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THE CANADIAN AMATEUR

Canada's Amateur Radio Magazine

La Revue des Radio Amateurs Canadiens

APRIL 1987

VE3IDW, VE3AHU discuss merger review — Page 8



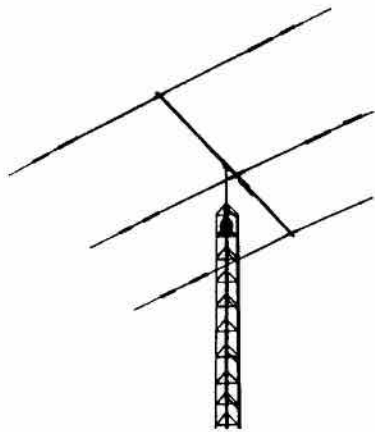
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ALEXANDER HENRY

in Kingston, Ont. See you there! Details Page 22.

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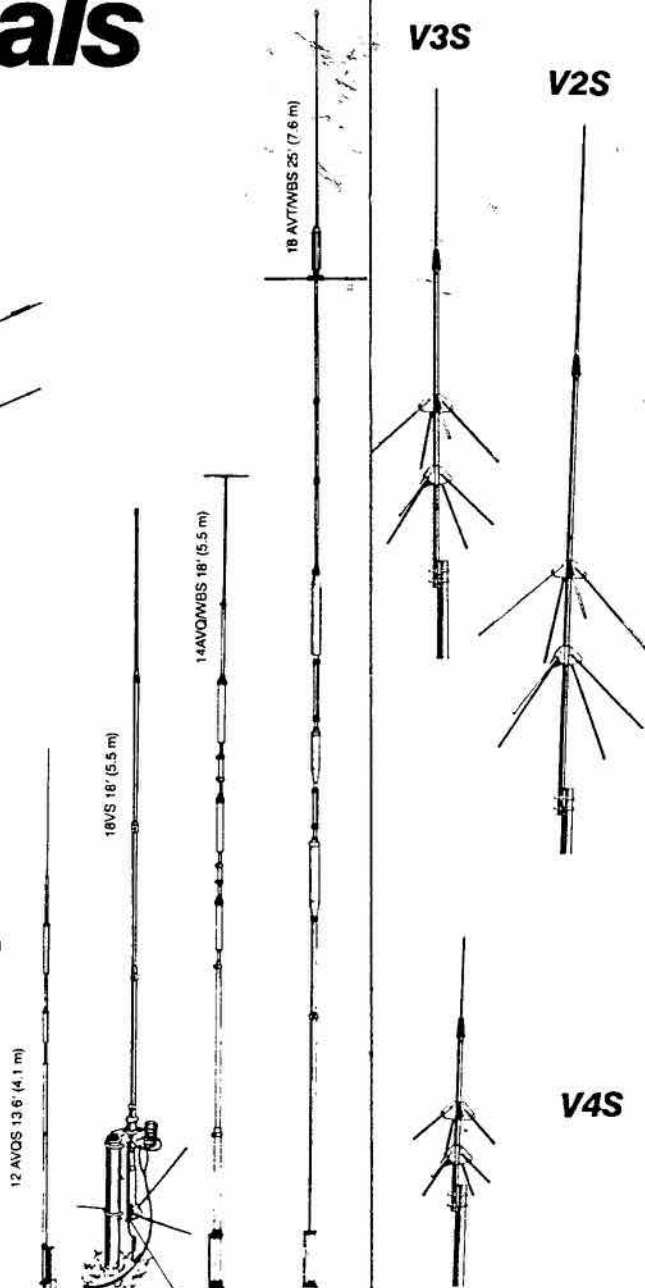


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THE CANADIAN AMATEUR

Canada's Amateur Radio Magazine

April 1987

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The *Canadian Amateur* is published in Canada 11 times per year to provide Radio Amateurs, those interested in radio communications and electronics, and the general public with information on matters related to the science of telecommunications.

Unsolicited articles, reviews, features, criticisms, photographs and essays are welcomed. Manuscripts should be legible and include the contributor's name and address. A signed article expresses the view of the author and not necessarily that of C.A.R.F. Publications Limited.

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WHAT IS CARF?

The Canadian Amateur Radio Federation, Inc. is incorporated and operates under a federal charter, with the following objectives:

1. To act as a coordinating body of Amateur radio organizations in Canada;
2. To act as a liaison agency between its members and other Amateur organizations in Canada and other countries;
3. To act as a liaison and advisory agency between its members and the Department of Communications;
4. To promote the interests of Amateur radio operators through a program of technical and general education in Amateur matters.

EDITORIAL

QUA 

U.S. Amateurs expand down to 14.100 MHz

BY NORM WALTHO VE6VW

Well now that I have gotten your attention, this could be a reality if we as Amateurs don't take a major positive attitude in technical related issues that come forth every so often. Remember when back in 1977 some Amateurs got together in Ottawa and conducted the first National CARF Symposium? Of the 91 Amateurs present, they talked on the subjects of the Experimenter certificate, the Novice Certificate, some DPC Regulations and the future of Amateur Radio in Canada.

Next there was the second Symposium in Calgary where 75 Amateurs talked about CFARS, Digital and Computer Communications, log keeping, ID'ing for RTTY, ATV, FAX, Prefixes and WARC 79.

Then we went back to the east to Montreal and the third Symposium took place. Sixty-four Amateurs discussed digital, regulations, frequencies and exams.

The fourth Symposium was held in Hamilton in 1980 where 14 Amateurs discussed the results of WARC 79. After this came Winnipeg and then Scarborough where a mere handful of Amateurs discussed important issues such as spectrum planning, VHF band plans, growth, illegal operations and emergency communications. Oh, and don't forget the U.S. phone band expansion to 14150.

Next we came all the way out west to Kelowna. Not a very well advertised Symposium, but a fair showing of Amateurs to discuss important issues such as CATVI, examinations and board planning.

This has brought us up to the present. I have volunteered to try to put together the 9th National Amateur Symposium, a joint one which will be

attended by CARF, CRRL and DOC officials. So far this symposium will be conducted in conjunction with the Saskatchewan Hamfest between July 31 and Aug. 2, 1987 and will be sponsored by the Saskatoon Amateur Radio Club. This we anticipate to be the large congregation of Amateurs ever in one place to have the chance to attend and take part in this Symposium. After having read over the past eight Symposiums records, I feel a bit disgusted at the attendance of these symposiums.

There is very little comment from any Amateurs not able to attend these symposiums, so it all boils down to the fact that a very small percentage of Amateurs in this country take part and comment on all of the important happenings of this hobby. After all, every Amateur has the opportunity to write a submission to the symposium committee on the subjects that are at hand.

After printing a letter in *The Canadian Amateur* asking for topics of discussion for the 1987 Symposium, I have received only one topic, which was sent to me, that's Deregulation of the Amateur Sub Bands. Now maybe we should look at National Repeater Linking, self-administration of the Amateur Service, recruitment ideas for growth in the future, Possible Merger of the CRRL and CARF, Directions for future Symposiums, or Restructuring of the Amateur Service.

So let's get off our butts and participate in this important event. Why should we let a small group of Amateurs make important decisions for the rest of us in the country or DON'T YOU CARE?

The Canadian Amateur welcomes contributions to this column of opinion.

With this issue of *The Canadian Amateur*, Frank Hughes VE3DQB steps down as Editor of the magazine. The Executive of C.A.R.F. Publications Limited would like to extend our whole-hearted thanks to Frank for the large amount of work he put into the development of Canada's national Amateur Radio magazine and, on behalf of the readership, we would like to thank him for assembling the past months of excellent reading material.

Ron Walsh VE3IDW,
President

MEMBERS

BOUQUET

I regard my membership in CARF as an obligation and don't intend to drop it.— Tom VE7VP

NEW REPEATER

The East Kootenay Amateur Radio Club would like everyone to know that we have just completed a new 2/10 repeater.

Of course we realize that 10 metres is not much good now but when it comes back we are going to be ready.

The call sign will be VE7REK, input 2 metres 145.19 MHz; input 10 metres 28.600 MHz; MOD SSB on 10 metres.

We also have a group who is on Packet Radio, with a digipeater on Baker Mountain, elevation 7200 feet, call sign VE7PAC, frequency 145.01 MHz.

We enjoy *The Canadian Amateur*. Keep up the good work.

73. H. Honeyman, Secretary

MR. RON WALSH VE3IDW PRESIDENT, CANADIAN AMATEUR RADIO FEDERATION

It has come to my attention that you have not yet received an acknowledgement of our receipt of the CRRL-CARF joint submission on the discussion paper concerning a possible restructuring of the amateur radio service in Canada.

I wish to assure you and Mr. Atkins that your input was indeed received, and your comments will assist us in determining the future certification policy in the amateur service. Your

input represents a significant contribution to our deliberations.

It is our intention to publish draft regulations in the *Canada Gazette*, Part I for further public consultation. Unfortunately, it is not yet possible to forecast when these proposed regulations will be published.

Thank you again for your comments.

Yours truly,
R.W. Jones,
Director General,
Radio Regulatory Branch

BITTEN BY A BUG

Thanks, Frank, for the tip on getting my FOXX operational. I'm happy to inform you now that I have had two QSOs on it! The first was arranged, a three-way with two other B.C. stations. This proved it worked.

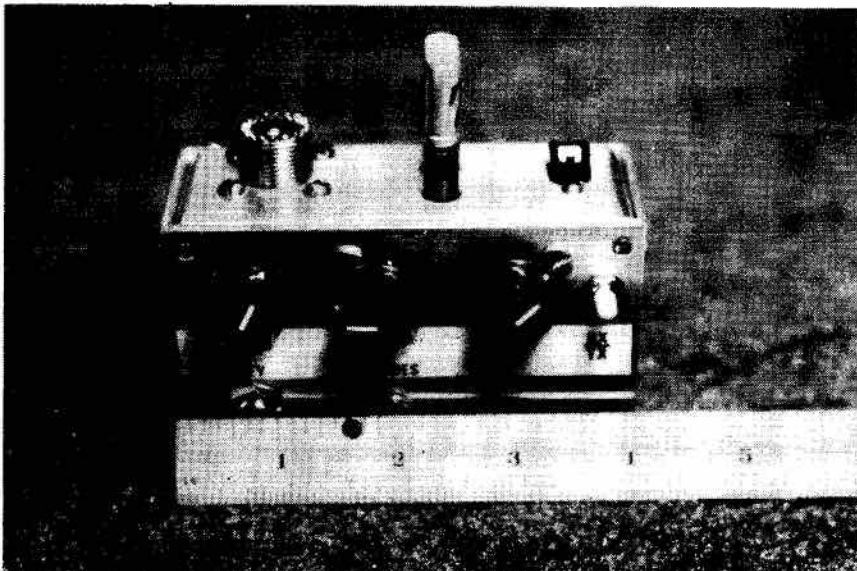
More satisfying was my CQ yesterday which brought a prompt 569 report from Seattle, Washington (about 400 miles) and a solid 20 minute QSO.

Enclosed are a few photographs of my FOXX. The case is fabricated from some of the nice selection of scrap aluminum to be found in the dump here. It is a fair bit smaller than a conduit box, so things get a little tight.

The four screws on the front heads-up support the circuit board, and the four at the corners are tapped into the faceplate to hold it down tightly.

73, Rick VE7FOU

P.S. on back of envelope Feb. 6 (Letter waiting to leave island) CQ on 3 element triband beam with 7.025



VE7FOU's FOXX.

SILENT KEYS

Floyd Lewis VE1KL, died at his home last November. Floyd was a member of the Nova Scotia ARC and taught computing and Amateur Radio. He introduced over 100 Amateurs to our Service.

Fooch (Larry) Blais VE3JLO, died in hospital Feb. 18, 1987.

Keith Perry VE7BRO. (See this month's Clubs column)

Murray W. Doull VE1EE. Murray was an ardent Amateur Radio Operator from his late teens and a Charter Member of the Loyalist City Amateur Radio Club Inc. in Saint John.

crystal brought (on 14.05) half-hour QSO to Arizona— my RST 559 throughout— VE7FOU.

The FOXX 1 watt transceiver was described in The Amateur for September 1985— Editor.

QRL?

There is one thing which puzzles me greatly. For over 30 years the Grey Bruce Nets have been operating on 3645 kHz and has been listed in the A.R.R.L. Net directory.

Why would AMTOR decide to select that segment of the band to do its operating?

This particular segment is, perhaps, the most active portion for traffic nets. The MDDN is on 3643, GEN on 3645 and the Quebec Section net is on 3648 kHz.

The AMTOR being an Amateur operation should, out of all courtesy to the traffic nets, try to find a clear segment of the 8 metre band to do its operating.

It is not uncommon for AMTOR to be so strong as to make copy on our net just about impossible. Even strong locals are chopped up by it.

I know, for a fact, that they are NOT confined to one frequency because I have heard them at many points in the 80 metre portion of the band. Some evenings they are slightly above us, other nights just below and at times right on 3645 kHz.

A quick scan of the ARRL Net Directory would tell them where there is a clear spot not used by traffic nets and they could bat out their Beep, Beep, Beep, to their heart's content and not severely QRM existing traffic nets.

Here's hoping someone connected with AMTOR will see this and, perhaps, take some action on it.

Yours truly,
A. Reg. Gibbs VE3DPO
Mgr. GBN, Mgr., Eastern
Central Area C.T.N.

Clover, who thought she remembered a definite ruling about conduct, went to the outside of the shack and puzzled out the First Commandment. "It says, 'The Amateur is considerate,'" she announced finally.

Curiously enough, she had not remembered that the First Commandment mentioned being considerate, but as it was there on the wall, it must have done so. And Squealer, who happened to be passing at this moment, attended by two or three dogs, was able to put the whole matter into its proper perspective.

"Surely you do not believe, comrades" he said, "that the Amateur ever was gentlemanly? Not only is that remark sexist, but it would imply that one should listen carefully on a frequency before transmitting and call "QRL?" or ask "Is this frequency in use?" and moving if there was a reply. Comrades, think of the mental strain of looking for a clear frequency on the bands today! Think of the unnecessary wear on VFOs if we were for everlasting moving them! No, comrades, the Amateur is considerate. Considerate of his own desires, considerate of his own clique, considerate of the investment he has made in linears and towers and beams. Surely you would not have it otherwise? Surely none of you wish to have Morse back?"— from *Amateur Farm*, by George Splatterwell.

NEWS FROM LA

Here is some news about the 3Y expedition. LA2GV Kaare and Einar VE1EE are expected back home in a week or so, and Eva PY2PE, who was the relay station for messages to LA when conditions got bad, will visit Norway in the spring. The equipment is on its way to Norway.

The expenses were estimated to be about \$70,000. The goal was 15,000 QSOs, and it seems that the total is near 20,000. While the fundamental costs are covered by the sponsors, any income from donors (and 'green stamps' with the QSLs) will be appreciated. Any surplus will be given to a fund for a future expedition to Peter I Island again, or possibly to Bouvet Island, which is also under Norwegian sovereignty, and a badly needed DX country.

Last time Bouvet was visited, one of the scientists was an Amateur who operated in his spare time. On Peter I, Einar and Kaare paid their own way

HELP NOT WANTED

The sponsor of the Cross Canada Olympic Torch Relay has informed VE6EY that his offer of Amateur help with communications (letters, January) is refused.

and operated full-time. We hope this successful operation will show the authorities on the scientific side what can be achieved in the way of goodwill and safety, communications wise, if they let Amateurs join them. With everything packed, and waiting on the beach to be picked up, Kaare for fun made a last try on 80 metres with a random wire for an antenna. He got excellent contacts with several stations, mainly Gs.

73, Hal LA2AD

ABGEWEIT AWARD

The Prince Edward Island Amateur Radio Association is again this year planning the Abgeweit Award Day in May and would like to put a notice in your magazine.

Date: Sunday May 17, 1987

Location: Somewhere in the wilds of P.E.I.

Modes: SSB and CW only.

Recommended Frequencies:

CW 21.100, 14.050, 7.100, 3.700

SSB 21.300, 14.250, 7.200, 3.800

Times: 12:00 UTC until approx.

00:00 UTC.

Rules: (1) VE1 and VO1 stations

must confirm contacts with all three countries (Prince, Queens, and Kings)

(2) All other VE's and U.S. Amateurs must confirm contact with any three P.E.I. Stations, regardless of the county.

(3) All Amateurs, other than continental U.S. and Canada, must confirm contacts with any two P.E.I. Stations, regardless of the county.

(4) Any Island Contacts after Jan. 1, 1960, are also valid for the award (provided you have a QSL card to show!!!)

(5) For this day only the QSL card rule is waived and the only requirement is a copy of the log (certified by two other Amateurs ie. signatures).

To receive your award send a copy of your log and \$2 or 10 IRCs to P.O. Box 1232, Charlottetown, Prince Edward Island, Canada C1A 7M8.

For more information about this award and/or the contest, contact Dave Smith VE1CIK, Box 529, Kensington, Prince Edward Island COB 1M0; Telephone 902-836-4246 after 22:00 UTC.

Thanking you in advance.

73 David VE1CIK

Book Review

Shortwave Radio Listening with the Experts, by Gerry L. Dexter, Howard W. Sams 7 Co. Indianapolis, U.S.A. 1986.

Most of us, I suspect, started out as SWLs. The astounding fact that, with the simplest electronic equipment, voices would be heard world-wide, even from the antipodes, was the magnet that drew us into the Amateur Service.

When I was a lad, there were no books on shortwaves listening: I learnt from an interested father and from popular magazines. Today's beginner has a choice of books, besides the occasional magazine article.

The book under review is a thorough explanation of short-wave listening. It is complete, starting out with a description of the radio room, and how to set it up. It continues with a chapter on antennas, one on receivers, one on propagation, and a number of chapters on the various services to be heard.

Many of these latter chapters I found most interesting. The 'numbers' stations which occasionally pollute our bands are presumably all spy network stations, some of which have been DF'd inside U.S. military bases. Pirate stations, on FM as well as HF,

seem to be a world-wide activity. The pirate's desire to give an alternative to the usual government or commercial program anyone who tunes those frequencies can understand. However, putting the programming of radio stations into the hands of the listeners is a goal which seems to elude us.

I found few errors. While the antenna chapter is excellent, it would have been helpful to the beginner to note the standard wire to ask for when home-brewing an antenna (7-22 copper will stand the weather).

The apostrophe in the abbreviation didn't is not between the d and the n. The lower half of Figure 4-2, description of circular polarization, could be improved. Several of the photographs that illustrate the book are out of focus. I wish the author had identified the Oscar satellites as Amateur (p. 307).

