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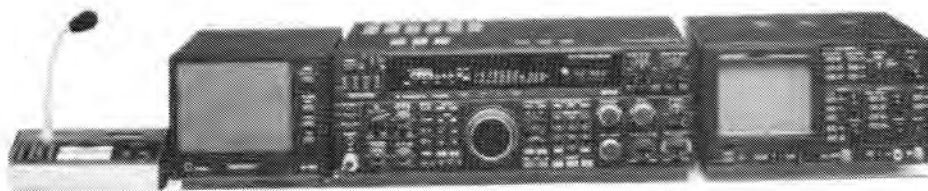
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QST Canada (ISSN 0840-1670) is published monthly by CRRL Publishing, Inc., to provide radio amateurs, others interested in radio communications and electronics, and the general public with information related to the science of Amateur Radio communications.

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Subscription rates: CRRL membership with QST Canada: \$15 + \$12 + \$0.84 GST = \$27.84 per year. CRRL membership with QST and QST Canada: \$15 + \$43 + \$3.01 GST = \$61.01 per year. Two- and three-year subscriptions are available at multiples of the yearly rates. Copyright © 1991 by CRRL Publishing, Inc.

## ABOUT THE COVER



Don Cole, VE6EY, in the "bring-up-the-rear" vehicle at last year's Golden Triangle Bicycle Tour. Members of Calgary ARA provide the communication and even drive many of the trucks. More photos on page 5. (VE6AFO photo) ■

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

## The Last Three Per Cent

In our spare time, when we're not doing things with CRRL, we teach school. Last weekend we attended a workshop on improving public relations—how we teachers might better "market our schools". Bruce Mathers, former Director of Education for Ontario's Durham County and a workshop leader, recommended a 90:7:3 formula. According to Bruce, ninety percent of marketing is having a quality product, seven per cent is finding out what the public wants, and three per cent is the doing the actual selling job.

That formula certainly has application in Amateur Radio. We have a quality product. Over the past five years, while we debated the merits of a restructured Amateur Service, we gained a fairly good understanding of what the public wanted. So now that things are in place, ninety-seven percent of the work is done. It's time to do some selling!

Where do you begin? As we've said before, the public has become a bit jaded. Radio is everywhere—in the home, in the car, in the workplace. For less than a thousand dollars anyone can purchase a cellular telephone and stand on a corner and direct dial to almost anyplace in the world.

Of course, we amateurs know there's still magic in radio. We also know that magic is contagious. All you have to do is put forth the effort and show people.

Inviting friends to your shack is a good place to start. Have them over at a time when you're sure you will make a few interesting contacts. Let them tune the receiver and hear what's happening on the bands. Let them hear what the different modes sound like. Let them talk to someone on the air. Be sure you have some materials—especially study materials—to show them. Don't let them away without giving them a copy of QST, DOC's RIC-24 and RIC-25, and some study materials. Follow up with a phone call a week later. Help them get their licence.

Visits to community groups are also a good bet. For this, you'll need a box full of materials to set out—study materials, books, magazines, maps, posters and QSL cards, RIC-24 and RIC-25. Get a copy of *World of Amateur Radio* or a similar videotape to show. You won't likely be able to set up a complete station, but you can display some equipment and you can play an audio tape to show what a CW QSO, a sideband QSO, an RTTY signal and a packet signal sounds like. Let them talk through a local repeater. Be able to tell them when and where the next Amateur Radio classes will be held in your area. Have it on paper with a phone number prominently displayed.

If you want to interest a lot of people at

once, consider a fair or mall display. We always think that the VE3CNE display at the Canadian National Exhibition is one of the best. Usually there are one VHF and three HF operating positions. Each position has a card indicating the band being used, the equipment being used and what that equipment can do on that band. There are lots of posters and printed materials, and some pamphlets to take home. There's even a quiet area with a circle of chairs where visitors can get away from it all and just talk to an amateur about the Amateur Radio. Now that's marketing!

## REMEMBERING BRIT FADER

It's been several months since Brit Fader, VE1FQ, passed away, but we've not forgotten him. We first met Brit about ten years ago, on one of our many treks "down east" to set up the CRRL booth at the Atlantic Hamfest. He was easy to spot in a crowd—he often wore short pants and he accepted the nickname "knobby-knees" with the good humour and graciousness that had become his trademark.

Brit was a giver. He became manager of the VE1 Incoming QSL Bureau in the late 1930s, and he held that post and did the work for the next fifty years. He was also manager of what eventually became the CRRL Central Incoming Bureau. Brit was never able to say exactly when that started. Being in VE1, his name was at the top of the list of Canadian QSL managers printed in the *Callbook*, and foreign amateurs, mostly out of ignorance, would often send *all* their Canadian cards to him. Rather than return the cards, he would sort the cards by region and forward them to the correct QSL bureaus. He said it was no trouble at all—it was just like sorting letters at the post office where he worked. And so, the Central Incoming QSL Bureau was born.

Brit's work did not go unnoticed. In 1980, CRRL named Brit Amateur of the Year. At the Atlantic Hamfest held in Fredericton in 1988, I personally had the honour of presenting Brit with a CRRL Certificate of Merit. This was after Brit had been forced to retire as QSL manager because of failing eyesight. And just before his passing, CARF named Brit to its Canadian Amateur Radio Hall of Fame.

We will all miss Brit, miss his voice on 20 metres, and miss seeing him at the hamfests wearing those short pants, passing out his QSL cards. But we will not forget his work or his person. He was the consummate amateur, never expecting credit as he quietly gave to others. He was a true gentleman whose example touched all of us who were lucky enough to know him. —Harry MacLean, VE3GRO ■

All letters are considered carefully. Letters are edited 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.

## ONTARIO LICENCE PLATES

This letter is to bring you up to date on what has happened to the proposal to change Ontario Amateur Radio licence plates to include the words "Amateur Radio" in place of "Yours to Discover" (1990 May *QST Canada*).

The response to our mailing was overwhelmingly in favour of the proposal. On that basis, a presentation was made to Bill Wrye, Ontario Minister of Transportation, in May. Since then, there has been a new government in Toronto. Needless to say, the proposal died with the previous government despite attempts to get the neces-

sary legislation through before the election.

In November, we made a formal request to Edward Philip, the new Ontario Minister of Transportation. His response was received on January 30. It would appear that the matter was given very little consideration.

We are still pursuing this matter. Some of you will remember the struggle we had to get the first Ontario Amateur Radio licence plates. A strong lobbying effort on the part of all Amateur Radio operators in Ontario may again be necessary. —Rob Gammon, VE3CJX, Windsor, ON

## JAPANESE LICENCES

Re statistics on Japanese radio amateurs (January 1991 *QST Canada*), I noticed the figure 1,027,000 and that Japanese amateurs represent about half the world's total. The 1990 *Callbook* lists only 34,344 amateurs for JA-JS and 137 amateurs for 7J. Are there other prefixes or is the 1990 *Callbook* out of the current picture? Please satisfy my curiosity. —C. Rolfe, VE7GMR, Victoria, BC

*The Japanese have an interesting licensing structure. They have two categories of amateurs, Junior and Senior. Senior amateurs are subdivided into First class and Second class. First class amateurs receive all privileges available under Japanese rules, Second class the same but limited to 100 watts output. Junior amateurs are subdivided into Radiotelegraphy class and Radiotelephony class. Those in Radiotelephony class are not permitted to use code. Junior amateurs are allowed 10 watts output on all bands below 8 MHz and above 21 MHz. We suspect that the Callbook is listing only amateurs in the Senior category.*

*Incidentally, now you know why we occasionally see 10-watt versions of some otherwise pretty advanced rigs, and why one Kenwood rig available a few years ago was designed to operate on 40, 15, 10 and 6 metres!* —VE3GRO

### 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 7009, Station E, London, ON N5Y 4J9 (519) 660-1200.

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\*Voting member, CRRL Board of Directors

## 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.

**Bermuda Contest:** 0000 UTC March 16 until 2400 UTC March 17. Complete rules appear in February *QST Canada*.

**Brampton, ON:** Peel Hamfest, March 9 at North Peel Secondary School, 1305 William Parkway at Bramalea Road. Opens at 0900.

**Ottawa, ON:** Ottawa Valley Fleamarket, April 20 at Canterbury High School, Canterbury Avenue. Sponsored by Ottawa Valley Mobile Radio Club (OVMRC). Opens at 0900. Admission free. Talk-in on 147.30 MHz (+). For tables or more information, contact Ken Barry, VE3KJB, at (613) 746-4823.

**Smiths Falls, ON:** 7th Annual Eastern Ontario Amateur Radio Fleamarket, May 4 at Lombardy Agricultural Society Hall, Highway 15, 7 km south of Smiths Falls. Sponsored by Smiths Falls Amateur Radio Club. Opens at 0900, 0730 for exhibitors. Admission: \$2, tables \$5. Talk-in on VE3RLR, 147.21 MHz (+). For tables or more information, contact J Baxter Smith, VE3BFX, 8 Lawrence Street, Smiths Falls, ON K7A 4K5 (613) 283-7852.

**Spokane, WA:** Inland Empire Hamfest, April 6-7, at Spokane Youth Sports Bingo Hall, East 2230 Sprague Avenue. Fleamarket, commercial exhibits and evening banquet. For more information, contact Warren Kelsey, South 1405 Crestline, Spokane, WA 99203 (509) 543-8443.

# Congratulations—It's a Beam!

Here's a practical and inexpensive 10-metre beam project for beginner and old-timer alike.

