Second Class Mail Registration
Number 5073

TCA

The Canadian Amateur
Radio Magazine
La Revue des Radio
Amateurs Canadiens

$2.50

JULY/AUGUST 1986

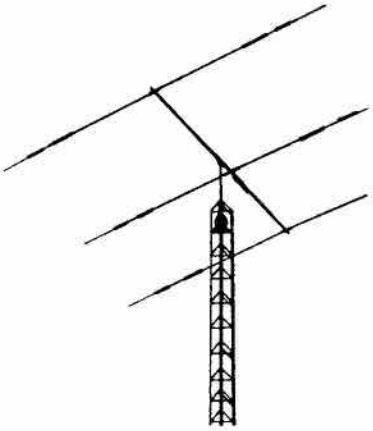
Ravenscroft— Amateurs take action

Marcel Masse praises Amateur Radio at Expo 86

Marcel Masse, Minister of Communications, personally signs the VE7EXPO licence. Left to right: Larry Reid VE7LR, Marcel Masse, Minister DOC, John Quigley, Regional Director DOC, Bob Smits VE7EMD. *Story page 12.*

TELEX **hy-gain**

HF Multiband **Verticals**



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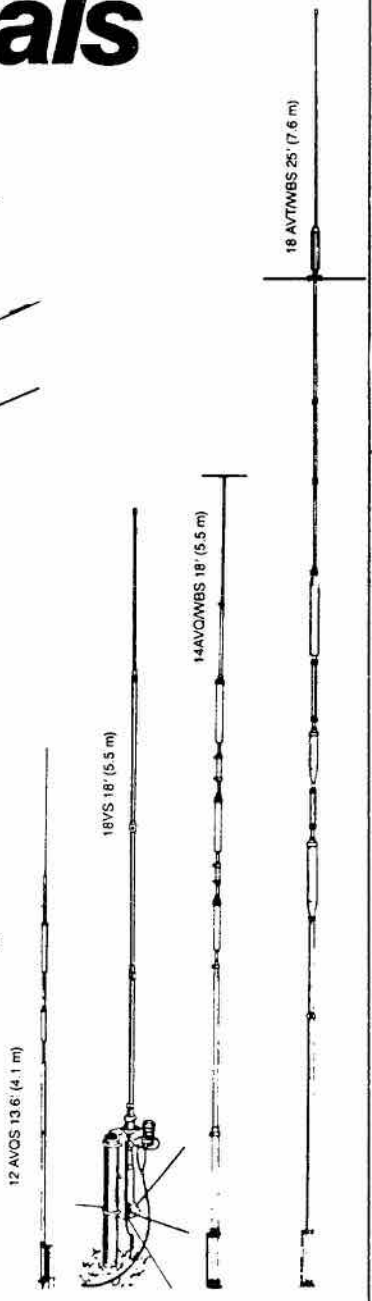
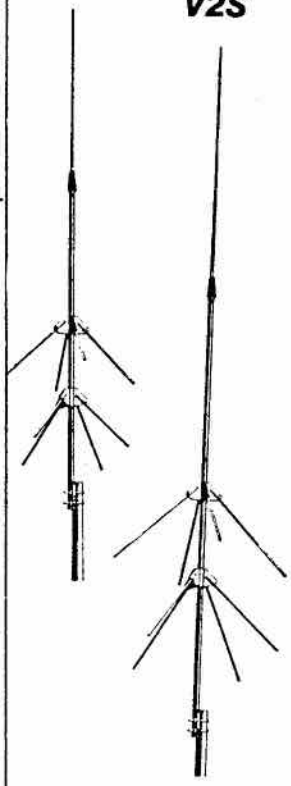


VHF Verticals

V3S

V2S



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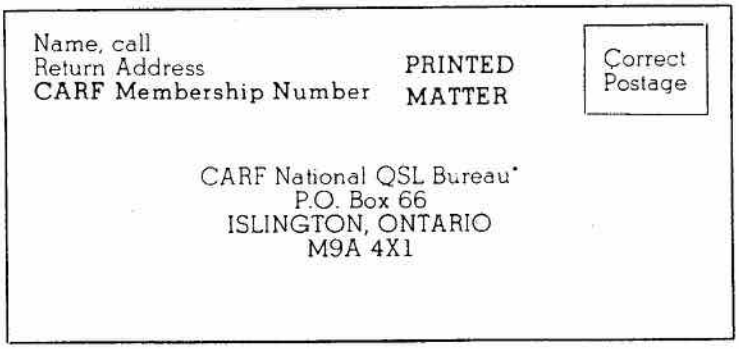

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ISSN 0228-6513

THE CANADIAN AMATEUR

July/August 1986 Vol. 14 No. 7

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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 The Ottawa Valley Mobile R.C.

Resolution

RELATING TO INTERFERENCE WITH THE USE OF RADIO ARISING FROM THE SUSCEPTIBILITY OF CONSUMER ELECTRONIC EQUIPMENT

The Ottawa Valley Mobile Radio Club Inc., mindful of,

1) the continually increasing number of problems of interference arising from the susceptibility of consumer electronic equipment to licensed radio transmissions,

2) the increasing number of licensed radio stations and the rapidly increasing amount of consumer electronic equipment being used in Canada,

3) the fact that, while Canadian manufacturers have recognized the problems due to susceptibility and have been willing to advise on corrective measures, most retailers and practically all users are, as yet, unaware of the fact that much of the consumer electronic equipment that they purchase may experience interference at some time and are unaware of how to deal with it,

recalling that,

4) in 1977 the Department of Communications told manufacturers and others by means of Electromagnetic Compatibility Advisory Bulletin #1 about radio field strengths in which consumer electronic equipment could be expected to operate,

5) this Bulletin, which was very widely circulated in Canada and around the world, was updated in 1982 and again received very wide circulation,

6) engineering committees of the Radio Advisory Board of Canada and the Canadian Standards Association have been studying this matter for at least seven years,

7) the means for reducing the susceptibility of consumer electronics equipment to radio fields have been well known since the early days of radio and that these means are not expensive when taken at the time of manufacture,

recognizing that,

8) the radio spectrum is a national resource and that Canadians have a right to benefit from the responsible use of radio, hence, having complied with the requirements of the Radio Act and Regulations and having received a radio licence, they should not be held hostage in the courts by the users of consumer electronic equipment that reacts improperly and undesirably to licensed radio transmissions,

is deeply concerned that,

9) a court in Ontario has already ordered that a licensed Amateur radio station may now not be operated because some consumer's electronic equipment malfunctioned,

10) failure to take positive action on the matter of consumer electronic equipment susceptibility could result in a widely used precedent being set and further court decisions which will severely restrict the use of all kinds of radio in Canada and thus limit the benefits of radio to Canadians in general,

therefore unanimously recommends,

11) that the Minister of Communications urgently take steps to amend the law to place responsibility for resolving susceptibility problems squarely on the manufacturers and users of affected equipment,

12) that the Minister of Consumer and Corporate Affairs be asked to require that each piece of electronic equipment sold in Canada have a notice permanently affixed to it on a place where the notice can be easily seen by its user. The notice shall say,

> "The operation of this appliance may be affected by nearby radio transmitters. Contact your dealer and/or manufacturer should it malfunction and refer to the susceptibility of the appliance to radio transmissions."

13) to ask all Amateurs, especially those who have suffered as a result of the susceptibility of consumer electronic equipment, Amateur radio clubs, the Canadian Amateur Radio Federation and the Canadian Radio Relay League to write their Members of Parliament, the Minister of Communications and the Minister of Consumer and Corporate Affairs, supporting this resolution and asking that steps be taken immediately to implement the above recommendations.

14) to ask the Canadian Amateur Radio Federation and the Canadian Radio Relay League to present this resolution to the Radio Advisory Board of Canada and the Canadian Standards Association and, since all radio services will benefit, request their support of the above recommendations to the government.

LETTERS

BOUQUETS

TCA is getting better every issue. Keep up the good work. 73, C.M. Hedberg VE7FDJ

The quality of *TCA* is much improved over the last two years. 73, Rod VE3ISO

Keep up the good work. The mag is looking good and coming in the mail faster. 73, Dave VE3FOI

I really enjoy the *TCA* mag and I am glad to be a member of a Canadian organization. 73, Norman VE6AUV/G3EER

Congratulations on the *TCA* magazine. It looks real good! I would rather spend twice the money on a good magazine than half the price on a second rate one. 73, Dick VE3BIS

TALK UP THE NETS!

I try to remember to remind our local two metre net on Friday nights that the Trans Canada Net meets each Saturday and Sunday on 14.140 at 1800 Z. I sometimes forget, but I always try.

73, Dick VE3BIS

PERMISSION GRANTED

May I have your permission to use part of 'Remember The Magic' by Marie Bedal VE3LUL, which appeared in *The Canadian Amateur?* I am preparing an article on first contact experiences, and Marie sent me a copy of her account as related in 'Remember The Magic.' Thank you for your cooperation.
Paula McKnight N1DNB,
Editorial Assistant, *QST*
Of course you may, Paula!— Editor.

ABOUT THIS MONTH'S EDITORIAL

Mr. Ron Walsh VE3IDW, President,
Canadian Amateur Radio
Federation Inc.,
Dear Sir,

Enclosed is a copy of a resolution unanimously approved by our club requesting action by the Departments of Communications and Consumer & Corporate Affairs on the matter of the susceptibility of consumer electronic equipment to strong radio transmissions .It also requests the support of the two national associations in pushing for corrective measures. Copies of our covering letters to the Ministers of these Departments are also enclosed.

We have also written the President of the Consumers Association of Canada as we feel consumers should be made aware of these problems and how to resolve them. A copy of this letter is also enclosed.

We hope that you will actively support this resolution or a resolution which seeks the same result and will push for action by Government. Care will have to be taken to ensure that this matter does not get submerged in the RABC and the CSA.

Please give our resolution and letters good publicity in *TCA* and ask the radio Amateurs of Canada to support this action. If success is to be assured, Amateurs from all across Canada will have to flood Ottawa with similar resolutions and letters. Yours truly, W.R. Campbell VE3KLK, President, Ottawa Valley Mobile Radio Club.

Mr. W.J. Wilson VE3NR
Dear Sir:

I thank you for your carefully worded submission. As you know, we have tried to pursue this matter with government agencies. Perhaps the Ravenscroft case may make DOC and other agencies see the 'Can of Worms' poor standards is about to unleash. I would suggest your club also write people in charge of various commercial radio services as they're about to feel the same impact.

I have forwarded your letters to all Board members for action at our June Board meeting.

I would heartily invite your personal participation and your club's participation in pursuing this matter.

I have forwarded copies of your letter to our Editor for immediate publication. Copies have been sent to our RABC and CSA representatives for comment.

Please be assured you have my personal support in this matter. I feel we Amateurs must begin to be heard or we will 'suffer in silence.'

My thanks and congratulations to your club for their effort.
Yours truly, Ron Walsh VE3IDW, President, CARF

HOW IT'S DONE IN B.C.

For the benefit of other senior Hams across the country who may be contemplating formulating a New Horizons Amateur Radio Repeater Club, I have put together a detailed report on our Club 'The Victoria New Horizons Amateur Radio Repeater Association' in the hope it will assist them.

The above Association was founded on Armistice Day, 1977, and funded by the Department of Health and Welfare through the 'New Horizons Programme.' Membership is open to all retired Amateurs holding a valid Amateur Radio Licence and approved associate members.

Our equipment, consisting of a complete Motorola Repeater Station, is presently located on Mount McDonald on the outskirts of Victoria and operates on the frequencies of 145.41 MHz and 144.81 MHz. Club call sign VE7EM and Repeater call sign VE7RSR.

Our present Executive consists of President, Vice-President, and Secretary/Treasurer, with six Directors each holding two years in office. We stagger the Directors two at a time and appointed two years apart so we always have at least two experienced Directors at all times. Club membership is currently 128 and still growing.

The Club's fiscal year ends April 1st with the Annual General Meeting usually on the last Wednesday in March. Executive meetings are called as necessary by the Executive which usually meets from four to seven times a year.

We also have our New Horizons net each weekday morning from 0845 local time to about 0930. We have presently 11 net controllers who take

SILENT KEYS

VE7FSB— Sherman Burbank, Sooke B.C., May 13, 1986.

VE7GDD— Garth Drakeley, Nanaimo B.C., May 1, 1986. Sad news for members of the Nanaimo A.R.A. who recently helped Garth obtain his advanced licence. Garth had been home only two weeks after by-pass heart surgery when he passed away.

VE7CN— Don Murphy, 1912-1986. The Point Grey Amateur Radio Club lost a loyal and devoted member on April 12th 1986, Don Murphy who resided in West Vancouver with his XYL Marie since his retirement from Air Canada in 1974. Don had held an Amateur Licence since 1933 and during his working career with Air Canada he held the following station call letters: VE1AQ— Lakeburn, N.B.; VE2BV— Valois, P.Q.; VE3BX— Toronto, Ont. and pre-war before he joined CARF his first call letters were VE5EU.

control for two weeks each, with one of the Directors acting as net control chairman. There is a fixed preamble with which all controllers open the net. First, we call for information relative to the well-being of anyone in the Ham community— call for early checkouts— call for mobiles— call for any miscellaneous reports and finally regular check-ins.

In addition to the above, we have a practice CW net held each Monday and Thursday at 0930 local time on 3705 kHz with three or four net controllers taking their turn.

We have managed to hold our dues to $5 per year. If there are two licensed members in one family the dues remain at $5 for both members.

Another activity of the Club is our Breakfast Meetings, held every three months at the new George Vale Golf Clubhouse. There is a choice of two meals— bacon and scrambled eggs at $4 or pancakes and sausages at $3.50. We have door prizes and prizes for other activities such as a limerick contest, Mad Hatter contest, Valentine contest, Xmas, etc. Attendance is usually around 100 and over for our breakfast meetings and they are a very popular item on our curriculum.

The Club members also handle many other functions during the year, such as communications for the annual Oldtimers Pacific Cup Hockey Series sponsored by Labatts. This consists of about 87 teams from Western Canada. The games are held at seven arenas in the vicinity with headquarters in the Harbour Towers Hotel. There is a considerable amount of time and energy put into this effort, particularly on the part of the organizers, with about 50 operators taking part.

Other activities are communications for the 'Prime 55' Senior Citizens programme during the summer. All these activities are done in co-operation with other local Amateur radio clubs in the vicinity.

I hope the foregoing may be of assistance to any other Amateur groups interested in forming a similar New Horizons Club. Thank you and 73 to all.

Sincerely,
Art Brown VE7DXA
Immed. Past Pres.,
Victoria New Horizons ARC

TERMINOLOGY

(Ron VE1RW asked me to type this taped letter to the editor column in response to Herb VE1ADA's letter in the March '86 issue. Ron is a blind operator as well and receives *TCA* on tape from me. Herb makes a duplicate set of tapes and sends these off to Ron and then returns mine for the next issue. It works out quite well.— VE1CHI)

Here's the letter:

With regard to Herb, VE1ADA's letter, Blind Amateurs vs. White Cane Operators, why not just Amateurs? I've never heard of red-haired operators or overweight operators staying in a group by themselves— why isn't everybody equal?

73, Ron VE1RW

Antenna Erection Ends In Tragedy

Decision on an inquest into a freak accident, which claimed the life of Charles Gamblin, 28, of Jaffrey Street Saturday afternoon, has been reserved pending the outcome of the police investigation.

The accident occurred about 1 p.m. at the Greenwood Trailer Park while Mr. Gamblin was helping three other men hoist a citizens band antenna which came in contact with a high voltage power line. The other three, Jeffrey McKeil, of 341 Greenwood Trailer Park, John Arbeau of Maugerville, and Eugene Hennigar of Union Street were thrown clear but not injured.

Mr. Arbeau said McKeil was standing on a storage shed roof while the other three were on the ground holding the 50-foot pipe which had the antenna on the top. He said Gamblin was holding the section closest to the ground when the wind caught the pipe and it fell across a nearby power line.

"We were all thrown clear," Mr. Arbeau said. "It stunned us. Then we all got to our feet, even Rocky (Gamblin's nickname). We asked him if he was alright. He said yes, but suddenly sunk to his knees, then collapsed."

He said a nurse living nearby performed CPR but could not revive Gamblin.

— Clarenville *Packet*

It still happens! There could have been four of them.— Jerry VE1BCY.

All Amateurs— particularly new ones, remember! Make absolutely certain that your antenna, mast or guy cannot touch a power line of any kind before, during or after erection. Instructors, please make this part of your first class.— Editor.

THE ICOM IC-745

Further to ICOM IC-745 Users Report, *TCA* December 1985. A reply has been received from Scott Malcom, KA7MEF, Service Manager for ICOM America Inc., at their Corporate Headquarters 2380 116th Avenue NE, Bellevue, WA. 98009-9029. He also gave his phone number and an invitation to write or call with any comments useful in future designs or if he can be of further service.

Overloading the front end when receiving strong signals up to 40 dB over S9 is not likely to happen but should anyone experience such performance, he recommends the IC-745 might either need alignment or possibly have a defective component.

Audio recovery time from transmit to receive on RTTY is in the order of 50-75 milli-seconds considered normal for this semi-break-in type receiver.

Keying problems with the optional keyer EX-243 are normal characteristics of that option. He confirmed the speed adjustment having a sharp knee at 20 wpm was one normal idiocyncrasy.

His reply to the lithium battery dilemma for the RAM card is "should not need to be replaced until every 35 to 50 years minimum." When replacing the lithium battery on the RAM card it is necessary to apply external 5 volts to steering diodes on the card or to ensure the reprogrammer is locally available.

Scott also replied to other complaints such as the shortened 160 metre band and suggests removing the RAM card and sending to their ICOM Canada service facility at 3701 #5 Road, Unit #9, Richmond, B.C. V6E 2T4 for processing. *(Be sure you establish their fee before shipping. Ed.)* Band change for 30 metres starting at 10.05 MHz can also be changed to 10.1 for those Amateurs requesting it, again by re-programming the RAM card at an ICOM facility.

73, Moe VE6BLY

Page 6 ►

14.140 MHZ, 1230 LOCAL

I would like to ask for your assistance in making better use of the 14.140 MHz calling frequency. How about asking the operators from coast to coast to get on when they can for five or ten minutes at 12.30 p.m. local time?

This is not to take away from the free use of the frequency at any odd time or to pre-empt any existing arrangements you may have, and certainly not to interfere with the Trans-Canada net.

The idea is to help us get in touch with one another, it now seems that we all get on and call indiscriminately, and, I for one would sooner get on for a few minutes once a day and help out, but not to just pop in and "See if someone wants the area."

To illustrate. It would be up to me, if I wanted to contact Nova Scotia, to get on at 11:30 my time, it being 12:30 Atlantic time. For a B.C. operator to make contact with Manitoba, he should call at 10:30 his local time. To state it again, let's try getting on at 12:30 p.m. or local time and let the other part of the country figure out when that is.

I hope that 12:30 is your local lunch break; if not, make a better suggestion. Anyway let's talk it up; maybe it will help.

Don't forget to move off the frequency when you get your station. Let the other stations know that you are clear, i.e. make a call and if no answer say something like "Nothing heard, VE3BIS, Clear."

Thanks for the loan of your ears (eyes) 73, Dick VE3BIS

Government of Canada
Department of Communications

Gouvernement du Canada
Ministère des Communications

300 Slater Street
Ottawa, Ontario
K1A 0C8

April 16, 1986

Mr. Ron Walsh VE3IDW
Canadian Amateur Radio Federation Inc.
P.O. Box 356
Kingston, Ontario
K7L 4W2

Dear Mr. Walsh:

Thank you for your letter of March 25 and for placing me again on your monthly TCA mailing list. I appreciate receiving TCA so as to keep informed of amateur activities in Canada and did, in fact, miss it recently.

All the best wishes to you and to your association.

R.W. Jones

R.W. Jones
Director General
Radio Regulatory Branch

Canada

CUSHEN VISITS CANADA

Noted international broadcaster, author and shortwave radio listener, Arthur T. Cushen, will be visiting Canada from New Zealand in July to be keynote speaker at the annual conference of the North American Shortwave Association. He will also be visiting Vancouver and Ottawa before travelling into the United States.

He has received numerous Awards in recognition of his outstanding accomplishment and contributions as a blind person including the honorary title of Member of the British Empire bestowed by Queen Elizabeth. (From Chris Stark, Orleans, Ontario.)

CARF may be arranging a personal interview with him while he is in Ottawa. We'll keep you informed of the outcome of such an interview as soon as we can.

DOC News

Ravenscroft— Amateurs take action

Mr. S.N. Ahmed
Director General, Engineering Programs
Department of Communications
Re: Publication of Notice No. TRS-006-86
"Limits for Radio Noise from Digital Apparatus"
Canada Gazette, Part 1, March 8, 1986

Dear Sir, The Canadian Amateur Radio Federation is one of two national organizations representing the Radio Amateur Service in Canada.

As users of a shared spectrum, we are becoming increasingly aware of domestic and industrial noise sources which pervade the frequency bands between 1.8 MHz and 30 MHz.

a) We have concern that limits for radio noise emanating from digital apparatus should apply equally to manufacturers who sell or offer for sale apparatus destined for use in applications described in Section 22, subsection (2) a) to g) inclusive.

b) We are concerned that no protection is afforded spectrum users from radiated radio noise below 30 MHz, under Schedule V and Schedule VII.

c) We assume a typographical error occured in specifying the broad band limit in Column II of Schedule VIII, and that this limit is intended to be -61 dB (reference 1 uV).

d) Implementation of the limits pertaining to Schedules V and VII could impose operational restrictions in Radio Amateur Service Users below 30 MHz; particularly in urban areas. It is suggested that limits accepted for radio noise from Digital apparatus should not exceed those limits accepted for cable television egress. Notwithstanding the limits imposed by this regulation, the manufacturer should be required to make adjustments to the equipment in the event of interference to a spectrum user.