The book can be recommended to anyone, from an embryo Amateur putting his toe in the water to the dyed-in-the-wool SWL. One warning I would add to the antenna chapter for anyone is: make absolutely certain you cannot touch a power line with any part of an antenna or its support before, during, or after erection!—VE3DQB.



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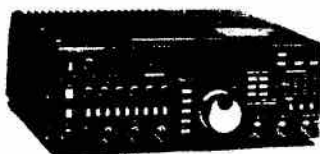
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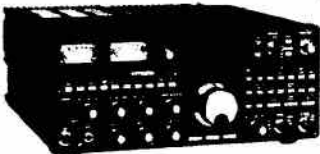
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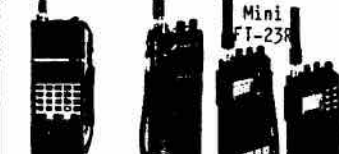
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 - FTS-6 Encoder/decoder; 09-series 69
 - FTS-7 Encoder/decoder; 03-series 69
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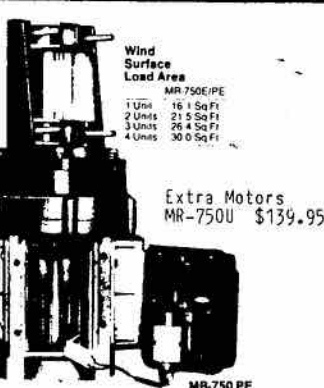


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	3 motor	1,800 inch/lbs	13,900 inch/lbs
	4 motor	2,400 inch/lbs	18,300 inch/lbs
Rotation angle	375 degrees		
Permissible mast size	1 1/2 - 2 1/2 inch (38 - 63 mm) < diameter >		
Control cable	6-wire cable 0.5sq - 1.25sq (AWG16/18/20 etc.)		
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MERGER

Editorial

These four articles refer to the February 1987 'Canadian Newsfronts' column in QST. Permission was requested from CRRL to reproduce the column here, so that CARF members would have the opportunity to weigh and consider both sides of the matter. However, such permission was refused.— Editor.

BY ART BLICK VE3AHU ■

Since Jan. 1, 1986 the Amateurs of Canada have been 'blessed' with two, independent, national organizations, CARF and CRRL, with each supplying its members representation to the federal regulatory authorities, a range of services and a national publication. CARF supplies *The Canadian Amateur*, produced and published by the Federation, and CRRL supplies *QST*, produced and published by ARRL with one to two pages of Canadian content therein.

Canada is a country of great extent but with a small Amateur population— about 23,000— and both organizations must share this small market. Neither have achieved great success in attracting members with each having about 4000 dues-paying members with about 1500 of these members belonging to both organizations. Singly they have 17% of the market but combined possess 30% and indications are that this percentage would increase substantially if they were to merge into a single new society.

A single national society would have many advantages. The Amateurs of Canada would then have a single, unified voice to international and federal authorities. This is of particular importance considering the many new devices that are coming into being with the strong probability at they would be incompatible to nearby sources of electro-magnetic radiation such as Amateur transmitting equipment. On the other side is the growing interference to Amateur operations like cable television radiation, and commercial intermod problems

to Amateur auto-repeaters; moreover, there is increasing pressure to acquire Amateur frequencies for commercial, industrial and service use.

The governing bodies of both organizations have realized that a single, independent, well-supported society could be vital to the continued well-being of the Amateur Service and have taken the initial step toward possible merger. A Review of CARF and CRRL has been produced that contains valid reasons for a merger, outlines possible problem areas with suggestions to surmount them, and a basis for merger. This document has been supplied to the members of both boards of Directors for information and for approval to take the next step, that of forming a Joint Committee to make detailed recommendations to the Boards on the organization, administration and finances of the new society. Once the Boards have approved this, the documents will be made public as a vote must be taken by both memberships with a 2/3 majority required for a merger to take place.

Understandably the governing bodies are hesitant to proceed with celerity as they are uncertain whether they have the support needed from their respective memberships and realize that, if denied by either, or both, groups, the formation of a single national body would be delayed by many years to the detriment of our avocation. The time is NOW for the members of CARF and CRRL to contact their respective Regional Directors and let them know that you support this concept.

A.E. Blick VE3AHU

Editorial

CARF/CRRL Relations

BY RON WALSH VE3IDW

Over the past two years, I have enjoyed the excellent relations between CARF and CRRL. I find that Tom Atkins VE3CDM and Harry McLean VE3GRO are dedicated and reasonable people to confer with. The work on the joint proposal to the DOC is a perfect example of how we can work together.

The one most important objective is to bring these two societies into a single unified body which can direct Canadian Amateur Radio. This has been a prime topic for our executives. The logical idea that maximum use of manpower, finances and political clout would result just can't be denied. We negotiated in private to avoid rumours and pressure.

Last year Art Blick VE3AHU and Bill Loucks VE3AR were appointed to investigate the basis for merger. A joint document was sent to both Boards to show this to be reasonable. The CARF Board voted to proceed to a joint document that would state definite terms for merger. This would be approved by the Board and then sent to the general membership for approval. The CRRL Board voted to review the situation for six months before deciding further.

The article in *QST* and private talks with their leaders convince me that the idea of merger is a real possibility and they are in favour of it. However, I feel the *QST* article and comments I have heard indicate a misunderstanding of CARF. I would like to state a few things here.

I found some of the statements in the *QST* article to be misleading as they were taken out of context. If I were to use the fact that the ARRL gave the CRRL an interest free loan to buy their computer system, it might imply they are not independent. I know they are controlling their own finances but the previous statement might

cause doubt if it were stated out of context. I am tired of people saying they had rough treatment in *The Canadian Amateur*. We had some rough and untrue statements printed in *QST* and *Bulletins*. However, this is well in the past and I wish people would drop it. We have dropped it and I feel it is time for all of us to do the same. It is water under the bridge and the players have changed.

There will be many items to negotiate. Our stand is that the sooner we start to do this, the sooner we will reach our goal.

To say we are not equal is quite misleading. CARF had a real disaster three years ago. Only a strong organization and dedicated people could have survived. We did and we are stronger than ever. Our membership is well over 4000 and rising back to previous levels. Our membership campaign attracts many previous members and new members.

The financial statement needs immediate clarification. CRRL is not the only organization with a substantial reserve. This statement is a result of differing opinions of accountants. CARF has over \$40,000 in registered GIC's. If this isn't a reserve fund, I don't know what is! We haven't officially declared it as such but will do so at the next AGM. How could CARF have coped with the trouble we had if we were not financially stable with sufficient reserves? Banks do not loan money or extend lines of credit to poor risks. We would never get Visa approval either.

CARF's finances in the last two years were not what we would like due to the carry-over from our problem. We had to extend memberships and keep our fees at their previous levels. Now that we have everything under control, we are building our reserves back up.

CARF has always had to build its own assets as it went along.

Thus we have a fine magazine, *The Canadian Amateur*, totally under CARF's control. We have received many thousands of dollars in advertising revenue which keeps the cost of membership down. We have not relied on the resources of other organizations where the cost, such as that of *QST*, must be taken as a given.

We have developed a publishing company, completely equipped and staffed an office, assembled and operate the Voice of the Canadian Amateur station VE3VCA, financed the free outgoing QSL bureau (which handles incoming cards too), and published study guides; all these are completely under our control. These assets have a real monetary value! These assets do not show in a yearly financial cash flow but are substantial none the less. **Thus, any merged organization would be equally financed by both sides.**

We have always maintained our independent Canadian identity. We have and always will continue to negotiate with and work with all organizations. The fact that CARF is not in the IARU is simply that the IARU will not recognize we exist. Their membership rule is the only thing which keeps us out. We have done more international work than people realize. Bruno Molino can attest to that.

CARF remains firmly committed to the forming of one unified body for the managing of Amateur radio in Canada. We remain ready to negotiate the forming of such an independent Canadian organization at any time. Right now, we await a firm proposal from the CRRL as to the time frame, goal and guidelines such a negotiation would follow.

You can help us by writing both CARF and CRRL and express your ideas about this merger.

MERGER

Merger Developments

BY ART BLICK VE3AHU

A recent article, appearing on the Canadian page of *QST*, requires comment...

At their annual meetings of 1986, the Boards of Directors of CARF and CRRL appointed two officials to work together and produce a Review of CRRL and CARF that would include a fact-finding study of the two organizations; reasons why a merger between CARF and CRRL, to found a single, independent Canadian National Amateur radio society is desirable; and an outline, in general terms, of a possible basis for merger.

At the same time it was agreed that there would be no publicity until concrete proposals for the merger could be made.

The Review was produced in October 1986 and copies forwarded to members of both Boards noting that a two step process is required to secure the approval of the Boards to a merger. The first step is the acceptance of the principle of merger, based on the content of the Review, followed by the formation of a Joint Committee to define the detail needed for a merger to take place with recommendations made requiring approval by both Boards, i.e. concrete proposals. A telephone conference call to the CARF Directors quickly obtained approval for the taking of this second step.

However, the Vice President/Secretary CRRL, in a letter dated Dec. 2, 1986, noted that, although the CRRL Board favours "merger in principle," they need time to discuss their concerns at a meeting, or meetings, when the entire CRRL Board can be present. He is also forming an internal CRRL committee to seek "answers to some of the questions raised by the Review" and the merger process will have a "thorough going over" at their 1987 meeting. He also noted that nothing would be worse than to "spring a merger resolution on our members, some of which aren't yet comfortable with CRRL as opposed to ARRL, let alone merger with CARF. They would feel betrayed. This is why we are going to write about merger, in a low-key general way, in an early issue of *QST*."

CARF, as a result of this letter, also decided to inform its members, in a "low-key general way," and an Editorial and CARF Column was produced in late January and

forwarded to the Editor. Anyone reading the CRRL and CARF articles will contrast the differing interpretation of "in a low-key general way" by the two organizations. The CRRL article devotes considerable space to a biased comment on CARF's financial stability and membership while none of the major concerns of CARF regarding the present operation of CRRL are mentioned.

Your Federation suffered severe reverses in 1984/85 following the sudden loss of the General Manager and Office Manager in an unfortunate accident while returning from a meeting of the National Executive. This was followed by a complete breakdown of the office computer systems and loss of membership records with the inexperienced office staff hired unable to cope with problems that arose.

1985 was a year of rebuilding the Head office with the hiring of competent staff, purchase and programming of new computer systems, replacement of the duplicating equipment that had served for nearly ten years. In those two years expenses were approximately \$30,000 more than income but these were met with the cashing in of a portion of the invested Reserve Fund and by a bank loan.

In 1986 normal expenses were incurred with the result that the Reserve Fund remains at \$40,000 plus and the bank loan was reduced by \$4500. Due to the loss of membership records, and delay in replacing the computer systems, membership did decrease from 5,000 in 1983 to 3500 at beginning of 1986. During this period, the Editor of *The Canadian Amateur* went ahead with plans for developing the national publication, so that today's content is much superior to that of former years and, thanks to the production staff, publishing and circulation deadlines (1 week prior to month of issue) are consistently met and members receive their copy at the beginning of each month of issue. Membership has steadily increased since 1985, is now 4,000, and the Federation is very confident that this will grow to more than 5,000 before the end of 1988.

The Federation commenced operation as an individually controlled, national society in 1975 with a membership of about 1000 and no reserve of finances. Since then,

membership and other income has been spent on the development of *The Canadian Amateur*; creation, staffing and equipping the Head Office; equipping the national station VE3VCA; the supply of services; organization and administration of Canadian Contests and Awards; and to meet expenses incurred in general administration and operation.

A Reserve Fund has been created for use in emergencies with the interest thereof defraying the administration and other expenses of Life members. Non-financial, but tangible, assets of CARF include the national publication (what is the dollar value of a magazine that generates over \$40,000 annually in advertising revenue?); the space and equipment of the Head Office (the estimated cost of setting up a similar office is in excess of \$25,000); and the space and equipping of the station VE3VCA (estimated to be at least \$15,000 in value).

CRRL does not possess such assets, only finances resulting from a transfer from ARRL of the unexpired Canadian membership dues when CRRL became independent in January 1986, and some office equipment purchased by a loan of \$13,500 from ARRL. CRRL is in a similar position to CARF of the early 1970s when its Head Office was also located in the basement of the General Manager.

The Directors of CARF have some concerns about CRRL operations. One is the position of Canadian Life members of ARRL who are classed as Life members of CRRL. ARRL supplies their subscription to *QST* at no cost to CRRL but with no funding to meet expenses incurred in the administration and other services to these 491 Life members. Unless funding to meet these annual expenses is obtained from ARRL, or from CRRL, this will constitute a severe drain on the resources of the new society.

Another point of concern is the provision of QSL services. For years CARF has found it necessary to budget \$1/member/year to meet the expenses of its central In-coming and Out-going Bureaus (and anyone knowing Jean Evans VE3DGG knows that she manages them with no unnecessary expense!) while CRRL, with two central Bureaus like CARF, also operates seven call-letter

Continued next page

Art Blick VE3AHU
P.O. Box 356,
Kingston, Ont. K7L 4W2

THE COLUMN

For several years a spirit of co-operation has existed between your national Federation and the Canadian Radio Relay League (CRRL) as evidenced by joint submissions to DOC. During this period, many Canadian Amateurs have expressed the hope that the two national societies would amalgamate into one organization.

During the annual meetings of the CARF and CRRL Boards of Directors in 1985, both Boards passed a resolution to work toward that goal. In early 1986, a meeting was held between senior officials of CARF and CRRL reference a joint submission on the DOC Proposal to Restructure the Amateur Radio Service. After agreement was reached, the CARF officials (Ron Walsh VE3IDW and Art Blick VE3AHU) suggested that a representative of each organization be appointed to study the organization, administration, finances and services supplied by CARF and CRRL and to identify any basis for a merger. This was subsequently approved by the two Boards and Bill Loucks VE3AR, Treasurer, and Art Blick VE3AHU, Vice president/CRRL Liaison, were appointed.

The findings of the two representatives were documented in a 112-page report entitled "A Review of CRRL and CARF to Identify a Basis for Merger," copies of which were forwarded to the members of both Boards in late October 1986 with the recommendation that they approve the next stage in merger proceedings, the formation of a Joint Committee to thoroughly analyze the content of the Review and make recommendations for the organization of the new society for the Boards to consider and approve.

Succeeding stages would be the drafting of the By-laws, Regulations

DEVELOPMENTS (Cont'd)

Bureaus but only budgets \$0.50/member/year for the provision of this service.

Only a very stable organization, with more than adequate finances, could have overcome the reverses suffered by CARF in 1984/85 and re-established its position by the end of the following year. Since CARF was founded, after any reverse, for any reason, the 'prophets of doom' have forecast the quick demise of the Federation. But history demonstrates that in every case, your national Federation has overcome its problems and rebounded with greater vigour and with increased membership. So shall it be this time!

and Procedures for the new society, their publication, a mail ballot to members of CARF and CRRL requesting approval of the merger and, when approval given, the procurement of a federal Charter with elections held for its Board and Executive positions. The CARF Board, after a telephone conference call, unanimously agreed to the formation of a six-person Joint Committee but the CRRL Board have formed an internal committee to further study the content of the Review and report to the CRRL board at their 1987 meeting.

In the Review it was noted: 'For merger to be desirable, its advantages must outweigh its disadvantages. We believe this to be the case. All services now provided by either organization singly will continue to be provided by the new one. This means that some services, peculiar to one or the other but not both, will now be available to all members of the new society. Financially, the new society should be in better shape than either separately. This indeed will be the case.'

'Politically, one voice in the councils of government and other societies will be more effective than two, sometimes divided, voices. In number of members, and degree of support, the new organization will have (at least) 31% of the Amateurs of Canada, while individually, CRRL now (June 1986) has 20% and CARF, 17%. In unity there is strength.'

Specific Reasons to Consider a Merger, contained in the Review, included:

(a) the increased membership strength of a new society will give better finances to further develop the society and will result in a stronger voice to federal regulatory authorities, government agencies, IARU, and other bodies.

(b) the costs of operation, administration and supply of services would be less than present combined costs by the removal of the present duplication such as office expenses, QSL services, publications, publicity, news bulletins, meetings.

(c) there would be no increase in current annual membership dues with reduced dues for those persons who have membership in both CARF and CRRL.

(d) the belief that DOC wishes to involve Amateur organizations to a greater extent but finds this difficult when there are two, competing, national Amateur societies.

(e) there is only a small number of competent Amateurs willing to take

on the work and responsibilities inherent in accepting official positions in a national organization with CARF and CRRL now sharing this small number. With only one national society, the number of candidates for office will increase.

(f) the belief that other Canadian Amateur organizations, both national and provincial in nature, although with several having membership and financial problems, are reluctant to function under the wing of either CARF or CRRL but would be willing to function as part of a single, independent, national society to the benefit of all.

The national publication of CARF is *The Canadian Amateur*, produced and published by the Federation and, of CRRL, is *QST*, produced and published by ARRL and furnished to CRRL on a contract. Members of either organization would not desire to lose the publication now forwarded as a condition of membership. A solution, proposed in the Review, would be to have three categories of membership in the new society:

(1) former CARF members to continue to pay current CARF dues and to receive *The Canadian Amateur* as their national publication;

(2) former CRRL members to continue to pay current CRRL dues and to receive *QST* as their national publication;

(3) former members of both CARF and CRRL, about 1500 in number, to pay reduced annual dues (suggested \$50) and receive both publications. There are provisos that members in either (1) or (2) category could take out (3) category by payment of the extra dues and that any new member of the new organization would be in either (1) or (3) category. The reduced fees to obtain both publications should make it attractive for many members to become category (3) members and thus increase the circulation of *The Canadian Amateur* and *QST*.

There are several problem areas to be overcome in any amalgamation of CARF and CRRL. These would include the basic organization, location and staffing of the Head Office, the name and logo, the composition and functions of the new Executive, the amalgamation of services currently supplied by both, possible expansion of services supplied by only one, classes and types of membership, etc. However, if the members of both Boards of Directors are desirous of founding the best possible national society for the Amateurs of Canada, no insurmountable problem exists.

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DOC News

DR. W.M. TUPPER, M.P.

Dear Bill,

It is my pleasure to reply to your letter of Oct. 21, 1986 in which you have forwarded the concerns of Mr. Ralph Cameron of your constituency.

Mr. Cameron's contributions in the area of electromagnetic compatibility are invaluable and include both formal participation in Radio Advisory Board of Canada committee work and more informal participation with my officials in resolving problem cases, gathering test data and discussion.