By Frank J Burke, VO1BZ  
Box 5612 EEPO  
St John's, NF A1C 5W8

The *ARRL Handbook* contains lots of good information on the theory and construction of antennas. The prototype beam described here is largely based on the information found in the *Handbook*. I'll leave the detailed theory to the *Handbook*, and concentrate on practical construction hints.

First of all, I must confess that this is my first HF beam. For years, I used wire dipoles and verticals, and was reasonably happy with the results. As time went by, though, I realized I was missing something. It was frustrating to be unable to keep skeds, for example. I decided to build a beam.

My construction goals were simple. It had to be inexpensive, and it had to be small and lightweight. Salvage materials helped to achieve the first goal, and a two-element design for the 10-metre band helped achieve the second.

The elements were made from electrical conduit. This is tubing about one inch in diameter available at many building outlets. Four sections, each just over eight feet in length, were used. Two sections were joined to form a reflector. The joints were made by tightly fitting a short stub of scrap tubing inside one length of the conduit, and then forcing another length of conduit over the portion of the stub that protruded. The stub should be one size smaller than the conduit.

If you can't get the correct size, other ways of joining the conduit, clamping for instance, should work just as well. Just ensure that the joint is both mechanically and electrically sound.

Next, both elements were trimmed to the desired lengths. The driven element was 16' 6" long and the reflector was 17' 4" long. The two elements were spaced four feet apart on the boom. For the prototype beam, I made the boom out of used three-inch diameter PVC pipe. This kept the total weight down for testing and tuning, and it proved quite strong. Over the winter, wind gusts of 120 km per hour caused no problems. However, for lightning protection. Still, I recommend a metal pipe for the boom. This would put all of the antenna at DC ground potential for lightning protection.

A gamma match was used on the driven element. Refer to the *Handbook* for the theory, and to the diagram for practical dimensions. The gamma rod was made from a scrap of tubing, about two feet long. A metal strap connects the gamma rod to the driven element, about 20 inches out from the boom. A plexiglass bracket supports the rod, at a point halfway between the boom and the metal strap.

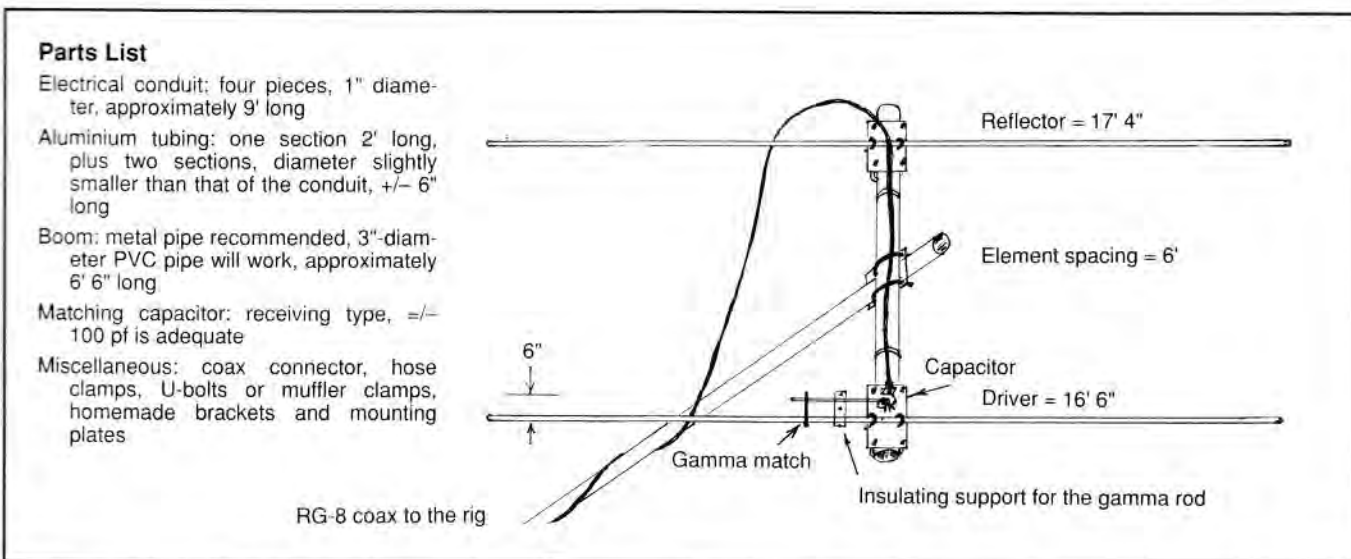
The gamma rod is attached to a matching capacitor, and in turn, the capacitor is wired to the coax connector mounted on the boom.

The variable capacitor can be a receiving type if low power is used. It takes surprisingly little capacity to achieve a good match on 10 metres. I weatherproofed the capacitor by first wrapping it in plastic, and then securing a plastic food container over it.

I feed this antenna with 40 feet of RG-8 coax. Tuneup is not difficult, but it may take several attempts. My antenna is mounted on a 30-foot telescoping mast. I adjusted the capacitor for a reasonable match close to the ground, and then rechecked the match with the mast raised. I was able to achieve a VSWR of 1:1 at 28.000 MHz. At 28.377 MHz, one of my frequent SSB hangouts, the match was 1.2:1, and at the top of the band, it rose just to 2:1. My rig's finals were happy and no tuner was needed.

Results with this beam have been great. Besides the expected DX, I am now better able to enjoy my two favorite Amateur Radio activities: QRP and rag-chewing. I frequently run power levels of 1-3 watts to this beam, and I get many 59 signal reports. QRP is always thrilling, and now I can ragchew across the continent with just a few watts. I no longer worry about breaking in on local telephone conversations—a frequent happening when running high power around here!

This project has been a good introduction to practical beam construction. There's still



Figures 1—A birdseye view of a simple but effective two-element 10-metre beam. See text for details on the gamma match. (VO1BZ diagram)

lots of room for experimentation and improvement—I'm already planning to expand this beam into a tribander. But even as a single-band antenna, this beam is an efficient performer. If you've always wanted a beam but weren't sure what to do, take my advice. Build it! You'll be glad you did. ■

# ON4CLM—a Success!

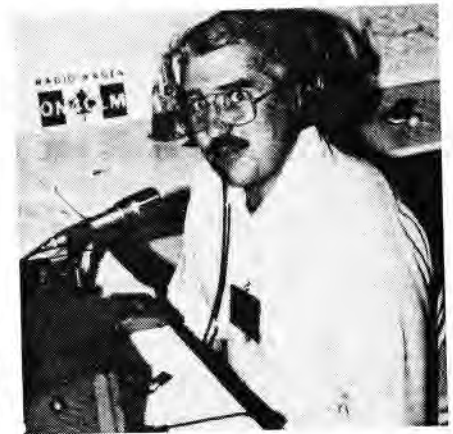
## THE CASE FOR AMATEUR RADIO

### THE CASE FOR AMATEUR RADIO



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IARU is distributing English, French and Spanish versions of this pamphlet to telecommunications administrations around the world in preparation for WARC-92. English text appeared in December *QST Canada*. ■



Patricia, VE2LUE, and Bill, VE7DGM/DA2HK at the operating positions of ON4CLM.

Each year, around the first of November, special-event station ON4CLM—Canada Liberation March—is on the air again.

Already at the time of the liberation of Knokke, Belgium, in 1944 and shortly thereafter, there were radio amateurs who were in contact with their Canadian colleagues. Some of them remained in contact right to the present. From that, the idea arose about eight years ago to put a station on the air every Canadian Week in Knokke-Heist, to continue these relations.

Each year, the local Union of Belgium Amateurs (UBA) ONZ Eastcoast Section obtains temporary permission from the Belgium government to use the special call ON4CLM. This year, 1990, the station took up its position in this Section's rooms from October 29 to November 4. Along with the regular operators, there were guest operators from the Belgium Air Force Radio Amateurs (BAFRA), and two Canadian army radio amateurs, Patricia, VE2UJE, and Bill, VE7DGM/DA2HK, of the Lahr Amateur Radio Club in Germany.

After some problems with the antenna, the festivities started. The first QSO was with French Antarctica, FT5XH. The operators from BAFRA took turns, and the two Canadian operators were constantly in front of the mike.

This year, in all, we made more than 800

QSOs. On HF, there were 60 QSOs with US amateurs, and about 350 with amateurs in Canada. About 55 QSOs were made on CW. There were also four QSOs on AM with Dutch special-event station PA6LIB, also celebrating the Canadian Liberation in 1944.

Everyone who worked ON4CLM can request the special ON4CLM Award by writing to the author at the address below. The cost is US\$ 5 (no cheque or postal money order, please). Money goes into a fund used to commemorate the Canadian Liberation. Every year, the award displays the emblem of a different unit involved in the liberation. This year, it was the emblem of the Cameron Highlanders of Ottawa.

