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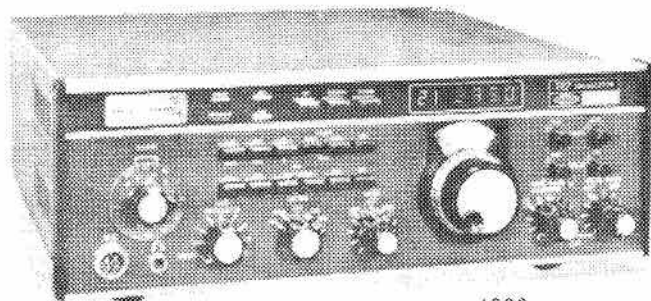
December 1981

The Canadian Amateur Radio Magazine

*Best Wishes  
for the  
Holiday Season!*

to the Amateurs  
of Canada  
and the World





Model 1336

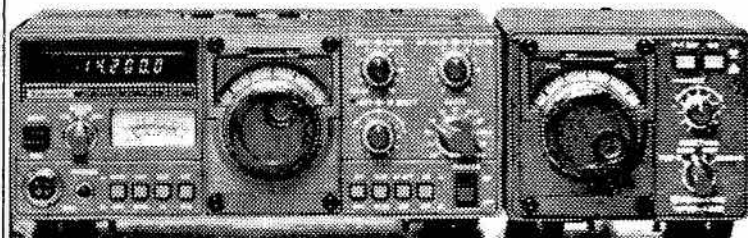


**TR7** Solid State  
Continuous Coverage  
Synthesized HF System



Model 1240

**R7** Synthesized General  
Coverage Receiver



TS-130S

VFO-120

**Kenwood**

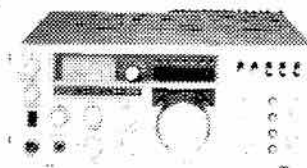
**TS-130S/V**

'Small wonder'... processor,  
N-W switch, IF shift, DFC option

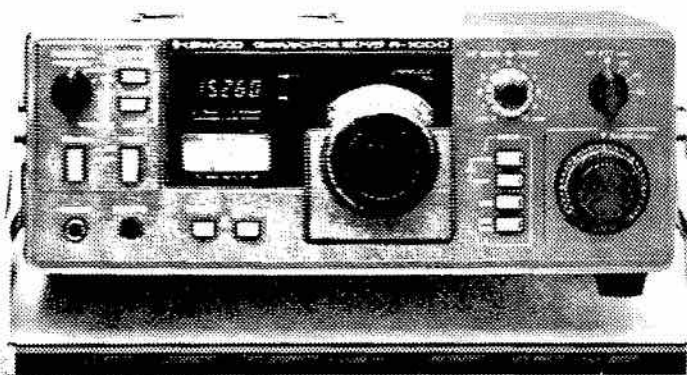


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FT-107M



R-1000

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# THE CANADIAN AMATEUR

December 1981

Vol. 9 No. 11

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PRINTED IN CANADA

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

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

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**TCA - The Canadian Amateur** is published by C.A.R.F. Publications Limited, 370 King St., P.O. Box 356, Kingston, Ontario, Canada K7L 4W2. It is available for \$10 per year or \$1 per copy. It is recommended by the Canadian Amateur Radio Federation, Inc. and members receive it automatically.

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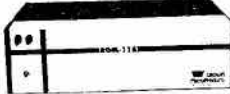
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'82**

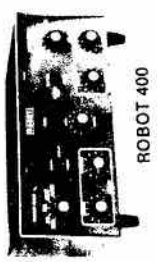
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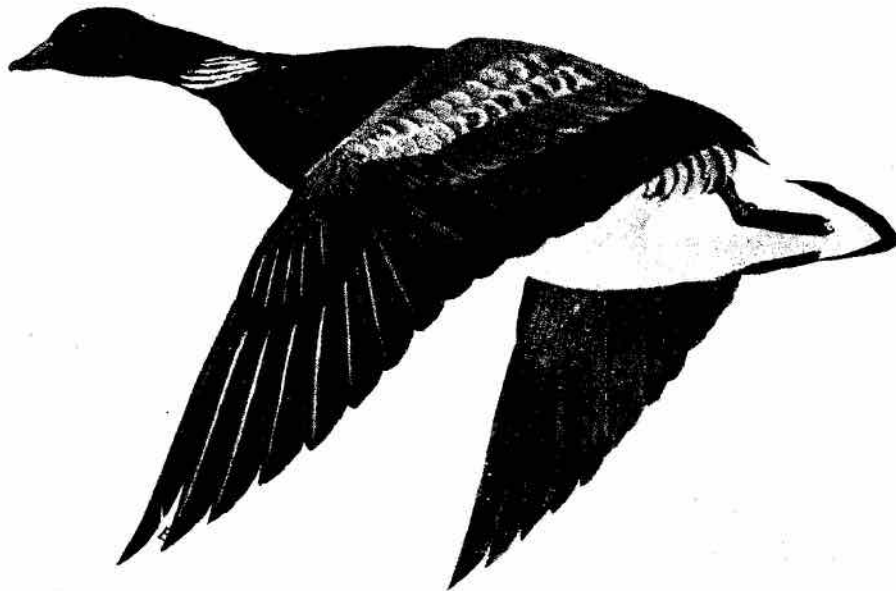
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FT-707 is shown with optional FV-707DM VFO & Scanning Microphone



## THE FT-707 "WAYFARER"

The introduction of the "WAYFARER" by Yaesu is the beginning of a new era in compact solid state transceivers. The FT-707 "WAYFARER" offers you a full 100 watts output on 80-10 meters and operates SSB, CW, and AM modes. Don't let the small size fool you! Though it is not much larger than a book, this is a full-featured transceiver which is ideally suited for your home station or as a traveling companion for mobile or portable operation.

The receiver offers sensitivity of .25  $\mu\text{V}/10$  dB SN as well as a degree of selectivity previously unavailable in a package this small. The "WAYFARER" comes equipped with 16 poles of IF filtering, variable bandwidth and optional crystal filters for 600 Hz or 350 Hz. Just look at these additional features:

### FT-707 with Standard Features

- Fast/slow AGC selection
- Advanced noise blanker
- Built-in calibrator
- WWV/JJY Band
- Bright Digital Readout
- Fixed crystal position
- Factory-installed WARC bands
- Unique multi-color bar metering—monitors signal strength, power output, and ALC voltage.

### FT-707 with Optional FV-707DM & Scanning Microphone

- Choice of 2 rates of scan
- Remote scanning from microphone
- Scans in 10 cycle steps
- Synthesized VFO
- Selection of receiver/transmitter functions from either front panel or external VFO
- "DMS" (Digital Memory Shift)

Impressive as the "WAYFARER" is its versatility can be greatly increased by the addition of the FV-707DM (optional). The FV-707DM, though only one inch high, allows the storage of 13 discrete frequencies and with the use of "DMS" (Digital Memory Shift) each memory can be band-spread 500 KHz. These 500 KHz bands may be remotely scanned from the microphone at the very smooth rate of 10 Hz per step.



# NEW

**BIG performance.  
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smaller price!!!**

The TR-2500 is a compact 2 meter FM handheld transceiver featuring an LCD readout, 10 channel memory, lithium battery memory back-up, memory scan, programmable automatic band-scan, Hi/Lo power switch and built-in sub-tone encoder.

**• Extremely compact size and light weight**

Measures 66 (2-5/8) W x 168 (6-5/8) H x 40 (1-5/8) D, mm (inches). Weighs 540 grams (1.2 lbs) with Ni-Cd pack. (Photo shown, actual size).

**• LCD digital frequency readout**

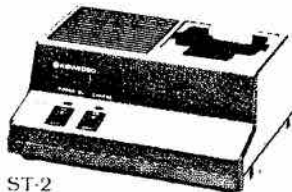
Easy to read in direct sunlight or dark (with lamp switch). Low current drain. Shows frequencies and memory channels, plus four "Arrow" mode indicators.

**• Ten channel memory**

Nine memories for simplex or  $\pm 600$  KHz offset. "MO" memory for non standard split frequency repeaters.

**• Lithium battery memory back-up**

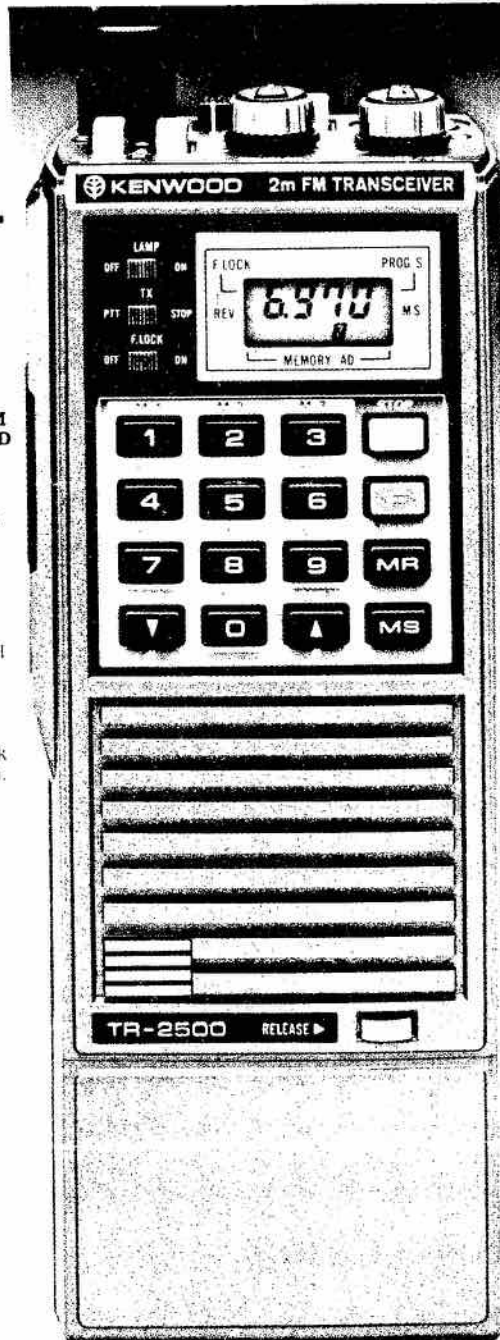
Built in Lithium battery (estimated 5 year life) maintains memory when Ni-Cd pack is fully discharged or removed.



# TR-2500

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**• Memory scan**

Scans only channels in which frequency data is stored. Stops on busy channel, resumes scan approximately 2 seconds after signal ceases.

**• Programmable automatic band scan**

Upper and lower frequency limits and scan steps of 5 KHz and larger (5, 10, 15, 20, 30 KHz, etc.) may be programmed. Scan locks on busy channel, resumes approximately 2 seconds after signal ceases.

**• UP/DOWN manual scan**

Up/Down manual scan in 5 KHz steps.

**• Built-in tuneable sub-tone encoder**

Sub-tone encoder, with activate switch, tuneable (variable resistor) to desired CTCSS tone. Optional TU-1 programmable (DIP-switch) encoder accessory available.

**• Built-in 16 key autopatch encoder**

16 keys provide telephone dual tone modulation.

**• "SLIDE-LOC" battery pack**

Slides into position, locks into place.

**• Reverse operation**

Shifts receiver to transmit frequency, and transmitter to receive frequency.

**• Keyboard frequency selection**

Sets operation frequency across full range.

**• Extended frequency coverage**

Covers 143.900 to 148.995 MHz in 5 KHz steps.

**• Optional power source**

Using optional MS-1 mobile or ST-2 AC charger power supply, radio may be operated while charging. (Automatic drop-in connections.)

**• High impact plastic case**

Provides extra strength to resist damage.

**• Battery status indicator**

Flashes to indicate low battery charge level.

**• Two lock switches**

Prevent accidental frequency change and accidental transmission.

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SWR-50B \$43

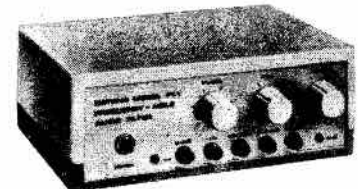


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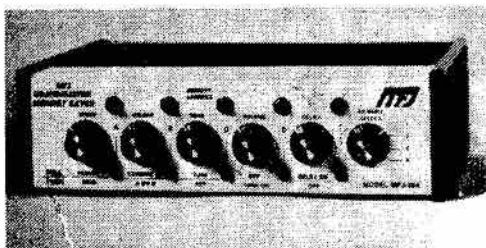
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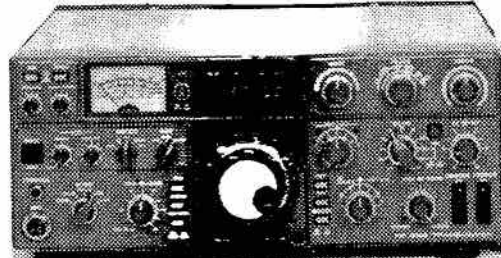
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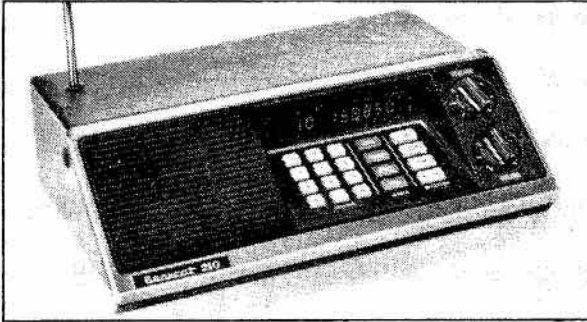
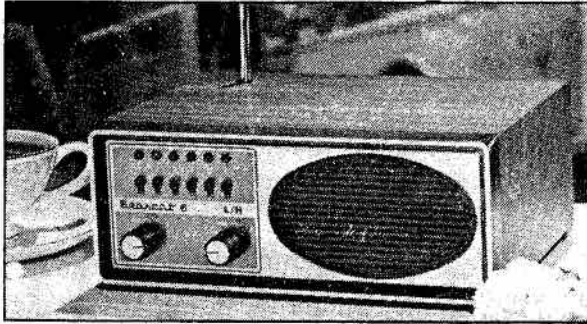
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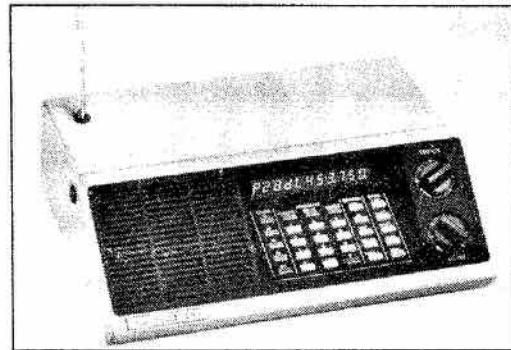
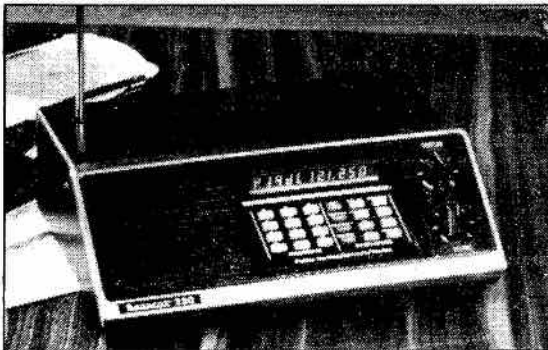
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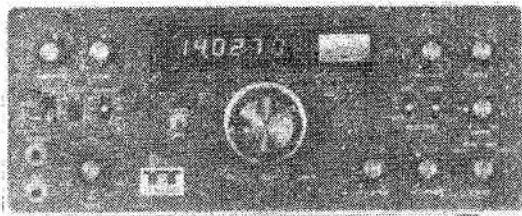
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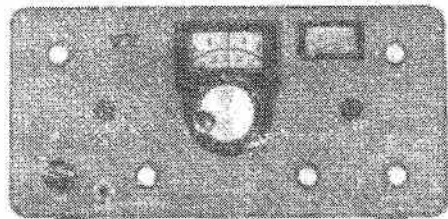