The operation of non-radio devices in the presence of radio signals is indeed a matter of potential concern to administrations and spectrum managers in most of the developed nations of the world. Canada, though

not the largest user of consumer electronics or of radio transmitters, was the first country to identify this potential concern and bring it to the attention of the international community to promote the development of voluntary international standards in a timely fashion. Meantime, some countries have also armed themselves with legal provisions, compatible with their constitutional frameworks, to mandate such standards and in some cases to prohibit the importation or sale of electronic entertainment and control equipment which does not meet such future standards. I understand that the general thrust would be to utilize such provisions only as a last resort, should voluntary national and international efforts prove in-

adequate. While these efforts continue to be actively promoted by my officials, I have asked them also to examine, in consultation with their counterparts in the Department of Consumer and Corporate Affairs, the timing and the appropriate legal framework, for the introduction of similar legislative provisions in Canada. Our approach in this area, as you will readily understand, cannot be significantly divergent from that of our major trading partners. I would be inclined to avoid the heavy hand of regulation unless it were essential in the public interest.

Please assure Mr. Cameron that his comments on the subject of electromagnetic compatibility are welcome and will be taken into account.

Yours sincerely, Flora MacDonald

HOMEBREW FOR BEGINNERS

Geoff Barron VK2AZT suggests that Australian novices be allowed to use most of the 10 m and 70 cm bands for AM or CW equipment, home-brewed: No commercial equipment allowed! He suggests AM for cheapness and simplicity.

"A modified examination, to test their competence to build and operate such equipment would be required," he writes. "That must be better than the present system where many (most?) candidates give answers, (learned 'parrot' fashion) to barely understood multi-choice theory questions... largely irrelevant to using the 'black-box' transceiver, which they will inevitably be attracted to buy and use on the air." — From *Amateur Wireless* September 1986.

LE BLEUET

The Amateur Radio Club of Saguenay Lac Saint-Jean is presently offering a special certificate called 'LE BLEUET'. This certificate is awarded to stations that have worked at least five hams in 'BLEUET' (Blueberry) country. To find out if the station you worked is in the correct region, just ask him if he's a 'BLEUET'! Contacts can be made on any mode or any band. Send the correct info to VE2AUF, along with \$3 to cover postage. Please, no cheques, no stamps, no IRC's.

DOC Addresses/ Adresses MDC

Radio Information Circular No. 66, issue 1, gives a list of 136 DOC addresses. Here are the addresses and telephone numbers of the five regional offices. They can let you know if there is a sub- or District Office near you.

DOC ADDRESSES REGIONAL OFFICES

Pacific Regional Office
1700-800 Burrard Street
Vancouver, B.C. V6Z 2J7
(614) 666-5468
Central Regional Office
200-386 Broadway Avenue
Winnipeg, Man. R3C 3Y9
(204) 949-4391
Ontario Regional Office
9th Floor, 55 St. Clair Avenue East
Toronto, Ont. M4T 1M2
(416) 966-8215
Quebec Regional Office
295 St. Paul Street East
Montreal, Que. H2Y 1H1
(514) 282-2307
Atlantic Regional Office
7th Floor, Terminal Plaza Bldg.
1222 Main Street
Moncton N.B.
(506) 857-6525
Mailing Address:
P.O. Box 5090
Moncton, N.B. E1C 8R2

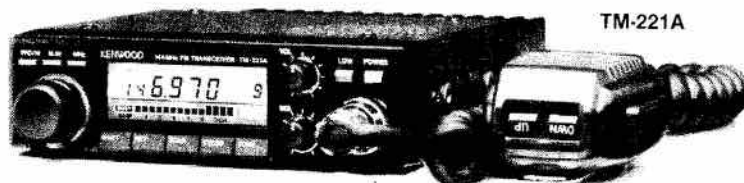
Le Circulaire d'information sur les radio communications No 66, première édition, donne les adresses

et numéros de téléphone des bureaux régionaux et de district. Voici les informations sur les cinq bureaux régionaux, qui peuvent vous informer ou se trouve le bureau à plus près de vous.

BUREAUX REGIONAUX

Bureau régional du Pacifique
Bureau 1700
800, rue Burrard
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Bureau régional du Centre
Bureau 200
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Winnipeg (Man.) R3C 3Y9
(204) 949-4391
Bureau régional de l'Ontario
9e étage
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Toronto (Ont.) M4T 1M2
(416) 966-8215
Bureau régional du Québec
295, rue Saint-Paul est
Montréal (Qc) H2Y 1H1
(514) 283-2307
Bureau régional de l'Atlantique
7e étage, Immeuble Terminal Plaza
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First Aid for Drivers

Radio Amateurs should carry a first aid kit along with their mobile equipment. They should also know how to use it. Here's an announcement by the St. John Ambulance about their new first aid course.

More information from St. John Ambulance, 312 Laurier Avenue East, Box 388, Terminal 'A', Ottawa, Ont. K1N 8V4.

BY ROSEMARY WALSH

"Do you know what the most frightening thing was at the time—the noise. It was incredibly loud. I knew he was going to hit me because I could see his car coming up fast behind. So I braced myself for the impact. Then the noise, the tires screeching when his car smashed into mine—that was the worst sensation imaginable. But the next day, it really hit me. I overheard the mechanics speculating that no one could have possibly survived that accident judging from the look of my car. I realized then it was a miracle I was alive and well. The realization that I could have been killed was certainly more scary than the terrible noise."

Almost one-half of the accidental deaths in Canada occur on the road. In fact, while you were reading the reactions of this fortunate driver,

PACKET RADIO IN QUEBEC

Packet Radio is alive and well in Quebec. On Jan. 10, 1987, a group of hams in Eastern Quebec met to form a committee that would offer advice on matters of frequency and usage of packet radio frequencies in Quebec. With now over 100 hams on packet in the Montreal area and two frequencies in use, many hams felt that they needed to organize their efforts in hopes of setting up a solid network extending east of Montreal. A newsletter called *CONNECT* was established to enable the group to inform others of all aspects of packet radio in Quebec. For any info or to receive a copy of *CONNECT*, contact Jean-Pierre VE2SE in Joliette, Quebec.

COLUMN WRITER NEEDED

Who would like to write a regular VHF/UHF column for *The Canadian Amateur*? Let the editor know if you would be prepared to contribute, Box 356, Kingston, Ont. K7L 4W2.

another Canadian was involved in a motor vehicle accident. Each year, roughly 4,000 Canadians are killed and another 225,000 are injured as a result of vehicle accidents. Many of these lives, experts believe as many as one in three, could have been saved by simple, on-site first aid measures. Also, the seriousness of these injuries could have been significantly reduced if prompt, effective first aid had been given at the scene.

Have you ever passed one of these accidents and felt it was pointless to stop because you didn't know how to help? Many accident victims enroll in first aid courses afterwards because they never want to feel that helplessness and panic again. The person who knows what to do, who knows first aid, can give the immediate care that saves lives and minimizes pain.

St. John Ambulance recognized that with a new course designed to meet the needs of drivers, positive action could be taken to save more lives and stop unnecessary injuries. Now, after extensive field testing, St. John Ambulance's First Aid For Drivers course is available to the general public.

In just four hours, drivers learn the basic first aid skills and procedures needed to help at the scene of an accident until medical assistance arrives. They learn what to do first, how to manage the accident site and the best way to get help quickly. Artificial respiration, controlling bleeding, caring for burns, preventing shock, and treating neck and back injuries are stressed because these skills prove invaluable in the treatment of common traffic accident injuries.

The proper application of first aid at the scene can often have long term benefits. For example, the healing time for a fracture can be shortened by as much as a week when the correct treatment prevents any further injury. Learning what not to do is just as important. Moving an injured person unnecessarily can make the injury worse.

An important side effect of St. John Ambulance first aid training is that students develop good safety habits. Like all St. John First Aid courses, First Aid For Drivers is 'safety oriented'. It is designed to motivate drivers to adopt a more positive attitude towards safety and the

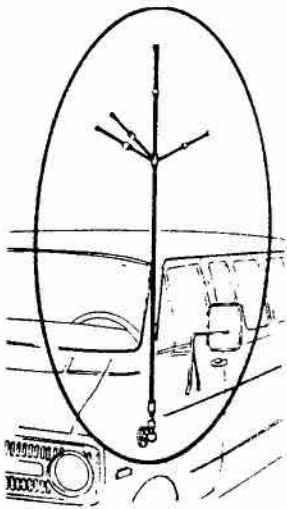
prevention of accidents. Interestingly, people who have experienced serious injuries and those who have had safety oriented first aid training have a similar awareness of safety and comparable attitudes towards it.

This also suggests that safety oriented first aid training will lessen your chances of being in an accident yourself and it's true. Several independent studies have proved conclusively that people trained in St. John Ambulance Safety Oriented First Aid, experience fewer accidents. For example, in a FACTS (First Aid Community Training for Safety) Study conducted by Dr. Robert N. Hunt of Grand Prairie Regional College, St. John first aid training contributed to a 26.4% decline in the motor vehicle accidents experienced in the Peace River District in Alberta. There was also an astounding decrease of 83.3% in the number of deaths due to traffic accidents.

Interesting and dynamic course design contributes to the success of St. John Ambulance first aid training, and First Aid For Drivers is no exception. Two films, 'Cry For Help' and 'Safety Oriented First Aid For Drivers,' illustrate the various first aid techniques and vividly recreates the proper management of a realistic accident situation. The film sequences are supplemented by practical exercises, lectures, demonstrations and class discussions. This multimedia approach to training greatly enhances the student's retention of his newly-acquired knowledge.

Whenever you hear stories about heroic rescues, you often tend to consider the rescuer as superhuman. In truth, all heroes are ordinary people. The difference is that these ordinary people, thrust in the midst of extraordinary circumstances, knew what to do and did it. St. John Ambulance's First Aid For Drivers can give you the confidence to do just that.

First aid training is already a prerequisite to driver licensing in several European countries and is a growing concern in Canada as well. The aim is to save more Canadian lives, stop unnecessary pain and ensure that Canadian roads and highways become safer places for everyone. When accidents do happen, the most frightening memory should be the noise.



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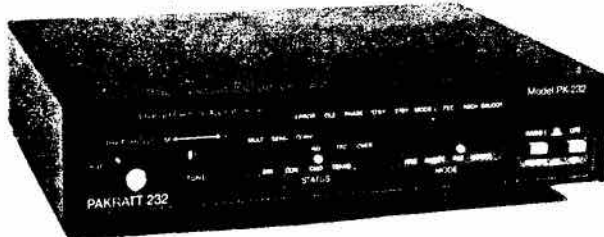
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Sea Breeze

BY ALAN PATTERSON
VE7BSC

The year, 1938, the month January, the place New York, the ship, the *Bellplene*. I was joining the British Marconi Company after serving on the Great Lakes with the Canadian Marconi Company with which I had trained. I received a warm welcome from the Scottish Officers; I learned that I had replaced a very drunken older Canadian who was also joining the service.

I was just settling in nicely when I suddenly got orders to join the *Mitchell* and that she was sailing in two hours—one mad scramble to sign on her at the shipping office and get out to the ship in the roads.

To my horror, I found that there were to be two of us as Radio Officers and that my companion was the drunken fellow that the othership was so glad to get rid of! I never did find out who was to be the senior, I had a First Class Certificate and he had a Second Class but he had the age and experience so I never brought the matter up.

I made my way to the Radio Room where I met my counterpart who we will call 'Wilbur.' He was of medium height, stocky, with greying hair and probably in his late fifties and he reeked of whiskey. A great start to my first sea voyage!

I should explain that the good ship *Mitchell* had been resurrected from the mothballs of the Depression. She was an old American Export vessel and she had been sold to the British: she was to be loaded with scrap iron and when she reached Britain both ship and contents would likely be consigned to the furnaces.

I looked the radio room over and was not impressed. The motor of the main transmitter unit had seized up and we had been given a lifeboat transmitter for the voyage. I found that the reason I had been suddenly rushed on board was because there was no auto-alarm unit and rather than install this for one voyage they had sent me to keep that extra watch. The authorities had insisted on either an auto-alarm or an extra operator. The receiver was a museum piece but it did work. I mentioned the two seemed to be flying on a wing and a prayer—Wilbur agreed.

Soon after boarding I heard the anchor chain rattling through the

hause-pipe into the chain locker and we were away, bound for Portland and a part load of scrap. We made several stops while the engineers worked on the telemotor steering gear but otherwise the journey was uneventful.

Arriving at Portland we soon tied up alongside, hatches were opened and huge cranes with magnets started dropping scrap metal into our holds. The weather was cold and clear with snow covered roads but I took every opportunity to get ashore and away from Wilbur and his drunken ramblings. I admired the fine old Cape Cod style houses and remembered that this had been the home of Henry Wadsworth Longfellow, a great poet and the author of poems such as 'The Wreck of the Hesperus,' 'Evangeline,' 'Hiawatha' and many others.

By Jan. 28 we were back in New York loading the balance of our scrap cargo. We were there long enough that I had a chance to visit Radio City; the weather turned quite mild and people were enjoying their Central Park. I visited the planetarium connected to the museum of Natural Arts. I was fascinated with the display of the heavens on the domed roof. The stars have always had a special meaning for sailors.

During our stay in port, Wilbur wandered around in a drunken haze; he seemed to be living on the contents of the bottle. He was a nuisance to everyone and I marvelled at the patience of the British crew in putting up with him.

Feb. 4 saw us fully loaded, hatches battened down, lines cast off fore and aft and two little tugs pushing us into position to leave port. Now we were bound for the U.K.

By Feb. 7 we were well on our way and settling down to the routine of eating, sleeping and keeping watch on the calling and distress frequency of 600 metres (500 kilocycles) and the three minute silence period at a quarter past and a quarter to the hour was always observed to listen for distress calls.

By Feb. 9 we were in a full fledged North Atlantic storm. The ship rolled and plunged and waves swept over the fore deck as we were heavy laden. The wind screamed and howled through our rigging. At times 40-foot waves seemed to tower above us and I

wondered how any vessel could survive. Eating, sleeping and moving about was difficult.

The force of the storm increased as night drew in. I was on the night watch when a huge wave caught us on the starboard side. We rolled well over to port and were slowly righting when a larger wave hit us again, this time we seemed to hang there a long long time and I started to wonder if it would be 'bottoms up.' Finally she righted herself with the help of some good seamanship on the bridge. The ship creaked and groaned and rivets strained as the waves continued to crash over her, flooding alleyways and taking away one of our lifeboats.

Just at this time a wild eyed, dishevelled figure burst into the radio room, perspiration dripping from his face. He started raving about people harassing him and about seeing animals and snakes. Boozing had finally caught up with Wilbur and he was suffering from DTs. With a shout he lunged across the Radio Room and pulled a bunch of wires off the receiver. What a time to have to contend with a madman! A raging storm and now my receiver disabled.

I called the bridge for help through the voice pipe. In those days I was young and fairly strong so I got Wilbur by the collar and steered him to the door and did a lot of talking to calm him down. A sailor soon arrived and we got him back to his cabin with a guard over him and I returned to the Radio Room and to work connecting the receiver wiring again. On top of all that, I had to stand Wilbur's watch periods until he regained his senses late the next day.

The storm gradually subsided, Wilbur returned to his watchkeeping and life on board returned to normal. I might add that Wilbur, despite his failing, had for many years been on coast stations and on the key he had the most beautiful 'fist' that I have ever listened to.

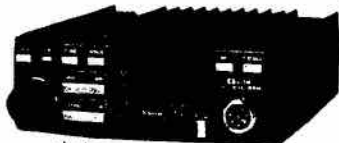
By Feb. 19 we were approaching Land's End and the sweet smell of land and peat smoke was in the air. In all my years at sea I doubt if that smell was ever more welcome. We passed through the Straits of Dover and by Feb. 22 we were maneuvered alongside in the Port of Leith. We signed off and caught a bus for the Marconi Depot in Glasgow. My first memorable sea voyage ended.

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Barrington Passage Wireless Station

BY FRANCES D. EVERETT

Since the 17th century, the construction of forts and other defensive military establishments has taken place in Canada. Some of their locations have been abandoned and forgotten; others, such as Fortress Louisbourg on Cape Breton Island, the Citadel in Halifax, and Lower Fort Garry in Manitoba, to name a few, have been preserved as historical museums for the enjoyment of all Canadians; still others have been abandoned but are remembered, and their ruins still mark the landscape.

One such site, known as "His Majesty's Royal Naval Wireless Station" at Barrington Passage, Nova Scotia, built during World War I, is still known to local residents, but visited very seldom.

The site drew some attention in the early 1970's when it was proposed as a married quarters location for Canadian Force Station Barrington, a radar installation, some 20 kilometres away.

After listening to stories by some of the older local residents about the existence of the old wireless station, I became interested in finding out what I could about what its purpose had been and also making a visit to the site.

The road from Barrington Passage to the old wireless station, some four kilometres, has become overgrown to just a footpath, washed out in many places, and passable only on foot or by 'all-terrain vehicle.'

The station was constructed in 1914, shortly after the start of the first World War. It consisted of a power house, a large barracks building that housed the men and senior non-commissioned officers, as well as their kitchen and mess hall. Other buildings included the officers' quarters and orderly room, operators' quarters, canteen, medical report centre, guard house, recreation hall, two married quarters and a horse barn. Most impressive were the two 103-metre (340-foot) high free-standing towers each topped with a 12-metre-long, 35-cm-square Oregon-pine timber post. A 90-metre-long antenna wire was stretched between the towers.

The establishment, financed and built by the British government at a cost of one million dollars, proved not to meet its original expectations of transmitting and receiving Trans-Atlantic messages, but was useful in a

ship-to-shore capability, and at times made the Trans-Atlantic route, with the Sable Island Marconi station acting as a relay. A second power house was built in 1916 to boost power output in an effort to increase communication capabilities.

Why the wireless station was built in the Barrington area is unknown, but it proved to be a great and unexpected boost to the local economy. There was work for the local farmers using their ox teams to haul in the sand and gravel as well as the other building materials. The contracts to supply groceries, such as meat and vegetables as well as other foodstuffs, were given to the local grocers. Moir's Bakery of Halifax supplied the bread through its dealer, E.C. Hogg, who owned the general store in Barrington Head.

The medical needs, as they are today at small stations, were handled by the local physician, who made regular visits and would be called out in cases of emergency. The medical room, equipped with four beds, acted as a ward for those men too sick to perform their duties or stay in their own quarters.

