

Second Class Mail Registration  
Number 5073

# TCA



The Canadian Amateur Radio Magazine

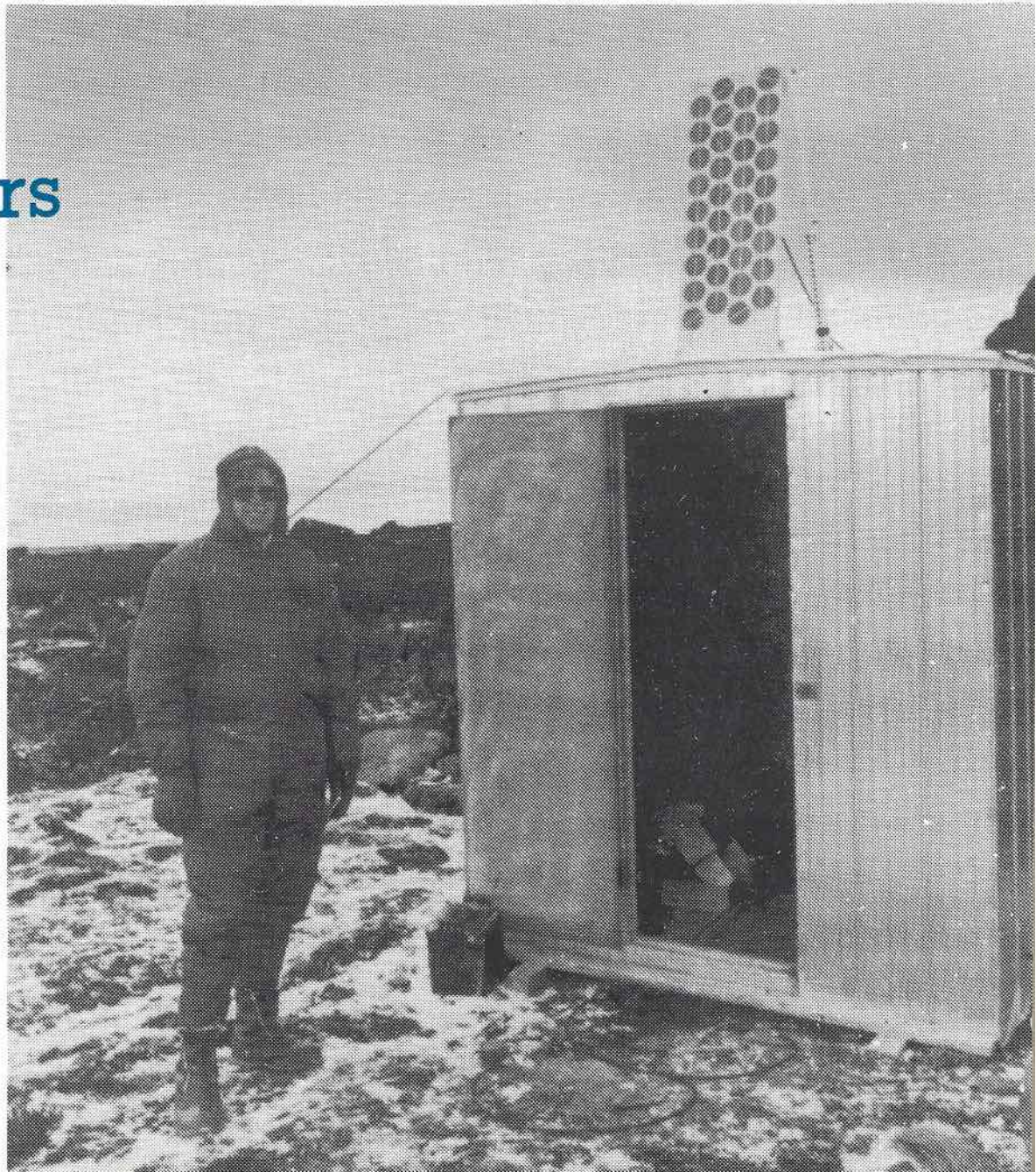
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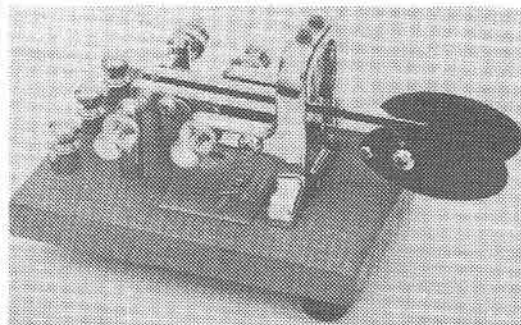
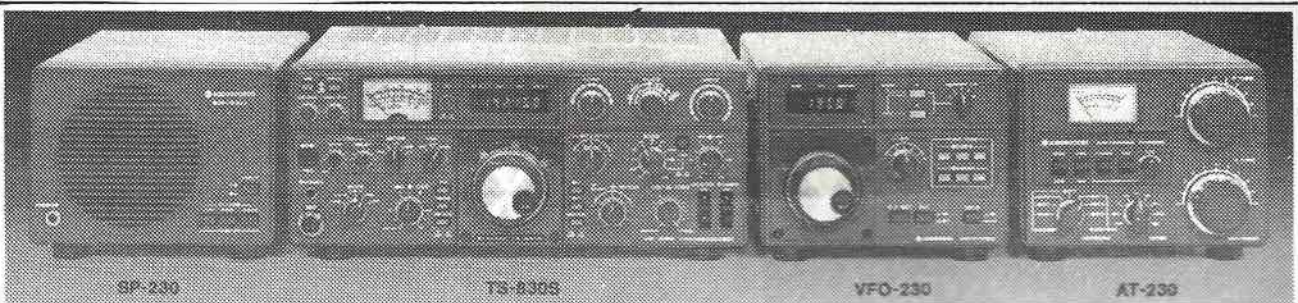
APRIL 1982

## Yukon's Repeaters

*VYIDD at the repeater  
hut of VYIRPT.*

See Page 20

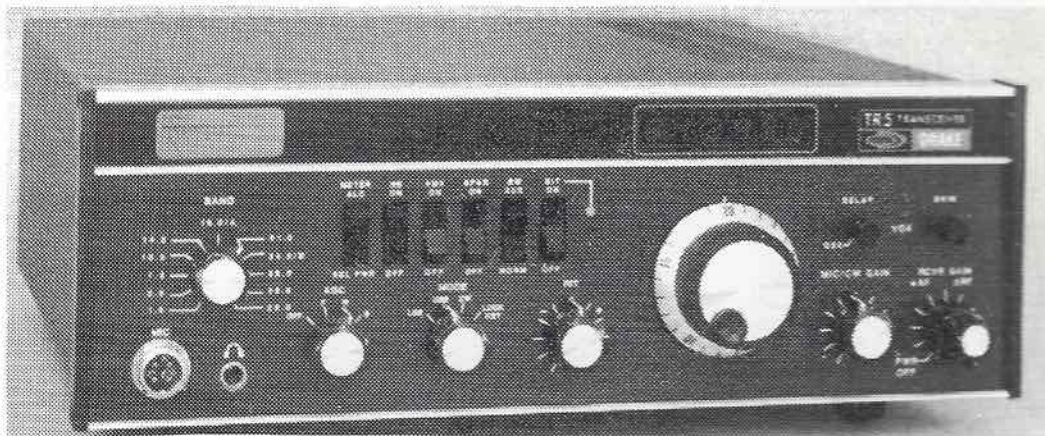
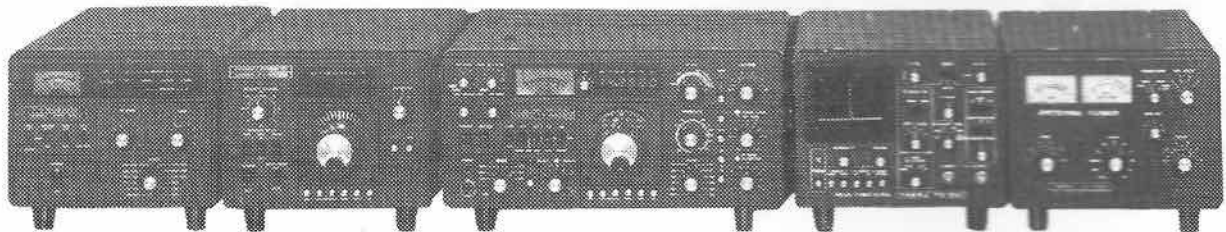




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Unsolicited articles, reviews, features, criticisms and essays are welcomed. Manuscripts should be legible and include the contributor's name and address. A signed article expresses the view of the author and not necessarily that of C.A.R.F. Publications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

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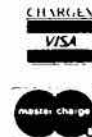
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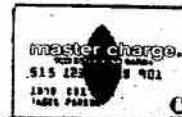
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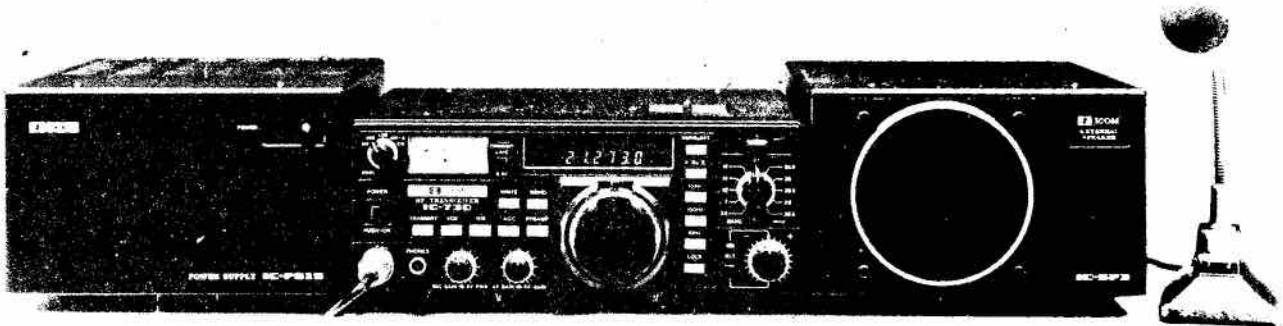
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- **25 watts RF output power**  
Even though the TR-7730 is so compact, it still produces 25 watts output for reliable mobile communications. HI/LOW power switch selects 25-W or 5-W output.
- **Five memories**  
May be operated in simplex mode or repeater mode with the transmit frequency offset  $\pm 600$  kHz. The fifth memory stores both receive and transmit frequency independently, to allow operation on repeaters with nonstandard splits. Memory backup terminal on rear panel.

- **Memory scan**  
Automatically locks on busy memory channel and resumes when signal disappears or when SCAN switch is pushed. Scan HOLD or microphone PTT switch cancels scan.
- **Extended frequency coverage**  
Covers 143.900-148.995 MHz in switchable 5-kHz or 10-kHz steps, allowing simplex and repeater operation on some MARS and CAP frequencies.
- **Automatic band scan**  
Scans entire band in 5-kHz or 10-kHz steps and locks on busy channel. Scan resumes when signal disappears or when SCAN switch is pushed. Scan HOLD or microphone PTT switch cancels scan.
- **UP/DOWN manual scan**  
With UP/DOWN microphone provided, manually scans entire band in 5-kHz or 10-kHz steps.

- **Offset switch**  
Allows VFO and four of five memory frequencies to be offset  $\pm 600$  kHz for repeater access (or to be operated simplex) during transmit mode.
- **Four-digit LED frequency display**  
Indicates receive and transmit frequency during simplex or repeater-offset operation.
- **S/RF bar meter and LED indicators**  
Bar meter of multicolor LEDs shows relative receive and transmit signal levels. Other LEDs indicate BUSY, ON AIR, and REPEATER offset.
- **Tone switch**  
Activates internal subaudible tone encoder (not Kenwood-supplied).

## Optional accessories:

- **MC-46** 16-button autopatch (DTMF) UP/DOWN microphone
- **SP-40** compact mobile speaker

## SPECIFICATIONS

### [GENERAL]

Frequency Range: 144.000 to 147.995 MHz  
Mode: F3  
Power Requirement: 13.8 V DC  $\pm 15\%$   
Grounding: Negative  
Current Drain: Less than 0.4 A in receive mode with no input signal  
Less than 5.5 A in HI (25 W) transmit mode  
Less than 2.5 mA for memory back-up (power OFF)  
Operating Temperature:  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$   
Audio Output Impedance: 8  $\Omega$   
Audio Input Impedance: 500  $\Omega$  (with UP-DOWN microphone)  
RF Output Impedance: 50  $\Omega$   
Dimensions: 147.5(5.9)W x 51.5(2.1)H x 198(7.9)D mm (inch)  
Weight: 1.5 kg (3.3 lbs) approx.

### [TRANSMITTER]

RF Output power: HI = 25 W  
LOW = 5 W approx.  
Less than  $\pm 20$  PPM  
Frequency Tolerance:  $\pm 10^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$   
Spurious Radiation: Less than  $-60$  dB (Hi)  
Modulation: Variable Reactance Direct Shift  
Maximum Frequency Deviation: Less than  $\pm 5$  kHz

### [RECEIVER]

Circuitry: Double Conversion Superheterodyne  
Intermediate Frequency: 1st IF = 10.7 MHz  
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Sensitivity: Less than 0.25  $\mu\text{V}$  for 12 dB SINAD  
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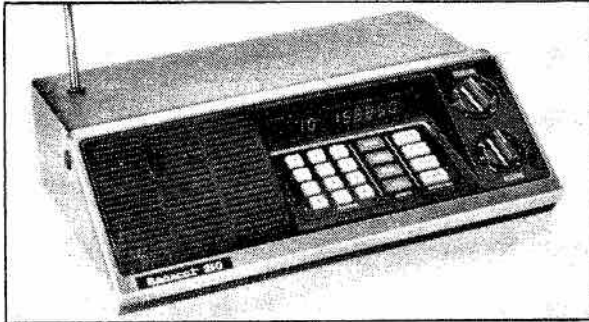
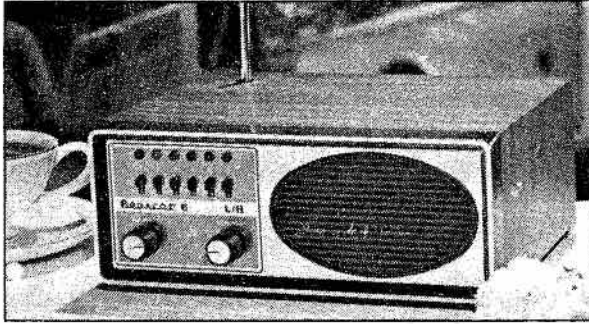
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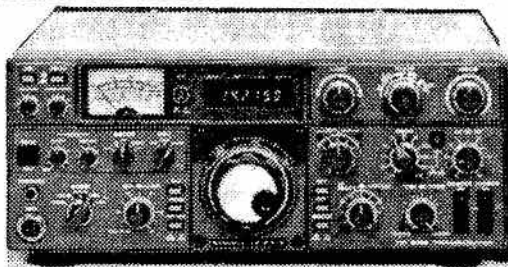
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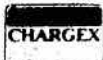
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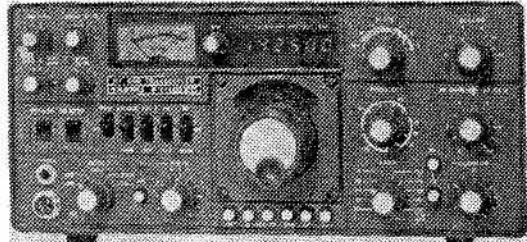
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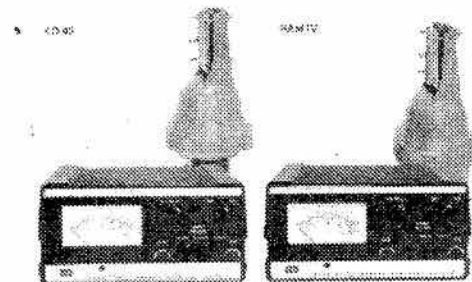
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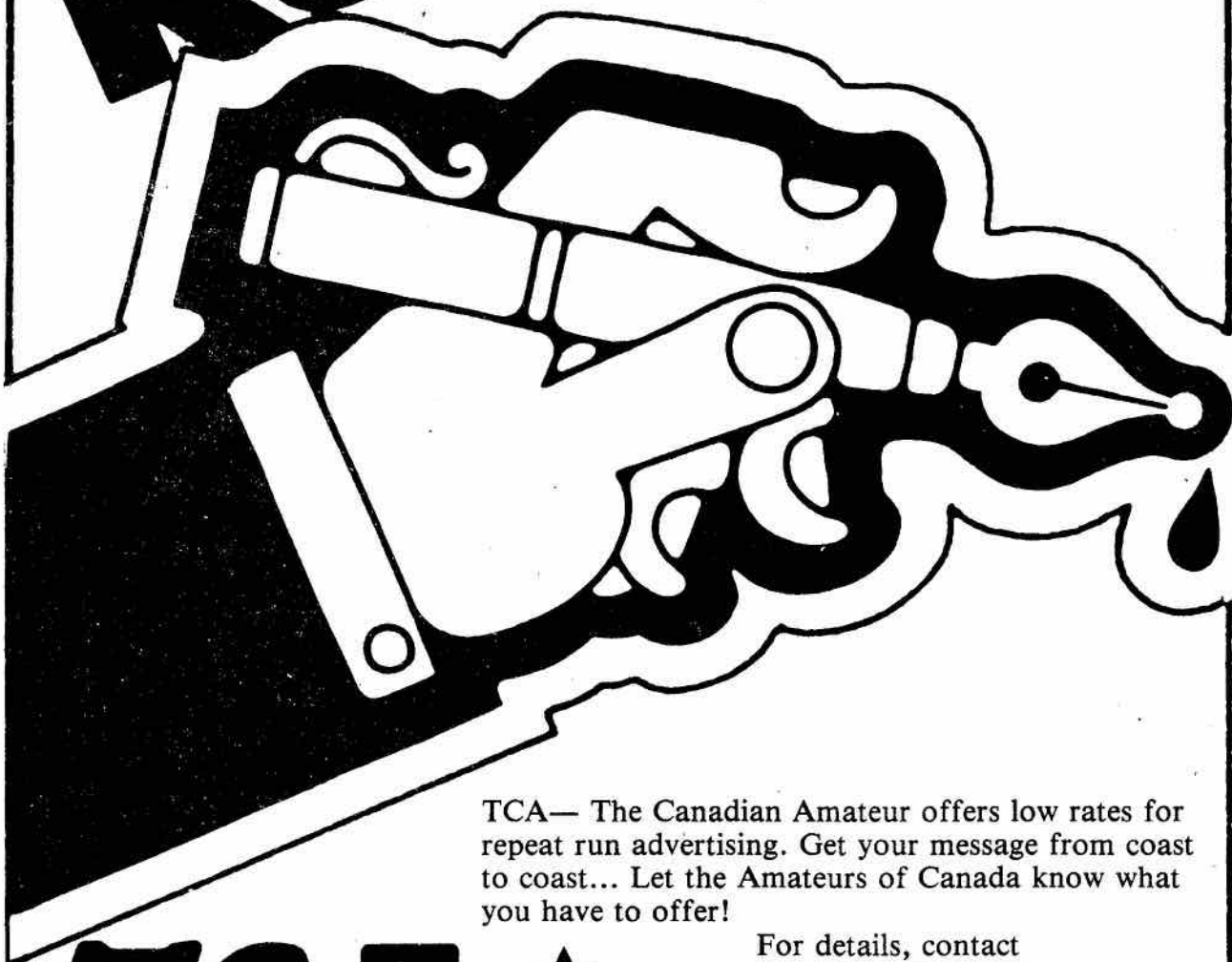


