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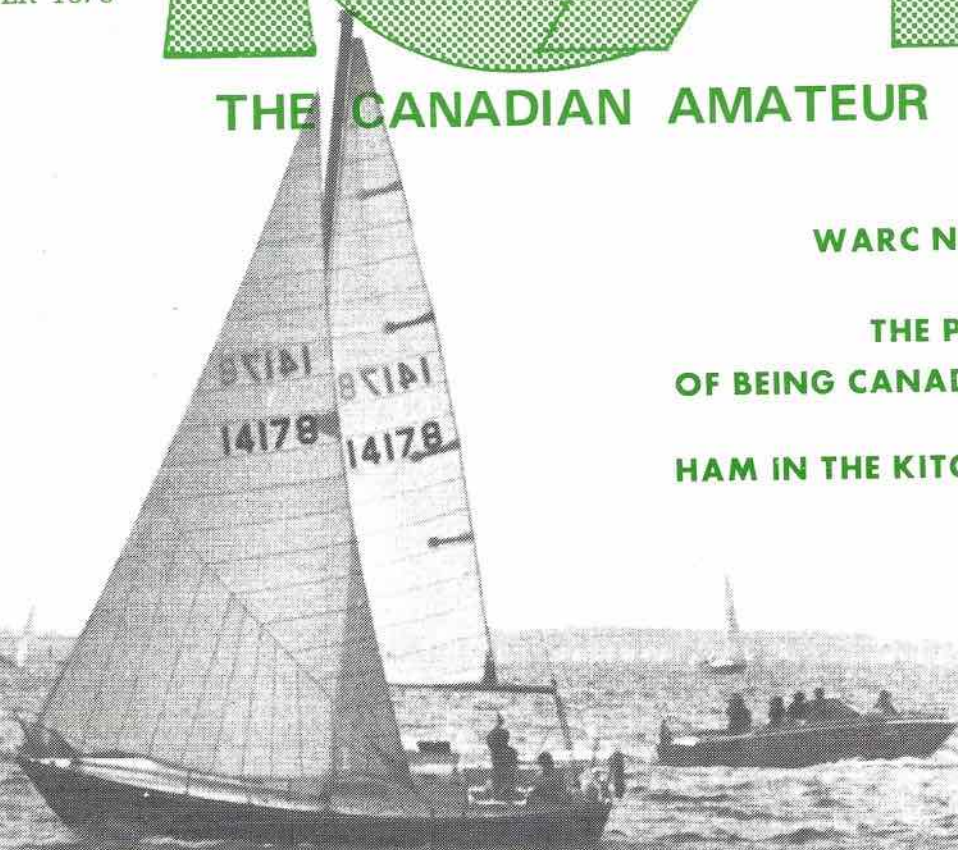
# TCRA

THE CANADIAN AMATEUR

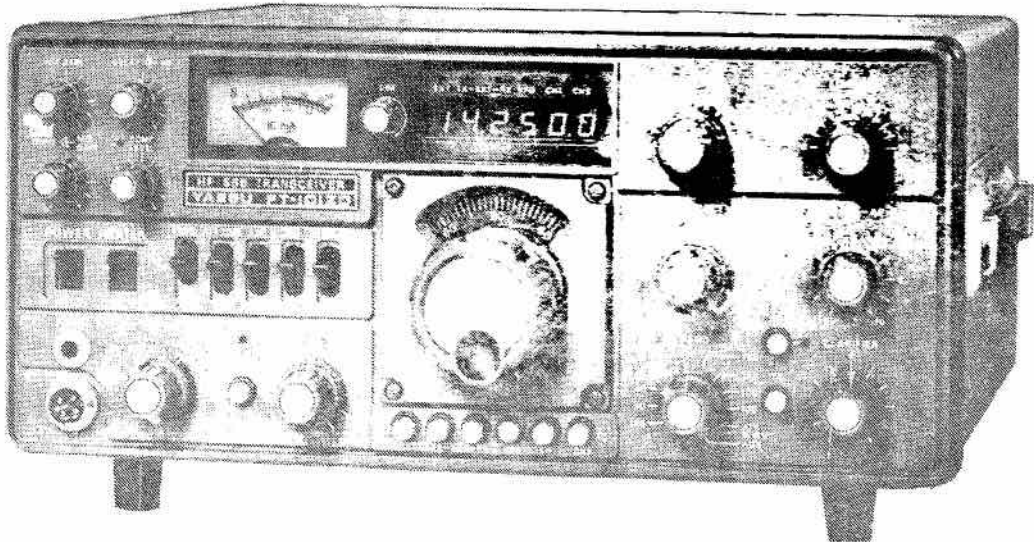
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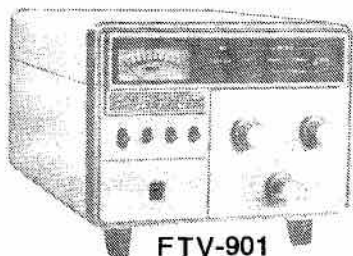
**CORK '79**



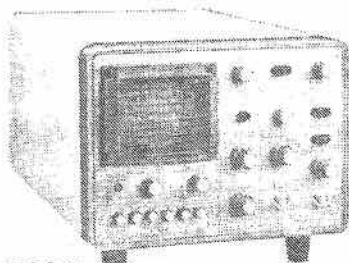
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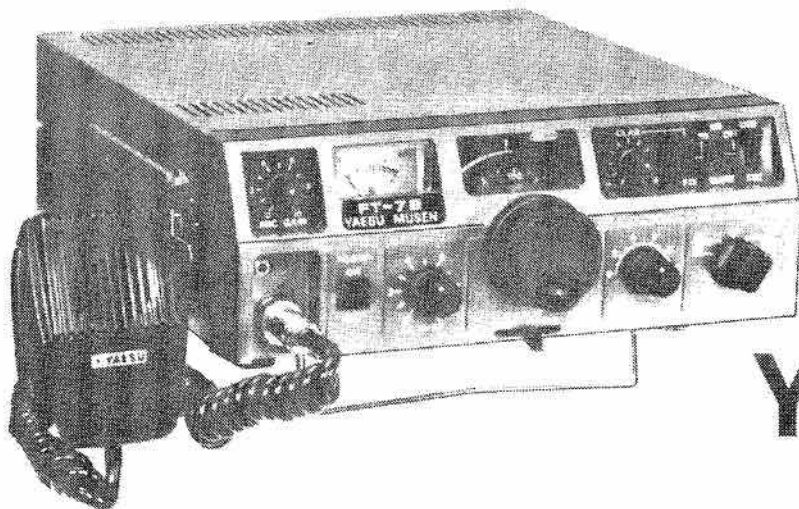
Communications Electronics Division  
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FTV-901



YO901  
 MULTISCOPE



**YAESU**





312 Parkdale Ave. Ottawa,

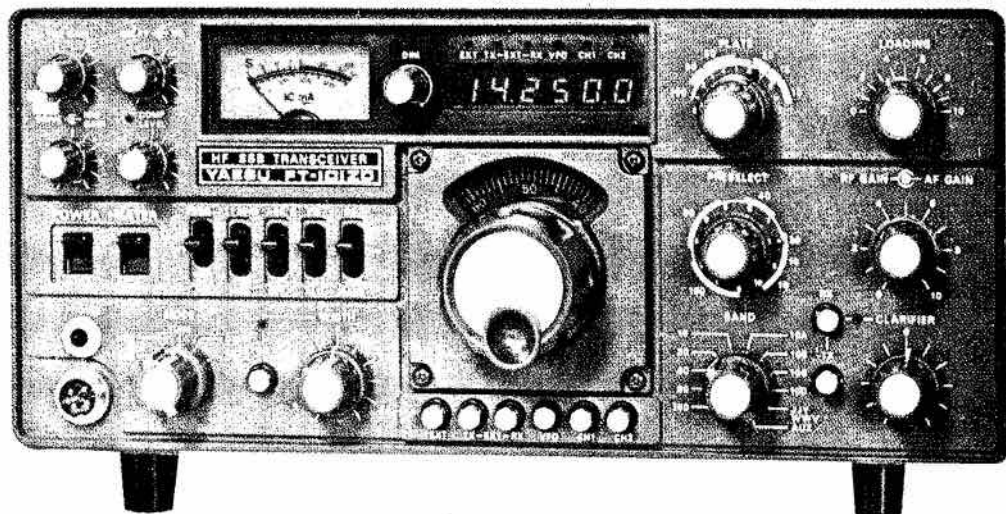
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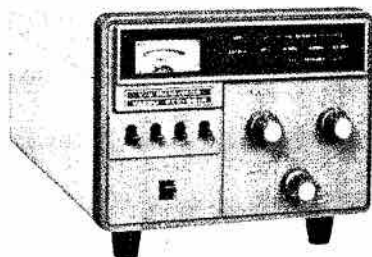
YAESU'S  
NEW

# FT-101ZD

HIGH-PERFORMANCE HF TRANSCEIVER



FTV-901R  
VHF/UHF/OSCAR TRANSVERTER



In another industry first, YAESU brings you a three-band VHF/UHF transverter for your FT-101ZD station. The basic unit comes equipped with 144 MHz capability, and you may add our plug-in modules for 50 or 430 MHz as options. Repeater offset is provided for 6 and 2 meters, and full duplex operation on OSCAR modes A/B/J is possible with an external receiver.

When the HF bands are flat, switch to the "very highs", with the amazing FTV-901R VHF/UHF/OSCAR transverter. You're years ahead with YAESU.

PHONE PATCH/SPEAKER (not shown)

Round out your FT-101ZD station with the SP-901P combination hybrid phone patch/speaker. Like the other 901 series components, its styling and size are fully compatible with your FT-101ZD.

YO-901  
MULTISCOPE



Unsurpassed monitoring capability is yours with the YO-901 Multiscope. Featuring a high performance oscilloscope, useful for countless station adjustments, the YO-901 also includes a two-tone generator, as well as an optional band scope for instant determination of band conditions and activity.

Narrow-band IF signal observation is not possible with the FT-101ZD and YO-901.

Price And Specifications Subject To  
Change Without Notice Or Obligation

# YAESU



# BEARCAT® SCANNERS ANNOUNCE CANADA'S ONLY 50-CHANNEL, MICRO PROCESSOR CONTROLLED SCANNER. IT SEARCHES, STORES, REMEMBERS AND ALL BUT THINKS FOR YOU.

The new *Bearcat 250*.  
An unbelievable advancement  
in no-crystal scanning.

*Bearcat's* new, 250 is fully synthesized  
for punch-in programming. It searches,  
stores, and recalls every bit of programming,  
on a vast, 50-channel spectrum.  
Automatically.  
Unbelievable? Read and  
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#### CRYSTAL-LESS.

Micro processor controlled. Brings in every local frequency, automatically, without a crystal.

**50 CHANNELS.** Scans up to 50 channels in banks of 10 each. Scans any combination of banks at the touch of a button.

**SEARCH/STORE.** Seeks out and stores up to 64 active frequencies automatically.

**SEARCH/RECALL.** Retrieves stored frequencies for simple entry into scan program.

**PRIORITY CHANNEL.** Samples a designated priority frequency on channel 1 every two seconds.

**DIGITAL CLOCK.** A genuine, LED quartz crystal digital clock. Shows hours, minutes, seconds.

**5-BAND COVERAGE.** Low, high, UHF, UHF-T. Plus 2 meter amateur ham band, and other UHF frequencies.

**COUNT.** Transmissions on each frequency counted automatically to determine which are most active.

**SCAN/SEARCH LOCKOUT.** A unique feature. Not only locks out channels while scanning, it also eliminates unwanted frequencies while searching.

#### AND

**MUCH MORE!**

Selective Scan Delay.  
Direct Channel Selection. Scan Speed Control. Automatic Squelch. Track Tuning Circuitry. Front-Mounted Speaker. Decimal Display. Quality Construction. AC/DC. UL listed. FCC Certified.

## THE INCREDIBLE, NEW BEARCAT® 250 SCANNER.

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**Dollard Electronics Ltd.**

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Lutz Ecker  
manager

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208	2M 8EL BEAM	38.95
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CPU-2500

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FT-207R	*FT901DM	DIGITAL TRANSCIVER	\$1749 *
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	FC901	ANTENNA TUNER	269
	Y0901	MONITOR SCOPE	585
	SP901	SPEAKER	49
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	CPU2500RK	2M FM TRANSCIVER	729
	FT227B	2M FM TRANSCIVER	559
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SWAN ASTRO 102BX	---	\$1649
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CN-620

\$149.95

SWR & Power Meters  
Models CN-720 and CN-620

Simultaneous direct reading SWR,  
Forward Power and Reflected Power

Frequency Range: 1.8-150 MHz  
SWR Detection Sensitivity: 5 Watts Min.  
Power: 3 Ranges (P.W.D. 20/200/1000 Watts)  
(REF 440/200 Watts)

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8C210	- 10 channels - 6 bands	LIST \$459	NOV SPECIAL \$299.95
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8C250	- 50 channels - 6 bands	LIST \$599	NOV SPECIAL \$399.00
8C300	- 50 channels - 7 bands	LIST \$799	NOV SPECIAL \$530.00
- THE KING OF SCANNERS - 2100 stored freq. & SEARCH!!!!			

ORDER NOW FOR MID DECEMBER DELIVERY, (20% DEPOSIT REQUIRED)  
N.B. RESIDENTS ADD 8% P.S.T. ALL OTHER PROVINCES NO SALES TAX  
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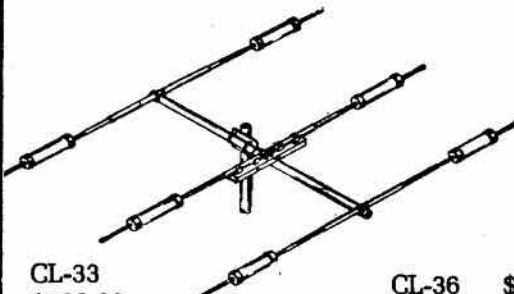
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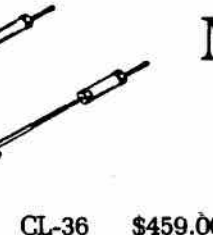
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# Mosley

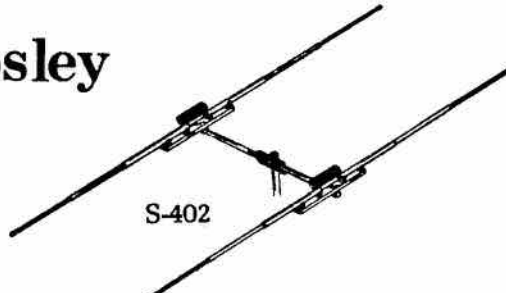


**CL-33**  
**\$369.00**

MAXIMUM ELEMENT LENGTH: 27 ft.  
ASSEMBLED WEIGHT: 42 lbs.  
SHIPPING WEIGHT: 47 lbs.  
WIND LOAD: 180 MPH  
EIA Std) 120 lbs.  
WIND SURFACE: 6 sq. ft.  
MATCH: Broad band  
capacitive.



**CL-36**    **\$459.00**  
**MPK-3**    **\$85.00**



**S-402**

## H.C. MacFarlane Electronics LTD.

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Phone (613) 353-2800  
VE3BPM



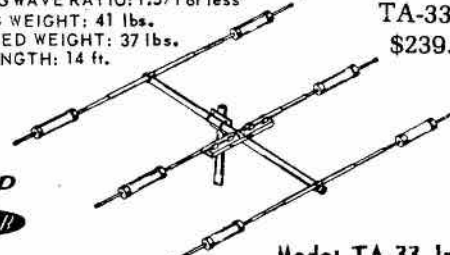

### Model TA-33 for 10, 15, and 20 meters

The Mosley TA-33 three element beam provides outstanding 10, 15, and 20 meter performance. Exceptionally broadband - gives excellent results over full Ham bandwidth. Exclusive Mosley trap design offers resonant frequency stability under all weather conditions. Element center sections are of double thickness aluminum to reduce sag. Boom requires no bracing. Heavy duty universal mounting plate fits masts up to 1 1/2 inch O.D. Antenna handles full KW AM/CW or 2 KW P.E.P. SSB input. Feed with one coax line, RG-8/U recommended. The TA-33 may also be used on 40 meters with TA-40 KR conversion. Complete with Hdw.

FORWARD GAIN: Up to 8 db.      TURNING RADIUS: 15.5 ft.  
FRONT-TO-BACK: 20 db, or better      WIND LOAD: 114 pounds.  
MAX. ELEMENT LENGTH: 28 ft.      WIND SURFACE: 5.7sq. ft.  
STANDING WAVE RATIO: 1.5/1 or less  
SHIPPING WEIGHT: 41 lbs.  
ASSEMBLED WEIGHT: 37 lbs.  
BOOM LENGTH: 14 ft.