The Radio Amateur service welcomes regulations such as these, which tend to preserve the full potential of the spectrum.

Yours truly, Ralph Cameron, Chairman, EMI Committee, Canadian Amateur Radio Federation.

ANOTHER GENTLEMEN'S AGREEMENT

Electrical and Electronic Manufacturers Association of Canada
Attn: Mr. E. Welling, Manager
Electronics Division
Dear Mr. Welling,

I regret you were unable to attend the recent EMI Committee meeting of the Radio Advisory Board in Canada.

During the meeting there was considerable discussion of the Ravenscroft case which, you may know by now, will be appealed.

A discussion centered around the position of EEMAC members, in cases of product susceptibility. As you know, Radio Amateurs have had the past cooperation of manufacturers in arranging to modify a consumer product when susceptibility has been determined. In all cases of which I am aware, a satisfactory resolution has been reached, with one exception. We are both aware of that exception.

I believe the manufacturers' cooperation has been due to the voluntary acceptance of the DOC's Electromagnetic Compatibility Advisory Bulletin guidelines. In effect, it has permitted resolving problems between cooperative parties.

I sense there has been a change in EEMAC policy, in regard to the issue of susceptibility as Mr. Liddell indicated at the meeting (in representing the views of EEMAC), that a question of invalidating the CSA Approval as well as product warranty could preclude making any product modification.

It is no secret manufacturers are aware of the realities of EMI just as transmitter owners are noticing an increase in susceptionable devices, at much lower transmitter power levels. It is unfortunate that consumers for the most part, are completely unaware of potential product malfunction, in the presence of a nearby transmitter. Dealers often blame Amateurs although they know little of the fundamentals of EMI. In several cases I have investigated, the appliances have been faulty but exhibit effects identical to EMI.

Mr. Liddell also indicated there is a lack of awareness of EMI but, this subject has been well-known for 40 or more years. At the meeting he also advocated the use of the DOC booklet, 'How to Identify and Resolve Radio-TV Interference Problems,' as being a practical handbook.

The DOC booklet has been an excellent guideline; although it requires updating to cover other situations and more modern suppression techniques. The fact that many solutions published in this document require a modification to the product would, if I understand Mr. Liddell correctly, be unacceptable to EEMAC members.

Would you be kind enough to state your organization's current policy, so that I may advise our members. A change would represent considerable importance to Canadian Radio Amateurs as well as other licensed transmitter users.

We feel we have been operating and cooperating on a gentleman's agreement which, to my knowledge, has not been abused and I think it essential to know EEMAC's position.

I would be grateful for an answer to this question. Thank you.

Yours truly, Ralph Cameron, Chairman, EMI Committee, Canadian Amateur Radio Federation.

FROM THE TORONTO REPEATER ORGANIZATION

The Shareholders and Members of the Toronto Repeater Organization are pleased to make a donation to the Jack Ravenscroft Defence Fund. A cheque is enclosed.

This case is the most serious threat to the Amateur Community ever to have raised its ugly head. It is a direct assault on the ability to operate of each and every ham. The precedence set can (and probably will) affect all Amateurs and repeaters through anyone even claiming that the interference to their equipment is caused by the local Amateur station.

Whatever happened to improving the RFI susceptibility of home appliances and equipment? The onus has been placed directly on the Amateur— the manufacturers of the poorly designed and built equipment are again off scot-free.

Graham Newton VE3MEG is undertaking to advise the paging companies of the possible threat to them based on this judgement. He will be working to obtain help for Jack through this powerful communications industry.

In addition, enclosed find my own cheque as my personal contribution. 73, Bob Shemavonian VE3LNI, Secretary, Toronto Repeater Organization.

FROM THE NIAGARA PENINSULA ARC TO VE3SR

Dear Jack: In view of recent developments in your civil case we advise that our club has discussed the matter at a general meeting held April 16/86.

We appreciate the attempt which you have made to secure justice for the Canadian Amateur Community in this very important test case. The decision to appeal must be your own personal choice. Moreover we feel that the health of Canadian Amateur Radio as a hobby, is at stake.

We therefore advise that our support goes with you, should you choose to continue. In this regard, we have made a donation to the JACK RAVENSCROFT SUSCEPTIBILITY DEFENCE FUND. We have voted that these funds be used to defray legal costs pertaining to the appeal.

In addition we are challenging every individual Amateur or organization in Canada to join us.

We look forward with anticipation to your decision and offer our very best wishes.

Please provide us with a copy of the notice to appeal and we will forward a cheque.

Yours truly, Darryl Boltz VE3OQQ, Treasurer NPARC

FROM SURREY ARC TO VE3SR

Dear Jack: At the last regular meeting of the Surrey Amateur Radio Club the members voted unanimously to pledge their moral and financial support to the efforts of your committee.

At this time I was instructed to write to your committee and establish our support in urging Jack VE3SR to appeal the decision of the Ontario District Court. The members of our club could hardly believe that this case has come to such an unjust conclusion.

Our next meeting is on May 5, 1986 at which time a donation will be voted on.

We trust that this letter of encouragement will show our total support in fighting this case. We are a club of 70 members and are an active group in Surrey.

Sincerely
F. Orsetti VE7CJG
Sect. VE7SAR, ARC

TO AN MP

Mr. Bill Vankoughnet, MP,
House of Commons
Re: Standards on immunity of electronic equipment to electromagnetic interference
Dear Sir:

I am pleased to see the federal government programs underway as outlined in your April 1986 report to your constituents.

An urgent matter on which the Department of Communications should take immediate action is the finalization of Standards on Immunity of Electronic Equipment to Electromagnetic Interference. (CSA Standard C108.9)

Ed Sieb VE2BAQ, Peter Haficihuk VE3LBW, Ron Lawrence VE3ORP, and a group of Amateurs in Lindsay, Ontario, have sent TCA copies of their submissions to DOC on deregulation. Lack of space prevents the publication of these excellent submissions, thank you all, though, for thinking of us.— Editor.

The lack of approved Standards was a contributing factor in a judgement in the amount of $2,500 being obtained against a licensed Amateur radio operator, namely, Mr. J. Ravenscroft of Kanata, Ontario.

The Department of Communications published a booklet in 1978 entitled How to Identify and Resolve Radio-TV Interference Problems. In that booklet it states in part "keep in mind that not only must your equipment be able to receive and amplify the desired signal but it also must *reject all unwanted signals and noise.* This means that even if the equipment allegedly causing the interference is being properly operated, it is *still possible to experience interference.*

This judgement is a precedent in all the years that radio communications have been taking place. Mr. Ravenscroft was sued for nuisance as a result of the interference to his neighbour's radio and TV.

The lack of a government Standard on immunity to interference is deplorable. Action should be taken immediately to provide a Standard. There are tens of thousands of radio receivers in use that are not capable of rejecting interference.

I trust you are able to make strong recommendations on this matter.

Yours very truly,
Hartley Z. Rogers, P. Eng.

TO ANOTHER MP

The Honourable Michel Côté, M.P.,
Minister, Consumer & Corporate Affairs,
Dear Mr. Côté, The Radio Amateurs of Canada are very concerned about the increasing number of problems that are being caused by the susceptibility of all kinds of consumer electronic equipment to strong radio signals. When this kind of equipment malfunctions, Radio Amateurs are often blamed despite the fact that their radio stations meet all the requirements of the Department of Communications.

The 147 licensed Radio Amateurs who form the membership of the Ottawa Valley Mobile Radio Club Inc. seriously considered this problem at its regular meeting on Feb. 20, 1986 and approved the attached resolution. Further evidence of their concern is shown by their financial contribution to a fund raised by other Amateurs from across Canada and the United States to help cover the legal costs incurred in the defence of the Ottawa Amateur who had his radio station closed down by the Court of Ontario. The consumer involved was quite unwilling to cooperate in the resolution of the susceptibility problems.

The equipment involved in susceptibility problems includes such things as video cassette recorders, electronic organs and games, personal computers, electronically controlled furnaces, TV converters, wireless intercoms, remote light controllers, microwave ovens, electronic typewriters, and medical equipment including heart pacers. Amateurs are not the only ones involved— all who operate licensed radio stations can be involved from time to time and there are well over 1,230,000 in Canada.

Broadcasters and the operators of paging systems are examples of other groups who, wanting to increase power or move closer to an urban area to provide better service, have been extensively involved with susceptibility problems.

Page 10

The ways by which this kind of problem can be cleared up have been well known for decades and they are not expensive to install when done at the factory. The Department of Communications gives good advice to manufacturers regarding the radio environment through its Electromagnetic Compatibility Bulletin #1, first issued in 1977 and updated in 1982. Manufacturers know what needs to be done, but dealers and sales people do not know how to cope with these problems and are reluctant to admit that their equipment may be at fault.

The sad part of it is that these problems usually take the consumer by surprise and that is what makes it so difficult to resolve these matters. They do not know where to turn for help.

We would appreciate it very much if you could see your way clear to having notices of the kind given in our Resolution affixed to consumer electronic equipment. The cost would be negligible and good guidance would be given to consumers on how to deal with these problems should they arise.

Your early action on this problem would be much appreciated.
Yours truly, W.R. Campbell VE3KLK, President.

AND A THIRD MP

The Honourable Marcel Masse, M.P., Minister of Communications.
Dear Mr. Masse,

The Radio Amateurs of Canada are greatly concerned about the increasing number of problems that are being caused by the susceptibility of all kinds of consumer electronic equipment to strong radio signals. When consumer appliances malfunction because of poor construction, and inability to reject radio transmissions, licensed Radio Amateurs often are blamed.

Recently, as you are aware, an Amateur in Ottawa has had his station closed down by the Court of Ontario despite the fact that his station was properly licensed and operated in accordance with all the requirements of your Department of Communications.

The 147 licensed Radio Amateurs who form the membership of the Ottawa Valley Mobile Radio Club Inc. seriously considered this problem at its regular meeting on Feb. 20, 1986 and approved the enclosed resolution. Further evidence of their concern is shown by their financial contribution to a fund raised by other Amateurs from across Canada and the United States to help cover the legal costs incurred in the defence of the Ottawa Amateur mentioned above.

Radio Amateurs are not the only group affected by this problem of susceptibility. Over 560,000 licence holders for other kinds of radio stations in Canada, numbering nearly 1,200,000, serve the needs of Canadians for safety, protection, business, and other public and private communications. These services are provided in all areas of urban living. On the other hand, most Canadians use consumer electronic equipment such as electronic organs, video cassette recorders, microwave ovens, TV converters, electronic games, wireless intercoms, burglar alarms, electronically controlled furnaces, electronic telephones and medical equipment including heart pacers, etc., entirely unaware that much of it is susceptible to radio transmissions. Broadcasters and those who operate paging systems are examples of other groups who, wanting to increase power or move closer to an urban area to provide better service, have been extensively involved with susceptibility problems.

If you haven't done so yet, please write your MP about Ravenscroft and make a donation— one per cent of the value of your rig seems fair— to the JRSD Fund, Box 8873, Ottawa K1G 3J2.

If nothing is done soon about this problem, the clash between the users of radio and the users of consumer electronic equipment could result in the curtailing of crucial radio services by the courts as they are asked to resolve these problems.

It cannot be ignored that, of the two parties involved in such cases, the licensed radio station has met the requirements of your Department while the manufacturers and users of susceptible consumer electronic equipment have ignored the warnings incumbent in the Department's Electromagentic Compatibility Advisory Bulletin #1 of 1977 and its updated version of 1982. Certainly, the remedial steps required at the time of manufacture add little to the cost of this equipment.

Your early action on our resolution and its recommendations will be greatly appreciated by Canadian Radio Amateurs as well as the operators of other classes of radio stations in Canada.
Yours truly,
W.R. Campbell VE3KLK,
President.

FROM ATLANTIC HAM RADIO

During the past week we were informed that Jack Ravenscroft had lost his court battle pertaining to RFI. It is a decision that the Amateur radio community cannot afford to let stand as a precedent. I strongly urge *CARF* and *TCA* to take a strong stand in promoting a successful appeal of this court decision.

To help in this matter I enclose a cheque for the fund and I hope you will encourage other dealers and manufacturers to help. Just $5 from every active Amateur will raise more than $60,000 and I hope that Amateur radio clubs from Newfoundland to British Columbia will initiate fund raising events to collect money for a successful appeal.

Through your editorials and hopefully full page ads in *TCA* to promote the fund raising campaign we should be successful in our goal. Yours very truly, Lutz D. Ecker, P. Eng., General Manager.

CODE EXAMS

As of April 1, Advanced Amateurs are authorized to administer morse code examinations to candidates wishing to obtain an Amateur or advanced Amateur certificate. To assist them in properly conducting the exams the DOC has made available a preliminary guide which includes texts for the transmission and the reception at 10 and 15 WPM and also a copy of the attestation to be used by the examiners at the time of examination. This Guide has been sent to all Amateur clubs and Schools. Upon completion of the final version of the Guide, it will be distributed to every interested person. If you are trustee of a club or member of the staff of an Amateur Radio school and you have yet to receive the preliminary Guide contact your district office.

THE 1987 EXAMINATION SCHEDULE

The DOC has announced the dates of the Radio Amateur examination for 1987. You'll find them all noted in *TCA*'s calendar, on the Social Events page.

Marcel Masse praises Amateur Radio at Expo 86

BY J.F. HOPWOOD VE7AHB

The Honourable Marcel Masse, Federal Minister of Communications, personally signed the licence of Amateur radio station VE7EXPO at EXPO 86 on May 1st. He called upon the station operators to contact the world. The licence was hand-typed as the DOC computers could not handle call signs with a four-letter suffix. It was the first time he had ever had to personally sign a licence.

"I am indeed proud of the Canadian Amateur radio service," he said, "and particularly proud of the Amateurs who worked so hard to make VE7EXPO such an outstanding success. There isn't an Amateur in the world who would not be proud to have this magnificent array of consoles and radio equipment to contact the world."

The members of the VE7EXPO Amateur Radio Society thanked Mr. Masse for the generous assistance of the DOC's EXPO Committee who had made it all possible, in particular, DOC Pacific Region Director John Quigley and Bert Plevis VE3IJ, Research Director from Ontario. Special thanks were expressed to the Canada Pavilion Corporation who provided the space, built and installed the consoles and all the auxillary services to house ICOM Canada's superb presentation of modern Amateur radio equipment.

VE7EXPO operates from 160 metres to 1.2 GHz using CW, SSB, FM, RTTY, Packet Radio, Satellite and Slow and Fast Scan TV. Each logged QSO with VE7EXPO will be QSL'd via CARF's outgoing QSL Bureau to the world. Canadians seeking a contact should monitor 3.740 MHz and 14.135 MHz SSB. The station operates daily through to Oct. 13th from 17:00 to 05:00 UTC. A list of frequencies, modes and times have been sent to the Amateur radio societies of countries who are participating in EXPO '86. The rare four-letter suffix call sign should attract the QSL card seekers.

We are proud of the Amateurs who contributed so much to VE7EXPO. Space prevents us from listing everyone, but here are a few: Bob Smits VE7EMC, the major organizer and Chairman of the VE7EXPO Amateur Radio Society. Larry Reid VE7LR, Chairman of the Operations Committee and whose association with the DOC proved invaluable, Tony Craig VE7XQ and Dan Gentry VE7DG for the satellite station installation, Dave Gilmour VE7YG as overall station installation co-ordinator, Ralph Webb VE7OM for equipment procurement, Bill Williams VE7FHV, manpower planning coordinator Al Marr VE7DPM for the Packet Radio display. Dennis Pekrul VE7CXN, QSL Manager and a great support, and of course, our own special mentor Hugh Dollard VE7PB, who worked behind the scenes to arrange the contribution of ICOM Canada. Without Hugh it would have been a poor show indeed.

Dave VE7YG (right) explains console to visitor. That's the packet terminal on the left.

MARCONI, HOMEBREWER

The Italian pavilion at BC EXPO has an exhibition of Marconi's original equipment: coherers, spark gaps, induction coils, magnetic detectors. Well worth seeing!

The equipment on view ranges from his first receiver, made in a cigar box, to a later one, as big as an upright piano.

Marconi classed himself as an Amateur. Every one of us who visits EXPO should make point of visiting the Italian pavilion.

LATE NEWS

Bill Loucks VE3AR and Art Blick VE3AHU have been instructed by the CRRL and CARF Boards respectively to discuss a possible merger of the two organizations. Expect them to report in early 1987.

Several clubs run a code 'phone. Does yours?

Vancouver's Centennial

BY ROD HOURSTON
VE7FHO

On April 6, 1886 the township of Granville was incorporated as the City of Vancouver, so 1986 is Vancouver's 100th birthday. Now a bustling metropolis of over one and one half million people, a year-long celebration has been declared and everyone is invited to the party.

In 1983 a Vancouver Centennial Commission was appointed by the city council, and its goal was "to make 1986 a year in which all people of Vancouver share their talent, energy and goodwill to create and enjoy a city-wide celebration that will take us into the next century with heightened optimism and pride." It was given the role of promoting, coordinating and administrating Centennial activities. A special Logo was developed, and Tillicum, the Sea Otter, was designated as the official mascot. Vancouver community and multi-cultural organizations were especially invited to submit projects for inclusion in the Centennial celebrations.

Many organizations accepted the invitation to participate in the celebration, and while Expo '86, the Province of B.C.'s birthday gift to the City, will be the center of attraction, visitors should be aware of these special activities that will be taking place in all parts of the city, particularly during the spring and summer months.

The Vancouver Amateur Radio Club decided that, since it had been part of the community for 50 years, it should participate in the Centennial celebrations. A project entitled 'Vancouver Communicates with the World' was submitted to the commission on April 22, 1985. It received official endorsement on June 19 of that year.

The initial project proposed setting up an Amateur radio station in one of Vancouver's major parks and operating it during the period June 28 to July 2. This period included Field Day, and the station would compete in the contest. Following Field Day the station would operate for a further two and a half days with the objective of contacting as many hams as possible, and extending to them birthday greetings from Vancouver. QSL cards bearing the Centennial logo would be sent to all contacts. It was further proposed to request a special call sign from DOC to commemorate Vancouver's 100th birthday.

One of the objectives of Centennial projects was to allow the people of Vancouver to observe and/or participate in them. We viewed this as great opportunity for demonstrating Amateur radio both as a hobby, and as an emergency communication resource to the people of Vancouver. We planned on using a large trailer with doors at either end which would permit the public to pass through and observe the station in operation.

Permission was eventually received to allow the station to be set up in Queen Elizabeth Park, the Centennial Commission approved a QSL card bearing the Logo, and the DOC approved the use of the special call sign VC7100 for the period June 28-July 2.

Everything was proceeding on schedule when the call went out to all ARC's to get involved in planning for the station at Expo '86 (see *TCA* May issue). The Vancouver Radio Club responded, and at the first Expo committee meeting raised its commitment to the Centennial project. The committee agreed that the Vancouver Club would operate the station at the end of June and during the period June 28 to July 2 it will be operating HF and VHF as Vancouver's Centennial station, VC7100. This will include Field Day and Canada Day. (VE7EXPO will also be operating.) So listen for our CQ. We want to bring you greetings from Vancouver on our 100th birthday and send you a special QSL card.

Here's Dave again, proudly displaying three of VE7EXPO's operating consoles.

FCC BUDGET

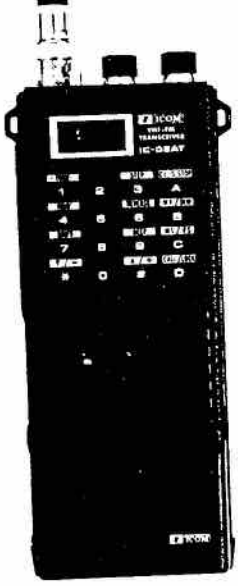
The FCC's Budget for 1987 has been proposed at $96.3 million to operate the agency with 1,855 people. It would make an increase of $1.9 million and 20 positions. The additions will help the commission handle all the new licence requests and their resultant interference complaints, the agency said.

—Com News

ANNOUNCING:

KENWOOD

ICOM YAESU



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Hobbytronique Inc.

A Message from Moe

BY MOE LYNN VE6BLY

There has been a lot of talk, both written and verbal, at club meetings here and abroad as to the future of Amateur Radio.

Every licence holder in Canada was granted privileges based on a number of conditions, the least of which is the annual fee. Whether we are aware of it or not, this one small item should make it quite clear to everyone that this is not a HOBBY! Nowhere in the world does a government legislate rules and regulations for the general populace under which they are to conduct their hobbies.

Take a closer look at our Telecommunications Regulation Circular (TRC 25), the section where it says: 'Amateur service'— being a radiocommunication service for purposes of self-training, intercommunication or technical investigation carried on by persons who are interested in radio technique solely with a personal aim and without pecuniary interest.

Maybe it is the personal aim we should be trying to change or adjust rather than the examination content or technique. If we aim high enough we could be inundated with people wanting to pay their annual fee and join the 'Amateur service.'

About now someone is saying, "Another complainer? What is your idea of stimulating growth? Speak or get off the podium!" OK, attached is a sample Amateur Radio Public Service Message form that can be used by clubs or groups. It was produced here in Edmonton at Neworld Communications Limited, who also supplied a camera ready copy for our mass production endeavors.

How many times since you received your first licence have you delivered a message sent by Amateur radio and found that the recipient was interested in radio technique? They have unwittingly passed one of the prerequisites of a licence holder and indicated to you they might be a potential ham have they not? Isn't this a cheap, effective way to advertise for an increased gathering to the fold?

