Tuner	\$ 459
PS-55 Power Supply	\$ 269
Normal Discount	\$1919
Super Special!	\$1699
<i>You Save</i>	\$ 220

NEW 1993 CALLBOOKS ARE NOW IN!

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BOTH (INTERNATIONAL & N. AMERICAN)	\$69.00

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If you see the same item (over \$250) priced lower at any of our competitors, send us proof and we will immediately credit you with the difference PLUS 10% of that difference as a thank you for pointing it out to us.
No need to phone 6 different stores, we'll guarantee the lowest price. Does not apply to Out of Business sales, Closeouts, Store Demo's, 1 Day Specials, B Stock and Manufacturer's Price Reductions. The item must be in stock.

KENWOOD T

Kenwood has just announced the great success of the many new features. The m the detachable front panel can be split into 2 pieces. For example, you can place the Display panel behind your visor,



or above the mirror, while k dash board. With the TM-7 50MHz, 220MHz, or 1.2GHz from the Japanese market. will have black lettering on

AEA DX-

We have made a special handy's. These little 10M marvels covers from 28.250MHz to 28.350MHz. With 2 Watts SSB or CW and a sensitive superhet receiver with a noise blanker, this little guy is great to take along to those r also has a built in speaker

The DX handy is battery c from 12VDC. Antenna a Although the DX-Handy is it only weighs 20oz

** SUNDAY

MARCH 14, 1993
Come and see a display Every 2nd Sunday "The S

This month, Walter Chan introduce the new TS-50 come and see the latest fr drink will be available, and on 146.88MHz

Sugar Shack
7700 Hurontario St. (H
(2 lights south of Stee
Brampton, ON

M-742A *NEW*

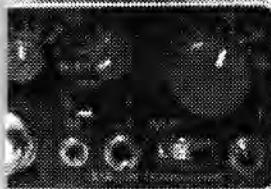
their new TM-742A! Follow M-741A, the '742 has added visible is



oping the control panel on the A, you can still add 28MHz, The display shown above is the North American version of the background.

HANDY \$159

deal with AEA for their DX



note areas for a little DX. It has a microphone, and CW key.

erated and can be recharged. Charge cable are included. packed in a very rugged case, with the batteries installed.

BRUNCH **

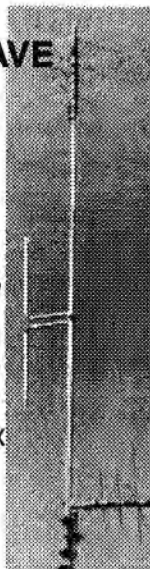
3 12NOON-3PM

the latest in amateur radio. the month, we meet at "Shack".

om Kenwood will be there to HF, very small mobile. Also, Yaesu and ICOM. Food and call your friends. Look for us (Ampton Repeater).

MFJ-1796 HALF WAVE VERTICAL ANTENNA

Operate 40, 20, 15, 10, 6, 2 Meters with this MFJ-1796 ground independent halfwave vertical antenna--no radials or ground ever needed! It's only 12 feet high and has a tiny 24 inch footprint! You can mount it anywhere from ground level to the top of a tower--on apartments, condos, small lots, even on a motorhome. Frequency selection is fully automatic, there are no moving parts, nothing to adjust, all you do is transmit. It handles up to 1500 watts PEP. You will work your share of DX because its low angle of radiation really reaches out and brings in DX.



YAESU FT-530 *NEW!*

- ATS - Automatic Tone Search (CTCSS)
- AOT - Automatic On Time
- Dual In Band Receive U/U, V/V, V/U
- DTMF Paging and coded
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- APO - Automatic Power
- 82 Memories
- Up to 5 Watts output
- Optional Speaker Mic with LCD Display with Remote Functions (MH-29A2B)
- **NOW IN STOCK!**



Squelch

Off

STOP THE PRESS!

KENWOOD ANNOUNCES NEW HF SMALL MOBILE

THE **TS-50S** IS SLIGHTLY LARGER THAN THEIR TM-741A DUAL BAND MOBILE. THE **TS-50S** IS A GENERAL COVERAGE (500KHZ-30MHZ) RECEIVER WITH 100 WATTS OUTPUT ON THE AMATEUR BANDS (160-10M). 100 MEMORY CHANNELS, IF SHIFT, NOISE BLANKER, AIP, DIRECT DIGITAL SYNTHESIZER, AND MUCH MORE....

THE **AT-50** AUTOMATIC ANTENNA TUNER IS OPTIONAL. THIS SURE MAKES GOING HF MOBILE MUCH EASIER WITH THE NEW SMALL CARS (APPROX 7" x 2.4" x 9.2")

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FIRST PRIZE 2 WEEKS IN SARASOTA CONDOMINIUM
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JAN 93 WINNER JOSEPH KLOC VE7HJK
MARCH 93 PRIZE 2 WORLD CHAMPION BLUE JAY TICKETS FOR AN APRIL GAME

Monthly Prizes consisting of Handhelds, Packet Controllers, Antennas and other accessories. Draws will be held the last Saturday of each month. All Ballots received during that month will be eligible for the monthly draw. All entries will be eligible for the Grand Prize Draw to be held on December 15, 1993.

Effective Nov 1, 1992, you will receive 1 (one) entry ballot for every \$100 you spend with us. Other entry ballot will be in this magazine and other printed matter.

ICOM IC-3230H *NEW!*

Even though the IC-3230H is loaded with many attractive functions for complete dual band capability, it is compact.

Measuring just 5.5" x 1.6" x 6.5", like a

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Talk to the World	19.00	1.75	1000	<input type="checkbox"/>
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Introduction to Morse Code	(OT) 12.50	2.25	1201	<input type="checkbox"/>
Code Tapes-5-10 wpm	(OT) 12.50	2.25	1210	<input type="checkbox"/>
Code Tapes-10-15 wpm	(OT) 12.50	2.25	1220	<input type="checkbox"/>
La radioamateur un univers fascinant	23.00	1.50	2000	<input type="checkbox"/>

BEGINNERS

Operating an Amateur Radio Station	1.25	1.25	3000	<input type="checkbox"/>
First Steps in Radio	6.50	1.25	3010	<input type="checkbox"/>
Premiers pas en radio, W1FB (RAQI)	7.25	1.25	2020	<input type="checkbox"/>
En Ondes	12.00	1.25	2030	<input type="checkbox"/>
Help for New Hams, W1FB	12.50	1.25	3020	<input type="checkbox"/>
Morse Code-Essential Language 2nd Edition	7.50	1.25	3025	<input type="checkbox"/>
Understanding Basic Electronics	21.25	2.25	3030	<input type="checkbox"/>

