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# CARF the canadian amateur

ional Symposium

## Agenda announced

The invitation to participate in the national symposium, "Amateur Radio in the 1980s", convened by CARF, sent to provincial societies and other major radio organizations across Canada lists the agenda for the one-day meet in Ottawa on November 26.

Working or study groups, after deliberations on their agenda topics will report their findings and recommendations to the assembly in general.

Workshop No. 1 will discuss the DOC proposal for a "novice" Certificate of Proficiency, to decide if it is acceptable or not or whether some modification could be made to the present Amateur

Continued on Page 11

## Tower trouble resolved

In December 1975, the council of Kanata, a community of 6,000 near Ottawa, Ont., passed a zoning by-law which prohibited external antennas except for municipal emergency purposes. By-laws of this type require Ontario Municipal Board approval before they become enforceable.

Al Law VE3ACZ, supported by other Kanata Amateurs, put forward a formal objection to this part of the by-law pointing out the existence of federal law in this field and the fact that external antennas are a basic requirement of HF radio stations.

These views were heavily supported in several letters from the federal Department of Communication's head office to the Township, on Al's behalf.

Early in September, before the OMB hearing set for the 26th, the DOC, Township officials, Al and Ralph Dipple VE3 JBY, who was also active in the matter, all met to discuss the issue.

As a result of the compelling arguments put forth by the DOC, the township agreed to modify the wording of the by-law to accommodate federally licenced transmitting stations and to exempt them from height limitations. The OMB, at its hearing, agreed with this action and the proposed wording.

From the West Coast, Don Cosby VE7DAM, President of the Victoria Short Wave Club, reports the Saanich Municipal Council was successfully dissuaded from attempting to establish a by-law governing antennas and towers. The GRS operators and Amateurs participated in a large open meeting with the municipal officials. A very good effort!

CARF **the canadian amateur**

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Publisher:
Steve Campbell

The Canadian Amateur is the official monthly publication of the Canadian Amateur Radio Federation, Inc. It is distributed to members and is available to others for $7.00 per year. The Federation is incorporated and operates under a federal charter, with the following objectives:
1. To act as a coordinating body for Amateur radio organizations in Canada;
2. To act as a liaison agency between its members and other Amateur organizations in Canada and other countries;
3. To act as a liaison and advisory agency between its members and the Department of Communications;
4. To promote the interests of Amateur radio operators through a program of technical and general education in Amateur matters.





## Computer fans

With all of the Amateur publications springing up with stories on microprocessers, maybe we'd better get on the computerized bandwagon... look for a story on microprocessers in the December issue. While we're at it, remember that Nov. 17 is 'Computer Night' at all Heathkit Electronic Centres, 6-9 pm local time.

## From the Front Office

Last August, anticipating a seasonal demand for CARF publications used in the conduct of Amateur Radio courses, your Federation's H.Q. office staff assessed the stocks held and ordered a further stock to meet a forecast demand of 1500 Certificate Study Guides, 750 Radio Regulations Handbooks and 500 of the new Advanced Study Guides.

To our pleasant surprise we discovered that the forecast was far short of the demand. By mid-October the HQ Office staff had processed orders for over 2500 Certificate Study Guides and close to 1000 Advanced Study Guides - the orders for Regulation Handbooks did agree with our expectations.

This unexpected, but very satisfactory, demand for CARF Publications means that more and more people are signing up for courses in Amateur Radio and will mean that the upsurge in the numbers of Canadian Amateurs will continue. From notes and letters forwarded with orders we gather that the CARF books are the only publications that do fully meet Canadian requirements.

Instructors and students alike are pleased with the manner in which the detail is presented and covered.

Several clubs have taken advantage of the CARF "Package Deal" - a membership in CARF and a copy of the Certificate Study Guide and Regulation Handbook for a price of $13.00, with free bonuses given for quantities of 10 and 20 of the Deal. One club, the York North A.R.C., have already sent in 50 requests for this "Deal". This increased volume of work has been no problem for the HQ Office staff, but slight delays have occurred at times when our staff has been unable to keep up with the demand.