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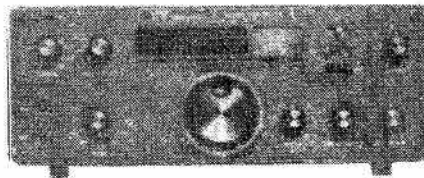
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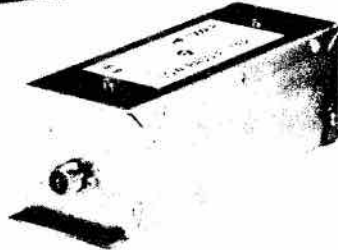
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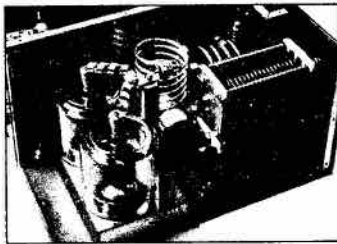


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LINEAR  
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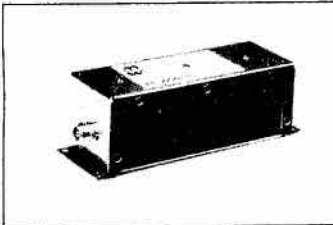
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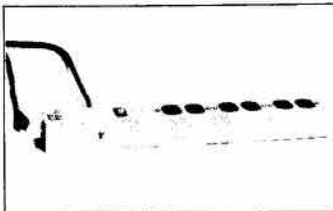


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SPECIFY MANUFACTURER + MODEL #

Orders are normally shipped PP INSURED  
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# Letters:

## LIGHTNING PROTECTION

I would like to commend John Lester VE3BZT for his fine article entitled 'Lightning Surge Protection' in the May TCA.

He has treated this subject in an interesting way and surely has helped to inform me. As an instructor of Amateur Radio, I like to have this kind of information in my files.

Canadians should be proud of their knowledge and expertise on many technical subjects and share their knowledge as John has done.

J.A. Lou Beaubien VE7CGE  
Burnaby, B.C.

## SOUTH AFRICA

Enclosed you will find a copy of a letter, care of myself, addressed to Mr. M.B. Jones ZS2MV.

In that I consider the extending of reciprocal privileges to Mr. Jones and his wife ZS2JJ a breakthrough, I thought you might be interested.

Based on this recognition, it would appear that full reciprocal agreement between Canada and South Africa should not be difficult.

It is considered suitable action by your organization is in order in furthering official recognition.

Al Miller VE7KC  
Penticton, B.C.

"Dear Mr. Jones:

Thank you for your letter of April 28 concerning reciprocal operating privileges during your visit to Canada.

"Although a reciprocal agreement has not been concluded with the Republic of South Africa, we are pleased to learn that Canadian citizens have been granted amateur privileges. In light of this action by the South African authorities we are pleased to permit you and your wife to operate your station while

visiting Canada. The operation of your station shall be in accordance with the privileges authorized by your licences providing this operation is permitted under Canadian regulations. A copy of the Canadian Regulations applicable to the Amateur service is enclosed for your use.

C.H. Hedges  
Acting Manager  
Spectrum Management  
Operations Division,  
Telecommunication  
Regulatory Service"

## AMATEUR BEGINNER

Re: Article by VE7IW in April TCA. I would like to say that there is one such beginner in the Amateur scene that is not struggling, but trying to get on the air. I am 15 years old and just passed my Amateur test... I do not have a paper route, but I survive on my weekly allowance.

I haven't sent out my first CQ yet, but as soon as I get my 12AVQ that I bought from Ham Radio Atlantic (on sale) and get the rest of my gear, I shall be on the air.

Brian Kelly VO1QU  
St. John's, Nfld.

## OVERMODULATION

I object strongly to the article in the July/August issue of TCA: 'SSB Transmitters cannot be overmodulated'. It is most disappoint-

**TCA WELCOMES LETTERS  
TO THE EDITOR. PLEASE  
SEND ALL CORRESPONDENCE  
TO EDITOR TCA,  
1082 APOLYDOR AVE.,  
OTTAWA, ONT. K1H 8A9.**

ing that TCA would print something that lacks all technical foundation.

If we call it overmodulation or overdriving does not matter, there is enough evidence of this on the bands. Splatter, spurious signals and speech processors running wide open are a common occurrence.

I can only hope that your readers don't turn up the microphone gain on their transmitters and trancivers full tilt from now on in the assumption that the author of this sorry piece of writing is a technical expert.

Eric Kirchner VE3CTP  
Agincourt, Ont.

*Sorry, Eric, this one slipped by me. Ed Hartlin VE3FXZ did not see it, so I take the blame. Ordinarily our editorial staff stops the bad ones, but on occasion one will slip through.*

## BRITISH HAMS

I saw in a British Sunday Newspaper this article on British 'Hams' Problem, thought it may be of interest as an article, rather than an answer to Rene's Problem.

While I'm writing, I will tell you that I send the TCA to West Yorkshire, where it is enjoyed by many a 'G' and have commented on its contents.

Ron Hewett VE3KBP/G8UTG  
Napanee, Ont.

Queen backs  
radio 'ham'

"Radio 'Ham' Eric Allison received the Queen's approval to put up a tall aerial at his home on the Royal Estate at Sadringham.

But his local council have, so to speak, over-ruled the Queen. They have said "No" to the mast.

The row began when West Norfolk Council's planning com-

mittee refused Eric's application for a 58-ft. telescopic mast and aerial. The committee said it would be "detrimental to the visual amenities of the neighbourhood."

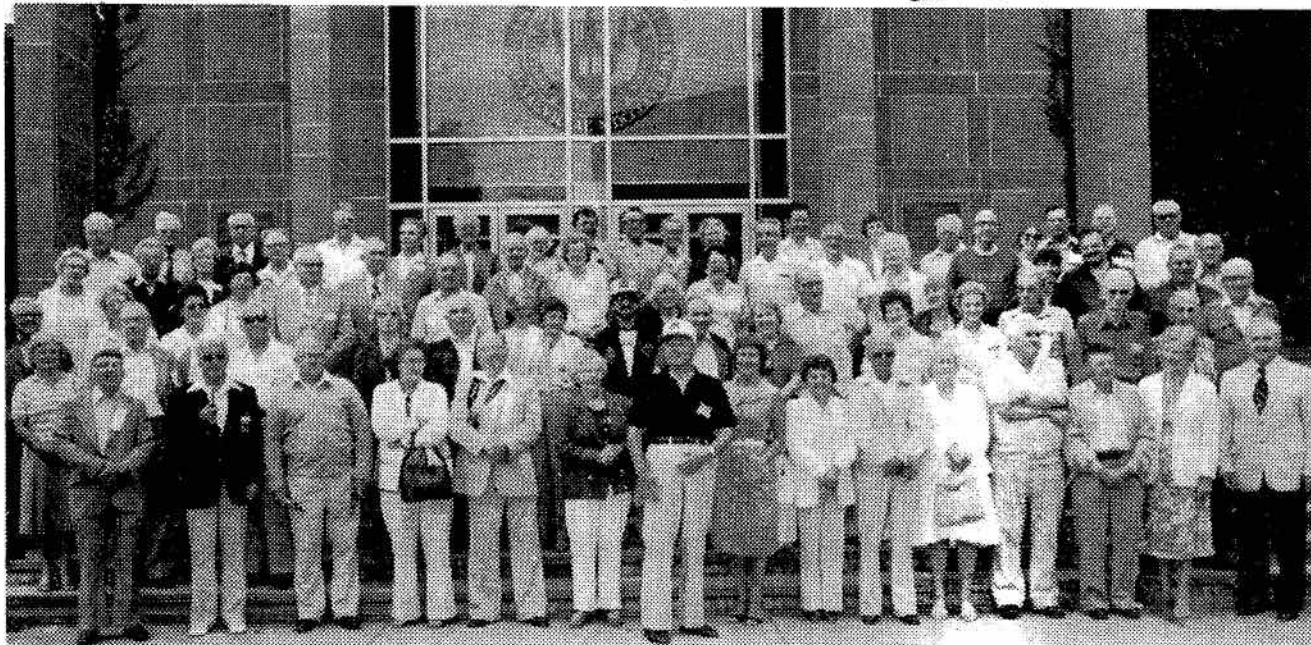
Eric, 35, an electrician, appealed to the Duke of Edinburgh,

patron of the Radio Society of Great Britain.

"I received a letter from the Sandringham estate agent saying that the Queen had no objection to my application," said Eric. He applied for a 42-ft. aerial— but he was turned down again.

"I've never heard of a council going against the Queen like this," he said.

But District Planning Officer Clifford Walters said yesterday that the committee was having second thoughts and Eric might still get his 58-ft. aerial."



*The group at the "Old Timer's Minifest", Aug. 23, 1981.*

## VE1RT Old Timer's Club

The VE1RT Old Timer's Club Minifest was held at Mount Allison University, Sackville, N.B. on Aug. 22 and 23.

The Old Timer's Club was conceived by Bert Whittaker VE1RT. He became a Silent Key in 1968, at which time the present club was formed with his call letters now held by Wimpy VE1NZ on behalf of the 174 group members.

At the Sackville gathering there were 125 registered. Of this there were 95 members of the OTC (to hold a membership, one must have held a licence for 20 years or more).

Amateurs from Ontario, Quebec and all four Atlantic provinces enjoyed the fellowship, and all the usual (and some unusual) activities on the program. The talk and demonstration given by

Burnes Getchell VE1CL was well-attended; he had 'a truckload of nostalgia' and humour. This was followed by a display of modern computers which programmed the prizes donated by Radio Shack of Moncton.

At night there was, as might be predicted, an 'Old Timer's Sing Song' with piano stylings by Dick Hurst VE1SK and Al McQuoid VE1ER, the genial conductor being Walt Wooding VE3WW.

During the quiet moments, Don Bunker VE1BRD demonstrated his talking clock, a most useful item for a white caner. The evening was a happy occasion for all, then came Sunday morning and the group picture. Then the two metre hunt which was conducted by John Fallow VE1SY.

The committee had many to help them, but everyone is grateful to Paul VE1JU and Phyllis Blakney, Ray Hickley VE1SL and Gemma Higgins. Frank J. Higgins VE1KY was the program chairman.

The Old Timer's Club meets every Sunday morning at 8:00 (Maritime Provinces Local Time) on 3.750 KHz and has never missed a Sunday meeting since it all started on March 20, 1960.

Any Amateur holding either an Amateur or commercial ticket for 20 years or more is encouraged to join.

CARF's Atlantic Director, Nate Penney VO1NP is an associate member of the Club and represented the Federation at the Minifest.



The name of this column is EmCom, short for **Emergency Communications**.

The purpose of this column is to stimulate a positive dialogue between Amateur Radio operators across Canada to develop concepts for Amateur Emergency Communications at all levels of participation - local, regional, provincial and federal. This column can be a forum for these concepts. If you, as an individual or as a spokesman for the group, have ideas that you think could be of benefit to all, by all means send them to me by mail. All thoughts and ideas are welcome and, if used, will be attributed to those who suggested them.

Thoughts put forth in this column are not necessarily those of CARF.

## **WHAT IS AN EMERGENCY AND WHO'S IN CHARGE?**

As far as Amateur Radio is concerned, I think an emergency is any situation where normal communication systems either fail to function or become chaotic or are lacking when required.

I'm going to give you three examples of possible emergency situations where Amateur Radio can be of benefit. They go from the simple to the complex.

Someone is lost in the dense bush of New Brunswick or British Columbia. Search teams, mostly civilian, are going in to look for the lost person. Do you know how many pay telephones MA BELL has in the bush? Not too many. And there are few police or forestry services that have adequate equipment to mount a proper communications net for this type of operation in a short space of time.

How about the flooding of a river that affects a town of 5,000 people? The townspeople must be moved out temporarily to another site until the flood

has subsided. Chances are that the flood has already taken out the telephone and hydro lines.

O.K. Try this one on for size. A city of 250,000 people is hit by a severe earthquake that wipes out the telephone and hydro lines and damages a lot of buildings.

It's quite likely that the police, fire, ambulance and public utility communications systems will also get knocked out, and a lot of people will have to be moved to evacuation centres.

There are many other examples I could give, but the basic concepts are all the same. The only difference is the degree of complexity of the emergency service required.

As for the concept of hands-off when it comes to the use of Amateur Radio by any governmental agency in an emergency...just remember that if their systems are out of service, chances are that other commercial systems went out first. Maybe the Amateur Radio system went out too, but the Amateur system does not require qualified technicians to perform the required emergency repairs to put a system back on the air. Not that Amateur Radio operators are not qualified, but we can service our own equipment. We do not have to call in a service technician to get up and running again.