**TA-33Jr.**  
**\$239.00**

**TA33**  
**\$319.00**



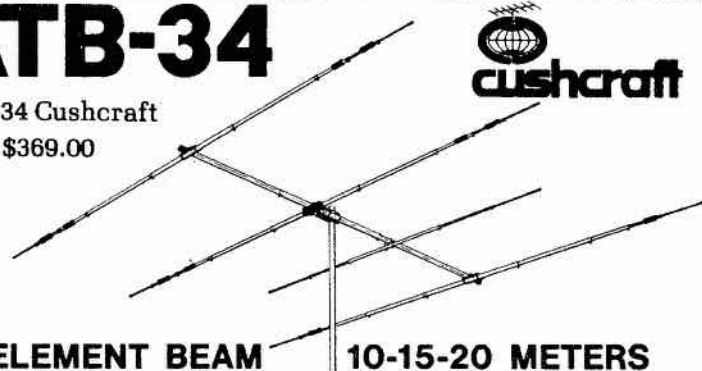
**TRAP  
MASTER**

### Model TA-33 Jr.

Mosley TA-33 Jr. has quality and performance found in the TA-33. Rated to 300 watts AM and CW, - 1000 watts P.E.P. on SSB. Complete with Hdw. The Junior may be converted to MP-33 with higher power rating with MPK-3 Kit. Shipping weight 28 lbs. Assembled weight 20 lbs.

# ATB-34

**ATB-34 Cushcraft**  
**\$369.00**



**4 ELEMENT BEAM**

**10-15-20 METERS**

Cushcraft engineers have incorporated more than 30 years of design experience into the best 3 band HF beam available today. **ATB-34** has superb performance with three active elements on each band, the convenience of easy assembly and modest dimensions. Value through heavy duty all aluminum construction and a price complete with 1-1 balun.

**SPECIFICATIONS**

FORWARD GAIN -	EXCELLENT	LONGEST ELEMENT -	32'
F/B RATIO -	30 dB	TURNING RADIUS -	18'
VSWR -	1.5-1	WIND SFC -	5.4 Sq Ft.
POWER -		WEIGHT -	42 lbs
HANDLING -	2000 WATTS PEP	WIND SURVIVAL -	90 MPH.
BOOM LENGTH/DIA. -	18' x 2 1/8"		

**UPS SHIPPABLE**      COMPLETE

ENJOY A NEW WORLD OF DX COMMUNICATIONS WITH ATB-34

**SPECIAL OFFER**

Buy any H.F. beam  
and receive  
a HAM III  
Rotor for only

**\$149.95**

ANTENNA SYSTEMS  
INSTALLED  
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WRITE FOR FREE AMATEUR PRODUCTS CATALOGUE TO-DAY!

# Kenwood's TR-7600 with optional RM-76



TR-7600

\$599<sup>00</sup>



RM-76

\$179<sup>00</sup>

## TR-7600 WITH RM-76

- Store frequencies in six memories.
  - Scan all memory channels.
  - Automatically scan up the band in 5 kHz steps.
  - Manually scan up or down in 5-kHz steps.
  - Set lower and upper scan frequency limits.
  - Reset scan to 144 MHz.
  - Stop scan (with HOLD button).
  - Cancel scan (for transmitting).
  - Scan for busy or open channel.
  - Select repeater mode (simplex plus transmit frequency offset, minus offset, or one memory transmit frequency).
  - Select transmit offset ( $\pm 600$  kHz /  $\pm 1$  MHz).
  - Operate on MARS (143.95 MHz simplex only).
  - Display indicates frequency (even while scanning) and functions (such as auto-scan, lower scan frequency limit, upper scan limit, error, and call channel).
- Memory channel...with simplex or repeater (plus or minus 600 kHz transmitter offset) operation.
  - Mode switch for operating simplex or for switching the transmit frequency up or down...or for switching the transmitter to the frequency you have stored in the TR-7600's memory (while the receiver remains on the frequency you have selected with the dual knobs).
  - Select any 2-meter frequency.
  - Even without the optional RM-76, the TR-7600 gives you full 4-MHz coverage (144.000-147.995 MHz) on 2 meters; 800 channels; dual concentric knobs for fast frequency change (100 kHz and 10-kHz steps); 5-kHz offset switch, and MHz selector switch...for desired band (144, 145, 146, or 147 MHz).
  - Digital frequency display (large, bright, orange LEDs).
  - UNLOCK indicator...an LED that indicates transceiver protection when the frequency selector switches are improperly positioned or the PLL has malfunctioned.
  - 10 watts RF output (switchable to 1 watt low power).

## GLENWOOD TRADING COMPANY LTD.

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**A BREAKTHROUGH  
IN TECHNOLOGY**



# THE YAESU FT-207R

**MICROPROCESSOR CONTROLLED  
SYNTHESIZED HANDIE**



**PRICE  
\$499<sup>00</sup>**

**INCLUDES RECHARGEABLE  
BATTERY PACK**

Price and Specifications Subject To  
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***The Yaesu FT-207R Synthesized Handie  
has all the features you could want in a very compact package***

- 144-148 MHz Range
- 10 KHz Steps
- 3 Watts Output (Approx.)
- 4 Memories plus Programmable Offset
- Priority Channel
- Memory and Band Auto Scan
- Keyboard Encoded Frequency Entry
- 2 Tone (Touchtone<sup>®</sup>) Input from Keyboard
- Keyboard Lock guards against accidental frequency change
- Odd Splits Can Be Programmed from Keyboard
- Automatic Battery Saver Feature for LED Display
- Rubber Flex Antenna
- Optional Equipment: Tone Squelch, Speaker/Mike, Nicads, Battery Charger, Leather Case



**AMATEUR RADIO SALES**

**(416) 636-3636**

**TORONTO'S ONLY AUTHORIZED YAESU DEALER**





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### DOWNSVIEW, ONTARIO M3H 1S9

### PHONE (416) 636-3636 - TELEX 065-24751

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**VE** AMATEUR RADIO SALES HAS NOW EXPANDED ITS FACILITIES TO PROVIDE YOU WITH  
A MORE CONVENIENT LOCATION.

BEAUTIFUL NEW SHOWROOM — GROUND LEVEL — AMPLE PARKING  
AND  
SERVICE — SERVICE — SERVICE

LARGE STOCKS OF HAM AND SWL EQUIPMENT

HERE'S SOME OF THE BRAND NAMES WE CARRY



*Henry Radio*



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ALL OTHER MAJOR  
HAM LINES — RIGS  
AND ACCESSORIES AVAILABLE  
TOWERS AND ROTORS ETC

THE LARGEST STOCKS IN CANADA  
FOR IMMEDIATE DELIVERY  
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1-514-337-7255



## ASTRO 150/151 Performance Specifications

Frequency Range: ... 160 Meter Band ... 1.8- 2.4 MHz\*  
80 Meter Band ... 3.9- 4.5 MHz  
40 Meter Band ... 6.0- 8.3 MHz  
20 Meter Band ... 13.8-16.0 MHz  
15 Meter Band ... 20.8-23.0 MHz  
10 Meter Band ... 28.0-30.0 MHz\*\*  
\*Model 151 only  
\*\*Model 150 only

Mode: ... CW, CWN, LSB, USB  
CW Break-in, Full and Semi

RF Input Power: ... 235 watts all modes, all bands

Carrier Suppression: ... Better than 50 dB

Side Band Suppression: ... Better than 60 dB

Microphone: ... 47 K ohms with push  
button tuning

AF Response: ... 300 to 3000 Hz

Spurious Radiation: ... Harmonics: > 45dB below peak power

Other: > 55dB below peak power

Receiver Sensitivity: ... 10 dB  $S + N$  or better at .35 $\mu$ V  
N

Image Ratio: ... Better than 60 dB

Frequency Stability: ... 10 Hz/Hr. after warm-up

Receiver Selectivity: ... SSB & CW 2.7 KHz (8 pole filter)  
Shape Factor 1.6:1  
CWN 300Hz (Xtal)

Audio Output Power: ... Greater than 3 watts into 4 ohms

Power Requirements: ... 13.8 VDC @ 18A peak (Xmit)  
1A (Receive)

Weight: 12.9 Lbs. (5.86 Kg.)

Dimensions: 9 $\frac{3}{4}$ " (247 MM) W x 3 $\frac{3}{4}$ " (95.3 MM) H x 11 $\frac{7}{8}$ "  
(301.6 MM) D

\*Specifications subject to change without prior notice.



**\$1250.00**

## Accessories

### ST-3 Matching Antenna Tuner

200 W capability.

Separate backlit meters to read 200 W full scale forward power and 20 W full scale reflected power

Incorporates a T section matching network which features an 18 position inductance value selection.

Antenna switching offers: coax 1 direct, coax 2, coax 3, single wire, and balanced line.

### PSU-5 Matching Power Supply

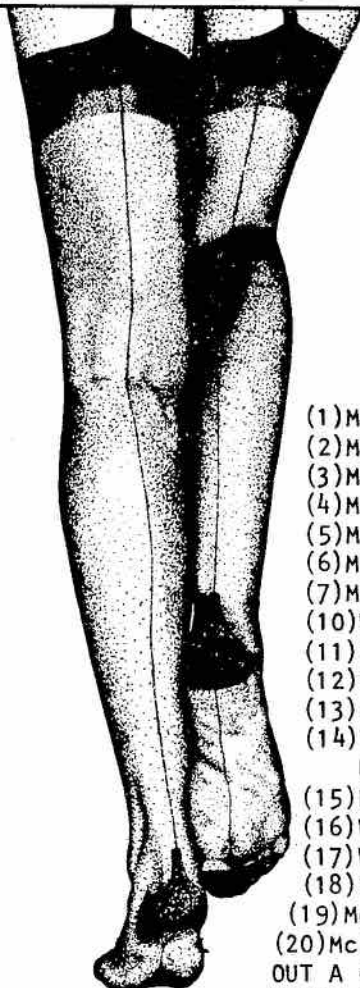
Built-in speaker

13.6 VDC, 20A peak regulated output.

110 VAC 60 Hz, 6A peak input required.

## Compatible Products

- PSU-5 AC Power Supply
- Matching Antenna Tuner, ST-3
- Model M-34 Mobile Antenna
- Model 45 Mobile Antenna
- MMBX Mobile Antenna Matchbox



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Means the inventory  
is in great shape

- (1)MFJ 941 B TUNERS...300 watts.. \$2 S&H..... \$119.00
- (2)MFJ CPO-555 CODE PRACTICE OSCILLATOR \$2 S&H 27.00
- (3)MFJ CWF-2BX SUPER CW FILTER....\$2 S&H 45.00
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- (6)MFJ LSP-520BX-11 speech processor..\$2 S&H.. 90.00
- (7)MFJ-400 ECONO KEYS.....\$2 S&H..... 60.00
- (10)WSI GENERAL CATALOG...FREE...100 PAGES... \$QSL CARD
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- (12)YAESU...QTR-24 24 HOUR WORLD CLOCK...\$2 S&H 46.00
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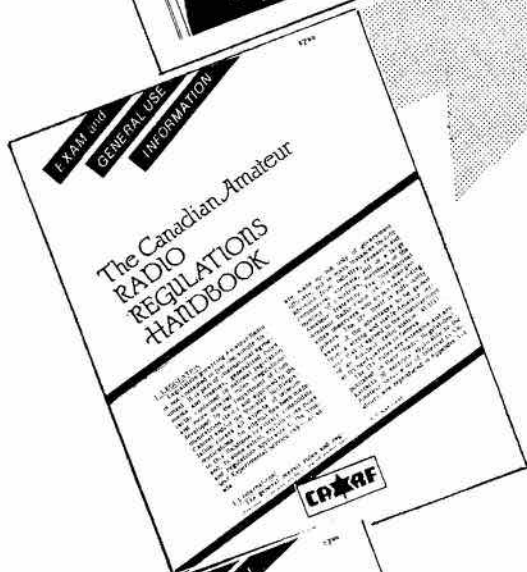
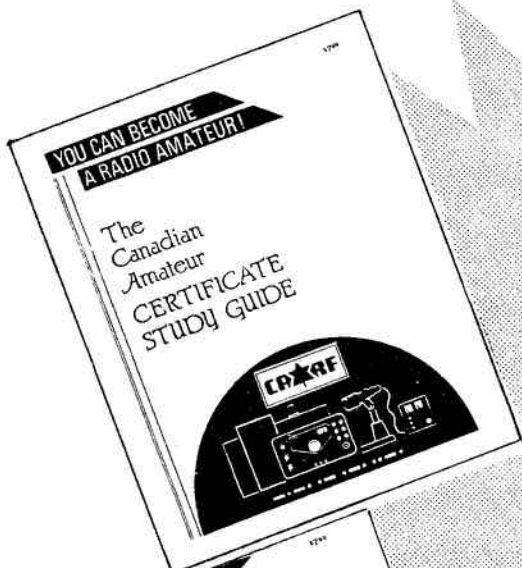
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The logo for CARF (Canadian Amateur Radio Federation) features the letters 'CARF' in a bold, sans-serif font, with a stylized seven-pointed star integrated into the letter 'A'. The logo is enclosed in a rectangular border.A large, multi-pointed starburst graphic with a halftone dot pattern, serving as a background for the 'Revised Editions!' text.

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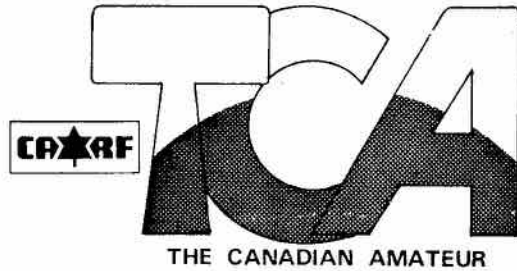
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### READERS PLEASE NOTE:

Effective November 1, 1979, please send all material for publication ... correspondence, stories, photos and technical articles ... to TCA - The Canadian Amateur Box 356, Kingston, Ont. K7L 4W2.

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 relating to the science of telecommunications.

Unsolicited articles, reviews, features, criticism and essays are welcomed. Manuscripts should be legible and include the contributor's name and address.

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# LETTERS:

## QSLING IN CANADA

I am prompted to write this open letter to all readers of TCA, regarding the matter of QSLing.

In spite of the fact that Amateurs are intelligent people, there are a lot of us who still haven't learned not to believe all we read. The one publication which is probably most likely to contain obsolete information is the **Radio Amateur Call Book Magazine**, especially concerning the VE8 district, where many operators change QTHs after relatively short periods. (Recently I counted at least a dozen VE8 listings which I know are not correct.) Mailed notices notwithstanding, the Call Book people are very slow to make corrections - like over a year.

When asked for my QSL information, I nearly always specify 'via VE8 Bureau', and it seems that most people automatically take that to mean 'as per Call Book listing', which is **not** the same thing. Even when I stressed the fact that my listing is wrong, they still send QSLs that route and I might get them - eventually. So, **please** - dear OM's, send cards **via Bureau** when so requested; all the district bureaus are listed on the first page of the VE Section.

P. MacDougall VE8YQ  
Winnipeg, Man.

**And for international outgoing or incoming cards, try the free CARF National QSL Bureau!**

## TX TO QSL SERVICE

Please find enclosed my cheque for renewal of my CARF membership for a further one year period.

Please accept my thanks for an excellent magazine and a very efficient QSL Bureau. The (free) service I have received over the year has been second to none.

Yours faithfully,  
Alan N. Johnson VE1BBY  
Mill Village, N.S.

**Thanks Al, the gals at the Bureau appreciate such kind words.**

## RETURN OF THE EXAM DEBATE

I wrote the Advanced Amateur exam on July 11 for my first attempt. It was held at the Skyline Hotel in Ottawa and I must say I was pleasantly surprised.

After reading all the criticisms about the past exams, wherever they may have been held, I was very unsure of my being prepared to face such awful conditions and such hard exams. At least that's the impression I got from many of the letters you printed.

You see, I have never taken a course in Amateur radio, but managed to pass my Amateur licence on the first try and felt I would have a try at the Advanced. Also, I might comment that I do not work in electronics and never knew anything about it until I started studying for the Amateur ticket less than two years ago.

I found the setting to be very good, and the code as good as I could ever get from listening to W1AW on my own rig in my shack and I could not see any reason for anyone to complain about noise, bad acoustics or poor reproduction. This is my opinion of the exam written in Ottawa; I cannot comment on any other examination centre.

I passed my code and the regulations, but failed the theory, but I cannot fault the exam in any way for my failure. I felt it was well-presented, easily understood (if I had taken the time to really study the questions) and in my estimation totally fair as far as Amateur radio is concerned. I failed it, very simply, because I did not take the time to fully understand the questions and most of all because I did not know my theory well enough. Also because I didn't have the advantage of taking a course by an instructor.

