

Second Class Mail Registration  
Number 5073

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APRIL 1984

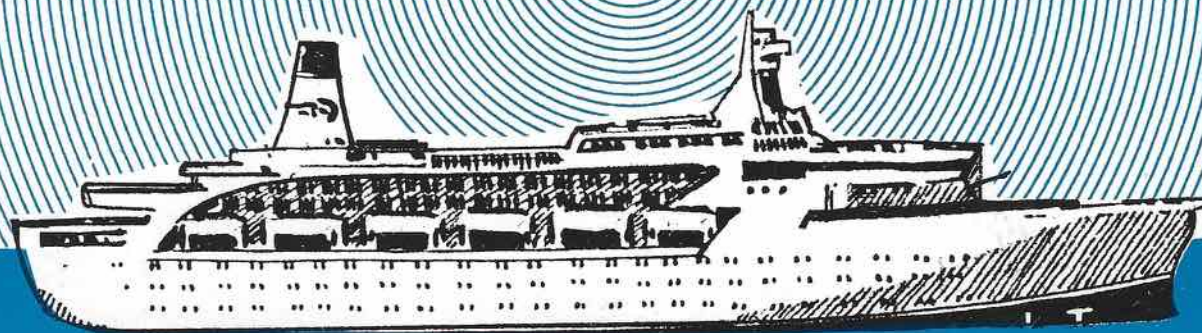
# TCA



The Canadian Amateur  
Radio Magazine  
La Revue des Radio  
Amateurs Canadiens

## Low Power on the High Seas

—Page 26





# Introducing a great new line of Viewstar components.

These quality engineered passive components have been designed by engineers who, like you are highly demanding amateur radio operators. Only the best components and state-of-the-art technology have been used to build them.

## **VS 1500A Transmatch**

This Transmatch is designed to match virtually any receiver, transmitter or transceiver in the 160 to 10 meter range, (1.8 to 30MHz) with up to 1500 watts RF power to almost any antenna. A 1:4 balun is built in for connection to balanced lines. Circuit uses the series parallel capacitor connection for improved harmonic attenuation. Units use the highest quality ceramic roller inductors and switches.

## **VS 300A Transmatch**

This unit contains high quality components and is designed for lower power equipment up to 300 watts. It will match any receiver, transmitter or transceiver in the 160 to 10 meter range, (1.8 to 30MHz) with up to 300 watts RF power to almost any antenna. A 1:4 balun is provided for connection to balanced lines.

## **PT 1000 LP Lowpass filter**

This unit eliminates spurious conduction from transmitters operating below 30 MHz. It effectively eliminates 2nd and 3rd harmonics appearing in the TV bands when operating on 10, 15 and 20 meters providing excellent attenuation to TV frequencies above 36 MHz.

## **PT75 and PT300 Highpass filters.**

These units suppress spurious conduction from transmitters operating below 30 MHz. They provide low loss in the TV pass band 52-400MHz. PT 75 is designed for cable TV use. PT 300 is designed for off-air antenna use.

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 Head Office: C.M. Peterson Co. Ltd.  
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 Toronto Amateur Dept.:  
 1862 Kipling Ave., Toronto  
 416-247-5437





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**EDITOR**

Cary Honeywell VE3ARS  
P.O. Box 2610, Station D  
Ottawa, Ont. K1P 5W7  
(613) 824-3467 (24 hrs)

**CIRCULATION OFFICE**

P.O. Box 356, Kingston  
Ont. K7L 4W2  
(613) 544-6161 (24 hrs)

**ASS'T EDITOR, BULLETINS**

Dave Nessman VE3GEA

**CONTRIBUTING EDITOR**

(C.A.R.F. News Service)  
Doug Burrill VE3CDC  
151 Fanshaw Ave.  
Ottawa, Ont. K1H 6C8

**TECHNICAL EDITOR**

Ed Hartlin VE3FXZ  
P.O. Box 356, Kingston  
Ont. K7L 4W2

**TECHNICAL DESIGN**

Don Prickett VE5KP  
41 McAskill Cres.,  
Saskatoon, Sask. S7J 3K1

**CRAG COLUMN**

Craig Howey VE6DT  
P.O. Box 6947 Sta. 'D'  
Calgary, Alta. T2P 2G2

**CONTEST SCENE**

Dave Goodwin VE2ZP/3  
1-285 Metcalfe St.  
Ottawa, Ont. K2P 1R8

**DX EDITOR**

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

**EMCOM**

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

**YL NEWS AND VIEWS**

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

**VHF/UHF COLUMN**

John Dudley VE5JQ/3  
10 Cammay Ave.  
Dundas, Ont. L9H 6M5

**ADVERTISING REPRESENTATIVE**

Don Slater VE3BID  
RR 1 Lombardy K0G 1L0  
(613) 283-3570

**DESIGN AND PRODUCTION**

County Magazine Printshop Ltd.  
RR 1 Bloomfield, Ont.  
K0K 1G0

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

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# C.A.R.F. EXECUTIVE

## C.A.R.F. President

Don Slater VE3BID  
R.R. 1  
Lombardy, Ontario  
K0G 1L0  
(613) 283-3570

## Past President

Bill Wilson VE3NR  
1427 Cavendish Road,  
Ottawa, Ontario  
K1H 6C1  
(613) 733-2205

## Vice President

Fred Towner VE6XX  
123 Rundleridge Close N.E.  
Calgary, Alta.  
T1Y 2L2  
(403) 280-0074

## Vice President

Doug Burrill VE3CDC  
151 Fanshaw Ave.,  
Ottawa, Ontario  
K1H 6C8  
(613) 733-7108

## Vice President

Ron Walsh VE3IDW  
10 Nicholson Cres.,  
Amherstview, Ontario  
K7M 1X1  
(613) 389-3301

## General Manager

Art Blick VE3AHU  
11 Manitou Cres. East,  
Kingston, Ontario  
K7N 1B1  
(613) 389-2697

## Secretary

Mailes Dier VE3BCO  
RR 1 Finch, Ont.  
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## Treasurer

Lorna Hill VE3IWH  
154 Colborne St.  
Kingston, Ontario  
K1K 1E2

## Legal Council

Gary Warren  
157 McLeod St.,  
Ottawa, Ontario  
K2P 0Z6  
(613) 236-0852

## Atlantic Director

Leigh Hawkes VE1ZN  
P.O. Box 864  
Armdale, N.S.  
B3L 4K5  
(902) 445-3579

## Quebec Director

Robert Sondack VE2ASL  
260 Bellerive  
Ile Ste Helene  
St Luc, Quebec  
J0J 2A0  
(514) 348-9425

## Mid West Director

Norm Waltho VE5AE  
1547 Glendale St.,  
Moose Jaw, Sask.  
S6H 7B3  
(306) 692-3047

## Ontario Directors

John Iliffe VE3CES  
387 Selby Crescent  
Newmarket, Ontario  
L3Y 6E2

Geoff Smith, VE3 KCE  
7 Johnson Rd.,  
Aurora, Ontario  
L4G 2A3  
(416) 727-6672

## Pacific Director

Walter Stubbe VE7EGR  
P.O. Box 513,  
Left Bank, B.C.  
VOH 2A0  
(604) 768-5220

## Assistant Regional Directors

Doug Cormier  
VE1 BCN  
John Fallon VE1SY  
Stewart Harvey  
VO100  
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The Canadian Amateur Radio Federation, Inc. is incorporated and operates under a federal charter, with the following objectives:

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

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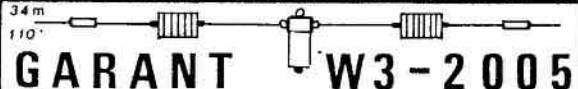
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GARANT W3-2005 multiband trap dipole for 80-40-20-15-10m with 3-YEAR WARRANTY. 1:1 balun with lightning arrester, copper wire, low loss pretuned matched traps. Full legal power. Adjustable for best VSWR.

- W3-2005/S, STANDARD version ..... \$ 89.00
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HAM IV	Rotator with control box, OUR BESTSELLER,	\$ 290
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TH2MK3S	2el. tribander, 10-15-20m,	\$ 249
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DB10/15A	3el. duobander, 10 + 15m,	\$ 279
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153BAS	3el. monobander for 15m,	\$ 149
105BAS	Long John, 5el. monobander for 10m,	\$ 229
12 AVQS	trap vertical, 10-15-20m,	\$ 79
14 AVQ/WBS	trap vertical, 10-15-20-40m,	\$ 99
18 AVT/WBS	trap vertical, 10-15-20-40-80m,	\$ 159
14 RMQ	roof mounting kit for above verticals	\$ 59
BN-86	ferrite balun 1:1 for 10-80m,	\$ 30
2 BDQ	trap multiband dipole, 80 + 40m,	\$ 99
5 BDQ	trap multiband dipole, 80 to 10m,	\$ 179
V 2 S	2m colinear gain vertical 138-174 MHz,	\$ 65
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25BS	2m 5el. beam,	\$ 45
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214BS	2m 14el. beam,	\$ 65
TELEX/HY-GAIN/BUTTERNUT/GARANT Catalogue		\$ 1

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 TELEX-HY-GAIN TH7DXS, 7el. beam, our reg. \$ 649. SALE PRICE ONLY \$ 599  
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RMK-II	Roof mount + radials	\$ 64
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 I was really surprised that I received my rotor within 2 days. Your merchandise and service is 100% with me. Again, thanks for the fantastic service and friendly staff.

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 I received my merchandise from you in less than a week.

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 Regarding the service, I found it to be excellent. I phoned in my order on a Monday and believe it or not, the rotor was here that week.

**VE1CAQ, Vern, Wolfville, N.S.:** The Hy-Gain Explorer 14 recently received from you works like a charm and certainly lives up to expectations with VSWR & FB ratio within the limits indicated in advertisements and the manual. GARANT ENTERPRISES did a super job - with speedy delivery, a price that could not be matched by one of your competitors, especially with the FREE SHIPPING, INSURANCE and HANDLING CHARGES. Obviously Customer Service and Satisfaction is a common denominator at GARANT ENTERPRISES. It's reassuring to know there is a firm out there you can depend on.

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 I received my CD-45 prepaid and in perfect condition by return mail. I have recommended you to an amateur friend in Quebec who was about to order a beam from the U.S.A.

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**DOES IT PAY TO ORDER FROM THE U.S.A. ?** Frankly, NO! In most cases you pay high shipping charges. In addition to the exchange rate (\$ 1.00 US = \$ 1.25 Can.) you will have to pay 12.1% customs duty and 9% federal sales tax, because rotors and antennas are not exempted from duty as ham radio equipment under tariff item 44534-2. We have it in writing and must pay it too. So, be smart!

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A rotor or antenna imported by you from the U.S.A. will cost you at least 1.53 times more in Canadian funds plus \$.30 to \$ 70 in shipping charges. We have checked it out for you. Feel free and ask the customs department. Because we import at wholesale prices we can sell for less than you'll pay.

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Exchange	\$ 25.00
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9% Tax	\$ 12.61
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Exclusive KDK 6 in 1 control is now joined by 6 exciting new KDK features:

**NEW!** % Soft Orange background Liquid Crystal Display (LCD) for direct sunlight viewing plus lighting for night viewing.

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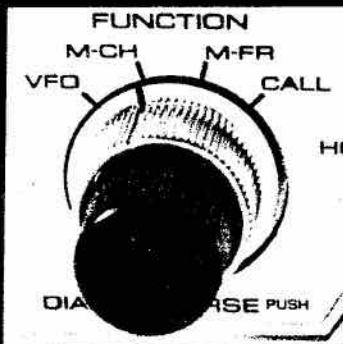
**NEW!** % Frequency coverage of 142.000 to 149.995 MHz for M.A.R.S. and C.A.P. usage.

**NEW!** % Chrome front panel with accent knobs and lighter color on case to match today's auto decor.

**NEW!** % Scan for signal now has 3-second delay before resume after loss of signal.

**NEW!** % Repositioned controls for more convenient operation.

The Exclusive KDK 6 in 1 Knob.



Suggested List \$389.95

- Only memories with data are scanned; blanks are skipped.
- Complete memory back-up with power unplugged. Re-chargeable Ni-Cd with capability of several months back-up of memory.
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- Tone unit switch on front panel to prevent "humming" on the wrong channel.
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- Programmable band-scan limits are stored in protected RAM.
- Modular construction with pluggable inter-connecting wiring.
- "Touch-Tone" microphone TM-2 is standard with each radio.
- Change channels, skip-scan or step up and down the band from TM-2 microphone.
- Audible beep for end-of-band or last memory location for better "eye's off" operation.

The KDK FM-2033 represents a significant advance in user convenience and simplicity of operation for the radio user. The KDK '33' series of transceivers provides excellent readability in any lighting condition for either the operating frequency or the memory channel number in use. The use of a warm orange background for the LCD displays improves the readability by providing an easy on the eyes contrast improvement.

Simplicity of operation has always been the mark of the KDK design team and the FM-2033 is no exception. From the single knob frequency and memory selection to the automatic recall of the desired repeater offset from memo-

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Once the 10 memory frequencies have been selected, a single knob is all that is required for operation on the standard simplex or repeater channels. Using the audible beep as the end of memory marker allows setting to a particular channel without even looking at the radio.

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The FM-2033 provides a clean 25 watt output signal across 142 - 149.995 MHz to operate in balance with most repeater signals and provide quieting on the simplex operations. M.A.R.S. (NAVY too!) and C.A.P. frequencies are also accommodated.

You want convenience, reliability and easy operation for your mobile station and a tough to beat dollar value. Check out the FM-2033 at your local dealer TODAY or send a QSL for specifications.

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Specifications are nominal and are subject to change. All KDK transceivers meet or exceed FCC regulations regarding spurious emissions.



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1		R	146.94	"
3		T	157.845	GE ROYAL EXEC
3		R	152.585	"

## PRICING

If the pricing is obvious, total the amount, add \$1.00 for First Class mail, and send in your money order, or cheque, with the order. If there is any doubt about the formula and/or price, send in the order without the money. We will price the order and inform you by return mail. In the meantime, your order will be made up and shipped on receipt of your payment.

In the example, the amateur band crystals are \$8.00 each, and the custom or commercial crystals are \$9.50 each. The total is \$73.00 plus \$1.00 = \$74.00. Ontario residents add 7% sales tax.

## 1984 PRICES

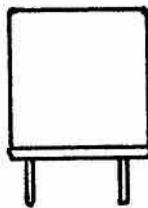
	HC-6U	HC-25U
<u>AMATEUR</u>		
Amateur bands	8.00	8.00
<u>CUSTOM</u>		
6 - 55 Mhz	9.50	9.50
5 - 5.9	10.55	12.75
4 - 4.9	11.60	16.95
3 - 3.9	12.75	16.95
Below 3 mhz	16.95	-
55-100 Mhz 5th	12.75	12.75
<u>MODULES</u>		
Mocom 70		24.95
Mocom 35		21.95

## REWORK MODULES to new frequency

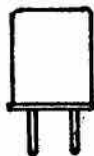
Generally	19.95
Hybrids	29.95
MT500 MX300	

## COMMON HOLDERS MIL Designations

Approximately  
3/4 X 3/4 X 5/16  
HC-6/U .050 pins  
HC-17/U .093 pins  
HC-33/U wire leads



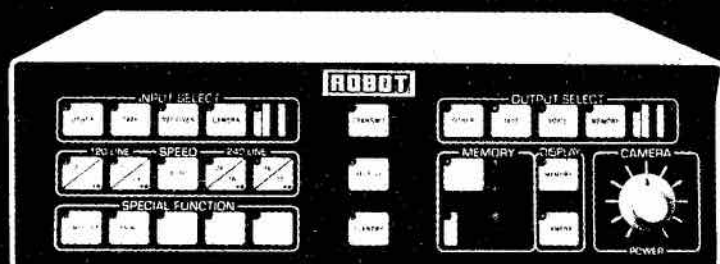
Approximately  
1/2 X 3/8 X 1/8  
HC-25/U .040 pins  
HC-18/U Wire leads



The above holders accommodate the majority of requirements. Commercial customers should call for volume prices.



# COLOR SSTV



## Introducing the Robot 450C and 1200C Single Frame Color SSTV Converters

Robot's new color slow scan TV converters provide you with a whole new dimension of Amateur Radio activity. Now you can exchange color pictures of your latest DX QSL card, the best stamp in your collection, or even that terrific sunset scene you shot last summer.

Robot's microprocessor controlled color SSTV equipment provides a significant breakthrough in the transmission of single frame color images known as "Time Multiplex Color Component System" (TMCCS). This method was chosen as being faster, easier to use and more reliable than the cumbersome frame or line sequential systems now in use, as well as being black and white compatible with the thousands of slow scan stations already on the air world wide.

In addition to having fast, single frame color capability as with the Robot Model 450C, the Model 1200C also offers

sharp, high resolution color pictures that rival commercial broadcast television! With all their flexibility, interfaceability and dependability, the Models 450C and 1200C will be in the forefront of technology for years to come. Their new multi-dimensional SSTV standards will be the pace-setters in the industry.

There are even more features and capabilities too numerous to be listed here, such as computer interface, automatic fine tuning, multi speed operation and many more, so see your dealer today for literature and a demonstration, or write:



**ATTENTION MODEL 400 OWNERS:** Now you can have single frame color SSTV capability too by installing the Model 400C Update Kit to your unit. All necessary parts and hardware are included for an easy single evening installation.



Also introducing the new Robot Model 800C Super Terminal with color graphics capability when used with the new Robot color scan converters. Also has expanded memory with lithium battery back-up, and has both serial and parallel printer interface. A complete terminal for RTTY and Morse Code.