INSIGNIA

Lapel Pins	(OT) 3.00	1.00	1500	<input type="checkbox"/>
Cloth Diamond 5"	(OT) 3.00	1.00	1520	<input type="checkbox"/>
Cloth Diamond 3"	(OT) 2.00	1.00	1510	<input type="checkbox"/>
ARES Circular Patch 4"	(OT) 4.00	1.00	1530	<input type="checkbox"/>
Set of 3 CRRL Logo Decals	(OT) 1.00	1.00	1590	<input type="checkbox"/>

OPERATING AIDS

Log Books-pack of 3	(OT) 10.00	3.25	1700	<input type="checkbox"/>
Super Log Books-pack of 3	(OT) 16.00	3.25	1710	<input type="checkbox"/>
Radiogram (message) Pad	(OT) 2.00	2.25	1730	<input type="checkbox"/>
DXCC Countries List (Revised)	(OT) 2.50	2.25	2512	<input type="checkbox"/>
Grid Locator for North America	(OT) 1.50	2.25	2520	<input type="checkbox"/>
World Map (ARRL)	(OT) 15.00	3.75	2551	<input type="checkbox"/>

VHF & UP

Your VHF Companion	10.00	1.50	6505	<input type="checkbox"/>
Beyond Line of Sight	15.00	1.50	6515	<input type="checkbox"/>
UHF / Microwave Experimenter's Manual	25.00	2.00	6510	<input type="checkbox"/>
Microwave Handbook Vol. 1 (RSGB)	43.75	1.50	6520	<input type="checkbox"/>
Microwave Handbook Vol. 2 (RSGB)	43.75	1.50	6521	<input type="checkbox"/>
Microwave Handbook Vol. 3 (RSGB)	43.75	1.50	6522	<input type="checkbox"/>
Satellite Anthology 1st Edition	9.50	1.25	6530	<input type="checkbox"/>
Satellite Anthology 2nd Edition	10.00	1.25	6531	<input type="checkbox"/>
Satellite Experimenter's Handbook 2nd Edition	25.00	1.75	6540	<input type="checkbox"/>
Radio Auroras (RSGB)	22.50	1.50	6565	<input type="checkbox"/>
Weather Satellite Handbook	25.00	1.50	6550	<input type="checkbox"/>

ANTENNA BOOKS

	PRICE	POSTAGE	STOCK #	✓
ARRL Antenna Book 16th Edition	25.00	2.50	4001	<input type="checkbox"/>
Antenna Compendium Vol. 1	12.50	1.25	4010	<input type="checkbox"/>
Antenna Compendium Vol. 2	15.00	1.50	4020	<input type="checkbox"/>
Antenna Compendium Vol. 3	17.50	1.50	4021	<input type="checkbox"/>
RSGB HF Antennas for all Locations	17.00	1.50	4300	<input type="checkbox"/>
RSGB HF Antenna Collection	25.50	1.75	4310	<input type="checkbox"/>
Antenna Notebook, W1FB	12.50	1.25	4030	<input type="checkbox"/>
Novice Antenna Notebook, W1FB	12.50	1.25	4040	<input type="checkbox"/>
Antenna Impedance Matching	18.75	1.75	4050	<input type="checkbox"/>
Transmission Line Transformers 2nd Edition	25.00	1.50	4060	<input type="checkbox"/>
Practical Wire Antennas	17.50	1.25	4090	<input type="checkbox"/>
Reflections	25.00	1.75	4070	<input type="checkbox"/>
Yagi Antenna Design	18.75	1.50	4080	<input type="checkbox"/>
Physical Design of Yagi Antenna	25.00	1.75	4085	<input type="checkbox"/>

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1993 ARRL Handbook	31.25	3.00	5002	<input type="checkbox"/>
ARRL Electronics Data Book 2nd Edition	15.00	1.50	5010	<input type="checkbox"/>
Interference Handbook	15.00	1.25	5070	<input type="checkbox"/>
Hints and Kinks 13th Edition	11.50	1.25	5031	<input type="checkbox"/>
RFI: How to Find It and Fix It	18.75	1.50	5021	<input type="checkbox"/>
Solid State Design	15.00	1.50	5040	<input type="checkbox"/>
Design Notebook, W1FB	12.50	1.50	5050	<input type="checkbox"/>
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OPERATING

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Proceedings 10th Conference	13.50	1.25	6011	<input type="checkbox"/>
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QRP Notebook, W1FB 2nd Edition	12.50	1.25	3501	<input type="checkbox"/>
QRP Classics	15.00	1.50	3510	<input type="checkbox"/>
Your QRP Operating Companion	7.50	1.50	3520	<input type="checkbox"/>

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Looking Forward

While we see the continued decline in solar activity returning six metres to VHF-band status, we may be in for some F-layer surprises yet. We can look forward though to increased auroral activity. Who knows where Canadian VHF signals may go? Perhaps some may work Hawaii and Europe via aurora. We may see some "super aurora" taking our signals to the far south, perhaps coupling into the equatorial TE layer and working into South America. It makes the mouth water just thinking about it!

We look forward to the ARRL Spring Sprints and the ARRL June VHF QSO Party, the CQ VHF Contest, the UHF Contest, the ARRL September VHF QSO Party, and of course, the new "RAC" Fall VHF-UHF Sprints. We look forward to another kick at putting the Algonquin dish on EME by VE3ONT this spring. We wish them every success, and hope that Mother Nature cooperates.

We also look forward to expanded SSB and CW activity on all our bands above 50 MHz. We welcome our new Basic licensees to the joys of VHF activity, and we look forward to the leadership of the many VHF-UHF notables who have made significant contributions to the development of "weak signal" technology in recent years. People such as Barry, VE4MA; Lionel VE7BQH; Dick, VE3FAC; Peter, VE3VD; Clarke, VE3WCB; Dennis VE3ASO; Kevin VE3KDH; Bob VE3BFM; Stu, VE2XX; Ken, VE6AFO, and John, VE1BVL, have all contributed to our collective "state of the art". What will they achieve in 1993, or what new VHFers they may inspire? We hope they will continue to attract new VHF blood to our ranks, and help us protect our VHF bands in the future.

We also look forward to continued development of our ability to communicate via FM-voice modes, packet radio, ATV, satellites, the Space Shuttle and MIR. New technologies are bringing significant developments here as well.