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# Letters:

## COMPUTER FAIRE

We wish to advise you of the upcoming Southern Ontario Repeater Team annual fleamarket and Computer Faire. It will be held on Saturday, May 15 at Medway High School, Arva Ont. (just 3 miles north of London).

There will be indoor and outdoor selling and the cost of a selling permit, in addition to a prize donation, is only \$1.00 plus \$2.00 admission to each of your staff.

Don't let this golden opportunity to reach 800+ Amateurs and computer enthusiasts go by. Sale hours are 9 a.m. to 3 p.m. and set-up will be allowed between 8 a.m. and 9 a.m. Tables are available inside on a first-come, first serve basis for \$2.00 each. We suggest you bring your own if you have one.

Jim De Zorzi  
P.O. Box 73, Hyde Park  
Ont. N0M 1Z0

## OPERATING PRACTICES

Am pleased to receive TCA, enjoy the informative articles and experiences, etc. Being a relatively new ham of two years and recently received my Advanced, takes a little getting acquainted with this fraternity.

Having been a 'CBer' for a time, it's a pleasure to have a good QSO without interference of QRM; however, I wonder why so many hams tune up right on our frequency and this includes nets as well. I get rather perturbed by these inconsiderate individuals.

Also, while listening to W1AW code practice on .080, why do the RTTY use this frequency on 20 metres; surely they must be aware others are trying to master their CW.

I am not very pleased with

those during contests using .080 either. Speaking of contests, it's worse than 'CB' sometimes, however, it's their bag and they can have their dogpiles... my switch goes off during contests.

Thanks for reading my beef, keep up the good work, TCA.

Wm. Barz VE7EGF  
Kelowna, B.C.

## KENORA CENTENNIAL

The members of the Lake of the Woods Amateur Radio Society are participating in the centennial of the Town of Kenora, Ont. (1882-1982).

To date, 180 special QSL cards have been sent out to stations who have worked Kenora in 1982. With three Kenora contacts, a special award certificate is available. We have been using the prefix CK3 which was authorized for two weeks.

A special station, CK3LWR, will operate in the period July 23-Aug. 2 (Homecoming Week). About 150 journal messages have been sent to interested parties in North America, inviting them to the Homecoming.

John Benson VE3JJH  
Sec/Treas LWARS  
628 Second St. S  
Kenora, Ont. P9N 1H1

## YL HERITAGE

Thought I'd better set things straight once and for all. I did not tape 'YL Heritage'. Louise W3WRE gave me a copy of her speech so I could use it for reference for my speeches. Louise and I have traded info regarding YLs many times over the years.

I might add that two people did tape that speech but I can't remember who they were. Nonetheless, it's an interesting article and worthwhile printing!

Cathy VE3GJH

## WHERE ARE THEY?

I am having difficulty tracking down... members of the Amateur fraternity. I feel there may be some benefit in requesting information on the whereabouts of these individuals through your publication: Clyde Davis VE3KNF and William Herzer VE3BST. I request that you... ask your membership to pass information concerning these Amateurs to the address below, Attention: J. Nosotti.

J. Nosotti  
Department of Communications  
55 St. Clair Ave. East  
9th Floor  
Toronto, Ont. M4T 1M2

## PROPOSED EXPANSION

I wish to register my objection to the proposed expansion of the U.S. Amateur phone privileges in the 20M band.

We have a good precedent the effects of the U.S. 75M phone expansion caused. These effects were limited to North America.

The U.S. Amateur expansion is being actively promoted by the ARRL, equipment manufacturers, retail outlets and magazine publishers (73). These groups are prompted by purely selfish

**TCA WELCOMES LETTERS  
TO THE EDITOR. PLEASE  
SEND ALL CORRESPONDENCE  
TO EDITOR TCA,  
1082 APOLYDOR AVE.,  
OTTAWA, ONT. K1P 8A9.**

motives and complete disregard for the effects of the proposed expansion outside of the U.S.

The increase in the U.S. Amateur population has been promoted by those with a buck to be made; now that they have a monster on their hands they are proposing to let it devour its neighbours.

The United States is one of the first to voice disapproval if another country with expansionist policies seeks to annex its neighbours. But that policy appears to be acceptable when they want to do the annexing.

The large U.S. Amateur population is an internal U.S. problem, let them seek the solution within the confines of the present U.S. Amateur allocations.

W.A. Stone VE7DCP  
Victoria, B.C.

#### MORE ON U.S. OPS

In announcing the new Canadian regulations in May 1980 QST, the Canadian president of CRRL said, "U.S. amateurs will no longer be able to operate in 'Canadian' phone bands (on phone)... and CRRL is not at all 'happy' about it".

He is very ignorant of Canadian and American regulations, as American hams *never* could operate legally in the DX window, on phone, being restricted by the terms of their own licence, and by TRC-25, issue 4 of April 1980.

The 30-odd bi-lateral agreements Canada has with other countries also states that each ham must operate in accordance with the terms of his own licence, AND the rules of the host country.

This is the way of the world, and it also applies to automobile drivers' licences, pilots' licences, marine licences, etc. It makes a great deal of sense...

The May QST article said that CRRL was considering appropriate action. This action has now taken the form of four proposals to DOC, on our behalf, which will allow U.S. and other

visitors to operate in the DX window, regardless of the terms of the licence held. See October QST for details.

So now CRRL would grant terms to hams of other countries, not covered by the licence held, overriding the FCC, incentive classes of U.S. tickets!

Many of my friends argue that CRRL is a front for an American organization. These actions will lend considerable weight to that argument.

CRRL did not consult this member, or any CRRL ham that I know, on these matters!

Soon the Henry 4-Kw amplifiers will blot out the DX window, if CRRL has its way.

Roy Parrett VE7TG  
Victoria, B.C.

#### TOO LATE?

There has been a great deal of grumbling and, I hear, threatened cancellations of TCA, due to late arrivals in Burlington.

I, for instance, have just received my December issue, and I understand other members have either not received theirs, or likewise, have just received them.

I am fully aware that our Burlington Post Office has got to be the world's worst, but thought you should know, in case it is also a problem of late mailing. You must admit the magazine is not of much use when it arrives so late.

Your comments would be appreciated by many.

P.M. Hallam VE3MFO  
Burlington, Ont.

*I disagree. There are many things written in TCA that do not need a time limit. However, for those articles that do need it, a late issue is deadly. Part of the problem of late issues is caused by lack of material. We seem to be catching up, so watch for issues to be 'on time' soon!*

#### NEW LIFE FOR MULTI-7

Many thanks for all articles, especially the 'Multi-7 Rejuvena-

tion' by Ken Grant VE3FIT. Had just about given up on mine but changed the 47PFs to 33PFs and whoopee! Never heard the repeaters so clearly. Thanks again, Ken VE3FIT. Keep these articles coming.

Gordon Webster  
Victoria, B.C.

#### THANKS TO CARF

I would like to take this opportunity to thank all the people at CARF and the QSL Bureau volunteers for all the hard work you do. I find it a very good organization to be a member of. I find TCA very interesting with parts appealing to almost every Amateur.

For the fine work and accomplishment you do, I would like to subscribe for a life membership to CARF.

John VanTurnhout VE3KHE  
Berwick, Ont.

*Perhaps printing this letter is a bit self-serving, but it is an example of the many letters we receive here. I often choose not to publish them in case someone misinterprets my motives. To all those who write thank-you letters to us, thank you for your support.*

#### SMITHS FALLS STATION

The Smiths Falls Amateur Radio Club will be operating a special events station CZ3SFR all bands HF and 2 metres VHF from May 22 to June 7, commemorating the 150th Anniversary of the 123 mile Rideau Canal system linking Ottawa and Kingston. Special QSLs, send business size SASE to P.O. Box 215, Smiths Falls, Ont. Canada K7A 4T1.

Ruth Soucy VE3DZH

#### LICENCE FEES

Although licence fees for most radio services went up for the coming fiscal year, Amateur licences will remain at \$13, according to the Canada Gazette of March 10.

# Contests

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

## CONTEST CALENDAR

### April

3-4 Polish DX CW(?)\*

10-11 CARF Commonwealth

Phone\*\*

17-18 Polish DX SSB(?)\*

24-25 Helvetia 26\*

24-25 H.M. King of Spain\*

### May

8 World Telecom Day SSB

8-9 USSR CQ-M

15 World Telecom Day CW

29-30 CQ WPX CW\*\*

### June

12-13 ARRL VHF

19-20 All Asia SSB

26-27 ARRL Field Day

July 1 Canada Day Contest

\* see March issue

\*\* see Feb. issue

The ARRL DX CW contest has passed, and participation by Canadians was down, just like propagation. VE3IY looks like the top single op all band entrant, perhaps followed by VE2AYU or VE3BVD.

So far I have heard no rumours of scores, or even confirmations that these stations were even seriously entering the contest. Single-band action included VE3KKB on 10 metres, with a score somewhere above 100k, which beats the old high mark, and perhaps VE3DUS, who may have gone all bands in the face of the lousy conditions. VE3BMV was observed making his usual big noise on 15, and VE2ZP was enjoying (if that is the right word) 40 metres. Conditions particularly on the higher bands were somewhat poor, with polar paths on all bands somewhat rough to work. On 40, I did not hear a single JA I could copy. Even the west coast types appeared to be having trouble. At least there was a reasonable

level of activity in Europe, and there were plenty of countries to work.

One problem I found particularly inconvenient was that I was continuously being called by Americans in search of multipliers. For stations in Canada and the USA, our two countries are not useful for multiplier points. That disastrous year, 1980, still rings through some memories.

Some reasonably rare DX showed up for this one. Among the more interesting countries were A71, EA6, V3, HZ, ZB2, carloads of KH6s and KL7s, and certainly other rarer stuff.

For all the praise this contest gets from American quarters, it is unable to draw anywhere near the levels of activity that CQ's affairs do. Very few really competitive scores come out of Canada, at least, except for those few who make big efforts. In this country, at least, there appears to be relatively little competition. The record scores table for Canada tells most of that story.

Some time ago, there was a move to have ARRL rewrite their rules so that Canadians would be competing with DX, rather than competing for them. If this change were made, Canadians would be in an ideal position, similar to VP9 and the Caribbean, to place winning scores year after year. This movement fizzled out for lack of activity, with the responsible character letting the idea wither.

I heard an interesting statistic quoted to me the other day. Peter VE7AB is a good friend of K6MYC of KLM fame. Mike mentioned that so far 2000 of KLM's 4 element 40 metre Yagis have been

sold. 2000! I'm surprised there is that much aluminum in the world. Apparently, according to the National Contest Journal, the average USA contester's station includes a 4 element 40 at 100 feet or so. Imagine what the big guns are using. There are only two Canadians I know of using 4 el 40s: VE5RA and VE7WJ.

It looks very much as if Canadian Contesters are satisfied with the status quo in regard to special prefixes. For all the agitation by Bob VE3KZ and I, I have yet to hear of anyone making even the token effort of sending a letter to DOC on the subject. The next CARF symposium will be happening on the last weekend of May (WPX CW time) so there is little or no chance of this question being dealt with this year. If you were in favour of the principle of special prefixes for contest work, you will have to wait another year to show just how profound your apathy is. Those of you who stood opposed did not even have to lift a finger. The choice of the WPX CW weekend pretty well excludes the possibility of any discussion of contest issues at the symposium. That weekend was chosen to avoid some of the ham-fests occurring about this time of year near Scarborough. Hopefully we can use the coming year to organize favourable opinion.

Those of you who are keen on 160 metres will be happy to hear about a project by Ivan VE3INQ. Ivan is trying to put together enough interest to build a Canadian 160 metre bulletin. He has circulated a questionnaire to a good number of the 160 metre actives in Canada, and if you have an interest in the project, he is looking for all the suggestions he

can find. Drop him a line to Box 276, Stn A, Weston, Ontario M9N 3M7, and he will send you a copy of his questionnaire. In some part at least, Ivan would like to see some contest statistics appear in the bulletin.

Results of the 1981 Can-Am were published in Long Skip for February. They are presented here.

**Results, 1981 Can-Am Phone  
Single op, all bands**

VE5DX	966,012
VE7CNY	805,280
VE7BTV	498,097
VE1CEG	96,380
VE3JCV	94,615
VE3GCO	93,072
VE3FHZ	52,768
VE3KZ	45,479
VE7AVN	21,970
VE7IQ	16,002
VE3MUV	13,040
VY1DD	3,509
VE5AAD	3,321
VE3BMV	1,326
VY1AU	1,046
VY1DV	304

**Single op, single band**

28	VE3KOY	10,327
28	VE3MFT	2,470
14	VE3MCN	1,275
7	VE3ETE	16,104

**Multi operator**

VE7UBC	666,164
VE7ZZZ	503,100
VE1CFB	458,052
VE5MC	401,472
VE3UOT	298,304
VE2CUA	202,855
VE4QST	41,040

**Results, 1981 Can-Am CW**

**Single op, all bands**

VE5DX	484,356
VE6OU	390,328
VE3DAP	217,175
VE3DZV	207,640
VE1AIH	158,025
VE2WA	145,314
VE3ATD	141,856
VE5AE	92,463
VE1AXT	81,720
VE1ANU	81,640
VE1CEG	61,374
VE3WZ	41,976

VE3CKR	25,024
VE4RF	23,162
VE7IQ	14,280
VE3NBE	10,633
VE5AAD	7,848
VE3MKJ	4,420
VY1BQ	3,379
VO1QU	3,220
VE3MCN	1,890
QRP VE3KZ	10,927

**Single op, single band**

28	VE3MFT	1,530
14	VE3BMV	12,768
7	VE3FCU	13,143
7	VE3KZE	5,376

**Multi-op**

VE3UOT	267,660
VE1CFB	160,925
VE7ZZZ	160,360
VE4QST	3,275
VE3SWA	1,200

**WORLD TELECOM DAY**

Period: SSB- 0000z to 2400z 8 May. CW- 0000z to 2400z 15 May.

Bands: All Amateur bands.

Classes: Single op, all bands; multi-op all bands.

Exchange: RST and ITU Zone.

Contacts: Work stations anywhere. QSOs with Canada 0pt; outside Canada, but inside your zone, 1 pt; outside Canada and your zone, but inside North America 3 pt; stations on other continents 5 pt.

Multiplier: Total of ITU zones worked, regardless of band.

Awards: Gold, silver and bronze medals to the 1st, 2nd and 3rd place single op entrants, worldwide. A silver plate will go to the top multi-op station. Certificates will be awarded to the top scoring station in each class, in each country.

Entries: Must be received by 30 June by LABRE Contest Coordinator, P.O. Box 07-0004, 70,000 Brasilia, Brazil. Include an SAE and IRCs for a copy of the results.

**USSR CQ-M**

Period: 2100z 9 May to 2100z 10 May.

Bands: 80-10 metres, and via any Amateur satellite, CW and SSB.

Classes: Single op, single or all

bands; multi-op single transmitter, all bands.