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TS-830S



**NEW**  
TR-7950  
2 METERS, 45 WATTS,  
21 CHANNEL MEMORY



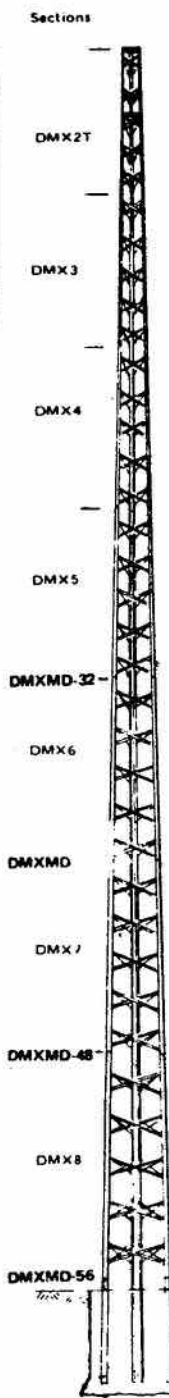
TR-2500

- TS-430S transceiver ..... \$1199.00
- TS-130SE transceiver ..... \$895.00
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- TS-930SAT transceiver ..... \$2349.00
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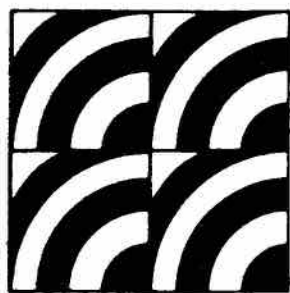
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AM: FL33

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• 25 Watts • 32 Full Function Memories that hold frequency, offset, offset direction, mode, and subaudible tone. Frequency, tones and offset are selected by rotating the main tuning knob. 7 year lithium memory backup. • Subaudible Tones are selected by rotating the main tuning knob and may be stored into memory. • PLL locked to 10Hz • ICOM's new high visibility, multi-color display gives easy to read at-a-glance display of frequency, mode, offset, VFO in use, memory channel, and RIT offset direction and amount. • Scan Memories, programmable sections of the band, or modes. • Mode-5 Scan is a mode scan and can be used to scan memories with a particular mode. • Dual VFOs. ICOM's dual VFO system is now even more versatile with the ability to transfer from memory to VFO. • New Size. Only 11¼" W x 4¾" H x 10¾" D the IC-271A is styled to look good and engineered for ease of operation. • Computer Interface.

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30 bands, each 1 MHz wide, for easier tuning.

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Up-conversion PLL circuit.

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SW3	9 - 22 MHz	VHF5	144 - 176 MHz
SW4	22 - 30 MHz	UHF	430 - 470 MHz

### FEATURES:

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**IMPORTANT:** For more surplus items refer to previous issues of 'TCA'. Very few items listed are stocked in depth, many one of a kind.

Experimenters... Just received a large assortment of laboratory items including the following items. No operating information available.

- (a) Spectrophotometers, table cabinet 14x10x7 high, sloping front, mirror galvanometer with 5" projection scale. Main dial calibrated 400-700 wavelength. Coarse and fine galvo adjustments. Sample port accepts large test tube ..... \$5.00
- (b) Brand new packaged stainless steel hospital forceps. Round serrated end, locking device to maintain tension ..... \$6.00
- (c) Blower/fogger/mister. Appears to be a high pressure blower attached to a liquid container. Sucks up liquid and sprays a fine fog. Operates from 110 ac ..... \$2.50
- (d) Neutron counters, portable hand carried. Solid state battery operated with meter indication.  
Measures fast neutrons, less probe ..... \$15.00  
Measures slow neutrons, appears complete ..... \$50.00
- (e) Phosphate detector, solid state, direct reading in ppm ..... \$7.00
- (f) Chlorine detector, solid state, direct reading in ppm ..... \$7.00

The ultimate video monitor, Setchel-Carlson solid state 23 inch. In blue metal cabinet, handles on side. Hi and low Z video input ..... \$35.00

Small electric vacuum ovens. Overall size approx. 12x12x14 inches. Interior 12x8x6. Complete with thermostat and vacuum gauge. Requires vacuum pump ..... \$25.00

More Collins modules: RF tuner module, 24 shielded slug tuned coils, all ganged together with gears, rotary switches, 11 tubes, size 8"x7"x6" ..... \$5.00  
VFO module with 2 Collins PTO's, slug tuned ganged coils, min. coax fittings, motors, relays, clutches, etc. Size 6x6x10 inches ..... \$20.00

Thermo electric generator made by 3M. Burns propane, seems to generate a LV which is converted to 24VDC. Stainless steel heat exchanger. In steel cabinet 12x12x17 with 5x4x8 cooling fins on rear. An interesting item ..... \$20.00

Gear box assembly from ??? Consists of a 2 phase motor and tachometer, 115/90 volt 60 Hz synchro, 3 ganged precision pots all connected via a large number of gears. All shafts running in miniature ball bearings. Overall size approx. 16x8x8 inches ..... \$6.00

Here's a bargain if you can afford the shipping costs... Large crate, minimum of 8 cubic feet, weight over 200 pounds, full of odds and ends. PCB's, xmfrs, chassis, modules, electronic/mechanical items, etc., etc. Full of stuff which can't be described and taking up space on our shelves. No two the same. .... \$20.00

Here's an interesting item. Wilmot seismoscope Model SR100, basically a small seismograph. Instrument has a suspended pendulum dampened between two magnets. A balanced pen traces any movement of the pendulum on a curved " glass plate. Complete mechanism is enclosed in an airtight plated cover with viewing window in the top. Size 10x10x10 ins ..... \$70.00

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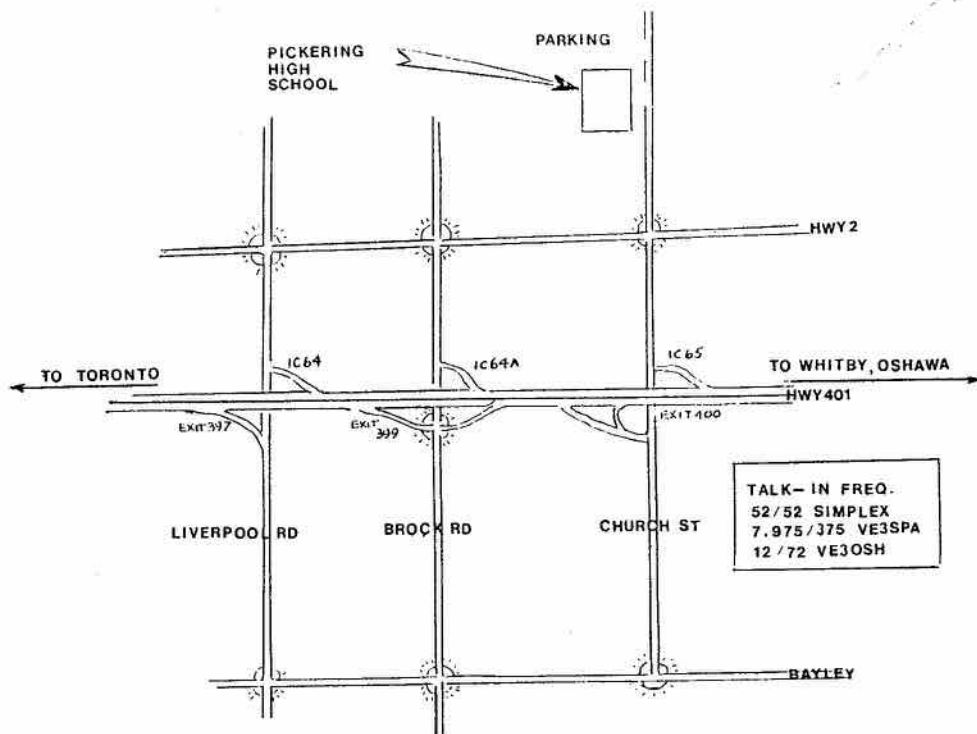
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# Some Words (Quite A Few) from the Prez, VE3BID

We all have dreams, and one of mine came closer to reality recently when I read the minutes of the Canadian Division ARRL/CRRL directors meeting of Nov. 20, 1983. My congratulations to Tom Atkins VE3CDM and Harry MacLean VE3GRO, President and Vice President respectively of the Canadian Radio Relay League, who have worked so hard to move towards "Canadianizing" their Division. Their five-year plan, now in its second year, has taken the steps necessary to becoming masters of their own house. Elections to be wholly conducted in Canada; amending the ARRL constitution so that the Canadian Division President would become the ARRL Canadian Director (previously this was reversed); QST and other ARRL publications would use the word Canada or CRRL to identify the Canadian Division of the ARRL.

In a recent telephone conversation with President Tom Atkins VE3CDM, I asked him if there was a possibility that some day, there will be only one Canadian Radio organization. Tom stated, "Yes, with goodwill and common objectives, anything is possible."

The CRRL has a five-year plan and, like most organizations, you plan your work, and then work your plan. The ultimate success of this plan would be to achieve total political and financial independence. To this end, I wish them every success. Purchasing QST in bulk from the ARRL in Newington and keeping the difference in membership dues to run their own operation. Then the CRRL would have a tangible asset to come to the bargaining table with, and which would open up the possibilities of one Canadian Amateur Organization. The amalgamation of CARF and CRRL would save thousands of dollars now being spent on duplica-

tion of services, rent, staff, news services, etc., etc., etc.,...

The initial membership fee would cover the operational costs and give every member TCA, the Canadian Amateur Magazine, with the option to every member to receive QST at an additional cost. All monies staying in Canada, and the new amalgamated Canadian organization pays for whatever goods and services the members wish to have.

During the past three years I, as president of CARF, have been told many times that the relationship

between the two Amateur Radio organizations has never been better, and as I have said previously, the possibility of one Canadian Amateur Radio organization could be a reality. The mood among Amateurs in Canada seems to be that it is time for one Canadian organization. The CARF executive and many of its members certainly agree with this and believe the time is ripe for negotiation.

73

Don Slater, VE3BID  
President of CARF

## Thank You to All!

The past few months has brought a flood of appreciative calls and letters from across Canada in response to our special complimentary November issue of TCA. 24,000 copies were mailed out. Our editor has printed a few of those letters in the past few issues of TCA and it is gratifying to see such a positive response. CARF's head office in Kingston has tallied up over 400 new members along with a large number of renewals. Along with this, we seem to have beaten the late mailing problem which has plagued us for so long. This has helped immensely. My thanks to all—to the new members, welcome aboard. To all those renewals, your continued support is appreciated. Last, but not least, thanks to our advertisers who made the November special possible (if I goof on your next ad, the one after is free.) TCA now runs at about \$4,500 cost per issue, and without continued support of our advertisers, there would be no TCA as we know it today. To all our readers, support our advertisers; they make TCA possible.

I am pleased to see the last three

issues of this magazine out on schedule. (January was at the post office on Dec. 6, Feb. on Jan. 20, Mar. on Feb. 17.) My thanks to Doug Burrill VE3CDC, interim Editor (Cary was in hospital) and to Steve Campbell, printer, co-ordinator and analyst. Great job Gentlemen. (Ed. Note: Cary did Jan., Doug did Feb. and Mar.)

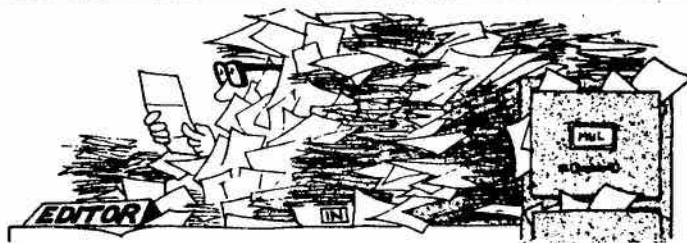
A note of particular interest to CARF Pacific members: Dr. Peter Driessen VE7AB has tendered his resignation. (See Peter's letter elsewhere in this issue.) The CARF board of directors has appointed Walter Stubbe VE7EGR as the new Pacific Director for the interim period.

VE3BID, President CARF.

### TORONTO PREFIX

Here is some news for card collectors; Amateurs in the City of Toronto may use the prefix Charlie Kilo 3 from March 22 to April 4. The Toronto DX Club asked for this to celebrate the 150th anniversary of the city. This permission does not apply to Amateurs in the Metro Toronto communities; only those in the City itself.

# LETTERS



## STANDARDIZING TWO METRES

A group of Amateurs in Ottawa have been active on 2 metre RTTY for almost a year now and hold a weekly evening get-together on one of the local repeaters. We have now come to the point where we would like to "standardize" keeping in mind the possibilities of any future activities we may wish to start.

Some questions in our minds at this point are:

1. Is there any similar activity on 2 metre RTTY in Montreal, Kingston, Cornwall, Brockville or any other places in this area?
2. If so, what 'standards' are you using, where are you operating on 2 metres and when?
3. If there is any activity in any of the above mentioned areas, is there any interest in planning for the possibility of some sort of linking; either on VHF or UHF?  
In Ottawa our 'standards' are:
  1. 110 baud ASCII (but all have 60/66/100 wpm. baudot.)
  2. High tones. 2125Hz/2295Hz—170Hz shift using AFSK on FM.
  3. Activity is normally on repeater VE3TWO (147.300/+600) and the weekly net is at 2000hrs lcl. Wednesday evenings.
  4. Simplex frequency is 147.580 MHz to compliment activity on the repeater.
  5. We are also discussing the possibility of using a frequency below 146MHz using FSK (LSB with the RTTY tones as on HF.)
  6. We also have plans to start a formal 2 metre RTTY traffic net to complement the phone net that operated on 2 metres as well.

I would like to get in touch with any interested party to exchange

information and ideas on any of the above.

Graham Collins VE3MJM  
Apt. 1409  
1401 Prince of Wales Dr.  
Ottawa, Ont. K2C 3J8

*In keeping with the 2 metre band plan, your simplex frequency should be 147.570.*

*A good source of information on radio teletype operations in Canada is the Canadian Amateur Radio Teletype Group, 85 Fifeshire Road, Willowdale, Ont. M2L 2G9. In the meantime, maybe some of our readers who are 'green key' operators could fill you in.*

## WHERE HAS NEWFOUNDLAND GONE?

I noted recently in TCA that the province of Newfoundland and Labrador is no longer represented by a CARF Director.

At one time, there was an 'Atlantic Director' in CARF. According to the list of CARF Executives in TCA, the position is now called 'Maritime Director'.

Everyone east of Quebec knows that:

1. The Maritime region includes three provinces: Nova Scotia, New Brunswick and Prince Edward Island.
2. The Atlantic region includes four provinces: the three Maritime provinces and the province of Newfoundland and Labrador.

Therefore, CARF has two choices:

1. To retain the Maritime Director position, and to create a new position called the Newfoundland Director.
2. Or to revert to the old Atlantic Director position.

Either way, Newfoundlanders will be represented again.

Don Courcy, VE2HDC  
Ste-Jerome, Que.

*OOPs, my fault. Sorry. When making up the Executive list for TCA in October, I put Maritime down instead of Atlantic. CARF had no part in that. We changed back with the March issue.*

## DISTRIBUTION PROBLEMS

...My November issue has not yet arrived, and I think that this is strange considering it was supposedly sent to all Canadian Amateurs. Amateurs I have talked to, received their copy of that issue several weeks ago. Our household receives some seven magazines monthly, and all of them are delivered 100% of the time. So far you are running an 80% delivery rate. I'm not impressed.

I will, however, remain a member for another year. If future issues of TCA fail to arrive, though, I am afraid I'll have to withdraw my membership from your federation, as the Canadian Amateur magazine is one of my only reasons for belonging. There are two national organizations, and for the present I am with you.

Arthur Marshall

Halifax Co., Nova Scotia

*Frankly, neither am I. How many of those other magazines are mailed from Ottawa? The November issue was mailed using a copy of the DOC mailing list, supplied by a third party. There are countless errors in that list. One of the biggest errors, though not DOC's on the third party's fault, is that non-Amateurs were not listed. Consequently our associate membership were left out. Sorry, the CARF office is trying to clean up the mess.*



## TWO COPIES ARE BETTER...

I am to be numbered among the most fortunate of people. Every month my postman delivers to my doorstep two copies of TCA.

It only stands to reason therefore, each month I get twice as much enjoyable reading as other Amateurs!

John Noel VE7ESI

*Share the wealth, John. Take your extra copy to the local club and give it to a new Amateur. Soon, however, you will be receiving only one copy. We will try to make it twice as good.*

## PAPER CHASE

I wish to make one comment at this time for your consideration.

Would it be economically possible to have TCA printed on a little better quality paper? The reason I ask this question is that I like to keep my issue on file. The content is improving— thanks to your staff— and I feel they are worth keeping. I do not know the characteristics of the present paper but I wonder how long a shelf life it will have. I appreciate the effort you are putting into this publication, so the above is not to be considered a negative comment.

Adrian McMeanus VE3AYA

*Your request is reasonable, however, it is not economically possible. Due to the cost of the better quality paper, we have had to keep the less costly paper, which is actually a grade higher than regular newsprint. Our production costs would skyrocket if we changed. This expense would be passed on to the members. Perhaps some day we will have the money, but until then...*

## OF FLAG AND COUNTRY

The error in the Newfoundland flag was the first thing I noted about the November issue of TCA. These provincial flags, provincial vehicle licence plates, provinces period, should be terminated. Canada would be so much better with municipal and federal governments only. You and I both know that there is no way of terminating the

provinces so the only alternative would be to go in the opposite direction, create as many as possible. Cape Breton should be a separate province from Nova Scotia. The province of Acadia should be the northern half of New Brunswick. Newfoundland and Labrador should be at least three provinces. Quebec divided into as many provinces as possible would keep that area from talking separation. They would be too busy among themselves to entertain the idea. I am convinced the Yukon has more in common with northern Ontario than southern Ontario. So on so forth across Canada.

Anyway, you are still wrong on the many replies to the wrong Newfoundland flag. Nova Scotia was the only province to have a flag at the time of Confederation. The dates of adoption of the flags are as follows:

Nova Scotia 1621  
Quebec 1948  
Saskatchewan 1969  
Yukon 1967  
Prince Edward Island 1964  
Ontario 1965  
Alberta 1967  
North West Territories 1969  
New Brunswick 1965  
Manitoba 1965  
British Columbia 1960

## Call Signs

Further to my letter which appeared in TCA January, 1984, and the 7th Annual CARF Symposium Proceedings. Ten years is a very short time. This will mean that there will be that many more attached to their present call signs. These should be changed and changed now. The new call sign should never indicate anything but a Canadian Amateur Station. I should never indicate the location of the station nor the level of proficiency of the holder of the call sign. The system I propose will provide sufficient uniform call signs for more than the foreseeable future.