But the thing that sticks in my mind about the whole thing is that I went into the exam with a defeated attitude based on all these letters I have read about the difficulty of the exams and all those other complaints.

I have since had the opportunity to

**TCA welcomes Letters to the Editor. Please send correspondence to Editor  
TCA, P.O. Box 356, Kingston, Ontario, Canada K7L 4W2.**

---

read the exams that were given earlier this year, as well as the one you printed in an earlier edition of TCA and my opinion is that the only ones who complained are those who wrote the exams and failed. I cannot say that I found the exams unfair, even though I failed it. Possibly the format could be changed, but the questions in themselves were quite in order.

Will try it again in October and, if I fail it gain, then I just didn't study enough and will be first to admit it.

Art Lamarche VE3LAA

**Hope you made it, Art!**

### **WELCOME TO THE RANKS**

The main intent of this letter is to thank you for past prompt replies to my requests for assistance on the examinations for the Amateur Operator's classification.

After having the spark ignited again on purchase of a National NC46 at a garage sale (for a mere \$20) late last fall, I really got involved again. It was shortly after that I contacted TCA, having been sent a copy of your mag from WSI Sales in Kitchener.

So now I'm happy to tell you I made it and have just recently received my call letters, VE3LPJ. I tried the exams in May but fell a bit short, however with your guides and helpful info in TCA, struck at it again in July and here I am on the air and so pleased to be one of the gang.

When I look back, it really was not all that of a chore. If a fellow concentrates and can read, the questions asked by DOC are really basic, that anyone interested in experimenting with radio and communications should know. Oh, it can be frustrating - but, like any other problem, you can't fix it without effort and knowledge. I have copies of your latest guides and once the year is up will be going after my Advanced. Thanks again my friends, these new guides are clear and to the point. A job well done.

Bob Ross VE3LPJ  
Brampton, Ont.

### **TCA GETS AROUND**

Last September VE3DHC visited Indian Petrochemicals Corporation, our synthetic rubber plant here in Baroda, which with the collaboration of Polysar of Canada is working well. I have seen your April 79 issue of TCA and would like to have a copy of it and any other old issues which you could send. You will be interested to know that in my family there are four Amateurs: VU2GD, VU2PT, VU2XO and one in 5Z4-land.

M.R. Patel VU2XO

Maintenance Superintendent  
Indian Petrochemicals Corp. Ltd.  
P.O. Petrochemicals  
PIN 391346  
Baroda, India

**VU2XO would like to get any other magazines you may have cluttering up the shack. They are hard to come by in India. There's a parcel of old TCAs on the way.**

### **CB UHF ALLOCATION**

Flipping through the TCA Sept. 79 edition, I came across the DOC proposal of giving a portion of the 900 MHz band for GRS (CB). I was absolutely shocked at the plans the DOC were thinking of making.

Proposals are to allow repeater stations on the new GRS band, which will probably lead to automatic transmitter identification and even auto-patch, although I haven't read about that.

What does the DOC plan to do, giving all these Amateur Radio-type privileges to 'CBers'? Are they trying to convert them to some sort of Hams? I should hope not. The DOC should have learned from what happened to 11 metres.

Another proposal is to allow 'Packet radio' on the GRS UHF, a privilege only allowed on the Amateur bands so far with a special ticket.

I think the 900 MHz band for GRS should be as it stands on 11 metres: line of sight communications without the use of sophisticated repeaters.

The GRS UHF proposal is very similar



to the U.S. proposal of no-code ham licences. Could the DOC have learned something from them?

Glenn Anderson VE3JAU,  
Nolalu, Ont.

If you read carefully the text of DOC public notice DGRR 019-79, you will note that DOC has not made any proposals but "seeks inputs" in specific areas in order to "give proper consideration to the feasibility of establishing a new personal radio communication service". Among the objectives would be the overcoming of any "shortcomings which are associated with the current GRS band ... and the establishment of enforceable rules for the effective use of this type of service..."

To comment specifically on your points ... repeaters are not an Amateur monopoly, they are used commercially; automatic transmitter identification would be a plus in enforcement; autopatches, like repeaters, are not a feature exclusive to the Amateur bands; DOC is well aware of what happened on the 11 metreband -- hence the concern with enforcement on a new band; 'packet radio' is not a new technique -- only its use by Amateurs is new and by the way, any Advanced Amateur may use it; 900 MHz propagation is line-of-sight -- there is no 'skip', the characteristic which made the choice of 11 metres for GRS incompatible with its original intent of short range communication ... in fact, 900 MHz propagation characteristics point to the use of some form of repeaters to permit reasonable coverage; yes, indeed the new service could also be designated as a 'hobby' band ... which would not sit well with Amateurs; ... As for your last point, yes, the DOC idea is similar to the recent FCC notice of inquiry for an expanded CB Service and for obvious reasons ... like radio waves don't stop at borders and for that reason any eventual DOC allocation to this new service will probably be the same or compatible with any FCC allocation.

To wind up these comments on a positive note, while the new public service

will probably get only FIVE megahertz, the Amateurs are to get TWENTY-SIX in the same band [902-928 MHz].

Considered and logical Amateur input to the DOC in this matter could be a worthwhile effort on the part of individuals and organizations. The full notice was published in the CARF NEWSLETTER for September, which goes to all affiliated clubs or can be read in the August 18 issue of the Canada Gazette Part 1, available in most libraries. Comments are due in DOC by December 15.

#### MORE ON THE VERTICAL J

Since I wrote the story "A roll-up and put in your pocket type Vertical J Antenna, we have built Js for 15 metres and 10 metres. The amended table appears at the bottom of this page.

The last paragraph should also be amended to read:

The first vertical-J used by me was one designed for the 10 metre band, which was used during 1948-49 from a high location in West Point Grey, Vancouver (author's call was VE7QH). This was a time period when solar activity was high, and the 10 metre band was 'wide open'. J-antennas fabricated from 300 ribbon have been put together for the 10 metre and the 15 metre bands, and dimensions for these antennas are included in the table above. The total length for these radiators are 6.97 and 9.5 metres respectively. Such antennas could be hung from the branch of a tree, or from a halyard strung between two trees for Field Day operation. In fact, if you heard the voice of the Gatineau Park Field Day Group this year (VE2CV/2), on 15 metres, a J-antenna was employed. Our field day site was Champlain Lookout, 300 metres above the floor of the Ottawa Valley. The 10 and 15 metre J's were built by Arn VE2SD and resonated using a Boonton RX bridge, as well as employing direct SWR measurements.

John S. Belrose

Antenna Type	Design Frequency (MHz)	Length $\lambda/4$ Stub	Length of Radiator	Tap Distance	Gap Distance
Dipole-J	147	40.8 cm	96 cm	2.75 cm	0.6 cm
Dipole-J	28.84	2.08 m	4.89 m	14 cm	2.54 cm
Dipole-J	21.175	2.83 m	6.67 m	19 cm	2.54 cm

# REPEATER DIRECTORY

Repeater listings as of October 1978. Prepared for the Canadian Repeater Advisory Group by CRAAG Co-ordinator Hugh Lines VE3DNL. CRAAG is sponsored by your Canadian Amateur Radio Federation Inc. as a service to Amateurs owning and using repeaters. A full-size 8 1/2"x11", nine-page copy of this directory is available. Send \$1.00 to Directory, CARF Inc., Box 356, Kingston, Ont. K7L 4W2.

**NOTES:**  
**A** - Autopatch  
**P** - Proposed  
**1** - Linked  
**2** - Temp Call  
**3** - RTTY/FAX

**4** - Special DOC Authorization  
**B** - Battery Power  
**E** - Emergency Power  
**T** - Tone Access

**NFLD/LABRADOR**  
 <<<<<<#>>>>>>

		Input	MHz	Output	
GANDER	VO1AV	146.460		147.360	P
GRAND FALLS	VO1 ?	146.340		146.940	P
LABRADOR CITY/WABUSH	VO2AD	146.460		146.940	
LABRADOR CITY/WABUSH	VO2AD	146.340		146.940	
ST JOHNS	VO1GT	146.460		146.940	

**NOVA SCOTIA**  
 <<<<<<#>>>>>>

BEAR RIVER	VE1ASQ	146.190		146.790	
BIG HARBOUR	VE1BVH	147.720		147.120	
BLOCKHOUSE	VE1LCA	147.840		147.240	P
BRIDGETOWN	VE1BO	146.460		147.360	
DARTMOUTH	VE1PB	146.250		146.850	
GORE	VE1LHR	146.840		146.640	
HALIFAX	VE1C8C	146.340		146.940	
LIVERPOOL	VE1VO	147.900		147.300	
MT BLOMIDON	VE1AEH	146.580		147.180	
MULGRAVE	VE1RTI	146.220		146.820	
NEW GLASGOW	VE1HR	146.160		146.760	
NEW ROSS	VE1 ?	147.840		147.240	P
NORTH SYDNEY	VE1AUY	147.840		147.240	P
REAR BOISDALE	VE1HAM	146.280		146.880	
SHELburne	VE1 ?	146.810		146.610	P
SPRINGHILL	VE1SPR	146.400		147.000	1
SPRINGHILL	VE1SPR	443.300		448.300	1
SYDNEY	VE1C8I	146.810		146.610	3
SYDNEY	VE1SYD	146.340		146.940	A
TRURO	VE1LHD	147.810		147.210	
TRURO	VE1XK	146.190		146.790	
TRURO	VE1ZG	146.310		146.910	P
YARMOUTH	VE1YAR	146.130		146.730	

**NOTES** 1 - LINKED WITH VE1AHC

**P.E.I.**

<<<<<<#>>>>>>

CHARLOTTETOWN	VE1AHC	146.270		146.670	1 A
CHARLOTTETOWN	VE1AHC	448.300		444.300	1
CHARLOTTETOWN	VE1UHF	449.400		444.400	1 A
SUMMERSIDE	VE1CFR	146.250		146.850	

**NOTES** 1 - LINKED WITH VE1SPR

**NEW BRUNSWICK**

<<<<<<#>>>>>>

BATHURST	VE1PL	146.340		146.940	
DALHOUSIE	VE1 ?	NOT		KNOWN	P
FREDRICKTON	VE1GT	147.720		147.120	A
FREDRICKTON	VE1PD	146.160		146.760	
MONGTON	VE1RPT	146.340		146.940	A
MT CHAMPLAIN	VE1TW0	146.180		145.780	
PERTH	VE1KKT	146.460		147.060	
SAINT DAVIDS RIDGE	VE1IE	146.250		146.850	
SAINT JOHN	VE1KI	146.220		146.820	
SAINT JOHN	VE1 ?	NOT		KNOWN	P
SUSSEX	VE1SMT	146.310		146.910	
WOODSTOCK	VE1EMT	146.370		146.970	

**QUEBEC**

<<<<<<#>>>>>>

ALMA	VE2RCA	146.270		146.670	
ALMA	VE2RCM	146.250		146.850	
ALMA	VE2RCR	146.340		146.940	E 1
AMOS	VE2RYE	146.160		146.760	
AMQUI	VE2KH	146.280		146.880	
L'ASSOMPTION	VE2RBB	147.810		147.210	
BAIE COMEAU	VE2RPR	146.100		146.700	A
CARLETON	VE2 ?	NOT		KNOWN	P
CHICOUTIMI	VE2IU	146.160		146.760	
CHICOUTIMI	VE2RCC	147.720		147.120	
DONACONA	VE2RAP	146.430		147.030	
DOLBEAU	VE2RCD	146.130		146.730	
DRUMMONDVILLE	VE2RDV	147.690		147.090	
FRANKLIN CTR	VE2RBV	147.810		147.210	
GAGNON	VE2RGA	146.340		146.940	
GASPE	VE2ELE	146.280		146.880	
GRAND FOND	VE2CTT	146.480		147.080	
GRANBY	VE2RTA	147.780		147.180	E
HAUTE RIVE	VE2RAB	147.900		147.300	
HERFORD	VE2RDM	147.960		147.360	E
HULL/OTTAWA	VE2CRA	146.340		146.940	
HULL/OTTAWA	VE2C50	146.130		146.730	
HULL/OTTAWA	VE2JGP	56.760		52.525	
HULL/OTTAWA	VE2KPS	147.260		147.360	A
HULL/OTTAWA	VE2R8G	147.990		147.390	A
HULL/OTTAWA	VE2R8C	223.100		147.390/224.700	A

HULL/OTTAWA	VE30CR	146.250		146.850	
HULL/OTTAWA	VE30EA	146.270		146.670	A
HULL/OTTAWA	VE30RA	146.280		146.880	
HULL/OTTAWA	VE30TT	147.720		147.120	
HULL/OTTAWA	VE30R0	147.780		3.540	4
HULL/OTTAWA	VE3TEL	146.430		147.030	
HULL/OTTAWA	VE3TWO	147.900		147.300	
HULL/OTTAWA	VE2CRA	443.300		448.300	
HULL/OTTAWA	VE3TVO	449.200		444.200	P
JOLIETTE	VE2RMA	146.430		147.030	
JONQUIERE	VE2VP	145.220		146.320	
LA TUQUE	VE2EH	146.190		146.790	
LAVAL	VE2RVS	146.250		146.850	
MATANE	VE2RAS	147.720		147.120	E A
MONT DUFOUR	VE2ES	146.260		146.860	
MONT LAURIER	VE2RMC	146.370		146.970	E
MONT LOGAN	VE2OE	146.160		146.760	
MONTMAGNY	VE2RAB	146.370		146.970	
MONTREAL	VE2BG	146.460		147.060	
MONTREAL	VE2RMP	146.160		146.760	
MONTREAL	VE2RKO	146.840		146.640	
MONTREAL	VE2HH	222.900		224.500	
MONTREAL	VE2MRC	147.720		147.120	A E
MONTREAL	VE2RBD	444.600		449.600	
MONTREAL	VE2REP	146.280		146.880	
MONTREAL	VE2RED	147.370		147.270	
MONTREAL	VE2REP	146.280		146.880	
MONTREAL	VE2RKO	146.840		146.640	
MONTREAL	VE2RM	146.400		147.000	A
MONTREAL	VE2RM	146.400		224.060	
MONTREAL	VE2RM	449.000		449.000	
MONTREAL	VE2RY	147.900		147.300	
MONTREAL	VE2RMB	146.100		146.700	E
MONT JOLI	VE2RAC	146.130		146.730	E 1
MOUNT CARMEL	VE2 ?	NOT		KNOWN	P
MT ST JOSEPH	VE2IN	146.220		146.820	
MT TREMBLANT	VE2RMT	146.130		146.730	E
PARC LAURENTIDES	VE2RMG	147.690		147.090	E 1
PERCE	VE2ELC	146.190		146.790	
PLESSISVILLE	VE2CRP	147.130		146.730	
PORT ALFRED	VE2TG	146.430		147.030	
QUEBEC CITY	VE2ASU	146.100		146.700	
QUEBEC CITY	VE2DB	146.280		146.880	A
QUEBEC CITY	VE2OM	146.340		146.940	
QUEBEC CITY	VE2RAA	147.960		147.360	1
QUEBEC CITY	VE2RAD	146.810		146.610	
QUEBEC CITY	VE2RAC	146.250		146.850	3
QUEBEC CITY	VE2RCQ	147.780		147.180	E A
QUEBEC CITY	VE2RCQ	449.000		444.000	
QUEBEC CITY	VE2SRC	147.720		147.120	A
QUEBEC CITY	VE2UX	146.220		146.820	E 1
QUEBEC CITY	VE2VD	146.160		146.760	E
RIMOUSKI	VE2CSL	146.340		146.940	E
RIMOUSKI	VE2WM	146.810		146.610	
RIPON	VE2RBA	147.940		147.340	
RIVIERE DU LOUP	VE200	146.190		146.790	
RIVIERE DU LOUP	VE2NY	147.660		147.060	E 1
RIVIERE DU LOUP	VE2RAY	147.750		147.150	
ROUYEN-NORANDA	VE2RON	146.220		146.820	
SEPT ISLES	VE2RRU	146.190		146.790	
SEPT ISLES	VE2RSI	146.340		146.940	
SHERBROOKE	VE2FX	147.930		147.330	1
SHERBROOKE	VE2RAL	146.310		146.910	
SHERBROOKE	VE2RSH	146.370		146.970	
SHERBROOKE	VE2SS	146.250		146.850	
SHERBROOKE	VE2TA	146.190		146.790	E
SOREL TRACY	VE2RBS	146.810		146.610	
ST HYACINTHE	VE2RBE	147.225		147.825	E
ST JEAN	VE2RVR	147.840		147.240	
ST ROSE	VE2AU	146.310		146.910	E
TROIS RIVIERES	VE2HTR	146.870		146.670	
TROIS RIVIERES	VE2CTR	146.460		147.060	A
TROIS RIVIERES	VE2QW	147.900		147.300	A
VICTORIAVILLE	VE2RBF	147.750		147.150	

**ONTARIO**

<<<<<<#>>>>>>

BELLEVILLE	VE3IVL	146.430		147.030	
BELLEVILLE	VE3MR	146.950		146.350	
BRACEDRIDGE	VE3MRT	146.280		146.880	
BRAMPTON	VE3MHZ	146.280		146.880	
BRANTFORD	VE3TCR	147.750		147.150	
BROCKVILLE	VE3BAT	146.220		147.320	P
BROCKVILLE	VE3WXR	146.370		146.970	
BROCKVILLE	VE3JTB	147.84		147.24	
CAMPBELLFORD	VE3KPR	146.370		146.970	
SURLINGTON	VE3R5B	147.810		147.210	
CARLETON PLACE	VE3FXE	147.870		147.270	P
CHATHAM	VE3KCR	147.720		147.120	



# RSO Convention Highlights

The RSO convention in Ottawa on Oct. 12-14 appears to have been very successful. The best estimate obtainable at press time is about 850 registrations. Highlights included a full house to hear Tom Lott talk on folded audio, a DOC forum in which the DOC official responsible for the exams, Larry Greatham, conducted a good question and answer period on the problems during the past year or two.