Anything for sale or free today still has to be taken out and presented in such a manner that it becomes irresistible before it becomes unobtainable. Too many are sitting back waiting for the chosen few to come up with better ideas. Well, one has finally arrived: it takes just a single operator or any number up to the total club membership or other group to put it to work.

Wearing a ham hat and jacket at a public function or other gathering while intercommunicating via handheld with another local has not been very effective proof in the past that we are utilizing radio technique in a self-training technical investigation. Especially considering that most of the youngsters today have grown up and are away from those two-for-$9.95 handie talkies and can no longer see any advantage talking to the guy down the block.

But hit them with a radio message from Aunt Martha in Tatamagouche or Uncle Boomer in Alice Springs and you just might arouse their curiosity. Our aim has always been non-personal so it is easy to put in a word for the 'Amateur service,' non? Like maybe you could discuss how you talked to an Amateur station down under while using your homemade vertical antenna and 40 watts of radio power.

Try this message form with your address and telephone in the space below the heading. See if an individualized approach doesn't produce better results than the form which suggests big business is involved. Send me a SASE for a copy suitable for mass production today and get your program started.

Maybe you know a printer who would donate press time if paper and camera-ready copy were supplied? This would bring the price down to a more attractive figure than the local one cent in lots of 50,000. The latter is still cheaper than two and a half cents from my local drug store copier but requires the participation of quite a few dedicated Amateur service operators.

CLASSES OF SERVICE
EMERGENCY (VERY RARE)
PRIORITY
WELFARE
ROUTINE

AMATEUR RADIO
PUBLIC SERVICE MESSAGE

WORLDWIDE & LOCAL COMMUNICATIONS
Via: VOICE, INTERNATIONAL MORSE CODE, TELEVISION, COMPUTER & SATELLITE.

HR | CLASS | HX | STATION OF ORIGIN | COUNT | CITY OF ORIGIN | PROV STATE | TIME FILED | YR | MONTH | DAY

TO
ADDRESS
CITY
TELEPHONE

ORIGINATOR
ADDRESS
CITY
TELEPHONE

24
WORD
TEXT
OR
LESS

SIGNATURE

OPR / VERIF | TIME | OP | SENT RELAYED TO | TIME | OP | RECEIVED FROM | TIME | OP

THE ABOVE IS BEING HANDLED FREE OF ANY CHARGES AND THE AMATEURS INVOLVED DO NOT ACCEPT REMUNERATION OR TIPS FOR THIS PLEASURE. NO GUARANTEE AS TO DELIVERY OR ACCURACY IS IMPLIED OR GIVEN. REPLIES CAN BE FILED WITH THE OPERATOR WHO PASSED YOU THIS MESSAGE. PLEASE WRITE OR PHONE THE CLUB SHOWN IN THE HEADING OF THIS FORM FOR MORE INFORMATION ABOUT AMATEUR RADIO.

Here's Moe's message form, at half-scale.

RSGB AWARDS

The Society's Commonwealth DX Certificate (CDXC), British Commonwealth Radio Transmission Award (BCRTA), British Commonwealth Radio Reception Award (BCRRA), and Worked British Commonwealth Certificate (WBC) are being phased out and will be replaced by a new series. Applications for these awards will continue to be accepted until Jan. 1 1988 to give time for partially achieved awards to be completed.

Introducing The New LK-500Z "B"

Legal Limit Amplifier

Thinking of buying a linear amplifier? You owe it to yourself to check out the new LK-500ZB.

The LK-500Z series of amplifiers were created to offer the best value you can buy in HF linears covering 160-10 meters. Last year, it was demonstratively the best value. It was the lowest priced, full feature pair of 3-500Z's on the market. It had the longest warranty and the only amplifier with a money-back guarantee. It's not surprising that the LK-500ZA, both the standard and "hipersil" version, became one of the most popular amplifiers on the ham bands.

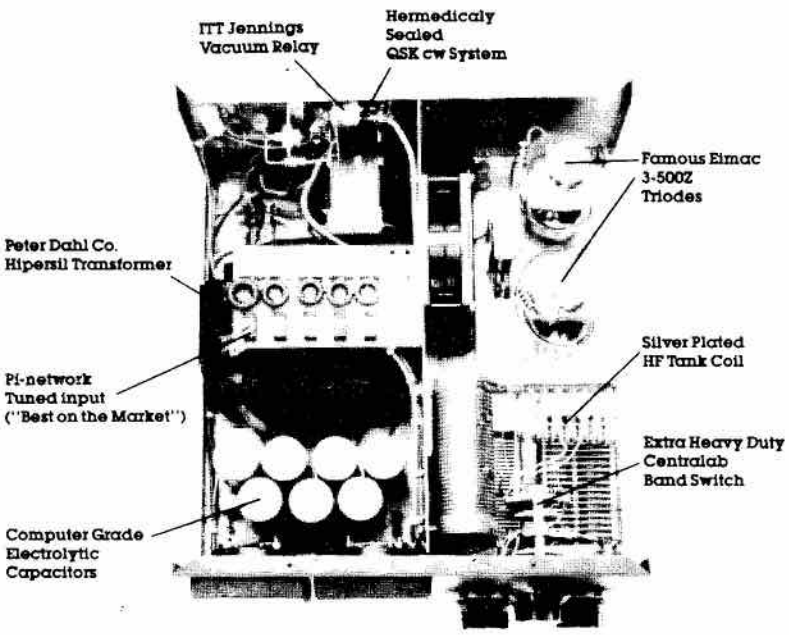
Now, Amp Supply engineers have taken this durable, dependable "rock crusher," fantastically improved it, and call it the LK-500Z "B" version.

Improvements include an ITT Jennings vacuum antenna changeover relay with a companion sealed relay QSK system which eliminates any signal attenuation between CW characters. The silver-plated HF tank coil and the extra heavy duty silver-plated Centralab bandswitch are the finest available.

The LK-500Z "B" version has all the outstanding standard features of the LK-500ZA; such as the Peter Dahl Hipersil power transformer, and a full-wave bridge rectifier system (we will not produce amplifiers using weak voltage doublers). Computer grade electrolytic capacitors are standard and the low-pass pi-network tuned input is the absolute best on the market. Oh yes, we only use Eimac 3-500Z triode tubes in the LK-500Z amplifiers.

NO RISK GUARANTEE

If you are not completely satisfied with the performance of your new LK-500ZB you may return it within ten days for a refund less shipping and repackaging. If you can get any of our competitors to give you the same guarantee, buy both and return the one you don't like. We know which one you'll keep.



The Amp Supply LK-500-ZB is a self-contained, high frequency linear power amplifier capable of amateur continuous operation at output power levels of 1500 watts. The LK-500-ZB is manually tunable from 1.8-2.4 and 3-29.7 MHz continuous.

LK-500-ZB	**$2,195.00**
LK-500-ZB Without QSK	**$1,895.00**
LK-500-ZB With PAC-5 external power supply	**$2,729.00**

Specifications

Frequency Range
160 meters 1.8 to 2.2 MHz
80 meters 3.5 to 4.5 MHz
40 meters 7.0 to 7.5 MHz
30 meters 10.1 to 10.15 MHz
20 meters 14.0 to 14.45 MHz
17 meters 18.0 to 18.2 MHz
15 meters 21.0 to 21.5 MHz
12 meters 24.8 to 24.9 MHz
10 meters 28.0 to 29.7 MHz

Drive Power
100 W Nominal for 1500 watt SSB PEP output
125 W Nominal for 1500 watt CW output

RF Output
SSB 1.5 KW to 1.8 KW PEP continuous
CW 1.5 KW Average continuous
RTTY, SSTV 1 KW Average 1.5 KW PEP

Plate Voltage
RTTY/AM/SSTV/CW/SSB 3.3 KV DC

Efficiency
60%

Input Impedance
50 ohms Resistive, Tuned input
Low Pass pi-network each band.

Output Impedance
50 ohms SWR < 2.1

Harmonic Suppression
−50 db minimum

Intermodulation Distortion Products
−33 dB down minimum

General Information

Power Tubes
Two Eimac 3-500Z zero bias triodes

Circuit Type
Class AB_2 grounded grid

Type of Emission
SSB, CW, RTTY, AM, SSTV

Duty Cycle
Continuous duty in all modes at specified output.

Antenna Relay
Jennings Vacuum Relay

QSK System
Vacuum Relay and Hermedically Sealed QSK System

Metering
1 Meter measures plate current
2nd Meter measures plate voltage, grid current

Output Circuit
Pi-network (Silver Plated Tubing HF Coil)

Input Circuit
Pi-network input for each band for maximum drive and linearity.

Power Requirements
115/230 VAC, 30/15 amps (230 VAC factory wired and recommended)

Power Transformer
Special Peter Dahl Co. Hipersil Transformer
1.2A ICAS
Separate Filiment Transformer

Dimensions
8" H x 14" W x 16" D (including knobs)

Weight
56 lbs.

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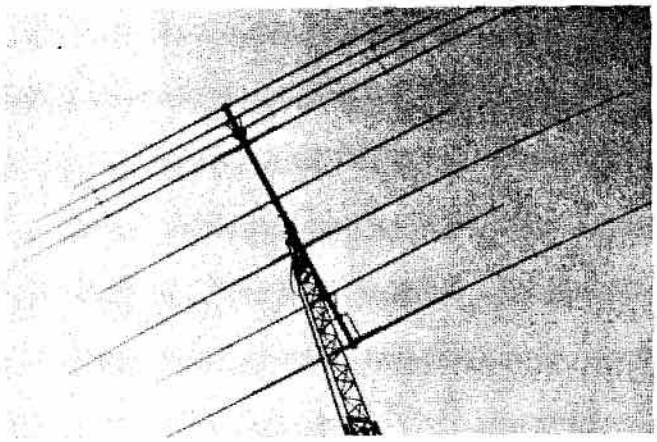

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Through nearly a decade of experimentation, DJ2UT has developed a completely new approach to the multiband antenna. His system differs from conventional designs in one very important respect — the traps have been **completely** *eliminated. This is in sharp contrast to other manufacturers' approaches — such as "linear loading" the element instead of using coil-type traps. We at Sommer believe that a trap is still a trap — no matter how it is configured. True "monoband" performance from a multiband design can only be achieved by total elimination of the traps. This is our philosophy, and we believe it shall be yours, too — once you experience a Sommer antenna.*

To maintain high performance, every DJ2UT antenna is fed with a model UT-2000 balun (included at no additional cost). This is an air-core device made from high-voltage, Teflon® dialectric coaxial cable. With no ferrite core to saturate, this balun will handle 2 kW output without heating. This allows us to rate all Sommer antennas above maximum legal power — regardless of mode or band. Aircraft-quality aluminum tubing is used throughout and all hardware is made of stainless steel. High-quality materials, combined with precision German craftsmanship ensure that your Sommer antenna will provide many years of maintenance-free performance.

8-Foot Boom

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XP407 — 10-12-15-17-20-30-40 m	$789.00

The XP40 series beams are the smallest offered in the DJ2UT/Sommer antenna line. With a mere 8-foot boomlength, they are the perfect answers for those with space restrictions. Unlike other "minibeams," the XP40 series maintains high efficiency through the TOTAL elimination of L/C traps. This results in a system that amazingly outperforms conventional, trapped antennas of much larger size.

15-Foot Boom

XP504 — 10-15-20-40 m	$695.00
XP505 — 10-15-20-30-40 m	$729.00
XP507 — 10-12-15-17-20-30-40 m	$919.00

The XP50 series beams are intermediate sized and designed to replace conventional 3- and 4-element antennas. Although the boomlength is a modest 15 feet, superb performance is obtained through the TOTAL elimination of L/C traps. Former trapped-antenna owners immediately notice increased signal reports, broader gain and SWR bandwidths, and f/b ratios that are good across the entire band — not just over one small sector.

20-Foot Boom

XP704 — 10-15-20-40 m	$859.00
XP705 — 10-15-20-30-40 m	$880.00
XP707 — 10-12-15-17-20-30-40 m	$1095.00

The XP70 series beams are designed for the amateur with all-out performance in mind. Although the boom length is only 20 feet, XP70s have easily outpaced much larger, conventional antennas in careful testing. The key to this is the TOTAL elimination of traps, which rob performance from even the largest of multiband antennas. Because of their high efficiency, XP70 series antennas suitably replace 4- and 5-element antennas of conventional design.

The Life and Death of the First CRRL

BY GEORGE F.W. REYNOLDS
VE4AJ

CONCLUSION

The November *QST* editorial was greeted with shock and dismay by the CRRL. Instead of the hoped-for co-operation with the ARRL, they were faced with open warfare. An article in the February 1924 issue of *The Radio Bug* discussed the situation that had arisen: "We had not expected the resistance put up by the ARRL as we are in no way competitive. Their views are entirely contra to the sentiments of the founders of this association, our main objective being the growth of Amateur radio in Canada. The desire all along of our members has been to co-operate as much as possible with the ARRL. We have great admiration for the ARRL and its accomplishments for Amateur radio and trust we may always retain that good feeling. We may have been unfortunate in the selection of a name, if so we regret that incident. This detail was not given much attention by the promoters and we can assure our friends that there was no ulterior motive in this respect and we wish that you would regard it as 'Imitation being the sincerest form of flattery.'

The article went on to say that by a mail-in vote the board of directors of the CRRL had unanimously decided to change the name of the CRRL to Canadian Amateur Wireless Association.

When Russell became Canadian general manager of the ARRL in October, 1923, he resigned as the Ontario division manager of the CRRL. The CRRL thereby lost one of its strongest supporters in the East. The February article closed on a disturbing note: "The only district that has failed to give us support in the fullest form is Toronto. This is very regrettable and is most likely due to some misunderstanding of our objects. We invite criticisms and suggestions from this district that will assist us in creating a better atmosphere. We hate to hear some of you fellows calling CQ West when the hams out here are afraid to go back in case we don't get a 73 when you sign off."

After being editor of *The Radio Bug* for a year, Maxwell decided to accept a job with the federal government; his place was taken by R.D. Lister 4AP who, like his two predecessors, had no editorial experience. He had served as secretary of the CRRL-CAWA.

By the summer of 1924, it was apparent that interest in the CAWA, particularly in Eastern Canada, was fading; by fall, the condition of the organization was critical. Finally, sometime between December 1924 and May 1925, the CAWA folded. The obituary would be in one of the missing numbers of *The Radio Bug*.

I left Winnipeg to attend mining school in September, 1924. When I returned many years later, none of the new crop of hams knew anything about the first Canadian Amateur radio organization.

Why did the CRRL-CAWA fail to survive? There are several reasons. First, the inexperience and naivety of the 'founding fathers,' of the 12 who met in August, 1923, eight were still in their teens. None had even tried to run a snooker tournament let alone establish a national radio organization.

Of the 12, all but two have joined the ranks of Silent Keys; the two survivors are Ed Dusang, ex4EA, retired transmitter engineer with CBW, who has been out of ham radio for some 40 years, and the writer, retired mining engineer, first licensed as 4AG in Medicine Hat, Alberta, on Feb. 27, 1920, certificate of proficiency reads, "Tested on a spark set of apparatus," now VE4AJ, hangs out at VE4WSC.

Second, Warner's determined attempt to smash the upstart Canadian league. Third, the recurring lack of camaraderie between East and West. Finally, and probably the most important reason of all, the failure of Canadian Amateurs to anticipate the critical situation they would be faced with in the late 1920's.

Here are the number of licensed Amateur stations as of March 31, in each year.
1920— 281, 1921— 581, 1922— 1,153, commencement of large-scale broadcasting. 1923— 1.449, CRRL founded Sept. 1. 1924— 1,345, CRRL folded Winter 1924-25. 1925— 533, 1926— 482, 1927— 402.

This represented a drop of 71% in the Amateur population between the founding of the CRRL and 1927. If you are concerned that the number of Amateurs is increasing only at a rate of about 1% per annum, what would your reaction be if the current number of Canadian Amateurs, about 24,000, dropped to 7,000 in 1990?

What were the reasons behind this catastrophic decline in Amateur activity? There were too many to be analysed at length in this article. Only two will be mentioned. First, while the Amateur population was on the skids, the number of private receiving station licensees was increasing at a phenomenal rate. In 1924 there were 31,609; in 1927, 215,650 and this probably represented a fraction of the total number of BCLs. (This licence was extremely unpopular.) The BCLs had been brainwashed since Day 1 of broadcasting to believe that Amateurs were their natural enemies, to be blamed for any and all program interference. Second, the federal authorities were no longer giving the hams their unqualified support. Some went so far as to say that Amateurs were their biggest headache. Read once again the comments made at Hebert's Montreal meeting in August, 1923. As a result an awful lot of hams got frustrated by continual BCL harassment and switched to another hobby.

If there ever was a time when Canadian Amateurs needed a genuinely independent, all-Canadian organization to protect their interests, it was in the 1920s but they threw the chance away when they failed to stand behind the CRRL-CAWA.

Let's hope they don't make the same mistake again!

This article is based, in part, on a paper presented by the writer to the Manitoba Historical Society, 'Early Wireless and Radio in Manitoba, 1909-1924.' published in Transactions No.34, Series III, of the Society.

FRAC félicite CRAQ 60th Anniversary

Le Club Radio Amateur de Québec Inc., l'un des plus vieux clubs récréatifs de la région de Québec, est en liesse depuis le début du mis de mars 1986. Ce dernier vient tout juste d'entamer les Fêtes de son 60ième anniversaire de fondation.

En effet, c'est lors de son assemblée mensuelle du 3 mars tenue au Château Bonne Entente que tout a débuté en compagnie de plusieurs invités de marque dont certains ex-présidents et membres qui ont piloté les destinées du Radio Club de Québec appelé ainsi à l'époque de sa fondation. Pour n'en nommer que quelque uns étaient présents messieurs Benoit Genest VE2BDV, Maurice Drolet VE2OF, Victor Livernois VE2NK, Laval Duquet VE2AAH, Lionel Groleau VE2LG, Michel Lavallée VE2MJ et bien d'autres.

C'est précisément mardi le 23 mars 1926 que fut incorporé le Radio Club de Québec par le président-fondateur monsieur Alexandre Larivière VE2AB et quelques intéressés. Afin de célébrer ces Fêtes comme il se doit, un comité créé à cet effet a monté un calendrier d'activités dont voici les principales: chasse à l'émetteur en mai, brunch du 60ième et fête champêtre avec le Fielday en juin, QSO party en août, rallye navex et exposition d'équipements en septembre, Bien-cuit en octobre et plus encore.

Pour tous ceux que la radio amateur intéresse, le Club tient ses assemblées au Château Bonne Entente le premier lundi de chaque mois. En plus de publier un journal mensuel du nom de Circuit, un répertoire de ses membres, de former de nouveaux aspirants et de tenir un réseau (VE2CQ) à 18h30 sur la station-relais VE2RVD à 146.760 MHz (-), le Club a su se tailler une excellente réputation de par sa participation au Jamboree scout sur l'air, au Salon des passe-temps, à l'Operation Nez Rouge, au Carnaval de Québec ainsi qu'aux Fêtes Populaires Desjardins et au Réseau d'urgence provincial.

Pour obtenir de l'information sur les Fêtes du 60ième ou sur la radio amateur, écrivez à: Club Radio Amateur de Québec Inc., C.P. 2341, Québec, G1K 7P5 ou téléphonez après 18 heures à Bertrand Leblond 833-6582. 73's et à bientôt.

Bertrand Leblond VE2GNY
Président CRAQ 85-86

FRAC félicite le Club Radio Amateur de Québec à l'occasion de son anniversaire.

The Québec Amateur Radio Club, one of the oldest recreational clubs in the Province, has been in a merry mood since the beginning of March 1986, since at that time they began the celebration of the 60th anniversary of their foundation.

The club was incorporated on March 23, 1926 by its founding president, Alexandre Larivière VE2AB.

To celebrate this anniversary properly, the organizing committee has drawn up a calendar of varied activities. It started during the Club's monthly meeting on March 3 at the Château Bonne Entente to which several prominent members, ex-officers of the club, were invited.

The club has a fine reputation: it participates in the Hobby Salon, operation Red-Nose, *(whatever that may be — Editor)*, the Québec Carnival and the Desjardin's People's Fetes.

The club meets the first Monday of each month at the Chateâu Bonne Entente, published a monthly journal (Circuit) and a callbook of its members, runs classes for aspiring Amateurs and holds a net on VE2CQ at 1830 local time daily through repeater VE2RVD on 146.76 MHz. More from the Québec Radio Amateur Club, Box 2341, Québec G1K 7P5, or telephone Bertrand Leblond VE2GNY at 418 833 6582.

— Bertrand Leblond VE2GNY,
President CRAQ 85-86

NIAGARA'S WOMEN POWER

Recently Sally Mitchell, VE3NDF (on left) of St. Catharines, Ontario, was presented with the Niagara Peninsula ARC Amateur of the year Award from Club president Donna VE30IT. Sally is very active in club projects, and is proof of the determination to achieve the Amateur grade level. Sally has organized the annual club's Christmas Party, is Nominating Chairperson, and refreshment co-ordinator for the regular club meetings. In her spare time she looks after her family, Bob VE3KYA, daughter Alliston, and sons Adam and Andy.