Also this year, the amateurs who organized ON4CLM also assisted with the 17th Canadian Liberation March, which took place along the same route that the Canadian soldiers followed from Hoffdplaat, Netherlands, to Knokke, Belgium, in 1944. The amateurs helped coordinate this event by supplying communications from 18 radio posts and a range of mobile units. The police in Belgium and the police in the Netherlands use different frequencies. With our units along the 34-km walking route, coordination was assured. —Bob Dyserinck, ONL453, Organisation ON4CLM, Kerestraat 19, Bus 2, B-8301 Heist aan zee, Belgie ■



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## IARU Reps Meet in Miami

Representatives of Areas A, B and C (Canada, the US, Mexico, Bermuda and the Caribbean) of IARU Region 2 met in Miami, Florida, on the weekend of February 2. Canadians attending: Region 2 Secretary Tom Atkins, VE3CDM, CRRL representative Clarke Campbell, VE3KSQ, and CRRL President Bruce Balla, VE2QO. Agenda included reports from member societies, WARC-92 preparations including the ongoing work with telecommunications administrations in each Region 2 country, publication of *Region 2 News*, the IARU monitoring project, the IARU beacon project, emergency communications, and various ITU, CITEL and IARU Administrative Council matters. This was the first time a combined meeting of IARU Region 2 Areas A, B and C had been held, and it was successful. Similar combined meetings will likely be held in the future.

### ACROSS CANADA

□ Congratulations to Larry Dobby, VE2DO (ex-VE3CWT and VE2YU), who was recently elected Director for the CRRL Quebec Region. Larry, who served as Quebec Section Manager in the 1970s, ran unopposed, eliminating the need for a balloted election. His new term of office began on January 1.

□ A Wetaskiwin, Alberta, veterinarian was recently convicted under the *Radiocommunication Act* of operating a two-way radio without a licence. The fine was \$1200. Following the conviction, DOC issued a press release reminding all radio users that unlicensed stations can cause interference to licensed stations, and that interference to safety services like police and fire departments can lead to injury or loss of life. Under the *Radiocommunication Act*, individuals found guilty of operating a transmitter without a licence may be fined up to \$5000.

□ Prefix hunters, take note. To celebrate the 100th Anniversary of Ukrainian settlement in Canada, Canadian amateurs may use the following special prefixes throughout March and April: VA1-VA8 in VE1-VE8; VC1-2 in VY1-2; VC9 in VY9 (special DOC club stations); and VO7-8 in VO1-2. Also during March and April, in connection with the celebration, CANAD-X Long Skip Editor John Sklep-kowycz, VE3IPR, will be operating special-event station VA100U.

□ A reminder that, even with the Middle East war in progress, there are no restrictions on Canadian Amateur Radio operations. If it becomes necessary, DOC may issue a list of countries with which Cana-

dian amateurs should not communicate. Of the countries involved in the war, only Iraq and Saudi Arabia appear on the ITU "banned countries list". Over and above this, CRRL strongly advises that Canadian amateurs not contact any Amateur Radio stations located in any of the countries in the Middle East directly involved in the war.

□ A reminder to CRRL members in the Ontario South Region: there is an election under way for the office of CRRL Regional Director. Ballots for this election were mailed out during the first week of January and are due back at CRRL Headquarters on March 20.

### SOUTH OF THE BORDER

□ CRRL International Affairs Vice President attended the ARRL Board meeting held in Farmington (Hartford), Connecticut, on January 18-19. A summary of highlights follows: The ARRL Board 1) adopted a resolution expressing deep concern for ARRL members and all radio amateurs involved in Operation Desert Storm, 2) endorsed the US FCC's decision to create a codeless Technician-class licence, 3) directed ARRL staff to implement a program of field checking QSL cards for initial applications for DXCC, 4) authorized creation of a new staff position, Public Relations Coordinator, and the hiring of an outside agency to help improve Amateur Radio's image in the mind of the general public, and 5) asked the VHF/UHF and VHF Repeater advisory committees to gather input for a new band plan for 222-225 MHz. The last item seems to signal that ARRL is resigned to losing the 220-222-MHz portion of the 220-225-MHz amateur band to the US Land Mobile Service.

□ The US FCC has sent Notices of Apparent Violation to three packet operators for carrying a message addressed to "ALL @ USA". The message, relayed by a number of packet BBSs in early January, asked recipients to telephone a "900" number and "...tell Bush 'NO WAR.'" The message also gave the address and regular telephone number of the Coalition to Stop the War in the Middle East. According to FCC, by carrying the message, the amateurs had facilitated the business interests of the New York-based Coalition, in contravention of Section 97.113(1) of the FCC rules.

US amateurs are very concerned. The FCC action implies that every station in a store-and-forward network is responsible for the content of the messages passing through each node. As a result, US packet

operators are checking their messages very carefully these days. By way of example, a message on behalf of Canada's Defence of Amateur Radio Fund was recently killed by a US packet station after it was judged to be "too commercial". Such messages, which are routinely carried in Canada, must occasionally be relayed by US stations because there are no reliable east-west packet circuits in Canada.

□ The US 80-metre Novice band will move from 3700-3750 kHz to 3675-3725 kHz on March 16. This move is being made to reduce interference to and from Canadian SSB stations operating on 3725-3750 kHz.

□ Effective date for introducing a new code-free Technician-class licence in the US was February 14.

□ According to the *W5YI Report*, Glen Baxter, K1MAN, has again been cited by the FCC for violations on the HF bands including broadcasting. Apparently, K1MAN, founder of the International Amateur Radio Network (IARN), was transmitting 44 times each week on the 80-, 40-, 20- and 10-metre bands. Apparently, the transmissions were up to 45 minutes long. To date, FCC says K1MAN owes it \$3400 in fines. K1MAN says the FCC has no authority to levy these fines which carry an implication of guilt. He has threatened to sue the FCC. According to the *Westlink Report*, K1MAN has already sued ARRL. ARRL has been careful not to comment on the K1MAN case or on related cases. In a recent *ARRL Letter*, for instance, coverage was limited to reproducing the actual FCC notice of the alleged violations.

□ More on K1MAN. On January 11, K1MAN, reported that his Maine-based International Amateur Radio Network (IARN) had decided to keep its "Amateur Radio Peace Corps" delegation in Iraq past the January 15 deadline set by the United Nations for Iraq to withdraw its troops from Kuwait. The IARN delegation consisting of four Australians, one American, one Swede, three British and three New Zealanders, had set up camp 640 km from Baghdad on the Iraq-Saudi Arabia border. According to K1MAN, the delegation had hoped to operate Amateur Radio from this camp, to "enhance international goodwill, discourage war and make ready for assisting international relief efforts in case of war." IARN had also offered "to supervise the distribution of internationally-supplied relief supplies..." and even to "conduct a privately organized international conference that

would address solving all problems in the region without the necessity of war." At press time, there was no word on the fate of the delegation.

□ To prevent loss of radio spectrum by US amateurs, Representative Jim Cooper (Democrat-Tennessee), a member of the House Subcommittee on Telecommunications and Finance, introduced a bill called the Amateur Radio Protection Act. This bill, designated H.R.73 (!) proposes that the US FCC "shall not diminish existing allocations of spectrum to the Amateur Radio Service after January 1, 1991... [and] shall provide equivalent replacement spectrum to the Amateur Radio Service for any frequency reallocation after January 1, 1991."

### SOME JAPANESE NOTES

□ Katsutsugu Sekia, JA5FHB, a radio amateur since 1970, has become Japan's new minister of Posts and Telecommunications (MPT).

□ Some 400 amateurs in 40 countries have used the packet radio mailbox on board the Japanese Amateur Radio satellite, Fuji-Oscar 20. Fuji-Oscar 20 will be orbiting in the clear until June (no shading from the earth) and will be able to operate modes JA and JD simultaneously until then.

□ Amateur Radio administrators from 15 countries in ITU (International Telecommunications Union) Region 3 (Asia and Oceania) will meet in Tokyo on April 8 for a seminar on Amateur Radio. Speakers will include representatives from ITU, MPT, and IARU, the International Amateur Radio Union.

### SATELLITE NOTES

□ At press time, AMSAT OSCAR 21, launched on January 29, was working

well. Altitude and period are similar to that of the now-defunct OSCAR 8: altitude is 1000 km, period is 105 minutes. The new satellite carries two linear transponders. The first has uplink frequencies of 435.102-435.022 MHz and downlink frequencies of 145.852-145.932 MHz. CW beacons appear at 145.823 and 145.882 MHz. The second has uplink frequencies of 435.123-435.043 MHz and downlink frequencies of 145.866-145.946 MHz. A beacon appears at 145.948 MHz. There is also a digital mode, Rudak 2, with store and forward capability. Uplink frequency is 145.016 MHz. There are also three other uplink frequencies in the 435-MHz range. Downlink frequency is 145.983 MHz. In other satellite news, the Soviet-built satellites, RS-12 and RS-13, were also launched recently. More later.

□ If you were lucky enough to work Musa Manarov operating U2MIR from the MIR space station on 145.55-MHz FM, send your QSL to Leonid Labutin, Veshiakovskaya Street 11-1 56, 111539 Moscow, USSR. Also, look for packet radio activity from MIR soon.

### NOTES FROM ALL OVER

□ An Amateur Radio tradition is passing: Heath is leaving the kit business. Their stocks are now being advertised at reduced prices. According to sources in the company, Heath will now concentrate on home-study courses, home automation equipment and assembled units.

□ Once again, the Foundation for Amateur Radio (FAR), a non-profit organization with headquarters in Washington, DC, plans to award 36 scholarships to assist licensed radio amateurs engaged in full-time studies at accredited colleges and universities in the US and Canada. Canadian amateurs are eligible to apply

for these scholarships. For information and application form, write to FAR Scholarships, 6903 Rhode Island Avenue, College Park, MD, 20740.

□ Many radio amateurs are also short-wave listeners and have been using Radio Canada International (RCI) to follow recent world events. By the end of February RCI staff were to know if their service would be saved by the Department of External Affairs or reduced to broadcasting in only two of its 14 languages. The Canadian Broadcasting Corporation (CBC), which had been funding RCI's \$20-million annual operating cost, announced in December that it would no longer subsidize RCI after March, 1991. RCI, with 190 employees and an estimated audience of some 16 million listeners around the world, represents about 1.68% of the CBC's current annual operating cost.