If the antenna system goes down, we can quickly string up the proverbial "wet noodle" and get some semblance of a signal on the band. If the power gets knocked out, many operators just go out to the car and resume transmission or start the emergency generator. Another point, most governmental agencies rely on remote transmitter sites connected to a central console by hard wire. If the wire breaks or gets wet or anything, the system fails and communications is lost. There

aren't many Amateur Radio operators who have a run of more than two or three hundred feet to the antenna site.

## **WHO'S IN CHARGE?**

If you check the by-laws of the community in which you live, chances are that there's some type of emergency plan on record.

These emergency plans delegate certain powers to someone in the community - the town clerk, the mayor, the fire chief, the police chief, the emergency planning officer, the local barber - who knows.

Someone's in charge. Sometimes it's a joint committee of various agencies.

The by-law, generally, gives that person or committee sweeping powers, including the power to supply communications during the emergency situation.

This Emergency Planning Officer (for want of a better name) is the person that Amateur Radio operators should respond to in an emergency. Not the Red Cross, not the Salvation Army, not St. John's Ambulance, not the local snowmobile club. These organizations are responsible to the EPO. They don't initiate an emergency operation, they respond to a request for assistance from someone responsible for emergency operations.

Not that a liaison with these groups is not required; but, the services that Amateur Radio can provide should be primarily aimed at the Emergency Planning Officer's use with service to the other groups as a secondary function. No more than five to ten operators should be dedicated to these agencies, if at all possible.

The key to Amateur Radio participation in an emergency plan should be **direct** response to the Emergency Planning Officer's requirements for optimum benefit to the community.



# What is a Microcomputer?

By Paul Kite  
Computerland, Ottawa

## Part 2 COMPONENTS

In the first article of this series, I talked about what a microcomputer was and gave you a general idea of how they are being used. Now we will look at the components or parts of a microcomputer and how all of these parts are put together to form a system.

Apart from the computer doing the 'number crunching' it must be able to communicate to us either by using a Cathode Ray Tube (i.e. television or monitor) or some form of printer. Also, we must be able to store all the data and programs externally from the computer's internal memory (ram) so we can use it again for other programs and data. All of these functions are facilitated through devices referred to as peripherals and when they are combined they form a microcomputer system.

### CENTRAL PROCESSING UNIT (CPU)

The CPU is the center and the brain of the entire system. It controls the programming, printing, storage, communication, and just about every aspect of the system.

At the heart of the CPU is the microprocessor. It is the computer chip that contains the actual computer instructions for operating the entire system. You may have heard a few of their names: Z-80, 6502, 8080, 8086, etc. They differ by the number and type of instructions they contain.

Also in the CPU is the internal memory or 'RAM'. Ram is used by the computer to store information it is currently working on and in some cases to store programs that help it do its job of controlling and calculating.

Ram is measured by the 1000's of characters it can store at any one time. 8000 to 64000 is a typical range of ram that is found in a

micro. As technology marches along (or runs along in this industry) we find that microcomputers are always extending the amount of memory they can address. A good example of this is the Apple III computer which has (presently) a maximum of 128K (128,000) characters available for memory.

To input the data and talk to the computer, we use a keyboard which is much like a typewriter. The keyboard is linked to the system so the user (you) can instruct the computer to do something.

One last major area in the CPU is the 'BUS', the area which is used to plug in interface cards for the peripherals. The number of slots will determine the number of peripherals you can hook up and they range from as few as three or four to as many as 20.

### EXTERNAL STORAGE

External storage refers to the filing of data and programs on a variety of material. We can accomplish this in many ways but the most popular ways are cassette and disk.

Cassette recorders are the least expensive, but the most unreliable, slow and awkward to use. To store data on a cassette is much like the method you would use to record a song. First press the record button, then use the proper save command (via the keyboard) and the information is stored.

Disk drives come in a variety of capacities, sizes, speed and material. The simplest and most common is the mini floppy disk drive. The floppy is usually 5" in diameter and flexible (hence the name). It is made out of vinyl with a metal oxide coating that stores the information electronically. Unlike Ram, where once the

power is turned off the information is lost, a floppy disk can be taken out of the drive and used later to recall the information. Typical storage capacity of a mini floppy ranges from 100K to 350K.

The next step is to hard disk. The diameter is the same in most cases, but the storage and speed is far superior to that of a floppy. Hard disk storage usually ranges from 5 or 6 megabyte (million bytes) to 30 or 40 megabytes. Hard disks cannot be removed (unless they are the removable disk pack type) but they usually contain enough storage that the user would not have to.

### CATHODE RAY TUBE

The CRT is the monitor or the television that instantly displays the process, data or program that the CPU is working on. They range in size, speed, colour, clarity and, of course, price. With most microcomputers today, especially in the home, they are hooked up to the family TV sets using an RF Modulator.

### PRINTERS

When one sends data or programs to the disk drives or the CRT we call that a soft copy because we cannot handle or manually manipulate it. Therefore, to get a 'hardcopy', or the information printed out on paper, we must use a printer. There are basically three methods that are used for printing: thermal, matrix and letter-type quality.

Thermal printing is the process of using heat sensitive paper and running the head across the paper and heating-in the form of characters. Matrix printing is done by creating the characters out of dots. Small pistons strike out against the ribbon forming the letter or design. This type of printing



is by far the fastest and most reliable of the three. In recent months, newly-introduced matrix printers are of such high quality that they are being used in word processing systems.

The last type of printing is letter type. It is simply like a typewriter, the character is formed by a preformed character hitting the ribbon. This process creates a character that is solid (instead of dots) and is currently preferred by offices doing word processing.

#### SUMMARY

All the above components go together to form a microcomputer system. However, without software (programs) to run the system, it will not do a thing. But this is the topic of the next article.

## Summary of VE6HO Report

Before commencing this report, I would like to congratulate Peter Dreissen VE7BBQ on the marvellous example and knowledge he has exhibited in coaching so many DOC men to their Digital Licence. I think CARF should give Peter a vote of thanks and a standing ovation for this.

During the past year, I have attended all club meetings of the Southern Alberta Radio Club, all the meetings of the Border City Radio Club, have made two visits to Calgary, one to the Regular Club and one to the VHF Club. Have made a visit to the Sparwood Club, one to the Creston club, and all at no cost to CARF, all out of my pocket.

I am living on a pension and, like most others am carrying a stiff mortgage. When you consider that a trip to Calgary, Creston and Sparwood entails the cost of overnight accommodation, meals for myself, and generally the executive, plus one or two 897's or 813's, I am quite sure that you can see my dilemma.

# Report from Ontario Director

By Craig Howey VE3HWN

I'm Craig VE3HWN one of the two Ontario Directors of CARF. I'll give you a quick rundown of my activities so far.

In the last few months I've attended some meetings of various Amateur clubs in the central Ontario area, including Guelph, Stratford and Hamilton. I presented Mitch Powell VE3OT with a CARF-sponsored plaque for the top Canadian entrant in the CQ Magazine 1980 WPX contest, and since I was aimed west (London is west of Waterloo) I continued on and took a little motor trip, eventually getting out to B.C. (Actually I made a left turn at Lake Louise and ended up in Field.)

I managed to get to the Wednesday evening meeting of the Northern Alberta Amateur Radio Club in Edmonton and, as it turned out, Mitch Powell was the guest speaker. The NARC was the first Ham club that I had joined back in the early 70's when I first got into Ham radio and the olde timers will remember me as one of those high school types on the repeater till the wee hours of the morn. While there I helped count the ballots for their Director's elections.

I headed east to the Winnipeg Symposium and arrived after driving through the soil storms of Saskatchewan in time to do some sight-seeing.

I attended the session on Amateur Research and Development and I was quite surprised to find the discussion on bands above 430 so active. Let's get going Ontario...

VE4MA and VE4AED, two members of the Amateur Research and Dev. Group, chaired the meeting and their balloon exploits

and future payload plans were quite interesting. I managed to make a showing at the Winnipeg Auction and made some nice deals.

Getting settled back home in Ontario, I readied myself for the Guelph flea market. Alan Wilson VE3AMB, another CARF rep., attended the Lake Simcoe Hamfest which unfortunately occurred the same weekend.

Being an active builder, I did the rounds of the market, first leaving some freebies and a note announcing my return on the CARF table. After all, almost everyone makes a round or two before buying or stopping for a chat.

The Guelph flea market seems to be getting bigger and bigger each year and the same format of Outdoor and Indoor tables supported quite a variety of goodies. Our thanks to the Guelph club for another fine event.

It was an unexpected surprise to find Cary VE3ARS, our TCA editor, making an appearance as well as former CARF director Fred Robinson VE3CGP, both of whom found themselves holding the fort while I made a couple more quick looks for the proverbial good deal.

There was the usual feedback about non-reception of TCA's and lost memberships (we're computerized at Kingston, couldn't you tell?) and I've now informed Kingston of the displeasure of some members.

I was at the Ontario Hamfest in Milton on July 10, 11, 12 weekend. Remember that, as a Director, I am your input for action by CARF and the spokesman of the Federation.

# Contest Scene

Dave Goodwin VE2ZP, 4 Victoria Place, Aylmer,  
Quebec J9H 2J3

## CONTEST CALENDAR

### December

4-6 ARRL 160M CW

12-13 ARRL 10M

27 CARF Canada Contest

### January

9 73 Magazine 40M SSB

10 73 Magazine 80M SSB

16-17 73 Magazine 160M SSB

22-24 CQ WW 160 CW

### February

6-7 RSGB 7 MHz SSB

14-15 YU DX WW CW (40/80M)

20-21 ARRL DX CW

26-28 CQ WW 160 SSB

27-28 RSGB 7 MHz CW

This year, the CQ WW SSB saw more Canadian multi-operator single transmitter competition than ever before. There were multi-singles operating from almost every province and territory, and the competition was fierce.

Propagation favoured the east, it appears, with the top three stations being VE1DXA with 6.1 Meg, VE3PCA with 5.2 meg and VE6OU with 4.5 meg. As well, fine scores were also made by VE5DX with 3.5 meg, VE3BVD with just over 3 million, stalwart VE7ZZZ with 2.3 meg and, battling severe propagation disadvantages, VY1CC with somewhere around 1.4 million points.

From my vantage point as one of the VE3PCA operators, conditions seemed very good—on Sunday, perhaps as an apology for the sort of mediocre-to-poor propagation we saw on the first day of the contest. From some of the lads in the west, Europe was very difficult to work on both days, and they

suffered in collecting multipliers. They made up for it with excellent runs of JA and USA stations. The word from UK9AAN operator Willy is that most of the European multi-singles had scores around 5.5 million or less, so we may see one or perhaps two Canadians in the top six worldwide. That would certainly be nice, as that is one of the most competitive classes in this contest.

Single op all-band action saw VE7WJ, with an as yet undisclosed guest operator rolling up a fine 3 million point score, with Sid VE7BGK breathing down his neck. Although I did not hear him, I suspect VE2AYU was also in that jumble. VE7WJ's operator was quoted as saying that if conditions had been better to Europe on the first day, he felt he could have made six million.

Among single band entrants was the perennial VE3BMV on 15 metres and VO2CW on 20. VE3IPR may have been on 80 single band as well. So far, I have not heard how well any of these fellows did.

10 and 15 metres appeared to be big running bands for most of the all band efforts, with conditions on Sunday just superb into Europe and Africa from the East. Some of the DX that is normally not heard in the contests was out, with rare stuff like 5Z, J28, ZS3 and SV5 relatively easy to find. As we started the contest running JAs on 15 metres from VE3PCA, XZ9A called us. As he is a new Amateur, I think he was sort of tentative about the contest. Let's

hope this sort of thing becomes commonplace.

20 metres was quite poor throughout the contest, except as a great place to find new multipliers. VE1DXA apparently had an opening to JA that no-one else had, and at one point they were running JAs at an incredible 200-an-hour rate.

40 was relatively poor, except as a resource for USA 2-point QSOs, and there were lots of them. There were a good number of European and South American multipliers around, but it was tough to get anything going.

80 was very poor to Europe, and very good to the South Pacific. Among the pleasant surprises on that band was TYA11, a 6W8, a ZP and some other not-so-common stuff.

160 was an unmitigated disaster from what I saw of it. P41C was on, and strong, but couldn't hear a thing due to some sort of noise problem. That appears to be the usual story down there. There was almost no east-west propagation, with only one weak, unworkable W6 the only station heard from zone 3.

Among the trophies offered for this one are three for Canadian entries: for the single op all band, single op single band and multi op single transmitter categories.

Coming up at the end of this month is CARF's own Canada Contest, which will hopefully be a smash success. Interest in these contests has been growing by leaps and bounds over the few years since their inception, and as a nice, relatively low-pressure contest it is

a fine opportunity for those who are curious to try out a contest for the first time. As well, for those of you working on Canadwards, contacts on all the bands should be plentiful.

In January, two new contests from 73 Magazine will make their appearance, one on 40 metre phone and one on 80 metre phone. With rules almost identical to 73's fine 160 metre contest, these should be a lot of fun for low-band types and, as each province and territory counts as a separate multiplier, Canadians should be quite popular.

Next month, I will bring you details of the Canadian DX Association's Canadian Contest Championships, which this year will be greatly expanded to include almost any contest with any significant Canadian participation.

To give everyone plenty of advance notice, CARF's Phone Commonwealth Contest's second running will be on the second weekend of April, rescheduled to avoid the unfortunate conflict we had last year with the popular Bermuda Contest. As there are no phone contests scheduled for that weekend, and only one minor CW contest, I suspect there will be no substantial conflict.

The rest of the Calendar is filled with low-band and specialty contests. The RSGB's 7 MHz SSB contest is a real toughie from North America, as the QRM levels from BC and Commercial stations is incredible, and when you have to compete with a pile of Europeans keen to work the Gs, you need a whale of a signal to get through. As well, all four of the major 160 metre contests appear, and they are usually fairly well attended. These are excellent opportunities to find out the potential of this band.

#### **CARF CANADA CONTEST**

Period: 0000z to 2400z 27 Dec.

Rules for this one appeared in last month's TCA, and there have

been no changes since the inception of the contest. The address for the entries *has changed* and all entries should be sent to CARF Contests and Awards Committee, P.O. Box 2172, Stn. D, Ottawa, Ont. K1P 5W4 and *NOT* to the Vancouver address. Entries sent to the wrong place will be forwarded with some delay. Official entry forms are available, for an SASE from my own or the Committee's address.