The station was commanded and managed by two British naval officers, Lieutenants Fraser and Argue. They wore the traditional navy uniform, were supplied with married quarters, and were the only members allowed to have their wives with them at the station. All other ranks, some 60 men, many of whom were militiamen from Newfoundland, were posted in to perform guard duty and basic training. A large parade square was provided for drill practice.

Other duties consisted of scrubbing floors, cutting and sawing fire wood, carrying water from a deep, two-metre-wide, brick-lined well, and emptying the garage. The unsavoury task of emptying the cans from the latrines into the concrete cesspool on the station's outskirts was generally reserved as a punishment or extra duty for those soldiers who had committed some small offence.

The men's barracks, typical for the time, had single board siding covered with tar paper. The men kept warm in winter by having a roaring wood fire. At night they slept on wooden bunks with an issue of four heavy wool blankets on a straw-filled, cotton-covered mattress. Their washroom facilities consisted of three wash bowls and a couple of showers.

The station was felt to be quite

modern for the times with its electric lights powered by the diesel engines that also supplied power for the 'wireless.' This was a real novelty for the local people of the areas.

The recreation hall hosted many parties and dances, and, as always when British troops are posted to different parts of the world, they become very popular with the local young ladies. As a result, five of the men returned after the war, settled in the area, and married the girls they had met and courted. Other young women were left with those pleasant memories of enjoyable social evenings and the long and delightful strolls in the moonlight as they were escorted home.

Only one tragic mishap occurred during the life of the station: a young sailor by the name of George Groves from Newfoundland was accidentally shot by his best friend. He lies buried in Brass Hill cemetery nearby.

The old wireless station closed down after the war ended and, for a short time, a guard was kept on duty. Then, suddenly, it was completely abandoned, leaving everything to pilfering and vandalism. Local residents were able to salvage building materials and fixtures. One elderly gentleman tells of taking an excursion, as a boy, to the site soon after its closure. Having found some tools, he decided to take them home, but after walking some distance he tired of carrying them and placed them beside the path. He never returned to this cache, and feels the tools to this day are still hidden there.

The local fishermen came to rely on the towers when they were out at sea, and when, in the 1930's, the government decided to have a Halifax junk dealer remove them, along with all the other machinery, it was met with some opposition. However, because boys and girls from the area found the towers great to climb, and because of the deterioration of their superstructures by rust, it was felt that they were too dangerous to leave standing.

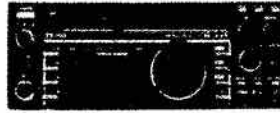
The old wireless station was in existence for only a few years, its usefulness questionable, but its new-fledged presence more than likely contributed to the development of the great modern communications networks in Canada and around the world that we have come to rely on so much today.

—tnx Windsor ARC's *Groundwaves* and VE3JQW

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- DC-1 DC OP Pack
- Leather Case for IC-2AT
- HS10 Headset for HTs
- HS10SA VOX Unit for IC-02AT
- HS10SB PTT Switch Box



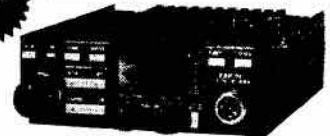
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The Genesis of Hot Watch

BY BOB FLETCHER VE3OEC

At the time of writing of this article, Hot Watch appears in *The Canadian Amateur*, a commercial computer bulletin board and numerous Amateur radio club bulletins. The Hot Watch bulletin is used by law enforcement officers, the Amateur community and the public in locating lost and stolen equipment. Hot Watch's inception, however, was frowned upon by many members of the Amateur community, and it took about a year before the usefulness of the project became apparent and was accepted.

The main objection to Hot Watch, it appears, was that it insinuated that Amateurs were thieves and purchasers of stolen equipment, which certainly was not the implication of Hot Watch. Hot Watch's intention was simply to let Amateurs know what equipment was stolen and how it could be identified. *The Canadian Amateur's* acceptance and publication of Hot Watch contributed greatly to its success.

The concept of Hot Watch began when the London Amateur Radio Club's equipment was stolen. There was no means of informing the Amateur community or the public that the equipment, with its engraved identification, was stolen and may possibly be resold either privately or at a fleamarket.

At this point, I telephoned Bill Birchall VE3FQV and asked Bill to inquire of the Amateurs on the ONTARS net their opinion of a published list of stolen or lost equipment. The majority of the Amateurs were in favour of the idea. In fact, a list of the LARC equipment was received, and the first Hot Watch bulletin was sent out to Bill VE3FQV, CARF and CRRL.

The idea was dormant for two months, and then lists of stolen equipment began to arrive. Hot Watch had to get organized (computerized, in other words) and this 'required' the purchase of a C64, disk drive, printer, new coffee pot, etc. A Hot Watch logo was developed, *The Canadian Amateur* accepted Hot Watch as a regular feature and the cooperation of the Amateur community and law enforcement agencies was sought.

Meanwhile, reports of stolen and lost equipment came regularly and it appeared that Hot Watch bulletin had 'arrived' in the sense that it was a service which Amateurs could make use of in the event of theft. Clubs were sent the Hot Watch bulletin and were requested to send a year's supply of SASEs if they wished to receive the bulletin for publication. Hot Watch bulletins began to appear at fleamarkets and club meetings.

Law enforcement agencies were also sent a copy of the Hot Watch bulletin. In due time, Hot Watch's cooperation in locating items which came into the possession of the police and were not reported as stolen became a part of Hot Watch's operation. Because of Hot Watch's national information data base, at least one pattern of theft was solved.

The London Police Department occasionally requests Hot Watch assistance when it appears that equipment is not legally in possession of a suspect. Police are now aware that the possession of an operational transceiver by an unlicensed person is a federal offense.

Hot Watch has some success stories... among which is the finding of lost equipment and location of the owner from the Hot Watch bulletin. Another instance which occurred had a chance twist... an Amateur who was talking on two metres in London mentioned his stolen equipment. Since the northern Ontario OPP had picked up the equipment, Hot Watch had a location of the equipment and the Amateur was told to telephone the police department and retrieve his stolen gear.

According to available information, most of the stolen equipment is discarded (60%). Of the remaining equipment (mostly portable equipment), 10% is resold, and about 2% is used for illegal purposes. The discarding of equipment is the result of inexperienced thieves taking equipment without knowledge of its use, and the later discovering that is not resaleable.

Amateurs can assist in reducing theft by making their gear identifiable by use of an ID number, preferably a SIN number in the middle of the back of the gear. If the number is ground

off, it is easily visible and the Police (and suspicious hams) should ask questions about this unwarranted modification of the back plate.

The SIN number, as a nationally registered identification, is much more identifiable than serial numbers or random identification. If the gear is sold to another Amateur, a new SIN number can be engraved, and will do no more than provide a trace of the owners of the gear. Amateurs should be particularly careful with portable gear, which is increasingly being used for theft and illegal drug operations.

The attraction for portable gear is much greater among these 'users' than HF gear, but HF gear also has its market and is vulnerable to theft. Hot Watch can assist in locating stolen gear when it is recovered and give those people who would like to dispose of stolen gear a reminder that it may be difficult, even dangerous, to do so.

However, Amateurs should also cooperate by engraving their equipment and taking precautions against theft, and particularly by checking the Hot Watch bulletin. If the rig which appears with an attractive (yea, even cut-rate) price attracts your eyes and it matches the description of a rig in the Hot Watch bulletin, it would be wise to check the serial or identification number before buying it.

Amateurs should also be aware that any stolen equipment can be confiscated without any compensation if 'their' equipment was stolen from another source. Finally, if all Amateurs cooperate in an effort to mark their equipment and avoid purchasing stolen equipment, we will avoid rampant insurance increases and our own gear will be less susceptible to theft.

If you have lost or stolen gear, send the information to Hot Watch, c/o Bob Fletcher VE3OEC, 201 Admiral Drive, London, Ont. N5V 1H9 or call me at 1-519-455-3988 after 1800 hrs— collect if necessary.

If a club wishes to receive a Hot Watch bulletin, please send 12 SASE's to the above address and the bulletin will be sent when published.

Social Events

CARF Annual General Meeting

CARF will hold its 1987 Annual General Meeting in Kingston, May 29-30-31. All Amateurs are invited to attend.

The meeting will be held aboard the icebreaker *Alexander Henry*, an exhibit of the Marine Museum of the Great Lakes at Kingston.

Accommodation— bed and breakfast— is available aboard the vessel. Reservations from The Marine Museum, 55 Ontario Street, Kingston, Ont. K7L 2Y2, 613-542-2261.

So come to Kingston in May. Meet the CARF officials, CARF office staff, contributors to *The Canadian Amateur*. See the CARF offices, take a turn at operating VE3VCA, watch *Viewstar* working!

Look over the Marine Museum. See Sir John A. Macdonald's home. Enjoy a visit to Canada's first capital city!

We're all looking forward to meeting you in Kingston, May 29-30-31!

Durham Region Flea Market

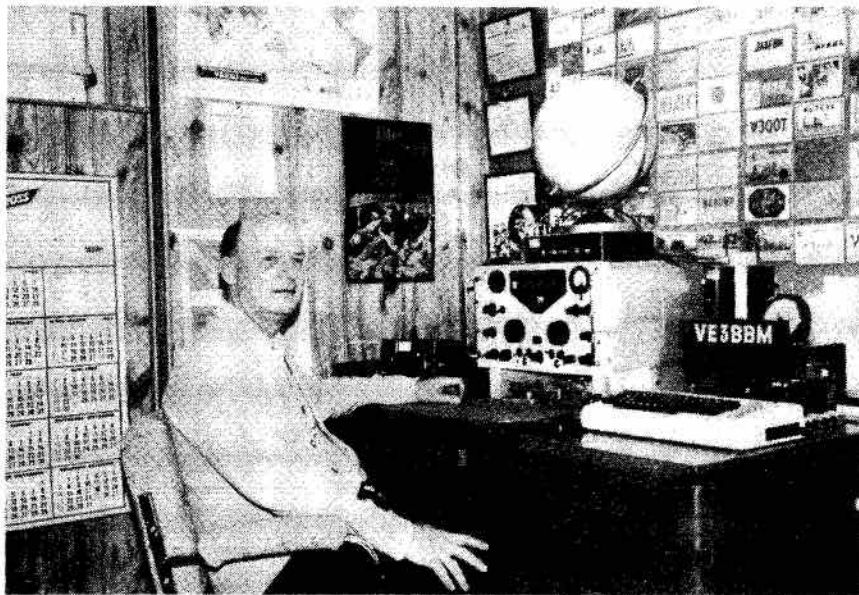
Sixth Annual Durham Region Amateur Radio Flea Market organized by the South Pickering ARC, Inc and the North Shore ARC Inc.

To be held on Saturday April 11, 1987 9 a.m. to 2 p.m. at Pickering High School, Church Street, N. Pickering Village, Ajax, Ont. Admission \$3 (includes ticket on super prize). Children under 12 free.

Door prizes. Commercial displays. Refreshments.

Vendors: doors open 7:30 am, tables \$6 plus admission, payable to South Pickering ARC Inc. c/o H. Vardon VE3DAX, 36 Roosevelt Ave. Apt. 4, Ajax, Ont. L1S 2L4.

Information from Howard VE3DAX, 416-683-7562, Ray VE3NBE 416-839-9208, or Peter VE3JPP 416-282-3983. Talk in VE3SPA 147.975-375, VE3OSH 147.772-120.



Ralph Cameron VE3BBM, CARF's CROSSWAVES editor. Ralph has recently been presented with CRRL's Amateur of the year award for contributions toward resolving EMC problems, the JRSD Fund, and intruder identification.

CALENDAR

April 11: Durham Region flea market. Details this issue.

April 15: DOC licence examination.

May 1-3: 50th annual Naval reunion.

May 12-13: Symposium on spectrum usage, Montreal. Details March *Amateur*

May 20: DOC licence application deadline.

May 29-31: CARF AGM, Kingston. Details April issue/

June 17: DOC licence examination.

June 22 - July 5: Cobourg, Ontario, sesquicentennial prefix VX3. Details March, letters.

Sept. 4-7: RCCS 'Reunion '87. Details March *Amateur*.

Sept. 11-13: CLARA 87 Celebration. Details October YL column.

Sept. 19: Kingston ARC Third Annual Flea Market.

Applications for DOC licence examinations Sept. 23. DOC licence examinations June 17, Oct. 21.

Publicize your get-together here. Write the Editor, P.O. Box 356, Kingston, Ontario K7L 4W2.

Let TCA know about your events three months in advance to list them in the Calendar.

The deadlines for *The Canadian Amateur*, 1987, are for June, April 17, July/August, May 22; September, July 17; October, Aug. 21; November, Sept. 18; December, Oct. 23 and January 1988, Nov. 13.

18 AND 24 MHz

CARF has been advised that the DOC is making a concerted effort to make 18 MHz and 24 MHz available to Canadian ham by April 1, 1987. Until further notice, it is illegal to operate on these bands.

ONTARIO ELECTION

Ontario members— please cast your ballots for Ontario Directors. Ballot Forms are being distributed by mail.

ANARCON '87

The 1987 Convention of the Association of North American Radio Clubs will be held July 16 thru 19 at the Novotel Hotel in Mississauga, Ontario (just west of Toronto). The Ontario DX Association is this years host for ANARCON '87.

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Bob's new book fills the gap that often makes the difference between sitting there watching the dial lights and actually making contacts that are the real joy of amateur radio.



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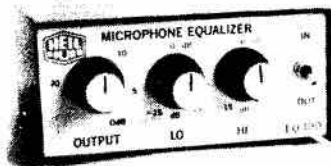
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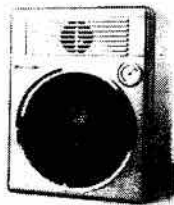
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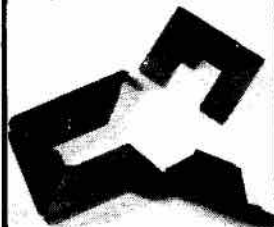
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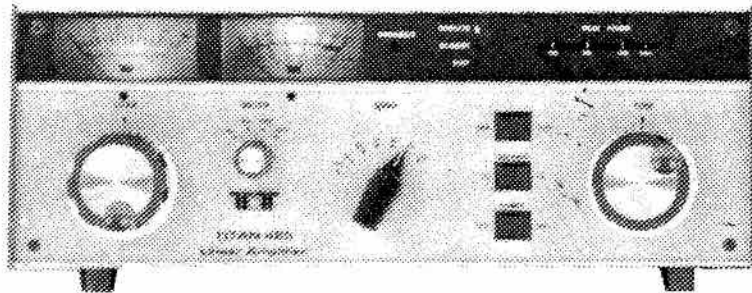
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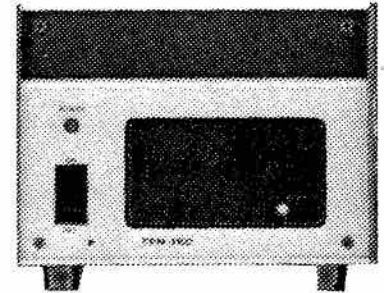
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Built-in lambic keyer. Speed adjustable 8-50 WPM with 40 character programmable memory.

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Built-in speech processor, with level control, standard.

Variable ALC.

PLUS: Rear panel connectors for station control, AFSK, QSK, phone patch, auxiliary antenna, PTT, standard CW key, and more.

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Size: HWD 5.25" x 15.25" x 15".



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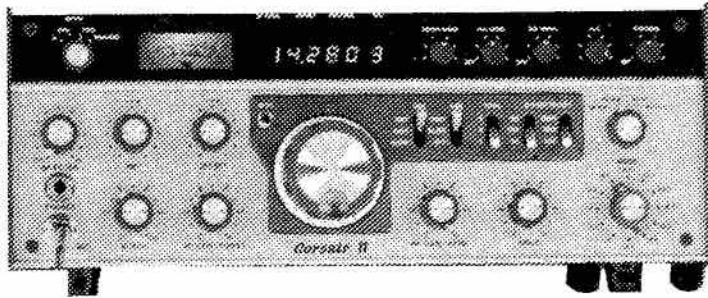
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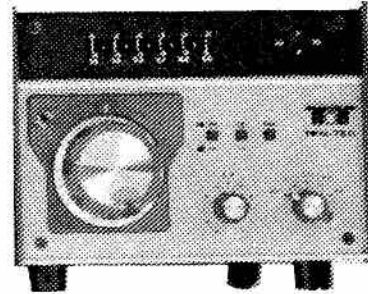
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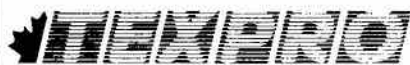
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		MODEL	DESCRIPTION	SUG. RETAIL
 <p>MODEL 585 PARAGON</p> <p>MODEL 960 POWER SUPPLY</p>	585	PARAGON General Coverage HF Transceiver, 200 W. SSB/CW/FSK, 1.8-30 MHz	3295.00	
	960	Power Supply, 115/230 VAC, 13.5 VDC, 22 A with built-in Speaker	399.00	
	282	250 Hz 6 Pole Ladder Filter	119.00	
	285	500 Hz 6 Pole Ladder Filter	119.00	
	288	1.8 KHz 8 Pole Ladder Filter	119.00	
	705	Desk Microphone, Electret, with Cord and Connector	125.00	
	700C	Handheld Mic., Electret with Coiled Cord, and Connector	59.00	
	1140	DC Circuit Breaker, for Models 580/560/561/546/585	29.00	
 <p>MODEL 561 CORSAIR II</p> <p>MODEL 263G REMOTE VFO</p>  <p>MODEL 960 POWER SUPPLY</p>	561	CORSAIR II HF Transceiver, 200 W./SSB/CW, 1.8-30 MHz	2195.00	
	960	Power Supply, 115/230 VAC, 13.5 VDC, 22 A with built-in Speaker	389.00	
	263G	Remote VFO	389.00	
	282	250 Hz 6 Pole Ladder Filter	119.00	
	285	500 Hz 6 Pole Ladder Filter	119.00	
	288	1.8 KHz 8 Pole Ladder Filter	119.00	
	705	Desk Microphone, Electret, with Cord and Connector	125.00	
	700C	Handheld Mic., Electret with Coiled Cord, and Connector	59.00	
	603	KR1B, Dual Paddle Memory Key	108.00	
	1140	DC Circuit Breaker, for Models 580/560/561/546/585	29.00	
 <p>MODEL 525D ARGOSY II</p>	525D	ARGOSY II HF Transceiver, 100 W./SSB/CW, 3.5-30 MHz	1195.00	
	225	Power Supply, 115/230 VAC, 13.5 VDC, 9 A	235.00	
	217	500 Hz 8 Pole Ladder Filter, for Models 546/525	119.00	
	218	1.8 KHz 8 Pole Ladder Filter, for Models 546/525	119.00	
	219	250 Hz 6 Pole Ladder Filter, for Models 546/525	119.00	
	220	2.4 KHz 8 Pole Ladder Filter, for Models 560/525	119.00	
	222	Mobile Mount	50.00	
	223A	Noise Blanker, for Model 525 above SN 0824	69.00	
	700A	Handheld Mic., Electret with Coiled Cord, Phone Plug	59.00	
	705A	Desk Microphone, Electret, with Cord, Phone Plug	125.00	
	1125	DC Circuit Breaker with Cable	37.00	
	 <p>MODEL 229A 2KW ANTENNA TUNER</p>	229A	2 KW Antenna Tuner/SWR Bridge	499.00
4229		2 KW Antenna Tuner/SWR Bridge Kit	389.00	
3229		Balun Kit	29.00	
209		300 Watt Dummy Load	49.95	
 <p>MODEL 425 TITAN</p>		425E	TITAN Linear Amplifier, 1.5 KW output, 1.8-31 MHz, with Power Supply (For Export Only)	4495.00

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How to Interpret EMCAB-1 Derivation of Field Intensity

The standard method of expressing RF field strength is in volts/metre.