Larry emphasized the need for a better response to the DOC request for exam questions. Although the closing date was originally set for Oct. 31, he will consider submissions beyond that date, to the end of this year, as he realized that the Amateur club 'season' was just getting under way.

Larry said that new noise-free exam code tapes were being made by computer. He asked for the best audio note and 800 Hz seemed popular. One disappointing note was the fact that the long-awaited changes in regulations and frequency allocations on 40 metres, 450 MHz and 900 MHz were bounced back to DOC by the Privy Council legal office for re-wording. (CARF has written to the DOC Minister to try to get some action on this long-delayed official notice.)

John da Silva from DOC HQ, who marks the Digital Operator exams, fielded questions on that certificate. Ron Powers of the Ottawa district office gave some

straight-from-the-shoulder answers to interference problems, pointing out that the DOC, too, had problems in working on such cases.

Discussion on the probable use of the 900 MHz band brought out the fact that, in some cases of North American frequency assignments, DOC had to pretty well follow the FCC but that in others, DOC could be first and the FCC would follow.

A number of excellent technical forums included slow-scan TV, satellite working, and a well-attended demonstration of packet radio by local and Montreal groups. The Sunday session, for which CARF, the Ottawa ARC and the Ottawa Computer Club sponsored Doug Lockhart VE7APU to bring the developments in the West to the attention of those working in this new area in Eastern Canada, drew an attentive audience which went two hours past the scheduled time.

(In order to provide a focal point for bringing together those who are engaged in this fascinating new area of experimentation, CARF will, with their cooperation, make up a list of their names and addresses in order to facilitate the interchange of information. If you wish to be included, send your name and address plus call, if any, to CARF, Box 356, Kingston, Ont. K7L 4W2.)



## Late news from Geneva

A Geneva report brings some interesting news on the developments on WARC '79 proceedings. So far, preliminary approval has been accorded for exclusive Amateur use of 28-29.7 MHz on a world-wide basis; for 1240-1300 MHz as Amateur secondary use (with ITU footnotes 3644 and 320A) and for Amateur Satellite use on a secondary basis, and for Amateur use of 1240-1300 MHz. The code requirement will likely remain a requirement for bands up to 30 MHz but, above that, countries may require it or not for Amateur licences within their own jurisdictions. The crucial band of 3.5 to 4.0 MHz and 50-54 MHz were being worked over during the week of October 8-13 but at

press time there was no news of the outcome.

It should be kept in mind, however, that whatever the outcome of WARC '79 for the Amateur bands, the implementation of changes is two or more years down the road.

Although they are naturally obliged to wear their official hats, there are 11 licensed ops on the team: VE3LBA, VE3UD, VE3CDF, VE3DA, VE7BS, VE3BDA, VE3BN, VE3CTM, VE3FBV, VE3LVD and VE3LMF, some of whom have already been heard on 4UITU or with their own call sign, portable HB. (Since nearly all of the delegation resides in Ontario, the calls are all VE3, except for VE7BS.)



### CONTEST CALENDAR

Nov. 3-4 November Sweepstakes Phone  
Nov 17-18 November Sweepstakes CW  
Nov. 24-25 CQ WW DX CW

The third run of the Can-Am is over and the change of date seems to have had some noticeable effects on the contest - some good, some perhaps not so good. The new date has resulted in better propagation on the low bands and improved multiplier totals over last year. Many stations almost doubled their multiplier totals on 160 and 80 metres.

As far as scores go, it looks like K6 LL/7 has taken top place for the U.S. again and maybe VE5DX for Canada. Unfortunately, participation was down significantly this year. During Saturday there was many a time when I couldn't find a single station calling "CQ contest" with, of course, the exception of a handful of determined operators.

I received comments from several contestants who felt that the change of dates was good but the choice of time was poor. Their reasons were as follows: 0000Z is 5 p.m. on the West Coast. For those who work or go to University, it's a little hard to

get home in time, and a little trying, to rush into 24 hours of contest without a single break. Since Can-Am is only a one day contest, why not start it Saturday morning? Participation could have been down for exactly this reason. After getting home, maybe half an hour late, and feeling tired after a hard week's work, a contestant might just decide it's not worth the effort. However, the change of date and the lack of advertising, particularly in the one magazine which got the dates wrong, probably contributed strongly to the reduced participation.

If you have any comments on this contest or any others, please drop me a line; in the meantime, good luck in November Sweepstakes.

### CANADIAN XMAS QSO PARTY

The Canadian Xmas QSO Party, sponsored by the Canadian Amateur Radio Federation, from 0001-2359 Z on December 30, 1979, is open to all Amateurs: "everybody work everybody" on all bands 160 metres to two metres, CW and phone combined.

Entry classes are single operator all-band and single operator single band. Exchange signal report and consecutive serial number, e.g. 599001. VE1 district stations should also add their province.

Stations may be worked twice on each band, once on CW and once on phone. Score 10 points for each contact with Canada, 1 point for contacts with others. Multipliers are the number of Canadian provinces and territories worked on each band and mode (12 provinces/territories x 8 bands x two modes for maximum of 192). Suggest phone on the even hours GMT, CW on the odd hours. Suggested frequencies: CW: 1810, 3525, 7025, 14025, 21025, 28025, 50100, 144100 kHz; Phone: 1810, 3770, 3900, 7090, 7230, 14150, 14300, 21200, 21400, 28400, 28600, 50100, 146520 kHz.

Entries with 'dupe' sheets and summary sheet must be mailed to CARF Contest, Box 76752, Vancouver, B.C., Canada V5R 5S7 and postmarked before January 31, 1980.

## Licensing

## Blind Amateurs

A recent story that there have been 'regulations' changes governing the requirements for sponsors for blind Amateurs was checked with DOC HQ where it was pointed out that there are no regulations specifically governing the licensing of blind Amateurs. A Departmental policy, however, is to ask for a character reference from another Amateur should the blind Amateur wish to go on phone before meeting the normal requirements set for that mode. District offices may ask for another Amateur to assist the handicapped operator with getting on the air and with technical problems.

# The Bottom Line

THE STORY OF THE VE3CGU  
AUTO-ALARM

BY GLENN F. McMICHAEL VE3CGU

Lightning flashed and thunder rumbled as the car splashed along the winding highway. Joe was running a bit late on his return trip home from his salesman's route which covered a large part of southern Ontario. He had kept himself occupied for several hours by talking to some of his Amateur radio friends along the way but now after midnight they had all signed off and gone to bed.

Joe was now 20 minutes from home. The intersection ahead marked the place where he could take the short cut off the main highway and save having to spend more time than necessary on this stormy fall night. He had been on the backroad for only a few minutes when up ahead he saw the headlights of an approaching car. "Someone else out on this rotten night," thought Joe. He hadn't seen another car along this route for almost an hour. The rain was almost more than the windshield wipers could cope with; small wonder that few wanted to be outside in this kind of weather.

He was almost even with the other car when a bolt of lightning briefly illuminated the roadway ahead. A washout extended right across the road! Violently, Joe braked and his car lurched to a stop just as he other car hit the washout. Like a slow motion movie film, the man's car thumped into the hole, bounced up and careened over to the left, tearing through guard rails and tumbling into the ravine. Joe raced down the slope to where the car lay on its roof. The driver was barely conscious. With his flashlight, Joe could see that he was pinned by the crushed dashboard. Telling the injured man to keep still, Joe returned to his car. Almost out of breath, he grabbed the mike and put out an urgent call on his home-town repeater: "CQ

emergency, any station please respond - VE3HAM calling CQ emergency." All that could be heard was the kerchunk of the repeater tail. After several more calls on the repeater and .52, Joe realized it was hopeless. No one could assist him by radio.

The nearest OPP detachment was only 10 miles further down the road, but it was on the side of the washout opposite Joe's car.

The closest house was miles back, on the highway, and Joe knew that the trapped man could not last long without expert medical assistance. Suddenly he remembered something that one of the local Amateurs had mentioned the week before that would cover the situation. The Amateur had said that he was working on a tone-operated device that he had attached to a two-metre receiver which would activate an alarm in his house if ever a mobile on the road needed help when no one was monitoring the channel.

Joe desperately tried to remember what the procedure was. He hadn't paid much attention to the device since he thought it would never apply to him. He knew something about tone-activated systems, because he had purchased a touchtone encoding mike to access autopatches of the big city repeaters he used when out of town. The only problem was that there was no autopatch here and a man's life depended on his being able to summon help now. That was the bottom line.

"Bottom line - that's it!" exclaimed Joe. "The guy said key any two buttons on the bottom row of the pad and hold it for ten seconds."

Keying the mike, Joe depressed the # and \* digits and held them down for a moment. Kerchunk came the repeater tail ... then a long silence. Joe was getting

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TECHNICAL SECTION

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"For several years I have given much thought to the matter of obtaining assistance at night ... For this reason I have developed a small decoder/alarm package which I call the Auto-Alarm."

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ready to dash back to the car when he stopped as if he'd been struck. "QRZ the Auto-alarm from VE3CGU. Sorry for the delay old man, but it took me a minute to get downstairs."

With a silent prayer of thanks, Joe reached for his mike and calmly and concisely stated the problem, directions to the accident and the need for an ambulance as soon as it could get there. After a quick check to confirm the details, the other Amateur signed and Joe, leaving his four-ways and headlights beaming into the night, returned to the wrecked car with a blanket and the news that help was on its way.

Ten minutes later, he looked up from comforting the injured motorist and saw two sets of flashing red lights roll to a stop on the roadway. The ambulance crew and policeman quickly set about the task of freeing the man from the car. In just a few minutes, the patient was on a stretcher and on his way to the hospital.

Elated with his success but physically exhausted, Joe slowly trudged up the slippery hillside and climbed into his car. After he had made a U-turn to go back to the highway and continue his interrupted journey, Joe keyed up the repeater and gave his opposite number a call, "VE3CGU from VE3HAM, thanks for the assistance. The man's on his way to hospital and they say he could be fine in a couple of weeks. That's a good little alarm you have there, think I'll get the plans from you and build one myself. 73 and goodnight."

\* \* \* \* \*

The preceding story is a piece of fiction. Apologies to the ubiquitous 'Joe Ham'. I told you that story to dramatize a point. For several years I have given much thought to the matter of obtaining assistance late at night. The few times Amateurs in our area have needed help, we were fortunate that someone just happened to be listening. The next time we may not be so lucky. One local Amateur had the experience of striking a tree on a seldom-used cottage road one night and,

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although he could not get out of the car and walk, he did have his two-metre rig with him. The only Amateur who was listening on the channel at the time had turned down the volume on his base station. The injured man's calls for help kept cycling the COR relay on the base station and the other fellow, curious about all the clicking, came on the air and medical help was dispatched.

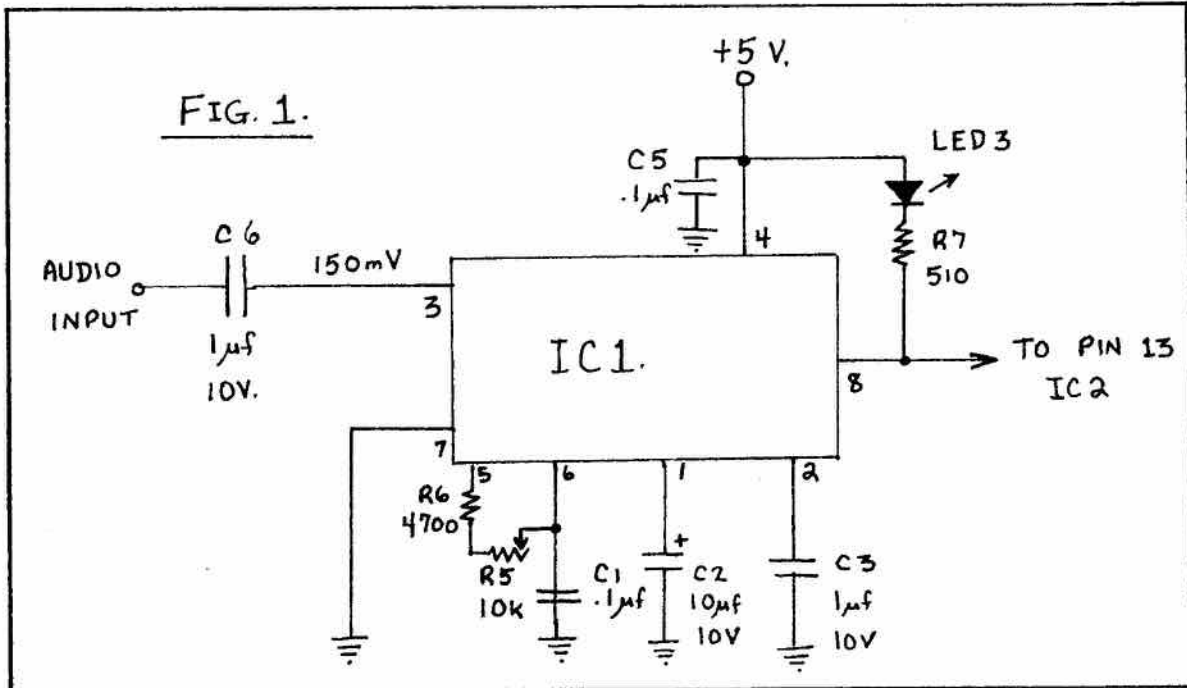
That, you must admit, is a slimmer margin than you would want to experience in an emergency.

For this reason, I have developed a small decoder/alarm package which I call the **Auto-Alarm**. It is no major technological breakthrough since the parts and basic circuits have been used for years. What is new is my application of them. To my knowledge, no one else has set up such a system. It uses no hard to obtain parts and is simple to reproduce. It requires no modifications to your rig.

To begin with, Fig. 1 shows the heart of the device, a single tone PLL decoder using the 567 chip. The diagram should be fairly self explanatory. I mounted most of the components on .10 inch spacing perfboard although on the final model I intend to make up a printed circuit board. For use at room temperature standard resistors & capacitors can be used. Since this unit is designed for use at each individual station and not attached to a repeater in any way no difficulties should be experienced with frequency drift due to temperature fluctuations. For the purist, R6 can be deposited film and C1 a silver-mica as these, together with R5, are the frequency determining components.

A word of explanation is perhaps in order. Some of you may wonder why I didn't just buy a single digit touchtone decoder from one of the commercial firms or build one of the published articles about multi-digit decoders. The reason for this is that dual tone systems are more critical in their operation. Depending upon the method of coupling the encoded signal and especially any further imbalance intro-

FIG. 1.