Exchange: RST and serial number. USSR stations will send their Oblast number in place of the serial number.

Contacts: Work everyone. 0 points for QSOs with Canada; 1 point with other North American countries; 3 pt. for QSOs outside NA.

Multiplier: Total of DXCC countries worked on each band. The following Oblasts count as separate countries: UA1N, 088; UA1P Novaya Zemlya, 114; UA4P, 094; UA4S, 091; UA4U, 092; UA4W, 095; UA4Y, 097; UD6C, 002; UA6J, 093; UA6I, 089; UA6P, 096; UF6Q, 014; UF6V, 013; UA6W, 086; UA6X, 087; UI8Z, 056; UA9W, 084; UA9X, 090; UA0O, 085; UA0Q, 098; UA0Q New Siberian Islands, 098; UA0Y, 159; UA0Z Kurile Is., 128. Some of these oblasts share prefixes and oblast numbers. Make sure you find out where UA0Q, UA0Z and UA1P stations are.

Awards: In the single and multi op all band classes, trophies will be awarded to the top scoring non-USSR entrants. A Medal will go to the first place single band entrant outside USSR. Badges will be sent to stations making more than 10 USSR QSOs.



**CONGRATULATIONS**

John Tessier VO1FX long time president of the Society of Newfoundland Radio Amateurs, has been elected councillor of the city of St. John's. Society of Newfoundland Radio Amateurs



# DX

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

Judging by conditions on 10M at the end of February, we are definitely heading into the sunspot doldrums. Although propagation to Europe and Africa was excellent until about noon or shortly after, the opening was nowhere near as long as it has been in the past few years. Further, the opening to Japan and SE Asia was almost non-existent over the ARRL CW Contest weekend. I spent that weekend exclusively on ten metres and, if I hadn't had decent antennas at heights ranging to 105 feet, I would have been truly up that well-known creek.

There was a long period from the time that most Europeans disappeared, until a few watery JA's were heard, where I sat and listened to a few South American, Central American and Caribbean stations, all of whom I had already worked. And I thought that QRP operating could be frustrating! Even so, there were a few outstanding treats. 9U5WR had the good grace to caress my receiver, as did HZ1AB. From the Pacific, the only real standout was P29PS.

There seemed to be a tremendous amount of activity from both KH6 and KL7, all of whom were putting out powerful signals. One thing that I found hard to believe was AH6BK, about 1730z was 20 dB over S9. Ten metres will still have its moments, but there's no question that its days are numbered. Time to start thinking about that Advanced Amateur ticket for those of you who were caught in the 10M endorsement trap!

It looks as though the U.S. will get its 20M phone expansion. In a recent release by the FCC, a notice of intent to expand Amateur

privileges to the 14.150 to 14.200 MHz segment of 20M has been filed. Although the expansion is not yet law, it is, unfortunately, just a matter of time. In an earlier column, I suggested several scenarios which might arise from such an expansion and, judging by the reaction of some DX Amateurs, the one which saw a good portion of the world moving down 50 KHz into the current 'CW' portion of the band may become a reality.

Canada, of course, has a sub-band structure which would prohibit us from following most of the world down below 14.100. Really, I don't see why we should effectively be penalized for someone else's gain. The abolition of this sub-band structure will be one of the topics of discussion at the annual CARF Symposium being held this year in Scarborough.

Reports that the KF10/CE0X operation will not be accepted for DXCC credit are somewhat exaggerated (even if I did report it here last month). The real story (after a phone call to Don Search of the ARRL's DX desk) is that there has not been a definitive decision made yet. Apparently, they are still awaiting further documentation from Bob.

Another rumour that has been circulating is that the ARRL is re-evaluating the status of XZ9A and XZ5A for DXCC accreditation. This is absolutely untrue. There has been no change of heart at Newington, and there are no further plans to discuss it at this time. However, it is supposed to come up for discussion at the IARU Region 3 conference to be held this year. Burma is a member of IARU Region 3.

## Bits & Pieces

C9A Mozambique- In view of two reports of negative responses for permission to operate from C9, the chances for the projected SM operations from that country are questionable.

VU7 Andaman Is.- 4Z4TT has been promised a licence when he arrives in VU for an upcoming DXpedition. Details are not known, but the timeframe is thought to be late March or early April.

ZL/C Chatham Is.- ZL4PO/C expected Mar. 8 to Apr. 8. He will be QRV daily, 1200-1800Z on all bands. QSL to ZL4KI. Also on Chatham are ZL3BFJ/C (until May '82); ZL3TZ/C (until '83) and ZL3PA/C (until '84).

Pacific DXpedition DK1VU- Dates for the remainder of the trip are: A35RF, Mar.26-Apr.15; 3D2RF, Apr.16-Apr.20. Cards for an earlier stop on the tour (5W1DC) are already being received.

ZA Albania- Three separate groups are trying to obtain permission to operate from super rare Albania. DL7FT and two different groups from EA. April is the month being examined by all three. I wish them all luck, as I sure could use ZA in my log.

### QSL INFORMATION

CALL	QSL via
VR6TC	DL8FL
KC6DG	N5BXA
FW0AA	F9KP
6W8DY	VE4SK
WB0MKR/KH3	KB2RV
4U1UN	W2MZV
VP2KBC	W2QM

YIIAS  
3X1Z  
J87BT  
VK9YT  
VK9XT  
3V8DX  
KN2M/J6L  
VP8ANC  
VS6BT  
FG0GA/FS7  
FO8HO  
H44SH  
T30AE

DK2OC  
W4FRU  
N4FJL  
VK3OT  
VK3OT  
G3XQU  
KA2NIQ  
WA4TFS  
DL2GU  
N6ZV  
WB6GFJ  
AD1S  
KB7SB

T32AE  
VP2EU  
8J5SUN  
VS5AM  
PA0GMM  
K8MR  
JARL  
JM1FHL

So far, about 20,000 cards have gone out for UK1PGO and UA1PAM, both in Franz Josef Land.

6O1TI is not being accepted for DXCC.

Frequent visitors to the DK9KE Net (see DX listings in an

earlier issue) are: J3AH, JD1BAT (Minami Toroshima), VK9NYG, VP8QG, 7Q7LW, 5N8AFE and ZK1CG.

Cards for 7Q7LW go to Les Samson, Box 24, Mtak Ataka, Malawi. Make no mention of Amateur radio on the envelope.

That's it for this month. Good DX. Many thanks to the following: VE2ZP, DX Report, Long Skip, DARC DX Net and VE3-JLP.

# Operating Awards

## WORKED ITALIAN ISLANDS AWARD

This award was formerly issued by DX Old Timers Club (DXOTC) and it was discontinued when the club ceased its activity. It has now been resumed by Associazione Radioamatori Italiani. New award series will start with number 101.

### Rules

1. Scope. Award is issued in order to promote activity from islands belonging to Italy and, especially from minor islands.

2. Mode. Award will be issued for 2xCW, 2xSSB and 2xRTTY. No cross modes or mixed modes are allowed. Award is also available for SWL with no mode restrictions.

3. Bands. Contacts (or heards) can be made on any band between 3,5 and 29,7 MHz, including those allocated by WARC 79 as soon as they will be officially allowed in Italy.

4. Validity. Contacts (or heards) made on Jan. 1, 1982 or after will count for this award.

5. Contacts. Award will be issued for contacts (or heards) with not less than 10 Islands or Island Groups according to the following list:

Tuscan Archipelago IA5, Ponziene Islands IB0; Neapolitan Archipelago IC8; Eolie (or Lipari)

Islands ID9; Island of Ustica IE9; Egadi Islands IF9; Pelagic Islands (Lampedusa, etc.) IG9; Island of Pantelleria IH9; Ceradi Islands IJ7; Tremiti Islands IL7; Minor Islands surrounding the Island of Sardinia IM0; Sardinia Island IS0; Sicily Island IT9, for a total of 13. A special endorsement will be mentioned in the award if all 13 Islands will be contacted (or heard).

In order to be credited for the Award, contacts (or heards) shall be made with stations permanently located on the Islands or Islands Groups.

Credit will also be given for contacts (or heards) made with stations operating temporarily from such locations. These stations shall identify themselves by using their regular call followed by the prefix assigned to that specific Island or Island Group.

6. Application. Applications shall include all data regarding contacts (or heards) made, applicant's name and address in block letters, and shall be forwarded with QSLs or other type of written confirmation of the contacts (or heards) made together with 3 US dollars or 10 IRC to ARI Award Manager G. Nucciotti I8KDB, via Fracanzano 31, 80127 Napoli, Italy. GCR will not be accepted.

## NORTH BAY RAILWAY CENTENNIAL AWARD

The NBRCA commemorates the coming of steel to this area. Sponsored by the North Bay Amateur Radio Club.

### Rules:

1. A Centennial Certificate will be awarded to any licensed Amateur who makes and confirms two-way contacts with three North Bay, Ont., Amateur radio stations during the year 1982.

2. Any Amateur band may be used.

3. Any mode may be used, cross mode included, excluding repeaters.

4. Contact may be made with a given station only once.

5. Send two QSL cards to Box 624, North Bay, Ont. P1B 8J5. One card is for the mayor of North Bay and will be displayed in the city hall. The other card is for the operator.

6. Communication with the club station during Centennial Week, Aug. 9-16, 1982, will count as two contacts. The station will operate under the call, XO3NBC.

William C. Kitto VE3GWM  
Awards Chairman

# VHF/UHF News

John Dudley VE5JQ, 3125 Mountbatten St., Saskatoon, Sask. S7M 3T3

For readers new to VHF, I hope to introduce the various VHF-UHF bands over the next few months. This month, our focus is on six metres.

## SIX METRES

This is our lowest VHF band and at times can show characteristics of an HF band. Virtually all propagation modes can be observed at one time or another on six metres making it a constant source of interest and surprise. The band covers from 50 to 54 MHz. Most of the activity is in the lowest 200 kHz. In Canada, phone is allowed down to 50.050 MHz in contradiction to the U.S. where phone is only allowed down to 50.1 MHz. Generally it is CW and beacons below 50.1 with SSB activity above 50.1. Traditionally, the calling frequency has been 50.110, but there is some movement to move it up to 50.2 and to avoid congestion that can develop around 50.110 during an opening and leave it open for DX work.

FM and FM repeaters are found generally above 52 MHz. There are a few six metre repeaters in Canada. Australia can only transmit above 52 MHz and New Zealand is restricted to transmitting above 51 MHz except during certain off TV hours.

Ground wave is always available on six metres and depending on terrain, antennas and power, contacts out to 150 miles are not uncommon. Also regularly available but not utilized much is ionospheric or forward scatter. Utilizing anomalies in the ionosphere, regular contacts from 600 to 1200 miles are possible between well equipped stations (200 watts and 10dB antenna). From here, experience has shown that stations in the Seattle area (about

800 miles) are workable at will. Signals are weak and CW is the usual mode.

The bread and butter mode for 50 MHz DX work is sporadic E. Especially during the summer months, intense patches of ionization form in the E layer providing single hop distances of 600 to 1200 miles commonly with sometimes double hop occurring and rarely even further distances being covered. Signals can be very strong and so low power and simple antennas can do well. Openings last from a few minutes to several hours, usually peaking in the late morning and early evening, but they can occur at any time of day. June and July are the best months but there is a small secondary peak in December.

Reflection of radio signals from the aurora borealis is a common occurrence in Canada. Those stations situated in the more northerly and easterly locations are more favoured. On six metres, distances from 100 to 1200 miles can occur using this mode. Sometimes a sporadic E event can occur mixed in with the aurora and produce very strong signals and extend the normal range.

Antennas are usually pointed north from both stations but probing east and west of north can produce improvements in signal strength. Signals take on a raspy, buzz quality and SSB is often unintelligible. Auroras can develop and disappear quickly and so one must be alert to catch them. Since they are a result of increased activity in the earth's geomagnetic field, frequent monitoring of the K index given by the hourly WWV propagation forecast is helpful. Noting watery, raspy signals on the HF bands can also be a good

indicator to watch for aurora.

During the years close to the peak of the sunspot cycle, ionization in the F<sub>2</sub> layer can be intense enough to reflect 50 MHz signals. This has been the mode that has produced the rash of phenomenal DX contacts seen on six metres in the last few years. It seems to peak in November but certain paths can occur at any time during the winter months.

Tropospheric and meteor scatter propagation can also occur on six metres but will be discussed next month when two metres is the focus of our tour through the bands.

As far as equipment goes, this was covered partially in W3XO's World Above 50 MHz column in the April 1981 issue of QST. Low power and simple antennas can provide lots of fun especially with sporadic E and F<sub>2</sub> propagation modes. If you want to go after the 'weakies' of course the more power and bigger the antenna the better.

## SIX METRE DX REPORT

November brought F<sub>2</sub> DX conditions which could only be described as terrific. No matter what part of the country you live in, November had some choice 50 MHz DX to offer. There were some truly outstanding QSOs in November. Andy VE1ASJ's long path QSO with Okinawa on Nov. 11, 1981 was certainly one of the remarkable ones of this solar cycle. Andy followed up by working a VU2 on Nov. 17.

The western provinces also had their share of the fun, your writer snagging ZD8TC and C5AEH on Nov. 15, 1981. Nov. 12 was also a very interesting day with strong

back scatter from the South Pacific producing QSO's with all U.S. call areas and KL7. Hawaii was also in on F<sub>2</sub> at the same time.

W6JKV's DXpedition to the Gambia in November was certainly successful, providing many operators with an African QSO for their WAC. C5AEH was workable over most of North America at some time during the two week operation and Jim W6JKV must be congratulated for a fine job.

These stations at the east or west of our country were also treated to some fabulous trans-continental openings. The closing days of November showed a decline in openings but one could hardly complain since this November's conditions surpassed all expectations. We hope for some further F<sub>2</sub> openings over the winter and also for very sporadic E openings, December being the most likely winter month for E's.

### SMIRK

SMIRK stands for the Six Metre International Radio Klub, a group formed in 1972 by a few dedicated San Antonio, Texas, six metre men. It's main purpose is to encourage and foster the use of six metres. To this end, they have been active in band planning, awards, helping activate countries where there is little or no six metre activity, and also helping fight TVI/RFI problems. The membership is now over 4,300 in 69 different countries.

The present membership requirements for Canadians require you to work three SMIRK members to qualify. A list of the members you worked giving calls, SMIRK number, date and time, plus \$6.00 (U.S. funds) sent to Roy Clark K5ZMS, 7158 Stone Fence, San Antonio, Texas 78227 will get you your own SMIRK number and membership certificate. Thereafter, a \$3.00 annual fee will get you the quarterly newsletter (a gold mine of information) and keep you eligible for operating

and contest awards. Awards are offered for working various numbers of members, numbers of DX countries worked and for the two contests (June and November) that are held annually.

### SIX METRE

#### LIAISON FREQUENCY

Six metre enthusiasts congregate around 28.886 MHz in order to pass information about

six metres. Stations working cross-band contacts to six metres also transmit near this frequency. This frequency is a great resource for finding out about openings, QSL information, etc. To continue to make it work well, the six metre group would ask that QSO's on that frequency be short and that you QSY for longer QSO's.

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# Renewal Notices and Change of Address

At the CARF Office, complaints have been received from members that they have not received a renewal notice or that they have sent in a Change of Address card and no action has been taken.

**Renewal notices** are mailed about six weeks before the start of the month of expiry (April 1982 notices mailed before Feb. 15). Due to the slowness of Canadian mail, your Federation forwards an extra issue of TCA to members—if your membership expired in January 1982, a copy of the February issue TCA is forwarded. If uncertain of your expiry date, check the first line of your mailing address label. The second group of digits gives this information, e.g. 8204 indicates expiry in April 1982, etc. If you have not received a renewal notice, please forward your dues to the CARF Office, quoting the first line of your address label.

**Change of address** cards are frequently delayed in delivery, or not delivered at all. When received, the computer records are corrected and an extra copy of the current issue of TCA is mailed. If TCA copies fail to come to your new address after about six weeks, please notify the CARF Office by letter, as first class mail does have a better record of delivery. Again, the office staff will appreciate the

quoting of the first line of your label.

**Computer records** use the first line of your address label for identification:

E998 830<sup>7</sup> 2ZZZ            J128 J7G  
E998- Membership No.

830<sup>7</sup> - Expiry date (July 1983)

2ZZZ- Abbrev. call sign (first 4 letters of name if no call held)

J128- location of label data in disc storage.

J7G- FSA (first 3 digits of postal code)

Records can be searched by membership number, call sign, disc storage location or by FSA, *not by name or address.*

The more identification given, the faster the Office can serve you.

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## Booklets available

Starting with the Feb. 1982 examinations, your national Federation will hold a limited number of the Amateur, Advanced Amateur and Digital Operator examination booklets supplied by the DOC. These are available, in single copies, for the cost of mailing and handling: First class mail, 75 cents; Third class mail, 60 cents.



Canadian  
Repeater  
Advisory Group

Hugh Lines VE3DWL  
P.O. Box 192, SS 11 Belleville, Ont. K8N 4Z3

All the news this month comes from Quebec and Ontario. First, Serge VE2FIT sent in some changes from the Chicoutimi area. Three new machines are on the air or soon to be. VE2RIT is on the air from Chicoutimi on 146.250/146.850 and VE2RTG is on the air from Chambord on 146.430/147.030. As well, VE2RMV will be on the air soon from Mont Valin on 147.840/147.240.