We look forward to support from DOC for continued protection of our AMATEUR EXCLUSIVE assignments at 50-54, 144-148 and 220-225 MHz, for example. We look forward to operating harmoniously on the bands where we are SECONDARY like 430-450, 902-928, 1240-1300 and 2300-2450 MHz. Continued access to all these bands is vital to Amateur Radio's continued growth and evolution, to ensure that the hobby develops as it should and does not become just a glorified CB service.

We look forward to promoting Ama-

Canadian Radio Relay League Band Plan: 220-225 MHz

(Revised March 1992)

Status: Amateur Exclusive

MHz	Recommended Utilization
220 - 221	HIGH-RATE DATA (≥ 4800 Baud, 100-kHz maximum bandwidth)
220.55 - 220.95	DUPLEXED TO 430.05 - 430.45 MHz (1)
221.01 - 221.09	PACKET (≤ 2400 Baud, 20-kHz channelling)
221.1 - 221.95	DIGITAL
222 - 222.3	CW, SSB
222 - 222.05	EME EXCLUSIVE
222.05 - 222.1	CW
222.1	NATIONAL CW CALLING FREQUENCY
222.1 - 222.275	SSB
222.2	NATIONAL SSB CALLING FREQUENCY
222.275 - 222.3	PROPAGATION BEACONS
222.31 - 223.37	REPEATER INPUTS (2)
223.39 - 223.49	HIGH-RATE DATA (local option crossband-duplexed to 430 or 1300 MHz)
223.49 - 223.59	FM VOICE SIMPLEX
223.59 - 223.89	DATA
223.59 - 223.69	HIGH-RATE DATA (local option one 100-kHz channel or three 30-kHz channels at 223.605, 223.635 and 223.665 MHz)
223.685 - 223.805	NARROW-BAND PACKET (four channels, 25-kHz maximum bandwidth at 223.7, 223.73, 223.76 and 223.79 MHz)
223.79 - 223.89	HIGH-RATE DATA (local option as for 223.39 - 223.49 MHz)
223.91 - 225	REPEATER OUTPUTS (2)

Footnotes

- (1) Links must be designed to limit emissions into the US.
- (2) See table of repeater pairs.

teur Radio not only as a hobby, but as a route to a good job and a happy, productive future for young Canadians. Where else but on the air can you learn about RF concepts, interfacing with computers, RF propagation and the scientific method of problem solving? Where else could you have a "hands on" laboratory free to experiment with and explore to your heart's content? Many Canadians owe their success in the world to Amateur Radio, and Canada owes its freedom and status in the world in part to Amateur Radio. May this continue.

Our children will have to compete like never before in our new global economy. Amateur Radio is one way of making sure that they are prepared for it. None of us wants to see the next generation cheated of its potential because the opportunities were not there. We don't want to see a generation of "hamburger-joint cashiers" because educational opportunities were ignored. It's up to us to inform educators, parents and children alike about the benefit of having access to a real "hands on" laboratory of technology. We must work to make people aware of the positive social and educational benefits of Amateur

Radio. We cannot afford to have it perceived simply as a pastime for the aged or an irrelevant technology.

We look forward to maintaining a service whose standard of "gentlemanly" and mature conduct still serves as an example of "how to do it" for the rest of the world. And we look forward to welcoming more amateurs as they join in on the fun on VHF. We've had a big increase in the number of amateurs in Canada, as shown by the latest DOC database. I remember doing a growth plot in 1988 when it was trending down to one per cent per year. Now it's up past fifteen per cent per year.

Finally we look forward to better economic conditions so that all Canadians, regardless of gender or racial or cultural background may have the opportunity to pursue the "world's greatest hobby".

Let's all pull together and work together, not just to promote Amateur Radio, but to enjoy it and share the pleasure it can bring with our friends and neighbours.

BANDPLANS

It is apparent that many Basic licensees have not been told about bandplans by their licensing class instructors! This may be because the band-

plans are not part of course material. However, the requirement that amateurs do not cause interference to their fellow amateurs is a good lead-in to bandplanning. With the imminent birth of Radio Amateurs of/du Canada, we are pointing out that the bandplans are a necessary part of life for Canadian amateurs, as in every other country.

We hope this point will be taken up by our instructors, and that bandplans will be explained to everyone studying for an amateur licence.

This month we are presenting the bandplan for 220-225 MHz, often known as the 135- or 125-cm band. This band is a real diamond in the rough. It exhibits all the good propagation characteristics of the two-metre band, with the added benefit of no intermod and no crowding. And it's all ours. It is AMATEUR EXCLUSIVE meaning that we don't share it with others users like in the 430- and 1240-MHz band. It is five-MHz wide and provides lots of room for SSB, repeaters and packet. I can't for the life of me see why Canadian amateurs are so slow to get on this band. A number of us have been on this band for over 20 years. It's no secret, and there is gear available. You just have to look a little harder!

EAST COAST VHF NET

John, VE1BVL, reports a new net in the Maritimes on 3,756 MHz. The Atlantic Region VHF Net meets on Wednesday nights at 2100 AST/ADT. John invites all VHFers to check in.

BAND REPORTS

50 MHZ: We have news from the 50-MHz DX Bulletin: Joel Paladino, N6AMG—SK. We are saddened to report the passing of one of the world's movers and shakers. Joel did many wonderful things for VHF radio and the hobby in general over the years. Not only did he provide activity as CN8ST, PY5CC and ZK1CG, but he supplied the gear for Clipperton DXpedition and the

beacon gear for FO8DR and K6FV. He was also responsible for setting up the California linked six-metre alerting system. Joel will be missed by all of us! And G4UPS reports that 74 stations in Spain are licensed for six metres. Look for calls like EH7UH, EH7AG and EH3KU.

At the same time as the above was reported, CRRRL, through IARU, received a memo from *Union de Radioaficionados Espanoles* dated 1992 December 11 stating that the Spanish administration has authorized the use of the 50-MHz band in a temporary, experimental way for a certain number of radio amateurs. The agreement permitted operations on 50-50.2 MHz CW and SSB only, using 30 watts ERP. Congratulations to the Spanish group for getting access from their administration!

Bosnia on six! Despite the fighting, 4N4VO showed up on Es and worked many European countries from his QTH in Basanski (JM19).

From Aruba, George P43FM is back on until March or April. He runs an ICOM IC-757H to a five-element beam.

On November 20-22, XE2HWB and friends operated XF1SI from Isla San Ignacio (DL55) off the Sinaloa coast in the Gulf of California. They worked six ZL's in that period. Look for them from Isla Guadalupe (DL08 and DL09) off the west coast of Baja in March.