The HQ Office is run by the Kingston Old Timers Amateur Radio Association under the supervision of the General Manager of CARF, and payment is made to KOTARA based on the size of CARF membership. The Office is now open for business on Tuesday and Wednesday afternoons and Thursday evenings with any back-log being cleared during the week-end period. An efficient office staff is a great asset to the administration of your national society and very necessary

# SHORT CIRCUITS

by
Stan Hill
VE3DQ


"I STARTED OUT TO BUILD A LI'L HAM BAND RECEIVER, BUT IT OSCILLATED SO BADLY THAT I TURNED IT INTO A QRP TRANSMITTER."

for CARF's continued work on behalf of the Amateurs of Canada.

The HQ Office is located in temporary accommodation in Tett Memorial Centre in Kingston, Ont. The Centre is now undergoing alterations and, in early 1978, the Office will be re-located in proper office space with an additional room for housing our duplicating services and for storage of CARF Publications.

As CARF's membership increases this will permit an increase and improvement in the HQ Office facilities. Membership growth will enable your Federation to print more CARF Publications, provide publicity about Amateur Radio to the general public (releases written and published by Canadians for Canadians and to undertake even more services and activities of benefit to the Amateurs of Canada.

Art Blick -
General Manager VE3 AHU

# Cash for Stories

Here is a way to turn your hobby and spare time into cash!

The Canadian Amateur, beginning immediately, will pay for original articles not previously published elsewhere and which are printed in TCA.

Technical articles, photos, unusual events, interesting emergencies and public relations events, numerous happenings (fact or fiction) dealing with our hobby are all welcome.

Material should be typed or written in legible hand, double spaced on 8 1/2 x 11 white paper with adequate margins. Payment will be based on length and quality of story. Photographs (black & white preferred, colour print acceptable) and finished drawings accompanying articles will net additional payment.

Your name, address and telephone number should be on all material submitted. Photos should clearly identify subject matter.

# New Prefix?

The Radio Society of Ontario has formed a committee to explore ways, with DOC, to make more two-letter prefixes available as those with VE3 are just about all assigned. Canada has a series of national call letters available under international agreement, besides the familiar 'VE'.

The Victoria Short Wave Club is seeking the use of one of these to mark the bicentennial of Capt. Cook's Vancouver Island Explorations. The club has asked DOC for the special prefix 'VC' to replace 'VE' for Vancouver Island Amateurs for all of 1978.

(DOC policy on special calls is outlined in the CARF publication 'The Canadian Amateur Radio Regulations Handbook'.)

CRAG Canadian Repeater Advisory Group

VE3DWL Hugh Lines

Due to an experiment in transporting mail by mule train undertaken by the postal service, the CRAG column is not available for publication. It should be here by next issue...Ed.

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CHARTER LIST

# Life Memberships

A reminder that Charter Life Memberships will be available in your national Federation until the end of 1977 - Life Memberships will be available after that date. The cost of a Life Membership is now $100.00 with Life Memberships available for immediate Family members of the Life Member for an additional cost of $15.00 each. A credit is given for unexpired memberships of more than **one year, and** a 'deluxe' Membership Certificate and distinctive Membership Card is forwarded to each Life Member.

The following are Charter Life Members as of 15 Oct. 77.

Nate Penny VO1NP
Bonnie MacEachern VE1TY
Darell H. Porter VE1AFS
G.W. Goodwin VE2DQ
Joan Powell VE3FVO
A.E. Blick VE3AHU
David G. Evans VE3BAR
Bob Hulme VE3DNG
B.H. Burdsall VE3NB
W.E. Braithwaite VE3FWM
Norman Lawton VE3ON
Hersh Goldburg VE3JBU
Thelma Woodhouse VE3CLT
Malcolm Timlick VE4MG
Jim McKenna VE6HO
Dave Bennett VE7AXG
E.A. Osberg VE7AXJ
J.J. MacEachern VE1UA
Frank MacEachern VE1AWL
Ralph Hindle VE2BMH
R.F. Poulter VE2ANE
K.E. Rolison VE3CRL
Jean Evans VE3DGG
Laetitia Hardie VE3HIR
William B. Kent VE3HSK
J.L. Ferns VE3BZF
Dave Noon VE3IAE
E.L. Crosby VE3CJD
J.A. Fegan VE3BUI
Kent Chown VE3JKC
J.R. Sandercock VE5CS
Liz McKenna VE6APD
R.G. Skegg VE7AII
Roy Cable VE7ZR

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# DOC Notes

People in the telecommunications business and Amateurs as well will learn with regret that Bill Wilson has retired from DOC as Deputy Director General of the Telecom Regulatory Service. His practical experience in operating was a real asset in dealing with Amateur matters.