Two machines that have ceased operation and should be deleted from your listings are VE2RCM in Alma (25/85) and VE2RCC in Chicoutimi (72/12). Serge also has a ten metre beacon on the air (VE2TEN) on 28.2175 and will soon be putting a two metre beacon (VE2TWO) on 144.025. Any reception reports should go to Serge Freve VE2FIT, 1505 Des Martinets, Chicoutimi Que. G7H 5X9.

From VE3HTJ via 75 metres comes news that VE3SDG in Finch is now on the air, so you can delete the 'P' on your listings for that repeater.

Carl VE3IJB passes along some information on corrections and additions. First, correct your listings for VE3KCR in Chatham to read 147.720/147.120 and 449.900/444.900 and add to the Chatham repeaters VE3SOR 144.590/145.190. Also add Sarnia VE3MGK 144.770/145.370, McGregor VE3SOT, 144.690/145.290. Two proposed repeaters are in London on 144.630/145.230 and Kitchener on 144.690/145.290.

Harry VE3HYS was passing by on highway 401 the other day and called in on 52 to report on a new machine in the Muskoka area. VE3YQA is on the air from Rosseau on 222.340/224.940.

Craig VE3HWN reports on a new 'portable' repeater in the Kit-

chener area. VE3IC (146.865/146.265) is a true portable machine and does not reside at a fixed location and will be used for emergency communications by the KWARC and SWARC

emergency groups.

That's it for this month. Don't forget to get any changes, additions or deletions to me for the June repeater listing.

## CW operators— A Dying Breed??

Each year my wife and I visit the CNE mainly to see the Scottish Tattoo in the evening and for me to visit the Metro ARC booth in the Arts building.

For the second year in a row I found no keyer, bug or straight key at the booth. I was informed kindly that "didn't I know that CW Operators were a dying breed"?

I was allowed to listen to the OSN at 4 pm and to copy VE3GOL and the NCS VE3HGJ

Bill at Niagara Falls. Speed around 15 wpm but nobody around me seemed to be able to copy that speed. In fact I found it hard to explain what was meant by a traffic net.

Could be, I could end up sending to myself before I become an SK.

VE3KK

KWARC Bulletin

**CW operators are not a dying breed. I too am a CW operator and I've never felt better. Ed.**

## Social Events

The Southern Ontario Repeater Team, Inc. of London, Ont. proudly presents the first annual **SORT Fleamarket and Computer Faire**. Sat., May 15, 1982, Medway High School, 75 Medway Road, Arva, Ont., 3 mi. north of London. Hours 9 am to 3 pm. Admission \$2.00. Indoor and outdoor booths, demonstrations, commercial displays, food service, Prizes. Enquiries to P.O. Box 73, Hyde Park, Ont. N0M 1Z0. Talk-in on VE3TTT 147.78/147.18; VE3TTT 449.40/444.40.

Plan to attend the **Eighth Annual Ontario Hamfest** hosted by the Burlington Amateur Radio Club at Milton Fairgrounds, Saturday, July 10. Fleamarket, displays, auction, contests and prizes. Admission \$3 per person and \$2 for pre-registration. Camp-

ing will again be available and grounds will be open on Friday night for early campers. For pre-reg., contact Mike Cobb VE3MWR at P.O. Box 836, Burlington, Ont. L7R 3Y7.

**Central Ontario Amateur Radio Fleamarket** sponsored by the Guelph ARC, VE3ZM, will be held Sat., June 5 at Regal Hall, 340 Woodlawn Road West, Guelph, Ont., corner of Woodlawn and Hanlon Pkway. Admission \$2. Age 12 and under free. 8 am to 4 pm, vendors from 6 am. Vendors additional \$3. Tables available at \$5 ea. Commercial displays, surplus dealers, computer software and hardware. Indoor and outdoor displays. Contact Bob LaCombe VE3IYE 1-519-843-4618; Rocco Furfaro VE3HGZ 1-519-824-1157.

# Yukon's Repeaters

Frank VanderZande VY1DD

You are probably thinking "repeaters in the Yukon? The last time I worked a VE8 out there was ages and ages ago. How can three or four Amateurs support a repeater system anyways?"

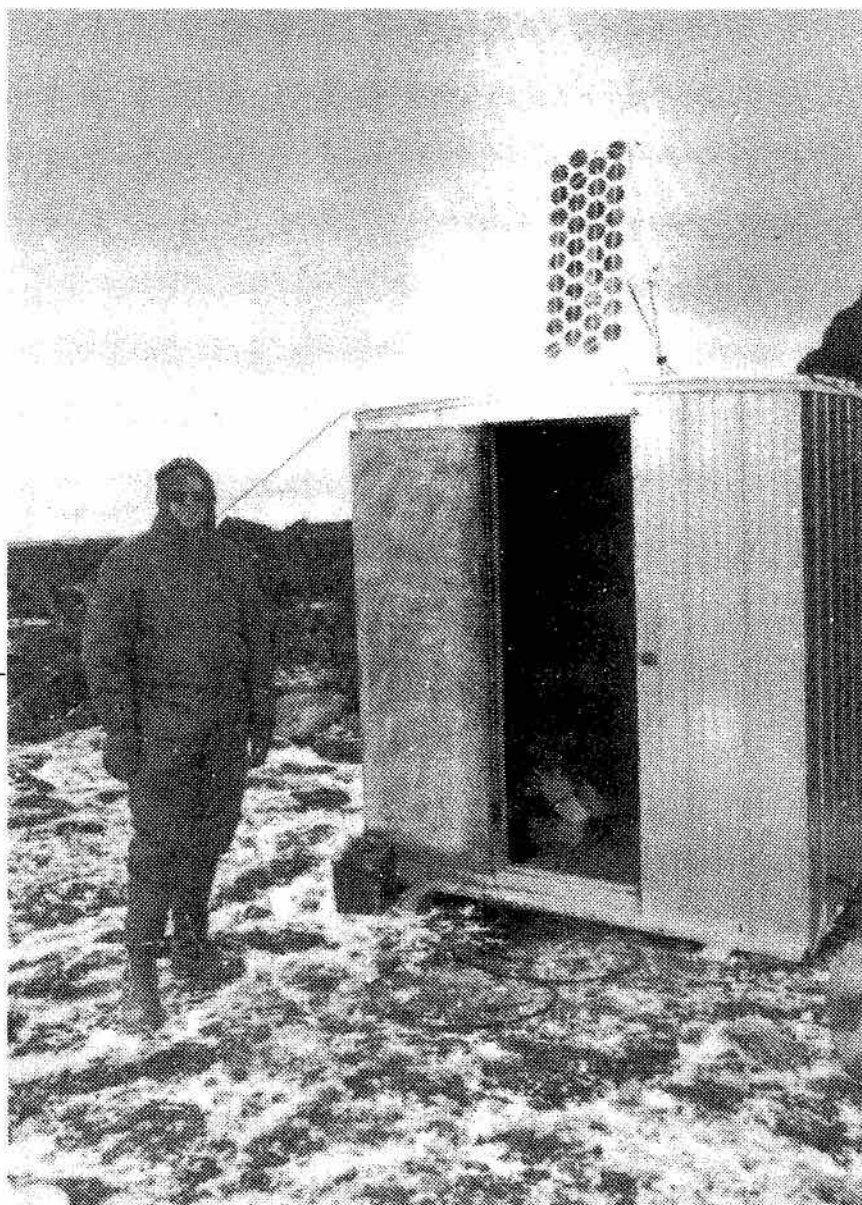
Well ... times have changed some. This is no longer VE8 territory and those VY1 stations you have been hearing on HF are actually Yukoners, not Maritimers.

For those of you who may not know, the Yukon is spread out over an area of some 207,000 square miles and the number of people in this vast territory number less than 25,000 with some two thirds of them living in the Whitehorse area. The remainder live in the dozen or so small communities scattered across the territory. A few live in the 'bush'. Fifty Yukoners are licensed Amateurs. We even have one who holds one of those exotic digital Amateur certificates.

A number of mountain ranges crinkle the territory. The St. Elias range has Mount Logan, a fine repeater site at 19,850 feet (6050 meters). Unfortunately our repeater is not located here. Yukon Amateurs have big ideas,

but not this big. Anyways, it's nice to dream.

For a number of years, the Yukon Amateur Radio Association (YARA) has been operating a two metre repeater on Canyon Mountain which is also locally



*VY1DD at the repeater hut. The solar panel is no longer functioning. Hungry rodents have a taste for silicon.*

known as Grey Mountain. The top at 4985 feet (1520 metres) is accessible by 4 wheel drive vehicles four months of the year and by snowmobiles at other times. This site is on the southeast perimeter of Whitehorse. NorthwTel and CBC are the prime users of the location. These two organizations have been very supportive of Amateurs in the Yukon and have permitted the club to tap into the AC power line and telephone system. CBC has also allowed us to use a bit of space for the equipment in their building.

Repeater coverage from this site is very good with a range of 50 miles in some directions. The autopatch which is equipped with speed-dial for police, fire and ambulance works very well. The repeater is not very busy most of the year. Some days it is completely silent. During the months of July and August it is another story. The Yukon is invaded by tens of thousands of tourists and amongst them of course are Amateurs. Some of the hams come from as far away as Africa, Europe and the Pacific. The two metre repeater is put through the grinder.

There is absolutely nothing wrong with the Canyon Mountain repeater and the coverage provided, but you know how it goes, there are always a few Amateurs around who want to do it better. The prime motivator in this case was Ron McFadyen VY1AD. To do it better a higher site was needed. But what about autopatch? We don't want to lose that. YARA club members decided to go for broke - two repeaters.

The new location chosen was Flat Mountain, some 6,338 feet (1932 metres) high and 22 miles north of the Whitehorse airport. We figured this site would drastically improve our coverage along the Klondike Highway to the north and along the Alaska Highway to the west. If

we were lucky, it may be possible to work into the repeater site from the communities of Haines Junction and Carmacks.

Flat Mountain is not served by the electric utility, so battery operation was our only option. This did not pose too big of a problem since the Canyon Mountain repeater we had in operation was an RF Electronics BRF150 which was just right for such use. We already had a set of caustic potash batteries which were being used as a backup power source for the Canyon Mountain repeater.

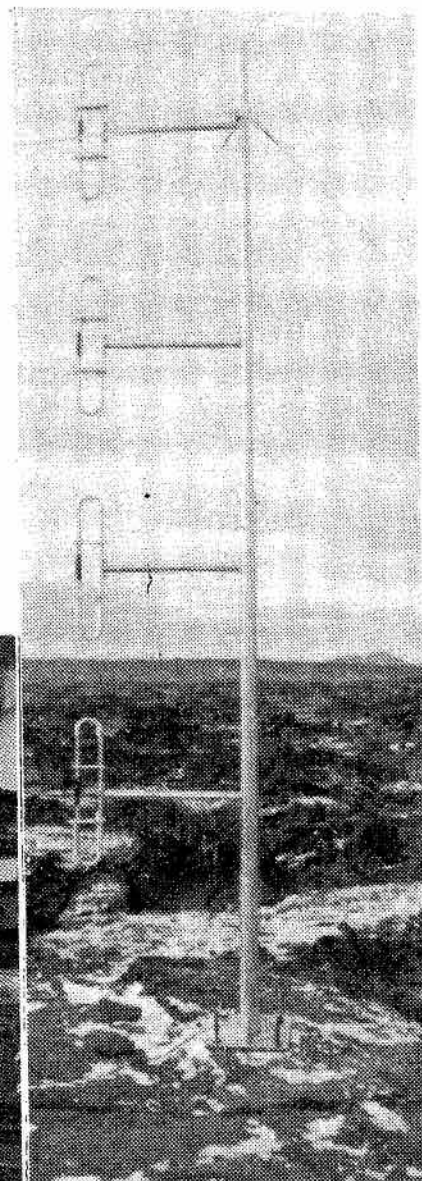
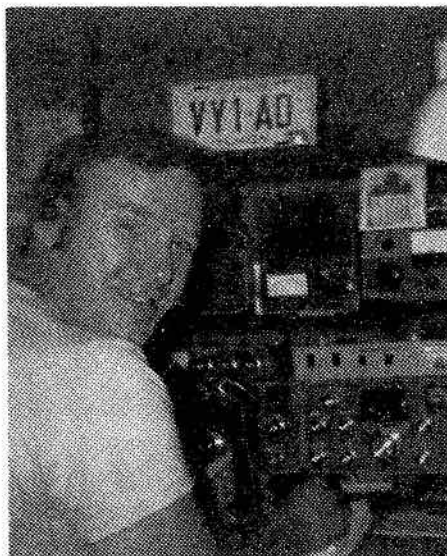
These batteries are rated at 2000 Ampere-hours each and we estimated that they still had a few years of life left in them.

Kirk Carter VY1CC and Peter Fenske VY1CJ went to work on the club's spare Motorola repeater. This unit is of tube vintage, but it had seen very little commercial service and was in very good shape. After wiring in the Ider and timer, Kirk and Peter were able to tune the receiver for .25 uv for 20 dB quieting with 60 watts coming out of the transmitter.

The next step was a work party to change the repeater on

*Right: Flat Mountain- 6,338 ft ASL- It appears that this antenna is installed on flat prairie. Note the higher mountain peaks visible in the background.*

*Below: VY1AD at his home station. Ron is the driving force behind the repeater system.*



Canyon Mountain. A group of VY1's went up the hill in four wheel drive vehicles. We also talked a couple of visiting Amateurs into coming along to take some pictures of the splendid view which was visible from the top. As it turned out, one of the visitors was an engineer who worked for Collins Radio and the other chap an engineer who worked for International Systcoms back east. There was no lack of brain power in this operation. VY1 RBW 28/88 became operational on July 25/81.

The BRF150 went to the workshop where VY1CJ and VY1CC performed surgery on the identifier board. They had fears that the IDer could malfunction in the extreme cold since MIL spec chips were not used in the unit. Should the IDer go erratic, there was a chance that the identifier would hold the transmitter on for long periods and deplete the caustic potash batteries. This was never a problem on Canyon Mountain since the rig had a nice warm home in the CBC transmitter building. Peter and Kirk rewired the IDer so that it can now only operate while the transmitter is in operation. After a retune, the

BRF150s performance was measured to be 6 MA on receive and 900 MA on transmit. Very respectable performance.

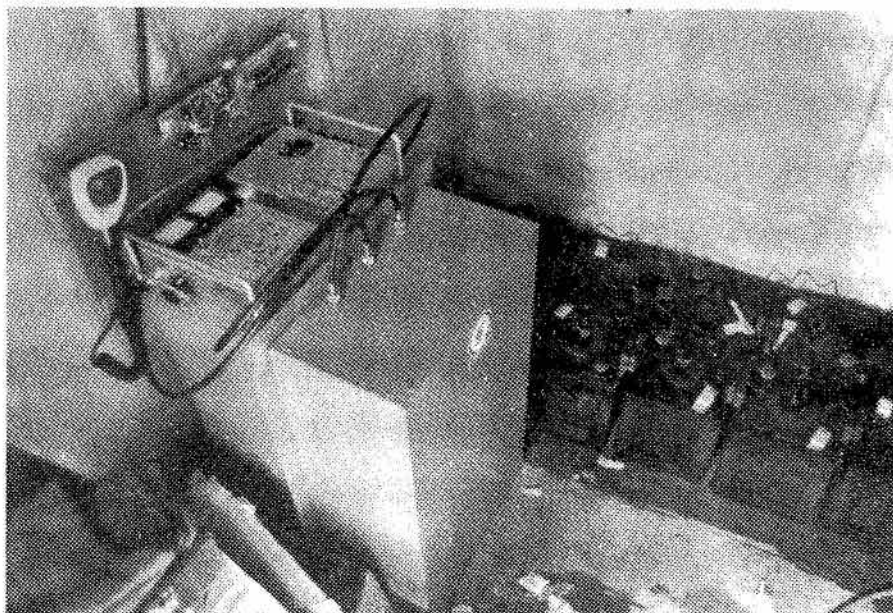
Permission to use a vacated hut on Flat Mountain was secured. Ron McFadyen VY1AD went into high gear to arrange for a work party, transportation and a rock drill. After a bit of horse trading, Bill Jones VY1BJ agreed to part with his Sinclair 210-C4 and Ron Greenaway VY1CQ went right to work manufacturing a base suitable for supporting this antenna on solid rock.

Trans North Turbo Air Ltd. donated an hour of helicopter time and also offered to fly the antenna and the fourteen caustic potash batteries to the site in advance of the work party. The batteries and antenna alone made a pretty good load for a helicopter. VY1s AD, CC and CJ went up first. The mountain top lived up to its name. The peak was relatively flat and devoid of vegetation. It was difficult to walk around since the surface consisted of irregular jagged slabs of rock. Murphy strikes. The rock drill ceases to operate. There is no way to install the 9 dB antenna without rock anchors. Kirk slips

on a loose rock slab and falls while he was moving some equipment around. He received a nasty cut on the side of his forehead. The helicopter was called back.