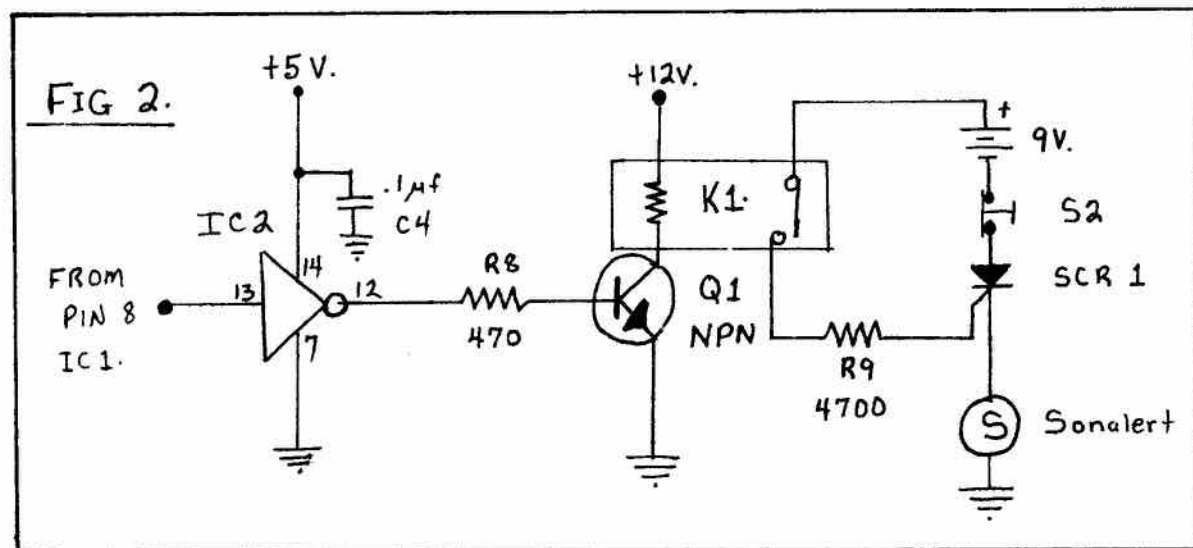
duced by the tone pair going through the unavoidable frequency distortion of an FM repeater we can get 'twist'. Twist is the term used to describe the imbalance between the high tone and the low tone in any touchtone digit. If either of these tones strays more than 4% from its proper frequency in the regular two-tone decoder we get no alarm and the whole exercise is futile.

My alarm is not as critical as a regular dual tone encoding system in order to

allow people to activate it even though their tones are a bit off. C2 determines the bandwidth of the input. Original spec for this was 2.2uf but this is much too narrow for our purposes. 10 or 15 uf is about right. I tried a 25 uf capacitor but it seemed too broad, however if a problem results from lack of decoding bandwidth it can be re-installed. The emphasis is on dependability - not state of the art.

Moving on through the circuit in Fig. 2, note the output from pin 8 of IC1. LED3 is

FIG 2.





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"A delay function is necessary to prevent false triggering of the alarm from heterodynes, whistles, etc. of short duration during normal repeater use."

an aid in tuning the device to frequency after it has been built. You may leave it right on the circuit board or mount it on the front panel. When a tone is decoded the LED remains lit as long as the tone appears at the input pin 3. Also connected to pin 8 of IC1 is IC2. This is a standard 7404 chip which acts as an inverter. When a tone is decoded, pin 8 of the 567 goes 'low'. We require a 'high' at base of Q1, so an inverter is employed to change the voltage. This could also be done with a transistor, but the IC was handy. Only four pins of IC2 are connected.

Next we see a rather strange looking relay, K1. This is an Amperite thermal delay relay. New Amateurs may not be familiar with them, but most of you will have seen them before. They look almost like a vacuum tube, complete with glass envelope. They come in octal and 9-pin style. The latter is the one I used because it is a bit smaller. These relays are hermetically sealed and are actuated by a heater.

Since this is a very important part of the system, I will explain its use.

When our tone is decoded and base of Q1 is biased on, a voltage is applied between relay pins 1 and 6. The current which flows causes a small piece of nichrome type wire to heat up. This resistance wire is wrapped around a bi-metallic spring strip which bends when heated. After a preset time interval, the bending strip touches a fixed contact and the relay closes. The delay function is necessary to prevent false triggering of the alarm from heterodynes, whistles, etc. of short duration during normal repeater use. Without it the alarm would be of little use as it would be 'falsing' quite often. Delays of two seconds to three minutes are available in a variety of heater voltages. The beauty of this traditional mode of time delay is low cost, reliability and especially its insensitivity to momentary flickers of its actuating voltage. Since the relay heater works on DC, AC or any combination

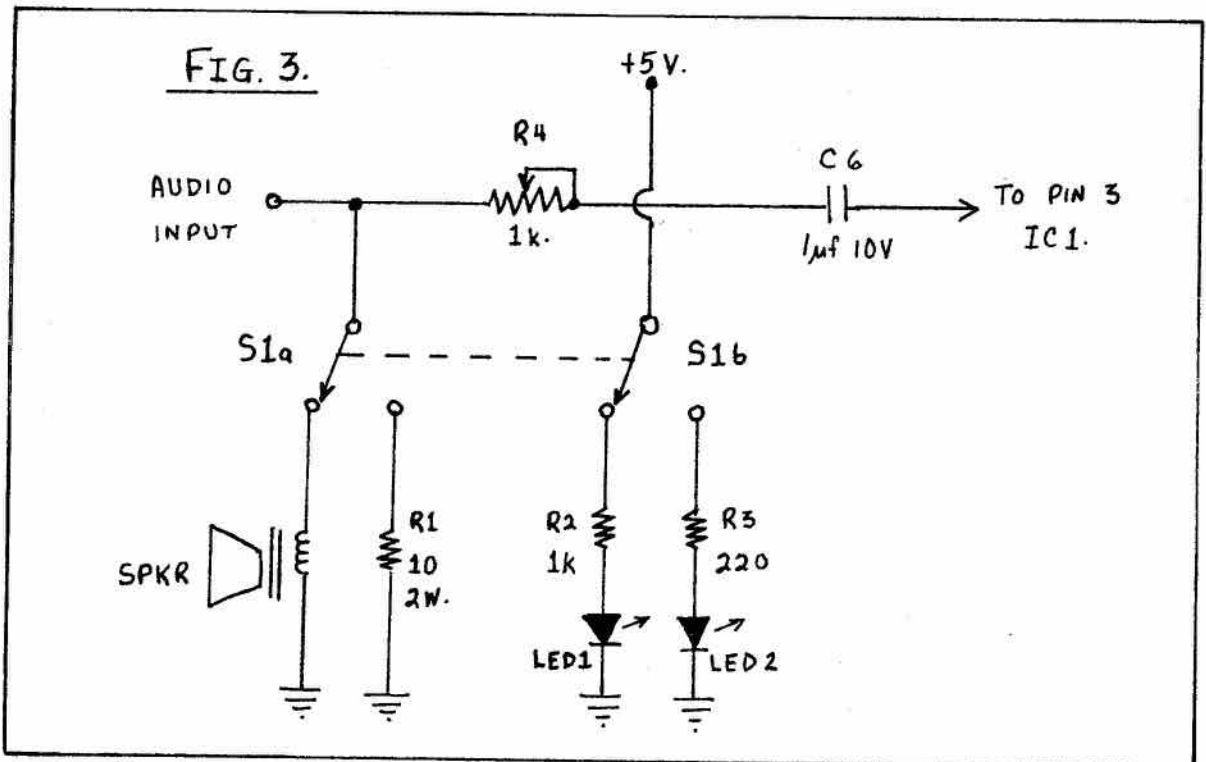
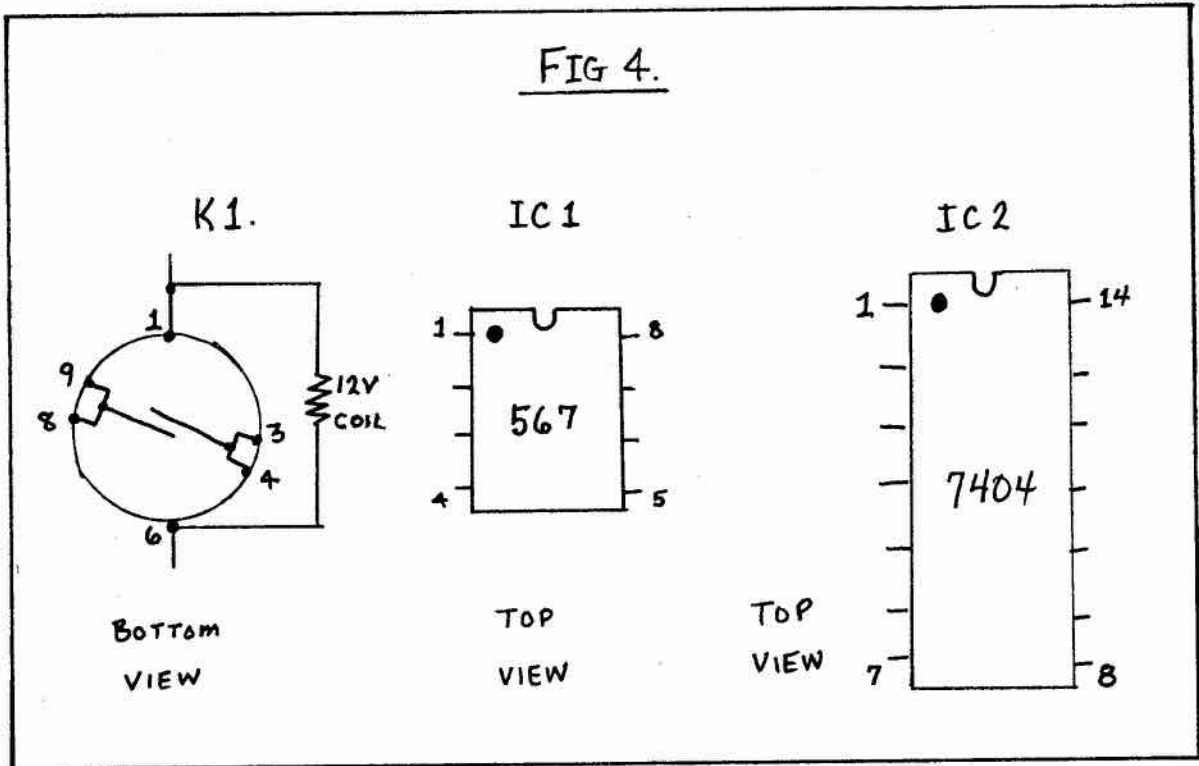


FIG 4.



thereof, if the tone drops out for a fraction of a second due to a noisy signal, the Amperite relay doesn't reset like a solid state timer would do. The relay ignores the glitch and keeps on bending. Remember, we want this thing to work under a variety of conditions.

Once the contacts of K1 close, a positive voltage is supplied to the gate of SCR1, causing it to fire and let current flow through the Sonalert which, like the speaker, is connected externally via the phone jacks on rear of chassis. A 9-volt battery powers the Sonalert. Once fired, the SCR conducts until the supply voltage is interrupted by reset switch S2. Even though the tone ceases and K1 opens, the alarm still sounds. Although this application is shown almost anything could be controlled by SCR1.

I made use of a LM309K regulator for my +5 volt supply for the two IC's. Since this is a well-known circuit, I will not discuss the power supply hookup.

The circuit in Fig. 3 is optional. If you don't mind plugging the Auto-Alarm into the receiver's earphone jack every night and removing it each morning, you can disregard this circuit. For the rest of us who intend to leave the device hooked up at all times, read on. S1a switches the

audio from the external speaker to the dummy load resistor when desired. Note that the audio is still coupled to input pin 3 through C6 at all times. Even if you are listening to the rig and step out of the room for a moment, the alarm is still armed and will alert you if it is activated. S1b supplies a voltage to LED1 or LED2. This is a handy visual check on the status of the audio. When the speaker is in the circuit, a red light emitting diode, LED1, comes on. Connecting the audio output to the dummy load resistor R1 turns on green LED2. You will appreciate this feature if you are ever awakened in the middle of the night because you forgot to check the speaker switch. With this hookup, a quick glance before retiring confirms status. I used a three terminal LED which has a green and a red LED in the same package but, as these are hard to come by, you may decide to use two separate diodes. The LED and its dropping resistor provide a small load for the 5 volt supply which improves its idling regulation.

Tuning the decoder is fairly simple. Set volume control on your rig to normal listening level and adjust R4 for about 150 mV of audio at pin 3. Now have someone key a tone of 941 Hz. A touchtone pad encoder is a suitable and readily available



"The Auto-Alarm is designed to be of use to radio Amateurs with touchtone capability. It is possible to build a single tone oscillator in a small minibox if you don't want a pad ..."

source. Your assistant can send the tone with his transmitter using low power on a simplex channel. Adjust R5 until LED3 lights. A bit of experimenting will determine the centre position between the points where the LED extinguishes at high and low limit of frequency. Try it several times until you are sure that you are in the middle of the passband. Those lucky individuals with frequency counters will have less problems here but since we are only dealing with one tone it won't take you very long anyhow.

After about six seconds the alarm will sound. The tone you choose is your own business, but Amateurs in the same area should agree to use the same tone, one that is easy to remember in an emergency. Remember that pressing only one touchtone button gives the dual tone which we don't want. Press two buttons on any column or row and a single tone is generated. Refer to ARRL handbook, etc. for frequencies of tones.

The Auto-Alarm is designed to be of use to radio Amateurs with touchtone capabil-

ity. It is possible to build a single tone oscillator in a small minibox if you don't want a pad, but I cannot recommend it unless you are willing to spend a lot of time in perfecting an oscillator that is frequency stable under the extremes of temperature which are present in cars. I tried several designs without success. I couldn't find one that was reliable enough. Even Heathkit had to abandon the use of the 555 IC oscillators in favour of crystal reference in their encoding mike.

I hope that others will follow my example and build Auto-Alarms of their own. I have done the best I could to clearly describe it but anyone interested in further info can obtain same by writing and enclosing SASE.

Will you be ready when things come down to "the bottom line"?



Glenn F. McMichael VE3CGU  
Box 231, Goderich  
Ont. N7A 3Z2

## Parts List

### PARTS LIST

Q1 - Large NPN transistor, like 2N3055  
LED 1 & 3 - red light emitting diode  
LED 2 - green light emitting diode  
IC1 - NE567 PLL tone decoder  
IC2 - SN7404 hex inverter  
SCR1 - any SCR  
R1 - 10 ohm 2 watt carbon resistor  
R2 - 1 k ½ watt  
R3 - 220 ohm ½ watt  
R4 - 1 k linear taper pot.  
R5 - 10 k 10 or 15 turn precision pot.  
R6 & 9 - 4700 ohm ½ watt  
R7 - 510 ohm ½ watt  
R8 - 470 ohm ½ watt  
C1 - .1 uf mylar or silver mica cap  
C2 - 10 uf 10V electrolytic  
C3 & 6 - 1 uf 10V electrolytic cap

C4 & 5 - .1 uf disc ceramic cap.  
S1 - DPDT miniature type toggle switch  
S2 - SP momentary (normally closed) switch.  
K1 - Amperite 12NO5T thermal delay relay 12 volt heater (normally open)  
SPKR - any 8 ohm permanent magnet speaker  
SONALERT - Mallory Sonalert  
Misc. - Aluminum chassis 4" x 6" x 2"  
Bottom cover plate for above  
Qty 4 x 40 nuts & machine screws  
9 pin miniature tube socket  
Four phono jacks for connections on rear  
Assorted solder lugs, 4 rubber feet & 22 gauge copper hookup wire.

# Arctic Operating in the 40's

A recent article by John Gilbert, VE3CXL, in which he described operating at Eureka, on Ellesmere Island, brought an interesting letter from John Wickware, VE8OV, of Fort Smith. Since it describes Amateur activity in what is distinctly a Canadian operating environment we thought that it deserved printing so our readers could catch a glimpse of what it was like 'down north' a few decades ago. VE8OV wrote to John Gilbert:

"I did enjoy reading your article "Way Up North" as it was published in TCA May issue. It brought back memories of 'North of 60'.

"I came North in 1938 as an apprentice in the Hudson's Bay Company at Chesterfield Inlet. Some years later in 1947, I ended up at Pangnirtung on Baffin Island. I applied for a conditional Amateur licence in 1948 and for \$2.50 I was awarded the call sign VE8OV. I operated from 1948 until 1955 from that location. So I was leaving the North about the time you came in.

"Prior to your arrival we had a Baffin Net on 80 metres which met nightly and covered all of the Eastern Arctic, the west coast of Hudson's Bay for VE8s and some stations in Arctic Quebec for VE2s plus an occasional VO6 from Labrador.

"I started with a surplus No. 19 Set and then graduated to a Bendix TA-12C modified for four bands, 10, 20, 40 and 80 metres. We had no 110 volts AC but used 32 volts DC which worked well for the Bendix. Using a converter, the receiver was an Eddystone.

"Prior to 1948 my radio work was strictly commercial as the HCC had two-way CW rigs working through the Arctic Department of Transport stations at Nottingham Island, Chesterfield, Cape Hope's Advance and others. The

transmitter was a single tube 15 watt job working from 6 volts DC and using a wind-driven charger for power. The receiver was a National "SW-3", with plug-in coils. We operated on 4356 kHz.

"With the advent of my entry into Amateur radio on AM and due to the fact that Pangnirtung had the only resident doctor, every night was 'medical sked' on the net. The doctor would come to the shack, listen to the symptoms of the sick and prescribe treatment. In this way Amateur radio played a big part in providing medical service to the outlying settlements in the Eastern Arctic.