□ Holders of the new UK Novice licence will receive distinctive call signs starting with the number "2" (e.g. 2A1AAA). The call signs come as a result of many years of work by the Radio Society of Great Britain (RSGB) in negotiating the new licence and setting up a comprehensive training and recruitment program.

□ With the UK running out of "G-calls", UK amateurs will soon be assigned calls from the MA-MZ block. Numeral will be as follows: 2—England, 3—Scotland, 4—Wales, 5—Northern Ireland, 6—Isle of Man, 7—Jersey, and 8—Guernsey.

□ The Defence of Amateur Radio Fund (DARF) was established to help IARU defend our amateur frequencies at WARC-92. Currently, the fund stands at over \$8000. If you have not yet contributed, please mail your cheque to DARF, c/o Tim Ellam, VE6SH, 107 Strathern Rise SW, Clagary, AB T3H 1R5. ■

## 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. This is reduced to \$0.25 per word 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 Ham-Ad will appear in the next available issue of *QST Canada*. Send Ham-Ads to CRRL, Box 7009, Station E, London, ON N5Y 4J9.

FOR SALE: Ten-Tec Omni station, power supply, external VFO, keyer, speech processor, mike, filters, manuals. Mint. Original cartons. \$1000. Dentron MLA 2500B linear, spare set of 8B75 tubes. Manual. Mint, original carton: \$750. Jim Butler, VE3NBG, 388 Claremont Crescent, Oakville, ON L6J 6K1 (416) 842-6103.

BRITISH ELECTRONICS SERVICE/INSTALLATION ENGINEER (City and Guilds qualified) experienced in repair and installation of TV, SMA TV, video recorders, CCTV, HF and VHF communications equipment, design, construction and installation of AV distribution systems and equipment. Also experienced with small MF and VHF broadcast stations as transmitter/studio engineer and DJ. Seeking employment in Canada. Age 34. Holder of full British amateur licence, full British driving licence, 20 years experience in radio and electronics. S. G. Fiellick, G0GUS, 41 Rosedale Road, Forest Gate, London E7 8AU England.

## CANADIAN LADIES AMATEUR RADIO ASSOCIATION



We invite all YLs in our reading audience to join our coast-to-coast organization. CLARA members can be heard weekly from

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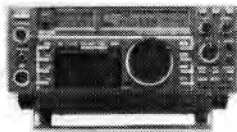
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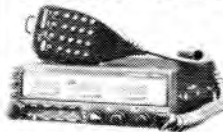
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KANTRONICS KAM

# new TS-850S



## [Features]

160 to 10-meter Amateur Band Operation with 100 kHz to 30 MHz General Coverage Receiver

Covers all Amateur bands from 160 to 10 meters, including WARC bands. Its superior dynamic range general coverage receiver provides reception on any frequency from 100 kHz to 30 MHz. An innovative triple conversion, DDS (Direct Digital Synthesizer) and digital PLL synthesized system provide outstanding frequency stability and accuracy.

Superior Receiver Dynamic Range with Kenwood's New AIP System  
AIP (Advanced Intercept Point) is a newly developed system that provides excellent intermodulation performance and suppresses unnecessary radiation. Two selective RF amplifiers, one with large gain (approx. 12 dB), is used to enhance sensitivity, and another with a small gain (0 dB/source floor circuit), to improve intermodulation characteristics. The result is outstanding two-signal characteristics, and substantially improved noise floor level. The intermodulation dynamic range is 108 dB, with an overall intercept point of +30 dBm, (20 meters, 50 kHz spacing, 500 Hz CW bandwidth, AIP/ON)

Outstanding Receiver Sensitivity  
The TS-850S receiver section has been specifically designed for the highest sensitivity. Special attention to 24.5 - 30 MHz ensures superior performance throughout the receiver range

Selectable IF Filter with Memory

Front panel keys are used to select the optimum filter bandwidth based upon mode, band, and QRM conditions. The selected filter is indicated on the LCD display. The filter combination may be stored in memory.

IF Slope Tuning (for SSB, CW and FSK modes)

Slope tuning allows independent adjustment of either the low frequency or high frequency slopes of the IF passband. These high-cut and low-cut controls permit the operator to adjust the IF passband width, to obtain maximum use of the signal.

IF Notch Filter

The IF Notch Filter provides approximately 40 dB of attenuation to the interfering signal. The filter is very selective and therefore only affects the interfering signal. This filter operates in all modes except FM.

CW Variable Pitch Control

The CW pitch control shifts the 4th IF passband in the demodulator circuit and simultaneously raises or lowers the pitch of the audible beat frequency. This reduces interference or changes the pitch of the CW sidetone to a frequency that is more pleasing.

CW Reverse Mode

The CW reverse mode can be used to select either LSB or USB mode when in CW operation.

Dual Mode Noise Blanker (Woodpecker/Woodpecker with Level Control)

The noise blanker has two modes, NB-1 (ignition or pulse-type) and NB-2 (Woodpecker), each activated by its own front panel switch. The noise blanker select function adjusts the threshold level of the noise amplifier, allowing the operator to control the effect of the noise blanker under specific noise and signal level conditions.

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with AEA's NEW LA-30 HF Linear Amplifier

ATLANTIC HAM Price Breakthrough \$1149 with TUBE

WHAT DO HAMS EXPECT WHEN THEY SEE THE AEA NAME ON A PRODUCT?

### Quality and Value.

They expect mechanical and electrical integrity. They expect the best possible physical construction. They expect a product that will look and perform as advertised for years to come.

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They don't expect promises that can't or won't be delivered.

They don't expect the frustration that comes from products that don't perform as advertised, or technical support that's less than supportive.

They don't expect to spend their hard-earned money, just to lose their cool.

### THE LA-30 DELIVERS!

The LA-30 HF Linear Amplifier delivers what hams expect from AEA.

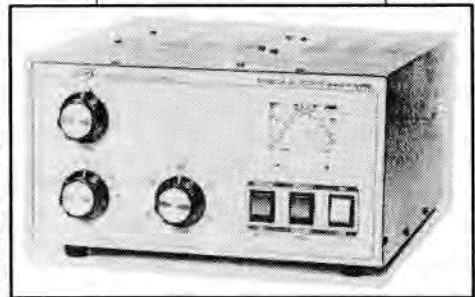
Designed to provide reliable, stable, high RF output power, the LA-30 is equipped with a pressurized plenum and chimney cooling system to ensure extended periods of continuous use and longer tube life. We use a low-noise "squirrel-cage" blower that moves 30 cubic feet of air per minute past the tube and its base seal to help the LA-30 keep its cool. Others use computer-type "muffin" blowers that don't cool the tube seals, and therefore shorten tube life.

Our price in Can\$ is same as USA price in US\$ !!

Have you priced RF power tubes lately? They're not cheap. And when one goes out before you expect, you're bound to lose your cool.

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We install parts that are designed to last, rather than cutting corners to reduce costs.



You won't find any shortcuts in our amplifiers. The LA-30 is the latest in a long line of high quality AEA products, going back over 12 years.

All aluminum parts are "alodized" to keep your LA-30 looking new. Alodizing is an expensive priming process that improves the metal's appearance and helps protect against scratching and corrosion. Make sure the amplifier you choose has alodized aluminum to keep it looking new for years to come.

We could cut manufacturing costs in other ways—such as using cheaper "self-tapping" screws and lower-quality aluminum—but then the unit just wouldn't meet our standards. Remember, only AEA amplifiers are built with AEA quality.

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With the LA-30 cross-needle system, we guesswork a glance if One dual-mode simultaneous crucial to pre

amplifier van day, because

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### SPECIFICATIONS

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Power Tube Supply Voltage Dimensions

Weight

QSK modification \*10 meter mod.

NOTE: We have arranged to have a KENWOOD representative available to answer any questions that you have. Come in or call and have your KENWOOD good deal on a KENWOOD transceiver.

## 1991 CALLBOOKS



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COMPACT, LIGHTWEIGHT  
2 METER HT  
• Covers 140-150 MHz  
• Simple Operation  
• 48 Memory Channels  
• VFO and Memory Scan  
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TH-77A

COMPACT 2M/70CM  
DUAL BAND HT

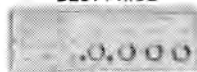
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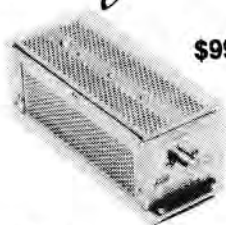


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Suppress television interference at the source with AEA's new 1500 watt 30 MHz low pass filter.

- Use between transmitter and antenna or tuner
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- Nine-pole inverse Chebyshev design

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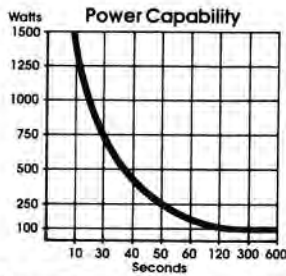


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Unique operating features with a proven hardware and software design make AEA's PK-88 your best choice in packet radio--now with MailDrop, an 8KByte efficient personal Mailbox. The PK-88 also allows multiple single frequency QSO's, digipeating and networking. It's a superb value, packed with all the most needed packet radio features such as direct interface capability with NET/ROM and TCP/IP. In addition to all the features of a "standard" TNC, the PK-88 offers features not found in any other TNC:

- WHYNOT command - Shows reasons why some received packets are not displayed.
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- CUSTOM Command - Allows limited PK-88 customization for non-standard applications.
- Enhanced MBX command - Permits display of the data in I- and UI-frames, without packet headers and without packet headers or retried frames.
- Enhanced MPROTO command - Suppresses display of non-ASCII packets from Level Three switches and network nodes.