His call, VE3NR, will be heard on the air a lot more now. Bill is remaining at DOC HQ for a few weeks, on contract, to draft new regs for the General Radio Service as a result of the GRS symposiums held across the country, at a number of which Bill did an outstanding job as moderator.

# THE CANADIAN *Contest Scene*

Peter Dreissen VE7BBQ

November is the busiest month of the contest season. Well-recognized contests are scheduled for three out of the four weekends.

Thw CW version of the CQ Worldwide DX contest, featured in our September column, runs Nov. 26-27. The contest rules are the same for both the phone and CW versions. On CW, there is no problem with restricted subbands, so that all QSOs are made in the transceive mode. The all-time Canadian record high scores in the various classes of entry are listed below for the CQ WW CW (A - all band; 28, 21, etc. - single band; MS - multi-single; MM - Multi-multi)

CQ WW CW CONTEST ALL TIME CANADIAN RECORDS

| class | year | station | score | QSOs | zones | countries |
|---|---|---|---|---|---|---|
| A | 72 | VE7WJ | 1,250,364 | 1715 | 112 | 188 |
| 28 | 67 | VE1TG | 139,026 | 595 | 28 | 66 |
| 21 | 68 | VE7LB | 134,504 | 693 | 30 | 56 |
| 14 | 73 | VE3ABN | 177,934 | 659 | 34 | 73 |
| 7 | 73 | VA7WJ | 154,284 | 850 | 29 | 49 |
| 3.5 | 74 | VX1KE | 70,311 | 409 | 15 | 54 |
| 1.8 | 76 | VE3BMV | 30,258 | 358 | 12 | 29 |
| MS | 72 | VE1ASJ | 1,749,766 | 1999 | 110 | 249 |
| MM | 76 | VE3DU | 1,335,928 | 1760 | 85 | 238 |

Compare these results to those published in September for the phone contest. All scores are lower than the phone scores except on 40 metres where the CW score is higher than the phone record. This shows perhaps a lack of activity on CW as compared to phone and also reflects the somewhat slower QSO rate on CW. The 40 metre phone score is lower than the CW score only because Canadians are not allowed to transmit in the DX phone band 7050-7100 KHz. As a result, you cannot work DX transceive on 40 phone, as you can on all other phone bands and all CW bands. Needless to say, the 40 phone score suffers badly. (*CARF will propose a change in the DOC 40 metre sub-allocation to permit phone working here, at the November 26 national Amateur symposium.).

There are some weak spots in the scores listed above, and several Canadian records could easily be broken in 1977. The 20 metre single band score could be improved by almost anyone with a reasonable antenna, give half-decent band conditions.

The CQ Magazine WW DX Contests are a lot of fun, and all Amateurs are encouraged to participate. To work a station, simply exchange calls, reports and your zone number. Send your log in to CQ Magazine. No matter how small your score, chances are good that you will receive a certificate attesting to your efforts. Certificates are issued to the high score in each call area in each category, which is up to nine certificates per call area (see the nine categories listed above), so by choosing your category carefully, you should be able to win one.

The CQ zone numbers are:

1 - Yukon, western NWT
2 - Eastern NWT & Labrador & northern Quebec
3 - British Columbia
4 - VE6, VE5, VE4, VE3
5 - Southern Quebec & Maritimes

Send logs to CQ WW Contest Committee, 14 Vanderventer Ave., Port Washington, LI NY USA 11050.

The other major contests of interest in November are the ARRL Sweepstakes, both phone and CW. This contest includes only the US and Canada. The objective

is to work as many stations as possible in the US and Canada only.

You exchange the following message with each station you work in the contest: Example -

QSO number - nr 1234
Power* - A
Your call - VE7BBQ
Year of first licence - 70
Province - BC
*A - less than 200 watts
B - more than 200 watts

This contest is different from the DX contests. It is the oldest contest in existence, having been run for over 40 years. The Sweepstakes Contest is not one for the DXer but it is an excellent test of operator skill.