Yours truly,  
Spud Roscoe VE1BC

*The material we used for the November cover came from an official Post Office publication. We should have known better than to trust the accuracy of any material from that source.*

## FUNDS SOUGHT BY TRANS-PROVINCIAL NET

The Trans-Provincial Net is presently involved in an appeal to raise funds to enable a four-year old Haitian boy to receive surgery so that he can walk. The appeal was started by HH2SD, who also holds call sign VE3CRM. He's now retired and living in Haiti. Also involved in the appeal is the Barrie Amateur Radio Club Inc. The amount of money to be raised is \$800 in U.S. Funds. The Barrie group has raised \$250 Canadian which is thought to cover the rate of exchange. The balance, \$800 Canadian, is the aim of the Trans-Provincial Net appeal. We would appreciate it if this appeal could receive your support. All donations should be sent to the Trans-Provincial Net, In Trust, c/o Toronto Dominion Bank, Stayner, Ontario L0M 1S0. Receipts will be sent if requested. The little boy's name is Billy, and it is hoped that a photograph will be sent to all who donate. As this is not a registered Canadian charity, it is regretted that donations will not be tax deductible.

Ron Tannenbaum VE3 LZI  
Director— Net Manager.

## SEARCHING FOR A MANUAL

I am writing in the hope that you may be able to assist me in locating a copy of the owner's manual for the Heathkit Model RX-1 Mohawk receiver. I have previously written to both the American and Canadian divisions of the Heathkit Corporation and they advise me they only have the manual for the TX-1 Apache Transmitter available. I have the manuals for the TX-1 and the companion SSB adapter SB-10 and had hoped to complete



the set with the RX-1 manual.

If you have available any information that might assist me in my search for the above manual I would very much appreciate receiving it.

Richard W. Dowden  
205-9 Buffalo St.

Brantford Ont. N3R 1C7

*The Mohawk receiver was one of the better ideas from Heathkit. I am sure there are enough copies of the manual to ensure at least one copy gets to you. Can anyone help?*

## Canadian components for Amateur Satellite

Canadian participation in the space age is not limited to the commercial field. A group of 12 Ottawa people, most of them Amateurs, recently completed two components of a new Amateur satellite. Half of the new bird is devoted to Amateur packet radio experimentation and half of it will be taken up with testing the performance of components for a proposed 'store-and-forward' radio system for the use of the VITA organization. This is an international volunteer association dedicated to giving technical information assistance to third world countries. The Ottawa group, part of an international team working on the satellite, produced a 128 K microcomputer and the battery and its computer. Scheduled for launching on March 1st from Goddard Space Centre, the satellite will be known as OSCAR 11.

Still on the topic of Amateur space activity, John Henry VE2VQ, a former president of CARF, was recently re-elected as a director of AMSAT, the international Amateur satellite society. John is also president of AMSAT Canada. Both organizations are involved in the production and operation of the OSCAR Amateur satellites.

CARF News Service

## To all CARF Members in the Pacific Region:

As a result of increasing business and personal commitments, I have decided to resign as Pacific Region Director of CARF. I am no longer able to devote the time and attention to the Directorship that I feel is necessary.

It has been very rewarding to have played a part in nurturing the growth of CARF to its present size and strength. As Director since 1976, I have seen many changes in the organization and personalities of both Amateur Radio organizations and the Department of Communications. I have particularly fond memories of some of CARF's major achievements, such as the instigation of the annual Amateur Radio/DOC Symposium back in 1977. This first Symposium was attended by an amazing number of communications professionals from government and industry who also happened to be radio Amateurs. A far-sighted and futuristic message was put forth to DOC—yes, let us have a no-code difficult theory Digital Amateur licence class and encourage experimentation with computer communications by radio. I thought it very appropriate for Canada, as an acknowledged world leader in the telecommunications business to be the first country to create a Digital Amateur licence. The concept was an idea before its time; only now is the tremendous potential, both commercial and amateur, for data-over-radio beginning to be realized.

Another fond memory was the DOC rule which finally permitted Canadians to operate in the 40 metre DX phone band below 7100 kHz. Canadian Amateurs had first requested this change 25 years ago, because the 1959 World Administrative Radio Conference (WARC 1959) gave the top portion of 40

metres to the Broadcast service and restricted the worldwide band to 7000-7100 kHz only. Unfortunately, Canadian Amateurs were unable to organize a rule change. It was not until almost 20 years later, at the 1978 CARF Symposium, that a clear message was sent to DOC to please allow phone below 7100 kHz. I remember many long hours after the Symposium preparing the supporting documents. Without CARF and the Symposium mechanism, phone below 7100 kHz would not have happened.

There are also fond memories of some of the wonderful people that I encountered during my tenure, people on the CARF executive, within DOC and elsewhere. It is not without some regret that I resign my Directorship, but after eight years (the longest standing Director) I feel it is time for a change.

I wish the Federation every success in its future endeavors.

73

Dr. Peter F. Driessen  
VE7AB

## Oscar 10 to assist Space Shuttle

The next flight of the space shuttle, scheduled for August 31, will have on board four experiments designed and built by U.S. Amateurs of the Marshall Space Centre ARC. The telemetry from the shuttle will transmit on 435.33 megs, a frequency which can up-link to Amateur Satellite Oscar 10 when the primary telemetry antenna is pointing away from the earth. Amateurs and SWLs will be asked to assist in monitoring.

# Editor's Comments

by Cary, VE3ARS

I'm back. Oh, you didn't know I had gone; well, I had. Two months forced vacation courtesy of a lower back problem. The medical men fixed it and say I will be as good as new very shortly. That will be a change.

Being out of circulation for a while meant that I was not able to keep up with the events concerning Amateur Radio and so some of what you will read here may be old or a little dated.

I would like to express my appreciation to Doug VE3CDC, who took over for me during my absence. From his enthusiasm, I can see that his enjoyment of the sport of editing has not waned. Despite the less than obvious changes that occurred during this time with regard to personnel, I presume that most of you have noticed not only the new look, but the new delivery time-table. We backed up our deadline two weeks and, with the help of Steve Campbell, have managed to produce and deliver TCA earlier than we have ever been able to. While there were cries of anguish and discomfort at late deliveries, there have been no comments on either early or on-time delivery. I don't really mind though. The complaints have stopped. I don't believe anyone should have to make a special note of something that should be expected as a matter of course. It only stands to reason that if everything is running smoothly, there should be neither compliment nor complaint. So be it then.

On December 2nd, CARF lost an old friend. Charley Grove VE3CT, former legal rep for CARF, passed away at his home in Ottawa. The following obituary was taken from the *Ottawa Citizen*, Dec. 6, 1983:

## Computing Devices loses well-liked vice-president

"Charles Grove, vice-president and general counsel of Computing Devices Co., died suddenly Friday at his Ottawa home. He was 63.

"A native of Windsor, Grove served with the Royal Canadian Air Force in the Second World War, where his duties included working with radar in the United Kingdom and the Far East.

"He graduated from McMaster University in 1949 with a degree in economics and history, and received his law degree from Osgoode Hall in 1953. Grove was called to the bar in 1953.

"Grove joined Computing Devices in 1962 as secretary and legal counsel, and became vice-president and general counsel in 1969. He was also responsible for the company's contract management division.

"'Everyone in the company really like him, because he was easy to talk to and always had time for anyone with a problem,' a Computing Devices employee said Monday. 'He's really going to be missed around here.'

"Grove was an Amateur radio enthusiast for many years, and was known to fellow 'hams' as VE3CT, his radio call signal.

He is survived by his wife, Norma, children Norman, Mark, Dana, Caroline and Jonathan, and daughters-in-law Ellen and Joann."

Charley was responsible for the incorporation of CARF in the mid 70's. His untiring work and dedication to the job at hand helped give CARF very firm footing. He also had to put up with a great deal of heated discussion while provincial representatives fought it out for representation on the new Board of Directors. I saw him lose his cool only once during this time. At the

last AGM before incorporation, Charley had the final draft of the new constitution and bylaws in front of him, as one provincial delegate stood up to speak. After months of dispute, Charley had finally managed to incorporate all the desires and concerns of the provinces in what he thought was a complete document. So he thought! I was sitting across the table from him as the delegate began to speak. After the first sentence was uttered, I could see Charlie's expression change. The delegate wanted to change the terms of influence for his province, giving them a bigger share of the pot.

As they already had the biggest share, the other delegates and the CARF executive began the debate all over again. At this point, with great flourish and drama, Charley stood up, held his copy of the new constitution out in front of him, then promptly tore it in three pieces, throwing the remains high in the air. The effect was immediate and decisive: The delegate who had started the fracas was forced to withdraw, and very soon after, the constitution was approved. His name will be remembered along with those who, in the 60's, founded the organization to represent the interest of all Canadian Amateurs... CARF.

Vic Clark W4KFC passed on during the fall. I am sure most of you read his obit in the other various Amateur publications. Having been around during the tenure of the last three ARRL presidents, I can say that Vic was better-liked and more respected by the Joe in the street than his predecessors. Even Wayne Green of *73 Magazine* acknowledged this fact. Our regrets to his wife and family, and to his associates at ARRL, both here and in the U.S.A.

Having had the chance to see Don Slater's president's comments, I am convinced that there may yet be hope of a merger between CARF and CRRL. In order for this to come about, both sides must be able to trust each other. Without trust, a meaningful dialogue is not possible. No less important is the need for all Amateurs to have an open mind to the situation.

In the past several months, I have seen letters from Amateurs declaring how bigoted they really are when it comes down to organizations who are trying to represent them. This is true of people who support either organization. As an example, one individual, when he saw his call sign printed in TCA along with information valuable to all Amateurs, wrote in to protest. He stated that he did not want his call printed in TCA or the News Service, and demanded we rectify our error. The 'catch 22' was that in order for us to acknowledge our transgression, we would have to mention his call sign. It is not relevant that he belonged to either CARF or CRRL. I have seen examples of this sort of thing in both organizations. The fact is that, while it exists at all, Amateur radio is not well served. Information, no matter where it comes from, if valuable, is of benefit to all Amateurs. We are all in this together. TCA, like the CARF News Service bulletin, CRRL news-bulletin, W5YI report or any other news source, is there for the use and information of all Amateurs. What difference does it make that the information was published by us or by them. You should be happy that the information is being made available to as many Amateurs as is possible. The only way to keep from being quoted is to avoid accepting positions of importance in an organization, and keep your mouth shut. If you are really not the source, then acknowledge an honest mistake. If the information is valuable to all Amateurs, then permit all Amateurs access to it. Bad attitudes stunt co-operation,

and the name of the game today is CO—OPERATION.

This will probably be my last editorial as editor of TCA. I would like to express my thanks to all of you who have helped me over the past four years. The last two have been the hardest by far, and I am glad to see that things are running as smoothly as they are. I have made many friends as editor, and possibly just as many enemies. In the long run, people forget. I know there are some things I will forget. People I have met in my travels will probably be forgotten despite the desire that I have to remember all the good people that I have met. It works that way. Faces will be familiar, but names will be vague. I apologize in advance.

Amateur radio has gone through some hard times up here in Canada, and I think harder times are ahead. We need all the help we can get to survive. We must examine every possibility to ensure that our hobby survives. A united front must be established very soon. Nothing is impossible so long as we are willing to get together and work

for the common good. We are being given that chance now. Let us welcome it with open arms.

VE3ARS

For those of you who are interested in applying for the position of Editor of TCA, please send a resumé of your qualifications to CARF at P.O. Box 356, Kingston, Ont. K7L 4W2. A full job description is not available, but one thing you must be aware of, the job is purely voluntary. There is no actual pay involved. We have received one application from an Amateur who seemed to think this job was full time and paid lots of money. Wrong. Details of what you get from this job are available from CARF, however, like most voluntary positions, there is lots of work to be done, and you must make your own rewards. Some positive points; your expenses are paid, and you get to work for and with lots of really good people, while providing the Amateurs of Canada the best in information and entertainment related to the hobby of Amateur Radio.

## Cordless Phones to move off 160 MHz area

A new generation of cordless telephones will drop the present duplex channel adjacent to the Amateur 160 metre band. The new base-to-handset channels will both be in the 46 to 49 MHz band with a separation between in and out of about 3 megs. The move was brought about by the expansion of the broadcast band up to 1705 kHz. This short term answer may be replaced by channels somewhere in the 900 MHz band. This information comes from the U.S. Federal Communications Commission, but to date DOC has not made known what it will do. Most of these gadgets are made in the U.S. or the Orient with no known Canadian

production. Any Canadian regulation changes will necessarily have to deal with the U.S. decisions.

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# Jamboree on the Air

The following report of the 1983 Jamboree On The Air was submitted to the Guides International.

On October 15 and 16, 1983, several Melfort Girl Guides and Pathfinder Guides had the good fortune to participate in an international 'Jamboree On The Air'.

This jamboree is the largest gathering of Scouts and Guides in the world and the young people taking part get an opportunity to visit with each other through the facilities of Amateur radio. Conversations may be transmitted across the province, the country, the continent, and even the world.

Our Melfort girls were able to make contact with Scouts in several United States locations as well as some in Ontario and British Columbia. Excitement reigned as the Scouts and Guides/Pathfinders made arrangements to trade badges, crests, and photos.

If you would like to have your girls get in on the fun of JOTA '84, all you really have to do is to find an Amateur radio operator who is willing to help.

You will find that 'hams' are very friendly, co-operative people and you will find they are scattered throughout our province. If you don't personally know a 'ham', ask around your community—someone is sure to know one. Or go looking for a large radio antenna on a rooftop. Don't be afraid to go to the door and ask if there is an Amateur radio operator in the household... the fun to be had from participating in JOTA is well worth the effort and the possible embarrassment.

Then watch your Canadian Guider magazine for the specific date and frequencies to be used for the 1984 JOTA.

We used the following frequencies given in the May '83 issue of the Guider. While they don't mean

much to the ordinary person, they are the 'Open Sesame' to the ham operators.

80 metre band/ 3,740 kHz

Phone: 3-940 kHz;

CW: 3-590 kHz

40 metre band/ 7,090 kHz

CW: 7.030 kHz

20 metre band/ 14,290 kHz

CW: 14,070 kHz

15 metre band/ 21,360 kHz

CW: 21,140 kHz

10 metre band/ 28,990 kHz

CW: 28,190 kHz

Perhaps we will meet on the airwaves on the weekend of October 14-15 or 21-22!

## EXCITEMENT ON THE AIRWAVES

The weekend of October 15th and 16th, 1983, will long be remembered by several Melfort Guides and Pathfinder Guides as the weekend they took part in JOTA.

JOTA, the Jamboree on the Air, is the largest international gathering of Girl Guides, Girl Scouts and Boy Scouts in the world and it is accomplished through the facilities of Amateur Radio one weekend each October.

On Saturday, the 15th, six Guide Patrol Leaders and one Pathfinder gathered at the home of Bud Allen, a local ham radio operator, and within a few minutes they had made contact with Boy Scouts attending a jamboree in Ontario. At first reluctant and shy, the girls soon thawed out when they realized they could "talk to boys!" through the facilities of the radio. As time went on, the Guides and Pathfinder enjoyed chats with a ham operator in Victoria, B.C., and with some Scouts in the United States including some in Washington.

On Sunday, four Pathfinders took their turn at their microphone in Mr. Allen's "ham shack".

They weren't long in making radio contact with a former Scouter

in the state of Illinois and both sides enjoyed this encounter.

At times the girls sat back and listened to Scouts carry on a two-sided conversation, as in the case where the boys in Alberta spoke to the boys in Jamaica. One could hear the excitement crackle!

Then the Pathfinders, with Mr. Allen's help, contacted another Illinois station—this time four Scouts were present and all eight young people spent some time chatting with each other. Arrangements were made to trade crests and addresses were exchanged.

The next contact was with Walnut Creek, California, and this time three American Boy Scouts and one Norwegian Rover Scout on an educational exchange answered the girls' appeal for JOTA participants. Again addresses were exchanged and promises of exchanges of crests and photos were passed over the airwaves.

At the end of both afternoons, the adults present could not help but be as excited as the Guides and Pathfinders, as the outing was a delightful treat for one and all. Even the ham operator, Mr. Allen, is looking forward to next October!

Are you interested in joining JOTA in 1984? Keep an eye on the Canadian Guider magazine during the next few months for the necessary information on frequencies to be used. In the meantime, look around for an Amateur radio operator to assist you when next October rolls around.

We found that the older girls did better at this activity than the younger ones. The younger, less mature girls either could think of nothing to say or were too shy to even speak into the microphone. We also suggest that it would be a good idea to write down a few questions to ask prior to making contact... it helps to break the ice on



both sides. It also helps to think of the mike as a 'telephone'- you can't see who you are talking to, and the person at the other end cannot see you.

## Wells Gray A.R.C.

Clearwater, B.C.

Greetings; Our hope for 1984 is that more of our members shall have their call letters and be on the air!

During '83 we held a short winter course to help our few members to continue toward their licence, so far we have one set of new letters VE7EIN- Cliff.

May brought an information booth at the fair, where we ran a raffle, proceeds going toward a repeater station.

June found us all smiles in our new club jackets with crests, and the summer holidays to display them.

Late Fall saw more classes started with Cliff VE7EIN urging us on as teacher, with back-up advice from Lorne VE7BOX.

January '84 was an occasion to hold our club's winter supper. With the May Day long weekend our next event, we hope to once again set up a display booth at the fair grounds here in Clearwater, and also erect some antennas to do some CQ-ing, presenting Amateur radio to the public both as a hobby and our emergency communications capabilities. A barbecue also is a part of our weekend fund.