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**PK-232MBX Multi-Mode Data Controller**

With over 40,000 units sold worldwide, the PK-232MBX is the world's leading multi-mode data controller. Combining all amateur data communication modes in one comprehensive unit, the PK-232MBX offers Morse Code, Baudot, ASCII, AMTOR/SITOR 476 and 625, HF and VHF Packet, WEFAX receive and transmit, TDM, as well as commercial standard NAVTEX automated marine information services.

- All software is on ROM.
- 20 front panel status and mode LED indicators
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# THE CRRL BOOKSHELF

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Talk to the World	18.00	1.50	1000	<input type="checkbox"/>
Theory Question Bank	9.00	1.00	1010	<input type="checkbox"/>
Regulations Question Book	9.00	1.00	1020	<input type="checkbox"/>
Code Tapes-Beginner (OT)	11.25	1.25	1200	<input type="checkbox"/>
Code Tapes-5-10 wpm (OT)	11.25	1.25	1210	<input type="checkbox"/>
Code Tapes-10-15 wpm (OT)	11.25	1.25	1220	<input type="checkbox"/>
La radioamateur-un univers fascinant	23.00	1.00	2000	<input type="checkbox"/>

## BEGINNERS

Operating an Amateur Radio Station	1.25	1.50	3000	<input type="checkbox"/>
First Steps in Radio, W1FB	7.25	.75	3010	<input type="checkbox"/>
Premier pas en radio, W1FB (RAQI)	7.25	.75	2020	<input type="checkbox"/>
En Ondes	12.00	.75	2030	<input type="checkbox"/>
Help for New Hams, W1FB	11.25	.75	3020	<input type="checkbox"/>

## INSIGNIA

Lapel Pins (OT)	3.00	.75	1500	<input type="checkbox"/>
Cloth Diamond 5" (OT)	3.00	.75	1520	<input type="checkbox"/>
Cloth Diamond 3" (OT)	2.00	.75	1510	<input type="checkbox"/>
ARES Circular Patch 4" (OT)	4.00	.75	1530	<input type="checkbox"/>
Set of 3 CRRL Logo Decals (OT)	1.00	.75	1590	<input type="checkbox"/>

## OPERATING AIDS

1991 North American Callbook (OT)	36.00	2.25	2700	<input type="checkbox"/>
1991 International Callbook (OT)	36.00	2.25	2710	<input type="checkbox"/>
Log Book-pack of 3 (OT)	10.00	2.00	1700	<input type="checkbox"/>
Super Log Book-pack of 3 (OT)	16.00	2.00	1710	<input type="checkbox"/>
Radiogram (message) Pad (OT)	2.00	1.50	1730	<input type="checkbox"/>
DXCC Countries List (OT)	1.50	1.50	2510	<input type="checkbox"/>
Grid Locator for North America (OT)	1.50	1.25	2520	<input type="checkbox"/>
Net Directory (OT)	1.50	2.00	2530	<input type="checkbox"/>
ARRL World Map (OT)	12.50	3.00	2550	<input type="checkbox"/>
Callbook Prefix Map of the World (OT)	7.75	*3.50	3100	<input type="checkbox"/>
Callbook Prefix Map of North America (OT)	7.75	*3.50	3110	<input type="checkbox"/>
Callbook Great Circle Map of the World (OT)	7.75	*3.50	3120	<input type="checkbox"/>
Callbook FOLDED Map of the World (OT)	6.00	1.25	3140	<input type="checkbox"/>

\*These maps can be shipped together. Add \$3.50 postage only once per order.

## VHF & UP

All About VHF Amateur Radio	13.50	1.00	6500	<input type="checkbox"/>
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Microwave Handbook Vol. 1 (RSGB)	40.00	1.25	6520	<input type="checkbox"/>
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## The CRRL Field Organization Forum

### SECTION MANAGER APPOINTMENTS

Congratulations and best wishes to Joan Lloyd, VE5JML of Regina, who was recently appointed CRRL Saskatchewan Section Manager. Joan replaces Bruce Rattray, VE5RC, who stepped down for health reasons. Also, congratulations and best wishes to Don Wilcox, VE6CG, who was recently appointed CRRL Alberta Section Manager, to fill out the term of retiring Alberta Section Manager Bill Gillespie, VE6ABC.

### REPORTS FOR DECEMBER 1990

**Alberta:** SM/DEC: Bill Gillespie, VE6ABC; ASM: VE6AMM; STM: VE6AKY; SEC/TC: VE6AFO; OO: VE6TY. This month, Gus Bakker, VE6AKY takes over the STM position. Good luck, Gus. Band conditions and activity appear to be good, with much talk about rare DX heard during coffee get-togethers. Alberta Public Safety Services are putting on another site manager's course, using Amateur Radio, on January 23-24. About six amateurs will provide emergency communications for this exercise. Cold weather is slowing a lot of group meetings, but hopefully, spring is not too far away. Best wishes to everyone for 1991.

**British Columbia:** SM/SEC: Ernie Savage, VE7FB. British Columbia Public Service Net (BCPS, 3729 kHz) Manager Ford, VE7DDF reports check-ins during December: high-242, low-123, and total-6492. Total check-ins for the British Columbia Phone Net during 1990 are 57,528. British Columbia Emergency Net (BCEN): Manager Ferdi, VE7EJU, reports 869 check-ins during December. Christmas greeting brought the traffic up to 325. Tom, VE7BNI, and ferdi, VE7EJU, both made Brass Pounder's league in December. Angela, VE7ANG, was home from Coast Guard school in the east for Christmas, but spent most of her time inside with the flu bug. Burnaby ARC's wine and cheese party was well attended. Vancouver ARC's Chinese food Christmas party was a success with 45 eating their fill from ten different plates that never seemed to empty, followed by filling small boxes with leftovers for next-day meals. We wish all a Happy New Year.

**Manitoba:** SM: Bill Crooks, VE4JR; ASM: VE4IX; STM: VE4JA, SEC: VE4VR; NMs: VE4LB, VE4IX, VE4TE. A note from Brandon ARC advising that Jim, VE4ID, has been appointed designated examiner for training classes. Brandon ARC also advises that its meetings will be held on February 6, April 3 and June 5, at the Parkview Seniors' Building. Everyone is welcome. An update from Dave, VE4XN. Dave advises that the Manitoba Amateur Radio Museum in Austin is up and wired, and should be operational by mid-summer, when they hope to have an active station, VE4MTR, on the air. When checking into the local 2-metre net on January 6, I was disappointed to hear a call for assistance being ignored. Apparently, someone with a HT had witnessed a serious car accident, and was unable to access the autopatch to call 911, so they did the next best thing: request someone on the local

**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.

repeater to call for them. There was no response, even though this call was heard. Possibly the person requesting assistance should have been more assertive. Maybe this was a sign of the times where we do not want to make waves or get involved, and we look the other way. We do have a responsibility to provide assistance to the public when we can. It only takes one incident to give Amateur Radio a bad name.

**Maritimes-Newfoundland:** Acting SM: Carl Anderson, VE1UU; STM: Mel Lever, VE1VX; BM: Brent Taylor, VE1JH. No report available.

**Ontario:** SM: Larry Thivierge, VE3GT; BM: VE3GSA; SEC: VE3GV; STM: VE3CYR; TC: VE3EGO. 1990 year-end statistics for our local and Section net operations reveal 1690 sessions held with 15,910 check-ins and 4893 pieces of formal traffic being handled in 20,543 minutes. On behalf of STM VE3CYR, the Section net managers and myself, sincere thanks to all who participate in NTS activities and make it work as it should. During the recent Christmas traffic rush, VE3KK earned another BPL, his 27th, I think! In support of high technology and Amateur Radio in Canada, CIMTEK Automation Systems is proud to sponsor the Toronto VHF/UHF Society contest awards. Four categories have been established with Canada being divided into three regions for the purposes of equalizing competition. For additional information, contact VE3DKH. VE3BBO has completed 25 years as a member of YLRL. For this year, Ottawa ARC will be meeting in the Champlain Room of the RMOC headquarters complex in downtown Ottawa. They had been meeting at the National Research Council (NRC) since the early 1950s. New OBS appointees are VE3BCZ and VE3YYY. Eight amateurs responded to a simulated emergency test activated by Lake of the Woods District Hospital in only 22 minutes, with two operators at the site of the hospital's operations centre. Authorities were pleased with the rapid response of the Kenora amateurs. VE3MGY is now VE3FRS. At present, there are 60,000 blind persons across Canada, but only 429 of these are radio amateurs. The CNIB is embarking on a program to improve on this. If you think you can help, please contact VE3AOY, manager of the CNIB Amateur Radio Program in Toronto. regretfully, I report that VE3HF, VE3KUO and VE3SI have become Silent Keys. Toronto FM Communications Society membership stands at 450 full members and 38 associates for a total of 488. With the UK running out of "G-calls", they are going to start using MA to MZ. Numeral will be as follows: 2—England, 3—Scotland, 4—Wales, 5—Northern Ireland, 6—Isle of Man, 7—Jersey, and 8—Guernsey. New amateur calls in the Section include VE3GKG, VE3JBC, VE3KLU, VE3RNM, VE3SOV, VE3TBO, and VE3XCO. Don't forget the 33rd Annual Bermuda Contest, 0001 UTC, March 16-2400 UTC March 17.