CANADAWARDS

The CARF-sponsored Canadawards were first announced in March 1977 with an effective starting date of July 1, 1977. So far, there have been three successful applicants for the Canadaward 14 MHz SSB. They are:

1st - VE3ET T.T.H. (Bud) Jones: completion date 3 July 77 1900Z
2nd - VE3GCO Garry V. Hammond: completion date 13 July 77 0146Z
3rd - VE2QO Bruce Balla: completion date 4 Aug 77 0215Z

To date, there have been no applications for bands other than 14 MHz. The Canadaward was set up to encourage Canadian activity on ALL Amateur bands, not just 20 and 80 metres. With the improving conditions, it should not be too difficult to work all provinces and territories on any of the HF bands. Who will be number 1 on another band besides 14 MHz ?

Thanks go to CQ, 73, Ham Radio Report, WorldRadio News, QST, the West Coast DX Bulletin and numerous club bulletins for publicizing the Canadawards.

ATTENTION DXers!
QSL CARDS

Reminder that an up-to-date list of QSL managers is available from CARF. This list is compiled by K5DB and was printed in the West Coast DX Bulletin. Send a SASE to CARF Inc., Box 356, Kingston, Ont. K7L 4W2.



# WARC '79 News

The CIC (Canadian Interdepartmental Committee) is still reviewing the various submissions by Canadian radio users for post-1979 frequency allocations. It will be a month or two before the results are published.

South of the border, the American Radio Relay League, in its October issue of 'QST', has published a review of its own and the US FCC proposals for Amateur allocations. Readers in Canada should note that it is the US FCC current draft official proposals and the ARRL recommendations that are discussed in the article and that, although there are many similarities between these and the CIC and CARF Canadian proposals (see 'The Canadian Amateur' for February and July/August), there are also a number of differences.

One interesting difference is the ARRL 'suggestion' to have CHU, the Canadian time standard station on 7335 kHz, 'relocated' to 7500 kHz (ARRL recommended an increase in the 40 m Amateur band up to 7500 kHz). This will raise eyebrows, if not hackles, in Canada's National Research Council, which is responsible for CHU's operation.

# A Beginning

The cry for enforcement of the Radio Act and Regulations, increasingly raised by Amateurs and GRS (CB) operators, seems to be bearing fruit.

While the prime concern of Amateurs is illegal operation in the Amateur bands, the illegal use of linear amplifiers in the GRS bands also concerns us because interference caused by them is often blamed on Amateur operators. The news that DOC inspectors have successfully prosecuted such a case in Lindsay, Ont. is welcomed.

On Oct. 24, a provincial court judge found a local GRS operator guilty of using a linear amplifier. After a warning some months ago when, on a routine visit, DOC inspectors removed a linear, the operator went back on the air with his 'boots on'.

Interestingly enough, the court accepted evidence produced by other GRS operators as to the strength of the offender's signal on their 'S meters'.

Our hats are off to the efforts of 'self-policing' by the local GRS operators, the DOC inspectors and the judge. The operator got off relatively easy, with a sentence of $100 fine or 10 days in jail.

In Bridgewater, N.S., a GRS operator got the same plus suspension of his licence on a charge of sending a false distress call which caused considerable concern and expense.

DOC has initiated a policy of publicizing prosecutions for infractions of the Radio Act and Regulations so, hopefully, there will be more such news in our next issue.

# CANADIAN Antenna Rights COMMITTEE

Al Law VE3ACZ, Chairman

As reported in the September issue, I have been asked to chair a committee of various organizations involved in personal radio to work on the problems of restriction of Amateurs' rights to erect antennas and supporting structures. It has been decided, since the previous article, that the undertaking will be more effective as a co-operative committee rather than a purely CARF activity as several radio organizations are participating.

The Committee plans to act as a clearing house of information between the various organizations and make co-operative studies, initiatives and representations to the bodies involved, governmental and others.

I have recently been involved personally with my own municipality and succeeded in getting a restrictive by-law altered favorably with the aid of the Ontario Municipal Board and the Department of Communications.

As well as municipal attempts at regulation, restrictive covenants entered into when purchasing a home are still a potential problem.

As stated in the earlier article, I would very much like to gather documented information on restrictions encountered on the erection of antennas and/or their supporting structures or where there has been a resolution of these issues. Please contact me through CARF Inc., Box 356, Kingston, Ont. K7L 4W2.

Organization is getting under way and some top-flight talent has agreed to participate: Charlie Grove VE3CT of CARF' Bob Benson VE2VW of ARRL Cdn. Div., Ted Hamer VE3LI of RSO, and Mel Duke of CGRSA, the national GRS (CB) association.