"I well remember working those far-flung weather stations in Ellesmere Island. Also one close to Pangnirtung, the American base at Padloping Island, VE8PF. I also have a card from T-3 Ice Island in my collection.

"You spoke of W9NZZ, Stan Surber. I worked Stan for five years with three weekly CW skeds and I cleared traffic for local townfolk. In 1954 I cleared close to 2,000 messages through Stan. Another 'clearing house' was Bert Tamblyn VE3ANP at the Lakehead.

"After leaving the North in 1956 I dropped out of Amateur radio and it was not until 1974 that I got back into it here in Fort Smith. I wrote my Amateur exam then, and was able to get back my old call, VE8OV! I went CW for a year with an old DX100 and an SX-100 receiver. In 1975 I wrote my Advanced exam and now operate one of the first Kenwood TS-520 transceivers.

"In recent months I have worked VE8DIA and of course, VE8RCS but many of the 'originals' are gone. It was indeed great to read your article and that is one copy of 'TCA' I will keep."

CQXAF

# CORK '79

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In which a team of wet [but not wild!] Amateurs assists in the co-ordination of 1979's Canadian Olympic Regatta in Kingston, Ontario.

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By Bill Bushell VE3DXY

The Canadian Olympic Regatta Kingston (CORK) is in the record books for 1979. The first year of Amateur participation has been hailed as an overwhelming success by both the official staff who conducted the races and by the participants. For many it was their first contact with Amateur Radio, and what a pleasant one it turned out to be.

"I had no idea there could be shown such professionalism, dedication and sheer enthusiasm by people drawn from all parts of the province who had never worked together before."

"They certainly were adaptive and helped out in several areas when circumstances did not require their radio knowledge."

Comments like these were expressed by many during the week-long Regatta, which has become the largest in North America. As the week drew to a close, it was obvious to all that the Radio Amateurs had also emerged as winners. They won the praise and admiration of the Conducting Staff to the extent that two of the three Race Committees made an official request that we not rotate their Amateur Operator as they fitted in so well. The Results Committee said that they were very pleased with the rapid and efficient way in which all traffic was handled.

A total staff of 26 Amateurs manned 12 stations afloat and three shore-based stations. In addition, two Amateurs were

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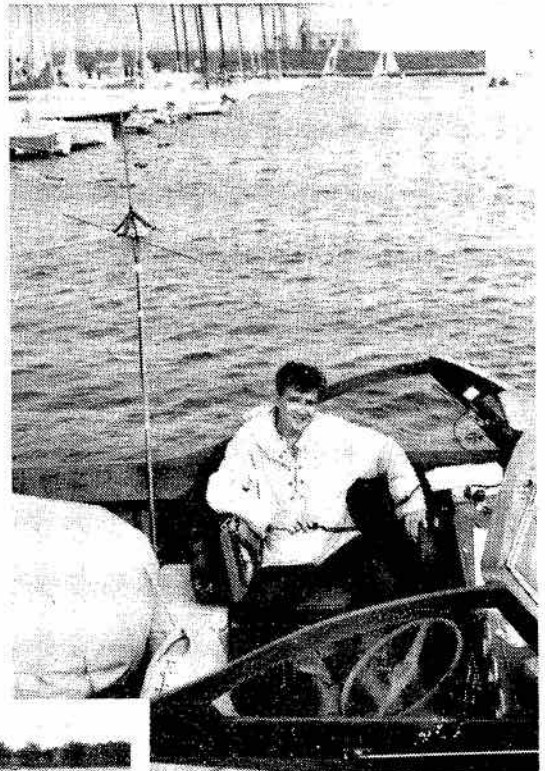
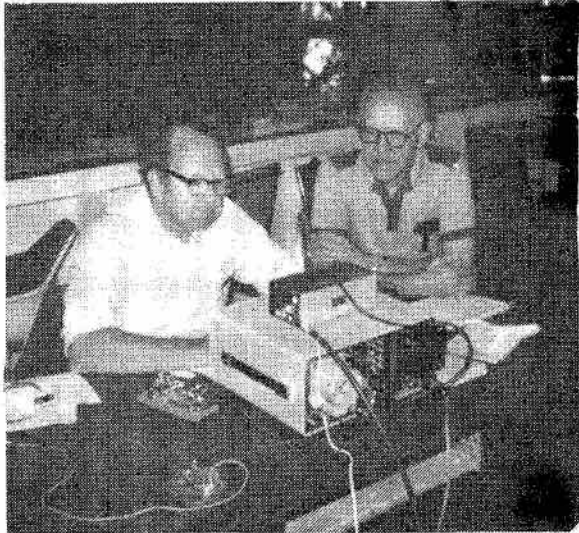
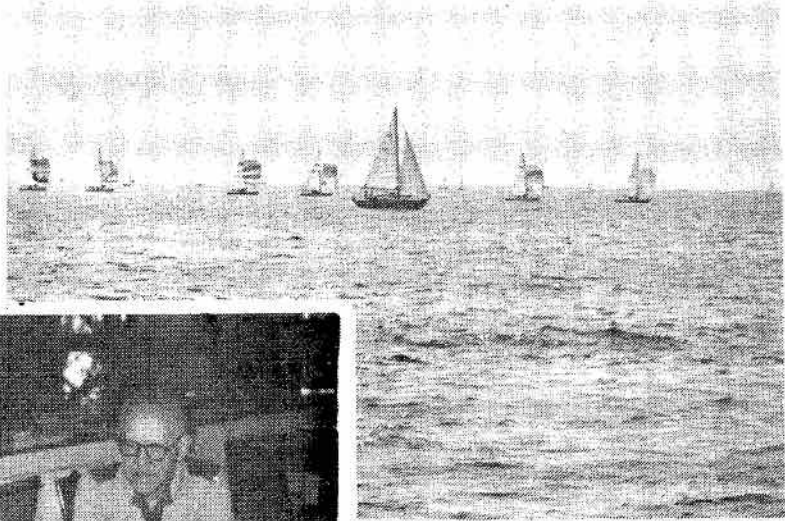
always on hand at the HF station on shifts from 0900 to 1800 each day.

Although the weather was rough enough at times to cause a few cases of sea-sickness and a couple of operators now know that operating on a small vessel is not for them, no shifts were missed and duties were rotated in such a way that most of the visitors were able to get in a day of sight-seeing on their own. The enjoyment of the regatta was so great among the operators that some of them took their 'off day' as a crew member on one of the work boats.

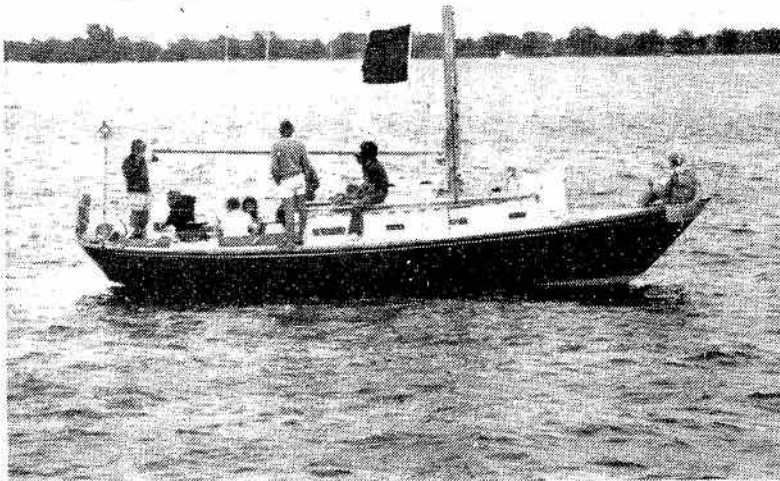
The operators began arriving Friday afternoon, Aug. 24, and were nearly all billeted at the McArthur College Complex of Queen's University, a short walk from Portsmouth Olympic Harbour, the official name of the sailing site. Friday evening was taken up with briefing sessions and the assignment of duties for the next day, which was to be a practice race.

Our intro to sailing was not an easy one - at 0900 the wind was steady SW at 10 knots; by 1000, the sailors were maneuvering out of the harbour in winds of 16 knots. The Committee boats were scurrying about, some going too fast considering the three-foot chop and our operators were getting wet!

The races were to begin at 1300, but none began on time - the wind due west at 20 knots. When the races did start, it was soon obvious that some were in trouble.



Clockwise from above: Bill VE3DXY, Radio Co-ordinator for CORK '79 takes a shift on the HF station. Bill VE3KFV looks on; a race scene; Uwe Wolm VE3GEX from Sault Ste. Marie. Note the wet gear ... the seas came right over that windshield; Larry Allen VE3FXQ of Weston found shore operating more to his liking; the 'Varuna' out of Trenton. Op was 'Doc' Colwell VE3 DOX, Sudbury, and he was NCS for his LN Boat, MK Boat, JR Boat and his POH Stn. When a race was on, his 11-man crew was extremely busy.





The smaller boats were going over like ten pins. At one point there were 16 boats on their sides on one course. Rescue boats were in action several times. The sea was now five- to six-foot waves and the wind was increasing. The practice was abandoned around 1430, but it was several hours before all were back in harbour. Later I heard some of the operators muttering, "What in hell did I let myself in for?"

Be that as it may, the weather didn't become that bad again. Kingston gave the sailors of CORK a varied bag of weather for the rest of the week - light variable winds, good breezes, heavy fog with wind, rain squalls, and a good storm that went by quickly but broke a couple of masts.

The final day of racing was Friday, Aug. 31, with the closing ceremonies being held that evening. At that time CORK 79 pins were handed out to all Amateurs and we were thanked for our efforts by Bud Gormley, CORK Chairman. He announced that a decision had just been made to hold CORK 80, even though it was to be an Olympic Year, and he hoped that we would help.

A few words about the HF operation, the brainchild of one of Kingston's most active newer Amateurs, Ron Walsh VE3IDW. He originally had offered to operate in CORK 79, but he never got on the roster because he headed up the effort to publicise Amateur Radio with the sailors and the public. And we think he succeeded!

Over 200 QSOs were completed, 42 formal messages sent, 8 received, 10 phone patches completed. A special event QSL was printed and is available to all who contacted VE3KAR/3 during CORK, for SASE. A special thanks to Gary VE3HWS and Bill VE3KfV who gave so freely of their time for this effort.

Finally, a word about an opportunity which came my way quite unexpectedly, but which may be the beginning of something big across Canada for yachting and Amateur Radio.

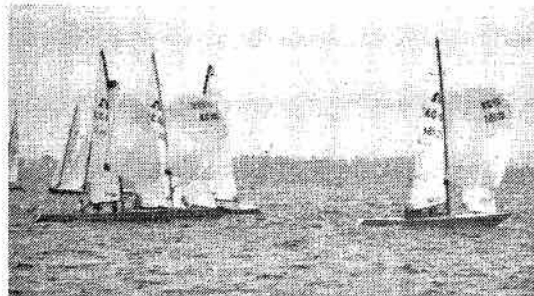
Unknown to me, the Canadian Yachting Association (CYA) was holding a week-long series of seminars at P.O.H. during CORK 79. The members were the presidents of most of the provincial and some regional yachting associations and clubs. They were taking a very intimate look at how Bud Gormley had organized CORK 79. They had some questions about the radio communications, so I talked to

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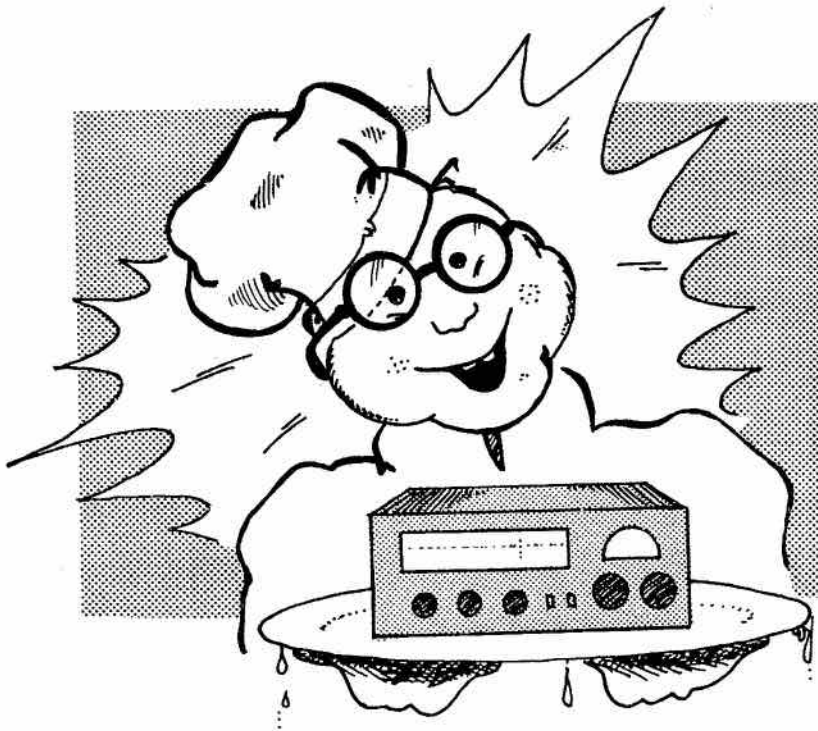
them for an hour and a half and gave them a tour of our operations room.

I believe they were truly amazed at what we could provide for them, and how relatively simple it was for any Amateur to do. They bombarded me with questions, most of which I could answer, but they wanted names and addresses of clubs in their areas. I was stumped on that, but told them to get in touch with any Amateur who should be able to steer them in the right direction. People from Quebec, Thunder Bay and Vancouver were very anxious, as they have some large regattas planned for next summer. Maybe they will get in touch with you.

My sincere thanks to all those who came to Kingston for CORK 79 - we may do it again next year. Special thanks to George Davis VE3BBW for stepping into the breach when my good friend Bert VE3EW had to fly to Vancouver for his son's wedding.



Above: Solings in competition. Below: Jeff Smith VE3KCE on Kingston waters.



## Ham in the Kitchen!

Brian Henderson VE3HUI

### Recipe

- 1 filthy radio
- 1 dishwasher
- 1 unsuspecting mother, wife, mother-in-law, whatever
- 1 empty household

yield 1 clean radio  
peace in house due to above.

Ever picked up one of those old boat anchors, (cheaply, of course) that has been stored in someone's attic for a few years? I picked up an old, dirty, but workable GE 'Prog Line' transceivers once, and after madly tuning it up, finding it worked beautifully, proudly displayed it to my mother (wife, mother-in-law, dog, whatever). Being a non-Amateur, and not being aware of the fantastic bargain I had received (as most mothers, wives, whatever are) the only comment I got was "Leave it in the basement, it's dirty".

That brings me to the point of this recipe. I actually decided to do something about it. (The 'Prog Line' - not the basement) A friend of mine once told me that he took his prize to a car wash to have it cleaned. This sounded like a good idea until I realized that the tank of the car was empty, and it was my turn to fill it. Problem: how to clean a 'Prog Line'.

In the morning, it dawned on me, when mom told me to put the dishes in the Maytag. What better place to clean a 'Prog Line'?

My father, who knows a 'screen' is not a type of door, and you do not eat from a 'plate' thought I was crazy. No problem - I'm used to that by now. I didn't dare tell mom; it was her dishwasher, and I'd starve if I couldn't get into the kitchen.

Fortunately, they both had to work that day, and I didn't. After putting the breakfast dishes into the Maytag (they seem to leave me with those a lot lately) I quietly snuck downstairs (wouldn't want to wake the cat, she might tell, or witness, or something) and brought up my "piece of equipment". It turned out there was enough room for it, provided that I removed all the breakfast dishes. I also removed all tubes and crystals. (Remember to take out crystals, I learned the first time the hard way that crystals cannot be made any cleaner than they already are.)

Now for setting the dishwasher. Firstly, turn the drying section off, you don't want to dry it that fast. Secondly, how dirty is it?...filthy, use 'heavy wash' setting; fill both soap containers. Okay ... turn on and hope.

End of cycle - call the Maytag repairman? No, sorry. Now we get to use one of those other modern conveniences of the kitchen - the oven. The dryer (the machine in the basement next to the washer) could be used, but I didn't want to push my luck. Turn the oven on to a low heat, 150°F to 200°F will be fine. Add contents of the dishwasher (the 'Prog Line'). Bake about 4 to 5 hours, stirring

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# How one club got on the air

By M.C. MacDonald VE3LLG  
(ex-VE3ALS/DAO)

Radio College of Canada in Toronto was to have a birthday party!

1978 marked the fiftieth anniversary of the oldest, established school of electronics in Canada and during the summer we had moved lock, stock and barrel from our old premises on King Street (which has served us well for twenty odd years) to our brand new home on College Street, a five-story building which had been completely renovated with sparkling new classrooms and glorious new labs. The big celebration was scheduled for December 5th and was to be a combined grand opening of the new premises and a gala birthday party.