**Quebec:** SM: Harold Moreau, VE2BP; STM:

VE2EDO; SEC: VE2LYC; BM: VE2ALE. Joe, VE2ALE, is very active transmitting CRRL and ARRL bulletins on local repeaters using 2-metre packet and phone. Les présences sur tout les réseaux sont beaucoup plus nombreuses depuis le 1<sup>er</sup> octobre 1990. Victor, VE2GDZ, est toujours très actif à VE2UMS. Environ 60 amateurs ont participé au souper de Noël du club de Granby, le 22 décembre.

**Saskatchewan:** SM: Joan Lloyd, VE5JML. A new year with a new face and voice as Saskatchewan SM—this is Joan, VE5JML in Regina. Regrettably, my first duty as SM is to report that Ray Murphy, VE5CO, and Stu Paul, VE5AGT, have joined the ranks of Silent Keys. Amateur classes in Regina have been successful with 17 OMs receive their licences. Congratulations! Regina's 28/88 repeater, VE5WM, has been added to the 2-metre link system. Presently, there are seven repeaters linked from Saskatoon down, with hopes of others to soon join the system. Sincere thanks to Bob, VE5BE; Stan, VE5SC; Perry, VE5AGA; Eric, VE5HG; Brian, VE5CC; Ken, VE5NR; Chris, VE5BAR, Gord, VE5UJ and many others for making the 2-metre link a reality. Fine job, fellows. Here's hoping that Santa brought everyone all the new playtoys their shacks needed. 73, Joan.

## Silent Keys

Conducted By Ray Staines, VE3ZJ

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

VE2AJD, Claude Dessureault, Trois-Rivières, PQ  
 VE3AFA, Fred Roberts, Willowdale, ON  
 VE3FUM, Julius Freisen, Mississauga, ON  
 VE3HF, Newt Bryer, North Bay, ON  
 VE3KY, Roy Skene, Petrolia, ON  
 VE3MCT, Rob Allsop, North York, ON  
 VE3PCG, Gabriel Verhaeghe, Wallaceburg, ON  
 VE3SI, Graham Peacock, London, ON  
 VE3WW, Walter Wooding, Gloucester, ON  
 VE4HN, Henry Grandmont, Selkirk, MB  
 VE5CO, Norman Thompson, Moose Jaw, SK  
 VE5ICO, Ray Murphy, Saskatoon, SK  
 VE6BRN, (Ms) Lee Wilson, Edmonton, AB  
 VE7BIY, Reg Anderson, Richmond, BC  
 VE7LNR, Lionel Ray, Ganges, BC  
 VE7SM, Sid Young, Sidney, BC  
 VE7SMH, Ethel Holden, Quathiaski Cove, 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*.

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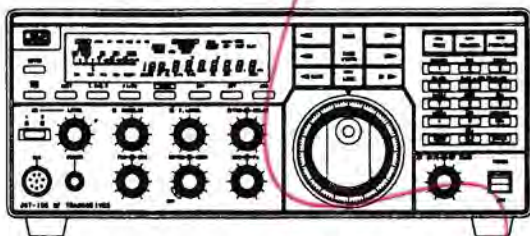
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## The Direction of Development

We read a lot in the papers about how technology continues to advance at an ever-increasing rate. Every day our world grows smaller, and it becomes easier for the general public to communicate. Cellular systems enable anyone to call anywhere in the world, from a car or even walking down the street. Video technology and new compression techniques allow more detail to be compressed into a smaller bandwidth. Developments in digital signal processing may soon allow transmitting high-quality video in incredibly small bandwidths. Currently, the US military uses digital technology to transmit narrow bandwidth HF video, voice and data. This technology should be available to radio amateurs, but our HF packet transmissions still "chug" along. We amateurs usually have our fingers on the leading edge of technology, but can keep up with "state of the art" or will we now fall behind and become the "stuff of a bygone era"?

### STARTING IN VHF/UHF DXING

I have had several requests for additional information on how to get started on the bands above 50 MHz. Here are a few basics. Many details can be found in CRRL's training manual, *Talk to the World*. SSB and CW operations are non-channelized activities that require operating techniques similar to those found on HF. These activities have been on going since the end of World War II, and despite the growth of FM in the early 1970s, have never ceased. In fact it is this DX-oriented, narrowband technology that has spawned the GaAsFET receive preamplifier (originally used for moonbounce), and numerous Yagi-design computer programs (based on work by our moles in the US military, and the pioneering efforts of W1EJ, K1FO, WB6NMT, VE3BMV and W2PV). Almost every piece of VHF gear designed today, whether for FM, SSB or CW, owes much to the performance demands of the DX fraternity.

Where to operate? CRRL and the other IARU societies have developed bandplans that set out where SSB and CW operations should occur. For instance, on 6 metres, 50-51 MHz is generally reserved for SSB, and CW and other narrowband modes.

At times, some individuals do ignore these bandplans. But the bandplans are there to provide guidance to the VHF community so the various modes can operate without interference. The bandplans have been in place for over a decade and they work well. They provide ade-

quate space for FM simplex and repeaters, packet, ATV, satellite work, SSB, CW and moonbounce. It's in everyone's interest to observe them.

Because of the generally random nature of amateur operation, specific calling frequencies are set out. To establish contact, tune to the calling frequency. Listen to see if anyone is there, and if not, call CQ. You may have to rotate your "horizontally polarized" yagi in several different directions before finding someone. When you do make contact, remember to move off the calling frequency by at least 20 kHz. This leaves things clear for others to call CQ, and it keeps the "noise floor" low for really weak signals. Currently designated calling frequencies are 50.125, 144.200, 220.1, 432.1, 903.1, 1296.1, 2304.1, and 3456.1 MHz.

Many VHFers like to establish schedules or "skeds" with other hams some distance away. For example some of us in the Toronto area sked stations in Montreal, or Southern New Jersey on a nightly basis, at a specific time, on a specific frequency. The nice thing about skeds is that it allows you to see variations along a propagation path. This helps to identify conditions conducive to DXing. Many times when no other activity can be heard, a simple sked will bring everyone who is listening out of the woodwork. Many of us still listen without transmitting!

SSB and CW operations are universally "horizontally polarized". If you insist on being vertical, you will suffer a loss of signal up to a 20-dB, a loss that may make you inaudible to DX stations. Being horizontally polarized isolates you from an immense amount of the RF pollution found in our VHF environment. This can make or break a SSB operator, especially if one with an "older" receiver that uses an active device in the mixer!

VHF/UHF signals *do* go beyond the horizon. Forget all that stuff in the training materials that have been fed to amateurs over the last 20 years! SSB and CW operations routinely propagate well beyond the so-called optical horizon, by using simple techniques and propagation phenomena found in nature. Remember that on VHF/UHF, each radio amateur has a unique opportunity to experience the wonders of nature, and to experiment with real world physical phenomena often not covered in textbooks. As an example, here in Toronto, contacting Ottawa is as simple as pointing the antenna and calling CQ—using only 100 watts to an 11-dBd gain yagi. No links, no one yelling to get off the channel, no problems. And it's

much the same anywhere in Canada!

### ACTIVITY REPORTS

**50 MHz:** Steve, VE3SMA (EN93), related his experiences DXpeditioning in the South Pacific on 6 metres during October and November, 1990. Steve operated KC6CQ on Palau. Steve worked 96 JAs using an HF tribander and TS-680 running 10 watts. In Micronesia, operating as V63BD in Pohnpei, Steve worked 96 JAs, V63AO and AH6Q/MM (RM77) using either a dipole or the tribander! Steve also heard the VS6SIX beacon in Hong Kong, JA beacons, and Channel 2 audio and video carrier from American Samoa every day. Congratulations to Steve for his activity. Let's hope that during the rest of this cycle and the next one, other Canadians will be equally active.

The solar flux stayed below 200 over Christmas, but things took a startling turn in late January. On the January 25, the flux was a surprising 283. On January 26, it was at 385 and on January 29, it was 353! We haven't seen numbers like this since August of 1989! Looks as if there is still life in this solar cycle. On January 30, proof of this came to Len, VE3BGH in St Catharines (FN03). Between 1410 and 1445 UTC the band was open to the UK. Stations worked included GM0GEL, G18YDZ and G14OPH. The band also opened to Alaska, and KL7NO and NL7DW were worked at 2120 UTC. During that same opening, Clarke, VE3WCB, reports hearing 6W1QC weakly on CW.

Flare activity quieted things down in the Great White North with flux numbers running 314/26/2 until February 3 when the band opened strongly to Europe. VE1YX was busy knocking them off, as were many others on the east coast. Here in Toronto, the band opened to the UK between 1535 and 1600 UTC, with the GB3SIX beacon (50.020 MHz) very loud at times. Stations worked included G14GPC, B3XBY, G3SYC and G8GXP. At the time the solar flux numbers were 293/8/2, so things were starting to stabilize. During March and April, look for more DX, especially to the south.

Welcome to Mike Dunn, VE1XDX, who got his license on November 5. Within two weeks Mike worked 20 DXCC countries on 6 metres using only 10 watts and a 4-element beam at 70 feet. He now runs 170 watts from FN84. TU2EW is now active from the Ivory Coast. QSL via Daniel Biau, Box 1890, Abidjan 11, Ivory Coast.