It is not the intent of the committee to deal with radio interference matters as that is a subject unto itself and a separate activity in this area is being planned.

Progress will be reported periodically in the bulletins of the various member organizations.

# Save on Customs Duty

A letter from VE7CB Alf Sheffield, commenting on U.S. prices compared to Canadian prices for imported Amateur equipment, notes that if you go to the U.S. for a visit there are a couple of things worth knowing about duty if you buy and bring back some gear.

If you stay more than 48 hours and up to 7 days, you may have an exemption from duty and sales tax up to $50 once every quarter and on the next $50 you can get a special 25% rate for duty and federal sales tax combined rather than the usual 15% duty plus the 12% federal sales on the cost price as valued for customs (which is actually 28.8% of the cost). Then, on any amount over this first $100, you will pay the 15% plus 12%.

If your stay is more than 7 days, then the exemption you are allowed goes to $150 and for the next $150 you will be able to get the special 25% rate, with the usual 15% plus 12% applying to any amount above the first $300.

For full details, read the National Revenue Department's booklet called "I Declare", available at any Customs office.

Your Federation has been actively pursuing the matter of getting relief from customs duty on Amateur equipment, but it will take some time before any concrete results can be expected. New procedures for applying for changes are in the mill. Further action depends on when these are implemented.

# 220 CB kaput?

The U.S. FCC has killed the proposal to allocate all or part of the 220 MHz Amateur band to U.S. CB operation. There is, however, always the possibility that a new request from the powerful interests behind the proposal could surface with another request at a later date.

PRINCE EDWARD ISLAND

ABEQWEIT AWARD REQUIREMENTS

VE1's and VO1's - QSO all 3 P.E.I. Counties; The rest of Canada and the United States - QSO any 3 P.E.I. stations, DX stations QSO any 2 P.E.I. stations.

Conatcts made after Jan. 1, 1960, will count. Submit logs, certified by two other Amateurs. QSL cards must be in possession. Send $1 or 10 IRCs to Award Manager, P.O. Box 1232, Charlottetown, Prince Edward Island.

## The World at a Touch — REVISITED

In our February issue the article "The World at a Touch", described how handicapped Amateurs at Sunnybrook Hospital in Toronto operated their own station, VE3SBH, by means of a device known as the "TOSC"..Touch Operated Selector Control. It is perhaps timely that we write a summary of the technical details of the device which may benefit others, as Wally Judd, one of the almost totally handicapped veterans at SBH and well-known on VE3SBH, recently passed away.

Larry Allen, VE3FXQ, who was very active in the development of the TOSC for the use of the SBH Amateurs wrote us a detailed technical description of the system and the mods made to it. Rather than present it all here we have made a summary of the technical side of the apparatus. Anyone interested in helping a handicapped Amateur with this equipment can write to CARF and we will send you a copy of Larry's detailed description of the TOSC. For anyone who wishes to correspond direct with Larry, his address is 16 Lovilla Bldv., Weston, Ont., M9M 1C5).

"For a starter", writes Larry, "the TOSC is a commercial device which was designed for domestic use and has a price tag of about $1,600. It was designed to answer or use a phone, operate a TV, turn on a radio and so forth. If the basic parts were built by a 'homebrewer' it may cost only about $100, probably less", he said. This is because a lot of the functions for domestic use are not required in the Amateur version.

In operation a low speed clock is run at a rate of about 1 hertz. It steps sequentially through each of the functions to be controlled. The operator then can turn on any of the pieces of equipment or different functions by activating a control switch. The switch is then activated by a movement of the person's head or hands, as required by the situation, thus turning on the rig, monitor scope etc. In order to isolate the stepping logic used to perform these functions from the 120 volt line, relays are used.

Tuning the rig is accomplished with a reversible AC motor. Movement of the operator's head to actuate the device will cause the motor to run in either direction, producing a tuning rate of about 1 kHz per second.

The choice of a rig is important. The Sunnybrook group chose the Heath SB 104 for two reasons. The large numerical frequency readout can be easily read at a distance and the solid state output means no tuning of the final is necessary. This greatly facilitates operation for someone who doesn't have the use of their hands.

Larry, Bud Cairns and others who made this device possible are to be congratulated on their work and their willingness to share their knowledge and experience with others.

# Letters

Editor:

I must take the time to tell you how I feel about CARF! Great - just great!

