

**CA★RF** **the**  
**canadian**  
**amateur**

January 1978

No. 1

DOC proposes

450 cut

& new band

The review of the spectrum from 406 MHz to 960 MHz which the DOC has been studying for the past year is now published in a 'discussion paper' and notice has appeared in Part 1 of the Canada Gazette that public comment is invited on the proposals in the paper. Comments must be in to DOC within 90 days from the notice date, Dec. 17.

For Amateurs there was one disappointment although it was, after a number of rumours, no surprise ... the first ten megs of the 450 band (420-430 MHz) goes to the Mobile Service (except Aeronautical Mobile) leaving Amateurs with 430-450 MHz still available

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A complete breakdown of the discussions and decisions made at the National Amateur Radio

## Symposium

See Page 5 for a report on the proposed Experimenter Certificate and turn to Page 29 for further details.

## Amateur in Arctic Adventure

For Story, see Page 19



The Williwaw entering Vancouver harbour. Note the radar on the mizzen mast. -Photo, Tony Craig VE7XQ

# the canadian amateur

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Editor:  
VE3CDC Doug Burrill

Publisher:  
Steve Campbell

## CARF at CRTPB meeting

CARF Secretary Joan Powell VE3 FVO and Art Stark VE3ZS, CARF/DOC Liaison, represented Canadian Amateurs at the 33rd Annual Meeting of the Canadian Radio Technical Planning Board.

Some 35 representatives from the Canadian electronics and telecommunications industry were present, as well as senior reps of the DOC Telecommunication Regulatory Service. Mr. W.J. (Bill) Wilson VE3NR, Special Advisor to the Assistant Deputy Minister - Services, was the luncheon speaker.

The DOC reps advised the meeting that they now are considering the various options concerning the allocation of frequencies in the 406-960 MHz band with a view to establishing a Canadian position for WARC '79. While probably not able to completely meet the desires of all users, due mostly to the many presently unknown factors, they expect to have a paper prepared for comment in the near future. (It was published in the Canada Gazette on Dec. 17, with 90 days allowed for public comment. See story in this issue...Ed.)

The DOC also advised that they will be extending Electromagnetic Compatibility studies to include the immunity from interference of consumer electrical and electronic goods to the fundamental emissions from radio stations in their close proximity, ie, the effect of radio signals on computer-controlled automobile engines, as well as the converse, ie, interference to the reception of radio signals caused by electrical equipment.

Last year's CRTPB president, Bob Eldridge VE7BS, will head the Board for another year as a result of the annual election of officers.

He was elected 'in absentia', as he was busy, along with other B.C. Telephone officials, picking up practical telephone experience by manning the switchboards deserted by striking workers.

VE3ZS

The CARF National QSL Bureau address is P.O. Box 66, Islington, Ont. M9A 4X1.

The Canadian Amateur is the official monthly publication of the Canadian Amateur Radio Federation, Inc. It is distributed to members and is available to others for \$7.00 per year. The Federation is incorporated and operates under a federal charter, with the following objectives:

1. To act as a coordinating body for 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.

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### BOARD OF DIRECTORS

(If you want to contact the Federation, write or call a Director in your region or write to CARF, Box 356, Kingston, Ont. K7L 4W2.)

VE7BBQ Peter Dreissen, 3680 W 8th Ave., Apt. 103, Vancouver B.C. V6R 1Z1.

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VE2RA Gene Lajoie, RR 2 Perkins, Que. J0X 2R0.

VO1NP Nate Penney, Box 10, Shoal Harbor, Nfld. A0C 2L0.

## ARRL committee changes

George Davis VE3BBW is retiring from the US ARRL VHF Repeater Committee, leaving a vacancy for a Canadian. Les Weir VE3AIB has been appointed to the recently-formed ARRL VHF/UHF Advisory Committee.

# SHORT CIRCUITS

by  
Stan Hill  
VE3DQ



THANKS FOR THE RADIO JUNK, HANK: — JUST DROP IT HERE IN THE BIG JUNKBOX!"

## Experimentation still with us

A group in the Brampton, Ontario area is experimenting on the 1215 - 1300 MHz band using 450 MHz gear and tripling with kits purchased from the United Kingdom. They are, according to reports, preparing to put a repeater on the air. They have also been experimenting with 10 GHz equipment with interesting DX results.

We hope to have more details for the next issue as some of the people involved will have been at the CARF National Symposium and discussed their work.

## Regs Service to stay

An Ottawa MP, Lloyd Francis, has quoted the Finance Minister, Jean Chretien, as saying that the move of various parts of federal departments to Quebec City, Sherbrooke and Rigaud, all in Quebec province, has been halted due to lack of agreement on guarantees for language rights. This means that the DOC Regulatory Service will remain in Ottawa.

## All about ODXA

The Ontario DX Association (ODXA) is a body of Ontario radio listeners which seeks to unify listeners in the province and assist them to enjoy the hobby more. This is done through 'DX Ontario', their monthly bulletin, personal contact at local and provincial meetings and other means of communication between the members. The ODXA also promotes the hobby to the public, and assistance and information is provided to those expressing an interest.

In the Toronto area, members of ODXA and visitors may attend a meeting held on the first Monday of each month at 7:30 p.m. at the Downsview Public Library, Keele and Wilson.

Membership in ODXA is restricted to residents of Ontario. Annual dues are \$10. (special rate of \$7 for full-time students.) These dues will be increased to \$11 and \$8 this year. Members receive a certificate, personal identifier (number), 12 issues of 'DX Ontario' and are entitled to participate in all club elections and activities. Inquiries should be directed to: ODXA Membership Secretary, 18 Riverview Rd, Lindsay, Ont. K9V 1B1.



Canadian  
Repeater  
Advisory Group

## VE3DWL Hugh Lines

Your editor had the privilege of taking part in the CARF/DOC symposium which is reported elsewhere in this issue. A tremendous amount of ground was covered and it is planned to carry out another conference next year.

News from Ontario includes information on a new Brampton repeater, VE3SSS (small sub-systems), which is sponsored by the Southern Ontario Computer Amateur Repeater Group. VE3SSS promises to supply lots of tone access features for users, including a local auto-patch. The frequencies are 147.885 input and 147.225 output.

Rumour has it that there is a 1296 MHz repeater operating in the Brampton area but I haven't heard anything definite yet. Possibly someone in the Brampton area can give us some information on this UHF activity.

The new Smith's Falls repeater VE3RLR is now on the air and operational

on 147.81/147.21. It is presently using separate antennas for transmit and receive, however it may have a duplexer in operation very soon.

Your editor also has a complete micro-computer system working and I hope to transfer the CRAG repeater listings over to this system in the near future. Hopefully it will all take place before the summer listings are produced.

I hope all had a good holiday season and here's wishing you all a very happy new year from the Lines household.

## Chain reaction classes

BY VE3ARN, Jim Fathers.

A year ago I organized an Amateur Certificate class for a local GRS club with the result that we now have 17 new Amateurs in Ottawa and a large number of CBers looking for a class to attend.

I have left the club course in the hands of the recent graduates and have gone on to organize a group of five Amateurs, including myself, who have each taken one or two neophytes under their wings and are attempting to get them through the DOC requirements for their Amateur ticket.

The beginners are responsible for obtaining their CARF study guides and regulations handbooks and presenting themselves once a week at our shacks for code practice and a discussion on theory.

Now here is the gimmick--although there is no charge for the course, each new Amateur commits himself to teach two other people after he gets his certificate.

It sounds simple and it is. Next January there should be ten new Amateurs--the following year there should be 20 plus the 10--30 new Amateurs--the January after that, 40 plus 20 plus 10, equals 70 new ticket holders! Assuming no dropouts, in five years' time there should be 310 new Amateurs due to this system, with no one having to teach more than two people.

Try it, you'll get to know your fellow Amateurs better.

Get involved!...and let us know how it works out.

<b>VE</b> AMATEUR RADIO SALES 3768 BATHURST STREET DOWNSVIEW, ONTARIO	OFFICE (416) 636-3636 NIGHT (416) 486-0101 JACK VE3GMT
<b>THE LARGEST EXCLUSIVE HAM GEAR DISTRIBUTORS IN CANADA</b>	
	ALL OTHER MAJOR HAM LINES - RIGS AND ACCESSORIES AVAILABLE TOWERS AND ROTORS ETC
	LOWEST POSSIBLE PRICES
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# DOC Experimenter Proposal

Here is the draft DOC proposal for the Experimenter Certificate which was presented to the National Amateur Radio Symposium for discussion purposes. The symposium members proposed some changes to it and the final draft will be published in the Canada Gazette Part 1 for public comment some time in January or February, probably incorporating some or all of the amendments proposed by Amateurs at the symposium.

## EXPERIMENTER EXAMINATION AND SYLLABUS

The holder of an Experimenter class of certificate is qualified to operate any licensed Amateur Experimental station in the frequency bands allocated to the Canadian Amateur Experimental Service in and above the 144 MHz band\*.

### 1. Eligibility to be Examined -

1.1 Eligibility is contingent upon a person being:

- 1) a Canadian Citizen (by birth or naturalization) or
- 2) a Landed Immigrant.

1.2 Eighteen years or older.\*

1.3 In effect, there are no physical requirements, however, a handicapped candidate will, if necessary, be expected to provide any special equipment to facilitate the examination.

1.4 Examinations will be held at Department of Communications District Offices by appointment. Written papers will be marked by DOC headquarters staff only.

### 2. Candidate Profile

2.1 A candidate for an Experimenter Certificate is envisaged as a person interested in the modern theoretical and practical aspects of radio systems, for example - a professional electrical engineer or computer scientist with a bent toward the practical, an electronic technologist or an experienced electronics technician.

### 3. Knowledge Requirement Guidelines

3.1 It is not the Department's intention to make the examination so diversified as to render it impractical, however, candidates will have to demonstrate a knowledge of radio equipment

capable of analog and/or digital transmissions at frequencies above 144 MHz. Candidates will also have to demonstrate a working knowledge of basic micro-computer architectures and associated storage and terminal peripherals and how these could be accessed using a digital radio scheme.

3.2 The Department will issue a list of reading and study materials as preparation aids for the examination.

### 4. The Examination

4.1 The Experimenter examination will consist of four parts.

PART	EXAMINATION	FORMAT	DURATION
1	TECHNICAL	WRITTEN	1 HR
2	TECHNICAL	ORAL	30 MIN
3	RADIO REGS & OP PROCED.	WRITTEN	30 MIN
4	PRACTICAL	ORAL/WR.	1 HR

PASS MARK - 70%

4.2 Includes questions on - theory of communications and computing; analog & digital transmissions; queuing theory, packet radio; micro-processors; error detection schemes, reliability.

4.3 Questions on the Canadian and international radio regulations governing the establishment and working of Amateur Experimental Stations and those relating to the working of stations generally.

4.4 Questions on the installation, operation and maintenance of transmitters, receivers and computing equipment.

4.5 A candidate who fails to obtain a pass mark in all subjects may not be re-examined for one month.

4.6 A candidate who has a graduate degree in computer sciences or electrical engineering may, upon application to the Department, be credited with Parts 1, 2 and 4 of the examination.\*

Dr. John deMercado  
Director General,

Telecommunications Regulatory Service

\* Changes to these sections were proposed by the Symposium.

# Canadian Net Proposal

By Joe Cusimano, VE3OV

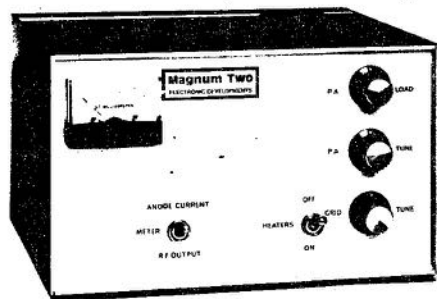
One of the stated objectives of CARF is to act as a coordinating body for Amateur radio organizations in Canada. As an aid toward fulfilling this objective, I would like to put forward the following proposal.

Because Canadian Amateurs seem to lack a common coast-to-coast meeting place in the Amateur radio spectrum, my proposal is that the frequencies 7.2000 - 14.2000 - 21.2000 - 28.200 Mhz be promoted by CARF as frequencies having special significance for Canadian Amateurs.

These frequencies would be used as monitoring and calling frequencies. Stations contacting each other, would as a first order of business, pick a specific clear QSO frequency which would be either plus or minus 10 or 20 kHz from the primary frequency. This would provide four specific working frequencies plus the center monitoring frequency on each of four bands capable of working across Canada.

## The Magnum Transverter

MODELS EDT 144/28 & EDT 50/28



The Magnum Transverter has been developed by us as a linear transmit and receive converter from 28-30 MHz to 144-146 MHz. These Transverters accept low level drive from most HF Transceivers 28-30 MHz band (other IF's to special order) and convert this signal by linear balanced mixing to the specified VHF amateur band. In a similar manner VHF signals being received are converted down to 28 MHz in the receive mode.

### Technical Specification.

- Dual gate MOSFET receive converter.
- gain 30 db.
- Noise figure - better than 2.5 db.
- TRANSMIT DRIVE REQUIREMENT AT 28 MHz up to 500 mW.
- POWER OUTPUT: - UP TO 200 watts INPUT (50% efficiency).
- LEVEL OF SPURIOUS OUTPUT: - Not greater than 50 db below peak carrier.
- PANEL METER reads P.A. current or R.F. output.
- CABINET SIZE 10" x 6" x 7" (25½cm x 15½cm x 18cm).

The Transverter is supplied complete with valves, serial changeover relay and power lead.

### USE WITH YAESU/SOMMERKAMP EQUIPMENT

The Magnum Transverter plugs directly into the accessory socket and takes all its operating voltages from almost any transceiver or separates in the above range of equipment. In one or two isolated cases the addition of a 12.6v heater transformer may be required, a suitable transformer can be supplied.

### USE WITH OTHER EQUIPMENT

Our Transverter can be used with almost any HF Transceiver with only a few simple modifications being required. If any advice on modifications is required any of our experienced technical staff will be happy to assist.

For operators who do not wish to take power supplies from their HF equipment, a suitable power supply can be supplied to special order by us.

SPECIFICATION BROCHURE AVAILABLE

**CANLON** P.O. Box 65  
Komoka, Ont. N0L 1R0  
ELECTRONICS (LONDON) (519)-471-8731

An Amateur with a band switching transceiver would merely set the tuning dial to 200 and flip the band switch in order to quickly analyze the Canadian activity on each of the four bands. Participating stations would all use one short specific call such as, 'CQ - THE VICTOR ECHO NET'.

The idea behind the frequency plan is not to 'take over' any frequency. Where a QSO springs up on one of the designated frequencies, monitoring stations would simply tune to a side channel or another band. There would be no net control stations under normal circumstances.