#### **73 MAGAZINE 40 & 80 METRE SSB**

Period: 40 Metres- 0000z to 2400z 9 Jan. 80 Metres- 0000z to 2400z 10 Jan.

Entry Classes: Single op, single or both bands, and Multi op, single or both bands. Single op stations may only operate a total of 16 hours in each 24 hour period.

Exchange: RS and Province or Territory. DX stations will send their country.

Multipliers: Total of Provinces, Territories, US States and DXCC countries worked on each band.

Contacts: Each station may be worked once on each band, with 1 pt/QSO inside Canada and the USA, 2 pt for others. Point values are doubled for any contacts made from 1000 to 1400 LOCAL time.

Entries: should include dupe sheets, multiplier checklists and a summary of total contacts, points multipliers and final score. Include an SASE with your entry, to be sent by Feb. 11 to Whidbey Island DX Club, 2665 Busby Road, Oak Harbour, WA 98277, USA.

Awards: Certificates will be issued to the top-scoring entrant in each class in each multiplier area.

#### **73 MAGAZINE 160 METRE SSB**

Period: 0000z 16 Jan to 2400z 17 Jan.

Entry classes: Single operator or multi-op. Single op stations may work only 36 hours of the contest period.

Exchange: RS and Province or Territory. DX stations will send their country.

Multipliers: Total of Provinces,

US States and DXCC countries worked.

Contacts: 5 pt/QSO in Canada or the continental USA. 10 points for all others. 5 bonus points may be claimed for each contact made from 1000-1400 local time.

Entries: should include dupe sheets, a multiplier check list and a score summary. Include an SASE with your entry to be sent to: Dan Murphy WA2GZB, P.O. Box 195, Andover NJ 07821, USA by Feb. 18.

Awards: Certificates will be issued to the top-scoring entrant in each class in each multiplier area.

#### **CQ WW 160 DX CONTEST**

Period: CW- 2200z 22 Jan to 1600z 24 Jan. SSB- 2200z 26 Feb to 1600z 28 Feb.

Entry Classes: Single or multi op. All stations may operate the full contest period.

Exchange: RS(T), Serial Number and Province or Territory. US will send State and DX can be identified by their callsign.

Multipliers: Provinces, Territories, US States and DXCC countries.

Contacts: 2 pt/QSO with other Canadian or USA stations. All others 10 pt/QSO.

Entries: should be sent within one month of the end of the contest to CQ Magazine 160 Metre Contest (indicate CW or SSB), 76 North Broadway, Hicksville, NY 11801 USA. Include Dupe sheets, Multiplier checklists and a summary of your score. Official forms are available for an SASE.

---

#### **COURT DECISION**

The Ontario Amateur who earlier this year was prosecuted under a local anti-noise bylaw for QRming a neighbour's receiver had his magistrate's court conviction squashed by a provincial court judge who re-iterated the legal position in a recent supreme court decision in Ontario that radio stations operate under federal, not local, laws.

CARF News Service



# DX

Douglas W. Griffith VE3KKB  
33 Foxfield Drive,  
Nepean, Ont. K2J 1K6

As 1981 draws to a close, it is interesting to reflect on the year past. It was not a bad year as far as DXpeditions were concerned, especially in the view of the current economic situation which exists in most parts of the world.

VK4NIC/3X, K4YT and W4LZZ (3X1Z) provided plenty of activity from Guinea. March saw Dave Gardner K6LPL on the road again, this time signing /CE0Z, and April brought J5AG. In June there was a good operation from ZM7, and it saw Desecheo activated by the KP2A crew. S9VCT, the first time I've ever heard Sao Tome on the air, blessed the HF bands in August. Heard Is. still hasn't been heard, and the ZA, 3Y and 7O1 expeditions don't look too hopeful for 1981.

Several prefixes passed into history during the course of the year. VP1 became V3, VP2A changed to V2, ZE became Z2, A7X changed to A71, 6O disappeared and was replaced by T5, and the old prefix for Vandaland, T4, was re-allocated to Cuba. 1A0, the Sovereign Military Order of Malta, became a new DXCC country, and cards will be accepted retroactively after Jan. 1, 1982.

I have purposely left out two operations which I suspect generated the most excitement in the world's Amateurs: XZ, Burma and CE0X, San Felix. Both of these countries were (and still are) very high on the 'most needed' list.

Because of this latter distinction, I feel they deserve special attention.

After a 19 year hiatus, it was tremendous to hear XZ5A and XZ9A so active. XZ9A took part in both the CQ WW phone and CW contests, and proved to be an excellent operator.

Unfortunately, these two stations were authorized by an insurgent government in the province of Kawthoolie, and is not recognized by the central Rangoon government, which still maintains its 19 year moratorium on Amateur radio. The ARRL DXCC desk was advised of this situation via the U.S. State Department and, as a result, XZ9A and XZ5A cards are not being accepted for DXCC credit.

The KF10 San Felix operation, which took place in mid-October, resulted in pandemonium and an exhibition of some of the worst behaviour that it has been my misfortune to witness.

Following the operation, rumours abounded that Bob did not have permission to land on the island, nor did he have a valid licence to operate from CE0X. A telephone call to Don Search of the ARRL's DXCC desk cleared things up somewhat.

Apparently KF10 did have permission to land on the island, as he was under contract to the Chilean government to look at communications on San Felix. He did have a CE licence, and was given permission to operate from the officer in command. Whether

the licence he had was valid, or whether the officer on the island had the authority to grant Bob permission, seem to be the questions remaining up in the air. ARRL is still examining the data, and no decision will be made until KF10 has had an opportunity to visit Newington with his original documentation. A final decision probably will be made by mid-December as to whether cards from KF10/CE0X will count towards DXCC.

The CQ WW CW contest at the end of November was excellent, and some choice DX showed up for the 48-hour affair. Among the countries active were: 9U5, 9K2, A4X, ZK2, YJ8, JT1, Z2, 4S7, UD6, UF6, UG6 and XZ9A, all of which added spice to an already enjoyable weekend.

While on the subject of CW, it is interesting to speculate what the effect of an American phone band expansion of 50 kHz on 20 M would be on the CW portion of the band. Heretofore, most people have only considered the effects on phone. If one stops to remember that Amateurs in most countries are not restricted by SSB/CW subbands the way we are, and that the preservation of the bottom 100 kHz of the band for CW only is strictly by gentleman's agreement, then a rather ugly scenario is possible. In order to preserve a 100 kHz buffer below the American phone band, Amateurs of most countries would be perfectly legal in moving down 50 kHz into what has been



traditionally CW territory. One doesn't have to spend much time on 40 M, or in the 15 M U.S. novice band, where most of the world has phone privileges, to realize that phone and CW just don't mix well. Think about it.

## Bits & Pieces

6W8/C5 Senegambia- Effective Jan. 1, 1982, The Gambia (C5) and Senegal (6W8) become integrated into one country, Senegambia. It is likely that the two will be deleted from DXCC, and will in turn be replaced by a single DXCC country. Apparently C5 will become C51, C52, etc. and the prefix will not be eliminated as first reported. What will happen to 6W8 is not known.

ZL/C Chatham Is.- Tony Ward ZL1AZV will be on from Chatham Island Dec. 15-23, active on all bands, both phone and CW. QSL via ZL1AZV. ZL4PO/C is on Chatham at the moment, but is not too interested in DX.

ZA Albania- Earlier reports from EA8AK indicated that he and a group of other EA's would be going to ZA and that the operation would be heard around Dec. 4-14. A more recent communication from Fernando, however, has dispelled any hopes of hearing ZA2HAM in the foreseeable future. He apparently received a letter from the Albanian Minister of Sport requesting that the operation be postponed indefinitely.

3Y Bouvet- DX9KX, DF3KX, DJ3NG and DJ9ON, in company with the chap who used to be ZS2MI, have a licence and landing permission for Bouvet, and are currently working on transportation for an early 1982 expedition. Apparently some \$40,000 has to be raised. Seems like a lot, so if you don't chip in and help the group, don't be too surprised if it never leaves the planning stage. Assuming they do get off the ground, QSL via DK9KD.

FR0GGL/E Juan de Nova-

(Europa es J de J count for same re: DXCC) Apparently QRV from Europa during the CQ WW CW 'test. I worked him on at least one band, but he wasn't signing /E. He is active on most days on the French Net, which meets at 1600Z on 21.170 and likes 15/20 M CW. QSL to Box 386, St. Pierre, Reunion Is. via France.

HF0POL S. Orkney Is.- Bogнар is active most evenings around 14.025 at 0300Z and 21.032 at 0200Z. QSL to SP5EKZ.

S79WHW Rep. of Seychelles-Karl K4YT may be active from "Wild-horse Willie's" QTH from Dec. 13-19. QSL to W2TK.

T30DB W. Kiribati- Keeps a daily sked with T30AT at 0700 on

3.705, and then with T2GSH (Tuvalu) at 0730Z. He will answer CW callers and will QSY for SSB QSO's. He is hoping to be on 160M soon, and as far as he knows will be there for 2 or 3 years. QSL via G8LGB.

7O1AB Yemen- Original plans called for Pierre J28AZ and friends to show sometime after Nov. 17 for an operation lasting somewhere between 1 and 10 days. This has now apparently been postponed until Jan. 10, 1982. No further details are known at this time.

Many thanks to VE2ZP, EA8AK, DARC information net, DX Report, Long Skip and the Canad-x info net.

## QSL Information

CALL	VIA	CALL	VIA
AH8A	WB6FBN	CT3BZ	OH2BH
AM7A	EA3AOC	EM8T	UK8MAA
AP2ZR	JA6GAG	5T5RR	F1ANH
CN8CO	WB3KGY	T32AF	JAINVG
CR9D	OH5VD	HF0POL	SP5EKZ
DJ5CQ/3A	DJ5CQ	HV3SJ	I0DUD, DJ6SI
J6LIR	WB6FCR	TJ1GH	
KA2MZS/SV9	WB5WLH	FR0GGL	Box 386, St. Pierre, Reunion Is. via France
OD5LX	SM0GMG	HC8MD	Box 665, Cuenca, Ecuador.
P41C	N4RV	PA0WAY/A6	P.O. Box 5708, Dubai, U.A.E.
PJ8UQ	W1HCS	A6XJC	via Box 4747, Dohar, Qatar.
SP2BHZ/JW	SP2ESH	9X5MH	Box 491, Kigali, Rwanda.
VP2EC	K4UEE	VK0AN	via VK9NS, JIM SMITH, Box 90, Norfolk Is. 2899, Australia.
4A2Q	XE2AQ	VP8AJL	GM4KHE, G. Phan'co, 1 Carleith Terr., Duntocher, Clydebank, G81 6H2, Scotland.
8P6MI	VE3JTG	5Z4CS	J11VLV, Nana Ihara, 1-6-19 Kamisoshigaya, , Setagoya, Tokyo 157, Japan.
JD1YAA	JAIWU		

P41E K4BAI, Box 421, Columbus, GA, 31902, U.S.A.  
Z27JV Box CR23, Cranborne, Zimbabwe.

### NEW CALL FOR MARINE MOBILE

A new call sign policy for marine mobile stations has been announced by DOC. Amateur marine mobile stations on vessels operating primarily outside of Canadian waters will be issued a separate licence with a call sign from the VEO series, while a sta-

tion on a Canadian vessel operating primarily in home waters will use the call sign assigned to the owner's home station, operating it as a mobile station. The policy is effective immediately for new applicants and will be in full effect by April 1, 1982.

CARF News Service

# FT-ONE

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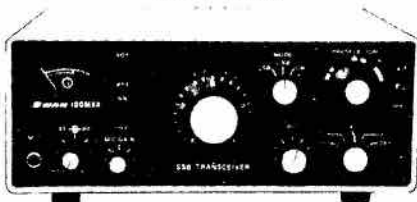
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The equipment features include speed capabilities of up to 99 wpm for CW copy, 60, 67, 75, and 100 wpm for Baudot, and ASCII at 110 and hand-typed 300 baud. The MBA's designer, Dr. Alan Chandler, said the MBA incorporates automatic speed tracking, ensuring no loss of copy due to rapid speed changes in signal reception. He said the MBA requires a 12 V dc external power supply, making it ideally suitable for portable, mobile, or fixed operation.

Lamb said the MBA reader is an ideal training device because it reinforces audio copy with visual copy.

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# CARF Annual General Meeting

This summary of the Annual General Meeting of the Canadian Amateur Radio Federation was caught up in the summer postal madness. It resurfaced in early November, and is included here so that members will know what went on at the meeting, held in the Monterey Motor Inn, Ottawa on June 20, 1981.

## 1. CALL TO ORDER

The meeting was called to order at 9:30 a.m. by President Bill Wilson, VE3 NR. The secretary was Don Emmerson, VE3 KJW. In attendance were:

Don Slater, VE3 BID; Al Wilson, VE3 AMB; Guy Wilkie, VE3 LIG;  
Art Stark, VE3 ZS; Eddie LeBlanc, VE1 EJ; Ed. Hartlin, VE3 FXZ;  
Lorna Hill, VE3 IWH; Art Blick, VE3 AHU; Jean Evans, VE3 DGG;  
Ron Walsh, VE3 IDW; Jim McKenna, VE6 HO; Nate Penney, VO1 NP;  
Craig Hovey, VE3 HWN; Douglas Griffith, VE3 KKB; Dave Goodwin,  
VE3 ZZP; Raymond Mercure, VE2 BIE; Peter F. Driessen, VE7 BBQ;  
Cary Honeywell, VE3 ARS; Dave Nessman, VE3 GEA; Don Emmerson,  
VE3 KJW; Doug. Burrill, VE3 CDC; Bill Wilson, VE3 NR.

## 5. PRESIDENT

President Bill Wilson presented his report

In discussion: The Department of Communications has not publicized violations; it will develop its own background material for prosecutions. Art Stark has developed a procedure for CARF reporting of illegal operations. Such reports should be sent to a district office of DOC, with a copy to CARF, Kingston. The CARF reporting forms have been published in TCA and in the Regulations Handbook.

## 6. TREASURER

Treasurer Lorna Hill presented her report. She reported that the main problem arose from the Publications Account, in particular the deal with Radio Shack.

## 7. AUDITOR'S REPORT

The Chartered Accountant's Report for the year ended December 31, 1980 was distributed.