There is no doubt in my mind whatsoever that the CARF Certificate Study Guide is the reason I got my ticket. I purchased numerous books, including ARRL's, but found it full of info on getting the 'novice' ticket, U.S.A. rules and regulations, but nothing for a Canadian.

I am a new Amateur, thanks to a book written so it can be understood... thanks to all who worked in the publishing of such a fine book!

For this reason, and many more, please find enclosed my membership fee and $4.00 for the 'Advanced'. Thanks from all of us who have used your guides and enjoy 'The Canadian Amateur'.

Bill Black VE2BSB

- 100% solid state SSB/CW Transceiver
- Full coverage of 10 – 160 meter bands
- 350 watts P.E.P. or CW input
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- Plug-in auxiliary VFO or crystal oscillator (optional)

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CHARGEX VISA

# A Tribute

For some, Amateur radio is a pastime; to others it provides an outlet for experimental skills but to those of us who are physically handicapped it means a great deal more: - it is an escape to a world where all are equal - an escape from the reality of a life circumscribed by a malady or a physical deficiency.

As a national publication we have not carried the notices of "silent keys" which usually and more appropriately appear in local club bulletins.

This month, however, we received a letter which we print here because it brings out the fact that Amateur radio is still populated by people who have the old-time Amateur virtues of the fraternal spirit and helping hand.

In these moving words, the mother of John Rogers describes what Amateur radio meant to her son and to those in the local club.

Dear Sirs:

Just a short note to let you know VE7DMS is now silent. John passed away on his 29th birthday. When multiple sclerosis forced him to withdraw from engineering at U.F.A, time was long and he became involved with the local 'ham' club. We shall always be grateful to those men for the hours they spent helping John to have some purpose and contact with others. We would like to have his subscription passed on to another handicapped 'Ham', It is paid for until September 1982.

Thank you, Sincerely,
Mrs. J.W.Rogers, Kimherler, B.C.

# Symposium

Continued from Page 1

Certificate. Recommendations on the syllabus for the new ticket, if accepted will also be made. Group No. 2 will do the same for the DOC proposal for a "no-code" certificate.

Those in the third group will discuss new rules and regulations, tower legislation, equipment restrictions (control of availability of linear amplifiers, etc.), and regulations pertaining to repeaters. No. 4 Working Group will look at the future of Amateur radio in Canada. Considered will be the role of new technologies, future spectrum use, maximum exploitation of UHF and SHF assignments and the role of Amateru radio in today's changing society.

The DOC is providing the National Conference Centre for the event and senior Departmental officials will be attending the meeting.

The letter of invitation, signed by CARF president, John M Henry, said, "It is important that your organization's voice be heard. This is a unique opportunity for Amateurs to present to the DOC a representative viewpoint and recommendations affecting the future of Amateur radio in Canada."

"Those attending should be prepared to approach the deliberations constructively and with due consideration for the effects their proposals may have on Amateur radio for the next decade. One of the primary objectives of this meeting is to provide significant input to the DOC on regulatory and technical matters. Because of the nature of these objectives, it would be advantageous for your representative to have been active for a number of years and to have the knowledge necessary to adequately address the problems posed by the agenda."

Organizations which are unable to send a delegate can submit a paper on the agenda topics which will be read into the proceedings or they may designate a proxy.

# Santa rides again

The Calgary Amateur Radio Association's "Operation Santa Claus" will be activated agin this year. Beginning Dec. 6 and running until Dec. 17 inclusive, the Club will operate between 0200 z and 0300z on 3790 kHz and between 0300z and 0400z on 3910 kHz, plus or minus a bit if there is QRM.

There will be two stations on frequency, a net control station and a Santa Claus station. All calls from Amateur stations with children wishing to speak to Saint Nick at the North Pole will be accepted. Merry Christmas!


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# National CB Exec

The national GRS (CB) organization, the CGRSA (Central General Radio Service Association, Inc.) featured a keynote speech by DOC Parliamentary Secreatry M.P. Crawford Douglas at their annual meeting in Brockville, Ont. on October 22 and 23.

His outline of new regulations for the GRS contained a statement of more than passing interest to Amateurs when he noted that, in the area of enforcement, Regional Directors of the DOC have had delegated to them the Minister's power to authorize prosecutions for violations of the Radio Act.