This arrangement can work even if only a few amateurs across Canada agree on it and work to make it happen and begin monitoring and using '200'. From a small beginning it will slowly grow until full acceptance and usage by Canadian Amateurs is achieved.

Developed and used properly, the proposed plan could develop into a first rate 'cross-country net'. We are all well aware of how wide-spread our country is and if we are to solve some of our common problems, we must begin by talking to each other across our vast nation; talking easily and often. The proposed monitoring and calling frequency plan will help achieve that goal.

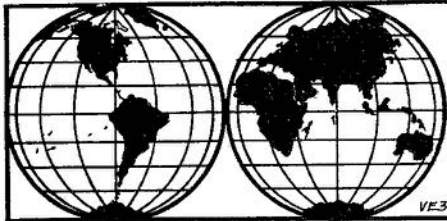
Let's develop the habit of sitting our receivers on '200' whenever we're in the shack, doing something other than operating.

(Ed. Note: Thanks Joe. The project has been turned over to our Communications Committee Chairman, Frank Merritt, VE7AFJ, Nanaimo, B.C.)

## Ma Bell becomes 'good buddy'

Bell Canada has announced that it will now retail GRS (CB) rigs in its 'telephone stores' complete with service.

Looks like a good 'loss leader' for its new 'Access 450' mobile telephone to which its CB customers can be referred once they become disillusioned with 27 MHz.



# INTERNATIONAL NEWS

## From Wireless World

Novice licences were introduced in New Zealand a year ago. They require rudimentary theory, a 'regulatory' paper of similar standard to the existing licences and a 6 wpm Morse test. Transmitter power is limited to 10 watts dc input between 3525 and 3575 kHz, crystal controlled and with both cw and am (including ssb) operation permitted.

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Amateur television repeaters with outputs in the 1215 MHz band are proposed in the U.K. Three channels, with outputs 40 MHz higher than the incoming signal have been designated. The repeaters will be suitable for 625-line System I transmissions and it is intended that these particular repeaters would not be available for other modes of operation.

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A new beacon station, A9XC, on 28.245 MHz located at Bahrein operates between 2100 and 1300 GMT daily and should provide a valuable guide to 28 MHz conditions during the increasing sunspot activity of the next few years. Frequencies of existing 28 MHz beacons are gradually being changed to above 28.2 MHz to avoid interference to American novice transmissions that should be audible in Europe if the latest forecasts of a high maximum peak of sunspot cycle 21 prove well founded.

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ZS5VHF at Alverstone, near Durban, is the first of a series of South African VHF beacon stations; it opened recently on 144.925 MHz. A beacon at Mbabane, Swaziland, 3D6AX, is operating from a site 4500 ft. above sea level on 144.735 MHz

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The 1296 MHz beacon GB3AND at Andover, U.K., will increase power to 40 watts if authorization is obtained.

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The number of operational UHF repeaters in the 432 MHz band in the U.K. may soon reach 20.

## Autopatches

Misuse of autopatch facilities in the US has drawn a warning from the FCC that if it continues, the FCC may take a hard look at all Amateur telephone interconnections, according to 'HR Report'. (Some Canadian autopatch repeaters have been having troubles, too, and at least one operating company is viewing the idea with a very jaundiced eye. One machine has cut its patch voluntarily due to an unidentified nut playing with the system.)

Also from 'HR Report' comes the note that the recent boasting by the ARRL that the grab at 220 MHz in the US for CB is "...dead and ARRL slew it" may be, like Mark Twain remarked upon reading his death notice in a paper, "somewhat premature". The lobbying for the 220 band to go to CB in the US was staved off for the present by the combined efforts of a number of organizations and individuals as well as the ARRL. That the grab for 220 is not dead as proclaimed is evident from the report of the FCC itself when it stated that although the termination of the recent proceedings was in the public interest, it "would consider the issue in some future rulemaking".

No sir, the 220 MHz dragon ain't quite "slewed" yet!

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## Petition

In the USA, a mass onslaught on Amateur bands is promised by a character named Rick Cooper who announced recently that his "Chain Letter Petition" in the US now has a million signatures with the intent of frightening US legislators into giving Amateur bands to the US CB service, as well as grabbing off frequencies in the Marine Service HF bands. He said his organization, 'Communications Attorney Service' is a "dictatorship" and that he's the dictator!

The name appears to be a ploy to confuse Amateurs (a tactic not unknown in Canada) because the casual reader could get it mixed up with the 'Personal Communications Foundation' which is a legitimate legal information service for Amateurs and CBers with members in Canada and the US. It provides information for radio users who have trouble with legal problems involving interference and towers.

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Gleaned from 'HR Report' - Japan has issued a new stamp commemorating the 50th anniversary of the licensing of Japan's first Amateur, JXAX (now JA3 HAM!). For two stamps in an attractive folder with the story, contact the Japan Amateur Radio League, Box 377, Tokyo Centre, Japan for details.

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CB manufacturers in the U.S. are arguing for import controls and one wants duty raised to 56% ! Amateurs next ?

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The FCC move to allow repeaters in the US on 144.5 to 144.6 MHz in the UHF bands has been stalled while the whole affair is being reconsidered.

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Fiddling while the amplifiers burn on - The US FCC is still fooling around with bans and controls on linears. Meanwhile, back at the ranch, DOC here has applied a point-of-sale control on them as a

beginning in clearing up the GRS act.

The Russian Amateur satellite launch expected anytime will apparently utilize 145.800-145.845 MHz input with output on 29.350-29.395 MHz. Command frequency band will be 145.845-145.850 MHz. A beacon will operate on 29.395-29.400 MHz.

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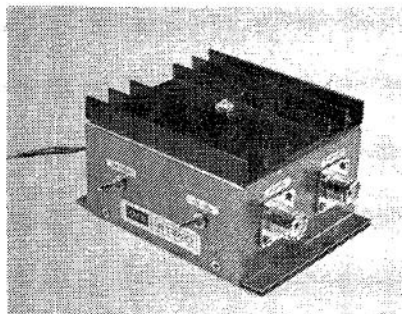
Russian spacecraft voice has been heard on 121.75 MHz. Telemetry is picked up on 15.009 and 20.009 MHz.

## CB Down-Under

From Australia comes word that the 'good buddies' (or should it be 'dinkum coppers') have had their illegal operations made legal. At the expense of the Amateurs, who lost their 26.96 to 27.23 MHz band, the Aussie version of CB came on with 40 channels on Oct. 1, 1977. In addition, in what would seem to be a forward-looking move, the Australian government is opening up a UHF allocation for CB with effect from Jan. 1 of this year. This will provide another 40 channels from 476.675 to 477.400 MHz.

The government has also had the courage to state that the 27 MHz CB will cease to operate as of June 30, 1982, leaving CB operation in the UHF allocation. No word has been received as to what will happen to 27 MHz after that ... but that will be after the ITU

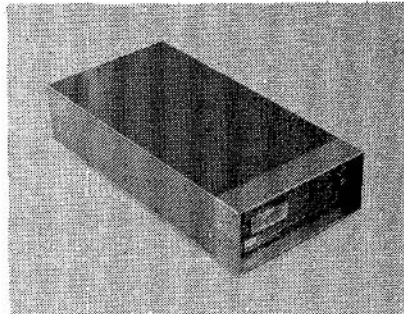
## For the 2 M Operator



### SOLID STATE 2M LINEAR AMPLIFIER

**144PAB9:** All solid state 50 WATTS RMS OUTPUT linear amplifier (for 10 watts rms input). 12V operation and internal automatic RF sensing switch means that you only need to connect this unit in your 2m antenna line together with a source of 12V DC for 50 watts rms OUTPUT. Accepts ssb, fm, a.m. or cw with switchable hang time for ssb and cw operation. Supplied complete with DC power cord and fitted SO239 sockets . . .

Price: \$135.



### 23.144MHz SOLID STATE TRANSVERTER.

All solid state circuitry employing high gain low spurious mixer configuration. Fully metered and LEDs to indicate bias condition. Measuring 250mm x 125mm x 50mm, attractively styled. 2W output (linear and clean). Built-in ant c/o relay. The amp man's delight or use it for driving a high power linear amp. Relay contacts already built in for switching external linear. Receive side employs a superb FET converter. SO239 ant socket. Supplied complete with harness for your sabb transceiver.

Price: \$159

Specification brochure available

CANLON Electronics (London)

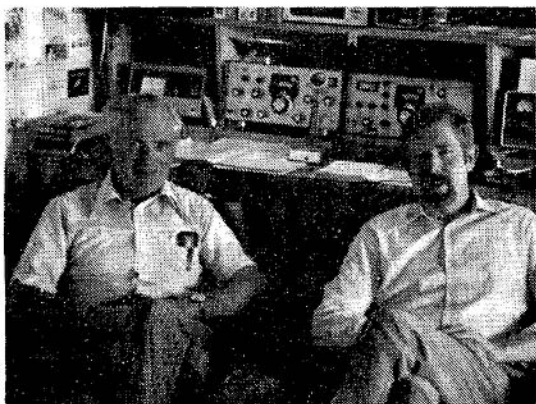
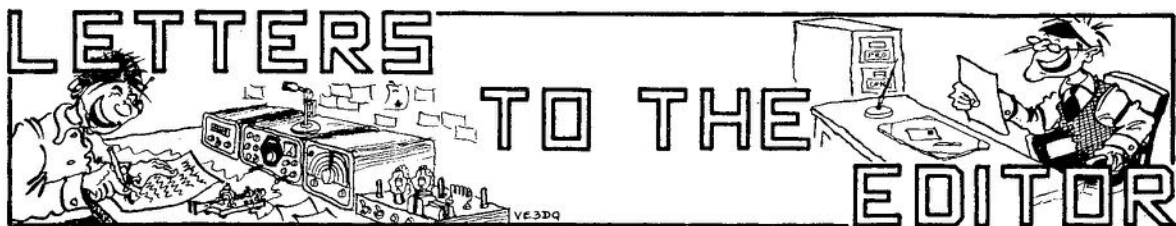
P.O. Box 65, Komoka, Ontario, N0L 1R0. Tel: 519-471-8731



WARC frequency re-allocation meeting in 1979.

A letter from Tom O'Donnell VK2OD, a former president of the New South Wales Amateur organization, whom many Canadians met when he was here in 1976, notes that with the advent of the legal CB, chaos reigns supreme, with

any and all kinds of interference problems raising their ugly heads. The government has assured Amateurs that the QRM makers will be prosecuted ... with about as much enthusiasm, vigour and success as in the States and Canada, one gathers from Tom's skepticism!



## DJ7YE

Dear OM:

This picture was taken on my first visit in 1976 to DJ7YE, Bernd, in Roetgen near Aachen. We had our first QSO in the fall of 1975 and soon became close friends over the air with regular QSOs on the weekends when conditions were OK. I received a spontaneous invitation when I told him I would visit DL Land in 1976. Two other Canadian Hams visited Bernd in 1976 also.

He is an ardent DXer and has many friends in Canada. If you could find space to publish this picture, I am sure his friends in Canada would appreciate it. (Bernd is on the right.)

Henry Traue VE7BYP

## QSL Postage

Dear Sir

I would like to submit a couple of suggestions:

I notice when QSLs are received from the USA, it only requires 9¢ postage. Surely with the amount of free ad-

vertising the government is getting from hams here, they could allow an amount from their tourism budget to allow hams in Canada to send cards at a lower rate than first class letters.

Also, it would really be something if The Canadian Amateur ran ham-ads as they do in QST. It would ... give the fellows in different parts of the country a chance to buy equipment from others, or trade.

Thank you,

W.L. Swezey VE3ECH  
Thunder Bay, Ont.

(We're looking at the possibility of an 'ad' column...Ed.)

## Customs

Dear Sir:

Being a Customs Inspector and a ham, I feel I should draw members attention to a slight error in the November issue regarding saving on Customs duty.

The 25% special rate applies to the next \$150 after duty free exemption whether the free portion is \$50 or \$150. The article erroneously advised that it only applied to the next \$50 over the duty free \$50 exemption. See page 6 of the booklet 'I Declare'.

W.R. Pringle VE7DBL

(Thanks VE7DBL. Here is what the booklet says:

"If you have been away for 48 hours or more you can - in addition to your personal exemption - bring in extra goods. On the first \$150-worth there is a special rate of 25%. On any quantity over that, you would have to pay the regular duty and taxes. The extra goods

must accompany you.

"If you are bringing in a lot of goods, the Customs officer can advise you which goods to charge to your personal exemption - to give you maximum duty and tax advantages.

"If you are bringing in far less than your personal exemption allows, the Customs officer can let you know if it would pay you to clear the goods under the 25 per cent special rate - and save your personal exemption for another trip."

## Pioneers

Dear Sirs:

The article on Newfoundland Communications Pioneers was very interesting to me, possibly due to the fact that years ago I started out to be a telegrapher with the CPR Telegraphs, but switched to a banking career (but never lost my interest in communications).

It might be of interest to your readers to know that Frederick N. Gisborne, who was one of the early Nfld. Communications Pioneers was later appointed General Superintendent of the Telegraph Branch organized about 1882 in Ottawa within the Federal Department of Public Works. This telegraph branch was to be in charge of the Dominion Telegraph System which was started in 1874 to provide a communications link between Winnipeg and Edmonton under the Dep't of Railways and Canals. Hartley Gisborne, his son, was appointed District Superintendent for North West Lines, and was headquartered at North Battleford. This system was of great assistance to the Army and the Royal North West Mounted Police during the North-West Rebellion. (This information was

### FOR THE 70 Cms OPERATOR.

144/432

#### COUGAR FM TRANSVERTER.

**2FM70:** This small unit obviates the need for the expense of a second transceiver or the complexity of numerous add on units with multiple connecting leads. By simply inserting the unit in the antenna lead of your 2m FM transceiver you are ready to transmit and receive on either 2m or 70cm AT THE FLICK OF A SWITCH. The 2FM70 has its own 70cm to 2m receive converter built in and all switching is carried out within the unit. Size 105mm x 40mm x 180mm. Weight 450 grams. Supplied complete with power cord and mobile mounting bracket.

Price: \$156.

**CANLON**

ELECTRONICS (LONDON)

P.O. Box 65  
Komoka, Ont. N0L 1R0  
(519)-471-8731

january 1978 - 10

gleaned from a booklet 'The Dominion Telegraph' published in 1930 by the Canadian North-West Historical Society.)

Frank Pow VE6AVZ

Okotoks, Alta.

## Author found

In reference to the article in your November issue 'Coax Feedthrough' (of which we could not identify the author at the time...Ed.) please be advised that I wrote it and it originally appeared in the Scarborough (Ont.) club bulletin in November 1976.