The Auditors - Bernie Birdsall and Ron Walsh - presented their reports



**MOTION:** THAT the Auditors Reports be accepted. Moved by Jim McKenna,  
Seconded by Ed Hartlin.

**PASSED**

Bernie Birdsall and Ron Walsh were nominated to be Auditors for the 1982 report.

The meeting agreed to re-appoint Peter E. Sheppard, Chartered Accountant, Kingston, as Auditor for next year.

8. GENERAL MANAGER

General Manager Art Blick presented his report (Published in a recent TCA)

In discussion: We lose money on foreign members. We should concentrate on Canadian members. One reason for "static" growth is the "static" growth in new amateurs. Our "non-renew" rate is around 15 percent, which compares very favourably with the CRRL at 32 percent in 1980.

9. DIRECTORS

The Directors presented their reports, as follows:

Pacific Region: Director Peter F. Driessen presented a verbal report.

His region had the only contested election this year, with a 50 percent turnout. He has run a weekly net on 2 meters for the past one and a half years; since he ceased this operation, he is concerned that only CRRL bulletins seem to be read now. He noted a lack of "on-air" visibility of many CARF officials, whereas CRRL officials are "on-air" and thus CRRL is perceived as an active organization. He believes we should be active at the "grass roots" level.

Among his concerns: Implementation of WARC agreements and the inaction of DOC relative to the CARF Symposium recommendations. He queried the need for yearly Symposia if DOC only takes action after three years.

On Directors' Duties - he agrees with the General Manager's ideas and applauds the Assistant General Manager's work with affiliated clubs.

He suggests that Directors should write monthly columns for TCA and communicate with each other.

In discussion: General Manager Art Blick can supply Directors with cassettes for monthly reports. Former TCA Editor Doug Burrill reports no response from Directors to his requests for columns. Director Peter Driessen recommended that TCA force this issue of non-response. (I have tried!..Ed.)

Mid-West Region: Director Jim R. McKenna submitted his report.  
(See Page 19)

In discussion: Provincial regions want to play a more important role in CARF; Jim will try to determine how this can be done.

Atlantic Region: Director Nate Penney presented a verbal report.

He prepared guidelines for assistant directors and distributed them for comments to Officers and Directors but only received three replies; he has not done anything further on this. He receives no communications from his assistant director; he has appointed two more assistant directors and expects to publicize their appointments and present certificates to them.

He inserted a CARF advertisement on the cover of the VO Call Book, distributed to 400 Amateurs by SONRA; the mailing included a CARF application form. He travelled through parts of the three Maritime Provinces and spread the CARF word via 2 meters. He attended the Newfoundland meetings.

In discussion: Assistant General Manager Ron Walsh asked all Directors to send him the addresses for their province's call books. Nate Penney asked for a "blue" book listing CARF Officers, their addresses and responsibilities. The General Manager can supply a computer listing with this information. It was suggested that this list doesn't include an explanation of their duties.

Ontario Region: The newly elected Director, Craig Howey VE3HWN was present and gave an informal report.

Craig Howie attended the Guelph flea market. He recommended that CARF needs more "give-aways", (e.g. repeater directory, luminous key-ring), more colourful displays for such event, a slide presentation and should have prepared information packages to hand out to prospective members.

He attended several amateur clubs in the Kitchener-Waterloo area. He noted that several of the clubs here are very small and don't have much contact with each other.

In discussion: General Manager Art Blick reminded Directors to leave sufficient time for delivery when they request display material from head office.

## 10. COMMITTEE CHAIRMEN

DOC Liaison: Art Stark said that DOC issues Amateur certificates to aliens provided they have the necessary qualifications for Canada. Members who disagree with this policy should contact their local Federal Member of Parliament.

Contests and Awards: Peter F. Driessen submitted a report (See Page 34)

In discussion: Peter Driessen noted that the December Contest was very successful but that very few CARF officers participated. He stated his intention to relinquish the chairmanship of this committee.

QSL Bureau Services: Jean Evans submitted her report (See Page 35)

In discussion: Jean Evans would welcome ideas to speed up the stamping mechanism of the operation. It was agreed that a slide presentation of the QSL Bureau's work would be a powerful selling tool for CARF; Cary, VE3 ARS can provide free film.

The meeting showed its appreciation of the QSL Bureau's work by applause.

11. TCA Editor Cary Honeywell made a verbal presentation on the magazine.

He asked for more participation from CARF's Officers and Directors. He tries to make as many "on-air" contacts as possible; he is available on Sundays on the Trans Canada net and on the Quebec net in the evenings. He requested the Directors to send in their photographs and resumes - deadline for September issue is July 15, for October issue, August 15. He thanked the various editors listed on the contents page for their help.

12. REGULATIONS and BY-LAWS

General Manager Art Blick summarized the proposed changes in the Constitution and By-laws. (See Page 31)

He noted that most of the changes had been approved at the last two Annual General Meetings but had not been submitted to the Minister of Consumer and Corporate Affairs.

MOTION: THAT By-law 2, as amended, be approved. Moved by Nate Penney, Seconded by Jim McKenna.

PASSED

MOTION: THAT the revised Regulations be approved. Moved by Ron Walsh, Seconded by Ed Hartlin.

PASSED

13. ANNUAL DUES

MOTION: THAT CARF is forced reluctantly to increase the annual dues to \$15.00 and pro-rated accordingly for multi-year (\$40.00 for 3 years; \$65.00 for 5 years) and Life membership \$225.00. Moved by Ron Walsh, Seconded by Lorna Hill. Effective post-marked date to be October 1, 1981.

AMENDMENT: THAT the effective postmarked date be the first Monday, October 5, 1981. Amendment moved by Art Blick, Seconded by Doug Griffith.

PASSED

MOTION: THAT the main fee motion, as amended, be approved.

PASSED

14. MEETINGS WITH DOC ON EXAMINATIONS

President Bill Wilson reported briefly on the meetings held by CARF with DOC. As a result, the TRC 24 was re-written and distributed to societies for comment. CARF Directors were asked to contact the regional offices of DOC urging approval of TRC 24. General Manager Art Blick will send the Directors copies of the revised TRC 24 and CARF's brief to DOC.

15. ELECTIONS OF DIRECTORS

There was some discussion on whether or not to publish the actual ballot count of the election of Directors.

MOTION: THAT the election vote tallies and the total number of voters in each region be published. Moved by Peter Driessen, Seconded by Douglas Griffith.

Yes - 2      No - 15      Abstained - 1      DEFEATED

President Bill Wilson welcomed the new Directors whose terms start after this meeting. They are:

By vote of Region

Peter F. Driessen - Pacific Region

By acclamation

Jim McKenna - Midwest Region

Craig Howey - Ontario Region

Nate Penney - Atlantic Region

The President noted that Raymond Mercure was nominated by RAQI to replace Lionel Bonhomme who resigned due to ill health. Mr. Mercure's name will be proposed to the Board of Directors for ratification. The President will write a letter of appreciation to Lionel for his services.

MOTION: THAT the ballots be destroyed. Moved by Cary Honeywell, Seconded by Art Stark.

PASSED

16. ADJOURNMENT:

MOTION: THAT the meeting adjourn. Moved by Peter Driessen, Seconded by Ron Walsh.

PASSED

The meeting adjourned at 3:40 p.m.



# CARF, Inc. Regulations

## 1. ELIGIBILITY FOR MEMBERSHIP

- (a) Any person that is qualified for membership as a Full or Associate member according to the terms of the current By-Laws of the Federation, shall be admitted to membership upon payment of the annual fee applicable to such membership.
- (b) Any organization that desires Affiliate membership shall be granted such membership on submission of an application for Affiliate membership signed by an executive member of the organization.

## 2. MEMBERSHIP FEES

The annual fees for membership in the Federation shall be in such amount or amounts as may be fixed from time to time by a resolution, approved by the Board and passed at a meeting of the members.

- (a) Family Membership: When two, or more, persons of the same immediate family shall become members of the Federation, they shall be entitled to pay the reduced fees that are applicable to a Family membership, namely:
  - 1. For the first person, the membership fee as a Full or Associate member shall be paid.
  - 2. For each additional member the membership fee shall be at the Family rate as fixed in 2. above.
  - 3. A member paying the Family rate is not entitled to a separate copy of the national publication. For purposes of administration as prescribed by the By-Laws and Regulations, each member included in a Family membership shall be deemed to have received a copy of the national publication.
- (b) Affiliate Membership: There shall be no fee for Affiliate membership.
- (c) Life Membership: Any Full or Associate member may be granted a Life membership in the Federation by payment of the Life membership fees based on 15 years of annual fees for membership. Such payments may be made by installments at a rate fixed by the Board.

1. There is provision for Family Life membership at special Family rates. At the demise of the first person of the Family, the other Family members may continue their Life membership upon payment of an additional fee that shall be determined by the length of the Life membership originally taken.

### 3. THE NATIONAL PUBLICATION

Except for members paying fees at the Family rate, all Full and Associate members shall receive a subscription to the national publication.

- (a) The national publication shall be published and circulated by C.A.R.F. Publications Ltd under the terms of agreements signed by both organizations.
- (b) Non-members of the Federation may subscribe to the national publication by payment of subscription fees as fixed by the Board.

### 4. THE NATIONAL EXECUTIVE

- (a) The National Executive shall consist of the Officers, the Immediate Past President and such other persons as may be appointed by the Board of Directors.
- (b) The National Executive shall conduct the day-to-day business and affairs of the Federation and may have such other duties and functions as may be assigned to it, from time to time, by the Board.
- (c) Meetings of the National Executive shall be held at the call of the President on a quarterly basis. A notice of each meeting shall be forwarded to each member of the Board and the National Executive at least one month prior to the meeting.

### 5. OTHER COMMITTEES

- (a) Standing Committees: The Board shall appoint a Chairman and prescribe the terms of reference for each of the Standing Committees.
- (b) Ad Hoc Committees: The President and General Manager may appoint Ad Hoc committees and their Chairmen to assist them in their executive and administrative functions. The term of such committees shall expire with the term of the official appointing the committee.

## 6. SUBSIDIARY ORGANIZATIONS

The Board may approve the creation of subsidiary organizations as found necessary or desirable to further the business and affairs of the Federation. Such subsidiary organizations shall function under terms of a constitution approved by the Board of the Federation.

## 7. EXPENSES AND FINANCES

- (a) No financial compensation shall be given to any elected or appointed official of the Federation except as provided by the By-Laws or Regulations.
- (b) Authorized expenses incurred by officials in carrying out the work of the Federation shall be paid upon presentation of an Expense Voucher supported by appropriate receipts covering the items of expense.
- (c) The Treasurer may request Board approval for payment of any Expense Voucher submitted for payment if not covered by 7(b) above.

## 8. CERTIFICATES AND AWARDS

- (a) Membership: A Membership Certificate shall be issued to each member of the Federation denoting class of membership and, for Full and Associate members, the membership number used in records.
  - 1. A wallet sized membership card shall be issued to each Full and Associate member.
  - 2. A new certificate and card shall be issued when membership status and/or membership number changes.
- (b) Appointment: A certificate shall be issued to each official appointed to a position in the Federation.
- (c) Special certificates and awards may be issued to recognize achievement of or the performance of special services.

## 9. PUBLICATIONS

The Federation may produce manuals, handbooks, study guides, operating aids and the like as a service to the Amateurs of Canada.

- 1. Payments to authors and contributors may be made by the General Manager upon approval by the National Executive.
- 2. The selling price of publications shall be set by the General Manager with due regard to production, handling and shipping costs. Discounts may be offered for quantity orders.

# Contest & Awards Committee Report

APPENDIX "H"



CANADIAN AMATEUR RADIO FEDERATION INC.  
FEDERATION DES RADIO AMATEURS DU CANADA INC.

## Contests and Awards Committee.

The activities of this committee are centred on an operating award, called the Canadaward, two internal contests called the Canada Day Contest and the Canada Contest, and one international event for Amateurs in the Commonwealth of Nations, called the CARF Phone Commonwealth Contest. We also offer Plaques on behalf of the Federation in two of the world's major contests, the CQ World Wide DX Contest CW, where a plaque goes to the high-scoring Canadian Single-band entry, and the CQ Worldwide WPX (Prefix) Contest CW, where a plaque goes to the high-scoring Canadian single op. all band entry.

P.O. BOX 356  
KINGSTON, ONT.  
K7L 4W2

-Canadaward: The Canadaward is an attractive 10 x 14 inch certificate issued to anyone proving QSOs with Amateurs in each Province and Territory on any single band. Mode endorsements are available, and there is a Plaque that can be awarded to those making Canadawards on any five bands. This plaque is called the five-band Canadaward. The award certificates are free to CARF members, and cost \$2.- for non-members. The five-band plaque costs \$25.- for all.

-Canada Day Contest and Canada Contest. Held on Canada Day and in late December, respectively, these 24-hour contests encourage contacts between Canadian amateurs on all bands and modes, as well as encourage foreign Amateurs to work Canadians. 160 through 2 metres are included, CW and Phone. The objective in winning is to work as many Canadians on as many bands and modes as possible, testing operating skill and equipment of entrants. Rules appear in TCA one or two months prior to the event, results following by 5-7 months. Rules are published in major foreign journals such as QST, CQ, 73, RSGB's RadCom, WIA's AR.

-CARF Phone Commonwealth Contest. Designed as a counterpart to RSGB's 50 year old CW event, with almost identical rules, this contest promotes contacts between Commonwealth Amateurs. Rules are published in TCA, and rules are sent to all Commonwealth Societies, QST, CQ and 73 for publication. Results appear in September TCA for this Spring Contest.

-Plaques for CQ Worldwide DX CW and CQ Worldwide WPX (prefix) CW contests are designed to increase Canadian interests in these two of the world's four major contests.

-Committee Members: Peter Driessen, VE7BBQ founded the Committee, the Canadaward, and the two Canada Contests. Peter administers the two Canada Contests, and serves as the committee's chairman. Dave Goodwin, VE2ZP administers the Canadaward, organizes publicity for all three contests, administers the plaques for CQ's contests, and is the author of the Contest Column in TCA. Doug Griffith, the newest member of the committee, is the author of the DX Column in TCA, assists Dave in administering the CARF Phone Commonwealth Contest. Information about the Canadaward programme, or entry forms for our contests, or simple requests for information about contests can be handled through the Committee's address, P.O. Box 2172, Stn. D, Ottawa, Ont., K1P 5W4.

VE3KKB  
VE2ZP.