We extend an invitation to all Amateurs who find themselves in our area on the May Day weekend of 19, 20 & 21, or are able to come, to stop in for a part or all of our activities. We look forward to meeting many of you. 73's to all:

Contact Cliff VE7EIN for more details. Phone 674-2994. Submitted by Ralph E. Johnson, Sec., Well Gray Amateur Radio Club, 1714-R.R. 1 Clearwater, B.C. VOE 1N0.

## Nice try, DOC; Bootleggers nailed but...

A news story in the Pictou, N.S. weekly Advocate tells of a DOC prosecution which nailed three locals for illegal possession of "radio apparatus". The three, who had been operating on commercial frequencies were, as is usual in the press, erroneously considered as Amateurs.

The local Judge assessed them only 200 bucks out of a possible \$2,500, and a whole \$3.00 in costs. Believe it nor not, the convicted illegal operators then asked for their seized equipment to be returned. The next surprise was when the judge recommended that the Department do this but allow them to "apply for proper licences"! A DOC comment was that courts in the Maritimes "are not fully aware of the consequences of the misuse of the spectrum." A fourth man faces similar charges.

The FCC in the States got fed up with one flagrant offender and a court there gave him a year and a half in the slammer. Contrast this with the wide publicity the case got in the Amateur media when he appeared in court in shackle and chains.

### CABLE TVI

The cable TVI problem was brought to the attention of the Radio Advisory Board of Canada by CARF, at the Board's annual meeting (see February TCA). It has been referred to three Board committees for action, the EMI Committee, the Land Fixed and Mobile Committee and the Broadcast Committee. As the cable industry association, the CCTA, is a member of the Board, there will be ample opportunity for discussion on methods of meeting the problem. Hopefully this year will see some progress toward the Board making recommendations to DOC to relieve the interference situation.

CARF News Service

The DOC was apparently disappointed in the result, as they had hoped that this case which, incidentally, had international ramifications, would act as a deterrent. To do that, such prosecutions need publicity. One problem is that DOC hasn't done much to inform the public and the Amateur Service in particular. The DOC official at the trial admitted that due to "limited resources", "we haven't done much to get information to the public. (In fact, TCA would not have heard of this case if an alert reader hadn't sent in the clipping. Thanks VE1BMN)

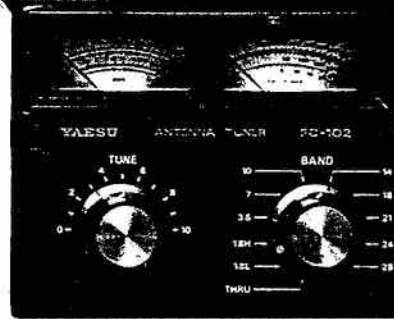
These arrests have unexplained international ramifications. Simultaneous arrests were made on both the east and west coasts of the U.S. and many European countries. The whole story has apparently not yet been told. CARF News Service

## Ski Marathon

Some 40 Amateurs from Ottawa and Montreal again successfully performed one of the largest exercises in public service communications when about 3,700 skiers took part in the 11th annual Canadian Ski Marathon. They provided communications for safety and administration officials over the 150 km. course from Lachute, Quebec, to Ottawa. Both direct and repeater operation on two metres were used. The hardier Amateurs followed up the last skiers on each lap. Equipped with handy-talkies, they acted as 'sweepers' to ensure that no one was left behind on the trail. Freezing rain for part of the time provided lots of action for the nets as casualties occurred and vehicles couldn't operate on the ice-bound roads. This event could not likely be held without the flexible radio system supplied free by the Amateurs. CARF News Service

# FT-102 HIGH PERFORMANCE HF TRANS

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### Total IF Flexibility

An extremely versatile IF Shift/Width system, using friction-linked concentric controls and a totally unique circuit design, gives the operator an infinite choice of bandwidths between 2.7 kHz and 500 Hz, which can then be tuned across the signal to the portion that provides the best copy sans QRM, even in a crowded band. A wide variety of crystal filters for fixed IF bandwidths are also available as options for both parallel and cascaded configurations. But that's not all; the 455 kHz third IF also allows an extremely effective IF notch tunable across the selected passband to remove interfering carriers, while an independent audio peak filter can also be activated for single-signal CW reception.

### New Noise Blanker

The new noise blanker design in the FT-102 enables front panel control of the blanking pulse width, substantially increasing the number of types of noise interference that can be blanked, and vastly improving the utility of the noise blanker for all types of operation, including woodpecker blanking.

### Better Dynamic Range

The extra high-level receiver front end uses 24 VDC for both RF amplifier and mixer circuits, allowing an extremely wide dynamic range for solid copy of the weak signals even in the weekend crowds. For ultra clear copy on strong signals or noisy bands the high voltage JFET RF amplifier can be simply bypassed via a front panel switch, boosting dynamic range beyond 100 dB. A PLL system using six narrow band VCOs provides exceptionally clean local signals on all bands for both transmit and receive.

### FC-102 Antenna Coupler

The FC-102 is a newly designed antenna tuner ideally suited for use with the FT-102 station. With a power handling capability of 1.2 kW, the bandswitched L-C pi-network will match a wide variety of antennas (including a single wire) to your transceiver or linear amplifier on all HF amateur bands. New design features include an in-line wattmeter with three ranges (20, 200, and 1200 watts full scale), and a "peak hold" system that enables the operator to observe peak power with ease. A separate SWR meter is also built in for antenna tuning indication. The FC-102 includes internal relays to provide low-loss pushbutton selection of two different antennas (and two transmitters), while the optional FAS-1-4R Remote Antenna Selector may be mounted either inside the FC-102 or right on your tower, to allow selection of four additional antennas. When remotely installed, the FAS-1-4R is connected by a control line to the FC-102, eliminating the need for costly multiple

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## VS 300A Transmatch

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The Viewstar VS 300A Transmatch is designed to match virtually any receiver, transmitter or transceiver in the 160 to 10 meter range (1.8 to 30MHz) with up to 300 watts RF power to almost any antenna, including dipoles, inverted vees, verticals, mobile whips, beams, random wires and others, fed by coax cable, balanced lines or a single wire. A 1:4 balun is built in for connection to balanced lines.

The TUNER switch, on the front panel, provides switching to one of two coax fed antennas (direct or through the tuner), and either a balanced line or wire antenna. The BYPASS (BYP) position allows switching to a dummy load or a direct connected coax antenna. In the BYPASS, COAX 1 OUT or COAX 2 OUT positions, the tuner is bypassed, but not the meter circuit.

The wattmeter of the VS 300A can be used with the tuner or when in the direct modes. The wattmeter is between the transmitter and the tuner when the TUNER switch is in the COAX 1 IN, COAX 2 IN or WIRE positions. To read the transmitter output power, set the wattmeter switch to FOR 300W and read the forward power on the 300W scale. To read the reverse power, set the wattmeter switch to REV 30W and read the reverse power on the 30W scale.



## NEW IC-745 ICOM

A full feature HF transceiver and general coverage receiver. 16 tunable memory channels; passband tuning; continuously adjustable AGC; and 100% duty cycle transmitter. The 16

tunable memory channels have the capacity to memorize not only the desired frequency, but also the desired mode of operation.



## IC-271A ICOM

A 2 Mtr all mode covering the entire 2 Mtr Ham Band. 25 watt output, 32 memories and built-in subaudible tone selectable from the main tuning dial. Frequency, modes, tones and offset may be written into each memory. A new two color display.

**NEW**

A whole new generation A new CPU with a capacity of 32 memories in selected mode! Other features include: break-in GSK keying, t... PBT, RIT, XIT with sep... deep notch filter, and so

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**FV-901DM SYNTHESIZED, SCANNING EXTERNAL VFO**

The FV-901DM provides scanning and memory capability for your FT-101ZD transceiver. Using PLL synthesis in 100 Hz steps, the FV-901DM features an auto scan mode, which will search the band until it finds a signal—perfect for watching for openings. The manual scanner will scan at one of three rates, while you just flick a switch. The FV-901DM cannot be used with the analog FT-101Z.

Forty frequencies may be stored into memory, for control of the transmit, receive, or transceive frequency. And a clarifier allows fine tuning between the 100 Hz steps, as well as tracking of a drifting memorized signal. In DX or contest situations, you'll be seconds ahead of the competition with the FV-901DM... another YAESU "first."

# YAESU FT-726R TRIBANDER

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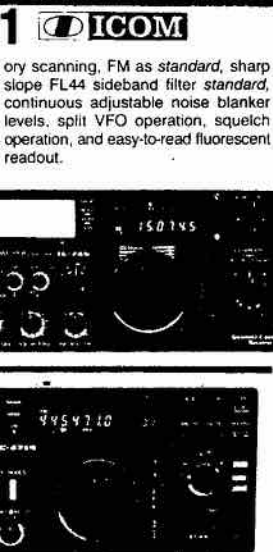


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RS-10A	7.5	10	7-7 1/2 x 10 1/2	11	\$ 110	\$ 7
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RS-20A	16	20	5 x 5 x 10 1/2	18	\$ 169	\$ 7
RS-35A	25	35	5 x 11 x 11	27	\$ 249	\$ 9
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w/Switchable volt and amp meter						
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RS-35M	25	35	5 x 11 x 11	27	\$ 279	\$ 9
RS-50M	37	50	6 x 13 x 11	46	\$ 419	ASK
w/Variable output & separate volt/Amp meters						
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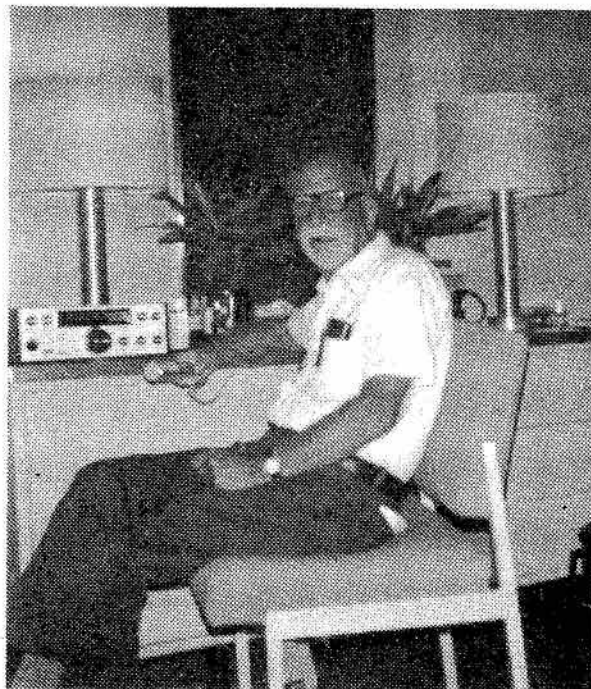
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# Low Power on the High Seas

By John Herring VE3MS



There were pirates off the coast of Freetown that might have made all Captain Hook's rivals quake.

There were starving longshoremen at the Freetown port stealing containers of powdered milk to feed their children.

There were people who scramble for the book matches and bags of nuts given them before chased away by the Takoradi police who threw the gifts into the ocean.

And there was VE3MS maritime mobile, John Herring, taking an African tour and testing the effectiveness of a low-power rig aboard the cargo ship *Del Monte*.

John was one of four passengers on the 522-ft. long *Del Monte* of the Delta Steamship Lines. With a crew of 45, the ship left Houston, Texas on March 28, 1982 carrying a diverse cargo including cars and powdered milk. It toured seven ports of the west central coast of Africa and returned to New Orleans on May 15.

John gained the encouragement and cooperation of the ship's captain, Frank Verner, who said he was a "CB enthusiast". The rig throughout the voyage was an Argonaut 509, loaned by Jim Douglas

VE3DJX, with 5 W input, run off a 12 volt power supply. Verner helped John put the rig's antenna up on the ship.

It ran out of the window of the stateroom which John and his wife Polly called home for almost two months. One end was attached to one of the ship's signal flag halyards, and the other end of the 'sloper' dropped to about seven feet above the bridge deck.

The antenna was designed for 21.263-21.163 MHz. It was fed through 67 ft. of RG 58U, a standard coaxial cable used for antennas, and a 1:1 balun. Once the rig and antenna were secure, the ham voyage began.

The *Del Monte* spent three days loading in Houston.

Few people choose to vacation aboard a cargo ship. Perhaps it is because they do not realize such voyages are available for a select number of passengers. Perhaps they envision travel on a cargo ship like travel on a freight train, full of dirty, dull days.

It does take many days to cross an ocean, and passengers must occupy themselves. But there are movies available each evening,

games on deck with other passengers and catching up on hobbies to help pass the time.

It's not a typically tourist way to see the world. Voyagers are as likely to see sights that do not lend themselves to postcard material as 'Love Boat' passengers are likely to fall in love.

The ships are generally smaller and the passengers few, making the ship's environment intimate. It is the perfect opportunity for an Amateur buff to set up a rig and make contact with hams back home while on the other side of the globe.

"It's more the exception than the rule that the Radio Amateur goes to sea," says John. He says that few ham radio operators get a chance to go abroad with their rigs because the practice isn't always looked upon favorably. For John, it was the chance of a lifetime that Captain Verner approved of the project.

John made his first contact April 1 in the Gulf of Mexico, 300 miles away from the ship's starting point. The *Del Monte* had sailed through gale force winds for two days previous, making contact difficult. The pitch was very noticeable,



John says, in the forepart of the ship where the rig was set up.

John arranged with his first contact VE3AX to have signal information passed on to ONTAR'S NET that VE3MS maritime mobile would be on the air at 0930 and 1630, both local Toronto time. This would be changed within the 12 mile territorial waters of a country without a licence from that particular country. However, there is no restriction on receiving, and VE3AX made sure the hams knew John would be listening.

On April 2, the Del Monte docked at Maracaibo, Venezuela, where local stevedores unloaded some cargo. It took just over a day and the Del Monte was off again by 1900 the next day. The next afternoon, the ship docked at Puerto Cabello, Venezuela. Unloading wasn't finished until April 7, leaving John temporarily off the air.

The city itself rests on a bay at the foot of the mountains. Huts of the poor were draped up the hillsides. Within the town, a noticeable feature of most of the shuttered windows were decorations of intricate grillwork.

The crossing of the Atlantic began. The seas were unexpectedly rough during the crossing and a chilly wind kept the ship's passengers indoors.

A very successful phone patch was put through to Port Credit, Ontario on April 8. And on April 9, Good Friday, John contacted Jim Douglas VE3DJX in Smith's Falls, Ont. who loaned the Argonaut 509 used for the trip.

Douglas has been interested in low power transmitting and receiving and was as curious as John to see how successful the rig's performance would be.

On April 11, the Del Monte was at latitude 13°N., and longitude 43°W. John made contacts with VE3EMJ, VE3FOA, VE3AJO and VE3LI, all of which were Q5 contacts. The strength of the signal "really amazes me," says John.

"How we are doing all this on 5

W input, 2 W output leaves me completely mindboggled," he says. John's highly successful signals continued until the ship reached Dakar, Senegal, which was a very successful port in the days of the slave trade. It is estimated that 20 million blacks spent their last days in Africa there; disease and neglect took the lives of six million of these.

Today, there are a surprising number of high rise buildings and good hotels there, witness to the fact that the port is still successful. Yet, typical of the city are the outdoor market stalls selling native jewellery, carvings and cloths. Goats wander the streets. The official language is French and Muslims bow to Mecca in prayer throughout the working day, kneeling on pieces of discarded cardboard.

There were more Q5 contacts before the ship ported again in Freetown, Sierra Leone, on April 17. The night before, the Del Monte had received a radiogram warning the crew to beware of pirates.

That afternoon, three swimming pirates tried to climb aboard, using the anchor chain as a ladder. They pulled one of the hawser lines used for mooring the ship the length of the ship. These lines were valued at \$1600 to \$2000 each.

Passengers and crew waited nervously until Captain Verner managed to frighten the pirates away with a single pistol shot. The shore police were radioed but, as passenger Gertrude Kinnaman said, the pirates were "probably chided for being so careless as to get caught."

The ship was visited by salesmen and beggars.

A brawny man paddled out in a tiny hand-crafted boat and sang "Show Me the Way To Go Home" for coins tossed off the ship and into the water. He left anything less than 25¢ for the fish.

Salesmen placed masks, carvings and two green parakeets in a basket to be hauled aboard the ship for inspection. If the items were to

anyone's liking, money was to be placed in the basket and sent back down. But no sales were made this day.

Unloading of cargo was finished by April 18. The dockworkers deliberately split the sacks of powdered milk and hid small bundles of it on the shore. The police tried to stop as much of this contraband activity as possible but to little avail.

John made further contacts after setting sail and tried to contact another maritime mobile VE0MDC but was unsuccessful.

The Del Monte made a brief stop at Abidjan, Ivory Coast and then left for Lagos, Nigeria, dropping cargo at both ports. But John says, "We had almost continuous lightning and I did not attempt to go on the air."

April 23 the ship docked at Lagos. English is the official language of this oil-rich nation. The ship picked up a grey Cadillac Seville that was being shipped to New Orleans to have a 5000 mile check-up.

But the poor are here, too, begging for money.

The ship departed quickly and by the next afternoon was in Warri, Nigeria. It was here that the passengers heard of the plight of Alain Schepkens who nearly landed in jail after several uniformed men, calling themselves policemen, detained him for several hours. He was released for 60 Naira (about \$100). Passengers were told that this was a common occurrence; people with authoritative voices, demanding passports, would often steal the documents and use them for forgery.

The ship departed the morning of April 26. John made contact with the members of the WHITE CAP NET on that day. Unfortunately, says John, "QR Nancy was very heavy, so it wasn't too pleasant a contact. But we certainly were able to get through."

The ship docked at Douala, Cameroon. The country has a population of 8.5 million and its economy is based on aluminum

processing, timber, rubber, cocoa, coffee, peanuts, tea and bananas.

Poverty is here, too.

"I watched a very, very thin black man sorting through garbage cans," writes one of the passengers, Gertrude Kinnaman. "He inspected every can, bottle, bread wrapper and plastic bag, all for a few scraps of limp, cold, fat bacon. He brushed off the old coffee grounds and placed his meat on a rusty lid of one of the garbage cans and from there, into an unwashed juice can."