First classes had started in September when the building was still under reconstruction and along about the middle of October the thought struck me (I have been associated with the school only since 1975) that the one thing that was missing as an Amateur station. It did seem incongruous that the oldest established electronics school in Canada had not in the last fifty years had an active radio club. I decided to do something about it.

The next morning found me in the director's office expounding the virtues of a school club. Expecting to find lukewarm reception I was prepared to present many arguments in favour of my brainchild. To my surprise I found Mr. Nichol (the director) overwhelmingly in favour of my plan ... to the extent of underwriting the initial cost of equipment, antennas, etc., provided that the student body proved to be as enthusiastic as I was. I had checked with the DOC and found that call letters VE3RCC were available and they had agreed to reserve this call for us until our plans were completed and formal application made for the licence.

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The next step was to see how the student body would respond and I found myself posting a notice to call a student meeting to discuss the idea of a club. I expected about 20 or 30 students to attend. About 75 showed up for this first meeting! A list of volunteers was obtained for the necessary antenna work (more than enough) and our plans started to gel. I even found that we already had two licensed Amateurs in the student body.

Application for the licence was made and the call VE3RCC was officially obtained for the new station. Frantic plans were made to try and get on the air in time for the big party of December 5th. Antenna and tower had to be chosen and ordered and some sort of equipment had to be obtained and installed. A very willing antenna crew from the club members managed to complete installation of the thirty-foot tower, rotor and three element tri-bander by 2 p.m., Saturday, December 2nd, and the beautiful new Yaesu FT-901-DM transceiver (loaned to us by VE Amateur Sales) was fired up.

A jubilant group of students felt pride of accomplishment when the first station called by VE3RCC answered with a signal report from the Dominican Republic (station HI8FEG) telling us we were LOUD AND CLEAR! Signal report, Q5/S9. Since that memorable date and during the festivities of December 5th, VE3RCC has worked stations in England, Germany, France, Belgium, Africa ... in fact all over the world. Not bad for a brand-new station.

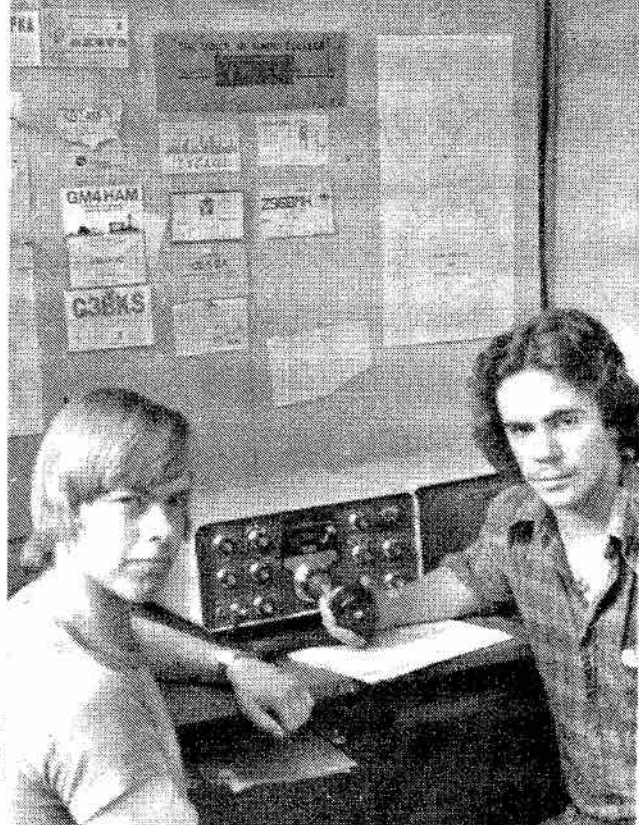
VE3RCC is now operating on 10,15, and 20 metres with its own equipment, having obtained a very good SB-101 which has been rebuilt in our lab to include some updating to Heathkit recommendations. (The FT-901-DM was just



a little too rich for our pocketbook ... besides, we didn't want to press our luck with a very co-operative school management!) We are presently planning on installing a dipole or possibly an inverted 'V' antenna for the lower frequency bands now that the spring weather has arrived. The shack is located on the third floor in a separate room. About thirty-five students are participating in code sessions hoping to pass the government examinations and obtain their own tickets. There are, as I mentioned, two licensed operators in the student body along with two staff members who are licensed as Advanced Amateur operators.

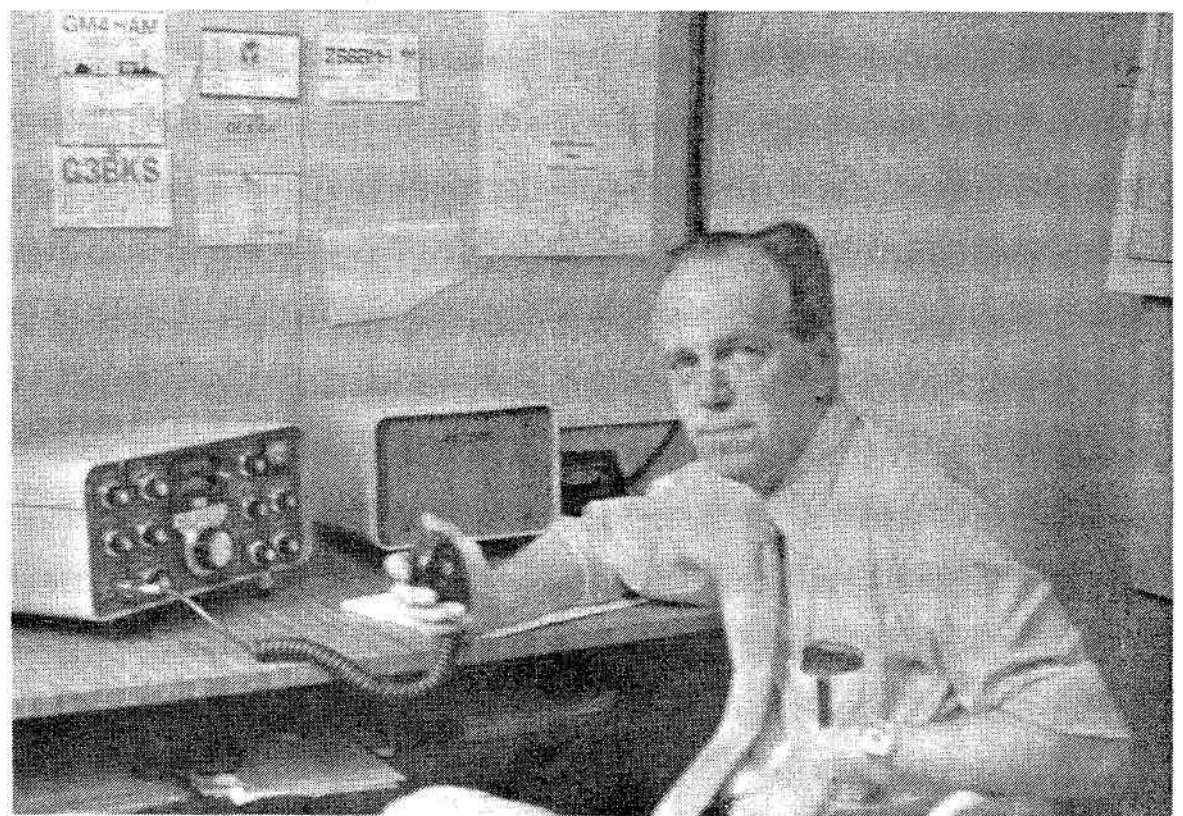
The Radio College of Canada Amateur Radio Club has become a reality.

(Bev Lekx VE3IYV is president of the club and Dave Poole VE1BCE is vice-president.)



Right: Bev Lekx VE3IYV, left, is President of the RCC Club and Dave Poole VE1BCF, left, is vice-president. Both are students at the school.

Below: The writer, Mac VE3LLG, trying to look like a 'first' operator of VE3RCC!





# WARC '79 gets underway

CARF President Bill Wilson VE3NR, a veteran of ITU conferences looks at the kick-off of WARC 79, which started Sept. 24 and is scheduled to run for 10 weeks.

As noted elsewhere, WARC '79 got off to a rather shaky start when conferees could not agree on a conference chairman. In ITU conferences, the Chairman is not a figurehead; he carries much of the responsibility for the success of a conference. Derek Rose of New Zealand (an Amateur incidentally) who had been informally selected by many heads of delegations was rejected by the nonaligned countries. They feel that they do not have their fair share of broadcast frequencies and would probably not get them if the so-called aligned countries held the chairmanship of the Conference. The start of real work was delayed by almost a week while this problem was resolved and an Argentinian chosen to be Conference chairman.

The important Committee chairmanships, as far as Amateurs are concerned, were chosen as follows:

Committee	Chairman	Vice-Chairman
Technical Regulations	Japan	Senegal
Frequency Allocations	Algeria	Mexico
Frequency Coordination and Registration	Czechoslovakia	Australia
Administrative Regulations	Kenya	Federal Republic of Germany

The non-aligned countries have thus been pretty well recognized.

Based on written proposals distributed to date, prospects for Amateur radio frequency allocations do not look good. Little support for IARU proposals is evident in them. Let us hope that more support is forthcoming when the oral presentations and arguments are made and discussed in the Frequency Allocation Committee and its various Working Groups.

- Bill Wilson VE3NR

(Bill is certainly well qualified to write on WARC matters because from 1962 to 1968 when he was a DOC official, Bill was responsible for the Department's work on the international radio conference and the ITU Administrative Council of the Radio Regulations Division. He took part in various WARC deliberations and ITU CCIR, Commonwealth, NATO and Canada-U.S. conferences and in 1969 was chairman of the ITU Administrative Council ... Ed.)

## ... but with a poor start

WARC '79 got off to a poor start when, after the Sept. 24 opening, it took four days to elect a chairman for the conference. Procedural wrangling between the Western nations and the non-aligned bloc of countries stalled the election, according to the deputy head of the Canadian delegation, Gaby Warren. A compromise was reached with the appointment of an Argentine delegate.

Featured in an interview on the popular CBC domestic and short wave program 'As it Happens', Mr. Warren, speaking from Geneva, told hostess Barbara Fromm that the recent conference of non-aligned countries in Havana stated in its communique that it was essential

that the WARC chairman should come from their group of 120 countries. He said that Western nations did not favour the principle that the choice of chairman should be dictated by any group of nations. From Mr. Warren's account, it would appear that the main negotiations could revolve around the allocations for national short wave broadcast stations beamed at other countries. The CBC is very much in this business with its international service and the Canadian WARC position is to chop a chunk of 80 metres (3950-4000 kHz) from the Amateur allocations, presumably to accommodate the People's Radio Network, along with some other fixed services.

# WARC '79 Update

## VE3UD ON THE AIR

Bud Punchard VE3UD, who is the WARC '79 Canadian delegation's advisor on Amateur Radio matters, expects to be on the air from Geneva during the few spare moments he will get from conference duties. Using the call VE3UD/HB, Bud has worked back into Ottawa already and can be heard on 14.130 to 14.140 at 2100Z daily from his hotel room, when time permits. Bud is an official member of the delegation and was chairman of the CARF WARC '79 Working Group.

## LITTLE SUPPORT FOR NEW BANDS

Speculation is rampant about the outcome of WARC '79 and the poor start for the affair has prompted a pessimistic outlook for new bands. A study conducted for the U.S. Senate by the well-known firm of telecommunications consultants A.D. Little, as reported in **HR Report**, says that the proposed new bands of 10 MHz, 18 MHz and 25 MHz by the U.S. has little support outside of a handful of developed countries. The report noted that there was little threat ('little', that is, not 'Little') to the 14, 21 and 28 MHz bands.

## ARTICLE 41

Although a CARF brief to the Canadian WARC planners was instrumental in having them drop proposals to change Article 41 of the ITU Regulations, which would have removed obstacles to no-code licences, the U.S. FCC perversely inserted it in their proposal, probably under commercial pressure.

CW requirements may now be threatened as WARC gets under way, according to **HR Report**, which is urging U.S. Amateurs to write their protest to the U.S. delegation in Geneva.

Another bit of news from our sources in Washington is that the FCC has the subject of ASCII teletype transmission for Amateurs on their agenda but no word has leaked as yet whether U.S. Amateurs will be allowed this high speed mode as are Canadian Amateurs.

## ST. PAUL'S ISLAND EXPEDITION

The St. Paul's Island DXpedition came off on schedule and a VE1 source reported that the group had racked more than 15,000 contacts. WB2RLK, AH6Z, W7EJ and VE7BTW were the adventurous souls.

## Candidate disqualified by ARRL

The American Radio Relay League's Canadian Division forum at the RSO convention had a bombshell tossed into its proceedings when U.S. ARRL president Harry Dannals announced that Fred Hammond VE3HC, one of Canada's best-known and respected Amateurs, would be disqualified from the election now in progress for director of the Canadian Division.

He said that, as the ballots are already in circulation, this means that new ones for director only will have to be issued and the count will not be made until mid-December. This leaves Bill Loucks VE3AR and Mitch Powell VE3OT still in the running. Vice-director ballots are not affected and will be counted on the original closing date. This choice is still between Fred Towner VE6XX (ex VE2NM), Gordon

Steane VE3BMG and Aaron Solomon VE1OC.

President Dannals said that the ARRL nominating committee, of which he is a member, had not been aware that Hammond Bros. sold Amateur products which would disqualify Fred who, although retired from the company, is still a director on its Board.

Ron Hesler VE1SH, director of the ARRL's Canadian Division and interim president of the 'Canadian Radio Relay League', said that the CRRL would press strongly for a novice certificate in this country. ARRL President Dannals, when called upon by Ron to speak about the novice licence, said that it was the "greatest shot in the arm" that Amateur radio had experienced, and he fully supported the idea.

# THE PRICE OF

In the same report in which the Tariff Board recently recommended that transceivers, receivers and transmitters for use only in the Amateur bands be admitted free of the present 15% duty, there appeared a couple of tables which answer the eternal question of why Canadian Amateurs pay so much more than U.S. Amateurs for their gear.

The answer is plainly shown in these tables extracted from the Board report ... duty and devaluation are the culprits. (The 15% column was added to those in the report, due to its relevance to the duty on Amateur equipment.

"During the course of the inquiry the Board was provided with many comparisons of hobby equipment prices in the United States and Canada. These generally showed Canadian retail prices (in Canadian \$) substantially higher - in some cases by 60 or 70 per cent - than the corresponding American prices (in U.S. \$)..."(for example, the report notes that a radio receiver at (U.S.) \$669.95 costs (Can) \$1,069.95.)

"Import duties, generally ranging between 10 p.c. and 25 p.c., comprise only one element in the higher Canadian price structure. Other elements include: federal sales taxes (not imposed in the United States); higher retail mark-ups in relation

to basic prices; a generally higher incidence of taxation at the provincial/state level (in part reflecting the higher retail prices); and, in recent years, the reduced value of the Canadian dollar in relation to the American dollar. When, as is common practice, these various elements are compounded one on top of the other, the end result for the Canadian purchaser may be a "take-home" price for an imported item twice that paid by the Canadian importer in American currency.

"The following theoretical examples illustrate both the magnitude of this compounding effect and the relative weights of the various cost elements under differing assumptions.

## Example 1: Different Rates of Import Duty

(Cdn. \$ at par with U.S. \$)

Duty Rate:	0	10%	15%	17½%	25%
Import price (f.o.b.)	100.00	100.00	100.00	100.00	100.00
Import Duty	—	10.00	15.00	17.50	25.00
Sub-total	100.00	110.00	115.00	117.50	125.00
Federal Sales Tax at 9%	9.00	9.90	10.35	10.58	11.25
Sub-total	109.00	119.90	125.35	128.08	136.25
Retail mark-up at 30%	32.70	35.97	37.60	38.42	40.88
Sub-total	141.70	155.87	162.95	166.50	177.13
Provincial sales tax at 7%	9.92	10.91	11.40	11.66	12.40
Total	151.62	166.78	174.35	178.16	189.53

"In this model, differences in costs at each stage are attributable to differences in rates of import duty. The overall result is that a \$100 item liable to an import duty of \$25 costs the consumer, not \$15 more, but \$37.91 more than if no duty were payable. It is assumed in the example that importation is by the retailer, no allowance being made for mark-ups at the wholesale distribution level. The retail mark-up

(assumed at 30 per cent) appears as the largest single element of added cost in the above calculations, being roughly equivalent, on average, to the duty and tax elements combined. Although the position was not taken at the hearings, there was a suggestion that some dealers might prefer the continuing imposition of duties and taxes since, given a fixed percentage mark-up of retail costs, a larger retail

# BEING CANADIAN

profit per article can be achieved on taxed merchandise than on untaxed goods. However, the distributors appearing before the Board were more evidently inclined to seek higher profits through larger turnover (via lower prices) than through higher margins.