From Antarctica comes news that on November 18, VK0AQ sailed for Casey (OC53). He will be there 14 months. The six-metre rig is an IC-505 and an 80-watt amp. QSL manager is VK3OT.

Africa continues to be well represented on six metres. Guinea, Ivory Coast, Kenya, Madagascar, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Zambia and Zimbabwe are all active, taking advantage of closeness to the geomagnetic equator.

VHF-UHF—continued on page 1

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Propagation Forecasts for Canada

The propagation forecasts by VE3VIA, now appearing in *QST Canada*, have been specifically calculated for five regions of Canada.

The Atlantic predictions should be used by operators between 50° West and 70° West longitude, and south of the 55° North parallel.

The Eastern predictions are to be used by operators in the area between 70° West and 90° West, and south of 55° North.

The Central predictions have been calculated for operators living south of 55° North, and between 90° and 110° West.

The Pacific predictions are customized for operators living between 110° and 130° West, and south of the 55° North.

The North predictions have been calculated for an area centred on 62.5° North and 120° West.

The targets, Europe, South America, etc. were chosen to approximate those used by ARRL for its monthly forecasts published in *QST*.

The number in each square is the band that the operator should use first to try to make a contact with a target area. If the cell contains an X the possibility of a contact is extremely remote on any band.

Usually the band shown in the cell is the best possible, but if the solar flux is not as forecast, feel free to try another band. You should first try the higher band, then the lower one. For example, if the forecast says that 40 metres is the best band for a particular target and you wish to experiment, try 20 metres. It may happen that 20 metres is very close to the Maximum Usable Frequency (MUF), but you might still establish a contact. When a frequency is too close to the MUF, the chances of making a contact are less than if you are using the frequency shown on the chart. The frequencies listed in the table are very close to the Optimum Working Frequency (OWF), which is the optimum frequency for an exchange of traffic.

Any suggestions and questions are welcomed, and should be addressed to Jacques d'Avignon, VE3VIA, 459 Leitch Drive, Cornwall, ON K6H 5P7.

PROPAGATION FORECASTS FOR MARCH 15 TO APRIL 15, 1993

UTC	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Atlantic to:																								
Europe	40	40	40	40	40	40	X	X	X	X	20	20	20	20	20	20	20	20	20	20	30	30	30	40
S. America	20	30	30	30	30	30	30	30	30	30	30	20	17	17	17	17	17	17	17	17	17	17	17	20
S. Africa	20	30	30	30	30	20	20	20	20	17	17	15	15	15	15	15	15	15	15	15	15	17	17	20
S. Pacific	20	20	17	17	30	30	30	30	40	40	40	30	20	20	17	20	20	20	17	17	17	17	17	17
C. Asia	30	30	20	X	X	X	X	X	20	20	20	20	20	20	20	20	20	20	20	20	30	30	30	30
Eastern to:																								
Europe	40	40	40	40	40	40	30	X	X	X	X	20	20	20	20	20	20	20	17	20	20	30	30	30
S. America	20	30	30	30	30	30	30	30	30	30	30	30	17	17	15	15	15	15	15	15	15	15	17	20
S. Africa	20	30	30	40	40	X	X	X	X	X	X	X	17	17	17	17	17	17	17	17	17	17	17	20
S. Pacific	15	17	20	20	30	30	30	30	30	30	30	30	30	20	12	12	12	17	17	15	15	15	15	15
C. Asia	30	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	17	17	20	20	30	30
Central to:																								
Europe	30	30	30	30	30	30	30	20	20	20	20	20	20	20	20	20	20	20	20	20	20	17	20	20
S. America	17	20	20	30	30	30	40	40	40	20	20	20	20	20	17	17	17	17	17	15	15	15	17	17
S. Africa	20	30	30	40	40	X	X	X	X	X	X	X	X	17	17	17	17	17	17	20	20	20	20	20
S. Pacific	15	17	17	20	20	30	30	30	30	30	30	30	30	30	20	20	20	20	20	17	17	15	15	15
C. Asia	20	20	17	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Pacific to:																								
Europe	40	40	40	40	40	40	40	X	X	X	X	X	20	20	20	20	20	20	20	20	20	20	30	30
S. America	17	20	20	30	30	30	30	30	30	30	17	17	17	17	20	20	17	17	15	15	15	15	15	17
S. Africa	20	30	30	30	30	30	X	X	X	X	X	X	X	X	X	20	20	20	20	20	20	20	20	20
S. Pacific	20	20	20	20	30	30	40	40	40	40	40	40	40	40	40	30	30	30	30	20	20	20	20	20
C. Asia	20	20	20	20	20	20	20	20	20	20	20	20	20	20	30	30	40	30	30	17	17	17	20	20
North to:																								
Europe	40	40	40	40	40	30	30	30	X	X	X	X	X	X	X	20	20	20	20	20	20	17	17	20
S. America	17	20	20	40	40	40	40	40	40	40	30	30	X	20	20	20	17	17	17	15	15	15	15	15
S. Africa	30	30	30	30	30	20	20	20	X	X	X	X	X	X	X	20	20	20	20	20	20	20	20	20
S. Pacific	20	20	20	20	30	30	40	40	40	80	80	80	40	40	40	40	30	30	20	20	20	20	20	20
C. Asia	20	20	20	17	17	17	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20

Defence of Amateur Radio Fund Trust: 1992 Financial Statement

REPORT OF THE TRUSTEES: DECEMBER 31, 1992

The Defence of Amateur Radio Fund Trust was established in 1991 primarily to obtain funds to assist in defraying the expenses associated with the attendance of a Canadian Amateur Radio representative on the official DOC team that would participate in the World Administrative Radio Conference that would be held in Barcelona, Spain, in 1992 (WARC-92). A secondary but equally important objective was to provide funds for the International Amateur Radio Union (IARU) to cover Canadian ama-

teurs' proportionate share of expenses associated with WARC-92.

No Canadian amateur was appointed to the DOC team at WARC-92, and as such, the Trustees honoured requests for refunds of donations to the Trust, provided that such requests were made prior to July 1, 1992. From the balance of the funds in the Trust, the amount of \$5,000 was donated to IARU Region 2 to help defray expenses associated with IARU's attendance at WARC-92. The remaining funds will now be held in trust and invested by the Trustees to assist IARU and IARU Region 2 with expenses at further World Administrative Radio Conferences.