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Long Delayed Echoes

BY DOUG BURRILL
VE3CDC

40 YEARS AGO— XTAL MAGAZINE, JULY/AUGUST 1946

With the news that CARF and CRRL officials recently met to look at question of an amalgamation of the two organizations, which most Canadian Amateurs agree (to quote the immortal bard of Avon) " 'tis a consummation devoutly to be wished," it is interesting to read that 40 years ago the *XTAL* editorial discussed the groundswell of support for one totally Canadian society to represent Amateurs to Ottawa and to speak for Canada to international conferences. Members felt that the Canadian Amateur Radio Operators' Association should be that organization; however, with only about 4,000 licensees in the country, the potential support base was not there and the time was not ripe for such a course and it was obvious that CAROA could not really undertake supplanting the ARRL operation in our country.

Contrast that situation with today. Now the time is overripe for a move to a single organization. With a strong national organization in the form of CARF, a successful national magazine in *TCA* and the CRRL making moves to become less dependent on the ARRL, plus the potential support from a community of 24,000 licensees, the conditions appear to be favourable to such an enterprise. Back then the problem of having to depend on a branch of the ARRL showed up the too-obvious problem of conflicting interest which was apparent in the moves of the ARRL to expand the U.S. phone bands... a perennial problem since then and one which illustrates the fact that a single organization must be totally independent of foreign ties of any kind.

Two metres was just being explored with homebuilt AM rigs. A VE3 reported 75 miles with a low-powered modulated oscillator. Some U.S. hams, using higher power and utilizing a welcome inversion, made contact over 1,400 miles, from California to Texas.

Two metres was coming of age and one of the two July technical articles was on a two metre calibrator to keep the popular modulated oscillators on frequency as crystal rigs were a rarity. Two metre receivers were just as rare and the second article featured a converter to make the HF rig receive on VHF.

The editorial carried a word of caution on security and referred to a Department of Transport (the then-regulatory agency) letter concerning "loose talk over the air on matters which may affect national security." Remember that the Korean War was in full swing at the time when reading the editorial's words: "It isn't a case of weighing every word you send by key or phone but just a matter of avoiding discussion over the air of matters which may provide one of the missing pieces in the jigsaw picture which unfriendly powers are continually trying to construct of our state of defense preparedness." Not a bad piece of advice even today.

Reading the August issue brings out the fact that before the J.A. Pan Co. got into the electronics business, North American manufacturers started to produce for the Amateur market after WW II. Canadian-made TV sets were also coming on the market. There were about 60,000 sets in Canada but it would be a year later before there were any stations here.

HELP!

CARF needs the addresses of these Amateurs. If you know where they are presently living, please tell Debbie. Her address is CARF, Box 356, Kingston, Ont. K7L 4W2.

Name and last known address:
Raymond Boucher VE3EZY, 176 A Woodridge Cres. Ottawa, Ont. K2B 7S9.
M. McNaughton VE2KU, 22 Fifth Ave. Point Claire, Que. H9S 5C7.
John Hart VE3CDI, Harwood Lane, Kanata, Ont. K2K 1X7.
Herman Biffert, 205, 11535 124 St. Edmonton, Alta. T5M 0K5.
S. Walmsley, 24 Mabelle Ave. #3101, Islington, Ont. M9A 4X8.
Gerard Hnatiw, Gen. Del. Henribourg, Sask. S0J 1S0.
G. McLellan, 3470 Rue Anderson #812, Montreal, Que. H2G 2J5.
Ed. Scissons VE5VX, 301-109th St. Saskatoon, Sask. S7N 1R6.
D.L. Jennings, 12 Pine St. St. Thomas, Ont. N5R 1L9.
Tom Mills VE4SE, 770 McDermont Ave. Winnipeg, Man. R3E 0T5.
Norm Pratt VE3NBJ, 490 10th St. #207, Collingwood, Ont. L9Y 4H1.
Guiseppe Triventi VE2FMK, 7400 Sherbrooke, Montreal, Que. H3B 1RB.
Pamela Gorman VE3BVG, 7Jackes, Apt 2003, Toronto, Ont. M4T 1E3.
James Dale VE3IDE, Box 141, King City, Ont. L0G 1K0.

MURPHY WAS HERE!

The BC Emergency net meets at 1900 PDT, not 1700 as stated on page 24 of the May *TCA*.

15 YEARS AGO— VE NEWS FOR JULY 1971 (AUGUST is missing)

Even 15 years ago the question of another and simpler class of Amateur ticket was being hotly discussed. DOC had proposed two new grades, one with no-code and another with five words per minute, in a letter dated June 2. These proposals were similar to ones in the recent DOC proposal for restructuring the Amateur Service. They were discussed at the CARF annual meeting of the year. The meeting also took steps to form a VHF committee and to publish a Canadian repeater directory. (The Canadian Repeater Advisory Group (CRAG) and its annual directory was an outgrowth of this.)

Protests against the U.S. phone band expansion, which affected Canadian operations, was a hot topic. Both CARF and the ARRL Canadian director had entered briefs to the FCC opposing the changes but as history shows they were, as on similar occasions, in vain.

10 YEARS AGO— The TCA staff took a two-month holiday!

This column seems an appropriate place to note that the Communication Museum at Vimy Barracks in Kingston is looking for RCAF radio equipment of World War II vintage. Anyone wishing to donate articles should get in touch with Sgt. A. Lawless, Communications Museum, Vimy Barracks, Canadian Forces Base, Kingston, Ont. K7L 2Z2.

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- **Rotators**

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- Rebate:
  $200 on HG54HD/HG70HD Towers
  $100 on HG37SS/HG52SS Towers
  $ 50 on any Hy-Gain HF Beam Antenna purchased with Ham IV or T2X or HDR300 Rotator
- Rebate is limited to one of each product category (beam antenna, rotator, tower) and applies only to products purchased for personal use.)
- Rebate requests must be postmarked no later than October 31, 1986 and mailed to Telex Communications, Inc., 9600 Aldrich Ave. So., Minneapolis, MN 55420, Attn: Amateur Customer Service.

Time is limited—Rebate Offer expires September 30, 1986.

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ARX-2B Ringo 2 mtr.	$79.00
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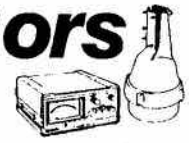
Rotors



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CRRL/CARF/CCTA Interference Reporting Procedure

CARF has accepted and signed a procedure for reporting cases of interference between cable TV and licensed radio users. The agreement, between the Canadian Cable Television Association, CRRL and CARF, follows.

OBJECTIVE:

To outline the reporting procedure to be followed in cases of interference between cable TV and radio systems.

REPORTING PROCEDURE

In cases of interference between cable TV and licenced radio users, the parties agree to the establishment of a reporting mechanism as outlined in this document.

1) Licenced radio users of the spectrum are requested to notify by letter the cable operator with copies to the DOC district office, DOC head office and if applicable, to the complainant's national association, containing the following information:
-radio licensee's name, address, telephone number
-name of cable company
-location(s) of interference
-weather conditions during interference
-nature of interference and whether it is continuous or intermittent, with date, time, approximate strength of signals preferably in microvolts per metre per BP 23 procedure, or in the following terms if field strength measurements are not possible:

weak (S1 to S2)
moderate (S3 to S9)
strong (over S9)

2) The CATV company is requested to respond to the complainant's notice with a progress report, within two months. The cable TV company should, within six months, inform the DOC of its remedial measures and its schedule to remove the interference. The parties may seek the cooperation of the local DOC inspector or District Office in making measurements and resolving problems.

3) In the event of ingress of radio signals into a cable system, the radio station licensee must assist the cable company in locating the source of the problem.

4) The DOC should record the details of complaints received of CATV interference and report to the parties on their findings.

PARTICIPATING PARTIES:

The following organizations have participated in the development of and are party to this Reporting Procedure:

1) Canadian Amateur Radio Federation (CARF); Representative: R.D. Cameron; Title: Chairman, EMI Committee;

2) Canadian Radio Relay League (CRRL); Representative: Raymond W. Perrin; Title: Director— Ontario;

3) Canadian Cable Television Association (CCTA); Representative: Roger Poirier; Title: VP Technology and Planning.

A Hole in One

The Barrhaven area of Nepean, near Ottawa, seems to be an ideal proving ground for EMI techniques. We were recently blessed with more RF in the form of a B.C. station upping its power while changing to a different frequency. Not that we object to any of the foregoing but, when you live in close proximity to the Nation's time signal TX and at least four other high power B.C. stations you begin to get a strong appreciation for the principles of non-linear detection in domestic appliances. A certain sympathy must lie with the unwary broadcaster who originally selected his site with finesse and who sought to choose a location well-removed from habitation. Many a ham has done the same thing.

What do you do when the bustling metropolis encroaches in your backyard and you have neighbours 700 feet from an array pumping 50 kW in all directions? I'll tell you about one such neighbour.

An acquaintance in our subdivision, who by accident I learned was the owner of the talking card table reported a few issues back, came to tell me of his experiences with a very expensive VCR. It seems some VCRs really do lack immunity— this one was a stereo ready job complete with beautiful colour monitor. It had a problem of a consistent beat pattern which was visible whenever the VCR was in the playback mode.

Sound familiar? This gentleman's dealer had worked on this VCR for well over 10 months in an attempt to remove those bothersome lines. The lines got worse as the newly assigned B.C. station flexed its spectral muscles and quintupled its power.

What was happening was that sufficient 1200 kHz energy was getting into the playback amplifier and causing a visibly annoying beat. It was really quite low level, but, noticeable with a solid background scene. All sorts of things were attempted. The *dealer* even replaced the high quality 75 ohm cable from the video output to the monitor with— guess what— a piece of microphone cable. It was claimed by the dealer that this would offer *superior* shielding. It was no surprise the owner complained of poor definition when using recorded cassettes!

Before explaining some of the observed effects and their cures, it would be appropriate to listen to what happened during a visit by none other than *technical consultant* for this station. We must allow some anonymity here as it may embarrass people who should be in the know. You see, it seems that the power increase brought all sorts of things to happen in the vicinity of the transmitter— a problem not totally unknown to Amateurs. Many, many telephones required suppression, if not outright replacement. We even had a talking water bed (it could even sing on occasion— no doubt the proximity to water). Goodness knows how many other appliances were bothered— a regular damned nuisance. I'll give the station credit— they acted quickly and responsibly

Page 24

and their PR is an example to Amateurs who suffer the same fate.

Now the clincher— the technical guru determined that the VCR would need to be hauled to Toronto for installation of a special filter to knock out the beat pattern. It was claimed to be installed in the playback preamp somewhere.

Anyone who has the slightest knowledge of video should know video amplifiers are not to mess with. Installation of such a trap or filter would likely greatly degrade video fidelity. In fact, the whole suggestion smacks of lack of knowledge of what makes video amplifiers work.

Somehow the suggestion that EMI is some technical black magic has to be addressed. There are basically two mechanisms as we have attempted to explain in these CROSSWAVES columns. Radiated and conducted emissions are the two culprits in question. When facing an EMI problem, 90% of the time is taken determining how the EMI is occurring, the other 10% is used fixing the problem. In a case such as this, count how many ways RF could get into what was a very well-shielded VCR. There were really only TWO ways: via the cable and/or via the power cord. Placing a donut on the power cord significantly reduced the visible beat pattern. I then removed the cable connection and lo and behold ALL the beat disappeared.

Next, the toroid was removed from the power cord and six turns of spare coax with proper gender connectors was placed around a fat juicy toroid. The best of the best— try Amidon's FT-240-43, with a mu of 800. These brutes will choke all but the most stubborn DOC inspector. If these don't work, buy a new VCR from a reputable manufacturer.

These six turns turned my friendly complainant to putty. To put it mildly he was incredulous, flabbergasted, impressed and at the same time shouted with exultation that now and only now had the scourge of the spectral dysentery been despatched to oblivion. I too felt a mild twinge of what a samurai must have felt as he lopped off a bunch of green bananas. Such pathos.

So dear Amateurs— here's a classic example of technology causing the pocket book to overlook proper education in anything so mundane as a little basic knowledge on the part of the dealer or even the broadcaster. What a crime to put the consumer through a YEAR of frustration in the enjoyment of his property. There ought'a be a law. What am I offered for a tape of a talking waterbed? (I really didn't mean that about the DOC.)

VIDEO RECORDERS

Several Amateurs have written to make me aware of some brand name VCRs that seem to have better immunity than others. Some of the metal-shielded, higher-priced units seem to have considerably better immunity— so a word to the wise. If you can afford to pay a few dollars more you could lessen the problems you have. Rather than recommend specific models it may be better to give some general criteria— then you do the choosing.

The problem with VCRs is as old as the Ark. Time and time again the manufacturers design high-gain amplifiers with little or no immunity built in. In the case of VCRs, this may soon catch up with them as DOC are about to formulate radiation requirements which VCRs must meet. If we assume that shielding will reduce radiation, then it is equally true that this will improve immunity to RF— let's hope.

Previously, VCRs did not contain tuners and so were exempt from any of the shielding and filtering requirements. For anyone attempting to operate 80M in the vicinity of most VCRs, I hope justice comes swiftly.

The video amplifiers used for recording and playback in the VCR have a relatively flat response to 5 MHz and have gains approaching 120 dB. These are ideal conditions for audio rectification. Lack of shielding and no filtering equals disaster.

LOCAL OTTAWA PROBLEM

On Camp Fortune, the local mountain-top home to most of Ottawa's TV/FM broadcast transmitters, the local EMI is quite severe. One local resident tried several VCRs in an attempt to find one that would record and playback properly. In many cases the VCR would record properly, as verified at a different location, but the local RF literally swamped the playback amplifiers. How much chance have you on 80M with a few millivolts of signal competing with an unshielded playback amp? Thanks to Harry VE2MO who sent a note to say the March '85 issue of *Video Review*, contained an article re VCR immunity problems.

GROUND FAULT CURRENT ISOLATOR-EMI

Fred VE7FFK, all the way from Vancouver, tells of problems detailed in a late issue of *EC&M, Electrical Construction and Maintenance* magazine which tells of a transmitter getting into a ground fault current isolator. These devices are used in locations where any leakage to ground would cause automatic removal of the mains voltage i.e. when one grabs the hot conductor by mistake. Hospitals make abundant use of these devices. They are also useful in locations where machines and outdoor pools make use of electrical outlets.

Imagine the consternation when a local transmitter caused these devices to activate. The magazine solicits answers from readers and there were some rather weird and misleading responses. One reply related to the voltage drop due to skin effect! A more logical reason seems to be a near resonant power line situation.

POWER LINE LENGTH

In most of the cases involving band-sensitive EMI, there appears to be a near resonant line situation occurring. In a modern house with aluminum siding, the combinations of siding and electrical wiring from many possible resonant conditions. Ways have to be found to identify and nullify these effects. Good wishes to you should you have no problems in this area.

TV TUNER FILTER INSTALLATION

VE3EOC in his 'Hot Watch' passes along some useful info for installing high pass filters in older TV sets. He suggests removal of the 300 ohm ribbon running from the tuner to the rear of the cabinet. Install a balun right at the tuner and throw away the short piece of 300 ohm— it is a great pick up point for RF. From the other side of the balun run 75 ohm coax coax feed-thru type connectors on the rear panel (you install). If you still get front end overload, install a high pass filter which has 75 ohm type connectors right at the rear of the set. Bob says there may be a slight loss with this method but it could save buying a filter.

Good luck until September. Send any newsy EMI items c/o CARF. Let me know what works and what doesn't. Let's communicate. 73

SMART CARDS

Japanese chip makers getting ready to participate in the expected boom in smart cards. EEproms imbedded in credit or bank cards will keep track of your balance and/or credit history. They will be read by point of sale equipment. Fujitsu, Mitsubishi, NEC, Hitachi, and Oki Electric all have 64K or 256K versions in development.

From the W5YI Report

Ken Kendall VE3IHX
777B Springland Dr.
Ottawa K1V 6L9

EMCOM

VIA Rail Disaster— Hinton, Alta.

At approximately 1549 UTC, on Feb. 8, 1986, 17 km East of Hinton, a VIA Passenger Train was in a head-on collision with a freight train heading West, resulting in one of the worst train disasters in Canadian history.

The Yellowhead Amateur Radio Club was on hand to assist with communication and the following is a brief summary of our efforts:
(Excerpt from the log of VE6SJ)
1620 Ron/VE6FV— Alerted by company radio.
1630 Bob/VE6SJ— Alerted by VE6FV to standby on VE6YAR (rptr).
1650 Ron/VE6FV— Arrived at accident site.
1710 Bob/VE6SJ— Advised Town Councillor and media of accident.
1715 John/VE6BSK— Alerted.
1718 Ron/VE6FV— Briefed VE6SJ about accident scene and stated the fire department was out of water. VE6SJ suggested using helicopter water bombers, to which VE6FV responded by asking for and receiving authorization from the RCMP to proceed.
1720 Bob/VE6SJ— Alerted Alpine Helicopters.
1810 Gary/VE6BFL— Reported in and notified VE6YO by phone.
1810 Bill/VE6BFR— Reported in on VE6YAR from Robb.
1811 Bob/VE6YO— Reported in from Edson.
1825 Bob/VE6YO— Contacts Dan/VE6YB (RCMP Comm Coordinator) who proceeded to the RCMP Comm Centre where contact was maintained on 146.52mHz (simplex).
1835 Bob/VE6YO— Went up on VE6PP (Whitecourt rptr) to try to establish communications with Alex/VE6CE. VE6YW was able through other Barhead Amateurs to contact VE6CE who came up on VE6PP. Alex was advised of the situation and was able to establish contact with Bill/VE6ABC in Edmonton. VE6CE then came up on VE6YAR along with VE6UX, VE6AKQ.
1835 John/VE6BSK— Drove to the Alberta Forestry School (Hinton), picking up coffee & sandwiches which he delivered to the accident site for the rescue workers.

By early afternoon, the critical stage of the relief operation was over and CN Rail's command centre trailer from Edmonton arrived on site. VE6FV and VE6BSK remained on site until no longer required.

JOINT REPLY

CARF and CRRL met in early May to discuss their joint reply to the DOC Proposal for restructuring the Amateur Radio service in Canada. Present were representatives from CRRL and CARF, including our president, Ron Walsh. The joint reply was approved in only 90 minutes and reflects the concerns of all Amateurs in Canada. The mood at the meeting was excellent and proved to be very constructive.

Ron Walsh will be approaching DOC on behalf of CARF and CRRL to try and reinstate the regulations making logs mandatory for base stations.

THE OLDEST LOCAL RADIO CLUB

The Derby (UK) and District Amateur Radio Club can trace its history to 1911, and so it is celebrating its 75th anniversary this year.

The Club is offering an Anniversary Award certificate. Work one of the special event stations GB2ERD, GB3ERD or GB4ERD and two other stations in Derby to claim the certificate. Send 5 IRC's and a 9 inch by 6 inch SAE to Ken Griffin, 97 Woodlands Road, Allestree, Derby DE3 2HH. Special QSLs available, too.

— RADCOM

SWAP SHOP

ESTATE SALE: Garant GD-9 antenna (9-band, 10-160m) plus 40 feet coax, grounding block, PL-259 plug. $80 or best offer. Max Anderson VE1BFF, RR2 Berwick, N.S. B0P 1E0. Tel: 902-538-3310.

WANTED: Printed Circuit Board to build VE2DBE's April '86 Computerized Repeater. VE7BMR Jasper Petrus, 21 South Thulin St., Campbell River, B.C. V9W 2J8.

FOR SALE: Apple II plus based computer, RFI proofed, filtered and completely shielded, green screen monitor, disc drive, daisy wheel printer with 32K buffer, Applesurance diagnostic card, software for RTTY, CW, slow scan TV, word processor and much more, includes desk and RTTY interface with tuning scope. All manuals included. $1500 or best offer. Pick up. Eric VE3CTP 416-291-0088.

FOR SALE: Daisy wheel printer TTX 1014 with service manual, Centronics parallel input with interface card for Apple or clones— Like new— $625 or offer. Eric VE3CTP, 416-291-0088.

WANTED: Radio News Canada $6.00/issue. Early Canadian Wireless, Marconi and Northern Electric tubes. Addison Plastic Radios $150. Best prices. A. Nolf, 539 Kastelic Place, Burlington, Ont. L7N 3R5. 416-639-4768.

FOR SALE: Power supply cabinet with blower, measures 26"x24"x25", complete with removable sides and castors. Four capacitors 4 mfd at 4000 VDC transformer 3500V secondary, with primary tap 115/230 VAC. Above items suitable for power supply of the linear you always wanted. All of above in good condition. Pick up or arrange delivery. $245. Michael Espeut VE3MBJ, 14 McGinty Place, Scarborough, Ont. M1B 1T4. 416-298-2743.

FOR SALE: Heathkit SB-102 Transceiver with speech processor, CW Filter, Fan and Heavy Duty power supply, spare tubes. Heathkit SB-303 Receiver, solid state. 813 Linear, RF deck only with tuned input and spare 813's. Best offer takes any unit. John J. Isaac VE3FZ, 2192 Walker Ave., Peterborough, Ont. K9L 1V7. Phone 705-745-6308.

FOR SALE: Kenwood TS130S transceiver c/w narrow band filter. Kenwood PS30 power supply, Kenwood VFO 120 and Kenwood tuner AT-130 complete station, mint condition $1400 complete. VE3KDU Gord Burley, RR1 Stroud, Ont. L0L 2M0. Phone 705-436-3428.

FOR SALE: Moving Mosley TA36 antenna, 6 section Delhi Tower, Ham M rotor, Drake TR4 and RV4 transceiver, Magnum Six RF Speech Processor, all in working condition, also QST magazines from 1959 to date. George Muscat. 416-878-5889. 7566 6th Line, R.R. 1. Hornby, Ontario. L0P 1E0.