More helicopter time is needed. Radio station CKRW Whitehorse donated an hour of flying time for the second trip. This time VY1CC stays behind and is replaced by Brian Warner VY1BE who was looking for a bit of adventure. That's exactly what they got. When the helicopter arrived at the site it was snowing with a good gale blowing. The airspeed indicator on the hovering helicopter showed 60 knots. The windchill was unbelievable. This is August is it not? Brian's flask of coffee with a secret additive saved the day and the gang managed to drill the required holes and erect the antenna. A successful trip.

VY1CC and CJ were scheduled to install a Sinclair Comshell for forestry on Flat Mountain in early September. The plan was to take the BRF150 repeater with them on this trip. This required the use of a larger helicopter since the Comshell is some 24 feet tall and weighed in excess of 1200 pounds. A Shirley Helicopter 206 Long Ranger had been contracted for the job. Now just to wait for the right day. Finally on September 24th it was go go go. VY1AD was super-excited, but he had to work and couldn't take time off for this trip. Ron however had his trusty hand-held with him and was ready to make the first contact



*VY1RPT showing RF Electronics BRF150 Sinclair Q202G Duplexer and some of the 14 caustic potash batteries.*



through VY1RPT from the new site. Frank, VY1DD offered his services.

Just before landing the helicopter pilot tells us "Hope you guys have fun up here and by the way I saw a grizzly near this peak last week". We got off the 206 Long Ranger in spite of this report and the helicopter left to pick up the Comshell from a semi-trailer near the Takhini Hot Springs area. Kirk, Peter and a helper went to work on the forestry site while Frank started hooking up the repeater on the other side of the mountain top. The Comshell was dropped into place by the helicopter without a hitch. Shortly afterwards the 34/94 machine was connected to the batteries, 18 volts. Just right. VY1RPT was ready to go. Ron made the first contact and we were all amazed that he could work into the unit from his

handheld with 100 MW while in a Whitehorse building some 30 miles away from the repeater site. It sure sounds good. A quick celebration at a Whitehorse pub followed our return.

Soon the word is out that 34/94 is in operation from a new site. It didn't take VY1BG long to fire up a two metre rig into a yagi antenna. Geoff lives in Haines Junction and he now has two metre capability into the Whitehorse area 80 miles away. VY1BR and VY1BC while on a hunting trip in the Carmacks area were able to work back into Whitehorse from well over one hundred miles distance. Ron's dreams have been realized.

The Flat Mountain repeater activity was pretty heavy for the first few days, however things have now tapered off to the normal fall and winter routines.

This coming summer should prove interesting.

Of course none of this could have happened had it not been for a bunch of true blue ham operators in the Yukon and the following enterprises who somehow came through for us when we needed help: Trans North Turbo Air Ltd., Radio Station CKRW, D.I.A.N.D., YTG Emergency Measures Organization, RF Electronics in Vancouver, CBC, City of Whitehorse, Microry Holdings, Shirley Helicopters, Taylor Chev Olds, Northern Metallic, Total North Communications, Whitepass and Yukon Route, Canamet Sales, Radio Shack, Hougens Ltd., Nelsons Hardware and North-westTel.

Should you be planning a trip to this beautiful area of Canada, be sure to pack along a two metre rig and enjoy Yukon's repeaters.



*VY1CJ (left) and VY1CC preparing to leave for Flat Mountain.*

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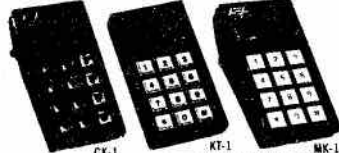
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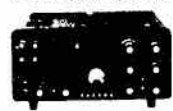
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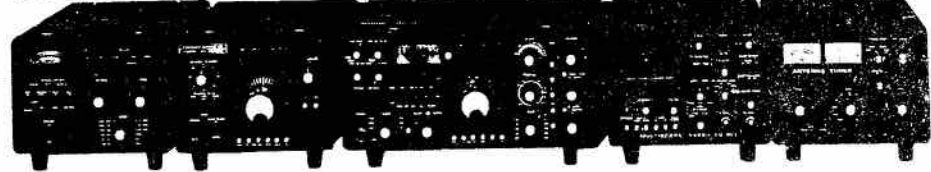
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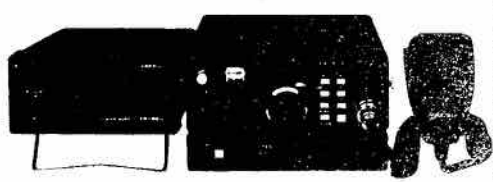
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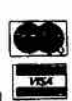
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# The Kinetic Kitty

An energy alternative of the '80s

Long before nuclear fission, tidal power, solar energy or Quebec heaters fired the imagination of mankind, common alley cats became the energy focal point for science.

## Ye Olde Cat Power Machine

About 100 years ago, an anonymous researcher invented a cat-power machine. In newspapers of that era he advertised his invention as "the energy alternative of the 1880s."

Writing in an obscure journal, the scientist described his machine as "a curious combination of large and small flywheels, great balancewheels, bright steel rods, and an almost innumerable number of coils of copper wire all joined to a brightly polished cylinder of brass, one end of which projects into a wire cage filled with ordinary cats."

Our scientist, a master of understatement, relates that "its operation is very simple, but surprising in its results."

"A slight pull on a small nickelplated lever starts the machine. Then, like lightning, from out of the end of the cylinder projecting into the cage there shoots a long steel arm and hand, grabbing one of the cats by the nape of the neck and yanking it into a cylinder, where it disappears with a yowl of more than feline terror.

"In a moment," the professor advised, "the flywheels, the great balance-wheels, and all of the complicated machinery begins to move, at first slowly, but soon with startling rapidity.

"At the proper moment,

which is indicated by a small, clock-like attachment, the operator pulls another lever, when from out of the other end of the cylinder, with hair and tail erect, scintillating eyes, and a caterwaul dislocating to one's spinal column, the cat is projected into a tub of cold water prepared for its reception."

This simple operation, surprising as it may seem, extracts from the cat, assures the professor, "electricity equivalent to the power represented by ten horses, working for one hour, and this power can be stored in the cylinder until needed."

## No Persians, Please

Because a cat can be processed through the mechanism every three minutes (allowing for drying time, assuming we are not employing fine-haired Persians), and allowing accumulated electricity to be stored, "the power of the machine is practically limitless," says the professor.

"The same cat can be used once every ten hours without in the least impairing its health and general usefulness," he attests.

## And Now

If this equipment were to be operated in the 1980's, an around-the-clock cat-machine would require something in the neighborhood of 200 cats, along with trained personnel for sorting and sometimes guiding by hand into the cylinder those

cats not inclined to advance into the industrial age.

One would also need equipment for the care and feeding of 200 cats.

The cat's natural propensity for reproduction should keep cat power operating endlessly. An editor of a popular journal has, however, questioned the cats' ability to procreate under these unusual, stimulating conditions. To fully account for that disruption possibility, operators of the equipment would be well advised to apply for a research grant to investigate the effects of cat-power conditions on cats. A less expensive, but hardly scientific, alternative to this research study would be to obtain supplementary cats to retain the norm in production.

## "Professor is Jubilant"

A science writer of the 1880s reported in an old science magazine that "the professor is jubilant over the success of his invention.

"He is satisfied that he has overcome every difficulty, and intends soon to put the machines upon the market."

Reflecting on the difficult early days of his invention, the field-testing and the delicate job of communicating with newly-formed groups of agitators who believe cats should not be employed in manual labour, the professor says: "I have long believed that the cat is nature's Leyden jar, charged with an enormous amount of electricity—but in such a manner as to require a peculiar process to extract it."

### Another Dramatic Device

There is no way of knowing whether the cat-power device's originator was ever able to demonstrate the effectiveness of his equipment when coupled with a device developed by a contemporary, "a Leipsic inventor," as he was described by Frank Leslie's Popular Monthly (We have no travelling agents!) in 1887.

The Leipsic researcher created an extremely dramatic mode of execution for criminals. He, (the researcher) also claimed that it possessed the additional advantage of being painless.

In the July issue of the monthly the technique was described on Page 95:

"The machinery consists of a platform three metres square, approached by five steps. In the centre of the platform is a chair for the condemned man.

"Behind it stands a figure of Justice, holding a pair of scales in her left hand, the scales being movable."

In a collaboration with the cat-machine, a terminal under the platform would be connected to the power source.

To continue with Frank Leslie's magazine: "Wires pass through the legs of the chair into the seat and back, terminating in platinum plates.

### Any Objections?

"If the patient objects to seating himself in the chair, he is simply tied in," advised the popular monthly magazine, described on its masthead as "The Cheapest Magazine Published in the World". "Then," continues the description, "after the sentence has been read, the executioner takes a stick, breaks it, and they place the pieces in one of Justice's scales."

This descends, puts the cat-machine into motion, and ends the matter.

"Death is instantaneous and painless," assures Frank Les-

lie's Popular Monthly. "The machine has been tried on animals in the presence of a large company of invited guests, and is pronounced a success."

Today, we know that both machines can be no more than minor footnotes in the ledger of scientific progress. The cat-machine had technical imperfections. The electric chair never became popular outside of grade B Warner Brothers movies.

But both are testimonials to

mankind's striving for efficiency, the practical employment of renewable energy resources, and to the eradication of pain.

To these selfless pioneers we say that their experimentations are indelibly imprinted upon the ever-rolling tide of scientific history. The names of the inventors are forever lost in the misty tides of time. It is to their memory we dedicate this record of achievement. It is to us they dedicated their effort.

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# Scouting with Amateur Radio

Amateur radio and Scouting have been associated with each other for over 25 years now – primarily with the annual Jamboree on the Air. This is a meeting place primarily for youngsters in the Scouting organization around the world. For Scouts who are denied the opportunity to attend a national or international Jamboree (because of quotas, finances etc.) here is a marvellous medium by which one is still able to make this international contact.

It is felt that perhaps the many Scout group leaders across this country have a desire to share their experiences with other leaders more often than just once a year. Well, this year being the 75th Anniversary of Scouting in Canada, a Canadian Scouting Net has been initiated. Topics of discussion on the net can include training, jamborees, camporees, JOTA information, and may be even arranging and organizing visits to other communities.

The Net Control Station VE3SHQ, is located at the National Capital Region Headquarters in Ottawa in the National Headquarters building,

and it is operated by a Rover Crew. It is our intention to provide news items from both National and the NCR headquarters on a regular basis; as well as noteworthy items from Supply and Services which provides supplies ranging from uniforms, books, and other personal needs through to camping equipment for group use. A special 75th Anniversary QSL card is now available from VE3SHQ for confirmation of contact with this station.

For those of you who are leaders, group committee members, service team, or interested in Scouting activities, please come and join us on the second Wednesday of each month at 2000 EST (0100utc) on or about 14.135 MHz. Listen for VE3SHQ.

The 25th Jamboree on the Air (JOTA) will be held this year on the weekend of October 17th and 18th. Frequencies are:

	phone		cw
80m	3740	3940	3590
40m	7090		7030
20m	14290		14070
15m	21360		21140
10m	28990		28190

John Ficner VE3DQM  
NCR Radio Rover Crew

# CORK goes offshore

Sounds kinda screwball doesn't it? But to sailors everywhere it means just one thing – the big boats are going to participate in C.O.R.K. for the first time this summer.

Previously C.O.R.K. has held all its races in the sheltered waters close to Kingston where the vessels are never more than three miles from shore. Offshore racing brings out the big yachts up to sixty feet long that are fully equipped to sail anywhere. They like nothing better than a race right down Lake Ontario and back that could take three or four days.

We aren't planning anything quite so ambitious for our first try but we are setting out a triangular course from Kingston to Oswego, N.Y. and return which will be quite a challenge, we guarantee. It will take place overnight and will be 120 miles long.

We hope to enlist the aid of some Amateurs in Oswego to help out with the reporting as the distances are so great that

we shall be going to HF for the first time. Also, for the first time, we shall be using Marine VHF Radio on the RC Boat for the offshore fleet. All places are open for the Radio Amateurs this year and none are reserved so let's get the applications in early. All previous participants will receive an application in the

mail but we require some additional help this year so let's hear from you.

As for last year's Regatta the number of boats entered was down considerably due to the mail strike. We suffered financially and some of our plans may be altered this year. There is a chance that out of town

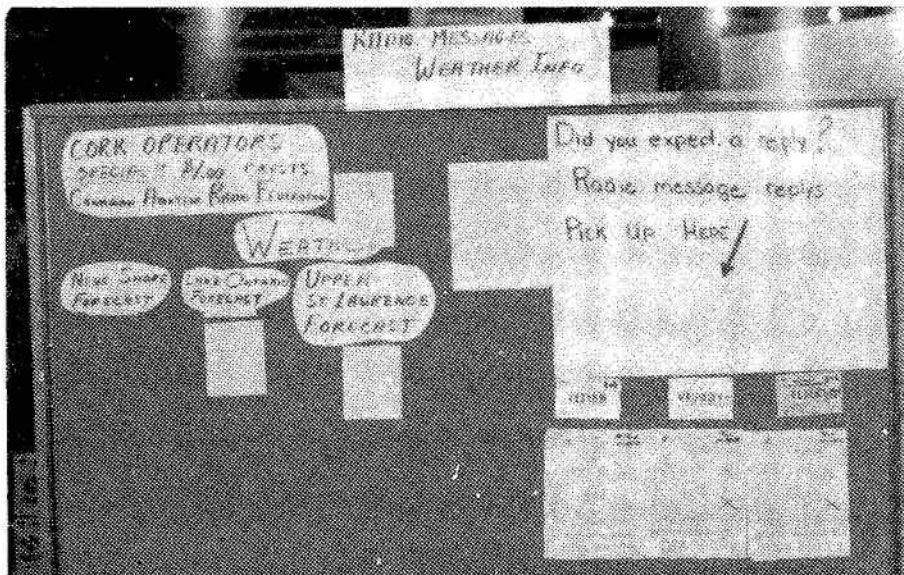


*The CORK Director responsible for Communications, Bill Bushell VE3DXY, presents medallions and plaques to competitors.*

Amateurs may have to be billeted with Kingston families this year as our budget is tightened: more on this later.

Due to the organizing efforts of Gary VE3HWS, a fine evening was enjoyed at one of Kingston's newest Chinese Restaurants. It appears that Gary has an annual event to look after -- it was a great night. (Photos courtesy Jim VE3HCS and Bill VE3DXY).

A first this year also -- we had three ladies actively participating in CORK and they all enjoyed their time afloat.  
VE3DXX



The info board at the radio desk, CORK 81.

## CORK 82 AMATEUR RADIO INFORMATION FORM

Name: \_\_\_\_\_ Call Sign \_\_\_\_\_

Address: \_\_\_\_\_

Phone: Home \_\_\_\_\_ Work \_\_\_\_\_

I will not be able to attend

I will attend

Equipment:

Serial Number

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(List any you might bring)

Accommodation required: Room  Trailer Site

Do you have a Marine VHF operator's Licence?

# CARF President queries DOC

G.C. Brooks, Director  
Operations Branch  
Telecommunications  
Regulatory Service  
Dept. of Communications  
300 Slater St, Ottawa

Dear Mr. Brooks,

There have been rumours for some time now that the F.C.C. would soon propose that the sub-allocations for phone operation in the 10, 15 and 20 metre bands in the United States be increased. We are not sure as to whether this is,

in fact, imminent.

Canadian Amateurs are greatly concerned because, should this be done, Canadian phone operations which are conducted in very narrow sub-allocations just below the U.S. phone sub-allocations, would be swamped. As you know, fully one-third of the world's Amateur population is American. This group, on the whole, is the best equipped and radiates the most power. Their potential worries us.

We know that Amateurs

throughout the rest of the world share our concern for the same reasons and also hope that the F.C.C. will not expand the U.S. phone sub-allocations.

Canadian Amateurs would appreciate it greatly if you would inform the appropriate officials of these concerns and persuade them not to make such a proposal.

Thank you very much for your assistance in this matter.

Don Slater VE3BD  
President, CARF

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## Moose Jaw Jamboree

On the cold windy afternoon of October 17, members of the Moose Jaw Amateur Radio Club transported a tower, a three element triband beam, a 40 metre dipole, rotor, cables, etc. and set up a complete radio station at the Boy Scout camp situated five miles south east of the city in the river valley. By 1200 hours, noon the station was in operation and the scouts were chatting with scouts in various parts of Canada, from the north east point of Vancouver Island to Prince Edward Island. More contacts were completed with scouting groups in the States than in Canada and the transceiver was tuned near the American Jamboree calling frequencies most of the time.

The younger scouts, age 11 or 12 had some difficulty carrying on a conversation with their counterparts in far away places, but some of the Older Ventures were quite proficient ragchewers. The young scouts may have lacked some expertise as radio communicators, but they were experienced campers. They pitched their tents out in

the bush along the river, built camp fires, cooked their own meals and slept out in their sleeping bags.

The bands were in good shape that weekend. The short skip on 20 from Winnipeg was extra-ordinary, and former Moose Jaw Scouter VE4QI, Mike and his XYL, Ev VE4AKI spent a couple of hours chatting with Mike's former scouts, the Moose Jaw Scoutmasters, as well as

with the Moose Jaw Amateurs.

The jamboree ended for the Moose Jaw scouts about 1400 hours Sunday as the radio station VE5MA was loaded on to the truck, and the scouts commenced to break up camp. Amateurs active in the Scout Jamboree were: VE5ACM Murray, VE5ADU Dennis, VE5AQ Al, VE5KG Jim, VE5NG Stan, VE5RQ Ray, VE5AFA Bob.