Here are a few tips regarding that article: use a gear type hose clamp to secure the cap to the pipe and weather-proof it with butyl rubber sealant (available at Canadian Tire) instead of the silicone rubber originally called for, as it did not effect a waterproof seal. It didn't stick too well and was rather inflexible.

Ken Grant VE3FIT

(Our belated thanks to you, Ken... also apologies from the Editor, who did the drawing. It should show the slit in the side of the ABS cap extended to the holes in the end; the holes should be just large enough to take the cables but not the connectors which may already be in place at the antenna end of the cables.)

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Send your letters to Editor, The Canadian Amateur, P.O. Box 356, Kingston, Ontario K7L 4W2.

## 40 Channels?

The following list is a compilation of all the ARRL/CARF 2 metre FM frequencies. What has been done with this list is simply to put all of the receive frequencies in numerical order from the lowest receive frequency to the highest and number them.

As you can see, there are 13 simplex and 27 duplex, for a total of 40 channels. It is much easier to remember that a certain city has repeaters on channels 16 and 18 rather than trying to remember 146.34/146.94 and 146.40/147.00.

Let's face it, the 2 metre FM band is already channelized, this list just simplifies their identification and results in less confusion (if you give it a little

unbiased thought, I think you will agree.)  
Rob Bareham VE3ACY

(Interesting idea, Rob, as long as no one has hang-ups on the fact that it comes out to 40 channels, like the CBI... Ed.)

CHAN	TX FREQ	RX FREQ	USE
1	146.49	146.49	simplex
2	146.52	146.52	simplex
3	146.55	146.55	simplex
4	146.58	146.58	simplex
5	146.01	146.61	duplex
6	146.04	146.64	duplex
7	146.07	146.67	duplex
8	146.10	146.70	duplex
9	146.13	146.73	duplex
10	146.16	146.76	duplex
11	146.19	146.79	duplex
12	146.22	146.82	duplex
13	146.25	146.85	duplex
14	146.28	146.88	duplex
15	146.31	146.91	duplex
16	146.34	146.94	duplex
17	146.37	146.97	duplex
18	146.40	147.00	duplex
19	146.43	147.03	duplex
20	146.46	147.06	duplex
21	147.69	147.09	duplex
22	147.72	147.12	duplex
23	147.75	147.15	duplex
24	147.78	147.18	duplex
25	147.81	147.21	duplex
26	147.84	147.24	duplex
27	147.87	147.27	duplex
28	147.90	147.30	duplex
29	147.93	147.33	duplex
30	147.96	147.36	duplex
31	147.99	147.39	duplex
32	147.42	147.42	simplex
33	147.45	147.45	simplex
34	147.48	147.48	simplex
35	147.51	147.51	simplex
36	147.54	147.54	simplex
37	147.57	147.57	simplex
38	147.60	147.60	simplex
39	147.63	147.63	simplex
40	147.66	147.66	simplex

The Canadian Amateur is always looking for your comments on its contents. All suggestions are considered by the Editor and his staff ... and many of them have already been used to make our publication suit your needs!

## Symposium

Mr. John Henry VE2DNM,  
President, CARF

Dear John:

The Radio Society of Ontario, Inc. wishes to express its appreciation to you, the officers of C.A.R.F. and all of the Amateurs in the Ottawa area, who worked so diligently to bring the symposium 'Amateur Radio in the 1980s' to a successful and productive conclusion.

Attendance by Amateurs from across Canada, working together for the benefit of our hobby, suggests that C.A.R.F. has 'come of age'.

Our congratulations for a project well conceived and superbly executed.

Best 73's

Marvin Nash VE3FON  
President, RSO Inc.

Dear John:

I wish, on behalf of myself and the Calgary Amateur Radio Association, to thank all those responsible for the recent CARF/DOC symposium and the hospitality shown to those who attended.

As President of C.A.R.A., I will do everything in my power to provide the support you need to fulfill all your goals.

Looking forward to next year's symposium, and continued success to you all.

73's,

W.A. Hammond VE6GQ

Ed Morgan VE3GX writes in his Ottawa Valley Mobile Radio Club 'Rambler' re the Symposium:

"...My hat is off to CARF for the tremendous organizing job and for the wonderful luncheon. I am sure that their coffers must be very low after such an event and that they would welcome some new memberships. I intend to join even though I belong to numerous Amateur Radio organizations now. My hat is also off to the high calibre of Radio Amateurs attending the Symposium, I am sure that the DOC must have been impressed and possibly might have a new respect for Amateur Radio as a hobby and a valuable national resource..."

The following letter is from Ron J. Hesler, ARRL Canadian Division director to Federation vice-president Fred Towner:

I am very sorry that illness prevented my attendance at the Symposium... Perhaps, under the circumstances which have been reported to me, by many of our representatives attending the Symposium, it was just as well. They were not exactly impressed by the distinct CARF orientation of the proceedings. Pending written confirmation reports, I would say that we will not attend any future such CARF sponsored Symposiums. It is even likely that we may possibly convene our own, in the future. This is certainly too bad, because if the Symposium would have been conducted in a non-partisan manner, which I was led to believe it was to have been, it could most certainly have been a great thing, for not only CARF-CRRL\* relations, but the Canadian Amateur in general. From what I have heard to date, from not only our own representatives, but other delegates as well, this purpose was not served.

I was especially disappointed to hear where apparently, to a man, CARF delegates voted against the creation of the Novice license. This absolutely astounded our delegates and the writer, in that your representatives went directly against the overwhelming wishes of your membership, as indicated in your referendum, as reported in The Canadian Amateur. Oh yes, I know, your representatives stated that they were all expressing a personal opinion, but who do you think that you are kidding?

I was also disappointed to learn from

Randy Smith, who was repeating information which John Henry passed to him, that more than 60% of delegates came from the Ottawa area. If this is true, then the Symposium was hardly what could be considered truly representative, in the national sense.

The CRRL, which is strongly convinced of the necessity for a Novice license, in addition to the expressed democratic will of our membership (83%) shall continue to press for this class of license with every means at our disposal, including possible political action.

I am sorry, Fred, but from all indications I have to date received, it certainly does not augur well for improved relations between our two organizations. In point of fact, quite the opposite....

Fraternally yours,  
 Ron J. Hesler VE1SH  
 (\* 'CRRL' or Canadian Radio Relay League is an 'alternative' name now being used by the American Radio Relay League's division in Canada...Ed.)

Below, Fred's reply:

Dear Ron:

I wish to acknowledge receipt of your letter dated Nov. 28th, 1977, in which you air your complaints re the CARF symposium.

Naturally, I am disappointed with your expressed attitude and can only conclude your reaction was based on inadequate knowledge of the proceedings.

- |            |   |         |
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| 13.        | Crystal socket for HC6/U, ceramic             | \$ .35  |
| 14.        | Crystal socket for HC25/U, ceramic, for pcb   | \$ .30  |
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| 16.        | Crystal. 100 KHz, HC13/U                      | \$13.00 |

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Every province in Canada was represented, with the single exception of New Brunswick. Unfortunately, Ron, because you did not attend, your province was not represented. Additionally, I am very pleased to inform you that twenty-eight Amateur organizations were represented and a number of non-amateur organizations were represented by observers. Of course, the DOC participated fully with 14 from HQ's, (including the acting Deputy Minister,) plus a number of Regional Managers and a number from various field offices.

Insofar as the novice question is concerned, your delegates were informed at our meeting on Friday that CARF has no official stand on the certificate as proposed. Our membership was evenly split on the original proposal. Besides, I personally see no reason to hold to an old decision, which was based on inadequate knowledge, when new information and logical argument convinces on the original decision may have been in error. I would also like to bring to your attention the fact that the plenary session vote

showed the same percentage in favour-opposed as did the workshop vote, 30% in favour, 70% opposed.\* With only six delegated out of 112, I fail to comprehend your claim we unduly influenced the decision.

By the way, Ron, I might add, I was absolutely astounded that your delegates went directly against the overwhelming wishes of your membership, as indicated in your referendum. The vote in favour of the experimenter Certificate was unanimous. Your delegates voted 100% in favour of this proposal.

A complete information package, containing workshop reports, position papers and other information used by the delegates, will be available shortly, to organizations requesting same, through our Administrative Headquarters in Kingston.

Fred H. Towner, VE2DNW  
Vice-President

\* Editor's note: Actually the vote was 20% for and 80% against in both plenary and workshop sessions.

## DOC EMC complaints

Once upon a time it was known as 'RFI', radio frequency interference, and then it became 'electromagnetic interference' (EMI), and the problem now shows up as 'Electromagnetic Compatibility' which we would guess is known as 'EMC'.

Interference by any other name would smell, etc., and the DOC has just issued a table for the information of a Canadian Standards Association committee which is meeting on Jan. 24. One part of the table covers from April 1, 1976 to March 31, 1977 and the second one covers the period from April 1, 1977 to September 1977. The latter, being the most recent one, is summarized here for our readers. Club EMI committees wishing to get the fully detailed tables can send a self-addressed, business-size envelope to CARF, Inc., Box 356, Kingston, Ont. K7L 4W2.

The tables list complaints concerning 'home entertainment equipment' only and show the categories of equipment in-

SOURCE	TOTAL	
	CASES	%
<b>Active Sources</b>		
Commercial Equipment	149	1.36
Gaseous Discharge Lamps	86	.79
Household Equipment	461	4.21
ISM	12	.11
Power Lines	4376	39.99
Receiver Installations	707	6.46
Internal Combustion	3	.03
Loose Antenna Connections	4	.04
GRS (- Fundamental)	501	4.58
(- Harmonics)    (CB)	464	4.24
(- Spurious)	117	1.07
(- Total)	1082	9.89
Total - Active Sources	6880	62.88
<b>Passive Sources:</b>		
Inadequate Immunity	2339	21.38
Inadequate Antenna	402	3.67
Loose Antenna Connections	51	.47
Defective Receiver	381	2.57
Receiver Mistuned	48	.44
Low Receiver Line Voltage	8	.07
Total - Passive Sources	3229	29.51
<b>Other Sources:</b>	833	7.61
Total - All Sources	10942	100.00

volved in the complaints generated by both 'passive' equipment (such as receivers) and 'active' equipment, such as transmitters. The breakdown shows the number of cases involving AM and FM receivers, TV, by three channel groups and 'non-radio' equipment.

The DOC requested the CSA committee to note the large number of complaints listed under 'inadequate immunity'. The Department further requested that before the power line complaints (the most frequent) were considered, further refinements in those statistics must be made. The term 'inadequate immunity' apparently covers the poor design of TV and radio receivers and 'non-radio' devices, which presumably include hi-fi sets. In the total of 2,339 cases attributed to inadequate immunity, TV sets were involved in most cases (700) with non-radio devices running in second place (625) and AM and FM receivers coming in third and fourth places respectively (557 and 459).

The GRS (CB) doesn't come off too

well under the 'active' devices involved in complaints and one can only assume that the heading of 'other sources' covers a multitude of sinners, possibly some of generated by Amateur equipment, but if so they are not specifically identified.

The problem of EMI or as it is now called, EMC, will be studied by the EMC Committee of the CRTPB which was reconstituted as a permanent committee of the Board at a meeting on Nov. 16. Each member of the CRTPB is to determine its major concern with the problem of EMC. Amateurs have more than one problem with EMC and CARF, as a member, will have input to the next committee meeting in Toronto on Feb. 17.

The Canadian Standards Association committee, pursuing similar ends with regard to the EMC problems and home entertainment equipment, meets Jan. 24 and CARF, which is a member of this committee also, will be there to present the Amateur viewpoint and input.

## Fuzzbusters busted

Toronto area police had a field day over Christmas weekend by using a new Ontario law passed just before the holiday to nail scores of motorists sporting police radar receivers in their cars. The receivers were confiscated and the owners hit with stiff fines.

All of this seems rather amusing (except to the ones caught) until one reflects that this is one more step by the provinces to erode the power of the federal government in the field of telecommunications. The Ontario law, according to sketchy reports available at

deadline, is one of those things which make civil libertarians (and fuzz-buster manufacturers!) upset by the power it gives police to stop and search on suspicion that a car has such a gadget.

Even more upsetting is the thought that the province's appearance in this area of jurisdiction is due to the fact that DOC never bothered trying to enforce the Radio Act and Regulations that make it illegal to possess such a bit of equipment unless one is duly authorized to do so.

Amateurs are involved in this affair because it is understood that these infernal devices operate in the 10 GHz range because police radar, which is a 'radiolocation' device, uses the band that Amateurs share with radiolocation, 10.0 to 10.5 GHz. It will be interesting to see what will happen to the first Amateur who is stopped and found to have a receiver in the 10 GHz range which appears to be legal under the terms of his federal radio station licence and yet is illegal by provincial laws. CARF would like to have details of any such occurrence. (Remember, you should carry a photocopy of your station licence in your car.)

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The Lahr ARC includes a number of XYLs who are active Amateurs. Lynn DJ0NT is our CARF correspondent in Lahr and both she and Donna DA1HO regularly check in on CLARA nets back home in Canada. The girls grouped around the club station equipment are: Lorrie Williams, who was studying for

her ticket at the time the picture was taken; Donna Shephard DA1HO; Carol Gear DA1OY; Chris Barnes DA2CB; Joan Parent DA1JN and Lynn Boothroyd DJ0NT. The club president, Burt Amero, furnished this picture while back in Ottawa for a short spell in the hospital.

## Overseas Report

Greetings from Lahr! We have been busy since our last note. In April we had our first DX-pedition. 2 OM/YL teams plus an OM set up operation in Liechtenstein for the long weekend. The camping, signals, weather and local hams were great! ... May saw the whole club rally for a display in the local gym. It was an all-out effort, complete with three element beam on 30 ft. tower, DA1IT's wall-to-wall station in operation, miniature antenna farm, SSTV, OSCAR, & YL displays and posters and handouts.

Over the summer period, we had 7 members attend the huge European Hamfest at Frederichaven on the Boden Sea in June ... and VE3GK (Gerry King) stop in from his European tour to be guest lecturer at our July meeting ... Unfortunately summer also saw the return to Canada of 10 of our members.

We held a Club mini-display and Open House the first weekend in October ... Classes started Oct. 17 with DJ0NU (Andrew) and over 30 students (7 of them YL's) ... The first weekend in Nov. will have us once again putting on a full

scale display in the local gym for the Canadian Community Club Day ... And for the Electron Award Hunters, we have 8 new calls: DA1JN (Joan) and DA1HO (Donna) to complete two more husband/wife teams (that brings our club total up to 5), DA1JG (Wayne), DA1NL (Norman), DA1JM (Howard), DA1FY (Robert), and DA1QR (Mike).