This value corresponds to the electric field potential. Perpendicular to the electric field is the magnetic field which is directly proportional to the electric field. In a more conventional way this measurement may be expressed as power per given area of free space. It should seem logical that the higher the power being put out the higher will be the local field intensity.

The electric E field squared, divided by the impedance of free space (377 ohms), converts electric field measurements to watts per area. Watts per square metre then is derived from the electric field intensity by the formula:

$$(V/m) \cdot (V/m) / 377 = \text{Watts/sq. metre.}$$

If we assume the transmitting antenna to be a point source we could ignore the dimensions of the antenna in determining how much power will be presented over some area in space. If we enclose the point source in an arbitrary sphere all the power radiated should illuminate the inside surface of the sphere. Now, we arrive at an equation relating our field intensity to known area. The formula is:

$$\text{Watts/sq. metre} = P / (4 \cdot \text{Pi} \cdot r^2)$$

where r = an arbitrary radial distance from the source to the reception surface.

All the above is meant to provide a background for what follows:

From the foregoing we can now relate power, distance and arrive at V/m which is our field intensity. This may be of interest to us at some time.

As an example: At 30 metres from the transmitter antenna and assuming a power output of 500 watts we can expect 0.044 W/ m.sq. over the surface of a sphere with radius 30 m.

By use of our first formula this results in a field intensity of 4.1V/m.

This is how EMCAB-1 expresses the comparison of the field intensities of various services. It is bound to be a very important consideration in any subsequent definition of what power we may or may not use in an urban area. It is probably from measurements of this parameter that acceptable levels of appliance

immunity will be established although there is an overwhelming compulsion to adhere to 'International' and 'world' standards.

UNIVERSAL STANDARDS

The susceptibility standards for the conducted energy which results from close proximity coupling could probably be designed into equipment now. There has not been one valid argument given why this has not been done except, DOC do not have this mandate under the Radio Act. One can honestly speculate whether the manufacturers were aware of this 'regulatory inhibitor' all along. It has been overlooked since the Canadian Radio Technical Planning Board set up a task force to look into electromagnetic compatibility over 15 years ago. Almost like drilling an oil well without a drill! The irony of the lack of mandate is how well-presented EMCAB-1 appeared as a general treatise on the current electromagnetic environment in Canada.

POWER vs PROXIMITY

One cannot help but notice how the Amateur service stacks up relative to all other sources of licensed emitters. It is a fact of life that proximity largely determines field strength and that most Amateurs live in areas surrounded by neighbours. Serious Amateurs who have the where-with-all even choose their operating location with great care— well-removed from neighbours, bylaws and covenants. Perhaps the local prying RI too!

The field intensity charts which accompany EMCAB-1 show the distribution of field strength levels for various parts of the spectrum— 0.01 MHz to 10 GHz. The right hand side of the graphs convert volts per meter to dB per microvolt per metre. This tells in logarithmic fashion how many dB relative to one microvolt per metre is any given spectrum occupant. It goes without saying that microwave frequencies above 1 GHz get top honours and make the Amateur intensities puny by comparison. Although few of these M/W signals cause much problem with appliance EMC, one wonders what's happening to those so exposed physiologically.

The phrase, "What's cooking out there?" could be appropriate.

To conclude how one interprets the factual information of EMCAB-1 we should bear in mind that the severity and growing incidence of appliance susceptibility led to its composition and promulgation, by no less than the highest regulatory body. All this is 1977. The results speak for themselves.

FRIENDLY ADVICE

Now, if you wish to tell your neighbours or friends about 'radio sensitive' electronic appliances perhaps, you could start out like this:

At some point of enjoying our Amateur Radio equipment we will be accused of somehow affecting the performance of the following:

- Hi-Fi Stereo/Radio Systems
- Television Reception
- Cable Systems
- Telephones
- Audio Amplifying equipment
- Video reproduction equipment
- Analog/digital control equipment

How each of the above interacts with the Radio Frequency environment is what we call Electromagnetic Compatibility or EMC.

Devices such as the above which are not designed to receive and respond to electromagnetic energy are said to 1) Lack immunity, 2) Be susceptible.

Undesired interaction (NOT interference) occurs because of the well-understood principles of: 1) Radiated emissions or 2) Conducted emissions.

It is a necessity to make measurements of Conducted susceptibility and Radiated susceptibility to determine whether an electronic device/appliance will respond when it has not been designed with this in mind. How much immunity is built in determines how tolerant it will be of the surrounding radio environment. Measurements define the levels when problems occur. Most cases or devices never need measuring because they audibly emit, visibly display or sometimes smell when attempting to reject undesired RF.

DISHONOURABLE CONDUCT

The majority of Amateur problems

Continued next page

CROSSWAVES (cont'd)

(as high as 80-90%) are due to conducted energy entering through the power line or via the cable sheath. Direct radiation can affect unshielded devices which use long runs of exposed conductors. Some older electronic organs have this problem. The locally transmitted energy can find its way into appliances by the most surreptitious means. Who would ever suspect that innocent looking TV cable winding underground through many RF-leaky junctions and rounded metal boxes could ever present a problem? Yet there are many documented cases.

Energy is induced on the outer sheath by our timeless friend, proximity and these currents which were in the air but a few nanoseconds are now flowing with gay abandon up the sheath without a 'rudder.' Remember from our theory that coaxial cable is what we call unbalanced. This means it has designed in weakness to receive any radio energy on its sheath, via induction. It inevitably travels, via the sheath, to the appliance at the other end. Those Amateurs who live in

proximity to high power transmitters will empathize with this.

CONDUCTIVE LOOPS

Radiated energy becomes 'conducted' when the mutual coupling between the source and destination is great enough to permit currents to flow in some conductive medium. The media can be a section of water pipe, rusty joint, eave trough or aluminum siding. If it's a conductor, it's suspect. (My apology to transportation companies.) We say there is a 'conductive loop' causing the problem. It must be a loop because conduction can only occur when there is 'area' involved. The conductive loop is then some local conductor which must have another conductor completing the circuit for current flow. Nuff Sed.

One solution to the problem of conducted energy is to cut the mains cord. This is normally effective, but not a suggestion approved by Hydro. Another is to cut the antennas associated with the coupling problems. This too would require more diplomacy than most Amateurs and neighbours would appreciate. After all, we should learn to be

compatible with neighbours, our very existence may demand it.

RING AROUND THE ROSIE

Much to the consternation of many experienced Service folk there are non-intrusive means to break the conductive loop causing the problem. If you haven't heard by now the devices are pronounced *Toroid*, something like thyroid. In fact they have the same action as a goiter—i.e. one of choking action.

We have covered many types of toroidal cores in a previous column and suffice it to say that by winding a nominal number of turns of the mains/line cord around the donut-shaped ferrite core we can isolate that nasty sheath-conducted energy. (It literally drives it around in circles.) The same applies to our TV cable, you may even be able to eliminate some of that nasty cable leakage from running your TSM operation.

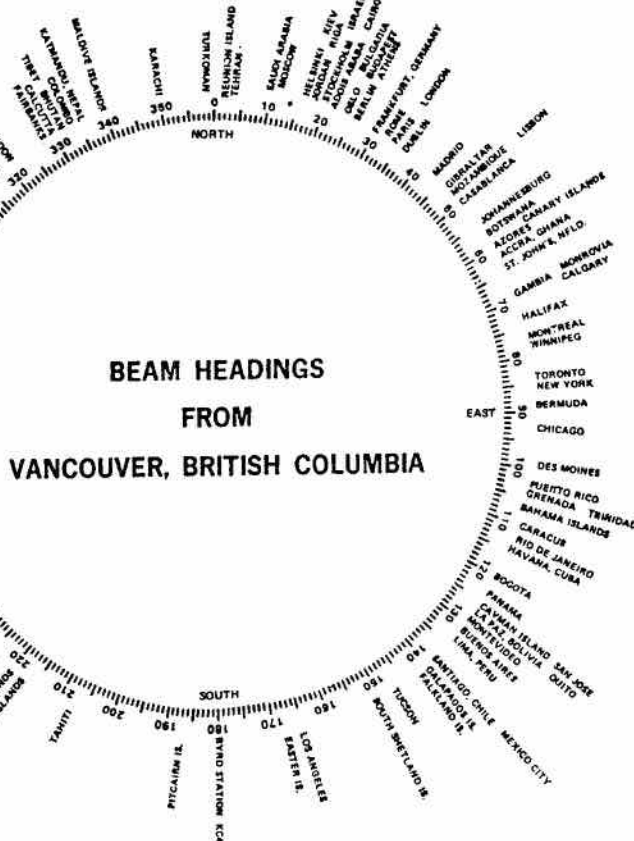
Toroids are not the complete answer but, they offer the advantage of no external field which means you can mount them about anywhere, except leave them around a box of "Tim Horton's".

NIL SINE LABORE

The other little 'gem' of information you may wish to pass along to your neighbour is that we don't do this business of turning on electronic controls or blasting the cones from unsuspecting speakers, causing premature hostility or a myriad of other effects because we have a choice. But, we can do something about it and this is where an attitude of cooperation, sensible discussion, reasonable response and Amateur compatibility all join together to help eradicate our problems of EMC. If you can't face your neighbour technically—get someone who can and do it early. Concern is paramount.

HI SHO

With a crescendo of Automatic keyers, ricocheting Rettny Snitches and wobulating Wouff Hongs you may want to tell your neighbours that some day a rainbow will appear and all our problems will have been solved—a negative frequency spectrum was just discovered by that Amateur down the street and he's working Europe on 200 metres. Just think of the impact that will have. In Japan, university students wear headbands to school, before examinations. On each headband there is a rising sun and the inscription, which when translated means, "we shall be successful." Now what would your neighbour think if he met you wearing one of those?



Fred Hammond VE3HC
TNX Update

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**** MOVING ****

**** MOVING ****

**** MOVING ****

Yes, we are still in business but getting ready to move. Watch for the moving date and new location to be announced in "TCA" later this year. The new 10,000 sq. ft. building will be heated and well lighted. This should be good news for those who have visited us here fully equipped with flashlights and overcoats....

In preparation for the move we have many "In House" specials including the following while quantities last.

Military R1511 receivers, solid state except for the front end, 0.54-54 MHz with copy of manual. \$100.00

CR18 crystal units, individually wrapped, packaged and labelled. 20 assorted for \$1.00

Microfiche readers, new lot just rcvd., all boxed, may require minor repairs. \$40.00

Military C42 communications sets. 38-60MHz with separate power supply. No cables or accessories but only \$25.00

Miniature PM speakers, new, boxed, 1 1/2" size, 8 ohms only 50 cents each

Military receiver, Model R174/URR covering 1.5-18MHz, less power supply and cover. \$30.00

Communications receiver, Airmec Model C864 covers 15KHz to 30MHz. \$60.00

Communications receiver, National HR050 with ten sets of coils covering 50KHz to 35MHz. Built in xtal calibrator option. \$200.00

Military radio shelter. This is a steel clad, olive drab "bldg" designed to be dropped on the back of 2 1/2 ton 6x6 vehicles. Insulated and finished inside, wired electric heat, lights, lots of opening windows, double door, screening on windows, roof hatch, etc. Three verticle antenna bases mounted on end walls. Size approx. 6x6 1/2x10 ft. long. Makes an ideal outside self-contained ham shack. \$500.00

Tube checkers, Model 966 while they last only \$27.00

DVM's Fluke model 8300A at \$75.00

Equipment shelves, Hammond Model 1409V, grey, panel height 10 1/2", new boxed only \$10.00

Equipment shelves as above but Model 1409X and 12 1/4" high at \$12.00

Large noninductive resistors, Globar 8"x1" dia. We supply 7 units, each 350 ohms which will give 50 ohms in parallel and easily handle a KW. Price \$25.00

Linear amplifier, RCA Model SBA-1000. In cabinet with 110/220 volt pwr supply. Uses PL-172 in final. Appearance excellent. \$600.00

Transmitter/receiver, RCA Model SSB-1, 4 channels CW, USB or LSB in cabinet with handset. Transmitter uses 3 type 6146 tubes in final. With pwr. supply. \$150.00

Digital voltmeters, HP Model 3439 with plug-in, special at \$20.00

Many more bargains for the visitor. If there are any queries, write enclosing a stamp for a reply.

All items FOB Smiths Falls, Ont. & are used surplus unless indicated otherwise. Ont. residents subject to 7% Sales Tax.

From the Clubs...

George Morgan VE3JQW
687 Fielding Dr.
Ottawa K1V 7G6

I received a nice letter recently from Lee Nolan VE1BHS, who is the CARF Representative for the WestCum Amateur Radio Club, one of our newest affiliates. Lee has again taken over the publication of the club bulletin, and I look forward to reading it.

According to the January issue, which Lee sent along, one of the popular activities of the club is a breakfast get-together. I notice that the club has decided to hold these get-togethers now for lunchtime so that those who have some distance to travel and 'late risers' would have a chance to come. Boy, I could live with that.

I also received a letter from Orin Beebe VE7BEE describing the activities of the Penticton Amateur Radio Club. According to Orin, the club was quite active last summer and fall. It had a successful Field Day and is already planning for the next one. The club was also active, as usual, during both of the summer VHF QSO

Party Contests and would like more VHFers to listen for the club, using the callsign VE7PRC, on 6 and 2 metres. Orin adds that 20 members of the club assisted in the successful relocation of repeater VEZOKN from Kobau Mountain near Osoyoos to Apex Mountain outside Penticton. With its new location, it has enabled stations as far away as Langley and Surrey in the Vancouver area, a distance of over 150 miles, to access it. The ATV group in the club has installed active beacons on 439.25 MHz and 1280 MHz running 1.5 and .05 watts respectively. Orin notes that the club, with about 40 members, is considering putting another local two metre repeater on the air as well as a 440 repeater.

A big thank you to *The Burnaby Connection* for the following:

THE HUMAN PART OF AMATEUR RADIO

"Here is a story that happens more

often than we see in print of any bulletin. Earl Green VE7AGC and John Brown VE7JHB told us the story of Burt Foster VE7ANU. Burt had a stroke a year or so ago and suffered most of the problems that go along with this ailment. Well, it seems that one of the therapies that has helped him most is to get a two-metre rig and get back on the air. Earl and John encouraged him and it has helped Burt with his speech problems. So, if you hear Burt on the air give him a call and help him along. Carry on with the good work boys."

SILENT KEY

Keith Perry VE7BRO writes the following in January/87 *Burnaby Connection*:

"We are very sad to announce that Dan Gentry VE7DG became a silent key on Nov. 10, 1986. Dan was born in England on Jan. 3, 1916. He came to Moose Jaw, Saskatchewan, to train as a pilot but by the time he returned to England in May, 1945, VE Day had come. He came to Canada with his wife in June of 1953.

"Dan became a Ham in 1958, and received his Advanced Amateur Certificate in 1962. Dan was a very active member of the Burnaby Amateur Radio Club. In 1983 he received the honour of a Life Membership in the club after 25 years of faithful service. He was one of the founders of the Burnaby Club, serving as its President on at least two occasions. He was a Director for many years, and served on numerous committees. He was chairman of the Repeater Committee at the time of his passing.

"Even though Dan had a heart problem, he was very active in the VE7EXPO radio station. Not only did he do his regular shift at the station but he would go down almost daily to help others operate the satellite station. At the windup banquet of the VE7EXPO society, Dan was honoured by all who attended.

"He will probably be remembered best for his help to individual Amateurs. He was always willing to help out the new or the seasoned ham. He was always a stabilizing person at the club meetings. He could always see the implications of doing something now as to how it might affect a problem in the future. Also he could usually remember what had happened in the past and could tell members how it was, what went right and what went wrong.

"We are going to miss him."

SWAP SHOP

FOR SALE: HOME in Nakusp, B.C., 733 Columbia Crescent. Nine yrs. young, 1450 sq. ft. plus 325 sq.ft. court-yard-sundeck. Beautifully fenced and landscaped. Double garage, Sauna with pool. Underground wiring, sewer, street lights, side walks. EXCELLENT DX-Location. Curling, fishing, golf, Hot Springs, Ski Hill. Contact VE7EHD, 604-265-3175.

WANTED: Used Yaesu FTV-901R VHF/UHF transverter with 430 MHz module in good condition. Bruce Smith VE6BS, 5835-142 St., Edmonton, Alta. T6H 4C3, 403-438-0630.

FOR SALE: Heath Power Amplifier AA-1600, 125 Watts minimum per channel into 8 ohm. One Heath Audio Equalizer AD-1305, in 100 kohm, out 100 ohm, both with manual for \$400.00 will ship. Phone 807-876-4318. P. Mengelberg, Box 15, Longlac, Ont. P0T 2A0.

SPEND 2-4 WEEKS in Toronto. 2000 sq. ft. bungalow close to subway, twin beds, rec room with fireplace and billiard table, shack with 1 KWHF rig all bands, available to non-smoking couple for several 2-4 week periods in 1987, exact dates to be determined on short notice. NO PETS—but must be certified cat lover to look after our two. Extra overnight guests unwelcome. Applicants to be selected on purely arbitrary basis. Ivor Nixon VE3IHN (416) 233-9019.

WANTED: Collins S-line and 30L-1 Linear. Advise model, condition and price. Bill Davidson VE1VC, 245 Allison Cr., Bathurst, N.B. E2A 3B4 506-546-4398.