QSO Sask ARL

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## CBC to opt out of 75 Metres

As a result of frequency re-allocations and changes agreed to at WARC '79, Canada reserved the slot 3950 to 4000 kHz for Broadcasting as a primary service, along with the Amateur in Region 2. The spectre of Amateurs competing with two 250,000 watt Northern Service broadcasting in that segment of the 75 metre band now seems remote. CARF News Service learned from official sources that the CBC is highly unlikely to activate these stations due to the problems of international interference. The original intent was to

build elaborate curtain arrays to confine the broadcasts "within the frontier of this country" and which would "not cause harmful interference to other services."

It doesn't take a radio engineer to know that you can't cut off radio waves at the border, curtain or no curtain. That, and the fact that 3750 to 4000 kHz not only is allocated to Amateur but Fixed and Mobile Services in Region 2, apparently gave the CBC some food for thought.

CARF News Service



# Death on the High Seas

It is with deep regret that I must somehow realize a last QSO with a very fine friend, T.F. 'Ted' Stapleton VO1JL. Ted was Radio Officer in CCGS Sir Humphrey Gilbert/CCGN signing VE0MBE while I was Radio Officer in CCGS Tupper/CGCV signing VE0MBC. Needless to say we took time out for a friendly QSO many times, whether we heard each other on the ham bands or the marine bands. The only time we managed a personal contact was when our ships were alongside St. John's for a few days in June 1975. Ted was one of these individuals that one could not help but like on first meeting, whether it was by radio or in person.

We had lost contact these past few years and when I heard Dave Oldridge VE1EI place a telephone call for Ted from the drill rig ODECO Ocean Ranger-KRTB during our evening shift on February 14th, I could not help but ask Dave to ask Ted if he had a few minutes for a QSO on completion of the call. Through this QSO I was to learn the reason for the lost contact.

Ted had been back at school for another couple of years to gain more electronic training. He was not the Radioman, Radio Officer, Communications Officer, or any such low label in KRTB. He was her Electronic Technologist, a level most of us will never reach. This was wonderful news. He wanted to know the status of my Amateur Station because he had just received permission from the Federal Communications Commission and the Department of Communications to operate, with his home call VO1JL and the suffix Maritime Mobile from

KRTB, and planned to take some ham gear on his next tour of duty.

The next morning I arrived at Halifax Coast Guard Radio VCS for the day shift to receive the shock of a lifetime. A few hours after talking with Ted, KRTB had transmitted an emergency call and was in serious trouble. Whatever happened must have been unexpected because Ted had made no mention of being concerned for the safety of the drill rig.

He did mention the severe storm and the fact they were experiencing winds of 70 knots, but the weather is more or less the traditional way of starting any QSO. We both have experienced many storms along this coast and I feel confident that he would have let me know

that he was concerned for their safety, had he felt this way.

With modern equipment and technology I could not believe the tragic fate of this vessel. No one on board was rescued, although I felt certain all would receive nothing more than the nauseous experience of being confined in a life saving capsule for a short time, until rescued by one of their standby vessels which are designed with this purpose in mind. God certainly acts in mysterious ways.

Maybe somewhere, somehow, sometime, we will be able to understand why He takes one so young who shows so much promise. Ted, you will be sadly missed by us all.

S.G. 'Spud' Roscoe VE1BC

Radio Operator

Halifax Coast Guard Radio VCS

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## YARA handles traffic during power failure

On Friday January 8th members of the Yukon Amateur Radio Association were informed that Cassiar B.C. had lost all phone communication due to a microwave site near the community losing its power supply.

At approximately 0100Z of 9th Jan. we were able to make contact with VE7CWG John Slana, in Cassiar, and from then until 1830Z on 11 Jan., members of Yukon Amateur kept a twenty four hour watch in Whitehorse, to take any emergency and priority traffic from Cassiar or into that community from outside. VE7CWG managed to check every hour except one in all that time, snatching a few minutes of sleep between skeds.

Other operators in B.C. and Alberta and Saskatchewan also checked in offering help, and credit should go to all Amateurs for the co-operation given, and the professional manner in which traffic was handled by all concerned.

The operators who took part throughout the emergency are as follows: From Whitehorse -- VY1AO Don Bruce, VY1DD Frank VanderZande, VY1BE Brian Warner, VY1CC Kirk Carter, VY1AS Lee Caruthers, VY1BJ Bill Jones, VY1AL Sharon MacRae, VY1BV Gerry Geisbrecht; VE7CWG John Slana of Cassiar; VE7AZ, VE7ERB, and VE7EWI who stood by in other areas.

# The Art of Mobile CW

The key(er) to happy driving lies undoubtedly in a relatively unexplored mode of Amateur Radio. You have probably encountered the suffixes /p, /mm, and even /am more often than the much simpler /m on the CW bands. In my opinion the reason for this is essentially the result of a twofold hesitation:

1) a lack of confidence in being able to carry on a conversation in morse while driving and

2) a feeling that installation problems will be insurmountable or even difficult.

In fact both problems are easily overcome. If the author can do so in a VW Beetle then any ham can.

A love for CW is not a necessity in this game; a respect for adventure, new experiences in life and for being set apart from the maddening crowd are. Furthermore, I would like to dispel the idea that mobile CW is dangerous. Phooey! If the key or keyer installation is sound, then it is definitely no more dangerous than 2 metre FM or talking to your girlfriend (wife) in the passenger (back) seat. Providing of course, you don't find yourself drifting into the other lane while trying to write Vladivostok into your logbook. The ability to copy morse in your head and to memorize pertinent log information until it can be safely scribbled into a minilog clipped to the steering wheel is the only skill required other than being a consistently defensive driver (we'll get into the offensive part later). Practise at home. I'm sure you'll agree 90% of our QSO's are so formatted to

be almost predictable. One does not have to write...QTH IS CAIRO. You can almost hear it coming. All one has to do is repeat each character in your head immediately after it is sent and you will no doubt comprehend and remember it. It is an easy talent to acquire and when practised, a long ragchew can be had with no writing necessary.

At this stage copying CW is as easy as SSB. Easy sending, on the other hand, requires only good positioning of your keyer or paddles. If you're left-handed as I am, no problem. Most paddles will fit onto the dash just above and to the left of the steering wheel where you can rest the back palm of your hand on the wheel itself and key-away. When you hit that patch of black ice between here and Saskatoon you simply stop sending and hold onto the wheel with both hands. The opposite situation is possible for right-handers also, although many prefer to have the key lower to prevent upper arm strain. If you rig is installed on the transmission hump, mount the keyer on the top of the rig. Otherwise you will have to rig up a small platform outboard from the lower middle dash area.

Once your installation is complete give it a whirl in the stationary position. Try it for comfort and practice keeping your eyes on the road ahead of you, always. Be prepared for jeers, snickers, and "you're crazy" attitudes from your fellow hams, fellow drivers and wife, in that order. Then head for the open road and enjoy all

the privileges that come with being a mobile CW operator, namely:

1) at least a 100% increase in mobile QSO's compared to mobile SSB -- you are now a rarity and an interesting and adventurous ham.

2) a much better shot at mobile DX -- CW punches through with clarity. Be prepared for 3 hour European pile-ups on you, when driving from Edmonton to Calgary. No kidding!

3) a much more subtle approach to offensive driving: when that turkey in front cuts you off pull up beside him and start sending a long CQ. Watch with a sarcastic grin as he fumbles with the controls of his \$600 stereo, wondering what that incredible thumping in his triaxial speakers could be.

73's and Good Driving.

Larry Gagnon VE6OY  
Emitter  
Northern Alta RC

## Top Band Net

The Canadian Top Band Net meets Tuesday evenings at 0200 Zulu on a clear frequency between 1.815 MHz and 1.825 MHz in the 160 M band. All VE, K, W, N. Amateurs are welcome to check in. This is an informal net to encourage the use of the 160M band as well as to exchange information and ideas regarding antennas, equipment, etc.

VE3MPC

# DOC Annual Report

The just-published Departmental report for the fiscal year 1981-82 shows 21,050 Amateur station licences as of March 31, 1982. The decline in CB popularity was reflected in a 22.3% drop from the previous year with a total of 683,094 permits issued. This is 55.1% of the total licences issued, a drop of 11% from 1980-81.

Out of a total of all types of services there were 1,157,256 station licences issued during the period reported. Other than the CB stations, private commercial operations were the largest, with 49,475 base stations and 325,963 mobiles. This category includes more than 8,000 base and 33,000 stations licensed to the federal government. Provincial governments parallel this with about 8,000 base and 50,000 mobile stations.

Out of the total of 16 different services, Amateur stations formed the fourth largest category.

Enforcement activities resulted in 24 infringement reports, 15 licence revocations or suspensions, 12 forfeitures of equipment and 21 prosecutions. Unfortunately, there was no indication of which services were involved. The offenses included unlicensed operation, wrong frequency or power, unauthorized modification of equipment and "improper use of the air waves" (whatever that is!).

DOC continued its study of the new personal radio service in the 900 MHz band.

## JAMAICA AGREEMENT

A reciprocal operating agreement with Jamaica became effective on Dec. 18. CARF has written to the Italian government in an attempt, to shake loose a similar agreement, okayed by DOC but stalled in Rome since the end of 1979.



CARF Ontario Director Craig VE3HWN welcomes Al Sams to the NPARC Hamfest in February. Al is a 'computerist', maybe a new 'digital' ham.

## Niagara Peninsula hosts Big Event IV

The Niagara Peninsula Amateur Radio Club held their 4th annual Mini-Hamfest and Dinner/Dance on Feb. 6 at the Holiday Inn in St. Catharines. About 350 people attended the flea market, coming from such places as London, Stratford, Peterborough, Akron, Ohio and Kingston. The CNIB station being sponsored by NPARC received donations of \$130 and the NPARC table \$200.

There were many commercial displays including Peterson's, Varah, MacFarlane and the VE3TVI booth. The winner of the grand prize of an Icom 25-A was Chantal Hobbs of St. Catharines. He is a member of the Amateur radio class, and will hopefully by the time of this printing be a VE3.

There were 130 seated for the dinner with the guest speaker Bill

Choat VE3CO receiving a plaque from NPARC. The city was represented by Alderman Bill Stevenson and his wife Muriel.

The Ham of the Year award was presented to Dave Digweed VE3FOI, who has worked very hard for the club. Peter Mitroff VE3DSW was honoured with a life membership in the club. Humorous awards were presented to Barb Hetherington VE3KTX and Bob Mitchell VE3KYA by the NPARC. Barbara Cross (XYL/VE3DVI) was presented with an 'Official Eavesdropper' award from the Niagara Regional Police.

Everyone had an enjoyable day and the executive is already starting to plan for next year's event. Dave VE3FOI has promised some special surprises for Big Event V.

Barb Hetherington VE3KTX

# FCC proposes phone band expansion

CARF asks DOC to hold action on requests for expanding visitor phone privileges

Subsequent to the writing of VE3NR's article on the FCC and ARRL/CRRL requests to expand phone privileges to visiting U.S. Amateurs in late February (see last issue, **TCA**), the FCC issued Docket 82-83 which is a Notice of Proposal Rule Making to expand the 20 metre phone band down from 14.200 MHz to 14.150 for the higher class of U.S. licensees and a Notice of Inquiry on the feasibility of expanding U.S. phone privileges on other HF bands.

This FCC action has been done in spite of its recent assurance, relayed to CARF by DOC, that the FCC had no such intention at the present time and in the face of strong opposition in the past by both Canadian Amateurs and those of many other countries.

The FCC move not only justifies CARF's scepticism concerning the extent of the validity of the earlier FCC assurance, but it also adds to the apprehension with which CARF views the possible ultimate use of granting the extension of visitor's privileges as a lever to implement the FCC phone band expansion proposals.

The relative proximity of about 365,000 U.S. Amateur stations, a large number of which use high power, would mean that such expansion of U.S. phone operations into the segments of the bands allocated to Canadian operators (and to Amateurs in many countries other than the U.S.) could present 'overcrowding' problems which could be detrimental to Canadian operations.

CARF has therefore asked DOC to withhold replying to the requests as they will be included, along with FCC Docket 82-83, for

discussion at the forthcoming CARF National Amateur Radio Symposium. An additional reason for withholding action is the fact that, should the proposals in FCC Docket 82-83 result in phone band expansion in a number of bands, the present requests by FCC and

CRRL would become largely or totally redundant as all or most of the requested privileges would automatically become available to U.S. Amateurs visiting Canada under the terms of the 1952 treaty governing reciprocal operating privileges.

## CARF Mid-West Director dies

It is with great regret that CARF announces that Jim McKenna VE6HO passed away in February, 1982.

Jim was born in 1918 in Hamilton, Ont., attended University of Toronto, majoring in Radio and Electrical Engineering and joined the pre-war RCAF in May 1939. He was one of the first qualified LINK trainer instructors, attended the Massachusetts Institute of Technology (MIT) and graduated in Radar, lectured in this subject and, post-war, was stationed at several Radar sites across Canada.

On retirement from the RCAF, he became a Lands & Forests, Ontario, controller stationed at Moosenee, Ont., responsible for the aircraft used for fighting fires and general transportation until final retirement and a move to Fort Macleod Alberta.

A member of the Federation since 1973, Jim became Mid-West Director in May 1977, representing Amateurs in Manitoba, Saskatchewan and Alberta, bringing their comments and advice to the attention of the Board of Directors and the National Executive. His firm belief that the future of Canadian Amateur Radio Service re-



Jim McKenna VE6HO

quires the continuing development of CARF, his witty and incisive comment of changes necessary for this development and his pleasant personality will be sorely missed.



### NEW WESTERN DIRECTOR

Due to the unfortunate passing of Western Director Jim McKenna VE6HO, the CARF executive has given approval to Norm Waltho VE5AE to fill out the term.

# CARF makes presentation on exams

The letter below is published with permission and pride and demonstrates the value of effective presentations resulting from many hours of work by officials of your national Federation based on the constructive input from many Amateurs across Canada.

Dear Mr. Slater:

Further to our meeting last weekend and to the meetings held with my predecessors and staff,

thank you for your input to us. It was evident from your presentation on TRC-24 and from the zeal of your delegation that a lot of work has been done behind the scenes.

Further, I was pleased to receive your summary and constructive criticism of the question used on past amateur exams. My staff spends a great deal of time preparing the questions; trying to

make them fair, meaningful and clear is an onerous task. Receiving comments and suggested questions from the amateurs themselves is of considerable assistance.

M.K. Nunas  
Manager  
Spectrum Management  
Operations Division  
Telecommunication  
Regulatory Service

## ATV 'Band Plan' in U.S.

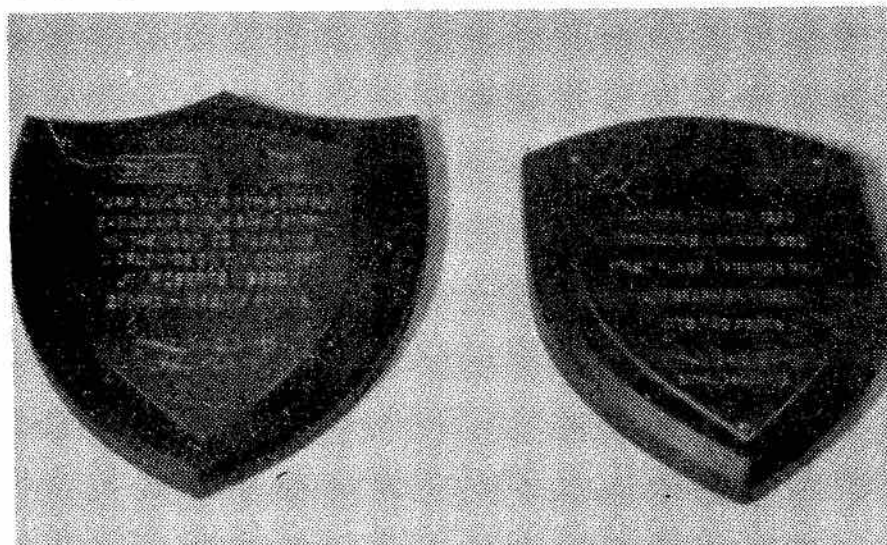
*A5 Magazine* has proposed a series of frequencies for Slow Scan TV to implement the recent U.S. FCC ruling to permit facsimile and Amateur TV (A5 and F5) emissions of most U.S. HF phone bands.

Proposed are 3.990, 7.290, 14.340 and 21.440 MHz, with all movement upward only, utilizing the top 10 kHz of band edges, according to *Westling Report* (formerly *HR Report*).

Although Canada at WARC '79 reserved the slot 3.950 to 4.000 MHz for CBC broadcasting stations in its Northern Service, a check with DOC revealed the good news for Amateurs that it is highly unlikely that the CBC will ever put stations in that segment. The realization that interference problems with other countries and services would be too great apparently led to second thoughts on the part of CBC and DOC planners.

Comments on the ATV plan are invited by Mike Stone WB0-QCD, *A5 Magazine*, Box H, Lowden, Iowa, U.S.A. 52255.

CARF News Service



### CARF TROPHIES AWARDED

CARF's award for the Top Scoring Single-Band Entrant in the CQ WW DX CW Contest (left) went to Jim Roberts VE3EDC (now VE3IY). CARF's Award for the Top All-Band Entrant in the December 1980 Canada Contest went to Jim Bearman VE5DX. Ron Vadeboncoeur photo.