Hope to be hearing from you on Sundays at 14.169 ± QRM at 1800 GMT.  
DJ0NT, Lynn Boothroyd

## Direct dial to 27 nations

Bell Canada has inaugurated direct dialling to 27 European and Asian countries for some telephone users in Montreal and Quebec City.

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## From the Clubs...

The Yukon Amateur Radio Association in Whitehorse notes that the Mt. Wilson repeater VE8BWR (34/94) is now set for the winter at the Yukon Forest Service station. A number of the people who took the Amateur course last year are now working 10 metres DX. The VE8 call is much sought after and a good place to find it may be on 28.500. The club station VE8YAR should be on the air again soon.

The Radio Society of Ontario has investigated the reports that the demand for two letter calls has resulted in the absence of available two letter VE3 calls. It appeared that out of the 4,000 or so Amateurs in Ontario, only 13 indicated any interest in pursuing the matter, so it was concluded that it was not worth talking with DOC on the subject.

Fred Hammond VE3HC (Hammond transformers) was the recipient of the RSO Ontario Amateur of the Year award. Fred's collection of antique radio's and components is one of the best on the continent.

Our congratulations are extended to Art Hansen VE1AUF on his being awarded the Arthur D. Stairs Award of Merit as the most outstanding paraplegic of the year. As a marine engineer, he helped build the first oil drilling rig at the Halifax Shipyards. In 1970, he suffered injuries in an accident aboard an oil rig. He is now in charge of the machine shop in the new Life Science Building at Dalhousie University, Halifax.

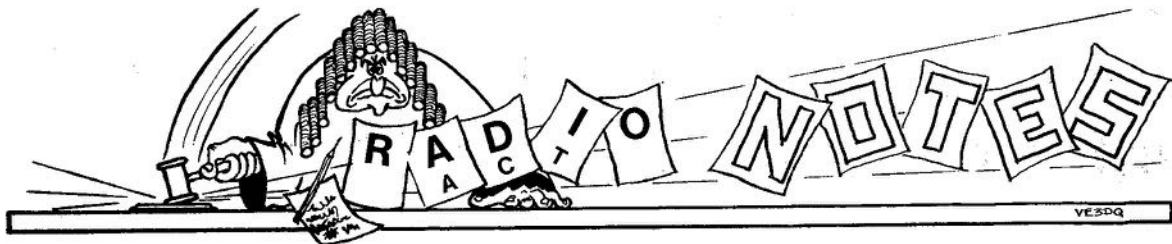
Halifax ARC

ATTENTION!

## Old-Timers

Brit Fader VE1FQ is looking for a copy of the list of Canadian Amateurs in the period 1920-23. In particular, Brit is seeking a list of Maritime province operators. He says that the list was apparently a typewritten one which came out prior to the Call List Booklet published by the licensing authority at that time, the Department of Marine and Fisheries. Brit can be contacted through Box 663, Halifax, N.S.





From Vancouver comes the news that the DOC successfully obtained a conviction against a person who was showing up on local repeaters without the benefit of an operator's certificate or a licence. The local judge hit him for \$400 or 45 days in jail, on Dec. 15. To the satisfaction of local hams who helped to amass the evidence, the equipment is to be confiscated.

No publication today seems to get by

## New DOC Deputy Minister

The federal Cabinet announced that the DOC will have a new Deputy Minister after several months with this office being vacant. Bernard Ostry, who has been on the Ottawa scene for many years, will take over the office vacated by Max Yalden last year.

At press time, not much official information was available on Mr. Ostry's background, but it is remembered that he emceed TV public affairs programs a number of years ago. He was last in office as a Director-General of the Museum of Man in Ottawa and is completing a year's sabbatical during which, it is said, he was writing a book.

Oddly enough, although it was tough to find out any details about Mr. Ostry, shortly after his appointment was known, an Ottawa newspaper printed a full page story on his wife, Sylvia. She is also a deputy minister ... of Consumer and Corporate Affairs ... formerly head of what used to be called the Dominion Bureau of Statistics now, like other Ottawa bureaucracies, endowed with an 'in' name - 'Statistics Canada'.

The article noted that the new DM of DOC drives the DM of CCA to work each morning. It might occupy that time nicely if the two DMs of the departments most concerned discussed the problems concerning radio interference with consumer home entertainment equipment

without sex rearing its head, ugly or otherwise, so in keeping with the times we would like to note that DOC also had a successful prosecution in Alta, where a local CB operator was making his equipment available for what is euphemistically termed 'soliciting'.

VE6AVZ reports that the Calgary Herald carried an item about a CB op who was fined \$100 for using what was termed 'vile' language on the air.

and came up with some action on the interference rejection standards needed to help solve this growing problem.

(Meanwhile, back at the ranch ... the federal Cabinet, that is...according to Ottawa pundits ... senior Cabinet ministers, are seriously debating the possibility of abolishing five government departments. You guessed it, two of them are Consumer and Corporate Affairs and Communications!

---

## Calling Kiwanis:

The Kiwanis International is organizing a net composed of members who are Radio Amateurs. This is only in the formative stages as times and frequencies are only now being considered for local, national and international coverage.

The organizing is being done by K7AII and VE7KC is trying to take care of the Canadian and possibly some international interest.

Contact Al Miller, VE7KC, 162 Corry Place, Penticton, B.C., V2A 3S1.

# New deals for Clubs

Now in effect is a CARF policy for clubs wishing to affiliate with your national organization and a money-saving deal for clubs running Amateur courses.

Any club wishing to become an Affiliate CARF Member should submit the names of five or more club members

## TECH TIPS

Be very careful when measuring low voltage tantalum capacitors, with certain ohmmeter ranges ... Some meters put out as much as 15 volts at the probes (depending on the range switch of course) which will instantly destroy a 5 or 6 volt low voltage capacitor.

Where you had no troubles you may now produce your own problems. Most tantalums are very reliable so unless you have good reason to suspect it don't measure it without examining its voltage rating!

who are CARF members. This will entitle the club to receipt of the CARF News Service bulletins, newsletters and new releases, plus the free out-going CARF QSL Bureau service for the club station.

Students studying for an Amateur ticket can now get a package deal of the Amateur Certificate Study Guide, the Radio Regulations Handbook, and a year's membership in CARF (which includes monthly issues of The Canadian Amateur) - all for \$13.00, a saving of \$3.00.

If the club sponsoring the course sends in five orders for the student package deal, it will receive as a bonus a copy of the Instructor's Package. In addition, if ten or more orders are sent in, the 35mm slides for use with the Instructor's Package will be sent to the club.

## QSL Cards

This handsome QSL card is offered to CARF members at a special price of \$12.50 postpaid per 200 card lot (Ontario residents add 7% Sales Tax).

The standard design will be printed with your name, call and address, (in place of the CARF address), as shown -- Printed in blue ink on buff card stock with the outline map in silver. The 3 1/2 x 5 1/2" cards are printed on one side only. A plain reverse side gives lots of space for comments and the address.

Other card designs are available in larger lots and slightly higher prices. Send 25¢ in coin or stamps for a sample sheet and order form. (French texts are available.)

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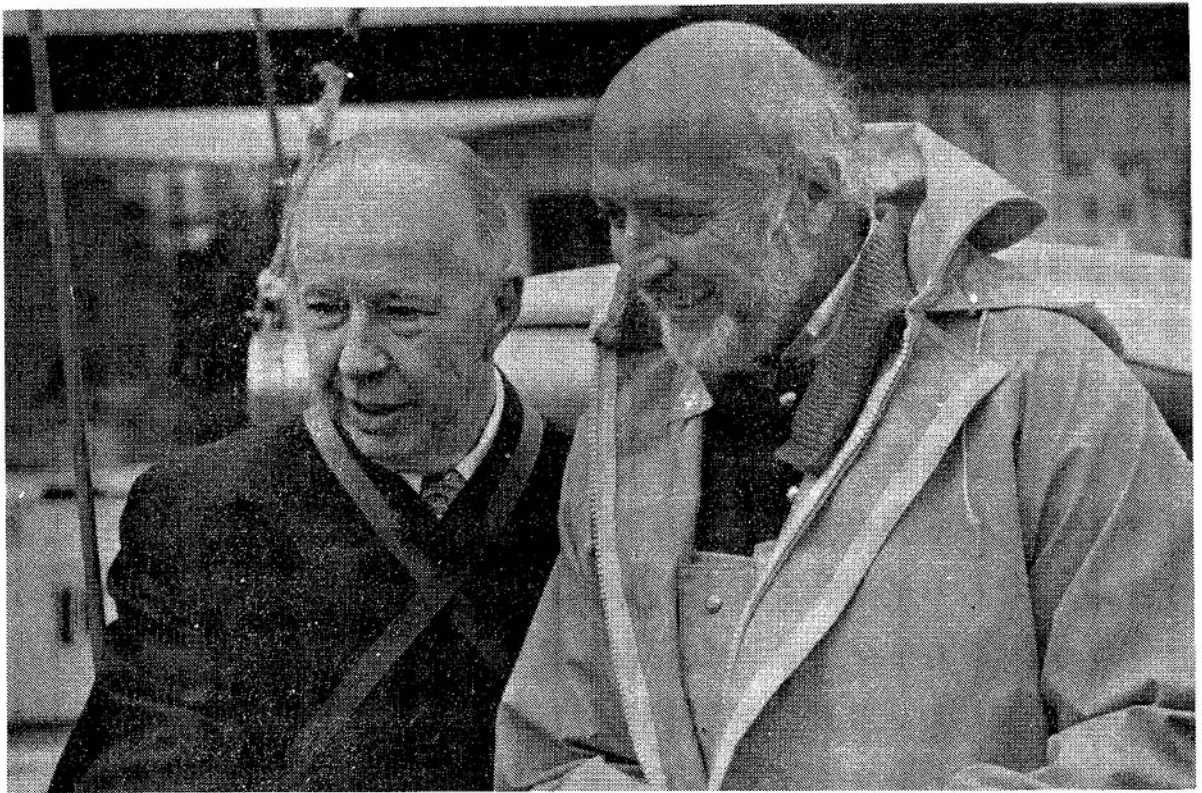
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Harry Beardsell VE7ZQ (left) greets Willi de Roos VK9XR on his arrival in

Vancouver after completing the first solo sail through the North West Passage.

## Amateur in Arctic Adventure

For most of us, adventure is experienced vicariously, via television or reading. But there are still a few people around who like to experience adventure personally. Such a man is Willi de Roos, VK9XR.

Willi, a 54-year-old Hollander who has lived most of his life in Belgium, says he is in search of what he calls "the spirit of life." In pursuit of this spirit, Willi left Falmouth, England, on May 21 in his 42 foot steel-hulled ketch, *Williwaw*, with the object of circumnavigating the New World.

On Aug. 3, *Williwaw* entered Lancaster Sound, the official starting point for the North West Passage, to join battle with the North. Cold, ice and storm - all were encountered on a record breaking northern passage that ended on September 5, last year in the Amundsen Gulf after 2,150 nautical miles. Passing Point Barrow, Alaska, on Sept. 14, Willi was safe from the pack ice that had threatened to trap him for the winter.

Willi de Roos became the first man to complete a single-handed voyage

through the North West Passage, and the *Williwaw* was the smallest vessel.

*Williwaw* followed what is known as the Amundsen Route, the same one followed by the famous R.C.M.P. motor schooner *St. Roch* in the 1940's.

"I didn't expect to get through in one summer," de Roos said. "I thought it would take much longer. I had a year's provisions on board and was prepared to spend one or two winters in the Arctic if I needed to.

"A sledge was attached to the deck and I had a tent and emergency food ready in case I had to abandon *Williwaw* on the ice and head for an Eskimo settlement. I also learned to build an igloo -- just in case.

"At times I was terrified. It's normal to be afraid and several times I thought I wouldn't survive. It was a battle against the elements -- their power is unbelievable."

One of the most terrifying events of the voyage occurred in Melville Bay, on the west coast of Greenland, when the ketch was lashed by 60-mph winds.

"It was a very, very tricky part. The boat got caught in the ice and came under tremendous pressure. The ice built up so much that the pressure pushed the boat right up out of the water. It was fascinating to see the power behind the ice."

Williwaw was stuck on the ice for a day, then; "the winds changed, the pressure of the ice changed and I was able to use my engine to force my way back through the ice and carry on."

"In the Arctic Ocean, one of the hardships that surrounds you is that pack ice. No one can understand what it is like. It's dangerous. It stretches on forever, towering ten feet high, with nine-tenths of the mass below the water."

"I couldn't believe it. The wind drives it and I had to sail through small breaks in the ice. But by the time I sailed to one of the breaks, it would have closed."

"This means when you are in icelike this, there is no time for sleep. There's no respite. All the time you have to be careful."

"Sometimes I went three or four days without sleep. And when I did sleep, I set an alarm clock every hour so I could get out and see what was happening."

De Roos' rate of passage varied considerably. In smooth sailing conditions he logged 130 miles or so in 24 hours. But on one occasion, a Force 8 gale blew him backwards 30 miles in a day with no hope of shelter on the open Arctic coast.

Why does he do it? Willi started sailing 30 years ago. "You see, my hobby was motorbike racing. My family didn't want me to do it, so I agreed to take up sailing. It was quite a change." He was an auto mechanic and used car dealer who decided to take a vacation and continue his sailing hobby. "But, I get very involved with my hobbies."

He decided to sail around the world. That took place in 1973-75. "And I'm still on vacation."

De Roos claims to be an independent man, that the quest for independence is the controlling force of his life. He accepts the fact he must take risks to achieve his independence.

Amateur radio played an important role in de Roos' voyages. As he had planned to winter in the Arctic, at Cambridge Bay on Victoria Island, he had only equipped his marine radio with east coast crystals. Crystals for the west were to be shipped to him from Belgium

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and installed during the winter layover. A similar problem occurred with charts.

And so, when he entered Lancaster Sound on Aug. 3, a chance contact with Harry Beardsell, VE7ZQ, was to provide de Roos with communications for the next ten weeks. Beardsell had daily contacts with de Roos to relay weather information messages, and chart his course. Beardsell, a retired CP Air navigator, plotted the Williwaw's course through the Arctic on a 1:1,000,000 navigation chart. During this time, Beardsell was also relaying messages back to Belgium, to Noel, ON6FN, and Guy, ON6GC, who in turn relayed to Willi's wife, Monique.

In poor conditions, Claire Bell, VE2 DDR, and Sven Pape, OX3GW, also relayed to Belgium. Bob Muse, VE7DJP, who was radio operator aboard the M.V. Pandora II (VE0MEC), an Arctic survey vessel, also took part.

The Pandora was about a week ahead of Williwaw and was to solve the chart problem by leaving maps for de Roos at Dutch Harbour, Alaska, on her way back to Victoria, B.C. Williwaw arrived at Dutch Harbour on Sept. 25.