Someone from the ship later took him a paper plate of coffee cake which he placed into his can, eating only a little piece before leaving.

The ship left Douala on the evening of April 29.

"Now comes the most amazing part of the whole trip," says John, of his radio contacts, "While we were practically in Douala, Cameroon, we contacted VE3GO, VE3LI, VE3RO, VE3AJO, and a phone patch through VE3FOA was 100%."

John estimated the mileage at 6,076 miles. And with an input of 5 W and an output of 2 W, the Argonaut 509 may have achieved a miles per watts record. Douglas' rig was a success.

The Del Monte turned around at Douala and headed west again. On April 30, the ship docked at Takoradi, Ghana where so many refugees were recently sent.

The country achieved independence in 1957. After four military coups (1966, '72, '78 and '79), the government returned to civilian rule and the economy further deteriorated. It has since had its fifth military takeover and one wonders if an African style of democracy will ever be achieved.

Since the military takeover in January 1982, soap, cigarettes and matches have been hard to find. One beggar showed the Del Monte passengers his shirt which he said hadn't been washed in 10 days. A young vendor told how she was

going to boarding school the next day and needed soap.

There is a baby clinic in Takoradi, where about 300 children receive care each day. There, a family might receive 1.5 pints of oil, 1.5 cups of dry milk powder and two to four pounds of grits. Many live in mud huts.

By May 3, the ship had been almost emptied. It began its trip homeward, with nearly empty holds. The voyage from Ghana to New Orleans took almost 13 days. The crossing was smooth and there were just a few rainstorms.

John made his last contact on the day before docking at New

Orleans. On May 14, VE3MS maritime mobile contacted VE3FOA, VE3LI, VE3AJO, and VE3GO in the Florida Straits.

"We were able to maintain reasonable contact," says John of the entire trip. Traditional radio and television are useless on trips such as this, making news from home rare and highly valued.

The experiences of VE3MS maritime mobile proves that travellers don't have to give up friends, family and news while away from home.

"It was successful beyond all my wildest dreams," says John.

## A Helping Hand to a Helping Ham

By Geoff Smith VE3KCE  
CARF Ontario Director

How would you like to do a splendid deed of such heroic proportions that you'll feel good about yourself for weeks? Would you be even more interested if you knew that it wasn't going to cost you anything? Now that I have gotten your attention, allow me to elaborate.

Dr. John Warnica VE3JKW is an ophthalmologist who belongs to a medical mission made up of eye doctors and optometrists who donate their skills and their vacation time to work in Third World countries. One invaluable tool in their battle against vision disorders in these countries is to use a very mundane item—a discarded pair of eyeglasses. They may be no longer of any use to us, but after members of John's group have checked the lenses to determine the prescription and have catalogued this information, these discarded eyeglasses can be matched to the needs of some less fortunate individual in one of the countries which this medical mission visits. Where the lenses are too scratched to be of any use, the frames can be salvaged for parts. Nothing is wasted.

Last year John and his group went through 50,000 pairs of eye-

glasses. That's correct folks, 50,000 pairs, each one a discard from someone in Canada.

So what we are asking you to do is canvass your home, your neighbourhood, your work place for old eyeglasses. Then bring them along to your next club meeting. One member of each club is then asked to collect the glasses and then bring them along to the next fleamarket or hamfest where they can be turned over to the officials at the CARF booth. Or if you wish, they can be mailed to me. Clubs in Toronto area can send them along with their president or club representative when he or she attends meetings of the Presidents' Council.

CARF takes no credit for initiating this drive. In 1977 a similar plea appeared in the Chicken Junction Directory, but support seems to have waned. We merely want to revive and continue support for this cause.

And as a final note, John finds Amateur radio to be most useful when he and the mission are aboard, using phone patches to keep members of the team in touch with their families. So if you hear him calling for a patch, perhaps you will make an offer of assistance.

# Canada Contest 1982 Results

Apologies abound to all who have been waiting for these results. The delay is certainly inexcusable, and I must take all the blame myself. I have allowed all sorts of things to pile up, and it is my own negligence and tendency to procrastinate which is to blame for providing these results so late.

At any rate, here are the results for December '82's contest, without comment, for fear it will further delay publication. I hope you will all stick with these contests, as reporting the results will only get better!

Dave VE2ZP

Data, reading from left to right: entry class, call sign (- VE1 prov.), score, QSOs, multiplier.

Entry classes are as follows:

- A- single op, all bands
- AQ- single op, all bands QRP
- AA- single op, all bands, Amateur class
- 28- single op, single band
- MS- multi op, all bands

## Cut rate postage for QSL cards

A couple of years ago, VE1AVN drew to readers' attention the fact that the Canada Postal Guide, Section 41.3, 41.34 notes that, among other things, QSL cards may be sent worldwide by AIR as a "small packet" up to 20 grams in weight. A check with Canada Post reveals that the price is now 48 cents. The local post office electronic scales weighed in the average card as seven cards to 20 grams. It would appear that six, plus the wrapping would be eligible for the economy class airlift.

### Canada Contest 1982

#### Canadian Results

A	VE2ZP	253930	436	35
A	VE5GF	184945	434	47
A	VE1JW/ns	173800	490	44
A	VE5VCA	166095	424	59
A	VE7SK	161333	279	71
A	VE3LMG	127498	293	49
A	VE3MUJ	100594	328	53
A	VE6BNE	97845	204	55
AQ	VE6YB	97465	213	51
A	VE1CCM/ns	85750	213	50
A	VE7VX	35140	362	36
AA	VE3MPT	83332	568	39
A	VO1QU	32336	364	27
A	VE1CEG/ns	75946	271	46
A	VE3KBX	57552	213	33
A	VE7FBS	52260	142	39
A	VE4QST	44548	201	23
A	VE7DGI	42700	172	25
A	VE7EGR	35553	214	21
A	VE4ZH	23014	139	21
A	VE2DRN	25952	142	23
A	VE7EXK	24570	103	26
A	VE3NBE	21334	233	24
A	VE2PD	21195	81	21
A	VE7BAG	16536	83	24
A	VE7DD	15000	49	30
A	VO1OO	8939	46	22
A	VE7AYU	8652	70	12
A	VE3DVB	8398	58	17
AA	VE2FJR	6992	59	16
A	VE2DPO	6912	116	16
A	VE3XO	6715	44	17
AQ	VE3CKR	6336	43	18
AAQ	VE5ACY	6238	63	16
AA	VE3MGY	5291	30	13
A	VO1KO	3393	80	9
A	VE2GIT	3322	29	11
A	VO1QST	1267	45	7
A	VE2FSU	895	53	5
28	VE7CGL	8945	144	14
21	VE3NOS	7952	37	13
21	VE3LMN	5911	57	13
14	VE3LQJ	31315	193	21
14	VE7DLM	28451	130	23
14	VE5ADA	28392	284	12
14	VE7ABC	15399	123	13
14	VE3JO	12544	126	16
14	VE4YE	9713	242	11
14	VE1BSL/ns	7635	121	15
14A	VE3KI2	5710	165	10
14	VE1BEI/nb	1532	54	7
7	VE7BS	3239	136	11
7	VE5BAF	3734	104	3
1.3	VE7PCK	60	3	2
MS	VE3VCA	47376	206	42
MS	VE3NJM	6722	122	14
MS	VE6CPH	5730	70	17
MS	VE7CBA	3010	29	10

#### MS Operators:

VE3VCA: VE3s AHU, IDW, MNE  
VE3NJM: +VE3KJY  
VE6CPH: +VE6COE  
VE7CBA: VE7s AIO, EXI, YD

### Foreign Results

A	W9RE	95644	253	54
A	W5WG	48672	146	39
A	NL7Z/ø	45136	217	34
A	N4EDX	35258	170	34
A	C6ADC	34282	142	26
A	K8VIX	32370	174	30
A	K5LZO	32320	249	32
A	AKØG	32280	172	30
A	W8WVU	25004	150	28
A	KALR	19338	302	22
A	W3ARK	17703	165	21
A	W4XD	17700	102	25
A	WA2HFI/ø	13970	66	22
A	W4YF	13640	59	22
A	GT3BM	13188	96	14
A	KALCY	8421	44	21
A	DF2XJ	6045	83	15
AQ	N8CQA	5984	76	16
A	K9GDF	5222	76	14
A	LULWL	4440	71	15
A	W3ICM	4060	53	14
A	AA6DP	4056	58	13
A	JHØLFR	3256	107	11
AQ	WALCFZ	3190	63	11
A	KY5N	2948	51	11
AQ	W8EAO	2574	36	11
A	Y38YE	2470	32	90
AQ	KEØY	2230	22	10
A	W5EIJ	2034	25	9
AQ	W2JEK	1683	34	9
A	EA2IA	1448	47	8
A	AA6EE	1197	35	9
A	EA6BZ	1162	22	7
A	W8YL	1134	27	9
AQ	KH6CP/3	1096	28	8
A	WA3JXW	875	44	7
A	EA2CR	616	17	8
A	OK2QX	510	13	6
A	KD4PP	360	27	4
A	N9DIJ	12	3	1
A	Y63ZG	0	28	0
28	NF6W	16096	240	16
23	EA5CX3	5352	93	8
23	KØ7G	4172	216	7
28	Y56YF	3824	54	3
23	Y27FN	2362	99	6
28	LA4HH	676	24	4
28	Y71ZL	530	16	5
23	EA3DPH	470	13	5
23	YU73F	225	11	3
23	J13BPF	106	18	2
23	JAØTPE	12	3	1
23	JHØWGN	0	4	0
21	G4NBL	2473	39	3
21	DF1EI	1399	30	9
21Q	JO1GAZ	164	37	2
14	W9QWM	11305	93	19
14	JH8NYK	744	12	8
14	EA7BVJ	430	14	5
14	Y24MI	60	2	3
7	NØCLV	279	13	3
7	OE5ØDL	13	4	1
1.3	G3XWZ	0	12	0
MS	JA2YKA	22	13	1

#### MS operators:

JA2YKA: JJ1BTC,  
JF2DQJ, JR2GMC



# General Manager tables Report at CARF Meeting

Art Blick, General Manager of the Canadian Amateur Radio Federation, tabled the following report at the meeting of the National Executive held Feb. 25 at Rideau Ferry, Ontario.

## 1. Membership

REGION	1 Jan 83	1 Sep 83	1 Feb 84
Atlantic	604	566	620
Quebec	318	300	336
Ontario	2198	2098	2322
Mid West	646	654	717
Pacific	862	795	814
Life	277	281	*
Family	*	*	151
Foreign	32	29	44 **
TOTAL	4937	4777	5004

In addition to this, there are 137 affiliated clubs and 56 subscribers to TCA.

\* In the former programme used, Life members were listed on a separate disc but Family members were included with the original membership. In the new programme, Life members are included on the postal code discs while Family members are on a separate disc.

\*\*Foreign members include those Canadian members who reside outside of Canada for varying periods and want their TCA sent to their foreign address.

During the period Sept. 1 '83 to Feb. 1 '84, there were about 250 members who did not renew their membership. This gives an increase of about 477 new (or late renewal) memberships as a result of the special Nov. 83 issue of TCA.

After the labels were printed for the Oct. '83 issue of TCA, the membership computer was redesigned, rebuilt and reprogrammed. The necessary programming was installed in time to produce the labels for the Dec. '83 issue but the

'count' routine was not installed until late December. This count showed an increase of 67 during the month of January '84.

The new programmes greatly facilitate the handling of membership records and production of labels, lists, etc. with adequate room for the expected increase of members. However it is anticipated that a new computer system will be required in from 3 to 5 years to replace the system that has given faithful service since 1979 with minimal problems and downtime measured in hours annually.

### CARF Office

To effectively use the new programmes in the membership computer, it has been necessary to do away with the previous CARF Membership Numbers that consisted of an alpha character plus three numerals. Membership records are now held arranged by the FSA (first three digits of the postal code) of the member. A Disc Number is used in the coding line to denote the position of the data in the disc and this number is subject

to change to meet new requirements of Canada Post or a movement of location of the member. FSA groups are arranged in the order required by Canada Post for Second Class Mail and not in alphanumeric order.

This means that membership enquiries MUST be accompanied with the postal code of the member (both new and former if the member has moved) to facilitate the disc location of data. A search can be made for data up to 16 characters, but this is a great time-consuming operation when it is considered that it takes 10 discs of data to handle members in British Columbia, all having an FSA beginning with 'V'.

Arrangements have been made to fully programme the Office computer to keep track of Office administration, finances, invoicing, etc. and these will not be completed until this summer period. This computer will be used to handle the daily cash book records and correspondence around March 1 with the other programming scheduled to commence in June. Barry Smith VE3MNI, a programming expert, has volunteered to oversee this work and to supply qualified persons commencing in June to work with the Office staff to gain programmes specifically designed for CARF operations.

Additional Office and storage space has been obtained so that the Office now has a Main Office; a duplicating, sorting and packaging room; a room for the membership computer; a room for bulk storage (necessary to hold forthcoming editions of the 1984 publications and



Reference File); and a room for storage of fast-moving items.

Additional help is hired for short periods as required to cope with duplicating and forwarding requirements that can not be handled by the present two members of the staff.

### Publications

... Many Amateurs have ordered CARF Communication Cards, mistaking them for QSL cards. This has resulted in considerable extra work for the Office staff and, as these cards are a slow-moving item for the purpose intended, reference to this item will be deleted from order forms.

Membership and order forms published in TCA issues prior to Jan. 1984 are being used with previous charges for dues, publications, etc. This use creates similar problems in additional correspondence, finances, etc. for the staff and so bulk copies of these issues have been discarded.

CARF Officials wanting copies of TCA for distribution are now requested to order same well in advance of use to enable notification to be given to the publisher to print extra copies for these purposes. Large overruns of TCA issues are not made due to increased costs and storage problems involved.

### Administrative Committees

Two administrative committees are now being organized. The first is a 'TRC-24 Committee' located in the Toronto area under the chair of Bill Rork VE3MBF. Bill and two other Amateurs made a special trip from Toronto to discuss how they could assist CARF in our work concerning TRC-24 and examinations generally and have since volunteered to function as the above committee.

The other is a Publications committee to be organized by John Illiffe VE3CES, Ontario Director, to look after the review, amendment and updating of current publications and to advise on new

publications, obtain copy, etc.

Guidelines for the TRC-24 Committee are as follows:

#### The TRC-24 Committee

The function of the TRC-24 Committee will be:

A. to gather comment from the Amateurs of Canada, particularly those involved in the instruction of courses and from candidates for the examinations, on changes desired in content of the DOC document TRC-24 and in questions used on examinations;

B. to gather questions (and answers detailing source in CARF Study Guides) for addition to the question banks held by DOC;

C. to liaise with CRRL on results obtained in A, and B to enable the formulation of a joint submission to DOC on changes, etc., required;

D. to review the CARF Study Guides to ensure that the text of the appropriate Guide contains the full scope of the technical requirements specified in TRC-24 and, when necessary, to inform the CARF Publications Committee of changes, etc., required;

E. to prepare, and submit to the General manager, publicity notices on the work of the Committee and need for additional members and/or support for insertion in TCA and CARF News Service Bulletins;

F. to prepare and submit to the General Manager an annual report of the work of the Committee two weeks prior to the Annual General Meeting with the Chairman of the Committee, or his designate, to attend the AGM and support the report.

The Committee to function under the general supervision of the General Manager who will be responsible to the Board of Directors and National Executive for the work of the Committee.

The Chairman to have authority to add members and, with prior approval of the General Manager, to take action.

Normal expenses incurred by the Committee in performance of

its functions to be paid through the submission of a CARF Expense Voucher.

The Aim of the Committee shall be:  
a. to achieve a better balance for the technical requirements between the Amateur and Advanced Amateur levels;

b. to ensure that questions used in examinations fall within the scope given in TRC-24 and can be readily answered without recourse to mathematical tables, calculators, etc. held by the candidate;

c. to carry out the stated policy of the Federation in regard to the content of TRC-24 and examinations.

## Card Collectors' Corner

To clear up what special call signs are now available to DXers who may wish to visit Sable Island or St. Paul's Island, CARF News Service contacted the DOC Atlantic Regional Office at Moncton and was informed that now the calls are CY0SAB for Sable Island (readers of February 10th Westlink Report were given the wrong dope on this) and CY9SPI has been hung on St. Paul's Island.

DXers may apply to the Moncton DOC office for the use of these calls if they visit these places. Licences are not issued, only the permission to use the calls when there. These special calls don't preclude the use of one's own call on the islands; they are set up for DXers use.

Amateurs in the City of Toronto may use the prefix 'CK3' from March 22 to April 4. The Toronto DX club asked for this to celebrate the 150th anniversary of the city. The permission does not apply to Amateurs in Metro Toronto communities, only those in the City itself, according to DOC.

CARF News Service

# QSL Bureau Services Report

By Jean Evans VE3DGG  
Mgr. CARF National QSL Bureau

I have been asked by many people to write an article about the QSL bureau services. To these Amateurs, I would like to express my thanks for their interest and hope that the following will be up to expectations.

I have always held that 'Ham Radio was to be a sisterly/brotherly fraternity. Perhaps my outlook is not easy to understand, but my volunteer services are to and for the Amateurs of Ontario, (I live here), to Canadian Amateurs, (my livelihood is here), and to all Amateurs throughout the world, as communications and co-operation is one of the best offers of friendship and peace. I look upon all QSL cards as mail to be treated as such, to deliver all cards and never destroy any QSL cards for any reason. My parents guided me to tackle hurdles in life, and to do one's best irrespective of any material gains. They were the best examples I ever had.

In 1967, I became a volunteer helper for the previous VE3 manager. In 1975 I accepted CARF QSL Bureau work on a limited scale. Soon after, Len Sumner VE3DOR (now a silent key) had to curtail some of his activities, and the full Bureau services moved to my QTH. In the fall of '75, the Ontario Trilliums ARC agreed to take over the VE3 bureau for the ARRL. I was asked by the Trilliums to manage this service for them. Now there are 25 of us involved in some part of this VE3 work, and 12 of us participate in the CARF National QSL Bureau.