## How lucky can one get?

We have all been hearing all about the problem of students being unable to find accommodation at our universities.

Well recently, Phil VE3CUR from Ottawa, was bringing his son to Waterloo to enrol him at U of W and to find a room somewhere.

As he drove along 401 he happened to be talking to our

Gunther VE3MAD via KSR. Phil mentioned why he was coming here and his thoughts about finding it hard to find a room for his son.

Gunther replied that the problem was solved as he had a spare room that the boy could have with pleasure.

Viva Ham radio.

KWARC Bulletin

# Ottawa ARC 'Buddy' System

Many people whilst studying a particular subject have felt the need for assistance outside the formal classroom. It may be for additional coaching on a topic which was not quite understood the first time, or perhaps to clarify the first time, or perhaps to clarify a topic which is being struggled over whilst studying at home.

In the case of Amateur Radio, passing an examination is but the first step in what can become a myriad of seemingly contradictory advice and guidance. Putting a station on the air, correctly adjusting the transmitter and making that first contact is quite different than reading about it in a book or magazine. Trying to understand the pros and cons of different types of antennas can be confusing indeed. In many cases, the need for assistance is desperately sought after.

The Ottawa Amateur Radio Club, Inc. therefore instigated what has become known as the 'Buddy' System. The purpose is to assist would-be and beginning Amateurs who feel the need for some advice and assistance as described above.

There are many members of the club who have volunteered their services, and some two months after starting the system, there were 14 would-be Amateurs taking advantage of the help available.

As with any system such as this, misconceptions can arise. There have been instances recently where two people wishing to become Amateurs were under the impression that a club member would provide all the personal training and tutoring needed to obtain a licence. While there may be Club members willing to do so, this is not the intent of the system which the Club has

instigated, and it would be unfair to all concerned to assume that this is the case.

The purpose of the OARC 'Buddy' System as envisaged and planned is described in this article. Let's make sure that all concerned are aware of the

guidelines so that no further misconceptions can arise. It is a great way for experienced Amateurs to help out those trying to get a start in this fascinating hobby of Amateur radio.

OARC Groundwave

## What TVI?

Notice concerning alleged TV interference from this transmitter:

1. You have called to my attention the fact that transmissions from my station are causing interference to your TV reception.

2. Interference such as you describe is not caused by ham operations, as ham stations cannot and do not cause TV interference. Nor is this interference the result of any malfunctions of my equipment or poor operating habits, for my station is **not** a ham station.

3. Be advised that your government is placing a \$500 per year tax on all TV receivers. Because it is difficult at this date to obtain a listing of TV set owners for taxation purposes, our government has established a vast network of TV jamming installations with the goal that TV set owners will make themselves known to these jamming stations, so that their names can be added to the tax roles. This station is just such an installation.

4. Your government greatly appreciates you turning yourself in. You will be one of the first taxed. You have also verified that this TV jamming equipment is functioning properly.

5. We have made note of the time and channel you reported this jamming. This information will be given to several TV

program rating services.

6. You have therefore provided a valuable service to the entertainment industry and to your government.

7. So that you will not be the only one taxed, please be patient as we continue our TV jamming operation.

The Crawford Key

## Annual General Meeting

Notice is hereby given that the Annual General Meeting of the Canadian Amateur Radio Federation Inc. will take place on Saturday, June 19, 1982, at the Rideau Ferry Inn, south of Ottawa.

The meeting is for the purpose of receiving and considering the operating report and financial statement, appointing auditors and transacting such other business as may properly come before the meeting.

CARF members are urged to attend. Please advise the CARF office in Kingston if you plan to be present. This is to ensure adequate meeting room facilities. Dated at Ottawa this 6th day of March, 1982.

Don Emmerson VE3KJW  
Secretary, CARF

# OSCAR 9 Telemetry

Telemetry from Oscar 9 since launch on October 6, 1981 have been asynchronous data transmissions. One speed used is 300 baud ASCII. The format is AFSK using 1200 hertz (mark) and 2400 hertz (space).

To receive these data transmissions, a demodulator is required. A modified ST-5 or the 565 phase lock loop (PLL) circuit shown below performs well if the received signal is full quieting.

Each telemetry block starts with AMSAT followed by numbered five digit code groups.

Interpretation of the data will be published by the University of Surrey in England.

Listen for the Oscar 9 signal on an FM receiver tuned to 145.825 MHz. There is some fading and flutter due to satellite motion. Doppler shift is 3 to 4 KHz (down) but receiver retuning is not necessary. For error free decoding, a 2M preamp is a necessity. Here are additional comments from other satellite enthusiasts:

- de Bardy VE2FRF: the signal breaks the squelch on a

hand held with a rubber ducky antenna.

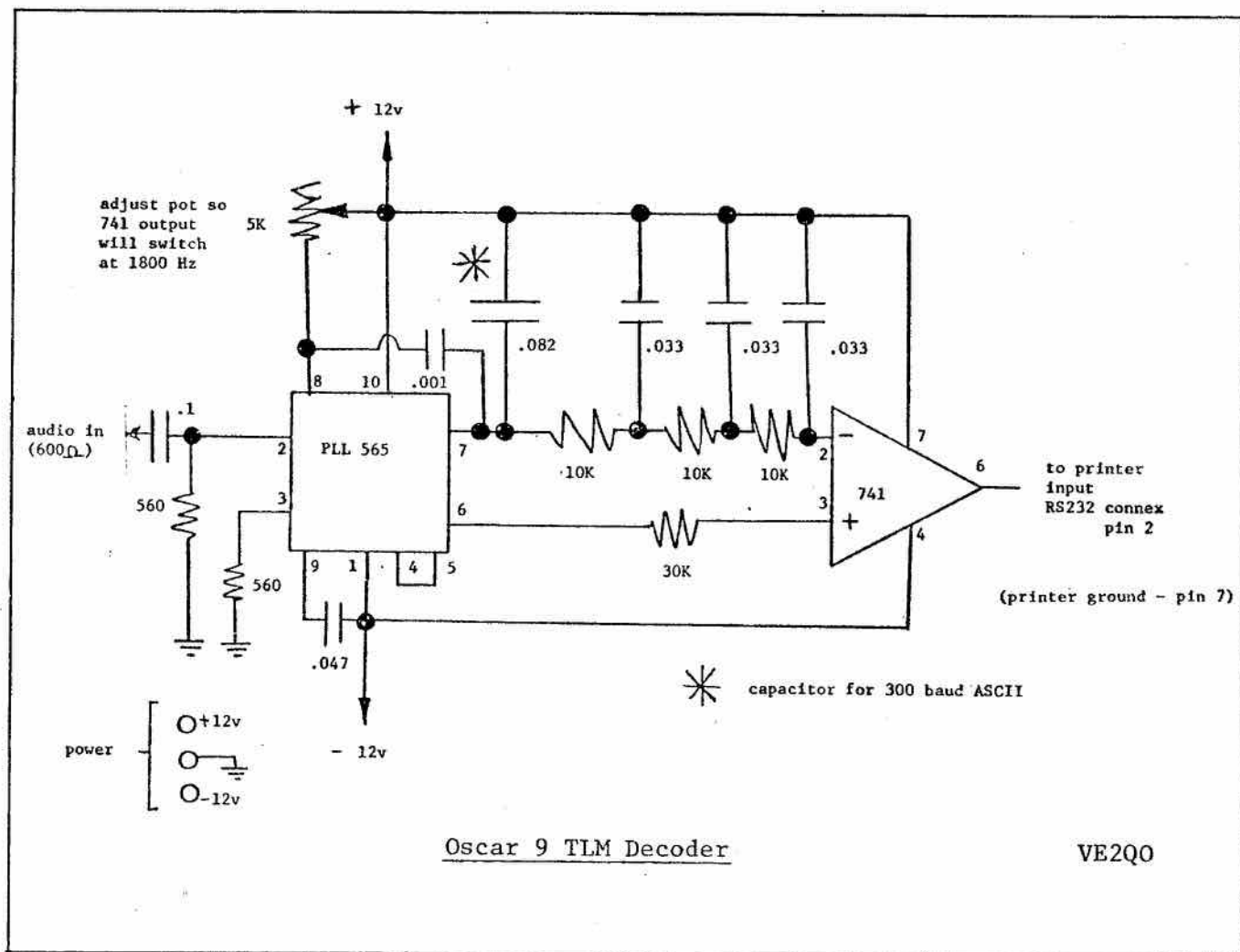
- de Dennis VE2DAF: the signal strength is S-2 on the FT227 using a ground plane antenna.

- de Terry VE2TY: the signal received from Oscar 9 is comparable to Oscar 7. (Terry has azimuth and elevation control on his 2M beam).

When to listen for Oscar 9 will depend on your portion of the country. Orbital predictions are transmitted by W1AW.

Good luck and good data.

de Bruce VE2QO



# Technical Section

## *Multi-User Remote Transmitter*

In this age of restricted space and regulations restricting the erection of efficient transmitting antennas, along with the increasing problem of interference to commercial service from high power Amateur radio transmitters operating in the congested downtown area of our large metropolitan cities, it has been observed that many of the problems associated with urban Amateur stations can be overcome if the transmitter and antenna can be located on the outskirts of the city.

Although an antenna that is of reasonable height and of reasonably precise length is

required to radiate a signal on, say, 80 metres; it is common knowledge that the receiving antenna does not have to be of the same size and height as the transmitting antenna to achieve usable results. With this in mind a small group of Amateurs sat down to devise a system which would let them operate on the low bands from their apartments and condominiums without erecting full-size or even trap dipoles, and using a minimum of equipment. The following guidelines were established before any designing began:

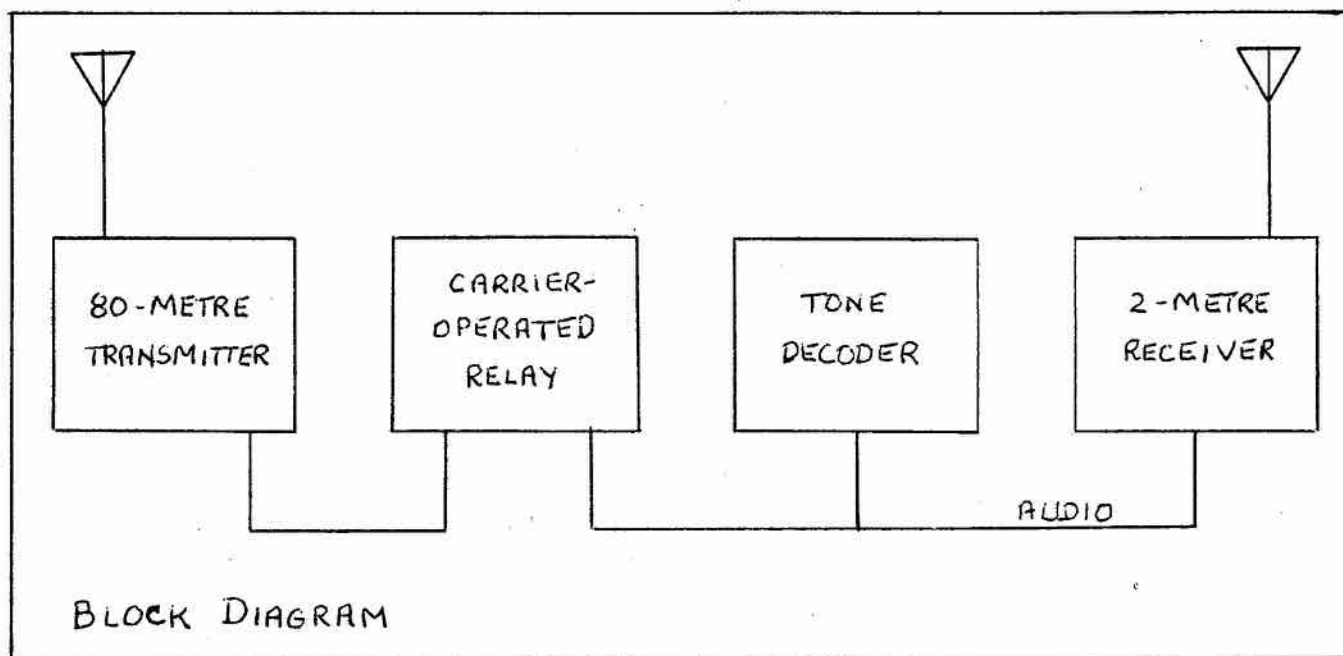
-the remote station must be

capable of being controlled by a dual tone multi-frequency system. (touchtone), as it was felt most Amateurs have this equipment.

-the transmitter must operate on one frequency only, for two reasons: first, to enable the Amateur to monitor the frequency before transmitting to ensure that the frequency is clear and, secondly, to establish a calling frequency for the particular city which is served by the remote transmitter.

-the remote transmitter must provide the following control functions:

a) ability of the Amateur to





turn system on and off

b) if key-down time exceeds one minute, the transmitter will disconnect (in a similar fashion to our two-metre repeaters timing out after three minutes of continuous transmitting.)

c) the 80-metre CW transmitter will key every time its companion two-metre receiver's squelch is broken and will remain keyed until the signal disappears.

d) if the disconnect signal is not received within 30 minutes after the system has been turned on, the remote unit will shut down until it has been re-accessed.

With these guidelines, we were able to design a very simple system which falls into the category of a remotely controlled transmitter under D.O.C. regulations. We also found that most of the control functions could be made using a modified two-metre FM repeater

C.O.R. unit and a 4-digit selective calling decoder. The receiver is a VHF Engineering, listening on 145.30 MHz.

The Amateur requires the following equipment to use the remote base:

a) touchtone pad

b) 2-metre FM transmitter with a transmit crystal for 145.30 MHz, and antenna

c) 80-metre receiver with a very minimum of antenna (indoor wire or mobile whip)

d) telegraph key which is fitted with a connector identical to the microphone connector and is used to key the transmitter's PTT circuit.

Operation:

- the Amateur transmits the 4-digit tone access on 145.30 MHz, which puts the 80-metre transmitter in the operate mode.

-- he tunes his receiver to the frequency of the 80-metre transmitter (in our case, 3.7 MHz)

- using his telegraph key plugged in to the microphone socket of his two-metre transmitter, he should now be able to hear himself sending with his 80-metre receiver; with full break-in facilities.

Other Amateurs in this area are designing systems with the following control functions:

- frequency shifting

--band changing

--antenna rotating

- RTTY

- SSB voice using a special sub-audible tone to ensure non-authorized user signals are not rebroadcast over the HF bands

- access to the OSCAR satellites.

It should be noted that the system described is not classed as a repeater, but as a remotely-controlled club station.

Rob Bareham VE3ACY  
2450 Southvale Cres  
Ottawa, Ontario K1B 4L7

## Notes on

# Portable and Mobile Operation

There seems to be some confusion regarding portable and mobile operation especially in reference to 2 metre usage. The following examples will provide some guidelines.

If you operate out of your own QTH, you are considered a base station and sign with this in mind. This has no reference to the type of equipment you use from your QTH or where on your QTH you operate it. This means that a handheld (HT), mobile rig in your vehicle or base rig are all the same if operated within your QTH property. Also, nothing changes if you operate outside the Ham Shack. Therefore, if you operate from the roof, or the front lawn, or the driveway, or the backyard tree,

or pool, or whatever, you are still a base station because you are still within your home QTH property.

Now, if you leave your property, this is where things change. A mobile station is one that normally moves or can move. This normally includes HTs and rigs in vehicles. The term portable refers only to a station set up at a fixed location, which cannot move as in a mobile case, for extended periods of operation such as Field Day. This could be any location outside your home QTH. Now the HT story. HTs are considered mobile stations because the person carrying them is normally mobile. If you go to your fellow Amateur's QTH for a

visit with your HT, you remain a mobile station at all times using your own call. This means that you operate under your own call, mobile, even from the other fellows shack. If you were to use his HT in the shack, you would use his call under a base station. If he in turn used your HT, he would use your call and sign mobile. The HT could become a portable station to someone stranded in a hospital for two weeks.

I would like to mention at this stage, that it is no longer required to sign mobile or portable within your own call sign area. However, if you use the terms, use them right.

Gord Woroshelo VE3EYW  
Algoma Amateur

# Technical Section

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## *The Mechanics of Heatsinking*

By Gord Woroshelo VE3EYW

Heatsinking is a relatively simple concept to understand. However, the actual mechanics of this 'art' are sometimes lost.

Firstly, I will say that heatsinking can be roughly defined as the act of taking heat away from a device, usually a semiconductor, so that it will operate cooler. One always tries to obtain the best heatsinking possible given the restraints of any one situation.

Most semiconductors, whether they be I.C.'s, diodes, transistors, or whatever, operate better and generally longer at lower temperatures and therefore the cooler the better. I say this in spite of the fact that some devices operate for years continuously at temperatures too hot to touch.

Really, there is no such thing as too much heatsinking. You will, though, find cases where heatsinking is either marginal or too little. Such cases might go on for some time without failure. However the day will come when the device will fail causing numerous problems.

It is not the intention of this article to go into the mathematics of designing a heatsink, only to offer some words of advice. There are numerous books and articles written on the subject. Without a lot of calculation, heatsinking really comes from experience and a feel for the situation. Many articles, fortunately, already describe heatsinks you can build or buy. In any case, the following points should be well noted.