SHACK CLEANING: 50 years old-timer stocking parts, meters, transformers, tubes, sockets, instruments, phone patch. Mobile antennas, Central Electronic 200 V first transceiver. QST's, 73's, pre-1930 old radio magazines, interested? Send SASE for listings. VE2OU, 2785 Valcourt St., Ste Foy, Quebec G1W 1W2.

FOR SALE: Commodore 64 items. Digitek 1702 composite to 1902 RGBI 80col hardware addition monitor converter. See *Compute's Gazette* Sept. 1986. \$45. Richvale telecomm user port to Centronics parallel printer cable (Vic 20 also). \$30. CSM 1541 disk drive alignment program. 2 disks. Manual. \$45. Simon's Basic cartridge with book and manual. \$45. Also Icom IC230 synthesized 2 metre FM transceiver. Mint with mike and manual. 10 watt. \$125. All UPS extra. Monty Hart VE3TA, 55 Highland Ave. Barrie, Ontario L4M 1N2.

FOR SALE: Yaesu FR-101D Digital Receiver. Covers 160, 80, 60, 40, 31, 25, 20, 19, 16, 15, 13, 11, CB, 10, 2, 2 metre bands. Good condition, w/manuals. \$200 OBO. Heathkit V-7 VTVM \$15 OBO. You pay shipping. B.J. Wenner VE6WN, P.O. Box 66, Ralston, AB T0J 2N0. (403) 544-3325.

WANTED: HW7 or 8. State price and condition. Bob Rollheiser VE6AAO, Box 2609, Peace River, Alberta T0H 2X0. Phone 403-624-4754.

WANTED: Tentec Argonaut 515 transceiver in good condition. Peter Purdy VE3NVP, 420 Sara St., Cornwall, Ont. K6J 5K9. 613-938-3896.

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TD-2005/S	125.00 + 6.90		1200FFX*	\$ ASK	15.00
TD-2005/HD	135.00 + 7.90		1500FSX*	\$ ASK	26.00
TD-160	60.00 + 6.90		EV-700*	\$ ASK	9.00
GD-6/500W	95.00 + 6.90		EV-700DX*	\$ ASK	18.00
GD-6/2KW	195.00 + 7.90		#303	\$ 50.00	6.90
GD-8/500W	125.00 + 7.90		#300	\$ 85.00	6.90
GD-8/2KW	215.00 + 7.90		#1211	\$ 60.00	6.90
GD-7/500W	115.00 + 8.90		#1213	\$ 70.00	6.90
GD-7/2KW	215.00 + 8.90		#1217*	\$ ASK	6.90
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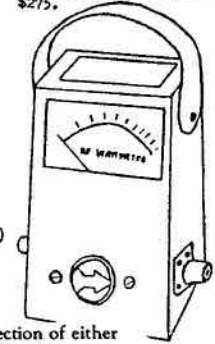
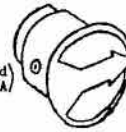
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The MODEL 81000-A completely satisfies proposed CSA standard for bounce & vibration (CSA-STD-C22.2 No. 152-1976), as well as US Navy standard for shipboard mechanical vibration (MIL-STD 160).

STANDARD ELEMENTS (CATALOG NUMBERS)

Power Range	Frequency (MHz)						
	2-30	25-60	50-125	100-250	200-5	4-1.0	
5 watts		82012	82020	82028	82036	82045	
10 watts		82013	82021	82029	82037	82046	Low Power
25 watts		82014	82022	82030	82038	82047	
50 watts	82004	82015	82023	82031	82039	82048	Milliwatt
100 watts	82005	82016	82024	82032	82040	82049	Elements
250 watts	82006	82017	82025	82033	82041	82050	- slightly
500 watts	82007	82018	82026	82034	82042	82051	higher
1000 watts	82008	82019	82027	82035	82043	82052	priced
2500 watts	82009						
5000 watts	82010						

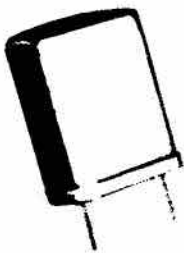
GREAT LAKES ELECTRONICS

VE3CF

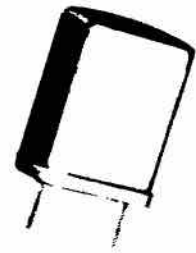
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HAM ROMANCE— HAS PEARSON COLLEGE DONE IT AGAIN?

Roy Paret VE7TG tells me Pearson College station VE7LPC played Cupid again. It seems another graduate, Marco Perkovic OA4BIK, who is now an officer cadet in the Peruvian navy, asked for help. He was on the ship *Independencia* off the coast of the Azores heading for Portugal. He wanted to contact a friend, Jacqueline Gray, another Pearson graduate who was also interested in radio and now in Barry, Wales.

The ship's station OA4ENP and Pearson College station VE7LPC managed to set up skeds with the sister college in Wales. Through these skeds, arrangements were made for Jackie to meet the ship. Marco says he hopes to have a big announcement to make soon. Anyone got any ideas what he's thinking?

JULIETTE WARREN C6ADG

Juliette is quite a remarkable young YL. She set a record at the college which is hard to believe. I'm told she studied the manuals and passed the written test in two weeks and with a very high mark. Then she started on Morse code and with the help of Hilda VE7FLN (Roy's YL) passed the code with no trouble on first try. Juliette got her Canadian licence and call VE7FSS while at the college and the Bahamian call C6ADG on her return to Nassau. She is now studying medicine in the U.S. in the hopes of becoming a doctor.

A little human interest story tells of Juliette working the space shuttle Columbia. While standing by, she broke the push-to-talk mike switch in her excitement. But where there's a will, there's a way: She took the microphone apart with a nail file and activated the circuit with her finger! It worked! And she has her QSL. A QSO she will always remember.

Another point of interest: Pearson College and other United World Colleges were founded by Lord Louis Mountbatten and he was the first president. After his death he was succeeded by Prince Charles.

Thanks Roy for keeping me informed on the YLs and Romances at Lester Pearson College.

AC-DC CONTEST

Don't forget CLARA Annual Clara Day Contest AC-DC May 26-27. The contest will have a different twist to make it more interesting. Changes are made to keep us from getting bored. Hi! There are Trophies and certificates involved. Full details next time.



Juliette, a petite YL from Nassau, Bahamas. She holds the call C6ADG and is another recent graduate of Lester Pearson College. O! she doth teach the torches to burn bright.

87 CELEBRATION CONVENTION

To celebrate the 20th Birthday of CLARA things are really 'hopping,' all kinds of things to delight your fancy. Come join us in this celebration, your OM is invited to come too. You don't have to be a member of CLARA, just an interest in Amateur Radio and good YL friendship. If you'd like more information contact me, Cathy VE3GJH.

While we're on the subject of celebrations:

Congratulations and best in the future to the following:
CARF on your 20th. WARO— YLs of New Zealand on your 25th. Floridoras— Florida YLs on your 30th.

GOTA

Guides On the Air was a great success— more soon. Remember— Guides and Brownies are asked to send GOTA stories to the Editor, *The Canadian Amateur*, Box 356, Kingston, Ontario K7L 4W2.



Scout Jason Beyette of Dauphin, Manitoba, won the gift certificate offered by *The Canadian Amateur* for the best article on the 1986 Jamboree on the Air, printed last month. Here's Jason being presented with the award by Ted Wojtowicz, his scoutmaster.

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10.7 MHz PREAMP

As mentioned in last month's column, one way of improving station performance on 10 MHz is to add a high gain IF amplifier to the receiver. The preamp presented this month was suggested by VE2HOT then built by VE2PGO, who also supplied me with the parts for this project.

PARTS LIST

- 1 - MC1350 8 pin IC (RS 276-1758)
- 1 - 8 pin IC socket
- 1 - Muranta SFE10.7MA5 Filter
- 1 - 36pF variable capacitor
- 1 - 5.1 K ohm resistor
- 1 - .001 uF capacitor
- 3 - .05 uF capacitors
- 1 - IF can with 1/4 inch form and Arnod type TH or equiv. core
- 1 - length of #36 AWG insulated wire alternative 10.7 MHz filter:
- 1 - 80-450 pF variable
- 1 - 5-80 pF variable
- 1 - 4.6 uH coil

The heart of the preamp is the Motorola MC1350 8 pin monolithic amplifier which provides a maximum of 58 dB gain at 10.7 MHz (350 kHz bandwidth), more than enough to pull the weak ones out of the noise. The output of the amplifier is fed into a tuned circuit consisting of a 36 pF variable capacitor in parallel with the primary of the output transformer.

The transformer primary is 24 turns of #36 AWG, close wound on a 1/4 inch core. The secondary is 1 1/2 turns wound over the center tap area of the primary, to provide a 50 ohm output.

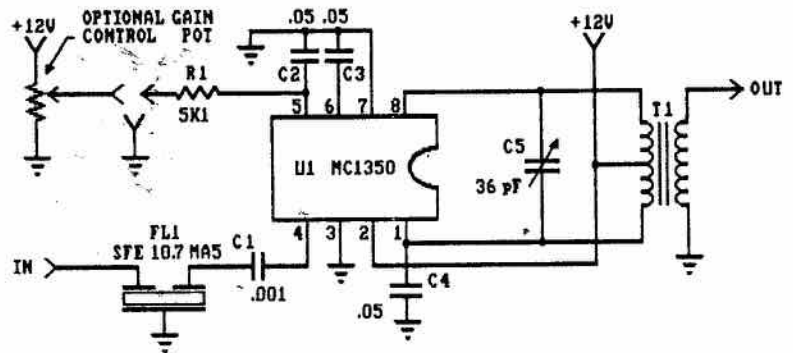
All the insulation must be carefully removed from the tap area and wire ends which should be tinned with solder before trying to connect the centre tap wire.

Gain can be adjusted by adding a pot between ground and VCC with the wiper attached to the 5.1K resistor as shown in the schematic. The pot can be mounted on the transceiver front panel for easy access. Maximum gain is achieved with pin 5 grounded through the 5.1 K resistor.

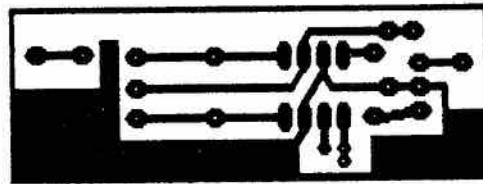
The preamp can be peaked using a signal generator and oscilloscope if you have a well-equipped test bench or by tuning for maximum S meter reading on your transceiver while receiving another station. Maximum output is achieved by adjusting the capacitor and coil slug insertion.

The preamp should be mounted as close as possible to the mixer diode on the motion detector. A short piece of 200 ohm TV twinlead will do a good job of matching the diode output impedance to the 10.7 MHz Muranta 10.7MA5 ceramic filter input. This filter restricts the response of the

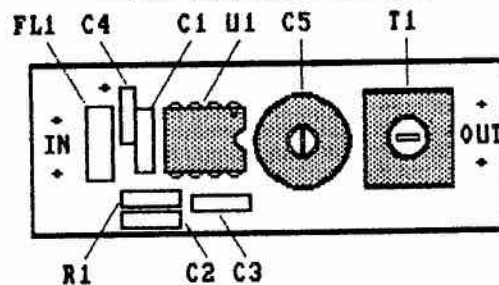
10.7 MHz RECEIVE IF PREAMPLIFIER



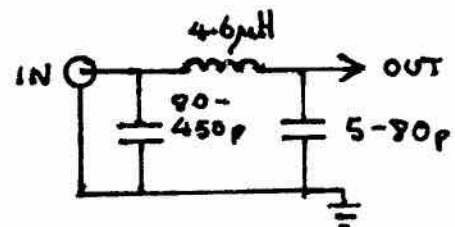
BOTTOM VIEW - FOIL SIDE



PARTS PLACEMENT DIAGRAM



Alternate 10.7 MHz filter



preamp to 10.7 MHz and defines the signal bandwidth that will be amplified.

If a suitable filter is not readily available, a pi input filter can be used. The values quoted assume a 50 ohm coax to the preamp input as well as

providing the required selectivity.

For maximum protection against 10 MHz broadcast stations or other strong signals, the preamp should be enclosed in a small metal box which can be made of PCB cut to the right size and soldered together.

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You may order any GARANT TD-Trap Dipole, any GARANT GD-Window Dipole, any GARANT GB-Beam, or any EMOTATOR 105TSX, 502CXX or 1105MXX for a 10-day no-risk inspection. Have a look at them in the privacy of your home and if you don't like what you see return the item pre-paid to our warehouse. We'll refund the full purchase price less shipping charges. We trust in what we sell!

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GD-8/2KW	\$219	+ 7.90	#1211	\$59	6.90
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GD-7/2KW	\$229	+ 8.90	#1217*	\$ 69	6.90
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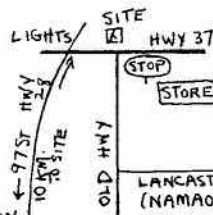
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QRP

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QRP TESTER

Numerous articles have been published on handy gadgets around the ham station. For those beginners and advanced alike, this tester may be just what is needed to get into QRP in a serious way.

When you get tired brushing up on your code sending, just leave everything plugged in and sort a few transistors from your junk box and build something! Do a little more experimenting and scratch your diagram on a piece of paper for the editor and we will see about publishing it in *The Canadian Amateur*. So, for those of you who 'Think Canadian', we extend an invitation that will get you on the map of Canada along with your fellow Amateur radio service enthusiasts!

TESTER

For the beginner who has a stack of grab bag transistors and wants to identify NPN/PNP, use this circuit. Mount it on the cover of any number of popular plastic enclosures. Build your circuit breadboard style first of course to establish pig-tail lengths. Trace around the lid on a separate piece of paper and mark the outline of components to be mounted thereon off to one end. This same enclosure can be used for combining three or more pieces of test equipment for individual use or with each other.

PARTS

Use the better quality transistor sockets which are then mounted far enough apart to allow soldering the 330 ohm resistor from one to the other. A .022 mfd capacitor is also connected from one socket to the other as shown in the diagram. Place the battery in a holder in the bottom of the box and connect to the circuit using pig-tails. The earphone socket is the non-shorting type, again of good quality, mounted in a convenient position about the length of a 100k ohm resistor in distance from the other components. The key jack is another non-shorting type of good quality and can be mounted using pig-tails at this same end but on the box proper.

ASSEMBLY

Make certain your layout is accurate before drilling the lid or box by marking exactly what is to be drilled on a template. Run short wire leads from the key jack to the earphone jack and battery as shown on the diagram marked x. Everything else is wired direct and soldered after double checking all connections.

OPERATION

Unless you have two known types of each PNP/NPN you will have to sort through a few to find them. Mark the sockets according to the diagram and keep extra known types handy as spares. The earphone or an eight-ohm speaker in a quiet room must be plugged in at all times. Use the key closed to apply power to the tester while sorting transistors. When the key is open, no power will flow with a PNP and NPN transistor properly inserted in their respective sockets. This then becomes the code practice oscillator mode.

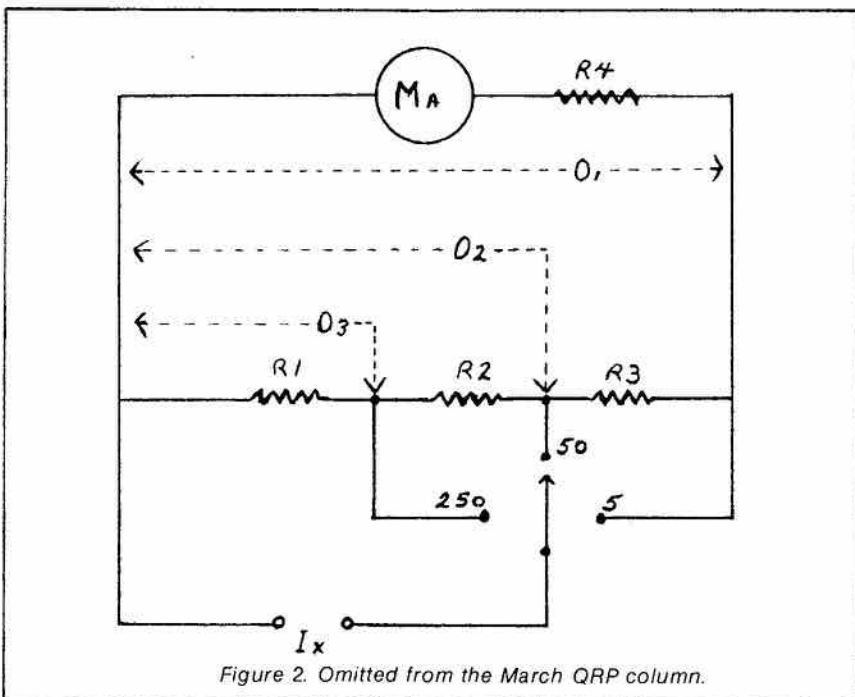
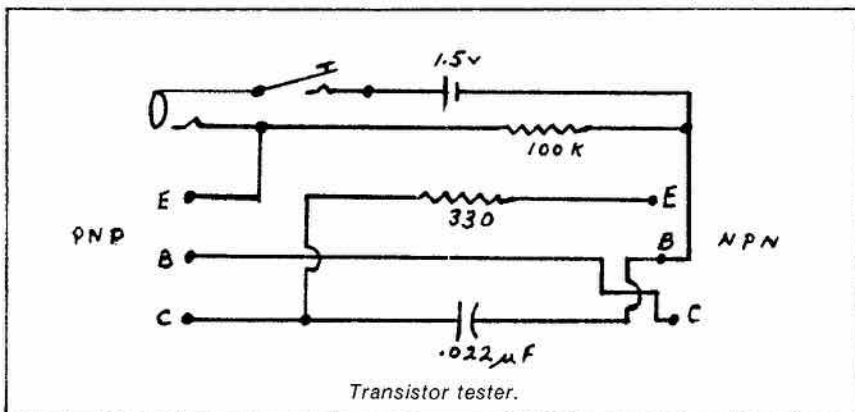
EXPANSION

From past issues of *The Canadian Amateur* we all recall a handy little item that could have saved hours of

labour but we didn't want another miniature gimmick lying around? Now is your chance to economize AND clear up some clutter by mounting them in one enclosure.

As an example, May 1985 has information to build a test oscillator. July 1985 issue you will find everything to build a DC Converter/Charger including a PCB layout. From June 1986 you can include a Tune-up Meter and July 1986 has an RF Sniffer circuit (watch where you put the RF input sockets).

Future issues will cover a simple test meter using a 1 milliampere movement and other circuits as more Amateur radio service enthusiasts who 'Think Canadian,' send their ideas and/or sketches to *The Canadian Amateur*.