FOR SALE: Yaesu FT757GX, FP757HD power supply, Drake MN-4C antenna tuner, Dual Trace Oscilloscope, Kantronics Interface 2 with Hamtext for Commodore 64. VE3LZT Lincoln Wismer, 282 Rosemount Dr., Kitchener, Ont. N2B 1R8. Phone 519-578-3582.

FOR SALE: One Grand Systems/Yaesu BYC-221 Digital Display for FR101 $50.00. Burt Ohlke VE7PHD, P.O. Box 2275, Prince George, B.C. V2N 2J8.

FOR SALE: FOXX Transceiver kits available from $40; Box 855, Hawkesbury, Ont. K6A 3C9.

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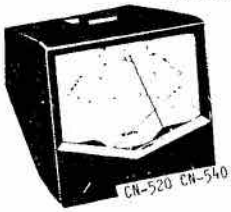

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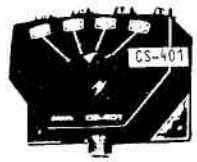

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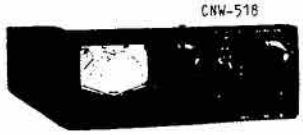

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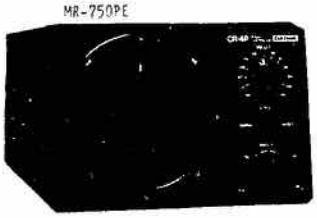

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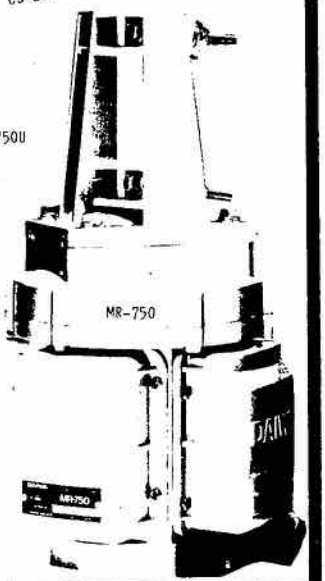

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MICROWAVES

Michael Ross VE2DUB
988 Hudson, St. Bruno
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Last month I covered the receiver and preamp sections of a basic 10 GHz transceiver. This month we will look at the power supply, audio amplifier and microphone preamp sections, completing the basic configuration of the transceiver.

POWER SUPPLY/ MODULATOR

The power supply/modulator is the WB5MAP design from July/August 1985 *TCA*, page 34, with a modified PC board pattern for reduced size. It will handle audio or video input but will require a mic preamp to work with microphone input. See figures for PC board and parts layout. An alternative simple power supply using a 9V battery and 10K pot is shown in the diagram to get you on the air quickly. Add more batteries in parallel for greater battery life.

WB5MAP MODULATOR PARTS LIST

1 - LM317	1 - 10K pot
1 - 7805	1 - 100 ohm
1 - 2N2222A	2 - 1K
4 - 0.1 µF disk	1 - 8.2K
1 - 50K trimpot	1 - 10K
1 - 10K trimpot	1 - 100K

AUDIO AMPLIFIER/ MICROPHONE AMPLIFIER

Almost any audio amp will work in these applications but for those of you who can't wait to get started, here is a single chip dual 741 opamp circuit that can be used. It will drive a pair of headphones or speaker and also works well as a microphone amplifier. Gain is controlled by a 20 K pot panel mounted if variable gain is required, otherwise select a suitable fixed resistor and board mount it. Note: if you installed the audio output capacitor on the IF board you can eliminate the input capacitor on the audio amplifier board Thanks to VE2HOT for the circuit design. The board layout is mine.

AUDIO AMPLIFIER PARTS LIST

1 dual LM741 OpAmp (RS276-038)
1 .1 µF disk
1 1 µF polarized
1 470 µF polarized
2 3.3 K
3 10 K
1 100 K
1 20K pot (gain control)

This completes the basic version of a 10 GHz transceiver using on IF of 10.7 MHz.

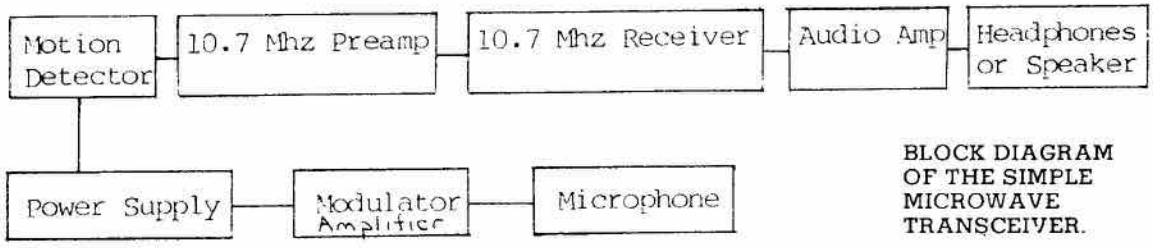
THE SPRING CONFERENCE

As this is being written in mid-May, I have just returned from the East Coast VHF Conference in Nashua, N.H. where I picked up a few bits of news to share with you. There were quite a few Canadians there including VE2DFO, VE2DWG, VE3IMT, VE3FN, VE3CRU, VE3-BFM/W1 and myself, five of whom have equipment for 10 GHz.

Hans VE3CRU brought a pamphlet describing a 10 GHz SSB transceiver to be made by SSB Electronics in Germany using a 144 MHz IF. Final output power of 1 mW was amplified through 3 stages to the 85 mW level. As the manual was written in German I have no further details at this time. It was expected that they may be available towards the Fall.

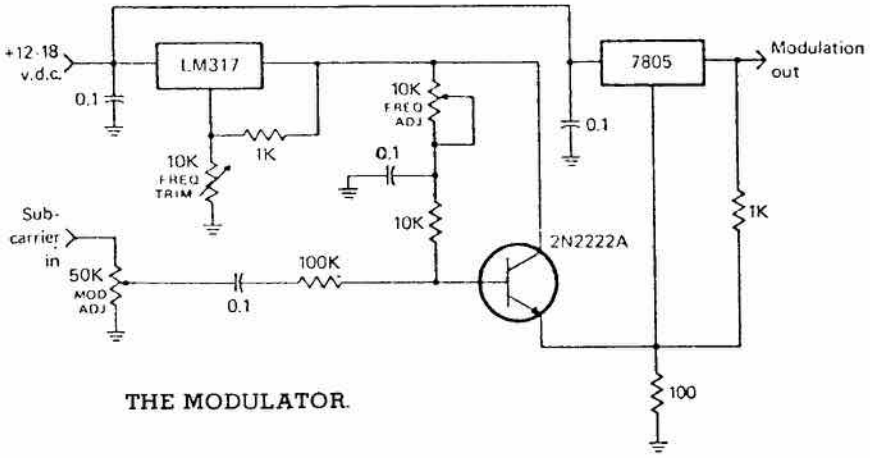
Also at the conference from SSB Electronics was a prototype of a 10 GHz preamplifier with a stated noise figure of 2.3 dB. Didn't see the U.S. ham enter it in the noise figure/gain measurements so can't comment on its performance.

From my conversations with others at the conference, the availability of SSB equipment would encourage



BLOCK DIAGRAM OF THE SIMPLE MICROWAVE TRANSCEIVER.

MODULATOR BOARD, FOIL SIDE.



THE MODULATOR.

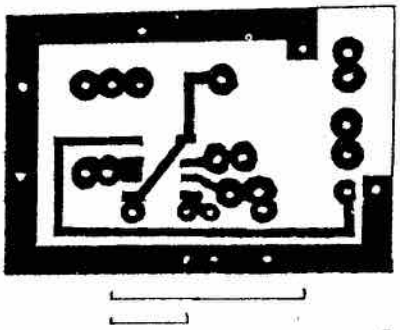
them to get on the band, as it would overcome the predominantly line of sight propagation we now face using wide band FM.

902 MHZ

There was growing interest in the 902 MHz band at the conference. Several participants are equipped for the band and a dozen more are planning to get on soon. If you are interested in knowing who else is active on the East Coast, an SASE and AF1T will get you the list of stations.

While AF1T brought along his home brew 902 station consisting of many separate modules in miniboxes, VE3CRU displayed a self-contained transverter from SSB Electronics, now in production. Details are available from Hans in Toronto.

Even the antenna measuring contest had entries on 902. The most common was the 33-element loop yagi measuring between 16.6 and 18.9 dBi for the three antennas tested. The winner, however, was a 43-element yagi on a 16-foot boom at 20.8 dBi. A new 902 yagi from J Beam was also measured, coming out at 16.5 dBi, not bad considering its 7-foot boom length. It was one of the more unusual antennas tested, with full wave elements (one half wave element on each side) suspended on plastic insulators above a metal boom. The half wave element just in front of the bow tie type driven element had a few people scratching their heads. A corner reflector rounded off the design. These antennas are available from Spectrum International.

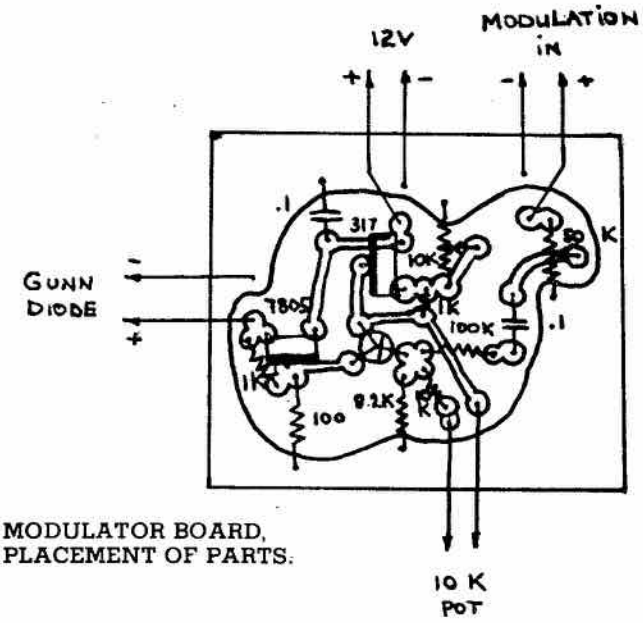


AUDIO AMPLIFIER, FOIL SIDE.

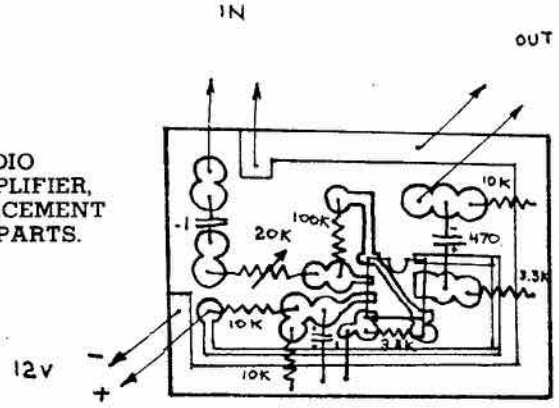
PRESIDENTIAL AMATEUR

The already large number of world leaders that are also hams has recently increased by one thanks to the President of Italy, Francesco Cossiga, I0FGC. You may hear him on his favourite band, 20 metres.

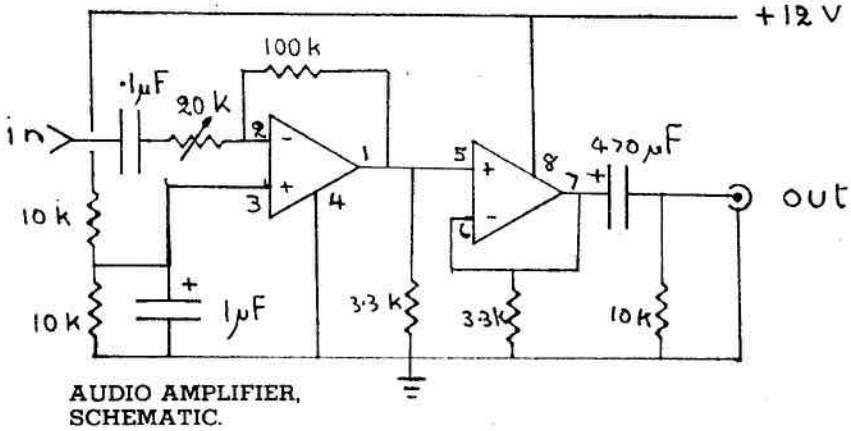
From RAQI



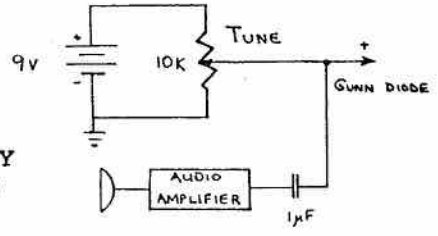
MODULATOR BOARD, PLACEMENT OF PARTS.



AUDIO AMPLIFIER, PLACEMENT OF PARTS.



AUDIO AMPLIFIER, SCHEMATIC.



SIMPLE POWER SUPPLY (From CQ, April 1986.)

NANAIMO/VANCOUVER ISLAND/CANADA

HAM HAPPENINGS '86

SEPTEMBER 6 & 7 1986
SATURDAY & SUNDAY

SAT. 1900: POTLUCK DINNER W/ BAR

SUN. 1000-1500: DEALER DISPLAYS • FLEA MARKET/ SWAP 'N' SHOP • UNRESERVED AUCTION • SEMINARS

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TICKETS: $4.00 FAMILY / $5.00 AT THE DOOR
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PRIZES: ICOM Automatic Antenna Tuner
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TICKETS & INFORMATION: MUIR COMMUNICATIONS, VICTORIA... SKYWAVE COMMUNICATIONS, VANCOUVER... ERNIE, VE7GDX... BILL, VE7 BIO.

John Connor VE1BHA
18 Deerfield Dr., Apt. 1112,
Nepean, Ont. K2G 4L2

CONTEST SCENE

Armed with a motion detector and the simple transceiver described last month, get ready to take to the hills this summer on 10 GHz. Select prime sites and try out the paths that could put you on top in the first cumulative 10 GHz contest in the Fall.

10 GHZ CUMULATIVE CONTEST

Period: 1800 local Friday to 2100 local Saturday on the weekends of Sept. 27-28 and Oct. 10-11.
Exchange: Six character Maidenhead Grid Locators i.e. FN35CL.
Scoring: QSO points = 100 per station
DX points = 1 point per km between stations
Total score = sum of QSO and DX points
Callsigns: Only one call per transmitter in the contest.
Minimum Distance: 1 km
Location: Stations can be worked again if one has moved at least 16 km. Contacts cannot be repeated on the second weekend from same location. One station must move for credit.

Registration: Send name, address, home and work telephone numbers, equipment type, operating frequencies and IF to ARRL 10 GHz Contest, 225 Main Street, Newington, CT. 06111 USA with SASE. You will receive logs and list of stations before the contest.

Check June QST for complete details of the 10 GHz contest.

— contributed by Mike Ross VE2DUB

BARRY BREMNER'S BUGS SAVE LIVES

Barry Bremner VE3BZW and a group of Ottawa ARC members have combined to experiment on two metres with a system for locating patients or residents of nursing homes who are prone to wander out in the night with sometimes fatal results. Barry, whose firm specializes in various types of miniature transmitters such as those developed for tagging wild life, has a locator system in an Ottawa nursing home in which those patients who have a tendency to wander are fitted with a Dick Tracy wrist watch radio which by means of a central control computer keeps tabs on the patient and sounds an alarm if he is wandering into an elevator or trying to leave by an exit door.

Carrying this a bit further, Barry asked the Ottawa ARC to test the transmitter's performance in searching for patients who may beat the system and wander out into the city. The club now has a project going to build a simple but accurate DF accessory for two-metre handhelds and to carry out 'fox hunts' to locate a volunteer wearing one of the 'Bugs.' (Barry's firm is Bremner Marketing Associates, Box 53, Manotick, Ont. K0A 2N0.)

— Canadian Amateur Radio News

(This excellent newsletter is available from Dee Bee Publications, 151 Fanshaw Ave. Ottawa, Ontario K1H 6C8.)

RSGB

"As the member-societies in Region 1 have been informed by the Radio Societies of Great Britain (RSGB), a 6-metre band is available to all Class A licensees of the United Kingdom from Feb. 1, 1986. The range of the band is 50.000 to 50.500 MHz."

— The IARU No. 132

Professional Engineers, Radio Amateurs

Several Amateur radio microwave enthusiasts attended NEC Solid State Microwave Components Symposium in Montreal March 27th, 1986.

At a recent technical gathering put on by NEC, several Amateurs attended to hear the current technical information about 'state-of-the-art' microwave devices produced by NEC, and what the future devices will be. One of the presenters was Shig Sando JH1BRY, a supervising engineer from NEC's Semiconductor Application Division, Japan.

— VE2XL

Left to Right: Bob Pepper VE2AO, Shig Sando JH1BRY, Don Jarvis VE2DWG, Keith Ballinger VE3IMT, Keith Baker VE2XL. Photo VE2XL.

Don Jarvis VE2DWG and Keith Ballinger VE3IMT show Shig Sando JH1BRY the inner workings of a Gunnplexer on 10GHZ. Photo VE2XL

PACKET RADIO SYMPOSIUM
Sept. 20, 1986, Barrie, Ontario, Canada

The Hex-9 Group of the Barrie Amateur Radio Club is holding its second PACKET RADIO SYMPOSIUM Sept 20, 1986, with flea market in the morning. Co-sponsored by and held at Georgian College, Barrie, Ont.

Guest speakers Harold Price NK6K, a director of AMSAT, and Ed Jackson of Buffalo.

Talk-in frequency 146.25/146.85 VE3LSR.
Admission $5.00.

Inquiries Hex-9 Group,
Box 151, Orillia, Ontario,
Canada L3V 6J3.

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You may order any GARANT TD-Trap Dipole, any GARANT GD-Windom 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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GB+7	$ 149	+10.00	1105MXX	$ 545	+ 11.00
TD-2005/S	$ 127	+ 6.90	1200FXX*	$ 859	+ 15.00
TD-2005/HD	$ 137	+ 7.90	1500FSX*	$ 4,195	+ 26.00
TD-160	$ 57	+ 6.90	EV-700*	$ 889	+ 9.00
GD-6/500W	$ 99	+ 6.90	EV-700DX*	$ 1,590	+ 18.00
GD-6/2KW	$ 199	+ 7.90	#303	$ 49	+ 6.90
GD-8/500W	$ 119	+ 7.90	#300	$ 89	+ 6.90
GD-8/2KW	$ 219	+ 7.90	#1211	$ 49	+ 6.90
GD-7/500W	$ 129	+ 8.90	#1213	$ 59	+ 6.90
GD-7/2KW	$ 229	+ 8.90	#1217*	$ 69	+ 6.90
GD-9/500W	$ 149	+ 9.90	105PSX*	$ 139	+ 7.00
GD-9/2KW	$ 249	+ 9.90	502PSX*	$ 169	+ 7.00
GD+2	$ 29	+ 6.90	*These items are not		
GD+160	$ 59	+ 7.90	stocked regularly!		

TERMS OF PAYMENT: Money Orders, Cheques and VISA only. Residents of Ontario add 7% tax. **ORDERS FROM OTHER PROVINCES NO SALES TAX!** SHI = Shipping, handling & insurance in Canada except NWT. All prices are subject to change without further notice. INFO-HOTLINE 1-807-767-3888

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K.A.R.C.

(Kingston Amateur Radio Club)

2nd ANNUAL
EASTERN ONTARIO
AMATEUR RADIO and ELECTRONICS
FLEA MARKET
SATURDAY, SEPTEMBER 27th, 1986

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General Admission $1.00
Table Registration by Mail Only
For Reservations etc. Contact:
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91 King St., E. Apt. 304, Kingston Ontario, K7L 2Z8
613-544-4438
DOORS OPEN PUBLIC 10 a.m. to 3 p.m. VENDORS 8 a.m. to 3 p.m.
COMMERCIAL DISPLAYS - DOOR PRIZES - TALK-IN 34, 94

George Morgan VE3JQW
687 Fielding Dr.
Ottawa K1V 7G6

From the Clubs...

Bob Shehyn (VE5AFA/DA1JG) writes that the Baden Amateur Radio Club has been very busy setting up Amateur radio classes and displaying Amateur radio. One new member, Bob Turpin, has received his certificate and the call VE3PBF/DA2KD and seven others have joined and are preparing for the April/86 exams.

In October, five Canadian members from Baden and Lahr went to Belgium to help the Knokke-Heist ARC (ON4HC) operate the special event station ON4CLM. The operation lasted from Oct. 27 to Nov. 2, and over 900 QSOs were logged. There were several other Canadians from the Lahr ARC participating in the event. Many new friends were made as well as old acquaintances renewed among those who took part in the liberation of Knokke and the surrounding towns and villages during the last war.

GREETERS

A short note in the Peterboro ARC News mentions a good idea that I know has been very welcome elsewhere and perhaps should be more widespread: Rolly VE3GRL indicates that the PARC is seeking to establish an official daytime 'greeter' on 2-metres for visitors to the area. I know from personal experience that there are a number of areas across the country (and I don't intend to mention them) where a visitor seems almost unwelcome on 2-metres.

By sheer coincidence, shortly after writing the above, I read the following in the Chatham-Kent *Clear Signals:*

"From my room (on a recent visit) I could access at least 10 repeaters. For two nights I let my presence be known on all of them. Guess how many HELLO'S I got? I finally received a response from one machine but only after I went looking for a friend and someone came back to tell me he wasn't home. I managed to get a 10 minute QSO out of him. The only other person I talked to was (one) who came back to me only because she thought my call was... I tried checking into a net. The controller was nice enough, but not one other check-in acknowledged my presence."

No, I'm not mounting a campaign; I'm just mentioning this as something we might want to think about.

Two other items from the same issue of the PARC News are of interest.