The actual operation of the Bureau is based on the following: keep everything as simple as possible, thus the processing of all cards, backlogging none, having no dead files, destroy no cards, and proceed in an organized fashion. Ken Roli-

son VE3CRL, a professional engineer with CN, is the manager of Box 66, Islington, Ont. M9A 4X1. He and his assistants clear the box and deliver the cards to me on a weekly basis. Up until recently, every piece of mail from Box 66 was recorded using the CARF membership number. Since CARF eliminated that feature we have had to search for new methods of recording. In future, CARF mailing labels from TCA (photocopies will do) will form the basis of identifying the cards. Be sure to include the label with any packets you send to the bureau. A reference sheet is made up with the identification of each Amateur submitting cards contained on it. Twice a month, the sheet is placed in a three ring binder. Queries from Amateurs to ascertain if their packets have been received, are checked out via this record, the dates listed and sent up to the Amateur. If a packet is damaged, the contents are listed, and invariably when the Amateur has checked the list, his reply is, "Thanks, not one missing", or "All cards accounted for."

Ian MacDonald VE3ASC, an ex Bell 'Wire Chief, opens the mail and prepares the cards for sorting. He also cuts the postage stamps off the envelopes, which are then relayed to another volunteer for a church group who 'do their thing' for humanity. Ian is the first volunteer to arrive during the day.

The second visitor is Jo VE3IMS/GW4DWR. Her job is to sort all the cards. Jo, who is in charge of a nuclear medicine department at a large Toronto (Metro) hospital, demonstrates her efficiency at card sorting, and she does not leave until all the cards are sorted. Her OM, Ishwar, on returning from his classes at a nearby col-

lege, adds his assistance to the group, and at times, neither he nor Jo leave until after midnight. (like the Cinderella story).

The following morning, Ian arrives again and stamps the cards prior to them being wrapped. The packets weigh 500 grams, and by 4 or 5 p.m., the work is usually complete and ready for transport to the Downsview station. A clerk adds a metered strip to each packet, hands me a receipt after payment, and then the mail is ready for our postal system.

**Various Side Services:** Cards destined for QSL managers are sent direct where addresses are available. Cards to VE bureaus across Canada, are mailed to the provincial bureaus. The unclaimed cards need a note on each denoting the reason it is being returned to the sender. In late '75, I wrote the CARF executive that I had always returned cards to sending bureaus if we could not deliver them here. Their answer was to go ahead and add services in the interest of the Canadian Amateur. This, to me, denoted a dedicated group who would allow me to use their outgoing service for cards that were not their responsibility. However I assured them that I could enclose the unclaimed cards in packets already weighed and found a wee bit short, yet postage would be the same. So, these cards are slipped into packets with no cost to anyone, but just a little more work for two of us who get them ready on a once-a-month basis. So the motto for our QSL Bureau Services can be— 'Every card delivered, either to recipient or back to sending bureau, no back log, no dead file, none destroyed.' CARF and Trilliums can be proud of our record.

**Recycling:** Sorting, filing and storing cases and boxes, stationery, envelopes, elastics, clips, rubber stamps... you name it... almost everything to run a bureau to process QSL cards has been donated to us by clubs and many Amateurs. Our thanks and appreciation to all our thoughtful friends, as it proves this is a friendly and co-operative bureau, where all Amateurs can feel free to criticize, complain, comment, or whatever.

All letters do get answered in time, but the cards always take priority over all other work. Clubs have made donations to the Ontario Trilliums ARC to help us do a complete job. Doris Cody VE3BBO, can testify to the financial part of the work, as she is treasurer for ARRL VE3 bureau. Doris is now retired and when asked, agreed to look after the financial job which I claim is like 'High Finance' with a few dollars, but bookkeeping seems the same no matter how little the total is.

**Booths/Hamfests:** At least two volunteers attend these functions if possible. To even the work load, Thelma VE3CLT looks after the east and north east area of Toronto and suburbs. John VE3ECP looks after St. Catharines, Niagara and Welland area. We have a group with Jean VE3BVJ and Ann, XYL of VE3NIT, who enjoy meeting visitors at Guelph, Milton and Brampton areas. We give out information, take in donations towards files for VE3 Amateurs, accept cards for CARF outgoing service and meet many old and newly licensed Amateurs.

Volunteers for VE3 files pick up their quota of material at these booths also. Each volunteer is responsible for up to 475 calls in a particular section, and does the work at home, which is ideal as each person is then able to use spare time at his or her disposal.

**Clubs In VE3—** We have help from clubs who accept cards into their area and clear them. A

reminder to each Amateur; let us know if you do not want any more QSLs, or if you do, then get postage and/or SASEs to us. We do not mind anyone who does not want cards as this is each Amateur's privilege, but if we do know, it is easier for us to note it on the file card, and return the cards as unwanted or unclaimed. We weed out cards for several clubs who distribute them at club meetings. This is good for the club, and certainly less costly.

**Letters—** Letters of complaint, ideas, suggestions, requests, are all handled, and are answered as soon as possible. But, please remember, the cards take priority, and correspondence is the last service attended to, and must depend on spare time left, but I have met so many nice people that it is all worthwhile and enjoyable. It is only through studying a comment or complaint that your bureau services can be improved to what you believe it can be. Nothing is so well done that it cannot be improved, and our committee is consulted whenever a new idea is brought forward. A complaint is a stimulant. How it is handled can be either negative or positive. On a positive level, with understanding, it can promote friendship with co-operation and all can gain from it.

**Bits and Pieces:** A portion of bureau work was moved to Kingston with Ralph VE3UG as QSL Mgr. Periodically, other portions are added until a fair number of files are being processed at Kingston. Ralph has now retired, and Ted VE3HOC, is QSL mgr, and doing a fine job. CARF has been fortunate to have such dedicated volunteers. Good luck Ted, nice to be working with you.

In 1971, I met Wally Judd at Sunnybrook Hospital where he had lived for so many years. Though paralyzed and in a rocking bed most of the time, nevertheless he had a fine brain, and could have handled a complete office with no trouble. I learned much from Wally, when he

used to say— 'Negative, Positive, Action, Reaction, the scales' must balance'. His philosophy still lives with me and I do not know of a person I have respected more for courage and outlook on life. He taught me that complaints, negative in a way, with suggestion for improvement, become a positive.

**All I ask and all I need:** This is my request to you. This is your bureau. What it is and what it becomes is up to you. Use the services with thought, co-operation and friendliness by following the instructions for its use. Always provide your TCA mailing label or a photocopy of it. This is your proof of membership. Without it, our job is much more difficult. Also, do not use fabric reinforced tape on your packets. It is very time consuming and makes our job harder. This service belongs to you, use it well.

Jean Evans, VE3DGG  
Manager, CARF National  
QSL Bureau.

## CARF G.M. and Secretary in Auto Accident

Art Blick, General Manager and former President of CARF, and Hazel Holland, recording secretary of CARF, were involved in an auto accident while returning from the meeting of the CARF National Executive held at Rideau Ferry, Ont. on the weekend of the 25th. Both sustained broken bone injuries and were treated at the Smith's Falls hospital before they were transported to Kingston General Hospital. The accident occurred during a severe snow squall when the driver of an on-coming car lost control and swerved into the path of Mr. Blick's car, which was demolished. On behalf of the readers of TCA, I wish them a speedy recovery.

VE3ARS



# DX

D.W. Griffith, VE3KKB



April usually heralds the arrival of Spring, our first long weekend since New Year's Day, and the premier Eastern North America Amateur event, the Dayton Hamvention. I missed it last year, and truly regretted it, but I certainly plan to attend in 1984.

This year, the Hamvention runs from Friday, April 27 thru Sunday, April 29.

While on the subject of Amateur conventions, rumours out of Toronto indicate that there is a strong desire to organize a DX Convention. The idea of our own DX bash is tremendously appealing, and I hope that everyone even remotely interested in DX would support such an endeavor.

And as long as I am handing out accolades, Garry Hammond VE3GCO is to be congratulated on the very FB job that he is doing as the editor of Long Skip, the monthly publication of CANAD-X, our national DX organization. It is a time-consuming, and often thankless task and, judging by the quality of the publication, Garry is certainly spending a lot of time at it. Good luck in the future Garry. If you have any information to pass along to him, write to: Garry Hammond, P.O. Box 333, Listowel, Ont. N4W 3H4, or show up on 14.173 MHz at 1730 UTC on Sundays, and pass it along over the air.

Anyone wishing to join Canad-X and receive Long Skip each month should direct themselves to: Wilf Antheunis VE3FEA, Club Secretary, c/o CANAD-X, P.O. Box 717, Stn. 'Q', Toronto, Ont. M4T 2N7. Annual membership fees are currently \$20.

As I mentioned last month, I have been playing around on RTTY. There is lots of good DX out there, and working DXCC should not prove too difficult. However, before I got going, I ran into a 'small' snag. I am using a computer (type doesn't really matter) and the AEA CP-1 'Computer Patch'. The rig is an Icom 745. A small modification to the CP-1 allows proper FSK output to the rig, but with the IC-745, and earlier IC-740, when one keys the rig, the mark and space are reversed so anyone trying to copy you has to go to reverse mode, if they identify the problem, that is. My first series of calls to stations calling CQ was, to say the least, very disappointing. I

made another modification by adding an inverter circuit (consisting of another 2N2222 and a couple of resistors) through a switch, and I have had no trouble since then. By incorporating the switch, I can use the CP-1 with any rig, with no further friggng around. Icom has identified the shortcoming in the preceding rigs, and in their top-of-the-line IC-751, have incorporated a switch right on the rig.

There is definitely DX on 80M these days. VE3CRG, Brian Crook of Ottawa, worked some 117 countries on that band in less than a month, using an inverted-V, and full-wave loop. Congratulations Brian... what next? 160M?

## Bits & Pieces

**K4YT— Middle East and Africa...** Karl is off and running on another extended business trip beginning sometime in Feb. He will be on as soon as he can from 9K2, YK, JY, SU, HZ, A6, A7, A9, ST2, 4W1, A4. Karl often uses 14.195 and 21.294 MHz.

**3X4EX— Rep. of Guinea...** Arild likes to operate mostly on 15 metres, and mainly on SSB, but has worked on 20 M phone. He will occasionally give a report on CW on request, and will also QSY to RTTY, again on request. His licence is apparently valid until June 6, 1984, so go get him. QSL to his manager, Tom Wood N4CID, P.O. Box 116, Dunn, N.C. 28334 U.S.A. Arild indicates that he is trying for an S9 (Sao Tome) licence sometime this year.

**6W1-6W8— Senegal...** Effective Jan. 1, 1984, different prefixes were allocated to each of the eight Senegalese regions. The current station suffixes will remain the same. I.e. 6W8DY becomes 6W1DY. The regions are: 6W1, Cap Vert; 6W2, Casamance; 6W3, Diourbel; 6W4, Fleuve; 6W5, Senegal Oriental; 6W6, Sine-Saloum; 6W7, Thies; 6W8, Louga.

**YJ8— Vanuatu...** Cards for YJ now go to YJ8JH, J.W. Hannaford, Vanuatu Amateur Radio Society, Box 665, Port Vila, Republic of Vanuatu.

**9J2— Zambia...** 9J2JI expects to be active through July 1, 1984 from Lusaka. QSL to AG2K.



**FO0XU— Clipperton...** The March Clipperton DXpedition was still on course at time of this writing, and hopefully by the time you read this it will be in your logs on each band. There were a few last minute changes: only one call sign to be issued per band, e.g. FO0XU (XV, XW, XX, XY, XZ).

**KD7P/KH2— Guam...** This station will be on Guam for another 1.5 years, and is active on RTTY. QSL to KS7L.

**VE7BBC/KH8— American Samoa...** Steve is supposed to be there for another year and a half. He has applied for a KH8 call. QSLs go to VE7CXN.

**KC4AAA— Antarctica...** Michael can be found on 14.265 at 0215 UTC, and Tom KC4USX is often at 14.214 at 0230 UTC. QSL: KC4AAA to Box 400, NAVSUPFOR, Antarctica, FPO San Francisco, CA, 96601; and KC4USX to Devron 6, Williams Field Antarctica, FPO San Francisco, CA, 96601.

**KX6OH and KX6OI— Marshall Is...** Try 14.265 at 0600 UTC and 3.795 at 1225 UTC for KX6OH. QSL via N6ABW. For KX6OI, try 14.253 about 0050 UTC.

**TA1UA— Turkey...** Listens for North Americans between 1300-1500 UTC on 21.025 Saturdays. QSL to K1JA. Please note. The first letter or note I receive (or telephone call) pointing out that Turkey is on the 'banned country' list wins the 'Turkey of the Month' Award... It's all been said and done before.

**ZL7— Chatham Is...** ZL7OY, Chris has been active from Chatham on all bands 15 to 75 metres. Try 3790 at 1200 UTC; 7.205 at 0900 UTC; 14.220 at 0630 UTC; and 21.340 from 2300 UTC. QSL to VK3DWJ.

**A4XJW— Oman...** Abdul has been on 14.218 at 1330 UTC. QSL to N4WF. Eric A4XYF shows up on 14.167 at 1430 UTC. QSL via W4FRU. Another station, Dave A4XIJ, has been found on 14.207 at 1330 UTC.

**3D2HE— Fiji...** VE3FXT was supposed to have been active from this Pacific island last month. If he made it on the air, I sure hope that his QSL record is better than it has been in the past.

**ZD8— Ascension Is...** VP5RAC is scheduled to arrive there soon, and plans to be very active on 10 thru 80 M. ZD7HH will be relocating there also, and hopes to be on the air about the end of April.

**SU— Egypt...** W4ZWE should be QRV by the time you read this, and he is scheduled to be there for a year. He hopes to be very active.

**ON4UN** has produced 1984 Sunrise/Sunset Tables covering over 500 areas in every DXCC country, and will be of significant value to the low frequency DXer. Included are beam headings, and distances to countries from your location. Cost is \$10 U.S. and it may be obtained from John Delvodere, 215 Poelstraat, B-9220, Merelbeke, Belgium.

**XU1SS, XU1KC, XU1IP, XU1PV** are now being accepted for DXCC.

**ARRL's DXCC Desk** is also accepting cards from TN8EE. 1S1CK (Spratley) cards are still not being accepted for credit.

**The ARRL DX Advisory Committee** has voted to retain Spratley Island (1S) on the DXCC countries list, but has not arrived on any decision on KL7, Pribilof Is.

**VE1CBK** operated as CY0SAB from Sable Island. After all the trouble to get separate prefixes assigned to Sable and St. Paul, one would think that the correct prefix could be assigned to a station operating from Sable. (The correct prefix is CY9). Be that as it may, if you worked him, QSL to VE1AJH.

The following is a list of DX countries which enjoy holidays in April. If you need any of them, these dates are the ones to keep in mind:

April 4 ..... HA, GW  
 13 ..... TT  
 16 ..... OZ  
 17 ..... YK  
 19 ..... 9L  
 26 ..... 5H  
 27 ..... 5V  
 29 ..... JA  
 30 ..... PA, SM

That's it for this month. Tnx to DX Report, Long Skip, CQ Magazine, QST and Westlink Report for much of the material appearing here.

### QSL INFORMATION

CALLSIGN	QSL VIA
AB2LC	SM4CWY
C30AAL	F6EYS
CE0FCM/Z	WB6W0D
CT2FH	W4JVV
F0AQJ/FC	HB9ANZ
F88WH	F6BFH
DX3PT	WA2TTI
FZ5JR	K3BYV
TU2NW	AK3F
VP9KM	W1BFM
VE7BBC/5N1	VE7CXN
VP8AEN	GM3ITN
VQ9JD	N6AFD
VU2JXD	WA3TLB
ZS1AO	VE3HK
3D2DM	KE4OC
5H3DM	G3NXR
5Z4CI	PA0ADC
V2AZL	W2HWS
W1BIH/P42J	W1KDD

A8	Liberia	TE	Costa Rica
AM-AO	Spain	TK	France (F)
AX	Australia	TO	France (F,FO)
CH,CY,CZ	Canada (VE,VO)	U2,U3,U5,U6,	USSR (UQ2,UA3,UB5
CI1,2	Canada (VO1,2)	UB,U9	UG6,UJ3,UA9)
CK1,4	Canada (VY1,VE4)	UU2	USSR (UP2)
CQ-CU	Portugal	UY,UZ4	USSR (UA4)
CW	Uruguay	V9	Venda
CY0	St. Paul I. (ex-VE1)	VC,VG	Canada (VE)
DP0	FRG base in Antarctica	VX1.2	Canada (VO1,2)
DV,DX	Philippines	XJ,XN,XO	Canada (VE)
EB-EH	Spain	YE	Indonesia
EJ	Ireland	YL3	USSR (UA3)
EK	USSR (UA,UB5)	YP	Romania
EM4,6	USSR (UA4,UF6)	YT	Yugoslavia
EN,EW	USSR	YW	Venezuela
ER,EV,EX5	USSR (UB5)	ZK9	Niue
GB	United Kingdom	ZV	Brazil
H5	Bophuthatswana	1A0	Sov. Mil. Order of Malta
HD	Ecuador	1S1	Sprattly Is., Philippines
HG	Hungary	1Z9	Karen, Burma (not good for DXCC/WAC)
HW	France		
J4	Greece	4D	Philippines
JP	Japan	4J1	USSR (UA1)
L8	Argentina	4K1	USSR bases in Antarctica and So. Shetland Is.
LF,LG	Norway		
OF	Finland	4N,4O	Yugoslavia
P4	Neth. Antilles	4T	Peru
PF,PG	Netherlands	4V	Haiti
R3,R4,R5,R6	USSR (UA3,UA4, UB5,UA6)	5J,5K	Colombia
RG8	USSR (UG6)	5Y	Kenya
RU5	USSR (UB5)	6C	Syria
RX7	USSR (UL7)	6D,6E	Mexico
S4	Ciskei	6T,6U	Sudan
S8	Transkei	8J1,5.0	Japan
SN	Poland	8J1	Japanese bases in Ant.
T4	Cuba	8N1	Japan
T7	San Marino (ex-M1)	9I	Zambia

List of prefixes (New/Special) used from June 1982 to Oct. 1983. Tnx. QST.