The Trustees have set out below the accounts and administration of the Trust as of December 31, 1992. The Trustees of the Defence of Amateur Radio Fund Trust express sincere appreciation to all who donated funds. Although a Canadian amateur was not part of the official DOC team, it is clear that WARC-92 was a success from the point of view of Amateur Radio.

It is expected that in 1993, the newly formed Radio Amateurs of/du Canada (RAC) will propose the names of amateurs who will be willing to replace those Trustees who have resigned from the Trust due to personal commitments. ■

DEFENCE OF AMATEUR RADIO FUND TRUST

Accounts of the Administration of the Trust
Statement of Cash Receipts and Disbursements
to December 31, 1992

Cash Receipts

Donations received	\$23,443.55
Interest earned	1,905.70
Total	\$25,349.25

Cash Disbursements

Legal fees and audit	\$0.00
Office supplies, postage, expenses	210.87
Donation to IARU Region 2	5,000.00
Refunds of donations	3,725.00
Total	\$8,935.87

Balance held in trust **\$16,413.38**

Made pursuant to a Trust Agreement dated June 25, 1991, between The Defence of Amateur Radio Fund (an unincorporated association established by Thomas Atkins and William Loucks) as Settlers, and B. Robert Benson, QC, John Perkins, Colin Dumbrielle, Timothy S. Ellam and Ralph Cameron as Trustees. Mr Cameron and Mr Dumbrielle have resigned as Trustees.

Take notice that thirty (30) days after the publication of accounts, if no notice has been received by the Trustees of any objection to the above noted accounts, the accounts shall be deemed to be approved by any persons interested. Notice may be sent to The Defence of Amateur Radio Fund Trust, c/o Tim Ellam, 107 Strathearn Rise SW, Calgary, Alberta T3H 1R5. ■



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IC-W21AT	2m/70cm	Nouveau	\$ 744.00	\$ 669.00
IC-24AT	2m/70cm		\$ 549.00	\$ 489.00
IC-W2A	2m/70cm		\$ 699.00	\$ 629.00



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The CRRL Field Organization Forum

REPORTS FOR DECEMBER 1992

Alberta: Acting SM, SEC, TC: Ken Oelke, VE6AFO @ VE6YYC; STM: Gus Bakker, VE6AKY; OO/RFI Coordinator: Dick Sheppard, VE6TY; NM: VE6CPP, VE6AKY, VE6AUZ. CRRL has called for nominating petitions for Alberta Section Manager. This appeared in January *QST Canada*. I hope we have a dedicated candidate for this very important position. Anyone wishing further details can contact me. The EC reports are very spasmodic. This month, we have reports from VE5XD, VE6CIA and VE6AMM, VE6AFO—a very low average considering there are eight ECs. It seems that all our snowbirds chose a good year to fly south, in the coldest winter I can remember for some time. Tom, VE6CSE, and his wife Joan, VE6GSE, have spent time in Arizona and Nevada. Terry, VE6TDW, is working on an Alberta "packet only" map. Novatel Amateur Radio Club (NARC) is working with the APSS to put ATV into the EOC. This will give officials another dimension on emergencies. NARC is also very active in manning the Space Sciences Station on a regular basis. Calgary Amateur Radio Association (CARA) Emergency Service (CARES) has used ATV on a number of occasions for emergency exercises and the Stampede Parade. CARES has also been asked to provide communications for the Civil Air Rescue Emergency Services for locating downed aircraft. CARES members will attend a Level-1 course on January 16 for this. CARA is also holding its annual banquet and awards night on March 6. The CARA annual spring auction will be held on April 17 at the Golden Age Club. CARA is working with St John Ambulance search and rescue group as a pilot project. If successful, St John Ambulance could be looking to Amateur Radio in other centres for its communications. Bernie, VE6HE, had a very serious stroke and became a Silent Key on January 16. The Amateur Radio League of Alberta (ARLA) executive meeting will be held January 23. ARLA is now 460 members strong. A new *ARLA Guide* will be released in May. Send any changes to Norm Walitho, VE6VW, before the new release. Finally, there is a new club located in the Peace River Country: the Northwest Alberta Amateur Radio Club. Contact person is Don, VE6NN. Good luck to all members.

British Columbia: SM: Ernie Savage, VE7FB. BC Public Service Net (3729 kHz, 0130 UTC daily) Manager Ed Galbraith, VE7ELF, reports checkins: high—210, low—93, and total—5541. BC Emergency Net (3652 kHz, 1900 UTC) Net Manager Ray, VE7BCL, reports QNI—1181 and QTC—464. Fifteen stations had perfect a check-in record for the month. Just a friendly reminder that BCEN's code speed 10 wpm. No complaints lately to the SM's office of any infractions, thanks. No answer yet to his office requesting a Form Seven. Please, only a message is required. It is free! Burnaby and Vancouver ARCs report fantastic Christmas parties with a large attendance at both. 73.

Manitoba: SM: Bill Crooks, VE4JR; ASM: VE4IX; STM: VE4STU; SEC: VE4TM; NMs: VE4FP, VE4LB, VE4TE, VE4TY. I do hope all of you enjoyed a peaceful and joyous Christmas, and that the New Year will bring good health, good wealth, and good "hamming". December was a month for the windup of the training classes conducted by the Winnipeg Seniors ARC (WSARC) and Winnipeg ARC (WARC). I would like to advise that the following graduated from the WSARC classes: Henry Budge, VE4TZB; Robert Crampton, VE4CN; Ted Eashaw, VE4EAS; John Marushak, VE4ETA; Geoffrey Morris, VE4JEM; Clare Nesbitt, VE4NL; Thomas Ryan, VE4TMR; Les Sundell, VE4LES, and Albert Weakle, VE4APA. The following graduated from the WARC classes held at Rick Lord's QTH: two who challenged the system and wrote the test without taking the course: 13-year old Jared Bater, VE4TNC, and VE4CPU's dad, Abe Neufeld, who

Reports invited: CRRL Section Managers (SMs) and their Section-level assistants coordinate traffic handling, emergency communications and bulletin service across Canada. Your SM (name and address appears on page 2 of this *QST Canada*) welcomes reports of individual and club activities for publication in this column. Activities do not have to be related to the CRRL Field Organization or to CRRL.

received the appropriate call VE4DAD; two who travelled in from Selkirk to take the classes: Lorraine Swaine, VE4KGH, and Wendy Stefanyshyn, VE4WMS; and one other that deserves recognition: Tim Rafferty, VE4THR, who achieved 100% on his test. Here is a list of the other graduates: Severino Buan, VE4SVB; Cris Jacinto, VE4CPJ; Jim Jaworski, VE4JAF; Ken Houston, VE4KGH; Ron Norton, VE4II; Eric Roeder, VE4EQ, and Chris Setla, VE4SET. Rick advises that there are 12 more who have not given him their calls, or who have not written. Our congratulations to all who attended these training classes, and to those who took time out to put on these courses, thank you on behalf of all us amateurs. Keep up the good work!