# QSL Bureau Report

## REPORT OF QSL BUREAU SERVICES FOR CARF MEETING

Volunteer Staff	Mgr	Jean Evans VE3DGG
	Assist. Mgr (consultant)	Pam Gorman VE3BVG
	Assist. Mgr (Files)	Jo Molloy VE3IMS/GW4DWR
	Assist. Mgr (Projects)	Gord Mitchell VE3GIN
	Assistants	Linda Jane France VE3MQE
		Joan Powell VE3FVO
		Miriam Ryman VE3KCJ
		Ian MacDonald VE3ASC
Mgr Box 66	-----	Ken Rolison VE3CRL
Assistants		Stan Williams VE3AZD
		Dave Evans VE3BAR

**SERVICE PRIORITY** OUTGOING cards take priority over all other work for CARF QSL Bureau  
Letters are answered as soon as possible. Files kept up to date.

**Box 66 INCOMING** Jan 248 lbs, Feb 151 lbs, Mar 164 lbs, April 201 lbs, May 160 lbs, June 8 68 lbs  
Total poundage from Jan /81 to June 8/81 ----- 992 lbs.

**Mailing** Every 10 days.

**Recycling** Still being done wherever possible.

**CARF over to affiliated clubs** This service is still being used by clubs across Canada.

**Publicity slips and flyers** This seems to be popular with many clubs for various affairs.

**New Project** Gord VE3GIN began this in Ottawa and Hull area. We then formed 'The Threesome, with Joan VE3FVO, Thelma VE3CLT, and Jean VE3DGG, to visit clubs to give informative talks about QSL Bureau Services. We miss Joan from the Metro area, but Thelma VE3CLT and Jean VE3DGG have continued, whenever we are invited to a club. So far we have been welcomed to Nortown, Scarborough, Wouth Pickering, Dunnville Skywide and Peel amateur radio clubs. Many questions are asked and answered, and the evenings are enjoyable.

**Improved use of Service** The large majority of members are sending in their pkts well sorted and with CARF # on outside of pkt. There is very little damage to pkts in recent months, due, we think, to our service of notifying an amateur when his pkg is rcvd in damaged condition, which alerts him to wrapping his pkg more securely. This way we all benefit. We, the volunteers appreciate and thank everyone who uses this service.

**Processing** Ken VE3CRL, delivers bags mail in late evening. Ian VE3ASC arrives at 9AM the following morning, and while I record and clear receipts and letters, Ian opens and readies all cards for Jo VE3IMS who arrives about 5.30PM the same day. Jo does not leave until all cards are sorted, which is usually about 11PM. The following morning Ian VE3ASC arrives again at 9AM, and we work with the mail all day until 4.30PM, at which time the volume of mail is usually ready for taking to post office the next morning to be metered, and it is then on its way in our postal service. This volume mailing contains all pkgs of 500g. The smaller amounts wait until the following week, and so on, until end of the month when every card is cleared from the files, so as to begin the next month with clean sheet so to speak.

**Visits** Amateurs are continuing to visit, to leave outgoing cards, to help with the various items of work and to enjoy a cup of coffee. Its good experience for everyone, as its good to get involved and to participate.

submitted on behalf of volunteer staff.

7.3 - Jean VE3DGG

## Studying for the Digital Amateur Ticket

When I was studying for the digital ticket in 1979, one of the things I did was to go through all back issues of *TCA, The Canadian Amateur* and do all the sample exams. Since CARF never published the all-important solutions to these exams, I decided recently to send in my own solutions. In what follows, the future digital Amateur should find plenty of meat for his studies.

### TEST 1

1. Explain the difference between direct modulation and sub-carrier modulation.

Direct modulation involves a modulator with two inputs—the digital data bitstream (ex. serial printer port output) and the RF carrier. In the case of radio teletype (RTTY), the marks and spaces go into the frequency shift keyed (FSK) modulator. The output is your usual RTTY signal. In a computer system, the output of an RS232C serial data port going into the same modulator would be used to transmit packets of information. See Figure 1.

Subcarrier modulation involves two modulators. The first modulator accepts the same digital data as before and also an audio subcarrier of say 2400 Hz. The first output here consists of 1200 Hz and 2400 Hz tone bursts, very much like the audio frequency shift keying (AFSK) technique. This is fed into the second modulator along with the RF car-

rier. In this example, the second modulator is a single sideband (SSB) amplitude modulator (AM). In both examples, the modulated RF output signals are identical, but this need not be true in general. See Figure 2.

2. What is meant by Rayleigh fading?

Rayleigh fading occurs when two or more radio signals from the same source combine out of phase to produce a weak signal at the antenna. The fading is often encountered by moving vehicles, is aggravated by flexible whip antennas, is prevalent above 144 MHz and is characterized by very deep nulls.

3. Describe the function of a modem.

The word modem is an acronym for MODulator DEModulator. It converts serial digital data into an AFSK signal suitable for transmission over, say, telephone lines, and also receives such signals and converts them back into serial digital data.

Modems typically support the communication of data between digital devices such as computers and their terminals when these are physically far apart. Because such communication must be coordinated, the computer and terminal must handshake. The modem supports the handshaking

using such signals as request-to-send and clear-to-send.

4. Compare frequency shift keying (FSK) with phase shift keying (PSK) by listing the typical data rates in bits/sec that can be derived from a three kilohertz channel by each of these two techniques.

A typical telephone connection has a three kilohertz bandwidth unless it has been specially conditioned for private use. A survey of available modems shows that for asynchronous communication, FSK modems achieve a 1200 bit/sec throughput. For PSK with two phases, 2400 bits/sec is possible, and with four phases 4800 bits/sec can be achieved. It should be noted that when a line is especially noisy, the error rate rises dramatically for the higher data rate.

5. Describe the Automatic Repeat Request (ARQ) error control technique.

Consider the situation where a computer A is sending packets to computer B. For each packet received, computer B does an error check, and on finding none it will simply process the packet and wait for another. If there is an error, computer B will automatically send an ARQ to computer A to retransmit the packet. If computer A sees no ARQ within a short time, it assumes the packet was received correctly and transmits the next packet.

6. What is meant by an end-to-end acknowledgement on a packet radio network?

In a widespread packet radio network, there will typically be several stations involved in sending a packet from its source to its

destination because many stations are not within line-of-sight of each other. When a packet is received by the destination end, that station transmits an acknowledgement packet to the source end. This protocol allows the originating station to keep its 'books' accurate.

7. How many terminals can be supported by a 9600 KB/s channel using the pure Aloha packet radio access mode if each terminal sends on the average of one packet per minute? Assume a packet size of 300 bits.

The terminals' data rate is

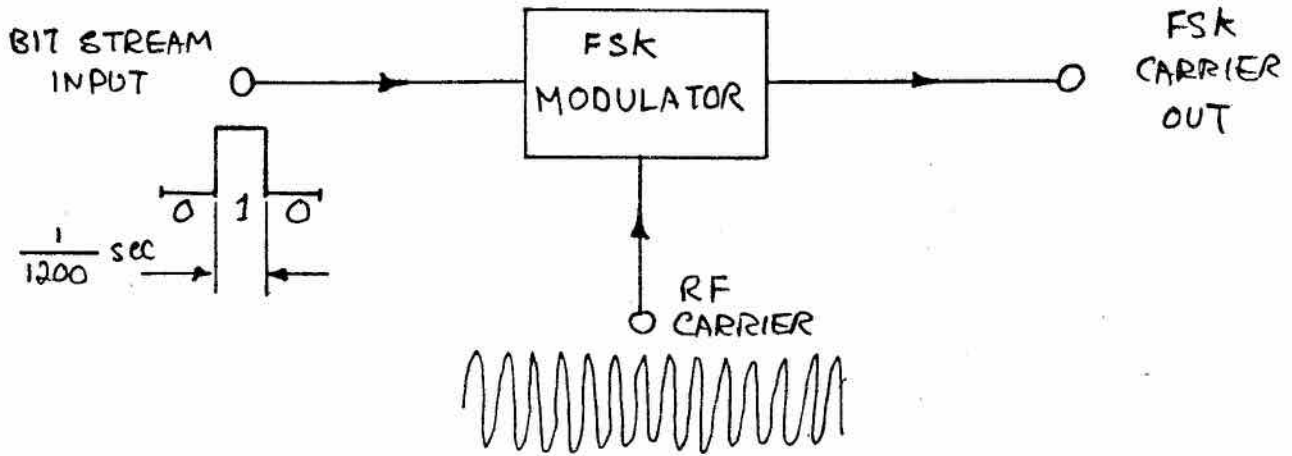


FIGURE 1 DIRECT MODULATION

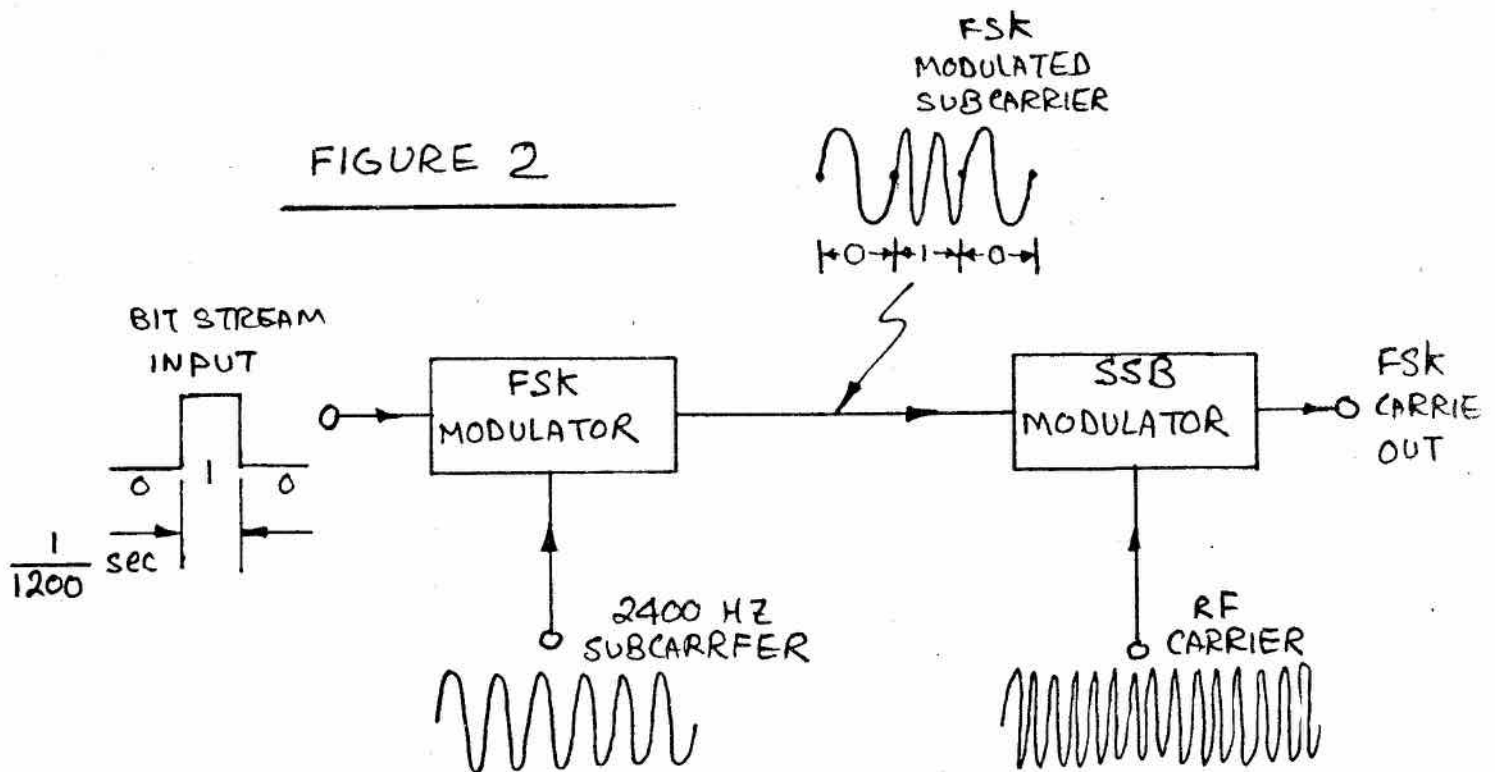


FIGURE 2 SUBCARRIER MODULATION

equal to  $300 \text{ bits}/60 \text{ sec} = 5 \text{ bits/sec}$ . In Pure Aloha the maximum utilization is 18%, so our channel is fully utilized at  $9600 \times 0.18 = 1728 \text{ bits/sec}$  of original traffic. It will take  $1728/5 = 345$  terminals to generate this traffic.

8. Describe the instability region of the above channel by means of throughput versus offered traffic.

In Pure Aloha, packet sources transmit their data blindly at random intervals. With few stations using the channel, there is only a low probability that the transmissions will overlap—i.e. packet collisions are rare. As more stations come on the channel, the collision rate increases. Collided packets must be retransmitted because they contain errors, and this generates additional traffic which is also subject to collision. At some traffic density, the channel is used to maximum capacity. Beyond this density, the channel degenerates and is useless. See Figure 3.

9. Which routing techniques can be used in packet radio networks?

Fixed routing is the simplest way to get a packet from its source to its destination. The packet is simply transmitted from one station to another in a fixed order down the line to its destination. If an intermediary station is not active, the packet is lost.

Dynamic routing allows for rerouting of packets to circumvent inactive stations in the network. Each station has a copy of the network table, which describes which stations can communicate with each other. A program at each station determines which route a packet will take, and on finding an inactive station, the program will consult the network table and reroute the packet via a different station. See Figure 4.

10. Packets arrive at a repeater according to a Poisson distribu-

tion with mean  $\lambda$ . The time taken to service each packet follows an exponential distribution with mean  $1/\mu$ . A queue forms for the service of this repeater. Plot a curve showing (a) the mean delay per packet vs. the traffic density  $\lambda$  (b) the average queue occupancy vs. the traffic density.

Our scenario is that of a repeater which accepts packets on arrival and stores them temporarily in queue in local memory. The packets arrive on the average of  $\lambda$  per second, and it takes the repeater an average of  $\mu$  seconds to process and retransmit a packet. The mean delay per packet is the average time between a packet's arrival and its retransmission. The average queue occupancy refers to the average number of packets sitting in the repeater's queue. As the arrival rate  $\lambda$  approaches the service rate  $\mu$ , the mean delay per packet and the queue length increase drastically. See figures 3 and 5.