Bob Muse passed information to Willi on conditions of ice and weather the Pandora encountered, and relayed to Beardsell at times.

Willi's next stop after Dutch Harbour was to be Vancouver, B.C., after a short rest layover.

Harry Beardsell had been obtaining weather information from the Meteorological Office at Vancouver International Airport and giving it to Willi every day at 2000Z on 14190. John Paschold of the Met. Office (who doubles as a broadcast weatherman for several Vancouver radio stations), began giving Harry condensed synopsis covering Willi's expected route for each day, after Willi left Dutch Harbour.

The newspapers and radio began noticing Willi's exploits in early September, and also the important part amateur radio was playing. Steve Thornton, writing in the weekly Highland Echo, was the first to bring the story to the attention of Vancouverites on Sept. 8. From there, Vancouver's large dailies, the Sun and the Province, picked up the news.

As Willi's scheduled arrival date of Oct. 18 in Vancouver drew near, the broadcasters took an interest. A crew from CHAN-TV interviewed Harry, and via his station, talked to Willi. In add-

ition, Tony Ross, Vancouver Harbourmaster, and Fred Spoke, general manager of the Port of Vancouver, came to talk to Willi.

Spoke, who is also Dutch, was particularly thrilled to talk to the Dutch adventurer via amateur radio.

Williwaw arrived off Tofino, on Vancouver Island, Oct. 16, to be greeted by the Canadian Coast Guard cutter Racer packed with press people. This set off a frantic exchange between Harry Beardsell and Ken McRae, Chairman of the Vancouver Maritime Museum Committee. McRae had arranged a reception for Willi at 3 p.m. on Oct. 18. "He'll never make it, Harry! I'll have to make other plans."

Beardsell knew de Roos better than McRae though. "If Willi says he'll be here at 3 p.m. on the 18th, he'll be here. Don't worry!"

Williwaw arrived off Point Grey, at the entrance to Vancouver harbour, at 2 p.m., and docked at 3 p.m., right on time. At 5 p.m. the Netherlands Consulate hosted a reception for Willi de Roos at a particularly appropriate spot -- aboard the R.C.M.P.'s old motor schooner St. Roch in the Maritime Museum. St. Roch was the first vessel to make the North West Passage in both directions -- east in 1940-1942, and west in 1944. Now St. Roch rests in dignified retirement, safe from storms, as the centrepiece of the Museum's display.

This reception initiated a period of award making. The Museum presented de Roos with a set of paintings of the St. Roch. Netherlands consul Gerard Chabot presented Willi with a plaque and a bottle of well known Dutch cold remedy, Geneva gin. Next day, at a ceremony in Vancouver City Hall, Mayor Jack Volrich presented a plaque.

"We are here today to honor and salute the exploits of a brave man," Volrich said.

"It gives me a great deal of pleasure to welcome you here.

"It is a particularly rare occurrence for any of us in these days of space travel to encounter a real live adventurer.

"Here in Vancouver, we are delighted to take note of your accomplishments."

Fred Spoke presented Willi with a Capt. George Vancouver Plaque. The plaque, presented to captains on their maiden voyage to Vancouver, has been

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awarded only five times before.

Spoke noted, "I always rejoice when one of Holland's sons shows the world what can be done. The adventure of Willi de Roos is obviously very unique and shows all of us what an individual can do if he applies initiative and has faith and courage, common sense, and intelligence.

"You have set a very great example to all of us."

Harry Beardsell had accompanied Willi to this presentation. "I was totally surprised and shocked," Harry said, when Spoke also presented Harry with a Capt. George Vancouver Plaque, in recognition of the work he had done, escorting Willi via amateur radio to Vancouver.

When word of the condition of Willi's venerable FT-101 reached certain ears, it resulted in another award. Executives of Kenwood Communications were touring Vancouver at the time. They presented Willi with a brand new TS-520D from the stock of their local dealers, Glenwood Trading Co., on October 27.

Harry Beardsell later reported that the FDK people had made Willi a gift of a new Multi-800D two metre rig, a rig so new it won't be marketed in North America until early in 1978.

Regardless of the gifts, Willi would have had to replace the FT-101 eventually. I had accompanied him on his earlier two year round-the-world voyage, been dunked in salt water when a huge wave washed over Williwaw, and Willi had inadvertently transmitted with no antenna one day.

Willi now intends to spend sometime working on a book in Vancouver. When this is finished, he will sail on south, planning to winter in the Antarctic, then head north up the east coast of the Americas. He will be the first man to circumnavigate the New World. The most likely departure from Vancouver is late January or early February 1978.

Williwaw, like her owner, is something special. Her orange steel hull is insulated with glass fibre. If locked in pack ice, the hull would act as an insulator from the cold. There is a portable windmill to charge the batteries used to run the cabin heaters and stove. Williwaw carries a 60 h.p. diesel engine for auxiliary power and two generators -- a 220 volt AC and a 12 volt DC for electricity. She is 42 feet long, 12.5 feet wide and has 7 foot draught. The two masts are of aluminum alloy.

Watch for Willi de Roos, VK9XR, as he sails around the New World!

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## 450 cut

Continued from Page One

but shared with radiolocation as at present.

To sugar-coat the pill, however, the DOC proposes a new band from 902-928 MHz for Amateurs but it would be primarily assigned to the Fixed Service with radiolocation and Amateur Services sharing secondary use.

The CARF proposal had asked for exclusive allocation from 420-450 but in the opinion of the WARC '79 Working Group, some of whom were aware of commercial pressures on the UHF spectrum, thought that it was not worth trying for the 902-928 band although the FCC and ARRL proposals in the U.S. had gone for it. Could be that DOC proposed to go along with the FCC on this one because if it went through in the final U.S. draft, it would be awkward to have Canadian commercial allocation in that part of the spectrum.

CARF WARC '79 Working Group

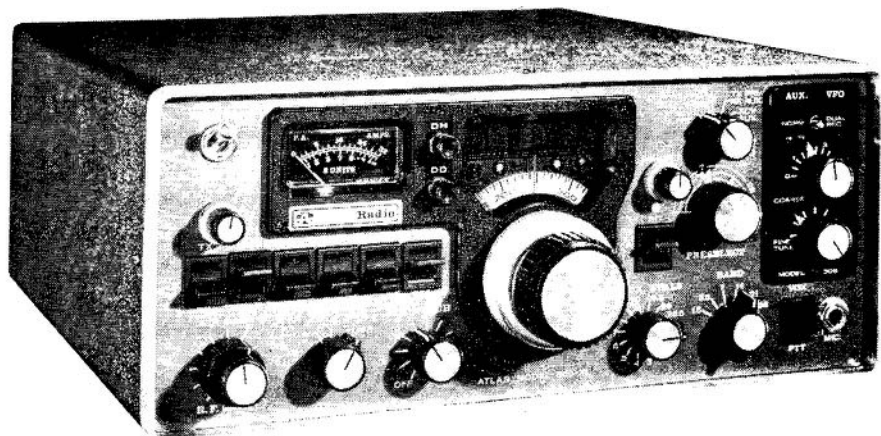
personnel will be meeting with DOC soon to discuss the Amateur allocations and this new proposal will be among the topics the Group would like to explore. Considerable time and effort was expended in putting together a brief last year on the 406-960 review but it may now be necessary to put in a formal comment to meet the requirements of the Canada Gazette notice.

With the DOC proposals for this part of the spectrum now up for comment, it is likely that the second draft of the Canadian Interdepartmental Committee proposals for the Canadian WARC '79 position on the rest of the spectrum will be out for comment early this year, possibly before this edition of The Canadian Amateur reaches its readers.

Bear in mind, though, that the present proposal by DOC is just that ... a proposal ... and it is not locked in as a final position.



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Here is an extract from the discussion paper which comments on the Amateur allocations. (The complete paper may be obtained from DOC Regional Offices.)

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### EXTRACTS FROM DOC PAPER

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"Amateur - In the International Telecommunication Union (ITU) Regions 2 and 3, the amateur service shares the 420-450 MHz band on a secondary basis to the radiolocation service. (In ITU Region 1, the band limits for amateur operations are 430 to 440 MHz.) Frequencies in this band are employed for simplex and repeater operation, repeater linking and control, satellite communication, fast scan television and 'moon bounce' with a major part of the activity by Canadian amateurs taking place above 430 MHz.

The amateur service was supported by the Canadian Amateur Radio Federation which recommended the exclusive allocation on a world-wide primary basis of the 430-440 MHz band, and the retention on a secondary basis of the 420-430 MHz and 440-450 MHz bands in Regions 2 and 3. The Canadian Radio Relay League (ie. the American Radio Relay League's Canadian Div.) requested the extension of the frequency band covered by the footnote permitting amateur satellite operations over the entire 420-450 MHz band. Some non-amateur interests recommended the reduction but not the total elimination of the amateur allocation. The CRRL also requested the reallocation on a secondary basis of the band 902-928 MHz to the amateur service.

#### "Radiolocation -

Radiolocation has primary status in the 420-450 MHz band. It also shares the 890-942 MHz band with the fixed service; both services having primary status. Present radiolocation operations in these bands in Canada are minimal. However, one brief and subsequent correspondence related to WARC activities reveal the possibility of significant increases in domestic radiolocation particularly in the 430-450 MHz band.

"Licensing in Reallocated Spectrum-420-430 MHz - Radiolocation and amateur services are deleted from the Table. The mobile (except aeronautical) service is added on a primary basis.

"902-928 MHz - Amateur is added on a secondary basis.

"It should be noted that these new allocations will only be made available for use when required. It is proposed that the Department request potential users of this spectrum to indicate, in detail, their predictions and proposed plans for using the new bands. Procedures will be established to evaluate such proposals.

#### "Further Reallocations -

The Department is prepared to consider further reallocation proposals to respond to public demand for services. In addition to the fixed service requirements previously mentioned, the Department would be interested in views on future allocations in the 890-902 and 928-942 MHz bands. In particular, an indication of requirements for personal radio services similar to or as a further development of the General Radio Service would be useful."

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## CARA WPX Trophy

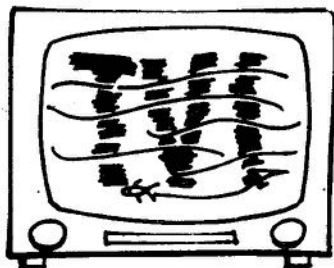
Word from the Calgary Amateur Radio Association is that the 1977 winner of its WPX Heathkit Trophy is VE7BGK (listed as Sid Kemp of Vancouver, B.C.) as the WPX contest high scorer for 1977. The Heathkit Trophy is awarded to the highest scoring single operator home station in the highest scoring western Canadian province.

VE7BGK's score of 1,088,640 helped to make British Columbia the highest scoring western province at 1,973,306. Other provincial totals included Manitoba at 310,919 and Alberta at 283,492. Saskatchewan had no entries listed in the Dec. issue of CQ Magazine.

Although not qualifying for the Trophy because it was a multi-operator station, VE6HN of Calgary placed sixth in North America. Operators included VE6HN, VE6EH, VE6SB, VE6CEQ and Roy. Their score was 1,029,632 made up of 1394 QSOs and 256 prefixes.

CARA thanks the Heathkit Company for donating one of their digital clocks as a trophy.

(Tx to VE6CCC, A. Chiste.)  
January 1978 - 25

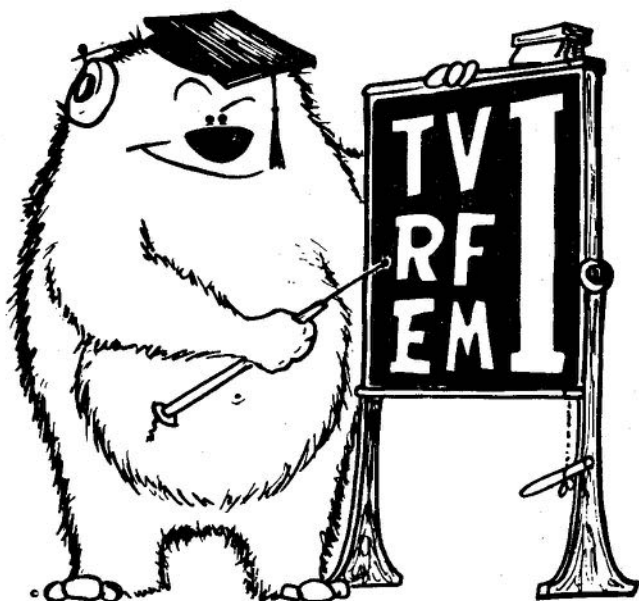


# A properly designed filter can tame the beast...

Whatever you call it, the common denominator is "I" for Interference.

The study of interference to consumer products such as TV sets, hi-fis, and the like from radio transmitters is a complex subject. For a primer, see p. 11, "QST Magazine" for March, 1976. We do know that radiation interference can be greatly reduced and perhaps eliminated by the use of a well-engineered, quality-built TVI filter. The low-pass type for the transmitter is at times not enough...a high-pass type for the TV set may also be required. But, here's the rub! If a filter is not properly designed and engineered, it may not work like a filter at all. At the R. L. Drake Company, we've been designing and building filters for over 30 years...since before the days of "Uncle Miltie." And, these are real filters...not toys.

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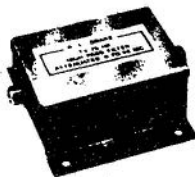
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# Equipment Review

## THE BEARCAT 210 SYNTHESIZED SCANNING RECEIVER

by VE3ERO and VE3BTY,  
Penny and Dave Robinson

This scanner is a fully synthesized scanning receiver covering the two metre Amateur band and the 450 MHz Amateur band. The case is about 3x10x8 inches (hwxwd), with a front mounted frequency display, speaker and controls. It operates either as a mobile unit using the provided mount and fused DC power cord or it can be plugged into the AC power line. It has a solid base, practically impossible to knock over, which prevents breaking the telescoping antenna that screws into the top of the case.

There is provision for an external antenna or speaker (headphones - 8 ohm). There are ten memory positions into which frequencies can be placed on any or all of the bands. This is simply done by punching the frequency in on the key pad, then entering it. In this mode, ten frequencies can be scanned equally or (to ensure that both sides of a conversation are heard before the scanner moves on) you can put a 'delay' on those frequencies that particularly interest you, giving you about a two second delay.

If you are tired of listening to a frequency, you can press the 'lockout' button and the scanner will skip that channel until the button is pressed again to release the lockout. To stay on one channel, you simply press 'manual' which allows you to scan at your own rate. There is an easily identifiable mark which appears on the LED display to note which channels are locked out or delayed.

If you are interested in scanning a larger range of frequencies, you can punch in upper and lower frequency limits on one of the ten positions and it will begin a search scan every 5 kHz between the limits you have set. There are, however, birdies in the rig that present a problem. You cannot scan large ranges of frequencies without having the scanner stop on a birdie (which are listed in the manual) requiring you to press 'start' for the search to continue. Any frequency stopped at during the search can be

entered.