## DOC seeks comment

The DOC recently announced that it is seeking comments from industry and the public as part of a major review of the Department's telecommunications policy. Although the main objective of the review is slanted toward changes and innovations in commercial telecommunications, comments from Amateurs on policy involving the Amateur Service will also be accepted. Some minor changes to the Radio Act are also being contemplated, but they will probably not affect the Amateur Service, nor will they see the light of day for some time yet. The amendments proposed to the Amateur regulations proposed nearly two years ago may be in effect late this spring.

## New WAVE & WACAN Award Prices

VE3NAR is the sponsor of two long-established and internationally famous awards— WAVE ('Worked all VE') and WACAN ('Worked all Canada'). Rules are listed below. A sworn affidavit, certified by a President or Vice President of a Legitimate Amateur organization, or a commissioner for taking affidavits, should be submitted in lieu of QSL cards. A photocopy of QSL Cards is also acceptable. Under no circumstances should actual QSL cards be sent.

### Rules for WAVE Award

Produce confirmation to verify QSO with 2 different stations on different bands in each of the following 8 sections; Prince Edward Island VE1 or Nova Scotia VE1 or New Brunswick VE1 (2 contacts only), Quebec VE2, Ontario VE3, Manitoba VE4, Saskatchewan VE5, Alberta VE6, British Columbia

VE7, Yukon or Northwest Territories VY1 or VE8. All contacts must be made from an area within a radius of 200km of one point and after January 1, 1939. Submit proof of 16 contacts with \$3.00 or 5 I.R.C.'s.

### Rules for WACAN Award

Produce confirmation to verify QSO with 2 stations on different bands in each of the following 12 sections; Prince Edward Island VE1 or Nova Scotia VE1, New Brunswick VE1, Quebec VE2, Ontario VE3, Manitoba VE4, Saskatchewan VE5, Alberta VE6, British Columbia VE7, Yukon or Northwest Territories VY1 or VE8, Labrador V02, Newfoundland VO1. All contacts must be made from an area within a radius of 200km of one point and after January 1, 1939. VO Contacts must be made after March 31, 1949. Submit proof on the 24 contacts

with \$3.00 or 5 I.R.C.'s. Proof of contacts submitted for WACAN will be automatically applied toward the WAVE award. (If WAVE award is desired please indicate).

### Rules for WACAN Award (for holders of WAVE Award)

Produce confirmation to verify QSO with 2 stations on different bands in the remaining 4 sections; Labrador V02, Newfoundland VO1 and the two remaining VE1 provinces not submitted for WAVE Award. Submit proof of the 8 contacts, WAVE Award No. and \$3.00 or 5 I.R.C.'s.

**TCA  
NEWSLINE  
(613)-824-3467**

# Thanks, CARF!

By Claude Vallee VE2ARU

To any ham who wants to live in a condominium, and be active on the Amateur bands, the following information could be useful...

We have been living on the 3rd floor of a 15 story building, and many a radio Amateur knows of all the difficulties in erecting antennas on such a building.

All we could do was to install a 2-metre vertical ( $\frac{1}{4}L$ ) on the corner of the balcony though we have a good network of repeaters in the Quebec area, it's not the only band a radio ham wants to work on.

My XYL (Phyllis) and I are golfers in summer, curlers in winter, and considering the heavy snow storms we have to live with through the winter, the idea of an apartment building or better a condominium (with heated garage, no lawn cutting, better protection against culprits, etc.) was most appealing to us, but how do you get a radio ham beam and antennas on the roof of a big building with 108 co-owners, especially when one of the condominium rules says that no antenna of any kind will be installed on the premises.

First of all we had the right timing, with the recession we have just been living through, there were not too many of these buildings going up in our area. We committed ourselves to buy on the top floor of course (and to buy on the top floor you have to put in your bid early) on the condition that they give us authorization to put up a tower on the roof. They did not like this request, but we suppose they wanted the business so badly, it kind of took care of their objections. The building is eight stories high and some 300 feet long and a bit over 50 feet wide.

Now how do you install a 24-foot tower on roof of a 100-foot high building?



The author VE2ARU

When the builder started the construction, we submitted our request to an architect. He was very cooperative (we were paying him some extras). He referred us to the Engineer responsible for the structure of the building. We had prepared some kind of a plan, hooking the tower against the elevator which extends above the roof but, as he explained, that due to vibrations and other problems he turned down this idea. The framework of the building is made of 8" thick reinforced concrete slabs (for the eight floors and roof), sitting on vertical concrete pillars which are anchored deep in the ground. To support the tower, the engineer had the rods of the pillar going through the kitchen wall of our condo, extended some 12 to 15 inches from the roof, that is 8 steel rods  $\frac{3}{4}$ " dia. (Fig. 2) To make the tower as strong as possible, we bought three sections of the heavy duty Delhi self-supporting tower, (to simplify the installation without guywires) DMX 5, DMX 4 and DMX 3T, together with the three legs (CBS5) and guy wire supports (GS 345). The three legs were cut to 24" long, and joined together at the bottom with the guy wire supports (GS

345) (Fig. 3). The bottom section of DMX 5 was measured very accurately on a  $\frac{1}{2}$ " plywood board (triangular shaped) and with a jig saw a tight-fitting cut was made for each leg together with the big round hole for cement pouring. The board was fitted very snugly on the upper end on the legs while being very careful with the adjustment of the bottom (CBS 5) to maintain the proper angle of the legs in line with the DMX 5. And we delivered this set up of the legs to the builder, for them to install at the proper time when they were ready to pour the cement for the base. (Fig. 3)

They did not need the DMX 5 to make it level, and indeed it is straight up in the sky. When our good friend Jacques VE2FVO came to help us put the tower and beam in place, we were all delighted to find that the bottom part (DMX 5) fitted the base perfectly, and it was easy to install the 3TBA beam (10-15-20M) as well as the boom, 14 elements 214FB for the two metre-band. The beams are some 125 feet above the ground level (or 26-30 feet above the roof), the SWR is near 1.0 at the center of each band, and so far, on many a QSO with Europe or South America we had 599+ reports (with only 60 watts in the antenna).

We wanted this installation in place before any of our new neighbours became co-owners. The Notary had to do some 'juggling' with the condo rule for antennas, of course we had many a question in this installation, but nothing else. We had to get a 'construction permit' from the City which required a few visits to their office (plus one dollar), but we never heard from them since. To connect the antennas and rotor to the transmitter and computer room, we ordered a sus-



pended ceiling in the hall (for future installation of cables or feeders) together with a 4" dia. electric pipe through the roof, and finally we used the 'Legal News' article that CARF published on page 14 of TCA April '81 issue where it is said, "A recent Globe and Mail article reported that after a two year battle up to the Supreme Court of Ontario, it was ruled that a by-law of the town of Grimsby could not stop a Mississauga broadcast station from erecting eight 400' towers at a new location in Grimsby. The Court stated that the zoning by-law could not prevent the station from putting up its towers in accordance with a FEDERAL licence. As it was reported that the town would not be appealing this decision it might therefore become a useful precedent for Amateurs in their own hasles over towers and the like."

So we say, "Thanks to CARF!"

Claude Vallee VE2ARU  
775 Murray Ave. Condo 814  
Quebec G1S 4T2

Pour tout radio amateur qui désire vivre dans un condominium, l'expérience suivante pourrait être utile...

Nous avons loué durant quelques années un appartement au 3e plancher d'un édifice de 15 étages, et nombreux sont les amateurs qui connaissent toutes les difficultés pour installer une antenne lorsque l'on vit en appartement.

Dans notre cas tout ce que nous avons pu installer, fut un 2-metre, encore chanceux que l'antenne fut à l'extérieur sur le coin du balcon. Bien que nous ayons un excellent réseau de répétitrices à Québec, ce n'était pas l'installation rêvée...

Mon XYL (Phyllis) et moi pratiquons le golf en été, le curling en hiver, et considérant les durs hivers de notre région, l'idée de vivre en appartement, ou encore mieux en condominium, nous attirait davantage... (pas de gazon à couper, pas de pelletage de neige, garage chauffé en hiver, meilleure

protection contre les voleurs, etc...) mais comment faire pour installer une tour sur un condominium, avec tous les antennes requises pour une station de radio amateur, alors que vous êtes 103 co-proprétaires d'un édifice, et qu'une des règles de la copropriété vous interdit un tel system sur le toit?

Premièrement, nous avons eu de la veine, au début de la récession que nous venons de vivre, il n'y avait pas beaucoup de construction en marche... Nous avons donc signé une promesse d'achat pour une condominium à l'étage sous le toit naturellement (... et pour acheter au dernier étage, il faut être dans les premiers acheteurs... et bien avant que les travaux commencent...) Notre offre d'achat fût conditionnelle, à ce qu'on nous donne la permission d'installer une tour sur le toit, etc... Vous auriez du voir l'expression dans la figure des promoteurs lorsqu'ils récurrent notre demande... Mais comme les affaires étaient tellement tranquilles, ils finirent par

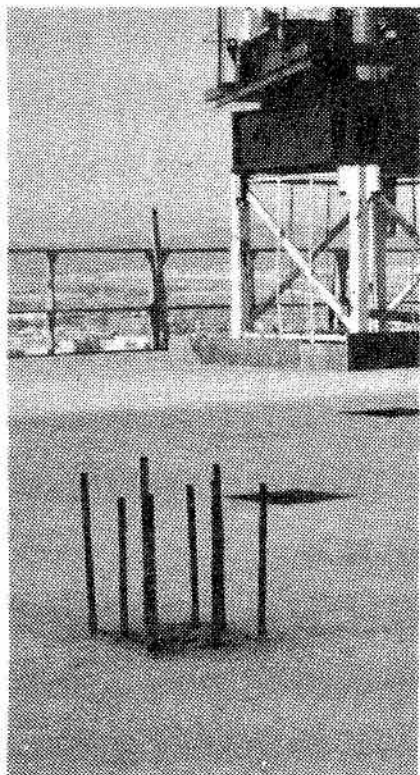


Fig. 2: Steel rods extending from the roof (from the kitchen pillar).

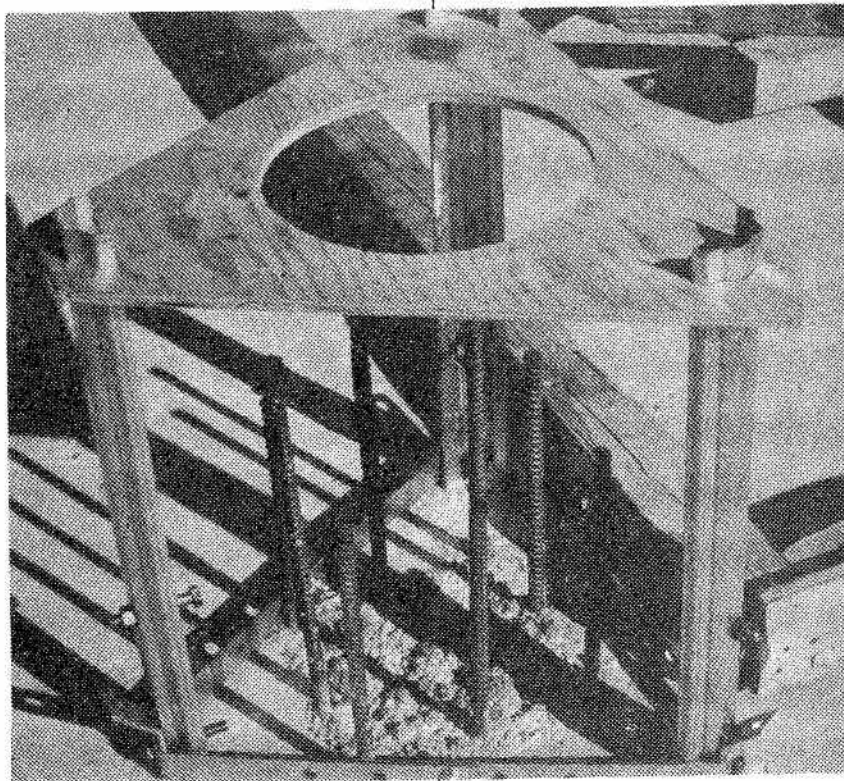


Fig. 3: The three legs (CBS 5) held at the bottom with the guy wire support (GS 345) and at the top with the plywood.

acquiesser à notre demand (par écrit...)

L'édifice a 8 étages, quelques 100 mètres de longueur et plus de 15 mètres de largeur... Maintenant, comment installer une tour de 8 mètres sur un édifice qui a plus de 40 mètres de hauteur?

Au début de la construction, nous avons pris rendez-vous avec l'architecte, qui nous a reçu bien amicalement, mais notre demand relevait de l'ingénieur conseil, auquel il nous a référé.

Désireux de rendre notre projet a terme, nous avons préparé un plan qui prévoyait la tour installée le long des élévateurs qui excèdent le toit. Mais due aux vibrations, et à la faiblesse de la base d'appui a cet endroit, cette proposition fût réjetée... L'édifice est du type beton armé, planchers de 8" d'épaisseur, (ainsi que le toit) le tout repose sur des piliers ancrés dans le sol. Alors, pour supporter la tour, l'ingénieur lors de la construction du toit, a fait extensionner de 12 a 15 pouces, les 8 tiges de fer d'armature, de la colonne qui passe par le mur de cuisine de notre condo, ce sont des tiges de 3/4 de pouce de diamètre qui serviront plus tard à l'ancrage de la base de la tour. (voir Fig. 2)

Nous voulions cet installation aussi solide que possible, nous avons donc acheté les section DMX 5, DMX 4 et DMX 3T (tour sans auban de Delhi). Les 3 pattes d'ancrage (CBS5) furent coupées a 24 pouces de longueur, et réunies ensemble a la partie inférieure, au moyen d'un support d'auban (GS 345).

Le haut des pattes de la base a été maintenu en place durant la coulée, en les introduisant dans un trait de scie-sauteuse, pratique dans une contre-plaque triangulaire, mesuré avec grande précision un utilisant la partie inférieure DMX 5, le tout étant ajusté minucieusement (GS 345) pour maintenir l'angle de la tour correctement. (Fig. 3)

Nous avons livré cet ensemble au constructeur, pour qu'il le

mettre en place lors de la coulé de la base sur le toit au moment approprié.

Nous étions un peu étonné qu'ils ne voulurent pas de la section 5, pour installer la base au niveau lors de la coulée... Nous étions même un peu sceptiques sur ce point, mais fort ravi de constater lors de l'installation que la tour s'élève droit dans le ciel, tout a fait au niveau. Lorsque notre ami Jacques (VE2FVO) est venu nous aider, ce fut facile de mettre en place les trois sections de la tour, ainsi que les antennes 2-10-15-20 metres.

Ce système nous donne d'excellent resultats, a quelques 48 mètres au dessus du sol, construit sur cette partie haute de notre ville, endroit particulièrement favorable pour la transmission, nous avons obtenus des rapports de 599+ a plusieurs reprises avec l'Europe, l'Amérique du Sud, etc... n'utilisant que 60 watts dans l'antenne (RTTY).

Psychologiquement nous tenions à ce que l'installation soit en place avant que nos voisin deviennent co-proprétaires... Le Notaire c'est occupé de la règle de co-proprété qui traite d'antennes...

et naturellement nous avons reçu un certain nombre de questions du voisinage... mais comme nous ne semblons pas faire d'interférence... pas de problème de ce côté la... Il nous a fallut obtenir un permis de la ville, ce qui a nécessité plusieurs visites a leur bureau (plus un dollar)... Pour canaliser les fils de raccordement jusqu'a la chambre des transmetteurs et ordinateurs nous avons demandé aux électriciens de poser au travers le toit, un tuyau électrique de 4 pouces de diamètre, et dans la passage consuisant a la chambre, nous avons fait installer un plafond suspendu, ce qui nous permet de modifier nos installations lorsque réquis... et enfin pour appuyer notre requête, nous avons fait usage de cet article publié par CARF en page 14 de TCA du mois d'avril 81, lequel traite de l'aspect juridique de notre installation, ce qui nous a grandement aidé a mener a bien ce projet (référence a la dernière partie du text anglais)... C'est pourquoi nous sommes grandement reconnaissant envers notre Association Canadienne.

Claude Vallee VE2ARU

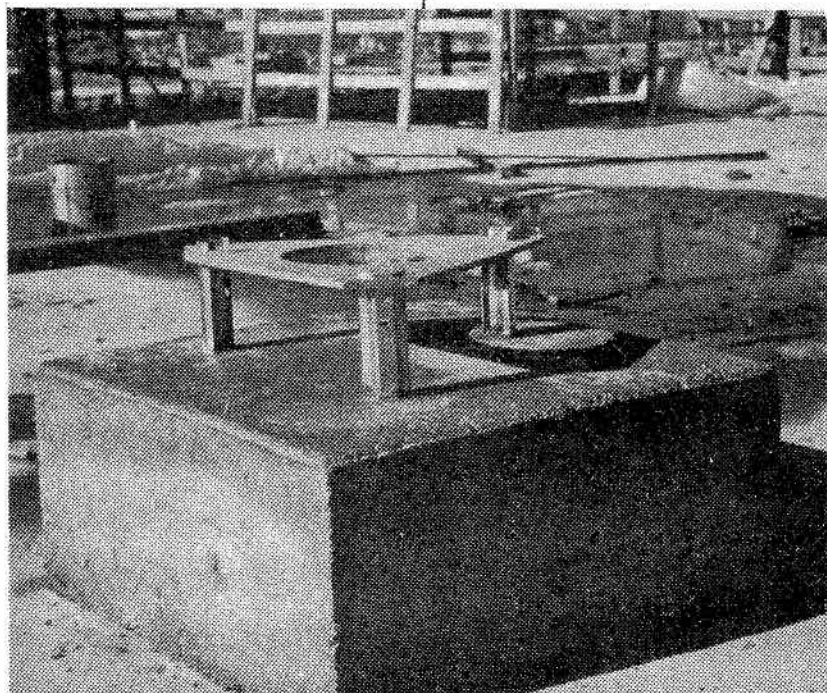


Fig. 4: The base before the installation of the tower.