"Cost elements, other than import duties, have their effects compounded as a result of present pricing practices. It may be calculated from Example 1, for instance, that the true cost of the federal sales tax imposed (at 9 p.c.) on imported goods valued at \$100 and dutiable at 25 p.c., is not \$11.25 but \$15.65. Even more interesting in this regard is the effect

which changes in the value of the Canadian dollar may have upon the prices of imported goods.

"Since 1976, the Canadian dollar has moved within a few cents of both the upper and lower limits indicated in this example. In the model a maximum import price difference of \$29.76 Cdn. is translated by stages into a difference of \$53.03 paid out of the consumer's pocket. It was frequently argued before the Board that devaluation was the most important recent factor in widening the spread between U.S. and Canadian prices of hobby equipment. The above figures tend to give support to this line of argument."

## Example 2: Different Rates of Currency Exchange (Import duty at 17½%)

Value of Cdn. \$ in U.S. \$:	1.05	1.00	0.90	0.85	0.80
	\$	\$	\$	\$	\$
Import price (f.o.b.) Cdn. \$	95.24	100.00	111.11	117.65	125.00
Import duty	16.67	17.50	19.44	20.59	21.88
Sub-total	111.91	117.50	130.55	138.24	146.88
Federal sales tax at 9%	10.07	10.58	11.75	12.44	13.22
Sub-total	121.98	128.08	142.30	150.68	160.10
Retail mark-up at 30%	36.59	38.42	42.69	45.20	48.03
Sub-total	158.57	166.50	184.99	195.88	208.13
Provincial Sales Tax at 7%	11.10	11.66	12.95	13.71	14.57
Total	169.67	178.16	197.94	209.59	222.70
Full cost of devaluation:	(8.49)	—	19.78	31.43	44.54

## New on Two

Two interesting departures from the usual frequencies for repeaters show up in the new directory list. The Victoria repeater VE7RSR on 144.81 in and 145.41 out is the first one to appear in the list using the band 144-145 MHz. The only restriction applying to Canadians in that band is that 144.1 MHz is reserved for CW. The former restriction to narrow band FM was removed some months ago.

The Ottawa innovation is VE3ROB, 147.78-3.54, was set up by Rob Bareham VE3ACY. Rob, unfortunately, was posted away to a part of the world where drums

are still highly regarded as communications before he had a chance to write up its purpose. It is understood, however, that the rig was designed for Amateurs who live in apartments where landlords get snarky about HF antennas. The cliff-dweller need only equip himself with a two-metre rig capable of keying the repeater on CW, then he's in business. No TVI in the next apartment, no nasty notes from the landlord, and no surreptitious after-dark raising of an HF vertical on the balcony.



## REVISED STUDY GUIDES AVAILABLE

Three new CARF study aids are out now, and available from Box 356, Kingston, Ont. K7L 4W2. All are priced at \$7.99 ... the Certificate Study Guide, the Advanced Certificate Study Guide and the Radio Regulations Handbook are completely revised and updated, in a new convenient spiral ring binding. The revised Instructor's Guide is also available for \$5.00. Write for special club or quantity discounts. Your local Radio Shack should be stocking these books soon.

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**FOR SALE:** Yaesu FR-101 Digital receiver c/w all crystals for 24 bands. All boards and filters for 2 metre coverage and 6 metre coverage. C.W. filter, etc. mint condition with original carton, rig seldom used. Replacement value is \$1,900.00 will sell for \$850.00. L. Lochner, VE3AKU, Box 723, Brockville, Ont. K6V 5T3. 613-342-7302.

## F9WARC

Unconfirmed reports note that the French delegation to WARC '79 is on 28.532 MHz using the call sign F9WARC. If so, that's only about the third time that four-letter suffixes have been on the Amateur band, as they are not normally allowed under ITU agreement. The last one we heard was VE3RCMP, celebrating the Mounties' centennial year of 1973. Another unconfirmed report via AMSAT and HR Report is that the Russians may launch one or two new Amateur satellites before the end of this year with downlink frequencies between 29.3 and 29.5 MHz.

## Advertiser's Directory

For the convenience of our readers, we list those advertisers who appear in this issue of TCA. Remember, when responding to advertisements, say you saw it in TCA - The Canadian Amateur.

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# Amateur Symposium

Invitations for the CARF Amateur Radio Symposium are now in the mail. It will be held at the Dorval Airport Hilton on November 3 and 4, with registration on Nov. 2. Anyone wishing to attend the banquet, which is open to all, should contact one of the co-chairmen of the Symposium Committee, Jules Provost VE2DN at (514) 283-4194 between 0700-1530 hrs. (EDST) on Tuesday to Friday only or Gerry Paquette VE2BUJ at (514) 671-3711 loc. 876 during office hours or (514) 464-0049 at home. The Quebec provincial society, Radio Amateur du Quebec Inc. and the Montreal club, Union Metro Sansfiliste, are running the show for CARF this year. Papers and subjects for discussion can be sent to Symposium Committee, c/o Box 23, Station A, Montreal, Quebec H3C 3L4.

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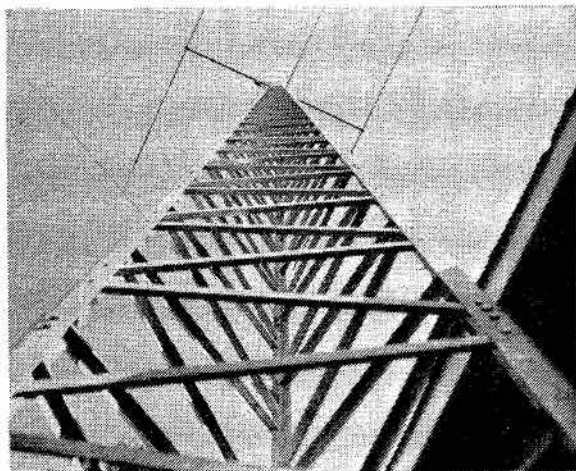
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## Kitchen

From Page 33

occasionally, to make sure no water is left over. While waiting, put the breakfast dishes back in the dishwasher, so you won't look like a complete slob.

When done, put it back together. In my case, no re-tuning was necessary, although I had to clean the deviation pot with some contact cleaner. The rig still worked, and looked better.

It was now five p.m., time for the boss and her husband to arrive home.

"Why didn't you wash the dishes, and supper isn't even in the oven!"

"But I've been washing and baking all

day!"

Only three things to remember:

1. Remember to remove **all** crystals and tubes, even the one to convert from first to second IF.

2. Dry the rig slowly; 150°F is hot enough, otherwise you may dry out the capacitors.

3. Don't tell anyone what you are doing. Since the initial job, I have now done one other prog line, and an oscilloscope, after removing the cathode ray tube.

Now, if I could only figure out how to get the basement in there!...

Brian Henderson VE3HUI  
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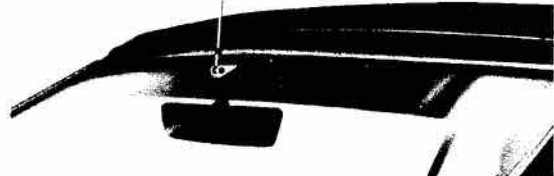
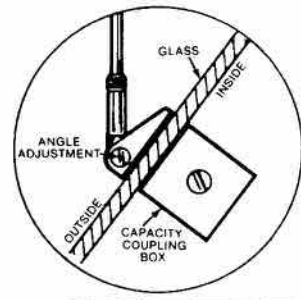
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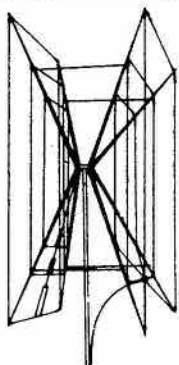


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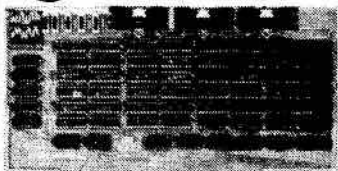
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2. To act as a liaison agency between its members and other Amateur organizations in Canada and other countries;
3. To act as a liaison and advisory agency between its members and the Department of Communications;
4. To promote the interests of Amateur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

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A new Instructor's Guide is now available for \$5.00 through the CARF Office. This new publication has been written by experienced instructors for the use and guidance of experienced instructors, new instructors and clubs organizing study groups or courses on Amateur Radio. Includes course schedules, sample lesson plans, instructional techniques, sample exam questions, etc.

Publication of the Radio Operator's Handbook has been delayed due to unforeseen circumstances and work is progressing on the Digital Operator's Study Guide. Both publications should be available soon ... see future issues of TCA for details.

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3. \_\_\_\_\_
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5. \_\_\_\_\_



## CARF Cards

Cards, as shown, size 5½" by 8½", printed Royal Blue on White, are available from the CARF Office at cost plus postage - 25 for \$1.00 via First Class Mail; 30 for \$1.00 via Third Class Mail. The cards are specifically designed to identify your club members handling public service or other Communications via Amateur Radio. Fill in the pertinent information for your area on the back of the cards and place one inside the front window of the mobile to give positive identification and to publicize Amateur Radio. Send orders to CARF, Box 356, Kingston, Ont. K7L 4W2 together with cheque or money order to cover.

# Infosection

## CARF Bulletin Station sked

CARF News Service Radio Bulletins are heard from its key station VE3TCA every week, using the facilities of Ottawa's Carleton University Amateur Radio Club station VE3OCU. Here is the sked:

### Sundays:

1745 Z 14.140 MHz SSB  
1930 Z 14.077 MHz CW 15 wpm  
(approx.) 2130 Z 14.077 MHz RTTY  
(After CARFNET; first in 5 level Baudot at 45.5 baud, then 8-level ASCII at 110 baud.)  
2300 Z 3.755 MHz SSB

### Tuesdays:

0100 Z 3.590 MHz CW 15 wpm  
0130 Z 3.610 MHz RTTY (as above)  
(Note that times shown will be Sunday p.m. and Monday evenings in North America.)

The Bulletins are also transmitted simultaneously on the VHF/UHF in morse code over the Carleton University ARC's repeater VE3OCR, on Tuesdays at 2000 hrs

### NOTE TO READERS:

TCA - The Canadian Amateur is in the process of changing its staff. Please note that all material for publication ... correspondence, stories, photos and technical articles ... should be sent to TCA - The Canadian Amateur, Box 356, Kingston, Ont. K7L 4W2.

## Free QSL Service for members

1. Sort QSLs by prefix and stack face up in a single stack.
2. Keep weight of one parcel under one pound. Parcel carefully and seal securely.
3. Put your name, call, etc. in upper left corner
4. Put your CARF membership no. in lower left corner.
5. Send to CARF QSL Services, P.O. Box 66, Islington, Ont. M9A 4X1.
6. Do NOT register parcel. This causes delay.
7. Check with Post Office for requirements if sending by Third Class Mail
8. If receipt required, enclose SASE with cards.

Eastern Time. It outputs on 53.150, 146.850 and 224.940 MHz using F2 (MCW) at 15 wpm.

After the RTTY bulletin on 20 metres, VE3TCA ops will be happy to work any station which can use ASCII (8 level) and also, for those who can only receive ASCII but can transmit 5-level, the operators will have both receiver printers in the loop in order to receive whichever code may be used by those working them. The FCC does not allow ASCII transmissions as yet and this procedure will permit U.S. as well as Canadian stations to work 'cross-code'.

### OTHER CARF NEWS STATIONS

VE7TCA: Mondays 0230Z 3.618 MHz RTTY 5 level  
0245Z 3.755 MHz SSB (After BC ARPS Net)  
VE5WM: nightly 0100 Z 3.785 MHz SSB (Sask Phone Net)  
Sundays 1530 Z 3.780 MHz SSB (ARES Net)  
VE5GG Thursdays 1830 Z 14.077 MHz RTTY 5 level

A number of two metre repeaters provide local coverage. VE7BBQ is on VE7RPT 34/94 Thursdays at 2000 Pacific Time and VE5WM is on VE5KE 46/06 nightly at 0300 Z.

### BANNED COUNTRIES LIST

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

\*\* Station XU1AA has been authorized to exchange communications with Amateurs of other countries. Note: The calls 70A to 70Z are assigned to the Peoples Republic of Yemen.

### THIRD PARTY TRAFFIC AGREEMENTS

Bolivia, Chile, Columbia, Costa Rica, Dominican Republic, Guyana, Honduras, El Salvador, Israel, Mexico, Nicaragua, Peru, Trinidad/Tobago, USA (Territories and Possessions), Guatemala, Uruguay, Venezuela

### RECIPROCAL OPERATING AGREEMENTS

Austria, Barbados, Belgium, Bermuda, Brazil, Colombia, Costa Rica, Denmark, Dominica, Dominican Republic, France, Ecuador, Federal Republic of Germany, Finland, Guatemala, Honduras, Iceland, India, Indonesia, Israel, Luxembourg, Netherlands, New Zealand, Norway, Nicaragua, Panama, Philippines, Poland, Portugal, Peru, Senegal, Sweden, Switzerland, United Kingdom, U.S.A., Uruguay and Venezuela.

Note: As a general rule, DOC will consider licensed Amateurs of Commonwealth countries for reciprocal privileges in Canada if the other country does the same.



# Order Form

Please send Certificate, The Canadian Amateur, with free QSL service, as a CARF:

<b>Full Voting Member *</b> \$10 yr. \$27.50 / 3 yrs. <input type="checkbox"/> \$45. 5 yrs. <input type="checkbox"/>	<b>Family Membership</b> \$1 yr. extra per person \$15 for LIFE <input type="checkbox"/>
<b>Associate Member</b> \$10 yr. \$27.50 / 3 yrs. \$45 / 5 yrs. <input type="checkbox"/> (Foreign Call Sign Holders and non-licensed supporters)	<b>Life Member</b> (FULL or ASSOCIATE) \$150. <input type="checkbox"/>

NEW! CARF Log Sheets - Package of 50  \$2.00

CHECK QUANTITY REQUIRED:

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CANADIAN AMATEUR RADIO REGULATIONS HANDBOOK  \$7.99 \_\_\_\_\_

ADVANCED AMATEUR CERTIFICATE STUDY GUIDE  \$7.99 \_\_\_\_\_

INSTRUCTOR'S GUIDE  \$5. \_\_\_\_\_

CARF LOGOS (6"x2 1/2") adhesive sticker  window decal  4/\$1. \_\_\_\_\_

CARF NAME BADGE  \$3 \_\_\_\_\_  
(Ontario adds 7% sales tax)

Print name and call desired

MONEY ORDER or CHEQUE TOTAL

\*

IF RENEWING MEMBERSHIP NO IS:

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NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

POSTAL CODE \_\_\_\_\_ DATE \_\_\_\_\_

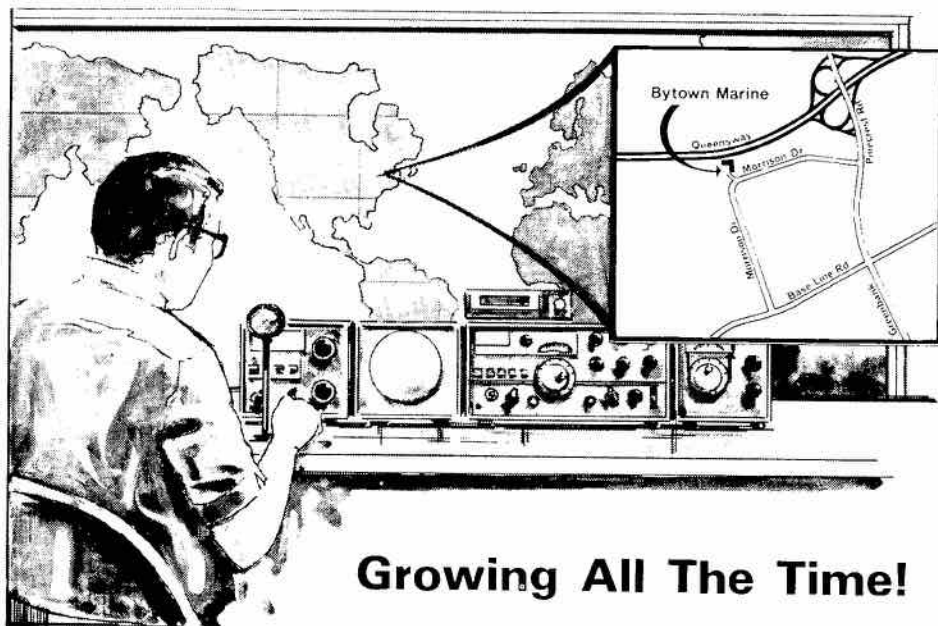
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