On March 20, the PARC participated in the 1986 Rotary Telethon, televised on CHEX-TV. Karl and Ollie set up a station in the TV station using both indoor and outside antennas. Three simplex frequencies were used during the evening. Five mobiles covered the city, one each in the north (VE3JIM); east (VE3FQR); south (VE3NZL); west (VE3PBM); and central (VE3MCC). At one point, one crew was sent to Lakefield, an enjoyable and rewarding trip.

Rick VE3IQZ thanks those members who made it a great evening: Ollie Braley VE3MT, Karl Muller VE3AFP, Harold Tunicliffe VE3NZL, Orville Reid VE3JTM, Jim Rogers VE3FQR, Mac Lendrum VE3PBM, and Bill Cliff VE3MCC and also Bruce Rae and Jim Smith from the Fire Department who were able to guide crews right to the front doors even when the names and addresses were wrong.

PETERBOROUGH ICE FLOE RACES

I've heard of races, etc. using canoes, bathtubs, beds, and other kinds of transportation, but 'ice floes'? The Ice Floe races took place on March 16. The Sunday weather turned out quite nice and remained excellent for the sport. No rain or snow and just cold enough not to get into hot water. (Good grief! It must be cold to go dippety-dip into that icy water, although the guys say that they generate enough heat by movement to work up a good sweat later.) This year saw enough ice flakes for all 42 floes, and, as usual, many of the participants had put a lot of effort into decorating their ice cubes for the event.

Our man, Jack VE3FEU, announced clearly the number of each floe as it entered the stream, and without too many details of untimely below-surface entries and other mishaps. As a matter of fact, everything went just as smoothly as could be expected—but the PBO fellows were there just in case. Mac VE3PBM did well as co-ordinator, Stan VE3BAU was right for the finish line and Karl VE3AFP and Ib VE3MQB did marvellously in their boats by staying out of trouble and out of everybody's way. So everything worked out just fine and for that there is a big THANK YOU to everyone participating.

FIVE NEW SIGNS

My thanks to Ralph Johnson VE7EKP for the following news of the Wells Gray ARC in Clearwater, BC:

We are proud to announce five new callsigns in our club! They are Gwen VE7EKL, Bernie VE7EKK, Ralph VE7EKP, Dwight VE7ELA and Jim VE7EVA. What a relief! (Oh, that code—just ask VE7EKP.) The struggle was worth it, though, and to all you future hams, hang in there.

SKI RACES

Several members from the club were over to 100 Mile House to help the communications of the cross country ski races, successfully manning two checkpoints. Cliff VE7EIN attended the Amateur radio program sponsored by PEP (provincial emergency) at Mt. Lolo near Kamloops. We had a radio booth at the local Home and Rec Show that proved to be very informative. We also had a radio booth and bingo at our May Day sports day with proceeds going towards our repeater. With nearly all parts collected and assembled, you should be able to contact us this summer on our repeater VE7RWG (146.92/32), located on Raft Mt. at about 7500 ft. elevation.
73 & 88.

MARITIME SKI TOUR

Once again the Fredericton area Amateur Radio Operators helped out with the Maritime Marathon Ski Tour. This cross-country skiing event is held each year about late February, this year on Sunday, Feb. 26. With skiers coming from throughout the Maritimes, about 110 skiers, ages 5 to 60, participated in the event.

The one-day event covered a course of 64 km, broken into six sections. Requiring time-keepers, feeding station crews, ski patrol, ambulance crews and of course Amateur radio operators, stationed at each start and finish and at main highway crossings for safety reasons.

This year's event went over very well, with things starting up early Sunday morning. I was up at 5 a.m. as were many others, to be at the starting point before the 8 a.m. start time. Some of the check points were well off the main roads and all workers had to wade through snow to man these check points, one of which was over a mile back in the woods. Portable 2 metre equipment was necessary at most locations and all handhelds and operators held up throughout the day of minus 10 to 15° C weather. Communications were maintained between all check points, course administrators, and to Fredericton through one of the local repeaters VE1PD located at Crabbe Mountain, which happened to be the starting point of the event. At about 6 p.m. at Kings Landing the event came to a close, with all skiers accounted for, and no mishaps or accidents throughout the day, just a lot of tired skiers and workers.

Page 34

After having co-ordinated the communications for the past three years, I feel each year has been a very good exercise for handling a lot of traffic, as the repeater was seldom quiet. The course director advised me, "Without Amateur Radio communications the ski marathon would never be a success, and safety would be impossible." This was reflected last year when the Amateur Radio Operators were awarded the top volunteer appreciation plaque for their efforts, the first time ever awarded to a group.

I wish to thank the operators who volunteered their time and equipment for the day, Lewis Anderson VE1BOF Mike Hall VE3NET/V8, Gerald Sharpe VE1BGQ, Art Barton VE1BED, Les Peppin VE1ZC, Gerry Moran VE1BCY, Mel Ellis VE1BMV, Archie Rideout VE1BGX and Don Bunker VE1BRD, without whom I would never have been able to organize the excellent communications for this 1986 Maritime marathon ski tour.

I hope we will be able to continue to help in making this event as safe in the future as it was this year.

— L. Brian Upton VE1CGV, President, International Repeater Group.

Thanks to Al VE4AAA for the following item in *QUA Manitoba Amateur:*

On July 1 1985, KE0L/4 was driving north on Highway 59 to Grand Beach Provincial Park with his family when he came upon a head-on collision about 30 miles from our station and called in to report the accident. The Selkirk RCMP was advised and an ambulance was despatched immediately. (Note: the spot that this accident happened is on a stretch of highway where there are no towns or houses within ten or 12 miles in each direction.) Amateur radio played a small but important part in this event, getting aid to the accident site in about 20 minutes from the time the accident happened.

THE SENIOR CITIZENS TRANSCANADA NET

And from Bill VE4ANY the following interesting item concerning the Senior Citizens TransCanada Net, originated and sponsored by the Winnipeg Senior Citizens Amateur Radio Club:

This highly popular activity takes place every Wednesday on a frequency of 14.130 MHz on 20M SSB. The times are 2100Z (3 p.m. CST) to 2200Z (4 p.m. CST). This one-hour all-Canada sked is controlled by two of the club's members, Charlie VE4GB and Bill VE4ANY.

Those who are contacted and who check in are as varied as the retired former shoemaker in Dartmouth, NS, to the former German Air Force WW2 dive bomber pilot who fought for five years on the Eastern Front and is now a retired Canadian citizen living in Victoria, B.C. The variety of past occupations is just as diverse: there are ex-DOC radio inspectors, air traffic controllers, airline personnel, engineers, cooks, bakers and the proverbial candlestick maker (truly, one such does exist and checks in regularly from Sorel, PQ). Contacts are regularly held and are consistently added to, and then it provides a means of putting some of the regulars in touch with long lost friends. In addition, radio liaison is maintained with other senior citizens Amateur radio groups, such as those in Windsor, Toronto and the Lakehead in Ontario, Lethbridge, Alta., and Burnaby and Penticton, B.C. Recently, on another frequency, (CW) greetings were received from such distant places as Gdansk, Poland, and from a "Workers' Club" in Arles, France.

The Senior Citizens TransCanada Amateur Radio Net truly is an activity about which the Winnipeg Senior Citizens Amateur Radio Club and its station VE4WSC are most proud, and one that invites your participation, whether you are a veteran or ham neophyte or simply a shortwave listener.

National Days and Amateur Radio at Expo 86

Notice to the International Amateur Radio Community from VE7EXPO Amateur Radio Society

Amateur radio station VE7EXPO, at the EXPO 86 site of the World Exposition at Vancouver, Canada, will dedicate its DX operating to participating countries on their 'National Days' at EXPO 86. (see below)

Station VE7EXPO operates from 160 metres to 1.2 GHz and is scheduled as follows:

PERIOD -daily-May 2 to Oct. 13, 1986

TIME -17.00 UTC to 05:00 UTC the following day.

FREQUENCIES -(either A or B for each mode listed below in MHz)

C.W.		S.S.B.		R.T.T.Y.	S.S.T.V.
A	B	A	B		
3.510	3.710	3.740	3.795	3.590	3.845
7.010	7.110	7.080	7.155	7.040	7.171
10.105	10.120			10.140	
14.010	14.030	14.135	14.205	14.090	14.230
21.010	21.110	21.135	21.205	21.090	21.340
28.010	28.110	28.135	28.305	28.090	28.680

(Contact VE7EXPO for QSO's on other modes and frequencies including satellite and packet radio)

VE7EXPO will QSL each logged QSO via national QSL bureaus.

Canadian Amateur radio operators at VE7EXPO look forward to contacting your Amateurs and honouring your country at EXPO 86.

CELEBRATION OF NATIONAL DAYS AT EXPO 86

June 25— Canada
July 1— United States of America (U.S.A.)
July 7— France
July 8— Great Britain
July 11— Ontario special day (Canada)
July 14— Japan
July 15— Ivory Coast
July 17— Republic of Korea
July 18— Hong Kong
July 21— Belgium
July 2— Thailand
July 24— Sri Lanka
July 25— Cuba
July 31— Peru
Aug 1— Switzerland
Aug 2— Nova Scotia special day (Canada)
Aug 8— Saskatchewan special day (Canada)
Aug 9— Singapore
Aug 14— Pakistan
Aug 20— Indonesia
Aug 21— Brunei
Aug 22— Romania
Aug 29— Barbados
Sept 5— United Nations special day
Sept 6— Malaysia
Sept 15— Mexico
Sept 16— Costa Rica
Sept 22— Prince Edward Island special day (Canada)
Sept 23— Saudi Arabia
Oct 4— Yugoslavia

AMATEUR RADIO IS NO PLACE FOR AMATEURS.

The word amateur is a little misleading. There's nothing amateur about the way hams maneuver signals successfully through the airwaves.

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That's why so many amateurs gravitate toward Larsen amateur antennas.

Larsen antennas are designed by engineers who know amateur radio from the business end of the mike; who make it their business to see that every Larsen antenna goes the distance, or it doesn't go out the door.

As with our commercial products, every Larsen amateur antenna features our exclusive high efficiency platings—either Kūlrod® chrome, or Kūlrod T™ Teflon.®

Both deliver extra miles and all-weather protection. And they're backed by our no-nonsense warranty.

So wherever you operate—from 10 meters to 1.3 GHz—Larsen antennas will deliver strong performance . . . instead of blue sky.

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604-872-8517

AMSAT NEWS

Ernie Welling VE3HD
165 Catalina Dr.
Scarborough, Ont. M1E 1B3

It's not only Amateur-built satellites that make the radio Amateur space program run. Anything that goes into orbit and will support communications in the ham bands— either one-way or two-way— is a matter of great interest. This is evident from the big following for the operations from the Shuttle and the scramble to get logged by the Shuttle operator.

The last of these operations that we can expect for some time was from the Shuttle Columbia last fall under the call DP0SL. The German national society DARC recently published the list of calls heard by the automatic logging machine. Included were the following VEs: 1AIC, 3EF, 3KLW, 3KRP, 3LVS, 3PDD, 5LY, 5XU, 7CKA, 7CLD, 7DOX and 7XQ.

In past months, the interest in non-Amateur satellites has focussed on the Russian space station Mir, which was launched on Feb. 19. Voice transmissions from this long-duration spacecraft have been easy to copy on 143.625 MHz. Some time soon, perhaps before this gets into print, the crew of Mir are expected to push a small Amateur satellite, designated ISKRA-4, out of an air lock into a few brief weeks of activity. In the past, these hand-launched satellites have decayed quickly and this one is likely to do the same. There is no information on what transponder it will carry but the earlier ISKRA-2 and -3 both had a 21 MHz up and 28 MHz down transponder. Neither satellite was successful.

This, of course, raises the matter of the other Russian satellites I spoke of last time (April issue). RS9 and RS10 have been expected in the sky since February, but, true to the apparently universal nature of the launching business, they haven't made it yet. The latest word from those 'usually reliable sources' is that the launch is expected in late June. Keep an eye on the instant news sources, W1AW and the AMSTAT Net on 3857 +/- QRM on Tuesday evenings at 8 pm EST (0100Z Wednesday).

The Russians aren't the only ones slipping their launch date. The European Space Agency's modified Arien vehicle finally got off the pad in French Guiana on March 28. Why is that of any interest to us? Because that is the rocket that will launch the AMSAT Phase IIIc satellite later this year. Since AMSAT's date was to be at a fixed interval after the flight of the modified Ariane, that March date was important. Late October now looks likely for the AMSAT launch.

Meanwhile, the preparation of the spacecraft is progressing on schedule in Denver. It is to go into thermal vacuum test in late May and there is a possibility that the transponders will be operated at that time.

One satellite that doesn't appear to have slipped its launch date (yet) is JAS-1. This is a mainly digital satellite built by the Japanese AMSAT group (JAMSAT of course) and the JRRL. It will be launched on a Japanese rocket in August and the orbit will be 1500 km circular, non sun-synchronous, inclined at 50 degrees, with a period of 120 minutes. There are two transponders in the 50 kg spacecraft, both in the J-mode of 2 metres up and 70cm down.

One of the transponders is linear with a 100 kHz passband. It radiates 1 watt and requires an uplink power of about 100 watts erp. The other, which has the same sensitivity and power output, is the digital repeater and is channelized, operating with 1200 baud, AX.25 level 2/version 2 digital signals. An analog beacon will run on 435.795 MHz and a PSK beacon will be on 435.910 MHz. More details will be available soon on this first venture into a packet radio satellite.

All the news isn't made by the satellite hardware although 1986 is such an exceptional year that it seems that way. If everything gets launched as planned before the end of the calendar year there will be FOUR new satellites as we go into 1987. There has never been a better time to get started in this phase of the hobby, particularly since the sunspot count will be bottoming out about that time. If you are even thinking of getting involved the first thing to do is join AMSAT— the Radio Amateur Satellite Corporation (Box 27, Washington, D.C. 20044).

Come to think of it, that's not quite right. AMSAT has just announced a name change. The new name is AMSAT North America. I guess that includes us but separates the North American organization from all the other AMSATs. The official words say that "the change was a necessary symbol recognizing the changing equation in international Amateur radio satellite organizational delayings"... etc. Maybe something to do with liability. But it doesn't make any difference— join anyway. ■

Manitoba Report

BY MALCOLM TIMLICK VE4MG
Assistant Regional Director of CARF

The Manitoba Amateur Radio Publications Group is a blanket organization that publishes a monthly newsletter for all Amateurs in the province of Manitoba. Known as *QUA Manitoba Amateur*, it is the successor to *QUA Magazine*, formerly published by the Winnipeg Amateur Radio Club, and *The Manitoba Amateur*, formerly published by the Amateur Radio League of Manitoba.

The group that publishes it is independent of all organizations in Manitoba, and both its parent bodies contribute information on their activities. In addition to these two clubs, regular contributors include the Manitoba White Caners' Amateur Radio Club, the Winnipeg Repeater Society, the Brandon Amateur Radio Club, the Dauphin Amateur Radio Club, the University of Manitoba Amateur Radio Society, Department of Communications Winnipeg Office, The Manitoba DX Group, Neepawa Area News, Selkirk Area News, CARF, CRRL, along with the usual technical information, Canadian contests, and advertisements. This makes for a very informative magazine.

The second very popular publication of this group is the *VE4 BLUE Book*, so called from its blue cover but which is really a Manitoba callbook. The two letter calls are first with complete names, addresses, and phone numbers followed by the three letter calls. This is followed by the three letter calls. This is followed by a listing of hams by last name (in alphabetical order) with callsigns. The breakdown of hams by city and town has each city or town listed with a list of the call signs located there after it. The back cover lists Manitoba, northwestern Ontario, eastern Saskatchewan and North Dakota repeaters.

This is a very handy publication for a Manitoba Amateur to have. This publication is provided to the Radio Amateur Callbook Inc. for their publications because it is kept so accurate. Manitoba is indeed fortunate to have these fine publications from The Manitoba Amateur Radio Publications Group.

·CQ DX·CQ DX·

Paul Cooper VE3JLP
RR 2 Metcalfe Ont.
K0A 2P0

SPOTTING BAND OPENINGS

In another issue of *TCA* I plan to spend a little time delving into the esoteric world of Solar Flux, Sun Spot Numbers, Alpha Index, K Index and RGNs and how to use them to improve your understanding of propagation. For today I pass on an easy-to-remember rule of thumb which will give you an immediate measure of whether band conditions are favourable for DX. Tune in to WWV at 18 minutes past the hour and note the Alpha and K indices. Favourable DX conditions wil exist when the Alpha figure is below 10 at the same time as the K figure is 2 or lower.

It might also be a good idea to make a habit of checking the 20 metre beacons which will, over their 10 minute cycle, give you a reception test over nine different paths to your QTH, for the 20 metre band anyway. For those of you who are not familiar with this excellent service, look for its transmissions at the top end of the CW sub-band, 14.100 MHz. There are currently nine stations transmitting one after the other for one minute each in the following sequence:

Station	Time
4U1UN/B	0000
W6WX/B	0001
KH60/B	0002
JA2IGY/B	0003
4X6TU/B	0004
OH2B	0005
CT3B	0006
ZS6DN/B	0007
LU4AA	0008

Each beacon transmission consists of its call sign followed by a series of 10-second dashes at 100, 10, 1 and 0.1 watts respectively. The transmission ends with the beacon call sign again at full power. It is extraordinary how often, when a reasonable opening exists, one can detect the 100 milliwatt dash. It certainly makes QRP DX more understandable. By the way, the beacons all use a simple ground plane antenna and so represent a rather modest station in terms of effective radiated power. With most Amateurs nowadays using some sort of beam antenna on 20, the DX station you finally work, near the beacon, should normally be noticeably stronger than the beacon signal you checked earlier. There are indications that a tenth beacon has been planned for installation in Australia. Watch this column for further news of this useful service.

PUZZLE CORNER

I wonder how many of you read the *Globe and Mail* regularly and so spotted this intriguing item last June in their 'Briefly' column? Under a dateline of Los Angeles (AP) the column covered a meeting between French film director Roger Vadim and Marlon Brando on the latter's secluded South Pacific island near Tahiti. After reporting Brando's lack of interest in acting anymore it went on to briefly describe the film star's happy existence there "... his great interest at the moment is using his Amateur radio, on which he talks to people all over the world using a code name. He also has an elaborate computer on which he plays chess."

Well, here's the challenge, readers, what's his call sign? We have a few clues, an island close to Tahiti should have a FO0 prefix, the operator will have an American accent, the conversation might occasionally get around to chess. I'm thinking of offering a small prize, perhaps a case of 807s to be picked up from my QTH, for the correct answer!

Islands in the Pacific got me thinking of the sea and another puzzle for readers to ponder. How many of you realize that at this very moment the "... greatest, longest, most gruelling, most expensive and most adventurous yacht race ever staged" is underway? I'm speaking of the 4th Whitbread Round-the-World Race. Unless you read sailing magazines you are unlikely to have ever heard of this contest. It has been completely ignored by the press in North America, more's the pity, as it is indeed an exciting not to say inspiring event with some 15 yachts following a 27,000 mile course that includes rounding both Cape Horn and the Cape of Good Hope. What's the connection with DX? Well, all the boats are using HF to keep in touch with each other and to let their sponsors know their daily progress. wouldn't it be interesting to read the mail on this race and hear at first hand of their difficulties and triumphs? Well I thought it would be interesting— which incidentally reveals to *TCA* readers another of my passions! In any event if anyone should have any information on times and frequencies I should be most interested to hear from you and I'll share the information with readers of the column in some future issue. ■

Will someone please explain to the editor, in simple language suited to his deficient understanding, how one receives the 14.100 MHz beacons?

At his QTH all that can be discerned on that frequency are blasts of QRM, which he is given to understand are packet transmissions timing each other out and never passing any information. The editor's receiver can be brought to a 100 Hz passband at 6 dB down, so it isn't a matter of selectivity.

Surely the beacons are as interesting to packeteers as they are to ordinary Amateurs? Surely the packeteers recognize that with a carrier on 14.099, say, their upper sideband will swamp the beacons?

RSGB to run Morse Code Tests

"The Department of Trade and Industry which regulates the Amateur and Amateur-satellite services in the United Kingdom, has appointed the Radio Society of Great Britain to take over the running of the Amateur radio Morse Code tests. From April 1, 1986, tests which are conducted for DTI by British Telecom International at present, will be held every other month at each of the 70 RSGB testing centres, one in each country, region, or designated island.

Prior to this change, RSGB, the City and Guilds of London Institute as well as British Telecom International were invited by DTI to submit new proposals for running the tests. DTI concluded that "RSGB's Proposals represent a significant improvement in the service offered to radio Amateurs who wish to take the Morse test." Congratulations and best wishes to RSGB.

— The International Amateur Radio Union, No. 132

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TD-2005/HD: 5-band dipole, HD,	$ 137	$ 7.90
GD-6/500W: 6-band windom dipole,	$ 99	$ 6.90
GD-6/2KW: 6-band windom, 2KW PEP,	$ 199	$ 7.90
GD-8/500W: 8-band windom, 500W PEP,	$ 119	$ 7.90
GD-8/2KW: 8-band windom, 2KW PEP,	$ 219	$ 7.90
GD-9/500W: 9-band windom,500W PEP,	$ 149	$ 9.90
GD-9/2KW: 9-band windom, 2KW PEP,	$249	$ 9.90
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YL News & Views

Cathy Hrischenko VE3GJH
56 Stockdale Cres.
Richmond Hill, Ont. L4C 3S9

Celebration 87— A Blendship of Friendship

THE CANADIAN LADIES AMATEUR RADIO ASSOCIATION

CLARA will CELEBRATE her 20th birthday in 1987. To honour this event, we are planning 87 CELEBRATION— a blendship of YL friendship. OMs are invited to come with their YLs.