Maritimes-Newfoundland: Acting SM: Carl Anderson, VE1UU; STM: Bob Kirkpatrick, VE1VAR; BM: Brent Taylor, VE1JH. No report available. The Maritimes-Newfoundland Section needs a Section Manager. Duties are not onerous and work can be rewarding. Contact Acting SM or CRRL for details.

Ontario: SM: Larry Thivierge, VE3GT @ VE3OSQ; A/SM, BM: VE3AV @ VE3JF; Acting SEC: VE3GT @ VE3OSQ; STM: VE3CYR @ VE3KRG; TC: VE3EGO. 1992 year-end traffic statistics from our local and section nets reveal 2206 sessions (5.3%) were held with 23,170 check-ins (28.7%) and 5,223 pieces (18%) of formal traffic being handled in 23,907 minutes (24.8%). The percentages in brackets represent the increase over 1991 statistics. December continues to be the most active month for traffic. A big vote of thanks to our Section officials and appointees who work so hard every day of the year to keep the system and ARES activities running smoothly. VE3KK earned his 29th BPL with a traffic total of 725 including 318 originations. Five CANWARN volunteers from Essex and Kent counties attended an award ceremony for the area network at the Windsor weather office. The Award of Appreciation from Environment Canada was presented after the official kick-off of the new weather-copy service in Windsor. The award highlighted the contribution of the area CANWARN net to the safety of all those living in Southwestern Ontario. Regrettably, I announce that the following have become Silent Keys: in memory we list VE3CL, VE3JL, VE3MSC, VE3WT, VE3XJ, whose YL is VE3FLQ, has 240 countries confirmed on RTTY and is now running QRP RTTY for a new challenge. EC ARES reports were received from the following:

Group	EC	No. of Nets
Peterborough	VE3AFP	4
High Counties	VE3FS	4
Brampton/Caledon	VE3LPM	5
Burlington	VE3LVO	—
Eastern Counties	VE3OJN	5

Algoma ARC's membership stands at 48 licensed amateurs and another 24 unlicensed hopefuls. VE3CPU, who is now VE3BW, was active from V2 land for a month. VE3AJN and VE3GNW are both enjoying their new TS-850 rigs. Hope everyone has their licence fees paid by the end of this month!

Quebec: SM: VE2ALE; STM: VE2ED; BM: VE2ALE OBS: VE2GO; QSL MANAGER: VE2IJ. Marty, VE2MH, is now home after surgery in late December and doing well. It would appear that everybody had a fine time over the holidays on account of not coming in for the column during December. On December 6, the VE2CWI (WIARC) had another Foxhunt. The "fox" was located again by the CRA de VE2UMS. Le CRA de VE2UMS held its annual

Christmas party with about 75 amateurs in attendance while Vic, VE2GDZ, was excellent in his role as Joe the Bartender. Users of VE2RWC, 146.805 MHz (-), are working hard to locate a baby monitor which is causing some interference to the machine. The Jay Peak (Vermont) repeater at times is rather large in its transmissions on 146.745 MHz (-) causing some splashover onto VE2RMP, 146.760 MHz (-). It has also been heard on direct at 146.760 MHz. The trustee of VE2RMP is going to contact the FCC and DOC in this matter. He is also looking for 900-MHz equipment for a remote-link system.

Saskatchewan: SM: Joan Lloyd VE5JML. Regrettably I announce that Gordon Wightman, VE5XU, became a Silent Key on November 27. Also joining the ranks of the Silent Keys was Tom Roney, VE5AAI. Recent appointees to the CRRL team in Saskatchewan are Bill Wood, VE5EE, who EC for Regina and area; and Bruce Donovan, VE5ND, who takes over as manager of the Saskatchewan Evening Phone Net held nightly at 0100 UTC on 3744 kHz. Bruce takes over from Ernest, VE5CJ, who has done a fine job as net manager for the past several years. Thanks, Ernest, for your time and dedication. Both are much appreciated. The Saskatchewan amateur population increased significantly during December with 20-plus new amateurs in Saskatoon, eight new amateurs in both Prince Albert and Regina, and one in Weyburn. Classes are continuing in the Moose Jaw, Estevan and Nipawin areas, with exams to be written in early 1993. Thank you to all instructors and delegated examiners for your time, help and encouragement. To all of the new amateurs, please send your QSL information to me so that I may keep my on-line Saskatchewan amateurs database current. Please support your local clubs, provincial organization (SARL), and national organizations (CRRL and CARF). It is with your support that these organizations can continue to grow and provide amateurs with news and a forum for voicing concerns that affect our hobby. The minus 30-degree temperatures that gripped Saskatchewan during the latter part of December show no signs of letting up, so to all, keep warm, think spring, and for any of you who are planning to go, don't forget the annual Dayton Hamvention[®] that is just around the corner. ■

BOOKSHELF PRICING

The federal government subsidy to Canada Post for the mailing of books ended on 1993 February 28. CRRL Publishing's Bookshelf pricing on page 12 reflects the new situation. If you order multiple titles in one shipment you will probably send too much postage, since prices change with each 0.5 kilogram, and each increment is much smaller than the initial charge. CRRL Publishing will continue its practice of issuing a credit note for any excess postage sent to it. ■

Hurricane Andrew

Cold statistics don't do Hurricane Andrew justice. 137,000 homes were destroyed or severely damaged, and a quarter of a million people were displaced. At one point four million people were without electricity and water. 117,000 telephones were out of commission, and fifty per cent of all the trees and foliage were destroyed, drastically altering the landscape of a bustling agricultural region.

Joel Kandel, KI4T, writing in The ARRL Letter, has provided an excellent review of this disaster, which was centred on the city of Homestead, just south of Miami, Florida. This report is based on Joel's review.

Sealed into the Dade County Emergency Operations Centre (EOC) by its steel vault doors, Radio Amateur Civil Emergency Service (RACES) operators waited out the coming and passing of the hurricane, not knowing what to expect when the doors opened once again. The damage exceeded anyone's worst nightmares. Although the EOC, built in the 1950s as a nuclear shelter, withstood the assault, its antennas and towers did not. Out of the three VHF phone positions, one UHF and two HF positions, and one manned VHF packet position, only one VHF antenna was still functional. A 150-foot steel monopole leaned precariously over the parking lot. It was taken down by a crane the next day and cut up.