# Technical Section

## What is Linking?

What is linking? What will it mean to me?

Questions, questions. Well here are some of the answers.

Linking is a natural extension of VHF Amateur radio that has really come into its own in Ontario in the past few years and, like any new technology, is spreading into our area. It is the ability of a ham in London to contact, using a very simple method, other hams in Ontario who are normally beyond the range of a VHF repeater.

### How Is It Done?

First, you need a 2 metre repeater (yes, I know that it could be 220 or 450 just as well). This repeater lets you talk around your own area (that's where TTT, MCR, MGI, LAC, STR, NOT, RGB, etc. are now). Add to this a 450 transceiver and a beam, point it at the repeater that you want to link to and have that repeater owner do the same thing. You listen to his transmit frequency and he will listen to yours. Then when he hears your 450 signal, which is really your 2 metre one being repeated on 450, he will repeat it on his 2 metre repeater. You will do the same with his signals. Now, using the example of STR and MCR, you have a link that looks like Fig. 1.

### This Is Active All The Time.

This is a simple linking system that ties two repeaters together. Using touchtone commands, a ham in either area can turn on the link and talk to a ham in the other area.

So far, so good. But this will only allow us to talk to hams in one other area. What if we want to go

wider afield. Do we need more 450 MHz transceivers and more antennas?

Yes, we could do that but could you imagine the cost, the RF problems, etc., if we tried to? So how do we do it? Well, we have to find a centrally located repeater site and the users of that site have to be agreeable to let us install a 450 MHz repeater there. This repeater will be called a 'HUB' repeater because its role is to act as the hub in a wheel of repeaters.

The hub repeater acts just like the two metre repeaters that you are

used to. What it hears, it repeats.

Using our original example (a ham on VE3STR in St. Thomas wanting to contact a ham in Goderich through VE3MCR in Lucan) our system would look like this.

VE3STR and VE3MCR would both have a 450 MHz transceiver listening to the OUTPUT of the HUB repeater and their 450 MHz transceiver would transmit on the HUB repeater's INPUT frequency. Once the St. Thomas ham had sent the correct touchtone codes to access VE3STR's 450 MHz link, he would be listening to the output of

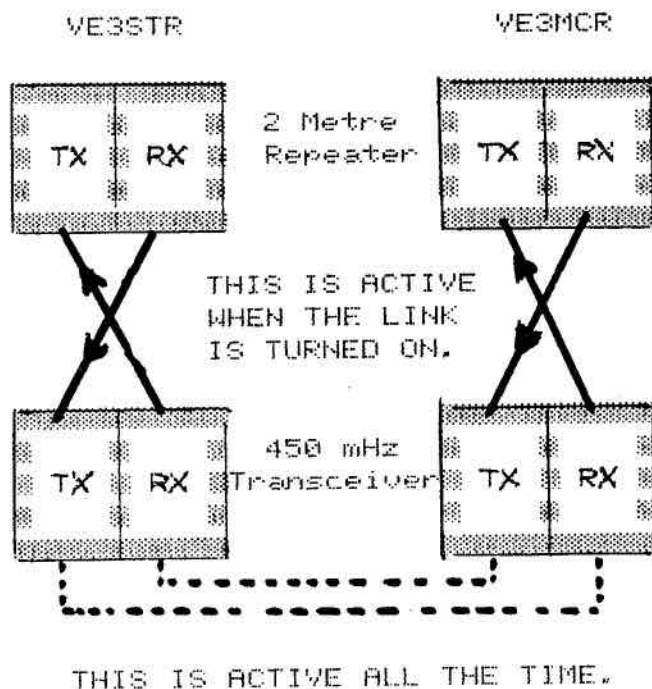


Fig. 1



the HUB repeater in London. He would then send the appropriate codes to the input of VE3MCR's two metre repeater. He then calls his ham friend in Goderich and, if he is listening to VE3MCR, they have a QSO. When they are finished, the St. Thomas ham just reverses the procedure to shut off the links.

How can we have this same setup repeated at as many repeater sites as there are groups that wish to join the system (to a practical maximum number to ensure that overloading does not take place)?

You will notice that not once in this example have we mentioned the two metre repeater known as VE3TTT. In fact, while the St. Thomas ham was QSOing with the ham in Goderich you could have been ragchewing on TTT in London and neither of you would have known that the other was on the air. The users of STR and MCR would have

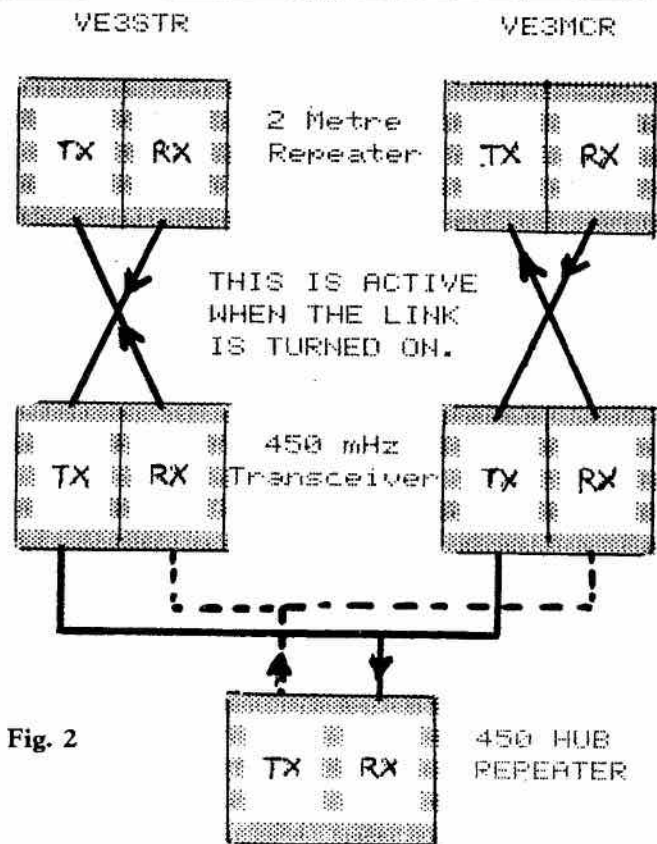


Fig. 2

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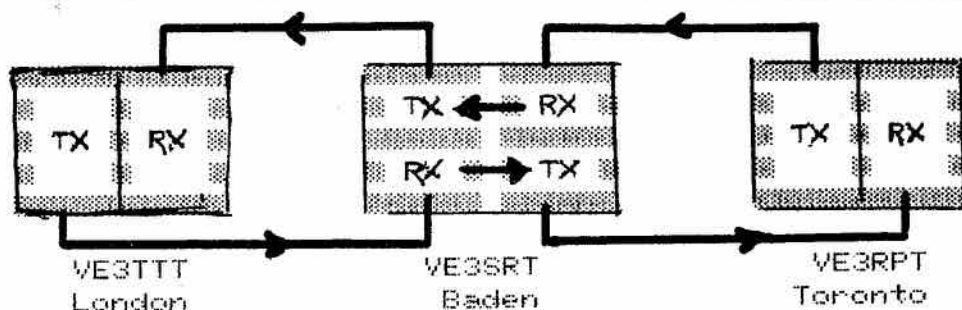


Fig. 3

heard both sides of the St. Thomas/Goderich QSO and, in fact, could have joined in if they so wished.

There can be no more than one person talking at a time (same as on 2 metres now) but you can tie together as many repeaters as is necessary to send your signal from your QTH to the destination(s) you desire provided that they are part of the link system.

The possibilities are limitless and are only constrained by how many areas are connected to the HUB repeater. Well, you say that is all well and good, but then every repeater connected to the HUB must be fairly close (within 450 MHz range of London) to be on the HUB. Not necessarily so, as we will examine now.

If we can link repeaters through HUB repeaters, why can't we link HUB repeaters together to form a network and expand our range. Well that is what we can do. The next HUB system is in Toronto and to get there our HUB repeater must be heard in Toronto. To accomplish this we need some help, so we have installed a relay station on Baden Hill near Kitchener on the CKCO-TV tower. This is a pair of 450 MHz transceivers cross-coupled. One receiver listens to the HUB repeater's output in London and transmits it to Toronto and the other listens to Toronto's HUB repeater's output and transmits it to London. It looks like Fig. 3.

Once the London HUB repeater has been accessed, it is a simple matter to turn on the Lon-

don/Toronto link which will then gain you access to those two metre repeaters linked to the Toronto HUB repeater. Table 1 is a list of codes that will control the various links.

More will be added as they are made operational.

Example of a call from St. Thomas to Whitney.

St. Thomas ham dials 4171 to turn on the link from St. Thomas to the London HUB.

Then he dials 4191 to turn on the link from London to the Toronto HUB repeater via Baden.

Then he dials 251 to turn on the link from the Toronto HUB to the Essonville HUB.

Then he dials 271 to turn on the link from Essonville to Whitney.

When his QSO is completed he does the same thing in reverse, dialing this time the OFF codes, 270, 250, 4190, 4170.

It may seem complicated at first, but then so was turning the Autopatch on and off until you got used to it.

—From the Southern Ontario Repeater Team Bulletin.

(Ed. Note: The date of completion of this link system has not yet been announced.)

Table 1

LINK CODES FOR THE ONTARIO LINK SYSTEM

LOCATION	REPEATER	ON	OFF
BADEN/TORONTO	VE3SRT	4191	4190
GRAND BEND	*** VE3RGB	4161	4160
LONDON	VE3MGI	4321	4320
LONDON	VE3TTT	4121	4120
LONDON	VE3SUE	4141	4140
LUCAN	*** VE3MCR	4151	4150
ST. THOMAS	VE3STR	4171	4170
ESSONVILLE	VE3TBF	231	230
TORONTO	VE3WHO	946	945
UXBRIDGE	VE3RPT	362	372
ESSONVILLE (HUB)	VE3TBF/220	251	250
BRACEBRIDGE	*** VE3MRT	281	280
DWIGHT	VE3MUS	261	260
WHITNEY	VE3WPR	271	270

\*\*\* Under Construction

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**FOR SALE:** Heathkit SB104A transceiver with power supply & speaker. Top condition. Asking \$500 O.N.O. Fred Western VE3FYW, Box 113, Beaverton, Ont. L0K 1A0. 705-426-7981.

**FOR SALE:** Collins KWM2 W/PS \$600, Icom IC-701 W/PS \$700, Kenwood TR-7800 \$325, Yaesu FT227R \$225, G.E. Custom Exec VHF \$60, Motorola Motorola VHF \$25, Monitor receiver VHF \$25, Motorola Mocom 70 VHF \$250, 100 watt VHF Power amp \$300, Kenwood TR-8400 \$350, TPL 50 watt UHF mobile amp \$85, Motorola HT-220 UHF \$125, G.E. Terminette printer \$300, Ampex 602 7" reel to reel tape recorder \$125. Eric Meth VE3NUU, 48 Whiteleaf Cres., Scarborough, Ont. M1V 3G2. (416) 293-2757.

**FOR SALE:** Hustler mobile antennas RM-80, RM-20, RM-10 S Complete with all loading coils and mount. \$60. The lot plus shipping. Bruce VE2DAY, (514) 933-0886.

**FOR SALE:** Robot 400 slow scan TV converter. Has been converted to colour, 3 memories for red, green & blue or load all three for black & white. Includes colour filters and servo motor to mount in front of black and white camera lens. First \$1,000 takes it. Rocco Furfaro VE3HGZ, Guelph, Ont. P.S. will trade for late model HF rig. Phone 1-519-824-1157.

**WANTED:** Collins 500 Hz filter for 75S-3C model F455FA-05. Claude Bouchard VE2BUB, P.O. Box 1005, Station A, Montreal, Que. H3C 2W9. (514) 655-6665.

**FOR SALE:** Kenwood TS-820S transceiver with CW filter and MC-50 mic. Orig. packing. \$650. Icom IC-2AT 2 mtr handheld with spkr-

mic. and spare batt. pack. \$175. Multi-2, 2 mtr. synthesized mobile. 25w. \$175. Roy VE3ESS. (416) 274-8203.

**WANTED:** Vintage Battery radios, crystal sets, magazines, tubes, etc. by collector. A. Nolf, 620 Auburn Cres. Burlington, Ont. L7L 5B2. 416-634-3267.

**FOR SALE:** Collection of 30 years receiving tubes only one dollar each. Send list of requirements for availability. W5QJT, P.O. Box 13151, E.P. TX 79913.

**FOR SALE:** Robot 800 just like new. Call 416-547-8615, VE3KTV Spiro, 143 Rosslyn Ave. N., Hamilton, Ont. L8L 7P5.

**WANTED:** Service manual for Hammerlund HQ170 receiver. Doug Stevens VE7FCS, c/o Box 8, Knapp Island, Sidney, B.C. V8L 3X9. Phone 656-2701.

**FOR SALE:** Heathkit Model DX-60 transmitter and Model HG-10 VFO with manuals. Best offer. Gaston Wagner VE3LBT, 251 Nepean St., Ottawa. (613) 233-1616.

## Social Scene for 1984

**April 14-** Flea Market: Sponsored by the Durham Region ARC. 8 am to 2 pm at Pickering High School. Take Church St. N. from Exit 400 on Hwy 401. \$2 at door. 8 am to 2 pm. Inside vendors only, 6 am; \$4 per table. Call Phil Washburn VE3HAA (416) 683-3368, Alberry Cres. Ajax L1S 2Y3. (Renew your CARF membership at our booth.)

**May 12—** 3rd Ann. Ham Radio Flea Market, Halifax-Dartmouth Clubs. St. Andrew's School, Bayer's Rd., Halifax, N.S. Admiss. \$2. Info: George Snow (902) 861-2393.

**May 12—** Flea Market sponsored by the Southern Ontario Repeater Team. Inc. (No details received.)

**May 20—** Flea Market for the Halifax area. Co-ordinator is VE1CES. (No details received.)

**May 25, 26—** Airforce Telecommunications Reunion to honour the 50th ann. of airforce

comm. Cdn. Forces School of Comm. & Electronics at Kingston. Info from: Reunion Committee, CFB Kingston, Kingston, Ont. K7L 2Z2. Reservations \$10 (refundable).

**June 2—** Cent. Ont. Fleamarket and computer fest, 8am-4pm, Regal Hall, 340 Woodlawn Rd. W., Guelph. Admiss. \$2. Displays, refreshments, prizes. Info: Guelph ARC, Box 1305, Guelph, Ont. N1H 6N9.

**June 30—** Saskatchewan Hamfest. (Registration the night before.) Prizes, contests, displays, ladies program, banquet. For more details contact the Hamfest Committee at Box 6, Swift Current, Sask. S9H 3V5.

**July 14—** 10th Annual Ontario Hamfest at Milton Fairgrounds.

**October 5,6,7—** Radio Society of Ontario Convention hosted by the Ottawa ARC. More dope later.



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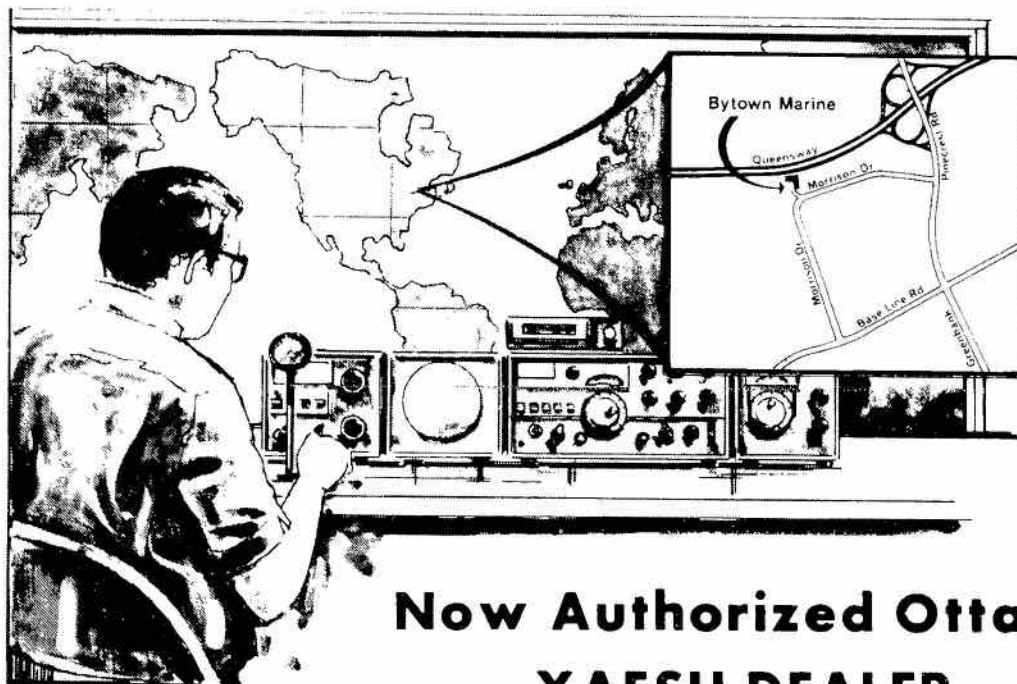
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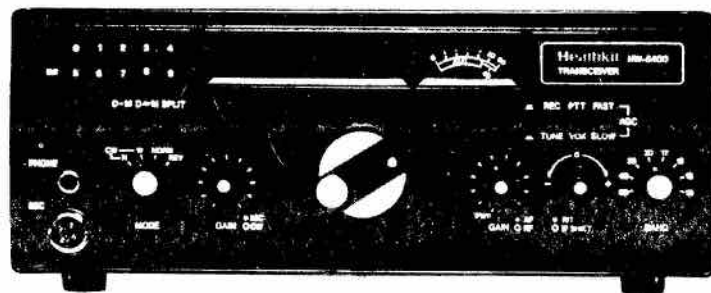
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