The exact date has not been confirmed, but it will be held in the Toronto area sometime in July-August 1987.

SO... start making plans to come and have fun!

If you have any questions, ideas or comments please contact Cathy Hrischenko (that's me) VE3GJH.

THE CANADIAN NATIONAL EXHIBITION

The EX this year will run from Aug. 13 to Sept. 1, 1986. As usual, the last Tuesday in August will be YL Day at the booth VE3CNE. Mary VE3COH has been Net Control for the first CLARA net after summer holidays, for several years now. If you'd like to come down and visit with the YLs or to participate, the date is Aug. 26.The CLARA net frequency is 14.133 at 19:00 GMT. A special VE3CNE QSL is sent out for all QSOs.

FROM SOUTH OF HERE

The Buckeye Belles (YL club of Ohio, U.S.A.) celebrated their 25th Anniversary. They were formed in 1961. Their founder was Shirley Rex K8MZT and they had nine charter members. They had a Silver Anniversary meeting April 12 at the Holiday Inn in Delaware, Ohio. A great time was had by all.

ATTENTION ALL LEFTIES

August 13 is International left handers day. Let it be known that it's right for us to be LEFT HANDED!
Don't forget: YL day at the CNE— August 26

If you haven't done so yet, please write your MP about Ravenscroft and make a donation— one per cent of the value of your rig seems fair— to the JRSD Fund, Box 8873, Ottawa, K1G 3J2.

WARO— WOMANS AMATEUR RADIO OPERATORS OF NEW ZEALAND

A garden party get-together was held in February at the home of Sylvia ZL2LS of Napier. Marilyn ZL2BOA writes: We sat under the magnificent trees in the garden and chattered, reminisced, caught up with old friends and made new ones. It was fun putting faces to those we had talked to on the air. Lots of good food and a beautiful view of the garden.

After lunch we had a 'photo' session. OMs were included in the day's fun.

(Above) What Buckeye YL's look like when celebrating.
(Below) And ZL YL's too. Back L to R: ZL1BRX, ZL2AXY, ZL2ADK, ZL2BOD, ZL2BUA, ZL1BA, ZL2BAO. Front L to R: Jackie, ZL2LS, ZL2QY, ZL1PLE, ZL2WE with Drina.

Social Events

NIAGARA FRONTIER HAM-O-RAMA

Five U.S. clubs present the Niagara Frontier Ham-o-rama and Computerfest 1986 on Saturday Sept. 6, 7 a.m. to 5 p.m. at the Niagara Falls International Convention Center just North of Buffalo, New York. Lots to see and do, lots to eat and drink. Advanced tickets $4, Aug. 20. $5 at gate. Mail orders (SASE please) to Ham-o-rama 86. P.O. Box 1107, Princess St., Post Office, Fort Erie, Ont. L2A 5N9. Information from Nelson Oldfield WA2ZSJ, 126 Greenway Blvd. Cheektowaga, NY 14225. 634-6394 after 6 p.m. Talk-in W2EUP/R 146.31/.91 and 146.52.

GLACIER-WATERTON

52nd Glacier-Waterton International Hamfest, July 18-20, 1986. H.Q. at Waterton Homestead Campground, just north of Waterton National Park entrance on Highway 6, (Alberta, Canada). Prizes, bunny-hunt, technical sessions, entertainment, swap tables. Information and preregistration P.O. Box 148, Milk River, Alberta, T0K 1M0.

VE3CNE

VE3CNE, the official Amateur station of the Canadian National Exhibition, will be on the air again in 1986. This year's edition of 'The Ex,' Canada's premier summer exhibition for over a century, will run from Wednesday Aug 13 to Labour Day.

Amateurs visiting Toronto while 'The Ex' is in operation are invited to visit the station which is located in the Arts and Crafts Building, just east of the Dufferin Gates. Hours of operation are 1000-2200 daily (local time). The station will appeal to Amateurs across the whole spectrum of the fraternity, plus those who know nothing about the hobby but might be possible converts to the 'cause.' Operators can demonstrate HF, VHF, packet, and the role of the computer in Amateur Radio. Equipment ranges from low cost, 'low tech' to state-of-the-art rigs. There is a large visiting area and lots of handouts for our visitors. The station will be staffed by members of clubs in the Toronto area, but visitors are welcome to drop by and operate.

VE3CNE will try to appear on the following frequencies, via the modes indicated, at the times indicated. Operators will also be requested to check into nets. Note that times for the following schedule are UTC.

The schedule is of course, at the mercy of the gods of propagation and the number of operators available. If you wish further information please contact:

Mrs. Thelma Woodhouse VE3CLT
Secretary, VE3CNE Committee,
44 Innisdale Drive,
Scarborough, Ont.
M1R 1C3
Telephone: (416) 757-5593
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BULLETIN NO. 6 April 26/86
This month's list
Here is a list of gear still missing:
No. 1 Kenwood TS130SE S/N-2100173 ID L.A.R.C.
No. 2 Kenwood Mic. MC50 no S/N ID L.A.R.C.
No. 3 View Star tuner VS300A no S/N ID L.A.R.C.
No. 5 Yaesu FT225RD S/N-81030418 ID L.A.R.C.
No. 6 Delhi Tower DMX54 no S/N no ID
No. 7 Yaesu FT208R S/N-4E382683 no ID
No. 8 Yaesu FRG-7 S/N-131087 ID-B. 1947.29
No. 9 Kenwood TR7950 S/N-3080499 no ID
No. 10 Icom IC3200A S/N-1910 no ID
No. 11 Icom IC37A S/N-2677 no ID
No. 12 Drake TR7 S/N-3013 no ID
No. 13 Drake Power supply S/N-3282 no ID
No. 14 Kenwood TS700A no S/N no ID
No. 15 Heathkit SB220 no S/N no ID
No. 16 Yaesu FT208R S/N-4E382333 no ID
No. 17 Kenwood TS830S no S/N ID sin.# 426-451-118
No. 18 Kenwood TS130S no S/N ID sin.# 426-451-118
No. 19 Yaesu mic. MC40 no S/N ID sin.# 426-451-118
No. 20 Diawa 2030 no S/N ID sin.# 426-451-118
No. 21 Katnronics interface no S/N ID sin.# 426-451-118

CALENDAR

May 2-Oct. 13: Visit VE7EXPO at Expo 86's Canada Pavilion, Vancouver, B.C.
July 12-13: International hamfest Boissevain, Man.-Dunseith, N.D. Details this issue.
July 12-13: Maple Ridge ARC Hamfest, Maple Ridge, B.C.
July 18-20: Glacier Waterton Hamfest, details this page.
July 25-26-27: Inter-Valley Hamfest, Vernon B.C.
Aug. 13-Sept. 1: VE3CNE. Details this page.
August 16: Brantford ARC flea market, Brantford, Ont. Details May TCA.
Sept. 6: Niagara Frontier International HAM-O-RAMA. Details July/Aug. issue.
Sept. 6-7: Nanaimo ARC annual Hamfest, Nanaimo, B.C. Details May issue.
Sept. 17: Applications for DOC licence examination.
Sept. 20: Packet Radio Symposium and Flea Market, Barrie, Ont. Details June issue.
Sept. 27: Kingston ARC Flea Market. Details May issue.
Oct. 4: IEEE course on digital radio. Details July/Aug. issue.
Oct. 15: DOC licence examination.
Oct. 19-20: Jamboree on the Air, Scouts Canada.
Oct. 27-Nov. 2: ON4CLM award. Details June issue.

1987
Jan. 14: Applications for DOC licence examination.
Feb. 11: DOC licence examination.
Mar. 18: Applications for DOC licence examination.
Apr. 15: DOC licence examination.
May 20: Applications for DOC licence examination.
June 17: DOC licence examination.
Sept. 23: Applications for DOC licence examination.
Oct. 21: DOC licence examination.

Publicize your get-together here. Write the Editor, TCA, P.O. Box 855, Hawkesbury, Ontario K6A 3C9.
Let TCA know about your events three months in advance to list them in the Calendar.

MONACO

Monaco: New Mailing Address for ARM— "The new mailing address for our member-society for Monaco is Association des Radio-Amateurs de Monaco, P.O. Box 2, MC-98001 Monaco Cedex."

Brett Delmage VE3JLG
5-136 Woodridge Cres.
Nepean, Ont. K2B 7S9

PACKET RADIO

Anyone listening on 145.01 MHz in the London area these days would soon realize that packet radio activity is on the increase. The prospect of error-free transmission and increasingly easy access to other packeteers across North America appeals to many hams. This, coupled with the fact that the cost of terminal node controllers (the brains of the system) has dropped in recent months, has caused packet traffic to increase appreciably. In fact some of the local packet gurus have been heard to grumble about this upswing in traffic!

The interest in this topic was evident recently at a meeting on packet held by the London Amateur Radio Club. Over 80 members attended and they were given several presentations and demonstrations of this communications method. At this meeting it was suggested that a course on packet radio should be offered in the area. This course would enable many existing hams to gain some knowledge of the digital techniques used in packet radio— and also, heaven forbid, enable potential Amateurs, who do not wish to take the dreaded morse code test, to get on the air!

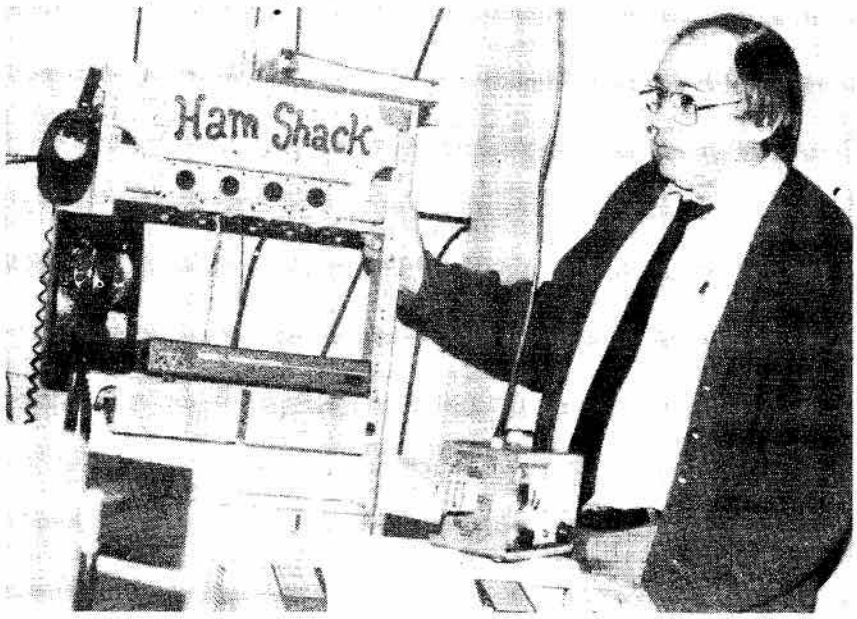
As a result of the interest seen at the LARC meeting, the local section of the Institute of Electrical Electronic Engineers (IEEE) was asked to arrange a suitable course. Many of our readers may not realize the IEEE is the largest technical society in the world. It is a non-profit organization run by people interested in the electrical/electronics field and any monies it makes from the course it offers are ploughed back into educational projects. For example, every year the London section of the IEEE donates prizes and awards to students in local high schools, Fanshawe College and the University of Western Ontario. Now some details about the course.

It will be intensive and will cover the digital section of the examination for the Amateur radio operator's digital certificate. The regulations and technical parts of the examination will not be covered. Course topics will be— ASCII and Baudot codes, serial and parallel transmission, encoding and modulation methods, Shannon's law, modems, error detection and correction, AX25 protocols, Aloha, slotted Aloha, CSMA, propagation problems associated with packet radio, Terminal Node Controllers and calculations relating to packet radio. Demonstrations of packet radio will also be given on the Fanshawe College digipeater (VE3LFC).

The course instructor will be Ian Kennedy VE3ONK, an active Amateur radio operator and telecommunications instructor at Fanshawe College, London. Participants will be given a private set of notes and subject to sufficient interest the course will run at Fanshawe College, London, on Saturday, Oct. 4, 1986 from 9 a.m. to 4 p.m. (Participants will be allowed a lunch break!) Incidentally the DOC will hold the October examinations a few days later on Oct. 15.

Persons wishing to take this course should call the IEEE information line, (519) 451 IEEE, and leave their name and phone number. Course fees will be— student members of the IEEE, $25; members of the IEEE, $30; non-members of the IEEE, $35. Income tax receipts will be given. The mailing address of the IEEE is P.O. Box 7097, Station E, London, Ontario, N5Y 4J9.

— Ian Kennedy VE3ONK



First VE Packet Radio Contact on 10 GHz March 23rd., 1986.

At 20.32 EST Don Jarvis VE2DWG and Keith Ballinger VE3IMT/VE2 communicated across Don's basement with their 10 GHz Gunnplexers. This is quite likely to be a record and a Canadian First. (That's Don at one end of this long haul.) Photo VE2XL.

```
CMD:C VE3IMT
CMD:*** CONNECTED TO VE3IMT
SORRY, OP IS NOT HERE AT MOMENT...PLEASE LEAVE A
MSG IF YOU WOULD LIKE TO...73, DON>>>
HELLO THERE
COPY?
ROGER>>
FIRST VE PACKET QSO ON 10 GHZ THAT I KNOW OF, VE2DWG
TO VE3IMT, ACROSS BASEMENT, HI>>>
YES, I THINK THIS RATES A NOTE IN CARF>>
73 CUL, DON
CUL.....KEITH>>
ONLY A SMALL ONE>>>
*** DISCONNECTED
C VE3IMT

CMD:C VE3IMT
CMD:*** CONNECTED TO VE3IMT
SORRY, OP IS NOT HERE AT MOMENT...PLEASE LEAVE A
MSG IF YOU WOULD LIKE TO...73, DON>>>
JUST TO CNFM.....TIME 20.32 ON 25 MARCH 1986>>
CMD:D
CMD:*** DISCONNECTED
CMD:
```

QRP

Moe Lynn VE6BLY
10644-146 St.
Edmonton, Alta. T5N 3A7

VE6BLY RF Sniffer

If you run such low power that nothing registers on your built-in meter, then it is time to roll your own in the form of this RF Sniffer.

The ICOM 745 has a low/high switch under the top cover on the Main board, marked 50w< >100w and if set to 50w will yield less than 5w output when the front panel RF PWR control is turned fully counter-clockwise (off). A further reduction in output power can be gained by adjusting R113 near the above mentioned power switch. This is where an accurate RF output meter would come in handy (below 5 watts) while operating QRP contests when power output must be recorded or transmitted to maintain qualifications.

The sniffer is only an AC voltmeter, so to calibrate it, put a high resistance voltmeter across R1.

Energize the sniffer with RF and adjust R1 and the RF to give full-scale deflection of the meter when the HR meter reads 20 volts. 7 volts across a 50 ohm load implies 1 watt, 16 volts, 5 watts.

Speaking of contests and such, the following is taken from various publications and contacts on the air.

July 18 to 20— Waterton Glacier International Hamfest. Stop in with the kids on your way to VE7EXPO.
Oct. 19— RSGB 21060 kHz CW QRP contest.
Oct. 25— CQ WW SSB contest— QRP section.
Nov. 1/7— HA QRP CW contest.
Nov. 29/30— CQ WW CW contest— QRP section.

Remember the International QRP QRG for each band 3560, 7030, 10105, 14060, 21060, 28060: come on and give a listen or call if you get the urge! The QRP motto? ARCI (Amateur Radio Club International) gives us the best one. POWER IS NO SUBSTITUTE FOR SKILL.

USEFUL SIGNAL REPORTING

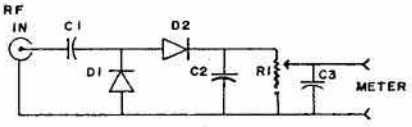
With the Amateur Radio world beacon service on 14100 maybe we should start using SINPO during QRP activities. Use the 10 watt or 1 watt category before going to 100 milliwatts naturally! It is not in the least unusual to hear KH60/B during all four power levels when their turn for the beacon comes around. W6WX/B does not exactly pin the needle at their times but all four power levels are comfortably readable when the west coast kilowatts are clamoring for space on the band.

Working QRP is not cranking up the linear to raise someone (DX stations particularly) then switching off the linear after asking them to listen for your low power signal. Studying propagation, experimenting with aerials, application of patience and diligent tuning are your most productive assets. Couple this to accurate signal reporting and we add a touch of professionalism in carrying out our part of the licensing agreement.

HIGH ABSORPTION

Remember 160, 80, and 40 fall into this category where you need ideal conditions along with your very efficient AE. Another attribute would be to think positive, who knows but what ESP (extra sensory perception) is a significant factor that enters in to your radiation pattern. The bands 20, 15, and 10 are much easier to work QRP and it is not unheard of for someone with a converted CB rig to work around the world. When 5 watts gets you a 59+ you can rest assured your feelings of accomplishment far outweigh those of someone using 100 watts or more! Besides being unhealthy, high power is no substitute for skill or a person's ingenuity. There is not much point in doubling your power to gain an extra 3 dB if you are using the same poor antenna.

The past president of ARRL, Vic Clark W4KFC (now a silent key), earned DXCC while QRP. This doesn't mean everyone will become president by using QRP but certainly bodes well for those who do.



PARTS LIST:

Capacitors: all .01 µFd 50 volts
Diodes: 1N34A for best sensitivity OR
: 1N914 (silicon) slightly less sensitivity
Resistor: 10k ohm linear. PCB type
Meter: 50 micro-ampere movement OR
100 micro-ampere movement will yield slightly less overall sensitivity.

COMMENTS:

Some VOMs have a 50-micro-ampere movement.
If you don't use this as an insert in your coax with a T connector, then solder a length of stiff wire in place of the input connector, long enough to pick up enough RF to be useful.

CORRECTION

An article in the May *TCA*, 'An Amateur radio station at EXPO 86' was attributed to VE7AHB. The author was actually Bob Smits VE7EMD. Sorry, Bob!

SINPO Signal Reporting

How many readers remember when this method of signal reporting was first introduced? Drop us a line if you have any reply: history, its usefulness, demise, and your comments toward a re-introduction. Reporting was done on a scale from 1 to 5 under each heading:

Strength	Interference	Noise	Propagation	Overall Quality
QSA	QRM	QRN	QSB	QRK
5 Excellent	5 Nil	5 Nil	5 Nil	5 Excellent
4 Good	4 Slight	4 Slight	4 Slight	4 Good
3 Fair	3 Moderate	3 Moderate	3 Moderate	3 Fair
2 Poor	2 Severe	2 Severe	2 Severe	2 Poor
1 Barely Aud.	1 Extreme	1 Extreme	1 Extreme	1 Useable

Phased Twin Sloper Antenna

BY W. RICHARDSON VY1CW

The antenna described here was used for a period of two years in the pursuit of 40 metre WAZ. This goal was not realized but much DX was worked and the antenna provided some interesting results. Construction is simple, bandwidth is broad, cost is low, and tuning is easy.

The design is the ZL Special in a sloper configuration, thus providing some gain, low angle radiation, and front to back ratio. Radiation pattern is a cardoid with 15 to 20dB of front to back rejection. Gain appears to be 3 to 4dB over an inverted V.

The directive pattern is from the element to which the feedline is attached in the direction of the phasing line. When a nonconducting support structure is used, the pattern will be less distinct than when a metal tower is employed. Gain will also be slightly greater with the metal support. No ground radials were used, although they might offer some benefit since the polarization is vertical.

The elements are two half-wave dipoles cut to the standard formula. Phasing is accomplished with a .15 wavelength of 300 ohm twinlead. This is assuming a velocity factor of 0.8. The length for 40 metres was 17.6 feet or 5.33 metres. The phasing line is transposed between the two elements as shown in the diagram. Feedline is any convenient length of 52 ohm coaxial cable.

As with most sloper antennas, the optimum angle for best performance is 30 degrees between the antenna and the supporting structure or conversely, 60 degrees between the antenna and the ground. Angles of up to 45 degrees can be used if the tower is not high enough for 30 degrees although the radiation angle will be slightly higher.

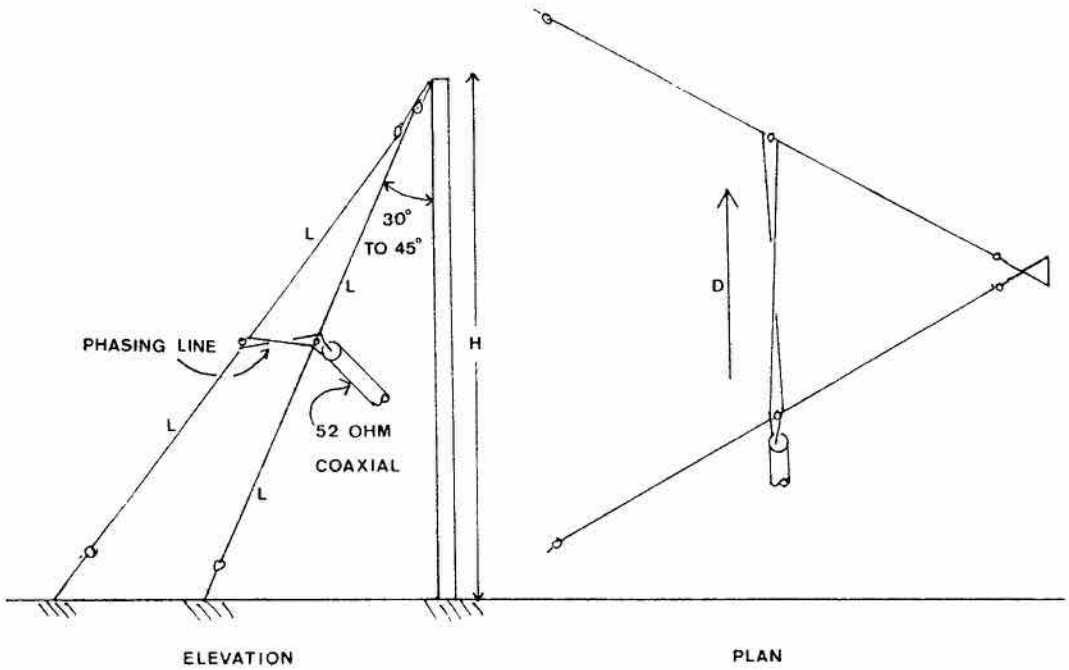
Bandwidth between 1.8:1 SWR points was 220 kHz and SWR at resonance was 1.18:1. With the antenna cut for 7.12 MHz, this should allow operation in the most useful part of the band.