A quick check around the VHF repeater frequencies added to the feeling of desolation. Of the many repeaters in the affected area, only one seemed to be still on the air. Located in downtown Miami 35 miles from the severe damage area, it had good coverage. Without that one repeater, initial communications to the shelters would have been impossible. VHF antennas that Dade County, the Red Cross and the Dade County School Board were supposed to have installed long ago were victims of dragging feet.

Simplex communications from the EOC to handheld radios would have been impossible. We hoped that the repeater would stay operational through the recovery period and it did, although plagued by intermodulation interference from damaged commercial systems.

Here we learned the first of many lessons: to ensure that the authorities follow through on installing antennas and other equipment needed for simplex communications to key facilities. We had not been adamant enough in our requests. Another lesson was that the best designed, filtered and protected repeater

could be subject to interference from damaged commercial systems spewing out hundreds of watts into bent and broken antennas.

Reinstallation of amateur antennas on the EOC began as quickly as possible, considering that the eighty or so agencies represented in the EOC situation room

Field Organization Reports December 1992

CRRL Section Emergency Coordinator Reports

Reports were received from the following:

Reporting	ARES Members
VE3GT	107
VE6AFO	372

CRRL Section Traffic Manager Reports

Call	Orig	Rcvd	Sent	Divd	Total
VE1BTV	1	44	45	0	90
VE1YS	1	31	42	3	77
VE1VAR	10	13	15	1	39
VE1ALU	2	14	9	6	31
VE1DLC	1	8	0	8	17
VE2ALE	0	56	237	1	294
VE2GOP	0	36	84	0	120
VE2ED	2	31	4	29	66
VE3KK	318	51	324	32	725
VE3GSQ	0	241	235	0	476
VE3HZQ	8	137	161	16	322
VE3GNW	0	104	119	1	224
VE3AJN	0	126	90	1	217
VE3GT	0	69	88	0	157
VE3BDM	1	63	69	2	135
VE3CYR	0	99	21	0	120
VE3ORN	3	47	45	11	106
VE3WV	3	79	12	10	104
VE3PXR	8	32	34	4	78
VE3AAU	4	27	39	7	77
VE3DVE	0	26	33	0	59
VE3BZB	4	25	28	1	58
VE3ADX	2	21	23	0	46
VE3NVJ	0	20	24	2	46
VE3FS	1	19	17	1	38
VE3LPM	2	14	21	1	38
VE3SB	0	16	21	1	38
VE3DBG	0	11	22	3	36
VE3GKB	4	11	11	6	32
VE3CVK	1	10	8	9	28
VE3MNI	0	9	10	6	25
VE3KCZ	2	8	3	6	19
VE3BAJ	0	4	8	3	15
VE3WM	0	3	1	2	6
VE4JR	0	30	28	10	68
VE4STU	0	14	12	5	31
VE5KZ	7	24	34	10	75
VE5JML	0	0	7	0	7
VE6CE	15	73	64	8	160
VE6XG	25	55	40	24	144
VE6CPP	1	10	10	0	21
VE6AKY	2	1	1	1	5
VE7BNI	61	336	404	74	875
VE7ANG	7	174	185	16	382
VE7BCL	1	114	42	24	181
VE7CGJ	1	77	61	7	146
VE7XA	2	30	86	3	121
VE7BZI	14	26	14	5	59
VE7FB	2	23	16	12	53
VE7GKA	12	25	15	0	52
VE7OM	0	24	23	1	48
VE7EGM	2	22	8	9	41
VE7BCF	1	27	8	0	36
VE7DKS	0	19	6	0	25
VE7WI	0	12	10	2	24
VE7CZW	0	17	1	0	18
VE7AHU	0	16	1	0	17
VE7ALV	1	15	1	0	17
VE7BUU	0	14	2	0	16
VE7BOP	1	8	4	3	16

National Traffic System

Net (Mgr)	Sess	QNI	QTC
APN (VE1YS)	29	159	221
QSN (VE2ED)	17	74	27
KTN (VE3AJN)	13	103	23
OLN (VE3POJ)	27	783	34
OPN (VE3AJN)	31	676	402
OQN-D (VE3ORN)	31	136	226
OQN-E (VE3CYR)	31	186	131
OQN-L (VE3GSQ)	31	99	83
MEPN (VE4LB)	31	1007	20
MMWX (VE4TE)	31	472	20
MTN (VE4IX)	30	251	20
SEPN (VE5CJ)	28	1374	8
APSN (VE6AKY)	31	1147	13
ATN (VE6CPP)	31	155	98
BCEN (VE7BCL)	31	1181	454

Brass Pounders' League

This listing is available to amateurs who report to their SM a traffic total of 500 or a sum of originations and delivery points of 100 or more for any calendar month. All messages must be handled on amateur frequencies, using standard ARRL-CRRL form, within 48 hours of receipt.

BPL: VE3KK, VE7BNI

Public Service Honour Roll

(1991 Revision) This listing is for amateurs whose public service performance during the month indicated qualifies for 70 or more points in these eight categories (as reported to their SM):> Note maximum points for each category: (1) Checking into a public service net, any mode, 1 point each, maximum 60; (2) Acting as Net Control Station (NCS) for a public service net using any mode, 3 points each time, maximum 24; (3) Performing assigned liaison between public service nets, 3 points each time, maximum 24; (4) Delivering a formal message to a third party, 1 point each, no maximum; (5) Originating a formal message from a third party, 1 point each, no maximum; (6) Serving as a CRRL SM or field appointee, 10 points for each office or appointment, maximum 30; (7) Participating in a communications network for a public service event, 10 points each event, no maximum; (8) Providing and maintaining an automated digital system handling messages in standard ARRL-CRRL format, 30 points. Those qualifying for Public Service Honour Roll for 12 consecutive months, or 18 months out of 24, will earn a special certificate.

PSHR: VE2ED (115), VE3HZQ (142), VE3AJN (139), VE3BDM (131), VE3GNW (129), VE3CYR (128), VE3GSQ (128), VE3GT (128), VE3PXR (101), VE3FS (84), VE3LPM (71), VE4STU (84), VE4JR (74)

Service and Specialized Nets

Independent Net Managers: Your monthly reports are welcomed. Please send your reports to CRRL, Box 56, Arva, ON N0M 1C0.