The squelch control is backwards by my standards; I keep expecting it to operate in the other direction, so be careful you haven't squelched out all the stations. The receiver is surprisingly sensitive but is liable to pick up intermod products in areas of dense transmitter population. Reducing the antenna length or turning up the squelch does help slightly.

The Bearcat 210 utilizes microcomputer control, and solid-state circuitry including five custom integrated circuits. The display is seven-segment LED about 0.8 cm (0.3 inch) high. From left to right, the LED display will show a small square (about 0.4 cm) if the delay feature has been selected for that channel, the memory channel number (from one to ten), a 'minus' sign if that channel has been locked out of the scanning sequence, and the frequency (such as 146.535).

Receiver sensitivity compares favourably with available Amateur equipment (such as the Kenwood TR-2200G). However, there are some eccentricities, in addition to the 'birdies' noted: a one watt transmitter in the same room (six feet away) on 146.340 desensitized the Bearcat receiver to the local repeater's output on 146.94. Also, the receiver modulation acceptance tends to be too narrow for the deviation used by some Amateurs and repeaters in the Ottawa area; the result is distressing holes (chopped out at a syllabic rate), and even more distressing is the tendency for the receiver to skip on to the next frequency unless you activate the delay feature for that channel.

The receiver memory is 'kept alive' by a battery with a life expectancy of about one year. More information can be found in the magazine ads. The going price seems to be \$425, plus or minus \$50, depending on where you look.

(Thanks to Gord McIntyre Sales Ltd. of Crysler, Ont. for the loan of the Bearcat 210 for evaluation.)

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## Model 334A Dummy Load/Wattmeter

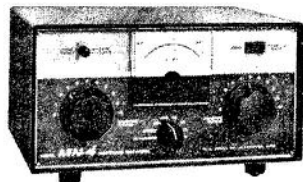
1000 Watt Rating, DC to 300 MHz,  
intermittent CW

52-ohm, non-inductive load,  
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4 calibrated ranges:  
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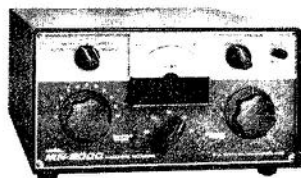
See your dealer or write direct.

## Drake MN-4 & MN-2000 Matching Networks



MN-4 (300 Watts)

\$149.00 + \$3.00 ship.



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- 80-10 Meters
- Antenna Selector and By-Pass Switches included

A Drake matching network is a worthwhile addition to any amateur station where peak performance is desired. Basically identical, except for power handling capabilities, the MN-4 and MN-2000 enable feedline SWR's of 5:1 to be matched to the transmitter. If input impedance is purely resistive, even higher SWR's can be handled. • Besides presenting a 50 ohm load to the transmitter, the Matching Network's built in rf wattmeter allows accurate and continuous power measurement and VSWR indication. The advanced wattmeter circuitry yields frequency-insensitive readings from 2 to 30 MHz, and accuracy until now obtainable only in expensive wattmeters.

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DETAILS OF THE

## National Amateur Radio

# \* Symposium \*

NOVEMBER 26, 1977  
NATIONAL CONFERENCE CENTRE,  
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## DOC Remarks

In the plenary session of the recent National Amateur Radio Symposium, Dr. deMercado, Director-General of the DOC Telecommunications Regulatory Service, introduced the general discussion on the Amateur Experimenter Certificate. Here is the transcript of the significant portions of his remarks.

"I would like to say a few words about how we perceive the experimenter's certificate; why we thought it was the thing that should be brought forward at this time; what steps we think are necessary in order to finalize it at this time, and what implications this has for the Department in terms of resources to administer it.

The very fact that we are here means that we will accept that we have more than just a responsibility to prepare for those who will come after us. We have an obligation to look at what is going to happen to the communications environment of the 1980s. This is why I think the Experimenter's Certificate, the very rough draft of which you have seen, addresses the problem head-on.

classical 'man-to-man' communications which Amateur radio addressed, which has led to what we understand the Canadian Amateur Radio Service to be today. Then there is the 'man to machine' dialogue with computing equipment from terminals, which has progressed ever since time sharing became a reality in the 1960s to the miniaturized art of today. Now we are heading into the era of 'machine to machine' dialogue computer networks.

"I am somewhat proud that I and a number of my colleagues wrote the first paper published in the Western world on how to analyze computer networks based on satellite systems. I have a very deep interest and background in the whole question of man-machine and machine-machine communications. I was associated in the very early development of computing networks in the United States, the ARPA network, which connected together all the different computers in American Universities to share processes and to work on common problems ..

---

### NEW TYPES OF COMMUNICATIONS

"There are three essential types of communications schemes that we will look at in the 1980s. We have the

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### THE CHALLENGE OF THE 1980s

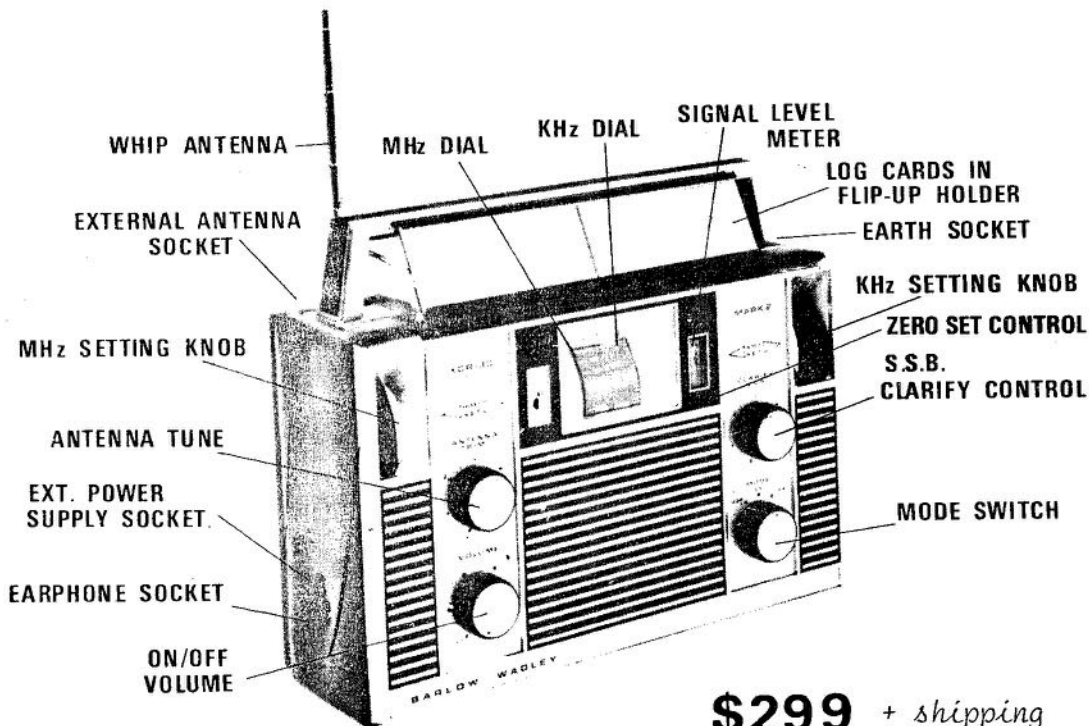
"There is an awesome amount of computing power about to be liberated which will be in the hands of the private citizens of this country. I think the  
january 1978 - 29

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**A WOLF  
IN SHEEP'S  
CLOTHING**

challenge of the 1980s for Amateur radio could be summarized as follows: man-machine and machine-machine type communications for the Amateur fraternity.

"I agree wholeheartedly with the comments that were made earlier (by the workshop on the future of Amateur radio) concerning the benefits of training and the value of people who have 'hands-on' experience (practical experience with equipment). I am talking about those people who must progress beyond purely 'man to man' communications schemes, which I think are fairly well understood, to the 'man-machine' and 'machine-machine' type situations.

"I think that it is important in this environment to understand that there are various ways of sharing both spectrum and computing resources as part of the same scheme.

"The poorest way to share spectrum and computing resources is by the classical modulation and multiplexing schemes that many are accustomed to using every day. As we run out of spectrum, as the demands for spectrum increase and as 'machine-machine' type interactions begin to take place in the spectrum, crowding will become a much more acute problem and interference will be an entirely different issue than it is today.

"Experimenters must understand resource sharing techniques and that is why the syllabus (of the proposed experimenter certificate), for instance, heads in the direction of understanding problems of cueing, reliability and fundamental interactions in networks.

"It is not to say that everybody who becomes an Amateur experimenter must be a fundamental contributor to the theory of computer networks; he must understand how to use different components that could form a network, connect them together and manage a resource in some 'hands-on' environment. That is why we felt compelled to advance this cause.

"I know a little bit about what has been going on in Eastern bloc countries where the emphasis is heavily on 'machine-man' and 'machine-machine' type of

people with 'hands-on' experience. I think it would be remiss if we just allowed ourselves to become complacent and to fight a rear-guard action on hoarding Amateur spectrum for those who just want it to restrict their operations to 'man-man' communications.

---

## THE EXAM SYLLABUS

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"I think the syllabus can stand a lot of improvement, it needs to be tested, it needs to be realistically evaluated in terms of the achievement of people who can pass it and what it will mean. It will be a long time, probably the 1980s, before what comes out of this meeting and the subsequent discussions finds itself a niche in Amateur radio. I think we have to work together and I was pleased to hear the remarks of the Workshop (on the Experimenter Certificate).

"Now a few words about the examinations itself. I think maybe its true the age requirement could be removed. Exemptions, (the proposal would permit candidates with high academic qualifications to skip part of the examination ...Ed.) ... it's sort of ludicrous to ask someone who has solved important problems in computer networks how to do a trivial exam, or what to him would be a trivial exam. I don't think it's elitism, I think it's just common sense if a person has demonstrated a certain knowledge, has taken courses, he may or may not be exempted depending on what burden this places on our resources at the time.

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## A RESTRICTED NUMBER

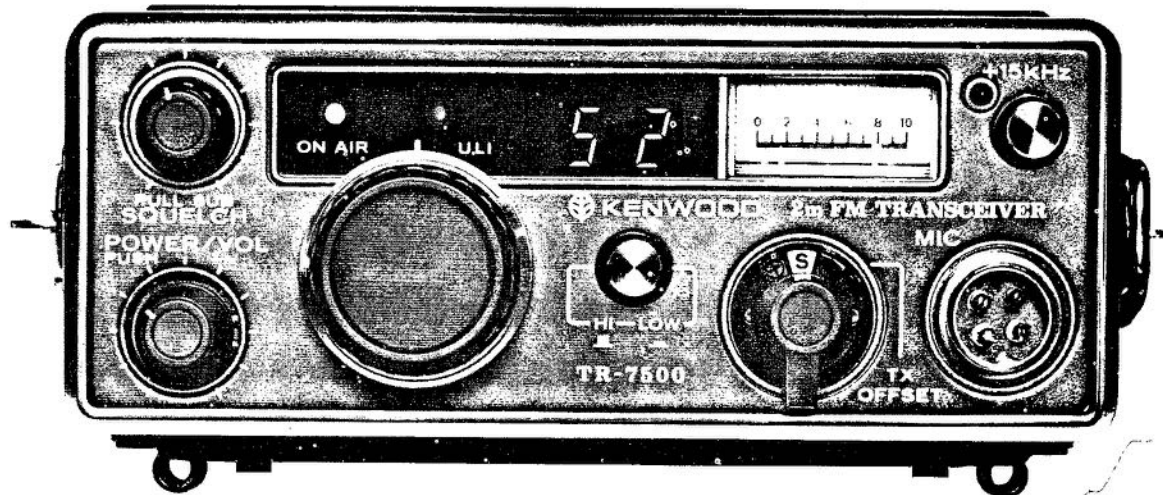
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". . .I, personally, would be surprised if more than two or three hundred would, in the next three or four years, come on stream with Certificates. I, therefore, am confident that with that sort of numbers, we can handle this particular activity (in DOC) with existing resources.

"...I think you can expect that there will be a continuing dialogue over the next several months to refine the syl-

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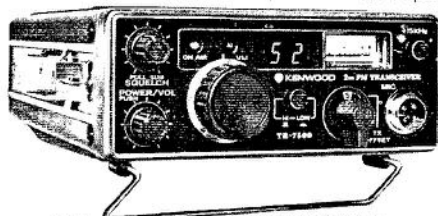
Does it have a powered tone pad connection?

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NO YES

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TR-7500  
*Specifications*

Semiconductors: Transistors ..... 41  
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Dimensions: 172 mm (6-3/4") wide  
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TRANSMIT SECTION  
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Modulation: Variable reactance frequency shift  
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RECEIVE SECTION  
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Squelch Sensitivity: Better than 0.25 uV  
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labus. Maybe it will be in two parts, maybe one option will be a computing (exam) with a minor (exam) in a sort of communications cheme. All people can't be all things and it is suggested that one option might be a communications (exam) with a minor (exam) in the computing part of it. I would much rather make the exam very difficult to begin with and have a lot of people fail and then revise it downwards, than to make it so simple that the people who are passing just want a cheap access to the spectrum. So you can rest assured that this will not see a proliferation of people into the Amateur service who simply want to miss the morse code. That will simply not happen, I can guarantee you that..

"I hope to have, when I come back (from holidays), some possible sample examinations that might be set which we could send out for comment... While the Department has no plans to retest Amateurs in the regular stream of the service, an Experimenter should be prepared to keep up with advances in his field should the Department so require. In other words, should we require that

he keeps active and is prepared periodically, every five or ten years, to do the exam again to demonstrate that it's not another plaque added to the wall. So, having said that, I want to say how much I have enjoyed this discussion."

## DOC Official praises Amateurs

The senior DOC official present at the November symposium, Mr. Jean-Paul Lefevre, Assistant Deputy Minister (Services) spoke to the assembly after lunch, praising the Amateur fraternity for its many interests and technical ability to keep up with the fast-changing world. He encouraged Amateurs to undertake more complete training for handling emergency situations.

He said that he found the workshop discussions most fascinating and expected worthwhile recommendations to come from them. This type of dialogue between Amateurs and his Department is an important and positive step for all Amateurs to support fully, he said.

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## Amateur Radio in the 1980s

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### INTRODUCTION

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Following up the story on the Symposium that appeared in the December issue, here are more details on that unique and important event.

The conference, convened by your national Federation with the full participation and cooperation of DOC, took place on Nov. 26 in the National Conference Centre in Ottawa.