11. A radio channel of 9.6 kHz can be shared by a number of bursty traffic sources using frequency division multiple access (FDMA) or Pure Aloha random access. We ignore the possibility that one user may wish to broadcast a message to all users simultaneously. Assuming a modulation of one bit/hertz, compare the above two channel sharing modes on the basis of (state your assumptions) and determine (a) the maximum number of simultaneous users, (b) the expandability (i.e. adding additional traffic sources) and (c) the average and peak data rates.

In FDMA, the 9600 Hz channel is divided into  $N$  identical lower capacity channels each  $9600/N$  Hz wide. Each user is assigned one of the channels and it may send data at rates between zero and  $9600/N$  Hz. To send data to one of the other  $N-1$  users, the sender merely selects the frequency band assigned to the other user, waits if necessary until the fre-

quency is clear, and communicates with that user.

In response to (a), the maximum number of simultaneous users is  $N$ , since half the users can be communicating with the other half using half the available channels. The expandability (b) of this system beyond  $N$  users requires that either the 9600 Hz total channel limit be increased or that the individual users be allocated narrower channels. In either case, all users must be prepared to adjust their equipment to accommodate the new users. The average and peak data rates (c) are different. The peak data rates in the 9600 bit/sec channel is 4800 bits/sec. The average data rate may be far less, depending entirely on the traffic generated by the users.

Now for Pure Aloha random access. Each user will transmit data at 9600 bits/sec in a bursty manner.

In response to (a), the maximum number of simultaneous users is two—one sending and one receiving. The expandability (b) of this Pure Aloha is straight forward—a new user simply uses the same 9600 KHz channel—the existing users are unaffected. For (c), the peak data rate is exactly 9600 bits/sec, but the average data rate is 18% of 9600, or 1728 bits/sec.

12. What do you understand by the concept of 'resource sharing', in particular, compare the relative 'resource sharing' effectiveness of the following access schemes by estimating the number of teletypes that could use a 9600 KB/S channel simultaneously using (a) FDMA, (b) TDMA and (c) Slotted Aloha. Assume each teletype operates at 100 bits/sec, and modulates at one Hz/bit. We ignore the possibility of a broadcasting mode.

Frequency domain multiple access (FDMA) would assign each teletype to a 100 Hz segment of the band, and permit  $9600/100 = 96$  teletypes to use the 9600 Hz channel. Should half the teletypes be



sending data to the other half, then all 96 teletypes can use the channel simultaneously.

Time domain multiple access (TDMA) assigns to each teletype a specific time slot during which it may transmit data. The rest of the time, that teletype must be in receive-only mode. Clearly only two teletypes may communicate simultaneously.

Slotted Aloha lets all teletypes

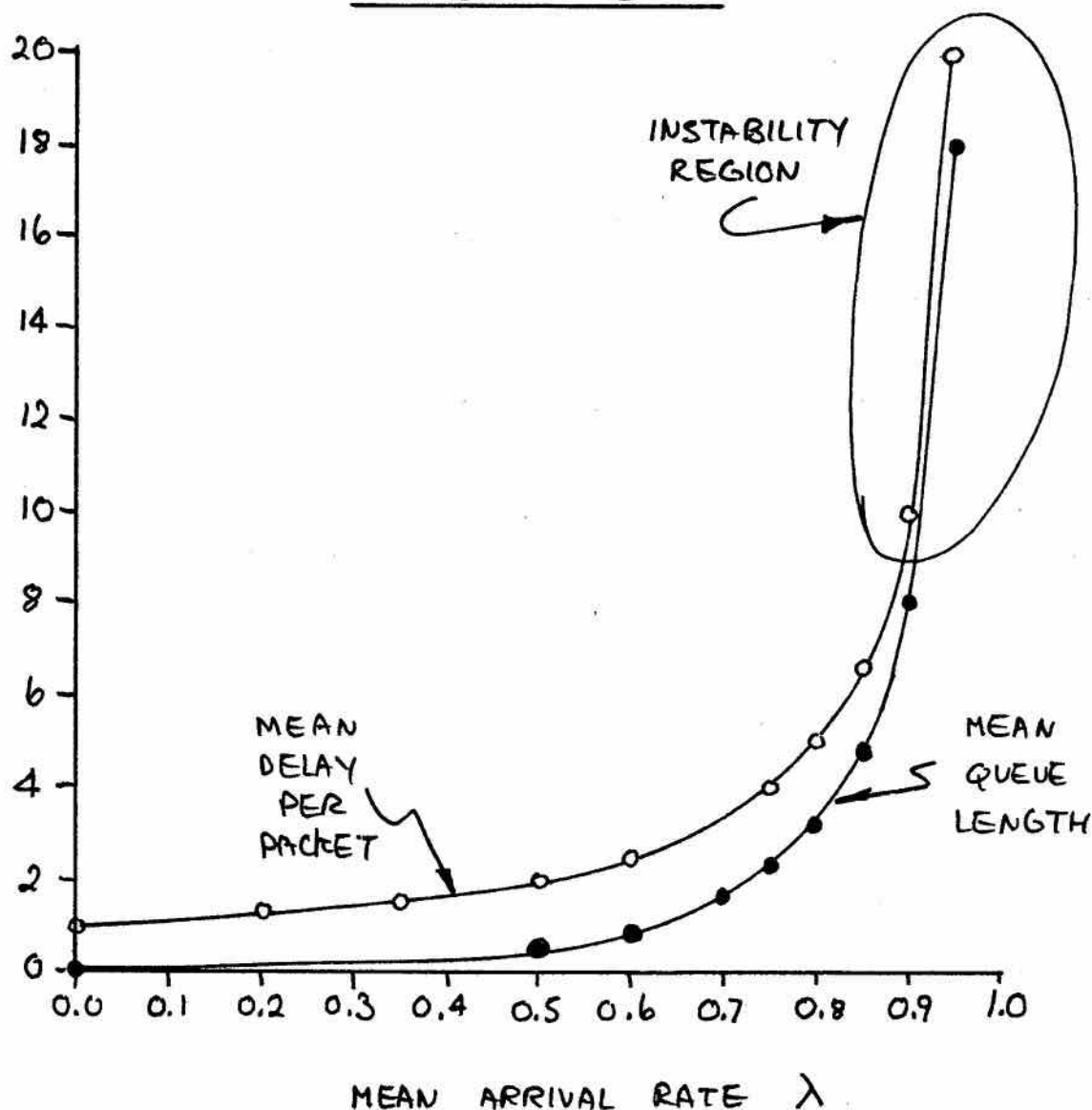
operate at 9600 bits/sec, but forces them to begin their transmissions at periodic intervals. For example, by limiting the packet size to 9600 bits, time can be divided into one-second intervals. While this permits 36% utilization of the channel, only two teletypes can use the channel simultaneously.

Well, that's the end of the first exam, which appeared in *TCA-*

*The Canadian Amateur* in April 1979, page 36. In the next article, I'll go through the second sample exam. I will be delighted to answer individual reader questions, however, the replies will appear *only* in a future issue of *TCA* for the benefit of all our readers.

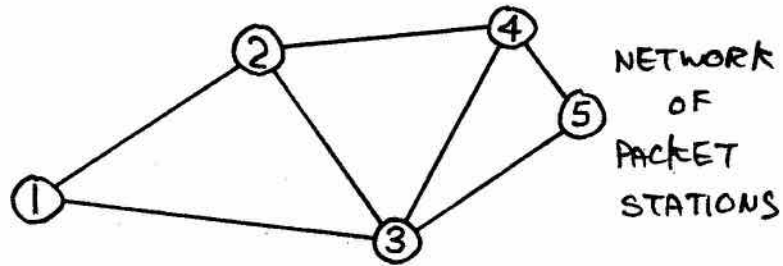
Send your questions to: John Blommers VE6BAA, 17060-98 Street, Edmonton, Alberta T5X 3G5.

FIGURE 3



PURE ALOHA DATA FOR U = 1

FIGURE 4



NETWORK  
OF  
PACKET  
STATIONS

STATION

	1	2	3	4	5
1		Y	Y	N	N
2	Y		Y	Y	N
3	Y	Y		Y	Y
4	N	Y	Y		Y
5	N	N	Y	Y	

CORRESPONDING  
NETWORK  
TABLE

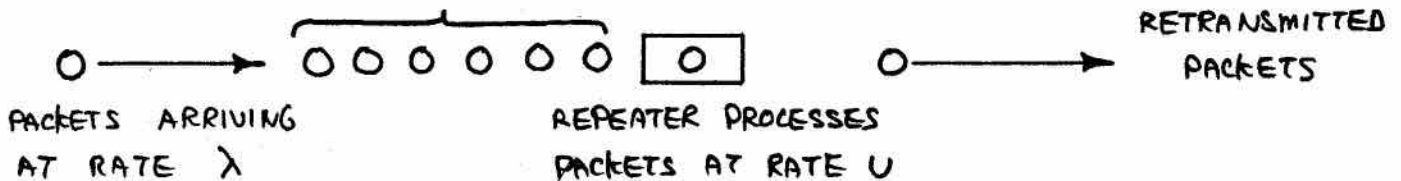
Y = CONNECTED  
N = NOT CONNECTED

STATION

A PACKET FROM ① TO ⑤ MAY FOLLOW ONLY TWO POSSIBLE ROUTES	
ROUTE	COMMENTS
①-③-⑤	MOST DIRECT ROUTE. STATION ③ MUST BE UP
①-②-④-⑤	ONLY OTHER ROUTE POSSIBLE WHEN ③ IS DOWN

PACKET ROUTING

FIGURE 5



QUEUEING MODEL OF A PACKET REPEATER

# TCA: Technical Section

## Convert your Systcoms: Part 2

### Converting the Systcoms VEX2 for 220 MHz Service

By Craig Howey VE3HWN

A previous article dealt with conversion of the VRC5 receiver and FCU5. These are modules common to the Systcoms VTR7, VTR10, VTR11 and VTR12 series VHF FM radios.

The VEX2 is a one-board exciter that produces up to 300 mW of excitation power for any of the Systcoms VPA2, VPA5, VPA6 or VPA7 power amplifiers. Its output stage is untuned as it is designed to run directly into one of the power amplifiers. For stand-alone use as a low power transmitter I would suggest a band pass filter be constructed at its output.

Some of the VTR series radios might have the earlier VEX1 exciter. The VEX2 has four coil cans in a row and two shielded tuned circuits with air variable capacitors. There is a fair amount of audio processing on the transmitter with CA3035, CA3028 and CA3045 integrated circuits present. There is a separate CTCSS (continuous tone controlled squelch) input which might be usable for a tone pad input.

#### EXCITER MODS

The modifications to the exciter are really quite simple:

(1) Remove all capacitors beneath the board except the one in the audio section. On the schematic, these are Ca, Cb, Cc, Cd, Ce and Cf. These are either 6, 8, 10 or 15pf ceramic disk types.

(2) Remove the 27pf and 25 pf ceramic capacitors in the second doubler's output. These are located inside the shielded areas with the air variable capacitors

and are denoted as C756 and C760 on the schematic. Make sure you have the right capacitors. You may have to crush them to remove them from the circuit.

(3) As mentioned previously, the output stage is not tuned. You may find better output with one turn removed from L714 and C706 reduced to 12pf from 15pf. This inductor and its related capacitors form an output filter to reduce harmonics. R767, a ½ watt resistor selects an output power range from 75 mW (R767 = 100 ohm) to full output (R767 shorted). If you are going to be using the Systcoms power amplifier, leave it at its present value and adjust later if required. Don't bother to change the value of L714 or C706 unless you have drive difficulties. I didn't.

The same multiplication factor of 12 is maintained with these modifications. Thus the crystal formula is:

$$xf = cf/12$$

$$(18.61166 \text{ MHz for } 223.34 \text{ MHz})$$

Chances are you are going to need to make another crystal oscillator for the transmitter if you have an MTS version FCU as one crystal provided both TX and RX frequencies. You could try converting the MTS FCU (FCU5 or FCU25) to a separate TX and RX selection unit or simply duplicate the oscillator circuit. On MTS units, the channel selector is still marked as individual TX and RX oscillators even though they are all the same.

#### ALIGNMENT

Alignment is performed with a

100 microamp meter between the positive supply and the test point. Fortunately, the test point names are printed into the board's foil pattern. Connect a 47 or 56 ohm resistor on the output or a proper SWR/Power meter and 50 ohm load.

(1) Check for oscillator output at TP701. If you don't have a reading, check the circuitry around the CA3045 for problems, also the crystal oscillator.

(2) Tune the first two coils for maximum with the meter at TP702.

(3) Tune the next two coils for maximum with the meter at TP703.

(4) Tune the two air variable capacitors for maximum with the meter at TP704. They will be at about half rotation.

(5) If you have added another stage of tuning on the output, adjust for maximum output on an SWR/Power meter and load.

At time of writing, I do not have one of the power amplifiers. But, just looking at the circuit for a VPA2, the 12 Watt amplifier I would suggest:

1. Remove C1302 the 10pf cap in parallel with input tuning.

2. Change C1301 the input loading cap from 47pf to 33pf.

3. Remove C1323 the 22pf in parallel with the first stage output cap.

4. Change C1318 from 40pf to 33pf in the 2nd stage output and

5. Remove ½ or one turn from the L1305 output coil.

If you have a VPA5 or VPA7,

the 25 Watt amplifier, I suggest:

1. Remove C2502 the 10pf in parallel with input tuning.
2. Change C2501 the input loading cap from 47pf to 39pf.
3. Change C2525 from 15pf to 10pf in the first stage's output.
4. Change C2526 from 40pf to 33pf in the 2nd stage output.
5. Possibly remove 1/2 or one turn from L2515 and L2511 on the

input coil to the final amplifier and

6. Remove 1/2 or one turn on the final amplifier output coil.

I am suggesting these changes from looking at a copy of the schematic only. I have not yet converted one. Any harmonic output filter would also probably need adjustment.

Try the amplifier without any

changes first and see which stage, if any, is not tuning. They might work as is.

If I get a PA soon, expect a Part 3 article covering converting the Systcoms VTR7, 10, 11, 12 series for 220 MHz service in an upcoming issue of TCA.

Craig Howey VE3HWN  
304 598 Silverbirch Rd.  
Waterloo, Ont.