The surface of your semiconductor, regardless of type, must be clean and smooth as should the heatsink surface it will mate to. I use fine emery paper, no. 400 grit or finer, to smooth the surfaces. Many semiconductor surfaces are difficult to smooth, such as a TO-3 transistor case, so cleaning with a brush or tissue paper is the best one can do. For cleaning, I use products such as 'Kleen All' which clean well, evaporate quickly and leave no film. Use the cleaner after the surfaces have been sanded or

whatever. The two surfaces at this point should be smooth and clean and will mount well flush. Incidentally, I do not recommend using steel wool. It tends to be too coarse and leaves strands that can cause electrical shorts especially if it gets into the heatsinking compound.

And talking about that, let me say a few words on heatsinking compound -- the white stuff. Although there are a couple of somewhat different products on the market, most are silicon based and all work well if properly used. The whole purpose of using the product is to fill in the tiny, invisible irregularities on the semiconductor and heatsink surfaces and provide a lower resistance path for the heat to travel from the semiconductor. It is not a cure all and is not intended to fill in big gaps. Many users simply use far too much compound and this can be worse than not using any at all! Up to a certain layer thickness, the compound improves the heat path. Beyond

this point the compound actually decreases the heat path and worsens things. It is very easy to use too much. Therefore, I recommend applying a thin layer to both surfaces using a **clean** finger. Again experience and actual demonstration are the best teachers. However, if after applying the compound, you can see 'great gobs' of it coming out the sides of the semiconductor as you tighten it down, then you have used too much. When using insulators such as mica between the heatsink and semiconductor, it is only necessary to thoroughly clean it before applying a thin layer of heatsinking compound to both sides.

When tightening the semiconductor down to the heatsink, be sure not too over tighten the nuts or bolts, this could result in stripping the threads. I prefer to use stainless hardware which is stronger and eliminates this hazard. Overtightening can also crack insulators such as mica if used in the application.

In some applications, especially in mounting large power transistors on heatsinks, it is often a better approach not to electrically isolate the transistor from the heatsink. This eliminates the insulator and improves heat transfer from the semiconductor to the heatsink. The heatsink then is isolated from ground using nylon washers and bolts or equivalent.

Large heatsinks are somewhat difficult to properly homebrew unless you are experienced and have access to the proper tools and supplies. If you do make your own, even a small one without fins, remember that the two mating surfaces must be clean, smooth and flat and free of all other materials such as paint. The heatsink itself should be made of a good heat conductor, usually aluminum, although copper and other materials are suitable. Steel should be avoided as it is a

relatively poor conductor. This explains one reason builders prefer aluminum chassis which allows them to use the case as a heat sink. Your heatsink is better also if given a light coat of dull black paint. If you drill holes in your heatsink for mounting a transistor, say, make sure the holes are the proper size. Make sure also that all holes are deburred and smoothed and are completely free and cleaned out of all metal filings. Use that cleaner I previously mentioned, available in aerosol cans. For improved heatsinking, especially needed where space dictates using a smaller heatsink than really required, use a small cooling fan which can make a big difference and is a cheap investment.

Some further points. You might pick up a transistor that can carry 30 Amps continuous

and dissipate 200 watts. Many would be builders discover sadly that heatsinking is necessary to accomplish this feat with that transistor. This applies to power diodes too often found nowadays packaged in bridge configurations for power supplies. Remember there are two important ratings to bear in mind; the maximum power the device can transfer to the heatsink and the maximum current that can flow through it without melting the internal wiring or structure. Both specs must be accounted for in power designs and heatsinking.

Should anyone have any questions concerning heatsinking I will gladly try to answer. Please provide a S.A.S.E.

By Gord Woroshelo VE3EYW  
Box 57  
Manitouwadge, Ontario P0T 2C0

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## Seventy-Three!

Anyone know for sure where 73 originated? Seems to be many different versions of its birth. One version has it that back in the early days of the West, a man needed three things to survive. A good horse -- a good wife -- and a good rifle. At that time the Winchester 73 was the best around. Consequently telegraphers condensed this to 73 when wishing someone "The Best."

Another researcher tells us that it originated in the very early days of wireless in lumber camps of all places. Seems that in this one particular camp they had a lumber jack who broke all tree felling records one day by chopping down 69 giant trees all on his own. The story goes that from that day onwards, telegraphers in lumber camps would wish each other good luck by saying "Seventy Trees".

Actually of course it is just another form of code devised to shorten up transmissions. In the 1853 edition of the National Telegraphic Review and Operators Guide, 73 is listed to mean "My Love to You." In March 1857 at the National Telegraph Convention the meaning was changed to a more fraternal type greeting rather than a valentine type. In 1859 Western Union established its "92" code, a list of numerals 1 to 92 to indicate a series of prepared phrases for use by operators. In this code it meant "Accept my Compliments." The signal went through numerous minor changes over the years and by 1908 it was listed in the Dodge Telegraph Instructor as "Best Regards."

Anyone care to research 88 or 807?

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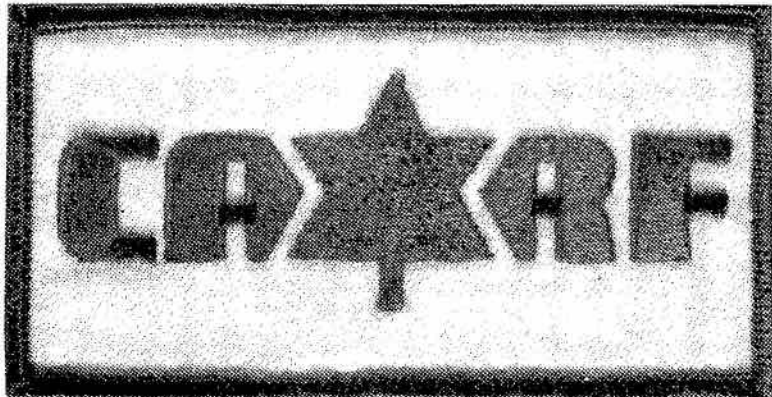
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The Canadian Amateur

# Infosection

## National Symposium

The 1982 National Amateur Radio Symposium will be hosted by the Scarborough ARC in Toronto on May 28 & 29. Registration and a get-together will be from 1930 to 2130 hours on the Friday evening and discussion groups will meet all day Saturday. Both events will be at the Wexford Collegiate, 1176 Pharmacy Road, Scarborough, Ont. For further info, contact Thelma Woodhouse VE3CLT, Secretary Scarborough ARC inc., Box 174, Scarborough, Ont. M1R 5B5.

Previous symposia have demonstrated that they are the most effective method of communication between the Amateurs of Canada and officials of the Department of Communications.

As distance, time and space

elements prohibit the attendance of large numbers of Amateurs to the National Symposium, provincial Amateur organizations and Amateur Radio Clubs are encouraged to hold regional, provincial or municipal symposia and forward the results of their discussions to CARF in advance of the National Forums. Contact your CARF Regional Director for assistance and advice in the formulation of such advance Symposia.

The Symposium is usually divided into four Forums, each discussing one main topic, followed by a Plenary Session to discuss results from the Forums. Previous symposia have had Forums on such subjects as Amateur Radio regulations, WARC '79 results

and usage, Amateur examinations and procedures, introduction of Digital Amateur and Novice classes.

Topics for Forums are required for the 1982 Symposium and all Amateurs are encouraged to forward ideas for these to the Federation as soon as possible to enable a choice to be made in consultation with DOC.

Possible topics could be:

1. Instructor's forum to discuss methods of teaching the essential requirements for the Amateur certificate;
2. Use of ASCII and microprocessors on the HF bands;
3. Canadian Contests and Awards;
4. Restrictions placed on U.S. Amateurs operating in Canada;
5. Change of Amateur Auto-repeaters to 20 kHz channels.

Please bring this to the attention of your members and forward ideas and comment to Box 356, Kingston, Ont. K7L 4W2.

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**WANTED:** Service Manual or photocopy for FT7B. Crystal filter for VHF Engineering receiver. 2 metre helical resonator. VHF Engineering Equipment. Sell: Glenwood SC1 touch tone decoder \$50. HW8 \$200. Converted SSB CB \$125. Rob VE3ACY, 488 Cameron Ave., Windsor, Ont. N9B 1Y7. 519-256-5143.

**FOR SALE:** Over 500 issues, QST's, CQ's, 73's, RadioNews, Radio Television, others, 1924-1982. List SASE. VE2OU, 2785 Valcourt, Ste. Foy, Quebec G1W 1W2.

**FOR SALE:** Complete Kenwood station for sale. Comprises TS-830S \$1050. Digital matching VFO-830 \$340, SM-220 Station Monitor with BS-8 Pan Adapter \$415., SP-820 Speaker \$65 and MFJ-962 2 KW Versatuner III \$220. All items literally as new. Also Collins KWM-2 Transceiver with 516F-2 matching AC Power supply and MM-1 Microphone \$750. F.O.B. Winnipeg. Tex

Galpin VE4AB, 77 Addison Crescent, Winnipeg, Man. R3K 1P4. (204) 889-2125.

**WANTED:** Boatanchor or otherwise very cheap linear amp for 160 Metres. Please send description, condition, price. Will purchase or trade monoband beam. Rod Leach VE7CRU, Box 39, Yahk, B.C. V0B 2P0.

**WANTED:** Grid Dipper exc. condition; ant. coupler low or high pwr. P. MacDougall VE8YQ, Box 9850, Winnipeg R3C 3A4 (or notify VE4TZ). **SPRING CLEANUP** Commercial tower, 150 feet, suitable for large Amateur arrays, broadcasting or TV, with guys and insulators, recently removed from service, pictures on request. Heath HW101 transceiver, PS23B, MFJ Grandmaster memory keyer and 520BX speech processor. All guaranteed A1 working condition. Renwick, P.O. Box 50, Clavet, Sask., Canada S0K 0Y0. 306-373-1988.



## Canadian Amateur Radio First!

### WHAT IS CARF?

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

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

### OFFICERS

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Vice-President	VE6XX	Fred Towner
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### BOARD OF DIRECTORS

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

**VE7AB** Peter Driessen, 13142-69'A', Surrey, B.C. V3W 6N9. 604-732-3298.

**VE5AE** Norm Waltho, 1547 Glendale St., Moose Jaw, Sask. S6H 7B3.

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

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

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

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

## Operating Information

### RECIPROCAL OPERATING AGREEMENTS

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

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

## How to use the CARF QSL Service

The CARF Outgoing QSL Service will forward your QSL cards to anywhere in the world. This service is **free to CARF members**. If you send a lot of cards, a CARF membership will soon pay for itself in view of the high cost of postage when cards are mailed direct.

**Please observe the following rules when using the CARF Outgoing QSL Service:**

1. Sort cards alphabetically by prefix.
2. Sort Canadian cards numerically by call area.
3. Place small lots of cards in strong, heavy envelopes and seal securely. Wrap heavier packages in strong paper or put in cardboard box. Tie securely. Do not staple!
4. Address your package as shown in the diagram.
5. **Do not register the cards.** This only delays them, costs more and is not really necessary.
6. If you want proof that CARF received your cards, enclose a self-addressed, stamped postcard or envelope with 'Receipt' marked on it.
7. If a package should be damaged on arrival (very rare), CARF will send you a list of cards received so that you can check if any were lost.

(For an explanation of QSL Bureaus in general, see the CARF Regulations Handbook chapter on QSLing.)

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<i>Use this address NOT Box 356 Kingston</i>		

### BANNED COUNTRIES LIST

The following countries have notified the International Telecommunications Union that they forbid radiocommunications with Amateur stations under their jurisdiction:

Democratic Kamuchea, Iraq (Republic of), Libya (Socialist People's Libyan Arab Jamahiriya), Somali Democratic Republic, Turkey, Viet Nam (Socialist Republic of), Yemen (People's Democratic Republic of), Zaire (Republic of)

### THIRD PARTY TRAFFIC AGREEMENTS

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

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

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



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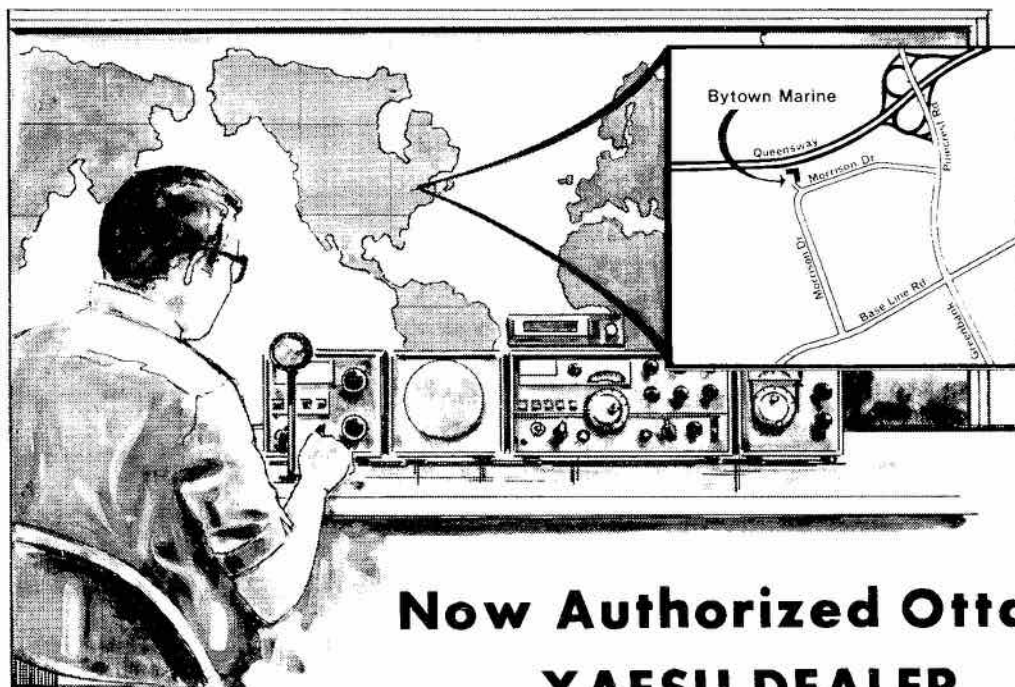
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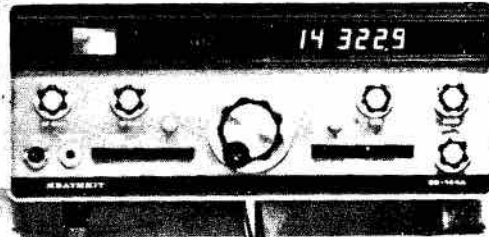
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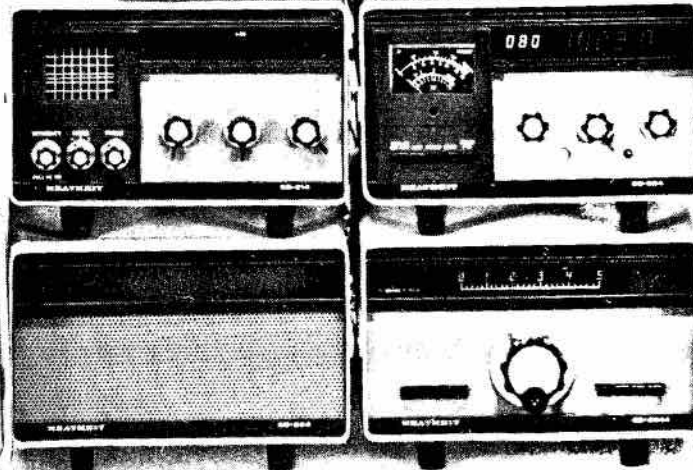
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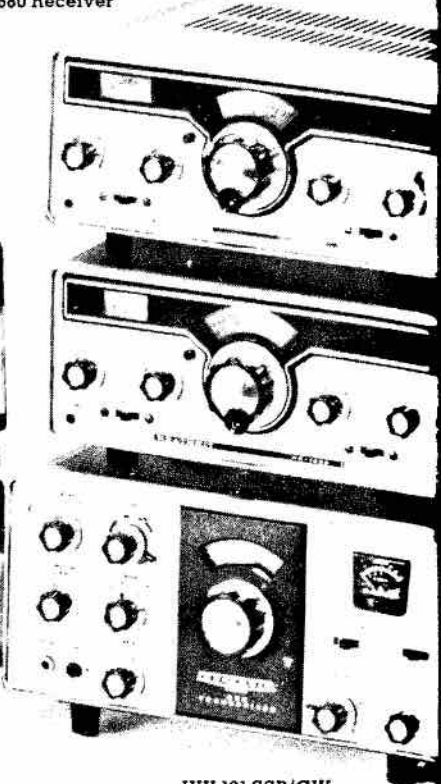
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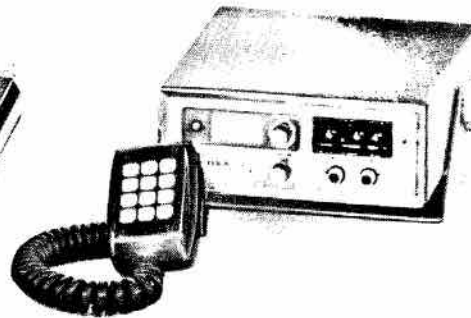


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