During the two years this antenna was in use, in all instances, it outperformed an inverted V with the apex at 17 metres. In all but a few cases, it was a better DX performer than a full wave loop in the diamond configuration with the apex at 20 metres.

Many interesting possibilities are available with this design if experimentation with the phasing line for different patterns of radiation were to be tried. As presented, this antenna should provide good DX potential with a simple-to-construct radiator. If anyone succeeds with a 40 metre WAZ with this design, I should be interested in hearing about it.

THE PHASED TWIN SLOPER ANTENNA

L = λ/4
Phasing line
17 ft 6 in, 5.334 m.
H = 45 - 70 ft, 13 - 21 m.
D = direction of maximum gain.



Tower and Beam Raising by Vets

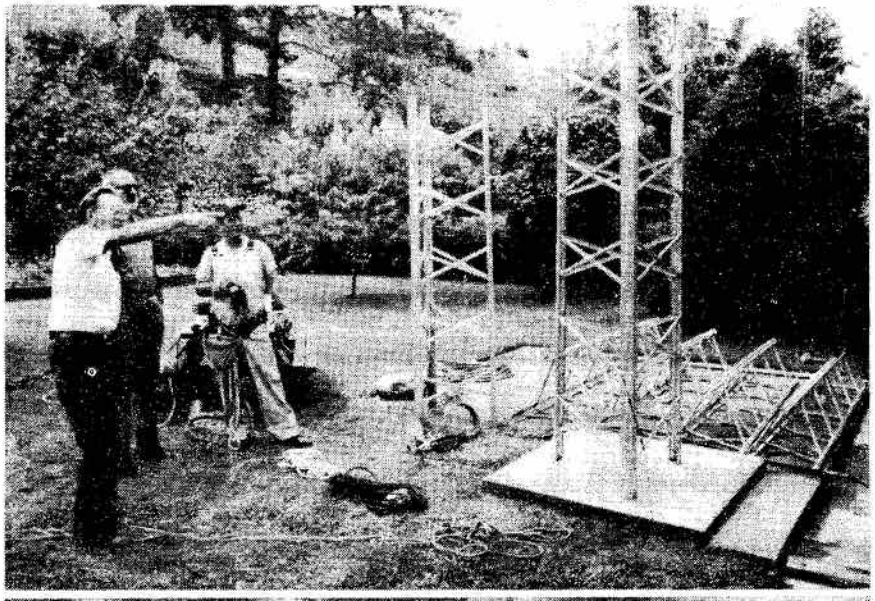
or Teaching New Amateurs

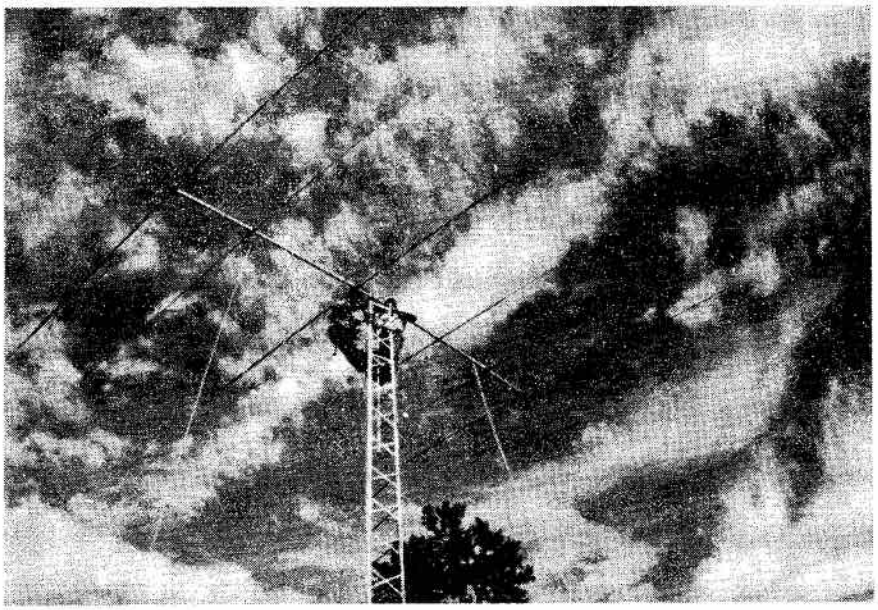
BY NEIL ROWE VE7APX

This story or fable is about the raising of one (1) Amateur tri-band beam on one (1) forty-eight (48) foot tower. OOPs, so sorry, make that 14.630429 metre tower, as we're in the new improved CANADA now. Cap this all off, with a 2 metre vertical perched on top of the whole assembly.

I suppose one should start at the beginning of the story. The scene of the learning experience was the fine city of KELOWNA, located in the heart of the OKANAGAN valley of south central B.C. Just to zero in a little closer in case some of you out there would like to fine tune your beam headings, the tower and associated paraphernalia were located at the residence of Alan VE7BSC. Alan is a well known and active member of the local Orchard City Amateur Radio Club. Also present were Jim VE7LW, John VE7DTX and me Neil VE7APX.

After a few years of operations using only a dipole and a longwire antenna, Alan decided to erect himself a tower complete with a TH6DX beam and a 2 metre antenna. The TH6DX was obtained from Jim who it seems has neglected putting it up at his residence as clearance had not been obtained from the local authority (Cathy Whiteside). After duly greasing the skids, this has now been corrected at Jim's and he is now also the supporter of kg's of aluminum.





We all gathered at Alan's one bright sunny Saturday morning for a tower raising party. The previous day or so Alan and Jim had spent measuring and putting together the TH6DX. Alan had also poured the pad a couple of days before and the base support was well set when we all arrived on Saturday morning. As you can see from picture #1 Alan is pointing out the fact that he had installed the first leg of the tower and thought that someone else might like to continue on their way up. John and I had sort of volunteered for same as John has had a lot of experience climbing both poles and towers. Myself I have had some experience climbing poles so away we went.

At this point I should state that I was fairly new to Amateur radio at this time and looked upon this as quite a learning experience. The first step was fine, we climbed up the whole 8 feet (approx. 2.5 metres), and after hauling up the next section via rope we bolted the three legs together. After this section was attached we then climbed up the next 8 ft. section and did the same. The higher you got the progressively harder it becomes to pull up the next section. Trying to hold the new uppermost section in place while bolting on to it the section you're standing on is soon easily mastered. This progressed quite nicely until the whole 48 feet were attached and solidly bolted together. I must say at this point that for safety's sake, I would recommend that this job be performed by two people as it progressed very smoothly. Of course the use of climbing belts is a must. I was really impressed with the stability of Alan's free-standing tower even after the beam was installed on it and both John and I were leaning off various sides of the structure.

Once all tower sections were installed it was time to haul up the main bearing and rotor along with the support mast. These items were loosely bolted in for the time being, to be tightened after all antennas were in place. The TH6DX was moved from ground level to the roof of the house. Since the tower was mounted next to the house, the beam would be easier to manoeuvre from the roof top to the top of the tower.

Three ropes were attached to the TH6DX. Two for Alan to hold the

antenna away from the tower while it was being raised by Jim with the third. John and I guided the beam when it was near to the top. Jim's job was accomplished by using a pulley gig attached to the top of the tower and hauling down on a rope thus pulling up the beam. Once arrived at the top, the beam was attached to the mast.

The two metre antenna was previously put together on the ground before being hauled up to the top. As picture #2 shows the mast was hanging down inside the tower near the top while being loosely connected to the antenna. Thus it became a simple matter to feed the mast up the center of the tower and attach the 2 metre antennas with its associated coaxial cable.

When the appropriate amount of mast has filed past us we attached the TH6DX. All this was then set in the rotor. We then set about tightening down all connections. Of course Alan and Jim both being 'old' salts and 'SPARKS' knew that a compass would come in handy, and had marked out the correct north-south orientation on the ground. Thus as we tightened down the TH6DX on the mast it was pointing in the right direction. All cabling was then routed down the inside of the tower and into the house.

A few words about the ingenious little jig that John (VE7DTX) had incorporated at the top of the tower are in order. It consisted of three pieces of metal forming a triangle with a pulley hanging on the outward and downward side. The triangle framework was firmly bolted to the tower. This enabled us to lift all pieces, tools, etc. to the top of the tower with the benefit of a pulley action. Also, this jig now permanently mounted on the tower can be used for tower and antenna maintenance or for hauling up and supporting one leg of a dipole or long wire antenna. This can be seen in photo #3. John is to the left, the jig right above his head, I am to the right and probably at that time of day wondering what the heck I am doing up there.

After spending a few hours standing on the legs of the tower pulling up some heavy gear, your feet tend to let you know they were made for Terra Firma and not small pieces of metal tower support. Even though I was wearing climbing boots, my feet still get very sore in the arches. For this reason I would build a platform for standing on when working on the tower. I have promised this to myself before I attempt to erect my own tower and would highly recommend this to any Amateur.

Here are a few pointers when working on any tower. Never have anyone standing underneath the tower when someone is working aloft. A wrench or even a bolt, to say nothing of the rotor, mast or beam can be very painful or even deadly, falling on your head from the top of the tower. When there are two Amateurs working on the tower, always work side by side. Don't work one directly above the other for the same above mentioned reason.

Of course it goes without saying that one should never work on a tower without the use of a good quality safety belt. Gloves are a must to prevent rope burns or metal splinters. Make sure it is impossible to foul a powerline.

All in all working on a project like this is a prime example of how Amateurs work and co-operate to achieve a common goal. I also noticed how easily the veteran Amateurs quickly talked the newest Amateur into being one of the gophers running up and down the tower. I guess that's what they mean by 'experience.' Once in a while every good crew deserves a 'coffee' break and picture 4 depicts this. Jim (VE7LW) on the left, John (VE7DTS) in the middle, and me (VE7APX) on the right side. Picture 3 also shows the finished product.

From all accounts the installation has been a huge success as Alan (VE7BSC) has been DXing like mad ever since. A very worthwhile experience for me as someday I will be doing this exercise for the benefit of my own shack. It was also a good way to spend a day with a great bunch of fellow Amateurs.

ICOM Handheld Powerplant

BY GERARD PIETTE VE3GF

The ICOM 2A, 2AT, 02AT and the Kenpro KT 200 are very popular handie talkies. Their low power drain in receive and moderate draw in transmit makes them some of the best for battery longevity. An assortment of battery packs is available for different wattage outputs and total stored energy. If you look carefully at the ICOM series of battery packs you will see the following:

Pack	IC-BP2	IC-BP3	IC-BP4	IC-BP5
Capacity	400 mA-hr	250 mA-hr	300 mA-hr	400 mA-hr
Voltage	7.2 V	8.4 V	7.2 V	10.8 V
RF Output	1.0 W	1.5 W	1.0 W	2.3 W

The larger battery packs not only have greater voltage hence greater H.T. power outputs but also have greater capacity than a smaller pack. For example, the BP5 has 400 mAh compared to the BP3 that has only 250 mAh. 2.3 watts RF output is possible with the BP5 while only 1.5 watts can be achieved with the BP3.

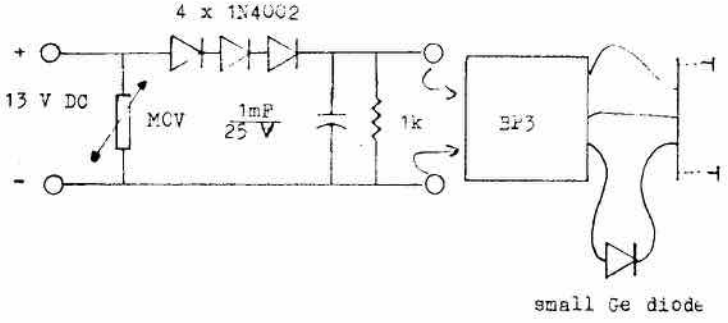
For $38 you can buy a 12 volt adapter that plugs in the cigarette lighter of your car or a suitable 12 V DC source at home that converts it to 8.5V DC. This converter looks just like a battery pack but contains a voltage regulator, a pass transistor and some signal conditioning circuits. Alternatively, you can buy the IC-BP4 case into which you can put your own voltage regulator instead of the alkaline cells, or you can go real cheap and follow the directions below.

ICOM warns you not to plug the battery pack directly to 12 V or run the H.T. directly on 12 V. I never liked being told not to do things without explanations. However this time I resisted the urge to try the forbidden just to see... and figured it out.

If 12 V is applied to the Nicad Pack jack, many many milliamps will charge the cells within the Pack, way too fast, and destroy one or more cells in the process. This is particularly true of the P3 with its charging rate of 25mA and the PB4 at 45mA. Now, if you connect the H.T. directly to 12 VDC, the internal voltage regulators will overheat in short order and blow up, filling the case with smoke and your heart with despair... Don't do it!!!

A silicon diode when forward biased (that is when ten or so milliamps flow through it) has a drop across it of 0.7 V. If we were to place four of these in series with the so-called 12 VDC (more like 14 VDC for most cars) we would drop 4 X 0.7 = 2.8 V leaving close to 11 VDC to feed the H.T. A one kilo ohm resistor across this supply will drain about 11mA, enough to ensure that all diodes are biased to the point that each has a 0.7 V drop across its terminals.

A metal oxide varistor will clip any transients appearing on the car supply that may hurt the H.T. or the dropping diodes. A 1000 µF electrolytic capacitor will filter any alternator noise present on the line. The positive lead goes under the little screw marked positive under the battery pack and the negative lead goes to the little screw marked negative on the other corner of the pack.



We have now simulated a high capacity IC-BP5 battery pack. Only one more thing needs to be done before using our 12VDC adapter. The little screws just mentioned are the contact points for a drop-in battery pack. Our adapter will now attempt to charge the battery and if the battery pack used is of a lower voltage, the charging current may be in excess of the recommended value. What is needed is a 1 Amp germanium diode that will isolate the pack when our adapter is in use and yet permit running the H.T. on the battery without the adapter if we leave the car.

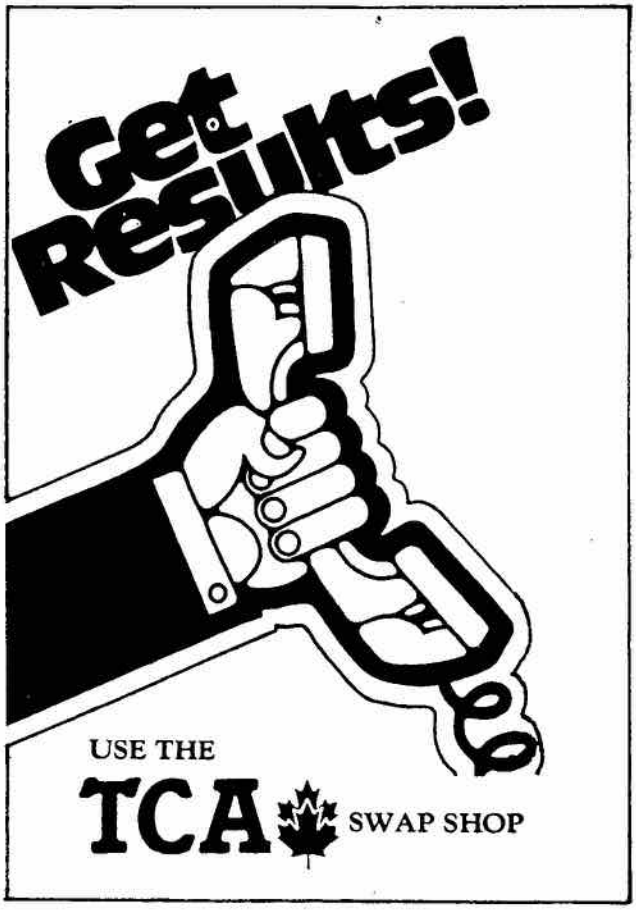
Slide the battery pack off. Remove the four screws holding the metallic plate on the pack. Unsolder the BROWN wire (it goes to the battery) leaving the red wire on the contact (it goes to the positive screw on the bottom of the pack). Solder the anode end of a small germanium diode to the brown wire and the cathode end of this diode (the end with the band) goes to the solder lug with the red wire. Replace the screws and Voila! you are now ready.

The only expense paid for this modification is that when the adapter is not in use, and you are using the battery, the Germanium diode carries all the current drawn from the pack and reduces the available voltage to the H.T. by 0.3 VDC, reducing your RF output power by a few milliwatts, nothing noticeable.

I have used this set-up in the car and have had the great pleasure of using the H.T. for hours on end without depleting the battery pack yet retaining the use of the internal battery at a moment's notice by simply unplugging the adapter.

Now you are on your own... Just warm up the iron and go to it. Parts are available from the author for a nominal charge.

— From The Algoma Amateur



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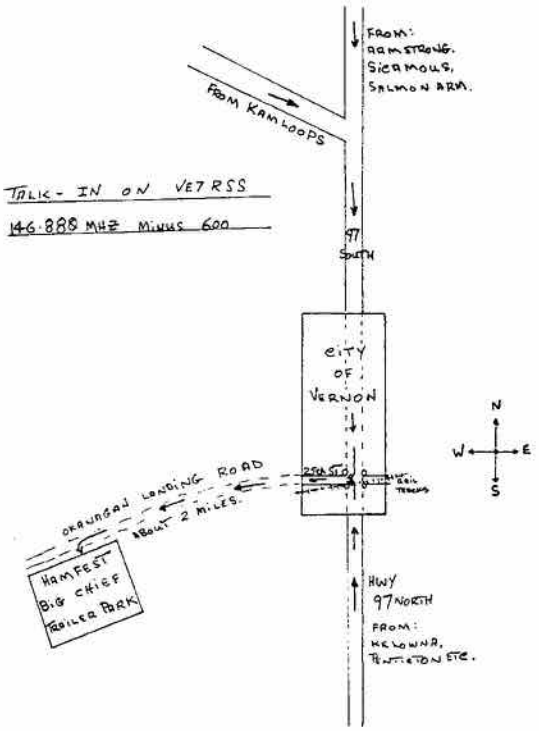

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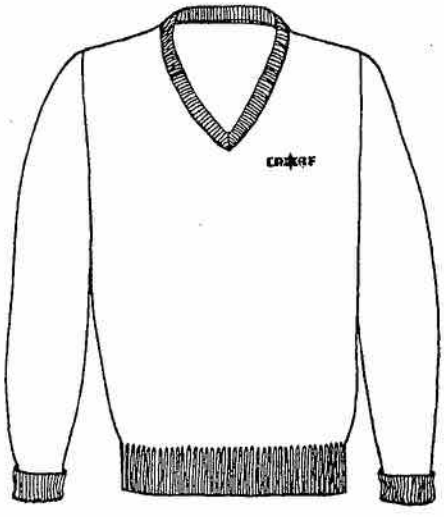

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For Maximum UHF Base Station Performance

Whether your interest is simplex, repeater operation, or satellite work, the IC-471H 430–450MHz base station transceiver will give you maximum UHF operation.

75 Watts. The IC-471H provides 10 to 75 watts of adjustable power in all modes. This enables adjusting the drive level to a linear amplifier for higher power uses such as moonbounce. For a portable UHF station, the optional IC-PS35 internal power supply is available.

IC-471H With IC-PS35 Internal Power Supply Installed

Compare these exceptional Standard Features:

- 430 – 450MHz
- Variable tuning steps, FM 5KHz and 1 KHz; SSB 10Hz, 50Hz and 1KHz
- 32 full-function Memories with lithium battery backup
- 75 Watts, fully adjustable on all modes
- 32 built-in Subaudible Tones
- High visibility display
- Scanning systems... Memories, Modes or Programmable Band
- RIT/XIT with separate readout
- S-Meter and Center Meter
- IC-HM12 Microphone with Up/Down Scan
- 11¼"W x 4⅜"H x 12⅝"D

Optional Features. AG-35 switchable mast-mounted GaAsFET preamp, UT-15S CTCSS encoder/decoder (encoder is standard), IC-EX310 voice synthesizer, IC-SM8 two-cable desk mic and IC-SM6 desk mic. PLUS a variety of power supplies...the IC-PS35 internal power supply, the IC-PS30 system power supply or the IC-PS15 external power supply.

AG-35 Mast Mounted GaAsFET Preamplifier

The IC-471A. The 25 watt IC-471A is also available and has the same outstanding features as the IC-471H, plus an optional IC-PS25 internal power supply for portable operation.

To complete your VHF/UHF base station, the IC-471's 2-meter companions, the 100 watt IC-271H and the 25 watt IC-271A are also available.

IC-PS30 Power Supply

See the IC-471H and other ICOM equipment at your local authorized ICOM dealer.

See the ham station donated by ICOM at EXPO '86!

ICOM

First in Communications

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