Net (Mgr)	Sess	QNI	QTC
Trans-Provincial (VE3EUI)	31	12270	0
GBN (VE3WV)	30	98	38
GBSSN (VE3WV)	30	130	53
Manitoba Repeater	7	430	0
Aurora 1 (VE5ND)	30	1624	7
Prairie WX (VE5EX)	31	873	0
Central Sask 2m (VE5HG)	31	1056	0
Saskatoon 2m (VE5DN)	31	360	0
Avonlea 2m (VE5EE)	31	903	0
Alberta ARES	8	184	4

each had their own communications restoration priorities. A dedicated cadre of amateurs kept a maintenance watch over the equipment throughout the emergency.

We soon learned that amateurs in the affected area south of Miami had suffered major damage to their homes, cars, and of course, radio towers and antennas. Preoccupied with putting their own lives back in order, the all important tactical communications burden rested with an estimated 150 amateurs who came in from all over the state and other parts of the country.

During the storm we kept in touch with some of the shelters that had Amateur Radio communications. Miami Dade Community College gymnasium, housing 1500 evacuees, reported that its roof was lifting five feet off the building. With the help of KD4EUO, evacuees were quickly moved to lower-floor locker rooms, after breaking in through locked doors. The gymnasium roof was eventually lost.

Another lesson learned was that quick evacuation of a shelter can make a permanent shelter communications unit unusable. Plan to use portable or quickly movable equipment.

Teams of volunteer amateurs navigated the gridlocked highways to south Dade County in vans, recreational vehicles, cars and caravans. They were sent to Dade County EOC where they were briefed, sometimes fed, and deployed to a strategic location.

Invariably the first comments from volunteers as they arrived at the EOC were descriptions of their communications capability. They all sounded like space shuttle backups. Some were mildly disappointed when told that we needed plain vanilla VHF voice links to the shelters, food distribution sites and field hospitals. High technology would not be tested here. However, all the volunteers performed admirably.

The lesson learned was that exotic communication modes or multiple modes often are not needed to provide a solid communications network. Amateurs going into a disaster situation should be prepared for anything, but should understand that simplicity is often the key to an effective network.

While packet radio played a role, some interesting problems emerged which indicate the need for preplanning for the future. The W7LUS BBS north of the affected area had an effective emergency plan in place. With a generator procured at the last minute, Peter was determined to keep his BBS on the air, come what might. The BBS was put into an emergency mode, allowing access only preselected calls. This eliminated a lot of unnecessary traffic that might have tied it up. Direct links for a small number of stations worked well, and packet was ideal for sending lists of needed supplies. However, if all seventeen food distribution

points had been using packet direct to the EOC, it would have created a major log jam.

After Hurricane Andrew passed on its way to the Gulf Coast, Southern Bell reported an increase in telephone activity from a normal 1.4 million calls per hour to over five million! To their credit, their system was able to handle this heavy overload. After a media appeal to the public to curtail unnecessary phone calls, the hourly figure dropped to 2.5 million.

However, getting calls into key command facilities like the EOC was extremely difficult. Bell South Mobility, the cellular telephone network, reported forty cell sites damaged, and repairs to them took a whole week. Another company reported eleven cell sites down in the affected area. In other areas where cellular access did not go out entirely, the overload was extreme. Waiting thirty minutes was out of the question for a disaster worker with an urgent request for water, food or medicine.

The lesson learned was that overloaded telephone trunks are almost as useless as no telephones at all. Amateur Radio can allow key command centres to maintain efficient contact for critical tactical communications.

Many forms of emergency communications were established alongside of Amateur Radio. Some were unusual and unexpected, but a credit to those who thought of them. The US Army established its own AM broadcasting station, Radio Recovery, on 1610 kHz. It broadcast helpful information about shelters, medical and food sources, federal assistance and the like. The 400-watt station, located in a tent in a field, stayed on the air for three weeks until more conventional sources of information were available. Federal authorities handed out thousands of battery operated AM receivers for the population to use. Federal authorities also brought in two multi-radio vans. These 35-foot diesel trucks are equipped for HF, VHF, UHF, microwave and satellite communications. Accompanying them were trailers with 105-foot extendable towers supporting microwave dishes. Each satellite downlink provided 24 telephone lines, some of which were microwaved out to provide emergency telephone service for Homestead Hospital.

The Goodyear blimp was even pressed into service as an aerial electronic bulletin board. Flying overhead at night, it displayed messages in English and Spanish on its electric message board.

Finally, after verification that the many other communications facilities were in the hands of all agencies, and after a field test of the system by the State of Florida's Division of Emergency Management, RACES announced that it would terminate operations at midnight, September 1.

For nine days Amateur Radio had been

the prime provider of communications to most agencies. Not everyone was happy that we amateurs were bowing out. Many agencies had found it convenient to have both Amateur Radio and its own operators. Calm and collected bodies are often at a premium in disasters. But all agencies had to face the transfer back to commercial radios and their own personnel.

Hurricane Andrew was a historic first joint venture of civilian and military agencies working together in the United States' largest natural disaster. But it was the Amateur Radio operators who travelled across the state and even the country to volunteer their services who were the real heroes of this hurricane. Amateur Radio held its ground, and earned the gratitude of more than eighty city, county, state and federal agencies in the process. It also served as a lesson for rethinking preparation and training long neglected in a lethargic southern Florida community not hit by a severe hurricane in 27 years.

That's it for this month. Keep those cards and letters coming. —Bob Boyd, VE3SV

This column appears in both The Canadian Amateur and in QST Canada. We hope that it serves as an ongoing source of news and information about ARES for members of both CRRL and CARF.

A reminder that ARES is part of the CRRL Field Organization, although you do not have to be a CRRL member to take part. For more information about how to set up an ARES group, contact your CRRL Section Manager (address appears on page 3 of this QST Canada) or your CRRL Section Emergency Coordinator. —Editor

MOVING?

For uninterrupted delivery of *QST* and *QST Canada*, please send your change of address notice to CRRL, Box 56, Arva, ON NOM 1C0, at least eight weeks before moving. Don't forget to include your call-sign or the seven-digit number on your mailing label. —Ray Staines, VE3ZJ, General Manager, CRRL

Ham-Ads



Advertisements must pertain to Amateur Radio. For individuals or firms offering products or services for sale, the rate is \$0.50 a word + GST. This is reduced to \$0.25 a word + GST for those seeking to dispose of or acquire personal station equipment. Telephone numbers count as one word. No charge for postal codes. Unless specified, a *QST Canada* Ham-Ad will appear in the next available issue. Send Ham-Ads to CRRL, Box 56, Arva, ON NOM 1C0.

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