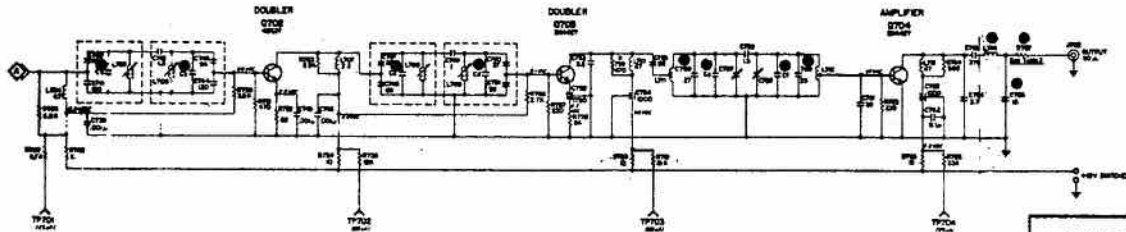


FIG. 1 • INDICATES COMPONENTS TO BE REMOVED OR MODIFIED

**SCHEMATIC DIAGRAM**

**TX - EXCITER**

**VEX 2**

FIG 2  
SCHEMATIC DIAGRAM  
12 WATT POWER AMPLIFIER

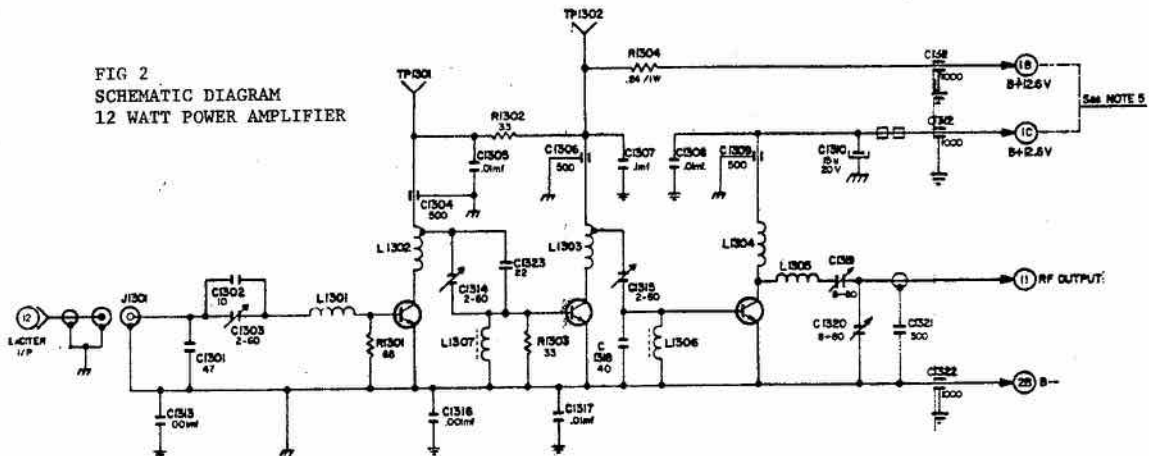
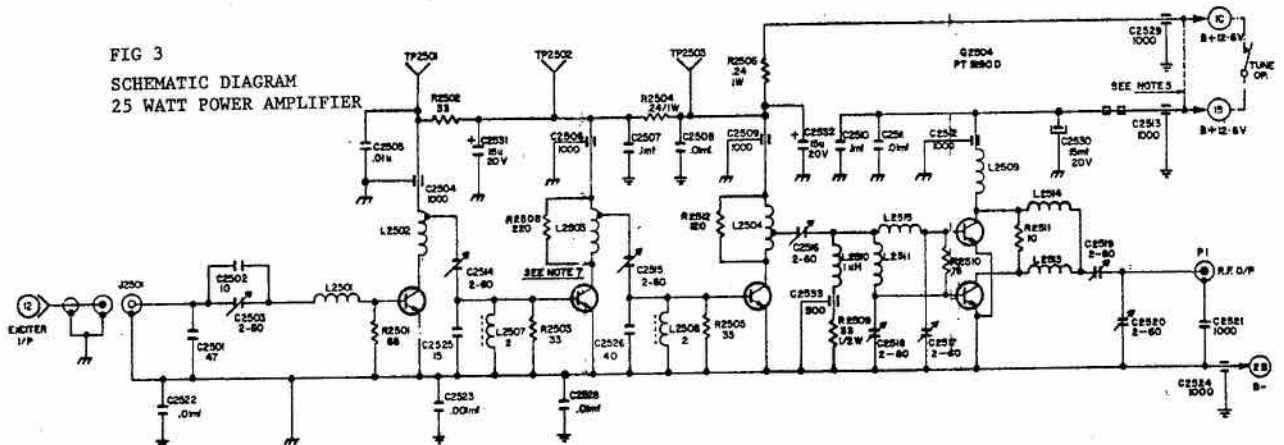


FIG 3  
SCHEMATIC DIAGRAM  
25 WATT POWER AMPLIFIER





# Satellite Packet Radio

Canadian Amateurs have started satellite packet radio transmissions across the country. With special permission from DOC to use some time on the research bird ANIK-B, two-way packet links have been set up between Ottawa and Vancouver and the stations of Hugh Pett VE3FLL and Doug Lockhart VE7APU.

Hugh's Amateur station is hooked to the Communication Research Centre's ground station through the local 220 packet repeater to a 220 MHz station at the Centre's space facility. A similar set-up connects Doug to the Pacific ground station. A number of bugs have been found and ironed out, and the experimenters hope that more time slots will be permitted by DOC and CRC.

Plans are afoot to hook Montreal packet enthusiasts into the network by a 220 MHz link with the Ottawa packet system.

CARF News Service

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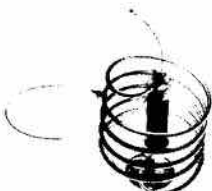
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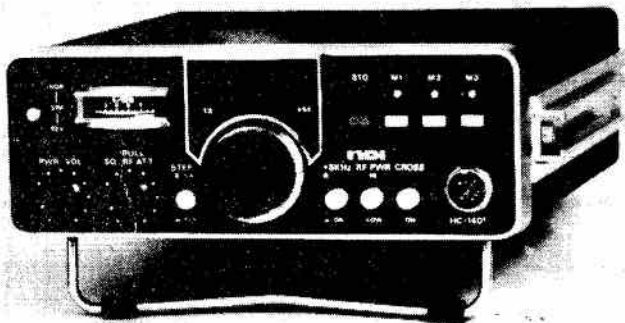
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# Infosection

## CARF Head Office

The CARF Office in Kingston, Ont. is open from 9 a.m. to 3 p.m. on weekdays; Phone 613-544-6161. Below is listed the names and positions of the CARF Office Staff for your convenience.

Office Manager ..... Andy Cieszewski  
Accounting ..... Mary Watts  
Secretary ..... Hazel Holland  
Membership ..... Brian Juniper

### RECIPROCAL AGREEMENTS

Although only two or three Commonwealth countries have signed formal reciprocal operating agreements with Canada, the DOC will consider allowing reciprocal privileges in Canada for Amateurs of those Commonwealth countries which will do the same. Canadians wishing to operate in those countries should contact the appropriate embassy or high commissioner's office in Canada or apply to the appropriate regulatory authority.

CARF News Service

### TEN-METRE REPEATER

As a result of representations from VE2 operators and their subsequent endorsement by the CARF National Amateur Symposium this year in Winnipeg, the DOC has authorized ten-metre repeater operation on frequencies above 29.5 MHz. The band plan conforms with the U.S. one. Four channels are contemplated at present.

Speaking of repeaters, those on the west coast are being constrained to follow the U.S. spacing policy and are converting to 20 KHz separation for a number of VE7 stations.

CARF News Service

## Swap Shop

Single insertion is \$1.00 (minimum charge) for 10 words and \$1.00 for each additional 10 words. To renew, send copy and payment again. Deadline is first of month preceding publication (e.g. Jan. 1 for Feb. issue). Put your membership number and call (not counted) at the end of your ad. Print or type your ad and include your address with postal code. If using a phone number, include the area code. TCA accepts no responsibility for content or matters arising from ads. This feature is for use of members wishing to trade, buy or sell personal radio gear. It is not open to commercial advertising. Send to: TCA Swap Shop, Box 356, Kingston, Ont. K7L 4W2.

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**FOR SALE:** Collins KWM-2 with PM-2 power supply and microphone, in excellent condition, \$750. Eric VE3CTP, 2 Adirondack Gate, Agincourt, Ont. 416-291-0088.

**WANTED:** Datong Model ASP Speech Processor. VE1CAW, George Snow, 6340 Cornwall St., Halifax, N.S. B3H 2J1.

**FOR SALE:** MFJ Model 1040 RF Preselector; MFJ Model 308 Shortwave Converter and Larsen 5/8 mag mount antenna. Offers?? Gord Woroshelo VE3EYW, Box 57, Manitouwadge, Ont. P0T 2C0. 807-826-4231.

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## Canadian Amateur Radio First!

### WHAT IS CARF?

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

1. To act as a coordinating body 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.

### OFFICERS

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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 Driessen, 1946 York Ave., Apt. 203, Vancouver, B.C. V6J 1E3. 604-732-3298.

**VE6HO** Jim McKenna, Box 703, Ft. McLeod, Alta., T0L 0Z0. 403-234-4068.

**VE3HWN** Craig Howey, No. 304 598 Silverbirch Rd., Waterloo, Ont. N2L 4R5 519-885-4545.

**VE3KCE** G.R. (Geoff) Smith, 7 Johnson Rd., Aurora, Ont. L4G 2A3 416-727-6672.

**VE2BIE** Raymond Mercure, 208 Bourque St., Hull, Que. J8Y 1Y4. 776-6495.

**VO1NP** Nate Penney, Box 10, Shoal Harbour, Nfld. A0C 2L0. 709-466-2931.

## Operating Information

### RECIPROCAL OPERATING AGREEMENTS

Canada has concluded agreements or arrangements with the following countries to permit licensed Amateur radio operators to operate radio stations while temporarily in the other country: Australia, Austria, Barbados, Belgium, Bermuda, Botswana (Republic of), Brazil (Federative Republic of), Chile, Colombia (Republic of), Costa Rica, Denmark, Dominica, Dominican Republic, Ecuador, Finland, France, Germany (Federal Republic of), Greece, Guatemala (Republic of), Haiti (Republic of), Honduras (Republic of), India (Republic of), Indonesia (Republic of), Iceland, Ireland, Israel (State of), Luxembourg, Netherlands (Kingdom of the), New Zealand, Nicaragua, Norway, Panama (Republic of), Peru, Philippines (Republic of the), Poland (People's Republic of), Portugal, Senegal (Republic of the), Sweden, Switzerland (Confederation of), United Kingdom, United States of America, Uruguay (Oriental Republic of), Venezuela (Republic of).

Negotiations for the establishment of similar agreements or arrangements with the Republic of Bolivia, Cuba and Italy have been initiated.

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### THIRD PARTY TRAFFIC AGREEMENTS

Canada has concluded agreements with the following countries to permit Amateur radio operators to exchange messages or other communications from or to third parties: Australia, Bolivia (Republic of), Chile, Columbia (Republic of), Costa Rica, Dominican Republic, El Salvador (Republic of), Guatemala (Republic of), Guyana, Haiti, Honduras (Republic of), Israel (State of), Jamaica, Mexico, Nicaragua, Paraguay (Republic of), Peru, Trinidad and Tobago, United States of America, Uruguay (Oriental Republic of), Venezuela (Republic of).

Negotiations for the establishment of similar agreements or arrangements with Ecuador and the Federal Republic of Nigeria have been initiated.

Amateurs who wish to operate in Commonwealth countries other than those listed above should apply to the embassy in Canada or directly to the appropriate regulatory agency.



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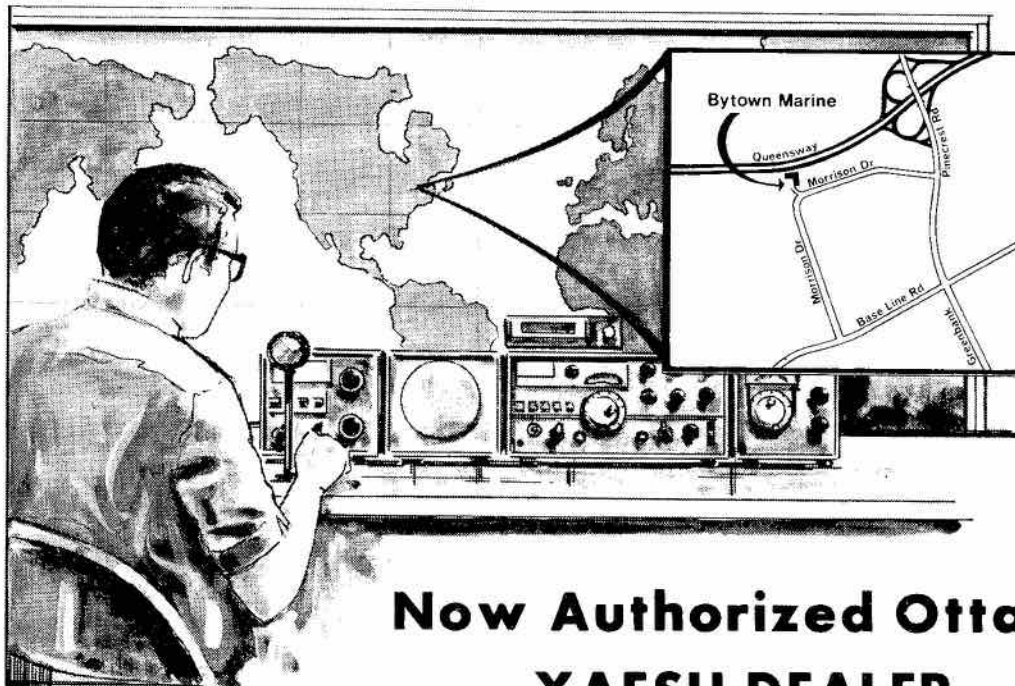
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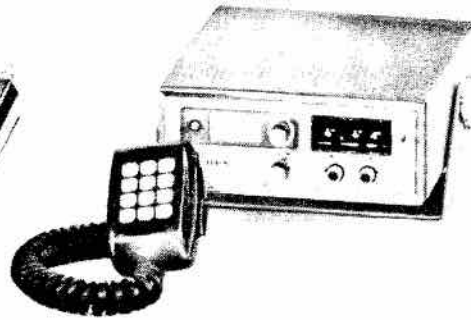


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