According to the *KA3B 50-MHz DX Bulletin*, KM1E/C6A will be active from

from Green Turtle Key, Abaco, (FL16) until March 8.

**144 MHz:** Contest results are beginning to arrive. From the west VE6XT and VE6EY report a steady increase in 2-metre SSB operations. In the east, we found activity levels up on the Canadian side, but down on the US side. Operation Desert Storm was a major factor. On the west coast, severe weather just before Christmas did some damage.

We arrived back from vacation to find a message from Ted, VE3BQN. Lionel, VE7BQH, had lost his EME array, despite heroic efforts by Lionel and his XYL. We trust that we will hear VE7BQH QRV via the moon shortly, using a new array! Speaking of arrays, Kevin, VE3KDH, has dismantled his 76-element array. His Hy-Gain Taittwister failed in high winds during the Sunday of the contest. Problem: a broken gear shaft. Kevin promises to be QRV with a more robust system in spring.

From Winnipeg, Jim, VE4AQ, reports good DX during the December 13-15 Geminids meteor shower. He picked up three new states and seven new grid squares bringing his total to 67. Stations worked included KC8P (Michigan, EN63), W8MZQ (Ohio, EN80), W2CRS (Colorado, DM78), KC4YO (Tennessee, EM75), N9OO (Wisconsin, EN62), K0IFL (Montana, EM48), and WQ0P (Kansas, EM19).

**220 MHz:** In the east, the 135-cm band provided some surprises during the January VHF Sweepstakes, with some good propagation into the Delaware, and the Washington, DC area on Saturday afternoon. Warm weather was a factor.

Jim, VE4AQ, plans to be QRV on 135 cm this spring and wonders when SSB activity will make the exodus up to 222MHz. As things evolve in ARRL's battle with the FCC over the fate of the 220-222 MHz portion of the band, the ARRL VHF/UHF Advisory Committee will be considering a revised bandplan. It looks as if they may be able to accommodate most of the existing FM, SSB, CW and packet operation within 222-225 MHz. Here in Canada, CRRL's VUAC will be submitting comments on behalf of CRRL members.

**432 MHz:** Barry, VE4MA, writes that he ran EME skeds with HG1YA and 4X1IF with no success. However, on December 1, he caught ZS6AXT with signals 439/439 at 2315 UTC. This was Barry's initial contact 208 via the moon. Unfortunately he still suffers from noise pollution caused by some poorly designed garage door openers operating at 300 MHz. It's a real shame that the DOC allows so much of this equipment to slip into the marketplace.

**1296 MHz:** Clarke, VE3WCB, continues to be active on 1296.1 MHz. He can be found calling CQ at 1930-2000 UTC on 1296.1-MHz SSB. To date he has

worked well east of Rochester, New York, and west to Kitchener, Ontario, in the dead of winter. He has even been copied by John, VE3POJ, using an IC-901 mobile transceiver in east Toronto.

In Winnipeg, VE4MA, worked K9KFR on November 25 at 0200 UTC. K9KFR was 559, and Barry was 459. K9KFR's outstanding signal was due to his 24-foot dish and 500 watts output. Barry says that K9FER's signal was peaking 6 dB out of the noise. This makes 57 initial contacts on 23-cm EME for Barry, and 19 states!

**2304 MHz:** Barry, VE4MA, continues to make inroads at 13 cm. He now has worked 10 fields. Barry writes that the pre-sked weekend of November 25 was also graced with a 13-cm QSO with Charlie, W7GBI. Charlie's station consisted of a 24-foot dish and 75 watts output from a travelling-wave tube (TWT), but he was only running 20 watts out during the contact. During the sked weekend, VE4MA worked WB5LUA at 0200 UTC on December 2, for contact 12 and state number four. During his sked with OE9ERC, Barry was called by OK1KIR, and they completed a contact. On random CQs, Barry worked F2TU and copied OE9ERC very strongly while the Austrian was trying to work WB5LUA. Barry continues to prove that the DX is there. All anyone has to do to get it is get QRV!

#### NET NEWS

If you have an 2-metre SSB radio, 100 watts, and a yagi, and live within 300 miles of St. Catharines, Ontario, don't forget to check in the Gaslight Net on 144.240-MHz USB every night at 0100 UTC (8 p.m. local time). Net control is Len, VE3BGH. Currently, the check-in count stands at 151. If you are running or contemplating a net, particularly on SSB please drop me a note.

#### FM NEWS

The Toronto FM Communications Society (TFM, VE3RPT) is investigating an FM repeater or linear translator (LT) at 1270 MHz! At this frequency, an LT would be the ideal way to go, providing a large bandwidth for mobile, fixed voice and packet emergency operation. Kind of like a land-based satellite system. TFM continues to upgrade its system, and invites other groups to "link up". Incidentally TFM's membership now stands at an all time high of 525 members!

#### SATELLITES

From Edmonton, Alan, VE6LQ, writes that, having left HF ratrace, he now spends most of his time on the satellites. In March, 1990, Alan received Canada's first Satellite DXCC award. He is the 31st person ever to achieve this. By January, 1991, Alan had bumped his countries total to 125. All countries were worked using

OSCAR 13. The station setup at VE6LQ is a Yaesu FT726R running 10 watts driving a 146/435-MHz duplexer feeding a single piece of Helix. Outside, another duplexer splits the 146/435-MHz signals which move on to the feed amplifiers. Each amplifier includes a receive preamp. The 70-cm antenna consists of a pair of 88-element J-beams. The 2-metre antenna is a 10- plus 10-element crossed yagis. Alan challenges everyone in Canada to get on the OSCAR satellites, designed, financed, built and tested by radio amateurs working through AMSAT. We urge everyone to join AMSAT, and help finance the next generation of satellites. Contact AMSAT at Box 27, Washington, DC 20044, or call (301) 589-6062. Canadian membership costs US \$36 per year. Tell them you read about it here, eh?

#### ARTIFICIAL AURORA

There have been some pretty spectacular evening displays of auroral lights, thanks in part to the efforts of NASA and its Combined Release and Radiation Experiment Satellite (CRRES) during the month of January. NASA has been releasing both barium and lithium from the satellite at altitudes of 3,700-20,000 miles. These events were rather late at night in most parts of Canada, but we would be interested in hearing from anyone who made auroral radio contacts while the experiments were going on.

#### SPRINT NEWS

ARRL Spring Sprints are just around the corner. Pretty soon it will be time to dig the garden, cut the grass—and fix up the antennas after those winter storms. Remember that contest activity does not have to be competitive. Contests originally were a means of increasing activity, exploring propagation, and sharpening "emergency preparedness skills".

It's not too early to begin planning for the big contest in June. Remember that a good showing in *QST* will prove that Canadians are active. Besides, those certificates from the Toronto VHF Society and ARRL can sure look good on a wall.

#### CONTEST CERTIFICATES UPDATE

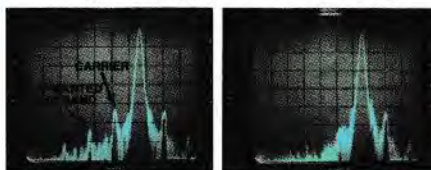
As threatened, the Toronto VHF Society, VE3ONT, has unleashed a storm of wallpaper on this fair land. Among the recipients of the first certificates for the 1990 contests were VE5UF for 6 metres, and VE3KDH, VE3EMS and VE3ASO. 1991 certificate winners will be announced in May column. Thanks to Kevin, VE3KDH, for preparing and distributing the certificates.

That's it for this month. We'll have more news from out west in May, and we'll announce the Canadian winners in the January VHF Sweepstakes. Thanks to all who sent who sent information and photos. This is *your* column! ■





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- VS-2 Voice synthesizer
- SP-950 External speaker w/AF filter
- SM-230 Sta-

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- SW-2100 SWR/power meter
- TL-922A Linear amplifier (not for QSK)

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## The BC Floods

A few months ago, "Hoppy" Hopwood, VE7RD, sent me a copy of an article on BC Provincial Emergency Plan (PEP) volunteers including various provincial ARES groups. The article stated:

"Suppose major flooding has struck the lower mainland. Houses are flooded, streets are impassable. Communication, hydro and transportation links are severed. Thousands have been forced to flee from their homes...."

The author, unwittingly, provided a good description of the flooding that occurred on the weekend of November 11. Reg, VE7ABF, sent along a report on ARES' contribution to the rescue and relief efforts in the Abbotsford area, members of the Abbotsford ARC and the Clearbrook Seniors' ARC, using handhelds, provided emergency communications for civic officials. Some of the amateurs accompanied rescue boats to remove stranded householders. Others assisted in the provision of water tankers to provide much needed drinking water for citizens and livestock. Still others assisted in finding alternate routes for traffic when roads were closed.

Reg noted that one of the lessons learned was always to expect the unexpected. Another lesson, this one learned by PEP authorities, was to restrict the distribution of emergency telephone numbers. It appears that the PEP office in Victoria gave the general public the telephone number of the Abbotsford operations centre. Result: the centre was flooded with inquiries that seriously interfered with genuine emergency calls.

### LOMA PRIETA, ARES AND RACES

The US Radio Amateur Civil Emergency Service (RACES) is an organization of radio amateurs administered by the US government's Federal Emergency Management Agency. Like ARES, RACES is prepared to provide communications in time of emergency. While ARES and RACES are separate entities, many US amateurs are members of both organizations. When a federal or state agency officially declares a disaster or emergency, RACES takes over. In wartime, RACES is the only part of the Amateur Service that continues to operate.