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CONTEST SCENE

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This month we will feature the results of the first IARU HF World Championship. This is the new version of the IARU Radiosport Championship, and is still held on the second weekend of July.

Canadians have never entered this contest in vast numbers. Perhaps everybody is too busy taking advantage of the nice summer weather. Propagation is not at its best in July either. Whatever the reason, the trend continued in 1986 with only nine entrants.

This is not to say that Canada did not turn in a good showing. Far from it! In the phone-only single-op category, Rick VE1NG took first place world wide with 1080 QSOs and 361k points. Not too far behind was VE1CBF with 676 QSOs and 156k points, good for the number four slot world wide.

Top mixed mode single operator in Canada was Gary VE3XN with 431 QSOs and 103k points. The top CW score in VEland was turned in by Andy, who pounded out 786 contacts

for 126 thousand points. This was also the third highest score in the country.

You may have noticed that the top three scores were all from VE1. There is a good reason for this. This contest uses the IARU zones as a multiplier. It so happens that VE1 is in Zone 9, along with Eastern North Quebec, Labrador and Newfoundland. This makes Zone 9 a pretty rare multiplier in a contest where multipliers are everything. VE1s could always generate some very nice pileups in the Radiosport.

NUTS, I MISSED IT

One late piece of news reaches me from G3FXB by way of VE2AEJ/3. The Commonwealth CW Contest apparently is still with us, on the second weekend of March. Which means that it was probably a couple of weeks ago. This year marks the 50th anniversary of the founding of the BERU, the British Empire Radio Union. As you may or may not know, the Commonwealth Contest was once known as the BERU Contest. Anyway,

to mark this event the Gs were planning to go all out in the contest this year, including a special events station GB5CC. I always enjoyed this contest, but it seemed to vanish from sight some years ago. Mark your calendar for next year, I guess.

Well, as usual for April, things are pretty slow, so that about wraps it up. Back next month and hope to see you in Dayton!

IARU HF RADIOSPORT CHAMPIONSHIP, CANADIAN RESULTS

CATEGORY	CALL	SCORE	QSOs	MULTS
Mixed	VE3XN	102,784	431	64
	VE6DZ	71,288	290	67
CW	VE1ASJ	126,084	786	42
	VE3KP	114,456	500	57
	VE3IY	90,678	527	42
Phone	VE1NG	361,872	1080	84
	VE1CBF	156,364	676	62
	VE3AXV	35,485	321	35
	VE2XL	2,982	60	14

DXpedition to Zone 2

DXers are a strange breed. To most Amateurs, radio is a hobby. To the true-blue DXer, it is a way of life, and they will go to great lengths in the pursuit of the hobby. DXpeditions are an extreme example of this addiction. This is the story of one DXpedition.

CQ Magazine sponsors a contest known as the CQ World Wide DX Contest. The phone portion of this contest is held the last weekend of October while the CW portion falls on the last weekend of November.

In this contest, one tries to contact as many different countries and zones as possible. For the purposes of these contests, CQ has divided the world into 40 zones. Zone 2 is one of the rarer of the 40 zones, because it so happens that it consists of Labrador and northern Quebec. There are not a lot of people in this part of the world, let alone a lot of hams. Contesters? You could count them on one hand. Because of this, operating from this zone in the CQ contest is a quick way to be very popular on the bands.

In 1982 I chanced to meet Kent Chown VE3JKC at McGill University. Little did I know at the time that this meeting would result, four years later, in myself and a ski bag full of antennas being in a helicopter over the Gulf of St. Lawrence.

How did this come about? Well, Kent was attending theological school at McGill. In his spare time he was learning to use a keyer by handling traffic and contesting with me at VE2UN, the McGill club station.

In 1985 Kent was ordained and given his first posting—Harrington Harbour, Quebec. The best description of Harrington Harbour that I could find anywhere was in the Sailing Directions for the Gulf of St. Lawrence. It lies at roughly 50.5 degrees north latitude and 59 degrees west longitude, 200 miles directly south of Goose Bay. The entire description in the Sailing Directions reads as follows:

"Harrington Harbour village, on the SE side of Hospital island, had a population of about 450 in 1971. There is an air service, and a regular steamer service during the navigation season."

Interesting, but hardly an exhaustive description. But to DXers, Harrington Harbour is important because it lies just inside Zone 2. Naturally, preparations were immediately begun to visit Kent for the CQ WW CW Contest in 1986.

By June of that year an operating team had been established. VE2BTW and VE1BHA would operate with

Kent, who by this time was now VE2LJ, in the multi-operator single transmitter category. The station consisted of an ICOM IC740 and amplifier, with a TA33 on a 30-foot tower. It was decided that VE1BHA would ship a four element 20M beam ahead of the operators; VE2ZP loaned a tower to put it up on.

The next question was how to get there. In a conversation with Kent, he casually mentioned that at the end of November, the boat service from Chevy, where the airport is located, might not be running. Ice, you know. Therefore he suggested that we should make our plane reservations as far as the next place along the line, Tête-a-la-Baleine. This happens to be a helicopter service, so it is no trouble for them to drop off passengers for Harrington on their way.

Have you ever gone to your local travel agent to make reservations for a flight to Tête-a-la-Baleine? When you aren't even going there? Let's just say that it helps if you both have a sense of humour.

On Nov. 26 VE2BTW and VE1BHA headed for the Ottawa airport, carrying enough equipment to outfit a small electronics store. It amounted to about 35 kilos apiece, not counting

the TS830S that BHA had as a carry-on.

Air Canada took us to Montreal, where we changed planes to a Quebecair Convair CV580 bound for Sept-Iles. We were certainly encouraged when we asked at the Quebecair counter for a copy of the timetable. "Timetable?" said the agent. "I'm sorry, there isn't one."

By ten o'clock that night we were in Sept-Iles, after an intermediate stop in Quebec City. By 11 o'clock we were in our hotel room, eagerly awaiting the early morning flight to Chevry.

Seven o'clock Thursday morning found us staggering up to the Quebecair counter, desperately trying to make it appear that all our bags contained nothing but feathers and air. We presented our tickets to the agent, only to be informed that the flight was cancelled due to bad weather. There was a possibility that it would go at three o'clock that afternoon, so we checked our bags and hoped for the best.

The Sept-Iles airport is not exactly a hotbed of excitement. The best way to pass the time is to watch the planes come and go. In the course of few hours, we saw numerous types of light aircraft, a Viscount and a DC3. What we didn't see was a plane headed toward Chevry.

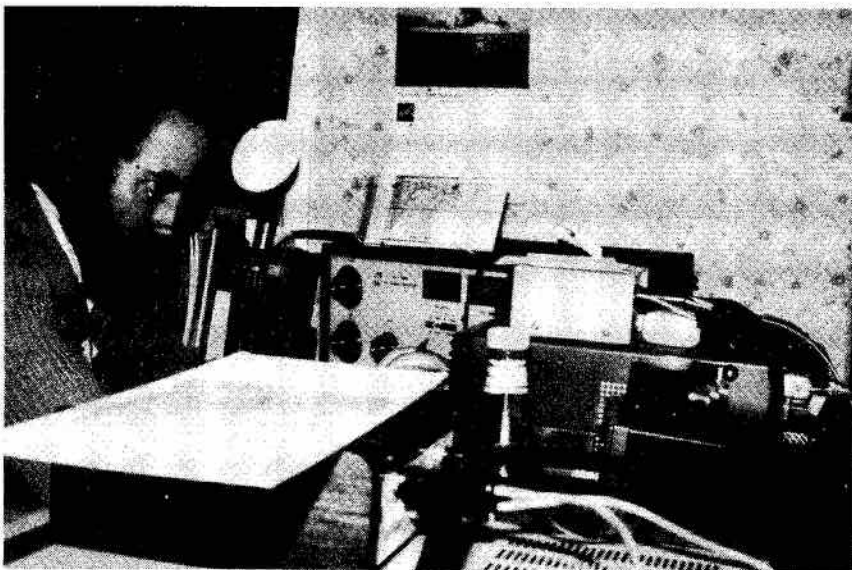
At one o'clock the flight was officially cancelled, we collected our baggage and headed back into town. We had to get a flight out the next day or we would not arrive in time for the start of the contest.

Friday morning dawned with worse weather than Thursday. We headed out to the airport with little hope that our flight would be going. Naturally we were therefore soon aboard a CV580 headed for Chevry.

The flight up the coast is rather interesting. There are several small villages dotted along the shore east of Sept-Iles. Since the highway ends just east of Sept-Iles, in the village of

ICOM DAMAGE.

The Icom IC-751, IC-751A, IC-745, and ICR71A may be damaged if they're turned off and on rapidly. The multivibrator in the display circuitry will occasionally fail if the radio is turned off and immediately turned on again. This will usually damage two transistors. The symptoms are: no display and no audio output. There doesn't seem to be a fix for the situation at this time except to wait a few seconds before turning on the radio again after power down.



VE2LJ hands out Zone 2 in Harrington Harbour.

Havre St. Pierre, the airplane is the equivalent of a local bus service. The flight makes stops at Sept-Iles, Havre St. Pierre, Natashquan, Chevry and Blanc Sablon. Helicopter service is provided from these places to other smaller communities.

We arrived in Chevry at 3 o'clock Friday afternoon. Since our flight had been cancelled on Thursday, we were now on a waiting list for the helicopter flight out to the island. He would make his run, then return shortly after four to take us out. That meant that we had about an hour to sit in the airport and wait. This would have been perfectly fine, except for the behaviour of the airport manager. He kept looking out the window, watching the sun going down, the snow falling more and more heavily, shaking his head and saying, "Tsk, tsk. Closing in fast." This did nothing to ease my fears of being stranded in the airport for the duration of the contest.

The airport is small, and the radios are located under a counter in the waiting room. Being true-blue DXers we heard the pilot when he radioed in and said, "Tell those guys to be waiting outside with their luggage so we can get out of here as fast as possible." Well, we wasted no time getting all our stuff out the door, and then just as quickly loaded it into the helicopter. Should you ever be in a similar position, you might be interested to know that a ski bag full of antennas just fits in a Bel Jet Ranger.

As soon as we had the luggage and ourselves aboard, we headed off into the snow for the 15-minute flight out to the island. Almost before we knew it, the Jet Ranger swooped in and settled onto the landing pad. We quickly bundled our gear out onto the

pad, fell on top of it and the chopper leapt off into the swirling snow. WE HAD ARRIVED!

I glanced at my watch. It was 4:30. The contest started at eight.

VE2LJ showed up to help us carry everything. This is when I found out that our pilot had flown in Vietnam, and that fact may have had something to do with the fact that we arrived at all.

By a quarter to five, VE2LJ and VE1BHA were 20-feet in the air working on the second tower and a 40-metre loop antenna. Our antenna work was completed shortly after eight. The 20M monobander is still in its sealed box in VE2LJ's basement, and the antennas in the ski bag never did see the light of day. Ah well, the best laid plans of mice, men and DXers...

Conditions on 80 and 160 in the contest were excellent. Unfortunately the same could not be said for 15M, where we had only four hours of propagation for the entire weekend. Propagation from within the auroral zone is certainly different from that only a few hundred miles south! Even so, plenty of good DX was worked.

All too soon, it was Sunday night and the contest was over. The only serious problem encountered over the weekend was Kent's homemade mustard. It's a good thing that it wasn't a phone contest.

Results? A total of 1749 QSOs and just under 1.2 million points, for the first ever million plus score on CW from Zone 2.

Would we do it all again? You never know. Take a listen in next year's contest and see. After all, we are true-blue DXers. It's not just a hobby, you know. Is it?

Packet Timing Revisited

BY VE3KLW

There is one special case we have not considered yet, and understanding its implications is very important. Returning to the diagram, suppose station #1 is not connected, or attempting to connect, to station #2, but rather is attempting to connect to itself by using station #2 as a digipeater. Bad news: our previously optimized T2 is now too short, since DWAIT for digipeated packets is automatically set to zero. The connection fails because station #1 cannot turn around fast enough to decode the digipeated connect packet. The solution seems simple enough: increase T2 at station #2 by increasing TXDELAY to compensate for the missing DWAIT. Wrong! This defeats the purpose of the whole exercise! The point is that self-connecting through another station is an unusually demanding exercise which no one really needs to do in the course of normal packet operations. Compromising the performance of the entire LAN by dramatically increasing TXDELAYS to allow everyone to self-connect through every station they hear would be foolish in the extreme. If you have a setup with better-than-average turnaround time, chances are you will find a number of stations you can still self-connect through after the network timing is optimized (since optimization must allow for the stations with the worst turnaround time in the LAN. If not, who cares? If you must self-connect for some reason, just go through two digis instead of one, or better yet, think of something more useful to do.

Another comment about self-connecting through one station (yes, we're going to beat this one to death, folks): suppose that station has a T2 less than your T1, but you go ahead and try it anyway. Sooner or later, digipeating of one of your connect packets will be delayed sufficiently that it will fall outside your T1 interval and be correctly decoded, and you will get connected. The delay is caused by another station or noise holding up the DCD for awhile, which effectively increased T2 at the digipeater. But now, if you try sending some information packets to yourself, or even just disconnect, these packets won't get through until sufficient delay occurs again, which may be seldom. The likely result is numerous

retries and unnecessary havoc on the channel.

And one final point (I promise) about self-connecting: it is usually NOT the best way to check a path. Try this instead: set up the path using the Unprotocol command, then turn monitor on and enter converse mode. Now each time you hit the return key (or whatever generates your SENDPAC character), an Un-numbered Information frame will be sent out, and you can see by monitoring if it successfully navigates over the path (you should be monitoring anyway, to see how much traffic there is already on the path). In general, you will send far fewer packets using this technique, and there is no chance of getting hung up sending endless retries. You will need to exercise some judgement as to how long to wait for the reappearance of a packet before sending another out, however.

To summarize, here is my recipe for optimizing the channel usage in a packet LAN (it calls for an uncommon degree of cooperation amongst users, but I can dream, can't I?).

Step 1: Each user sets up his TXDELAY by lowering it in small increments until he reaches the point where one or more stations to which he needs to connect (or be repeated by) begins to have trouble hearing him. This is best done by attempting to digipeat through each station and monitoring for the result, adding an extra digipeater if necessary to see that the packets are indeed being repeated. If any stations seem to require much higher-than-average TXDELAYS from your end, the cause (too high a squelch threshold perhaps) should be investigated and rectified if possible. Needless to say, these tests should be done when the channel is quiet.

Step 2: Once each user (well, most of them, anyway) has determined what his TXDELAY should be, the next step is to set up your DWAIT. The procedure is much the same as for TXDELAY, except that you must connect to other stations in direct-connect range on a clear channel, and have them send you packets. Decrease your DWAIT in the smallest possible increments (usually 10 ms) until the other station starts to require retries, then back it off a notch (putting your MCON on and/or monitoring aurally will help you


determine when the retry rate jumps up).

Repeat the procedure with the other stations to which you wish to connect directly, and determine the minimum DWAIT value which will satisfy all of them. Once again, any stations requiring extraordinarily large values at your end should be checked out to see what the problem is.

Step 3: After most of the users have completed the above steps, it is time for them to compare notes. Each has optimized his TXCDELAY, so there should be no need for further discussion of that, unless some have come up with some wild values. At this stage, the object of the game is to achieve a consensus on DWAIT, so that ALL users can adopt the same value. Once this is done, the PBBS stations can be programmed for a somewhat higher value, say 100 ms more, to give keyboard users a slight advantage.

The foregoing would be an interesting exercise for a local packet group to attempt to coordinate! I have not mentioned a number of other important TNC timing parameters, as they were treated in my earlier discussion paper; however, I will repeat a couple of recommendations from that paper: set MAXFRAME = 2 (or 1) and FRACK = 5 (or more) except when doing clear-channel file transfers. I also have not dwelt on throughput calculations, but it is fairly easy to see how the dead time T2, which is a direct consequence of the turnaround time T1, imposes a fundamental limit on the rate at which data can be transferred. Increasing modem bit rates produce rapidly diminishing returns in increased throughput unless they are accompanied by reductions in turnaround times, so your shiny new 2400 baud modem may prove to be somewhat of a disappointment.

Likewise, investing in the latest 2 metre gear with super-fast turnaround time (assuming such a thing existed) may provide no immediate benefits, since your timing is essentially dictated by the turnaround requirements of the other station. The faster radio may be useful in the longer term, but by then there will be a new generation of radios available with high-speed RF modems built-in. The sobering realization is this: there

Continued next page 

Paul Cooper VE3JLP
RR 2 Metcalfe Ont.
K0A 2P0

•CQ DX•CQ DX•

What is DX?

When I'm not writing this column, or throwing bales of hay to a bunch of hungry cows, I keep myself busy with a number of other activities. One of these is organizing a 'Speakers Program' for the Ottawa Amateur Radio Club. We've had a fairly successful year with speakers talking to us about a pretty wide range of subjects all with some sort of connection to the hobby. However I realized part way through the year that my favorite subject, DXing, was being neglected. If our club had been DX club it wouldn't have been very difficult to put together an evening of DX related material that would have interested members. However ours is not a DX club, I think a profile of a typical member would show an Amateur who is sometimes on HF but who spends as much time or more on 2 metre FM. So the trick was to put together an evening of DX-related material that would capture the interest of a crowd of non-DXers.

I decided variety was part of the answer and arranged for an hour with three speakers talking on various aspects of the subject. I was very fortunate in getting two experienced local DXers to help me. Dave Goodwin VE2ZP gave a talk on 'DXing and the Contester,' Brian Summers VE3JKZ talked on '160 Metre DXing' which left me to fill the remaining slot.

The evening had been advertised as a 'DX Forum' so what could I add that would complete the hour for our OARC audience? After a little thought I decided that what was needed was a brief and rather basic talk which I entitled 'What is DX.' Reading it through afterwards I realized that it might be of interest to readers of this column. While it won't tell you

anything you don't know already, it does serve to nail my colours to the mast on this question and it might even stimulate some letters, angry or otherwise!

PAUL'S TALK

This evening we are talking about DXing on the HF band only. I know that some of you are working DX on 2 metre sideband or perhaps you have made some fine contacts through Amateur satellites which you quite rightly regard as DX. No argument but tonight it's HF DXing only!

I gave this question of 'What is DX?' a lot of thought a year ago when I took on the job of writing the DX column for *The Canadian Amateur* from the start that there was no clear cut precise answer, it depended on many factors and seemed to be highly subjective. For example you would get very different answers to the question from these two Amateurs; the first someone who had been active for 25 years and spent most of that time working his way up the DXCC ladder using elaborate antennas, a late model transceiver and a linear amplifier. Compare his reply to the answer you would probably get from our second ham, licensed for perhaps five years, who has become a QRP enthusiast.