The objective of a free exchange of ideas between Amateurs and the Department of Communications was fully and successfully met. The DOC was able

to get a first-hand reaction from Amateurs representing opinions from coast to coast on the proposals for a no-code 'experimenter' certificate and the 'novice' certificate first made public by the Department back in June 1976. The result was, as reported last month, a turn-down on the novice idea and the approval of the group on the no-code Experimenter certificate with VHF and above privileges after a very tough engineering level exam.

The deliberations of the working  
january 1978 - 33

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groups are summarized in this article, along with comments on the proceedings of the whole group meeting in the afternoon of the conference.

Four separate workshops developed the various recommendations which were then discussed and reported at a meeting of all participants.

The symposium was attended by representatives selected by various provincial and other clubs, by Amateurs active in the forefront of radio communications in Canada and several DOC representatives. Written briefs were received and considered by the symposium workshops.

## EXPERIMENTER CERTIFICATE

The workshop panel was: Moderator J.S. (Jack Belrose, VE2CV, Director, of the Radio Communications Laboratory, Communications Research Centre, Shirley's Bay; Panelists - Israel Switzer, Comm'n Consultant, Switzer Engineering Services, Ltd. Toronto; L.S. (Larry) Kayser, VE3QB; EDP Consultant Computercraft Systems Ltd., Ottawa; Ron Belleville VE3AUM, RCMP Communications.

A new proposed 'Experimenter' examination and syllabus was given out by the DOC. It would permit operation in and above the 144 MHz band. It provided considerably more detail than in the earlier proposal in 1976.

Aspects of the item discussed included:

- (a) should there be such a certificate,
- (b) frequencies, Modes, etc.
- (c) qualifications and level of competence;
- (d) restrictions,
- (e) distinctive call signs.

DOC representatives said that there were three essential kinds of communications which amateurs addressed: the classical man-to-man communications which has led us to what amateur radio is today, the man-to-machine dialogue with computing terminals which became a reality in the 60s with miniaturized equipment, and the era of machine-to-machine dialogue that we are now entering.

There is a great amount of computing power becoming available to the private citizen and the challenge of the 1980s for amateur radio will be man-machine and machine-machine comm-

unications for amateurs. (See Dr. John deMercado's remarks elsewhere in this issue.)

The Workshop took note of the various excellent papers and briefs submitted by organizations and individuals.

Communications between experimenters and regular licensees should be approved and encouraged. Experimenters should not be segregated by licence class although reservation of parts of a band for experimental types of modulation may be necessary to avoid interference to communications.

The method of progression from the Experimenter's Certificate to Amateur grade, and then to the advanced operator's certificate, is a sensitive one since the only real difference is the addition of the code and accepted operating practices of the lower bands. While there are those who say the code is obsolete, it is certainly not the case in the lower bands. It should, therefore, be required of an Experimenter who wants to use these bands.

The Workshop also recommended that Experimenters be authorized the same power levels as regular amateurs. It was considered that the power regulations should be studied in respect to pulse modes of operation and agreed that there should be distinctive call signs for experimenter class licences. ('VX' was a suggested prefix.)

Although time did not permit a detailed analysis of the examination requirements, it was felt that the age requirement of 18 years should be deleted and that the certificate should be based on technical competence to be tested by the exam.

# FT-301D Accesories

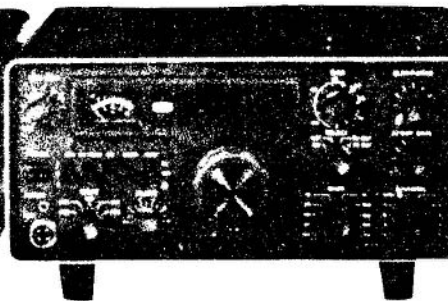
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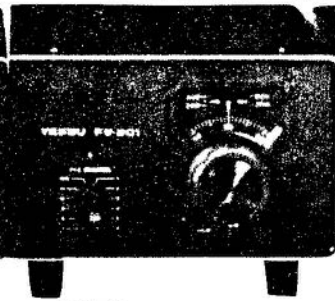
## Home Station Design



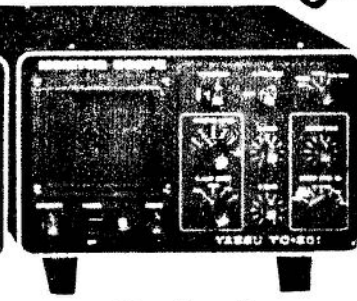
AC Power Supply  
FP-301D



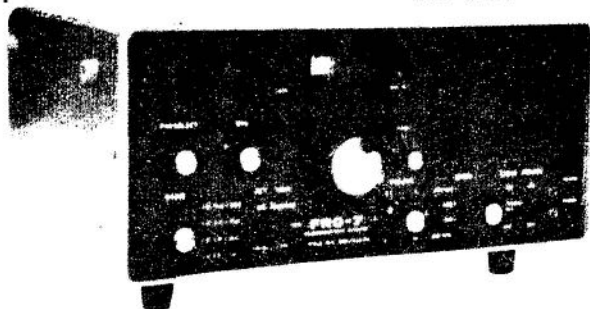
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The waiving of the written exam for graduate degree holders in computer sciences or electrical engineering, it was agreed, would encourage 'elitism' and should be deleted. It was also agreed that the general technical requirement should be established by DOC and Amateurs working together. It should not be possible to get a certificate on the basis of having a degree in computer technology because this does not automatically confer any knowledge of radio-



CARF Vice-president Fred Towner and Tom Atkins for RSO listen to words from the floor during the afternoon session.

communications and frequency usage. In general, it was felt that the level of competence was too high and too restrictive. Some felt that, for example, a knowledge of antennas and electromagnetic interference problems should be required and that a knowledge of digital transmission could replace computer knowledge.

There were those who felt that experimentation aspects of the amateur radio service needed to be upgraded if Amateurs are to contribute to the advancement of radiocommunications in the 1980s to the same extent as they did during the first two decades of radio.

These also felt that the present requirements are too easy and allow people into the Amateur Service who do not have sufficient knowledge to carry out even simple experiments. This is evident by the number of people who, having just received their licence, are staying on two metres only.

Demands for spectrum and the consequential crowding will make it necessary for amateurs to understand the techniques of resource sharing in both the frequency and time domain. He must also understand how to use the different components that could form a network, connect them together and manage them successfully.

The Workshop (#2) was unanimous that there was no objection to such a certificate. There was an agreement, too, that this class of amateurs should be given privileges on amateur frequencies above 22 MHz. There was considerable discussion on allowing experimenters to use the 144 and 50 MHz bands. The main concerns were about avoiding interference to other services and integrating experimenters into the heavily congested 144 MHz band. It was agreed that these merited further study by DOC and amateurs.

The Workshop also recommended that P0 to P5 modes be authorized for all classes on 420 MHz and above, excepting 10.0-10.5 GHz (to avoid interference to other services) and that Fast Scan TV be authorized on 420 MHz and above.

The DOC indicated that it would submit a revised proposal for an Experimenters Certificate to amateurs in the February-March period, which would appear in The Canada Gazette, Part 1, for public comment. The proposal would probably be out in final form in July or August and hopefully the first certificates would be issued in September or October. In any event, the Department did not see more than a few hundred experimenters coming on stream in the next few years.

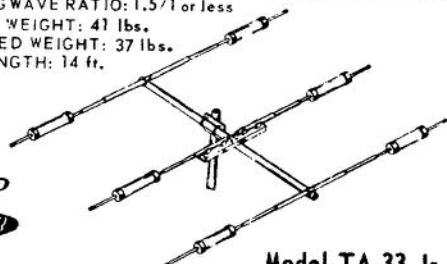
A questionnaire was distributed by DOC for completion by Amateurs before the closing of the symposium. About 43

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MAXIMUM ELEMENT LENGTH: 27 ft.

ASSEMBLED WEIGHT: 42 lbs.

BOOM LENGTH: 18 ft.

SHIPPING WEIGHT: 47 lbs.

TURNING RADIUS: 16 ft.

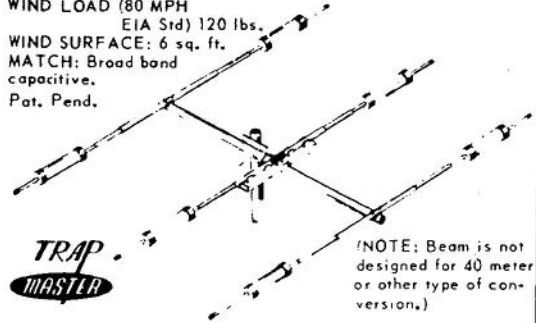
WIND LOAD (80 MPH

EIA Std) 120 lbs.

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MATCH: Broad band capacitive.

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were returned. Most recommended deletion of the age limit. A more balanced syllabus covering computer, microwave digital, tropo propagation, antennas, EMI and regulations would be more acceptable. Most wanted exemptions removed on the basis that a reasonably qualified person would have no trouble passing a test. A few saw the possibility of exemptions for handicapped people and some exemptions given only on the basis of very strict criteria (such as instances where relevant courses have been completed although a degree was not granted.)

Most thought retesting could be done after five years. The additional features recommended for inclusion in the syllabus covered such things as frequencies and powers to be used, relationships with other Amateur classes, test requirements, retesting and periodic reports of experimental work done.

Later in the plenary meeting, by a show of hands with no objections and only six abstentions, the main meeting endorsed the Experimenter certificate, subject to further study by DOC and the Amateurs, and revised conditions as proposed by the Workshop.

## NOVICE CERTIFICATE

The panel for this Workshop was:  
 Moderator: J.C. (Jim) Swail VE3KF;  
 Medical Electronics, Electrical Engineering Div., National Research Council, Ottawa. Panelists: W.W. (Bill) Loucks VE3AR; Manager, Ontario Hydro Computer Centre; G.W. (Gerry) King VE3GK Head of Technical Dept., Highland Park High School, Ottawa.

The Workshop considered:

- (a) lowering the code speed - its uses and its effects,
- (b) lowering minimum qualifications for entry and its general effect on Canadian credibility, (reciprocal privileges) EMI and Safety.

Briefs from various individuals and organizations including Nova Scotia ARA, the ARRL, Art Blick VE3AHU and Ed Morgan VE3GX were received and considered.

There was a strong feeling that the standards of the service should not be lowered as it would result in very young people entering the service. They would tend to see Amateur radio as a toy and would be quite unaware of the effect of electromagnetic interference on neighbours and other Amateurs or of the electrical hazards involved.

Further, the rate of growth of Amateurs has taken an upward turn and shows every sign of proceeding at an increasing rate due to improvements

in instruction methods and material. In discussion, it was shown that there were several good methods for teaching code that were proving effective. The 'average guy' should not be sold short when it came to learning the code. Amateur radio classes are on the increase and larger numbers show there is no problem with the code. Canadian statistics show the majority of failures are in the theory portion of the exam.

The U.S. novice experience was noted in which many obtained their novice licences and later failed to stand for a higher certificate. Some cited statistics to prove that this is not the case.

On several occasions, the results of polls taken by the DOC, CARF and the



Jim Dean and Moderator Jack Belrose on the Experimenter panel.

ARRL's Canadian Division were cited in support of various points of view. Some noted that these polls are now out of date.

Many felt that the exams are not well administered by DOC. The Workshop felt that the method should be standardized across the country and that a uniform syllabus for written tests should be developed with reference texts. The question of whether the exam could be taken in two parts (theory and code) should be clarified as this is not uniformly administered.

One brief noted that the U.S. novice system segregates the novices into bands where they cannot work with more advanced Amateurs and, hence, they often learn 'bad' operating practices. Another brief tended to confirm this by saying that an 'inferior' class is not likely to contribute to harmonious relations later on. One brief suggested that some commercial enterprises would stand to benefit through increased potential for sale of magazines and equipment for the



John deMercado and Bill Wilson listen to Bill Loucks expound on the novice certificate.

Amateur market.

Other briefs felt that the U.S. novice program had proven itself worthwhile. One brief maintained that one need only monitor progress in the novice bands to see the success of the program. It also proposed a complete set of regulations and exam syllabus with rationale for each section. Another said that Amateurs recognized the need for growth and favoured measured and controlled growth. Yet another said that the proposed new Telecommunications Act (which died in the last session of Parliament) would have supported the national objective of growth. The novice program, it noted, conforms to this objective and supplements and supports existing training programs with "learn-by-doing" experience.

Later, in the afternoon plenary session of the whole assembly, Dr. deMercado said that DOC would require very persuasive arguments to implement a novice certificate. It would not be enough just to create this class to increase numbers. It would have to enhance the Amateur radio service. Further, in this time of restraint, the resources are not available to undertake such a program at this time. None of the arguments he had heard to date convinced him that he could put up a valid argument for the additional expenditure such a program would require.

On a motion that there should be a novice certificate, taking into account further considerations as discussed at the meeting, 21 voted in favour, 65 against, and 4 abstained.

In summary, the novice licence is off, at least for the foreseeable future.

## REGULATIONS

Moderator: Vic Decloux, Chief Telecomm Regs Div, DOC, Telecommunications Regulatory Service, Ottawa. Panelists: W.W. (Scotty) Scott, Director, Operations Branch, DOC TRS, Ottawa; A.P. (Art) Stark VE3ZS, DOC (Retired) Ottawa; H.A. (Sandy) Cameron VE3AAC, January 1978 - 40

Chief Engineer, CJOH, Ottawa; C.A. (Al) Law VE3ACZ, Computer Communications Group, Bell Canada, Kanata, Ont.

This Workshop had a very large agenda to discuss. Its recommendations were as follows:





Regulations panel moderator Vic Decloux and member 'Scotty' Scott.

1. Amateur regulations should be broken out from the main regs to form a separate package. In the interim, it recommended that the present Extracts of the Amateur Regulations published by DOC be supplemented by the addition of those regs applicable to stations generally (which apply to Amateur stations).

2. The regulations should be simplified by de-regulating where possible without detriment to the Service. The CARF codification, made up at the request of DOC and submitted in May 1976, should be used as a guide.

3. Vendors should sell equipment only on proof by the purchaser of his or her eligibility to own such equipment. Canadian Amateurs are concerned about the increasing unauthorized use of Amateur equipment and feel that this can best be controlled at point of sale.

4. Implementation of #3 would remove the need for control in advertising Amateur equipment to the GRS market.

5. The Department should enforce the regulations uniformly across the country. There is evidence of inconsistency, particularly in the application of

regulations pertaining to interference.

6. On the matter of allocations, it was pointed out that certain Canadian sub-bands were incompatible with the use of the corresponding frequencies in other countries:

a) On two metres, wide band FM should be allowed below 146 MHz as well as above to permit the use of equipment set up for -15 kHz deviation.

b) On 40 metres, type A3 emission should be permitted in the internationally recognized 40 metre phone segment below 7.1 MHz. This proposal has been conceived to allow phone operation in part of the international exclusive 7.0-7.1 band. This would allow inter-regional DX phone contacts and create more equitable distribution between phone and CW operation.