When the Loma Prieta earthquake hit the San Francisco area, a state of emergency was declared, and RACES was mobilized to provide emergency communications. A report, prepared later for the Governor of California, said in part:

"As is always the case, the recent... earthquake demonstrated that there are

never enough communications facilities available when disaster strikes. In the hundred-mile-long affected area, telephone service was knocked out, and that which remained in service was totally

overloaded. Towers buckled and power failed.

"The initial result was a huge lack of information about what damage had occurred, what was needed and where it

## Field Organization Reports December 1990

### CRRL Section Emergency Coordinator Reports

Reports were received from the following SECs (DECs and ECs reporting to SECs are listed in brackets) denoting a total ARES membership of 1055.

Reporting	ARES Members
VE3GV (VE3s AFP, FFO, GNV, LFF, LPM, MB, OV, SV, TNL)	610
VE4JR	56
VE6AFO	269
VE7FB	120

### CRRL Section Traffic Manager Reports

Call	Orig	Rcvd	Sent	Divd	Total
VE1BTV	1	47	48	0	96
VE1ALU	5	21	25	2	53
VE1YS	1	19	13	0	33
VE1DLC	0	12	2	2	16
VE2GOP	0	65	0	65	130
VE2BP	4	24	16	28	72
VE2WH	1	18	17	19	45
VE2JN	1	8	5	4	18
VE2ALE	0	2	0	2	4
VE3KK	503	109	527	84	1233
VE3GSQ	2	196	149	2	349
VE3ORN	5	127	129	12	273
VE3GNW	0	115	124	1	240
VE3BCZ	10	47	62	15	134
VE3DOP	5	55	63	4	127
VE3CYR	1	85	33	4	123
VE3BDM	0	93	27	1	121
VE3GT	0	47	59	1	107
VE3DVE	1	37	56	2	96
VE3NVJ	1	36	46	12	95
VE3EUI	4	37	44	6	91
VE3AJN	2	18	23	1	44
VE3SB	0	17	22	1	40
VE3LPM	0	15	14	5	34
VE3KCZ	2	13	9	5	29
VE3CVK	0	9	16	3	28
VE3KXB	0	9	12	0	28
VE3MNI	0	7	11	2	20
VE3BAJ	0	0	9	0	9
VE3WM	1	4	2	2	9
VE4FP	0	150	125	20	295
VE4JA	16	103	79	41	239
VE4JR	0	45	45	2	92
VE4STU	0	20	26	1	47
VE6XG	0	66	71	28	165
VE6CE	0	35	25	2	62
VE6CHK	0	31	31	0	62
VE6CPP	0	14	14	0	28
VE6GUS	0	8	8	0	16
VE6AKY	5	5	5	0	15
VE6RCE	0	5	5	0	10
VE6EO	0	4	4	0	8
VE7BNI	42	289	359	86	776
VE7EJU	1	136	147	2	286
VE7CDF	0	133	66	6	205
VE7XA	1	61	76	29	167
VE7ANG	0	62	45	3	110
VE7CCJ	18	45	33	3	99
VE7BCL	1	36	17	20	74
VE7EGM	3	35	28	3	69
VE7EOM	2	37	25	4	68
VE7FB	0	28	17	7	52
VE7BZI	1	21	24	0	46
VE7GKA	0	7	13	2	32

Call	Orig	Rcvd	Sent	Divd	Total
VE7ALV	1	19	8	3	31
VE7BCF	0	19	8	0	27
VE7AVA	3	5	17	1	26
VE7BZ	4	9	10	0	23
VE7DJ	4	6	4	0	14
VE7WI	0	6	7	0	13
VE7FME	0	9	1	1	11
VE7HJS	0	2	1	2	5

### National Traffic System

Net (Mgr)	Sess	QNI	QTC
APN (VE1YS)	29	144	50
KTN (VE3AJN)	13	89	29
OLN (VE3POJ)	31	616	66
OPN (VE3BDM)	31	635	275
OQN-I (VE3GSQ)	27	61	174
OQN-D (VE3ORN)	28	123	183
OQN-E (VE3CYR)	31	201	187
OQN-L (VE3GSQ)	61	79	85
MTN (VE4IX)	21	252	41
MMWX (VE4TE)	31	483	19
MEPN (VE4LB)	31	1480	55
APSN (VE6AKY)	31	2071	19
ATN (VE6CPP)	31	224	88
BCEN (VE7EJU)	31	869	325

### 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

### Public Service Honour Roll

This listing is available to amateurs whose public service performance during the month indicated qualifies for 60 or more points in the following nine categories (as reported to their SM). Please note maximum points for each category: (1) Checking into CW nets, 1 point each, max 30; (2) Checking into phone/RTTY nets, 1 point each, max 30; (3) NCS CW nets, 3 points each, max 12; (4) NCS phone/RTTY nets, 3 points each, max 12; (5) Performing assigned NTS liaison, 3 points each, max 12; (6) Delivering a formal message to a third party, 1 point each, no max; (7) Handling an emergency message, 5 points each, no max; (8) Serving as an EC or NM for an entire month, 5 points max; (9) Participating in a public-service event, 5 points each, no max. Amateurs who qualify for Public Service Honour Roll 12 consecutive months, or 18 months out of a 24-month period, will be awarded a special certificate from CRRL Headquarters.

PSHR: VE4JA (147), VE3KK (114), VE4LB (114), VE3ORN (101), VE3GNW (96), VE3BDM (93), VE3GT (77), VE4STU (73), VE3CYR (68), VE3DOP (66).

### Service and Specialized Nets

Independent Net Managers: Your monthly reports are welcomed. Send to CRRL, Box 7009, Station E, London, ON N5Y 4J9.

Net (Mgr)	Sess	QNI	QTC
ARES Canada (VE3GV)	4	130	2
ARES Ontario (VE3GV)	1	7	0
CRRL ONTARS (VE3FOV)	31	14479	0
Grey-Bruce (VE3BDM)	31	94	8
Grey-Bruce SS (VE3BDM)	31	98	63
Laurentian (VE3FGT)	31	970	0
Trans-Provincial (VE3EUI)	31	12379	54
Aurora (VE4AHG)	28	1427	33
ARES Alberta (VE6AKY)	8	195	7

was needed, and where recovery effort priorities should have been placed."

RACES facilities at the state emergency services headquarters were in operation within an hour of the earthquake. They provided effective communications with various emergency operations centres around the clock for five days following the disaster. These centres had been hit hard and were without telephone service. Communications were provided on UHF, and on 75- and 40-metre SSB. Packet radio was used extensively. None of the traffic was health and welfare—it was all related to government tactical and administrative communications.

At the same time, ARES was also active. The American Red Cross reported that over 400 Northern California amateurs served directly in the emergency. Over 5000 health and welfare messages were handled on packet radio alone. Over 6000 messages were handled for the Red Cross in Alameda County in the first week, and more than 15,000 messages overall.

All in all, the emergency communications provided by RACES and ARES proved to be invaluable during this major disaster.

#### VOLUNTEERS

Jerry Wellman, WB7ULH, writes an interesting column on search and rescue communications for *Worldradio* maga-

zine. In a recent issue, he discussed volunteers. His remarks were inspired by a letter to a newspaper which stated: "The problem is we got a bunch of Amateur Radio people in the county, but only a handful are willing to participate in training." In *Worldradio*, Jerry replied:

"If disaster strikes or the call goes out for a big rescue, you're going to get some volunteers. Some respondents won't have completed training and may not know your local procedures.

"Seriously, should you expect one-hundred per cent? Yet, what do you do with those who sincerely want to help and more than likely could contribute to the mission at hand? Some of them might be qualified to handle some serious communicating. Others may fit into the category of "resource drain". By the time you get them up to speed, the emergency is over.

"What a dilemma! If you reject them, they get upset, yet you do want to encourage training and participation. One solution is to define your training levels and then put out a carrot or two. For example, you could establish six training levels with level six as your best trained. Your response plan would then list the general category responsibilities, with the level six folks getting the 'neat jobs' like net control, headquarters communicator, or mission communications officer. Each level would have its list of 'assignments', all the way down to the untrained operator

who might monitor traffic or weather.

"Now spend a little time on local nets doing some public relations work. Let other Amateur Radio operators in your area know that your group is on the emergency callout list, and talk about your upcoming training. Tell what the certified communicators will be doing, and let the rest know that they can respond as trainees or assistants.

"Several factors will make this work: 1) your group must have its act together and be recognized by local officials. 2) you just have a plan in writing with realistic training levels, and 3) you must stick to your plan and hold to the criteria for participation. What you don't want is a whole bunch of folks responding 'like we did last time' and expecting to be put in charge. Do that once with your non-certified volunteers, and you might as well trash your plan.

"It's also important to prepare your people to deal with the 'extras' who will appear. In one emergency, we had a fellow show up to help. He had a flashing yellow light, a loudspeaker plugged into a scanner (causing feedback on every channel we were using), and he was somewhat offensive in the command post due to his unfamiliarity with deodorant, the communications leader took the volunteer aside, thanked him for caring enough to respond, and sent him up the trail to monitor the weather." —Bob Boyd, VE3SV

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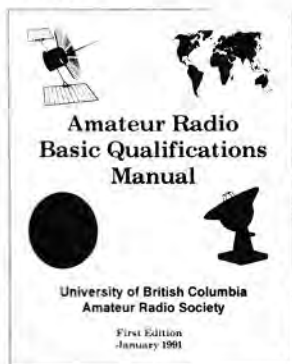
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