Our old-timer would only apply the coveted label of 'DX' to his recent contacts with 9U in Burundi or VK9 on Cocos-Keeling Island, both on 75 Metre phone. Our younger ham would be equally excited about his recent DX, a QRP QSO on 20 metres CW with a station in England, both running only one watt.

Of course both these Amateurs are right. They both had to struggle to work their DX and there lies the clue to perhaps one way of defining DX, I believe it is synonymous with the word 'Difficulty' and of course, what is difficult to one Amateur at one time under one set of technical conditions will be easy to another Amateur under a completely different, and more favorable set of circumstances.

A MOVING TARGET

Another way of expressing this difference is to think of DX as a 'Moving Target.' Someone once aptly captured this idea with the phrase "Today's DX is tomorrow's QRM." Let me explain. The country we've been trying to work for six months

generates a certain excitement every time we hear it on the air. The pulse quickens, we triple check the equipment to make sure everything is peaked, we poise waiting to leap in with the call that will bring him back to us, not to some other undeserving character who has probably worked him half a dozen times before! If we are lucky we finally get through, we are in his log and eventually his card arrives to confirm the contact. Now how do we feel when we come across his call as we tune across the band? All that excitement is gone, "Oh it's old George again," we think, "Wish he would go QRT, he is blotting out that weak carrier there that might be a..." and here you insert the new country you are trying to work.

And so it goes on, you are never going to have them all worked and the target keeps moving. Even if you do manage to scale your particular Everest you will soon realize that it's just one peak in a whole mountain range. "Did you do it 'mixed mode', then how about CW or phone only?" You worked all bands, then what about a single band award? Have you thought of trying for DXCC or WAZ on QRP or RTTY? There is no end to the new challenges that you can take up in the endlessly fascinating hunt for DX.

How can I sum it up? When the going is tough and you have to struggle to make that contact but you finally get through you've just worked some DX and don't let anyone tell you otherwise!

QSLs AGAIN

A recent letter from a friend who lives in a DX country reminded me that sometimes the problem of exchanging cards with a DX station is made considerably more difficult by the thoughtless behaviour of the DX operator himself. I'm thinking here of the mini-DXpeditions that quite a few enthusiasts mount when they go holidaying in the Caribbean, for example. They spend a week or two down South using an exotic call and fill several log books with contacts. Many of these QSOs are with hams who need their card for some award.

While some of our DXpeditions dutifully give their home call for all QSLs and follow through with the cards and a number of others don't give out this information leaving a

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▶ PACKET (Cont'd)

is a 'lowest common denominator' effect in packet radio, and if you want to be a part of the 'network,' you should not expect (as you might in other aspects of the hobby) to achieve better performance than the next guy by buying fancier equipment. On the other hand, packet is no different from other facets of Amateur radio in one respect: the operators with the soundest knowledge of proper operating procedures will achieve the greatest success and satisfaction. And so endeth today's sermon!

great many hams with no alternative but to try the 'Via the Buro' route. This is where the trouble starts. Some of the smaller DX countries have no real Bureau. Others have an informal Bureau set up when a few of the local operators attempt to distribute the stream of cards that pour in.

Apparently there are always a large number addressed to these DXpeditions and in addition no funds to pay for the postage. I can leave you to guess what happens to a great many of these cards, although it saddens my friend and her fellow hams every time they have to consign yet another bundle to the garbage can.

If any of you are lucky enough to find yourself in a DX location, with all the approvals necessary to get on the air, please remember that while you are having lots of fun working the world there will be quite a few people out there relying on you to come through later with the appropriate card. Make it easy for your contacts to do this, just imagine how you would feel if the tables were turned and it was you in desperate need of that card!

COOPER'S BEEFS

I first came across this strange character a couple of years ago as I was slowly tuning up the 20 metre CW band checking every transmission for something interesting. Like most of you searching for the unusual, I start by just copying the call signs, moving

on as soon as I've satisfied my curiosity. In this particular case the signal was pretty strong so I was betting it was a station somewhere in North America, mostly likely in the States. At last he came to the end of his transmission and I waited for the expected W, N K or one of the other host of prefixes used by our American friends. Instead, an extraordinary character hit my ears, I thought at first it was '4' gone wrong or was it some strange special symbol I'd not come across before! Anyway, to cut a long story short, I concentrated the second time he sent his call and copied dit-dit-dit-dah-dit. SN, which was definitely a new one to me. (I later discovered it is a special standard character signifying 'understood' however I find 'R' does the job much better.) I wracked my brains for several seconds before the obvious dawned on me, what I was hearing was a badly spaced 'VE.' Since then I've heard several other Canadian hams with this habit. I suggest that this is not good practice. I suppose it's harmless enough when you are in contact with an old friend who knows your little idiosyncracies but consider the ham who has never worked you before. There's no doubt you will provoke at least temporary confusion at the other end and perhaps you will miss an interesting QSO as the distant station writes you off as some kind of nut who can't send clear code!

BITS AND PIECES

EL & 5L LIBERIA— *QRZ* reports that throughout 1987 Liberian Amateurs will use the prefix '5L.' This is in celebration of the 25th anniversary of the Liberian Radio Amateur Association (LRAA). So EL2GA, who reported the news to *QRZ DX*, will become 5L2GA. In addition to this change, during special events Liberian hams will add /25 to their new calls for the year so that our friend EL2GA will become 5LGA/25 (Try sending that in a hurry on CW!). The special events contemplated include a 'Work all Liberia' contest, International QRP Day, a special DX Contest and any Liberian station involved in the annual scouting Jamboree-On-The-Air.

ZS7 ANTARCTICA— Note this new prefix for South African Antarctic stations, e.g. ZS7ABC.

ZL8 RAOUL ISLAND— This island, north of New Zealand, counts as Kermadec for DXCC purposes. Our Editor notes from *Break-In* that Peter ZL3HV will be operating from the island through 1987. Look for him on the Brown Sugar net on 14.200 MHz and on the Inter Island net on 14.215 MH at 0800 UTC.

TF ICELAND— Those of you who worked TF3RGR during the middle of October '86 were in contact with the special event station for the US-USSR Summit Conference at Reykjavik. One gathers that most of the activity was on 20 metre SSB, 14.276 MHz around 2100 UTC.

MONSTER BEAMS

According to a recent issue of the *DX News Sheet*, Mel Cugini LU7MAL has a 9, that's right, nine, element monobander on 20 metres, the boom is 89 feet long! Tables in Bill Orr's book on *Beam Antennas* suggests the gain should be about 14 dB over a dipole. Anyone with a photograph or more details of this epic antenna should send along the information, I can guarantee publication!

Thanks are due to the following sources for some of the material appearing in this column: *QRZ DX*, *Worldradio*, *DX News Sheet*, Ottawa Amateur Radio Club, *Break-In* and VE3DQB.

LATE NEWS

The committee for the Norwegian expedition to Peter 1 Island reports that the expedition left the island on Feb. 2 for Buenos Aires. They made 20,000 contacts. QSL cards with a picture of the island will be printed in March. QSL via LA6VM, including SASE, IRC or green stamp. Because of the great number of QSOs, no special QSL handling arrangements can be made— LA2AD.

HMCS Haida's Radio Room



Radio Room No 1, HMCS Haida. Left to right: Bob VE3IPP, Wolf VE3DQT, John VE3FQJ, Ben VE3ORB, Ken VE3MCN.

See 'From the Clubs', January issue.

Coherent Spread Phase Modulation

BY RALPH CAMERON
VE3BBM

Studies of Diurnal Phase shift propagation, reported in *The Canadian Amateur* last April have led to a complementary study of ways to eliminate the spatial effects noted during severe solar disturbances. This article provides an overview of a practical modulation technique overcoming the effects of this odd/even type distortion.

A major difference in the coherent spread phase modulation is that a digital subtraction method is used which delays the detection process. Conventional SSB detectors operate in real time. Special use is made of optically polished piezoelectric sapphire solar panels which are phased to obtain the desired effect. A great deal of experimentation was needed to reach success.

ADVANTAGES

The advantages of coherent spread phase modulation are as follows:

1. All solid state construction.
2. No moving parts.
3. May be mounted external to the transceiver.
4. No maintenance once adjusted.
5. Simple alignment. (use of Sun at known time)
6. Suited to wide bandwidths.
7. Can provide statistical propagation data records.

BREAD BOARD CONSTRUCTION

Most solar panels can be tested by breadboard layout to permit E-mode incident energy travel. The first such panel tested had not allowed for this factor and as a result numerical aperture was too small. Great inefficiency is the result because the coupling angle is far too critical for the average Amateur to overcome.

It was pointed out in *The Canadian Amateur*, February 1986 (Antennas by Hughes) that short focal length paraboloids suffer from spillover of energy at the outer fringes and that external baffles can be used to reduce the spillover to a minimum. We used this method with the coherent spread phase modulating system. (Baffles not shown in Fig.1)

SERIES VS PARALLEL ARRAYS

Experiments were tried which locked eight 8 x 12 cm solar arrays in phase quadrature. These arrays as

shown in Fig. 1 must be correctly and most accurately phased to achieve the phase complement from each adjoining panel. This is part of the secret of the coherent phase principle. Nichrome wire must be used because of its passive dissipative properties and high temperature operation. A quantity of this wire is easily obtained from unravelling the element from a toaster— diameter is not critical.

SAPPHIRE-NICHROME BOUNDARY

The Sapphire-Nichrome boundary has been a difficult one to maintain. The temperature gradient has been measured to exceed 100 deg/mm. Excessive heat in this region can produce audible ringing on the detected signal and has been the cause of inverting the sideband on at least one occasion. The cause of the

inversion was found to be stray impurities in the sapphire. Lack of any inductive effects makes Nichrome wire one of the few materials suitable for this use. Theory states that solar rays suffer similar path propagation delays, rotation and degradation as do electromagnetic rays. It is this principle we exploit.

Polarity of the source of modulating voltage needs to be observed. The first modulator built by VE3BHW and VE3KLI suffered terminal damage due to an inappropriate choice of polarity. The reason of course is due to an effect similar to 'whiskering' in NiCad batteries.

It was found to be much simpler to series arrays than parallel them because of ohmic effect. There are currents on the order of several

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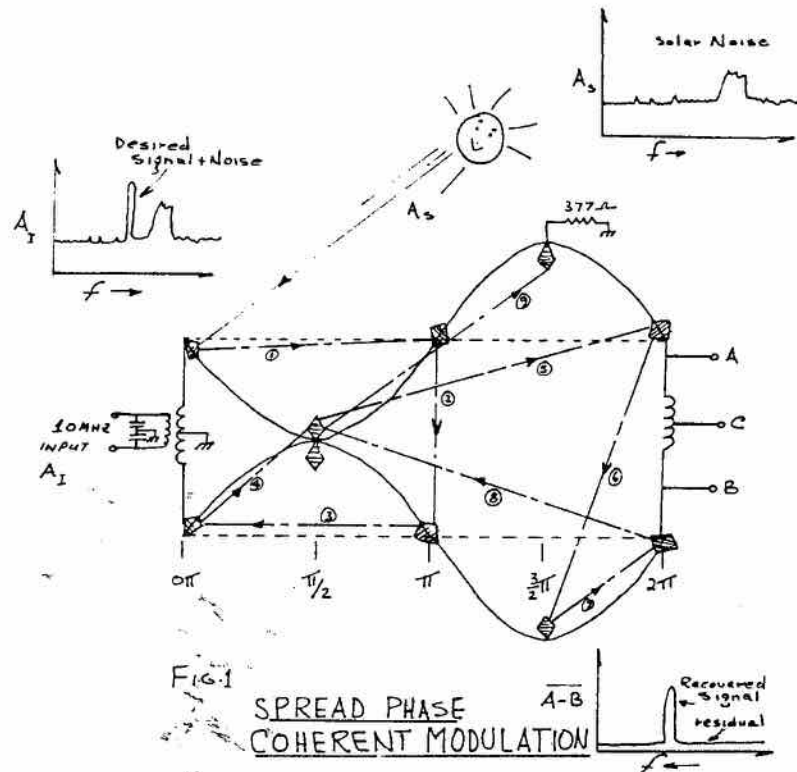


FIG. 1

SPREAD PHASE
COHERENT MODULATION



AXIAL PIEZOELECTRIC
SAPPHIRE SOLAR PANEL
(8x10 cm) WITH NICHROME
PIGTAILS. (LESS BAFFLES)

RAY PATH
D-C ABOVE

NOTE:

PANELS ARE GEOMETRICALLY SPACED
AND PHASED TO PRODUCE COHERENT
OUTPUT AT A-B. CONNECTION AT C IS FORWARD MODE

Gem/Quad Antenna

Product Review

Several months ago, a used 2 element Gem Quad was purchased. Yagis of various designs and manufacturers, had been used for the past several years and none of them ever performed to my satisfaction. I had used quads many years ago, and memory kept telling me that their performance more suited my pursuits, namely DXing. Many articles have been written extolling the virtues of quads. Supposedly, they offer lower angle radiation for the same height as a yagi, and both vertical and horizontal radiation.

The Gem Quad has been around for many years and has proven itself to be a good performer, and very durable. The antenna is manufactured at Transcona, Manitoba. Unfortunately, most advertising has been directed at the U.S. publications and many Canadian Amateurs are not aware of its existence.

CONSTRUCTION

The Gem Quad incorporates several interesting concepts in its design. The most noteworthy idea is the spreaders. This is always the weak point of quad antennas, but Gem Quad has solved this problem. The spreaders are made of three fiberglass rods, wrapped with fiberglass tape, to form a tapering, triangular cross-section, assembly. The manufacturer calls this a 'Tridetic' design. It is very lightweight and strong, and because

of its open construction, the wind resistance is much lower than the old tubing spreader. The spider, or mounting hub, is of welded aluminum. The two element quad does not have a boom, although the three and four element versions are supplied with the appropriate length of boom. The spreader arms are angled from the spider, thus providing the optimum element spacing for each band. The spreaders fit over stubs on the spider and are secured with compression clamps.

Stranded copper wire, precut to the correct length, is supplied. The elements are attached to the spreaders with cable ties over pieces of plastic tubing. The wire is run through these to prevent chafing.

The antenna is fed through a torroid matching device, and the reflector and directors are stub tuned. The manual covers these tuning procedures, as well as construction, in a straightforward and easy to understand manner. I assembled and erected the antenna in four hours, with no assistance. The completed antenna weighs 48 kg. Because of its light weight and low wind resistance, it can be rotated with a small rotor. This is another bonus in the quad's favour when compared with a yagi, when the price of rotators is considered.

PERFORMANCE

The antenna was installed on a 20 metre, crankup tower. The six element

triband yagi that had been in use was on another tower at the same height, and 22 metres from the quad. Initial comparisons of the two antennas resulted in the yagi being taken down for inspection. No problems were found and it was reinstalled. The difference in performance between the two antennas was far beyond what theory would suggest. The quad bettered the yagi by several dB on both transmit and receive, on both DX and local use. After three months of comparisons, the yagi was taken down.

Two areas where the quad had a distinct advantage over the yagi were less susceptibility to QSB, and better signal strength when the band was opening or closing. Precipitation static was also much lower on the quad.

SWR curves were not as good as the manufacturer suggests they should be, but after further tuning when warm weather arrives, I am sure this will be taken care of. I have been running 1300 to 1500 watts to the antenna and no problems have developed. Front to back ratio is about 24 dB on all three bands. The antenna has been used at heights of seven metres to 20 metres, and performance and SWR do not change significantly.

CONCLUSIONS

I am very impressed with the construction and performance of this antenna, and recommend it highly. Its DX performance is excellent, and when compared to other yagi installations in the area, it seems to constantly have the edge. Performance is impressive enough that at least five area Amateurs are ordering GemQuads to replace their yagis.

The quad has always had a reputation for being easily damaged by ice, but GemQuad has come up with a type of construction that should overcome this problem. In the event that damage does occur, parts are readily available, and economically priced.

Further information is available from the manufacturer, Gem Quad Products, P.O. Box 53, Transcona, Man. R2C 2Z5.

At \$235 for the complete two-element version this antenna deserves serious consideration. All in all, an excellent Canadian product.

MODULATION (Cont'd)

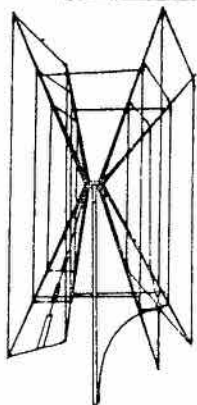
amperes flowing especially at high noon when the projection of the array is tangential to the main solar flux.

This scheme may have been another first for Amateur radio—who would have thought that the algebraic subtraction of incident solar rays could be modulated and reradiated with a kind of phase coherent product. The cellular mixing had been noted previously in some types of rare earths but a practical application had never been found. It is expected that exploitation of this technique will be made in the laser field where spatial effects are being studied in great detail. The most exciting result of this experimentation has been the

complete negation of spatial effects which occur on the HF bands during our present solar minima. This modulation scheme has only been tested during fading and SIDs but it is felt stereo arrays could provide that all important third dimension to modulation which would help to apply the necessary feedback signal which is now lacking.

Amateurs are requested to provide detailed signal reports of the active station using this novel form of modulation. It should particularly benefit the DXer. Someday it may become a way of the future and your experimental support is needed. Let CARF know.

**GEM-QUAD FIBRE-GLASS
ANTENNA FOR 10, 15, and 20 METERS**



Two Elements— \$235.00
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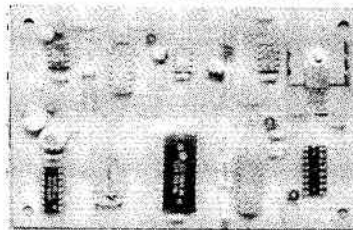
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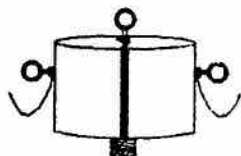
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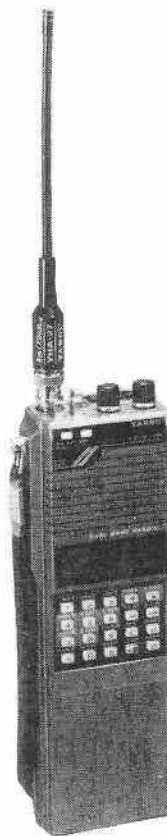
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