7. DOC field people should be briefed on the Department's position in matters relating to the construction of antennas so that they would be in a position to support Amateurs across the country in their negotiations with municipal authorities.

8. The Department was asked to keep in touch with the Canadian Antenna Rights Committee for new developments on this matter.

9. It was recommended that, if the new proposed Telecommunication Act is re-introduced to Parliament, it be reviewed to ensure the authority is contained therein to establish the power to enforce electromagnetic compatibility standards for consumer electronic products or devices.



Ron Powers VE3FIN, left, and Mike Bryan VE3CGT, DOC HQ Information Services.

In the discussions in the afternoon full-group meeting, there was more support for the change of the sub-allocation at 2 metres (See 6a) but a cautionary note was sounded not to interfere with Amateur satellite communications. Some favoured removal of the sub-allocations in the interest of deregulation on the basis that Amateurs can manage their own operations while others opposed the deletion of sub-allocations, preferring that they be updated only on the basis of what was actually wanted. One said the removal would be "dangerous".

It was agreed that clubs and other organizations should make their views known on this important subject as soon as possible, so that DOC might propose changes that could reflect up-to-date needs of Amateurs. (Editor's note: It would be appreciated if clubs and individuals would send copies of any possible comments to CARF, or send them to CARF for transmittal to DOC. This would keep your Federation aware of

any changes that Amateurs might think to be advisable.)

There was a request that third party communications should be permitted with countries regardless of whether third party agreements were regularly in effect when natural disasters rendered regular communications impossible. The recent disaster in Italy was a case in point. Many Italians in Canada had relatives in the disaster area.

There was a request that the syllabus be revised and up-dated and that there be new exams to reflect this. DOC noted that this was a major task that should be discussed at the next symposium. The CARF representatives agreed and said they would be glad to set one up.

It was also recommended that mobile logging be done away with. It is difficult to accomplish and few, if any, other mobile stations are required to keep logs. It was doubted if many Amateurs did in fact keep logs on their mobile operations.

## THE FUTURE

Moderator: Noel B. Eaton VE3CJ, Wat-  
erdown, Ont., President IARU. Panelists:  
John Clarke VE3KE, Head, Agricultural  
Engineering, Kemptville School of Ag-  
ricultural Technology, Kemptville, Ont.;  
Capt. H. (Hugh) Lines VE3DWL, Direc-  
torate of Computer Applications, Dep-  
artment of National Defense, Ottawa;  
R.S. (Randy) Smith VE3SAT, Computer  
Science Instructor, Cdn. Forces School  
of Aerospace and Ordnance Engineering  
Trenton, Ont.

This Workshop divided its topic into  
three sub-topics:

- (a) Role of Amateur Radio,
- (b) Spectrum Usage including Satel-  
lite Communications, and
- (c) Digital Communications on VHF  
and Higher Bands.

Frequency allocation matters were  
not discussed because on-going discus-  
sions with the Department in prepara-  
tion for the 1979. ITU World Adminis-  
trative Radio Conference covered this  
question.

trative Radio Conference covered this  
question.

It noted that Amateur radio has  
changed considerably since it started.  
Amateur radio has always been up front  
in the use of new technology and this is  
bound to continue, especially as micro-  
wave equipment becomes available at  
prices Amateurs can afford. The maj-  
ority of Amateurs are still technicians,  
rather than communicators. The Ama-  
teur satellite program was quoted as  
one of the many indicators proving this  
dictum.

The hobby and recreational aspects  
are also good arguments for maintaining  
and obtaining frequencies, though they  
are not good points internationally. In  
Canada, the need for Amateur emergency  
communications is not as great as in  
other countries, except in remote areas  
and over long distances. This has res-  
ulted from the increased presence of  
GRS and other services.

While Amateurs are not now seen as the pool of fully-trained operators for the armed forces due to the changes in the needs of the services, a number of people spoke of how the average Amateur's curiosity, drive and technical training make him a very desirable person when it comes to getting an electronics job done. Trade school training by itself is broad and shallow.

Amateur radio is a strong contributor to friendship, fellowship and international brotherhood. It is also important for the handicapped and disabled because, through it, they are the equal of others on the air.

On the use of the higher bands, it was noted that microwave components are becoming much cheaper and indeed microwave equipment suitable for Amateur adaption is now becoming available. In consequence, Amateur publications, clubs and societies are beginning to promote the higher bands. One of the things that was frustrating Amateur microwave work was the lack of frequencies between 4 GHz and 24 GHz. The Workshop felt that Amateurs should be encouraged to use frequencies above 144 MHz. One Amateur noted that inexpensive 10 GHz equipment is now available.

Quite some attention was drawn to the lack of frequencies for satellite communications. It was noted that, while all Amateur satellites to date have been in near earth orbits and thus of limited area and time coverage, a new Amateur satellite now being constructed will soon be launched in an almost synchronous orbit. This will provide much improved coverage for much longer periods and represents a real advance. Amateur satellites are built entirely by Amateurs from various countries working together. DOC said they were aware of the need and would try to respond.

It was noted that digital transmission is coming quickly and represents a real challenge. For a while it will be expensive, but Amateurs should be encouraged to use it. It will not entirely replace the other modes (analog, CW, RTTY, etc.).

## WORKSHOP REPORTS

### AND GENERAL DISCUSSION

#### -Afternoon Plenary Session-

Moderator: W.J.F. (Bill) Wilson VE3NR, DOC; Panelists: Dr. John deMercado, Director-General, Telecomm. Regulatory Service, DOC; Bill Loucks VE3AR, (vice Ron Hesler VE1SH) vice-director ARRL Cdn. Div.; John Henry VE2DNM, President CARF, Aylmer, P.Q.; Eugene Lajoie VE2RA, Director RAQI, Perkins, P.Q.; Tom Atkins VE3CDM, Director RSO.

#### Organizations represented:

Society of Newfoundland Radio Amateurs  
Nova Scotia Amateur Radio Association  
Radio Amateur du/of Quebec Inc.  
Radio Society of Ontario  
Amateur Radio League of Manitoba  
Saskatchewan Amateur Radio League  
British Columbia Amateur Radio Assoc.  
Canadx (Canadian DX Association)  
Canadian Ladies' Amateur Radio Assoc.  
Canadian Amateur Radio Federation  
Canadian Division, American Radio  
Relay League  
Toronto Metro Council of Amateur  
Radio Clubs  
Union Metro Sansfiliste  
Halifax Amateur Radio Club  
Club Sansfiliste Outaouais  
Ottawa Amateur Radio Club  
The Ontario Trilliums  
Ottawa Valley Mobile Radio Club  
Hamilton Amateur Radio Club  
49er GRS Club (Ottawa)  
Sault Ste. Marie A.R.C.  
Kingston Amateur Radio Club  
Kingston Old-Timers' A.R.A.  
Canadian Standards Association  
Canadian Radio Technical Planning Bd.  
Communications Research Centre  
National Research Council  
Department of Communications  
Department of National Defense  
Ministry of Transport

Papers and briefs presented and considered by the symposium workshops and passed to DOC were received from the following:

Halifax Amateur Radio Club  
Nova Scotia Amateur Radio Assoc.  
Canadian Antenna Rights Committee  
Canadian Amateur Radio Federation Inc.  
Canadian Division, American Radio  
Relay League  
South Pickering Amateur Radio Club  
Nortown Amateur Radio Club  
Scarborough Amateur Radio Club  
Metro Amateur Radio Club

Toronto FM Communications Society Inc.  
The Ontario Trilliums  
Thornhill Radio Amateurs' Club  
VE3GX Ed Morgan  
VE3SH Bernie Best  
VE3AHU Art Blick, Kingston  
VE3UD Bud Punchard, Ottawa  
VE3HAR Tom Toth, Windsor  
VE3EKA Bill Westbrook, Ottawa, and  
VE3TP Mike Burchill (Ottawa A.R.C.)  
VE7BS Bob Eldridge

## Symposium Closing Remarks

Winding up the day's events, Fred Towner, CARF vice president, had some thoughts for the assembly. The major part of his remarks are reported here.

"Before I say thanks to the many who helped make this conference a suc-

"One of the most important aspects of our hobby is its attraction to a wide range of individuals: to the very young, to the very old, rich and poor, PHDs and elementary school children - all meet on a common ground with a common interest -- Amateur radio. All are equal. All are quick to extend a friendly helping hand, be it civil emergency, public service, or just helping a new ham. There is not one of us who does not owe their start in the hobby to another Amateur who took the time and patience to help. We are all equals and all friends.

"The Amateur Experimental Service has its traditions. Traditions that, for the good of our hobby, must not be abandoned. For to abandon our traditions would be the destruction of Amateur radio.

"Entrance to our hobby must be earned. To be an Amateur operator requires more than the ability to pay the licence fee. It requires a desire. A desire that will drive a person to work and study until they can master the entrance requirements into the world of Amateur radio. People who have earned  
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this privilege value it highly. We must not allow the entrance requirements to be diluted to a point where people no longer have pride in their licence. We must not turn our backs on the traditions that have sustained us over the years.

"The paragraph in the Regulations that describes and provides justification for the existence of our hobby reads: 'Amateur Experimental Service being a service in which land or mobile stations are operated for self-training, intercommunications and technical investigations, carried on by Amateurs, who are duly authorized persons interested in radio techniques, solely with a personal aim, and without pecuniary interest.'

"There are some among us who say that this section no longer describes our hobby, that it is out-dated and needs to be rewritten. I suggest that although this paragraph may not describe the actual state of the Amateur Experimental Service, it is far from being outmoded. What we need is not a rewriting of this paragraph, but a return to the old values and traditions, which have proved their worth over the years. If we turn away from these traditions and values, we lose the very justification for our existence.

"Canadian Amateurs have always been somewhat conservative in outlook and not particularly anxious for changes in our hobby and, therefore, I am very pleased to note your acceptance of the

# Publications:

\* Canadian Amateur Radio Regulations Handbook - up-to-date interpretation of Canadian Amateur Radio Regulations written in language you can understand, plus more useful information concerning the operation of a station in the Canadian Amateur Experimental Service.

\* The Canadian Amateur Certificate Study Guide - contains the technical and operating information necessary to successfully pass the latest DOC Amateur examinations.

\* If your Club is running classes, the new Instructors Package is now available to go along with the Canadian Amateur Certificate Study Guide. Lesson plans, hints on teaching Morse, large diagrams suitable for making overhead transparencies or slides, typical exam questions, and more ... all compiled by professional electronics teachers. Only \$2.50!

\* A 35 mm slide package with diagrams is also available for \$5.00!

\* Advanced Certificate Study Guide available in August --- for details see the Canadian Amateur.

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concept of the Experimenter's Certificate. I feel this new certificate is in keeping with the spirit and tradition of Amateur Radio. It is the Federation's hope that these people, gaining entrance to our hobby through their knowledge of engineering and computing sciences, will bring fresh ideas and enthusiasm into Amateur radio, and help us to discover new horizons and to explore new technologies. The traditional exchange of knowledge between Amateurs will encourage many of us to join them in their experimentation and exploitation of frequencies and technologies that we have largely neglected.

"With this exchange of ideas, techniques and interests. I feel confident that we will continue to pursue with vigour the new horizons continually opening to us, and we will continue to uphold the traditions we value so highly. Our numbers will continue to show a healthy growth, not at the expense of traditions, not by diluting our entrance requirements, but by continuing to offer a multifaceted hobby with many exciting avenues to explore. Interests that will continue to attract people from all walks of life. Amateur radio is a unique hobby, one with a proud past and a promising future!

"Now is the time for me to climb off my soap-box and to thank the many people who worked so hard to make this conference a success.

"First, the Department of Communications, who encouraged the Federation to convene this Symposium, then threw their whole-hearted support into helping us organize the function. It is difficult to know where to start there. So many did so much. Ann Sequin, who did so much for us in organizing the facilities here in the conference centre. Scotty, ever ready with suggestions reminding us of important items we may have overlooked. Dr. John deMercado, who suggested this conference in the first place, and without whose help and encouragement, the conference could never have happened; and, of course, Bill Wilson, our moderator, whose collaboration during the planning stages was invaluable and who kept this conference on the rails and permitted us to get such

a large amount of business conducted in such a short time.

"Next, the panel moderators, who did a difficult job well, and the panelists, who helped spark the give and take of ideas, and who helped compile these ideas for presentation to the assembly.

"A large vote of thanks goes to the Federation's Ottawa working group, who toiled for more hours than anyone would believe in organizing this function. Penny Robinson VE3ERO, Ralph Hindle VE2BMH, Doug Burrill VE3CDC, John Henry VE2DNM ... all worked at the many tasks necessary to bring the conference together.

"The Federation wishes to express its gratitude to Madame Sauve, Minister of Communications, for allowing such full participation of her Department, which so greatly assisted in the success of the conference.

"And finally, most of all, sincere thanks to all of you who came from across the country, on your time, and many of you at your own expense, because you cared. To you, the Federation's sincere thanks. You have made this Symposium a success.

"We hope to see you all again at next year's symposium."

---

The CARF National QSL Bureau address is P.O. Box 66, Islington, Ont. M9A 4X1. For information on how to use the service, see page 45.

#### BANNED COUNTRIES LIST

Iraq, Khmer Republic\*\*, Libya, Pakistan, Somalia, Turkey, Viet-Nam\*, Peoples Democratic Republic of Yemen.

\*-Stations XV5AA, XV5AB and XV5AC were authorized to exchange communications with Amateurs of other countries by the former Saigon regime.

\*\* -Station XU1AA has been authorized to exchange communications with Amateurs of other countries.

#### THIRD PARTY TRAFFIC AGREEMENTS

Bolivia, Chile, Columbia, Costa Rica, Dominican Republic, Guyana, Honduras, El Salvador, Israel, Nicaragua, Peru, Trinidad, Tobago, U.S.A. (Territories and Possessions), Guatemala, Uruguay, Venezuela.

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Note: all Commonwealth countries are eligible for reciprocal operating privileges to Canadian Amateurs.

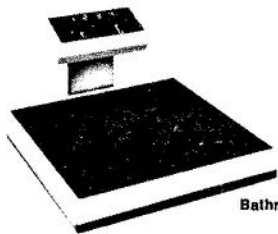
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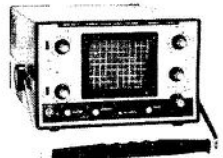


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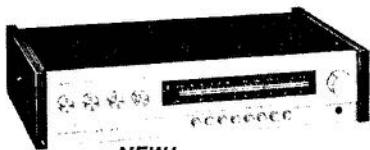
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