CARF president John M. Henry VE2 DNM attended the Saturday session. Bill Wilson VE3NR, who is currently engaged in drafting changes to the GRS regulations as a prelude to his retirement, was among the DOC officials attending.

CGRSA officers elected by representatives from across the country were:

President - John Kaine, Trenton, Ont. Vice-President - Keith Kiel, Joyceville, Ont; Sec/Treas. - Mike Sankey, Oshawa, Ont.

Directors elected were Al Treppel, Montreal; John MacDonald, Trenton, Ont; Mike Pyndus, Saskatoon; Brian Brooks, Sault Ste. Marie, Ont. Brian is editor of the CGRSA publication 'CB Canada' and a contributor to national electronic periodicals.

# Canadian SWL Club

The Canadian International DX Club (CIDX) is the largest of four major SWL clubs in the country and its membership is primarily Canadian although there are several members in Australia and New Zealand and a large number from the United States. The monthly bulletin, the Messenger has columns on shortwave broadcast stations, DXing, MW or Boradcast DXing, FM-TV DXing (you'd be surprised!) clandestine radio activities, short wave broadcast QSLs and station schedules, and a large and active Ham Band column hosted by old-timer, W1-EXZ. There are also contests and award programs year-round.

CIDX was formed 15 years ago in Winnipeg and originally had no intention of becoming a radio listening club. It grew slowly for several years, still in the Winnipeg region, and eventually went international and saw rapid growth, outlasting its forerunner, the now defunct Canadian DX Club. A number of special projects, including a morse code lessons set and other articles, is now being assembled and information is available from the club.

The Messenger is sent First Class to Canada or the U.S. for $9, or third class for $7.50. Overseas rates are $13 Airmail. Write to CIDX, 169 Grandview Ave., Winnipeg, Manitoba R2G 0L4.

(CIDX requires a technical editor to edit a column on varied technical topics on a basic or intermediate level. If you can help, write to Brian Pimblett c/0 CARF.)

# New RSO Board

At the Annual General Meeting of the Radio Society of Ontario, Inc. on Oct. 1 in Toronto, delegates elected the following Board of Directors for the year 1977/78:

Harold Braun VE3DWH, Kitchener; Les Brownlee VE3BLZ, Whitefish; Eric Ilott VE3XE, Willowdale; Marvin Nash VE3FON, Willowdale; Lawrence Purdy VE3FPF, Mississauga; Croft Taylor VE3 OR, Ottawa; Roy Tuttle VE3BNV, Peterborough.

The Directors elected Marvin Nash VE3FON as President and appointed the following Officers:

First V-P: Eric Ilott VE3XE; Second V-P: Croft Taylor VE3OR; Treasurer: Robert Humphreys VE3HOW; Secretary: Eric Ilott VE3XE. Immediate Past President of the Society is Tom Atkins VE3 CDM.

FROM

# Memo

**WSI SALES COMPANY**

BARKER & WILLIAMSON, INC. PRICING-effective Sept.01,1977

| | |
|---|---|
| (1)#374 dummy load/wattmeter 0-15/50/150/1500 watts | $ 279.00 |
| (2)#376 Antenna/coax switch 5 position + ground | 25.00 |
| (3)#CC-50 Dipole centre coaxial cable connector | 11.00 |
| (4)#370-10 Portable whip antenna 360 watts CW,SSB tunes 2,6,10,11,15,20,40M bands ideal apartment, motel or emergency antenna-complete with 5 base loading coils & simple clamp bracket | 43.00 |
| (5)#371-1 Wide range attenuator-1 dB to 61 dB in 1 dB steps ¼ watt- 50 ohms-DC-225 Mhz. | 65.00 |

MFJ ENTERPRISES

| | |
|---|---|
| (1) 1601OST Super Tuner | 89.00 |
| (2) 16010 Tuner-long wires only! | 54.00 |
| (3) 200BX Cmos frequency standard 100Khz/50/25 | 39.00 |
| (4) CWF-2BX SSB Filter | 39.00 |
| (5) CWF-2 Super(80 Hz)Cw Filter | 39.00 |
| (6) LSP-520BX Logarithmic speech processor | 65.00 |
| (7) LSP-520BX II " " " in Ten-Tec case +uncommitted 4 pin mike jack,cable,rotary switch | 78.00 |

WM.M.NYE COMPANY,INC.------telegraph keys

| | |
|---|---|
| (1)Black bakelite base for below keys with mtg screws | 2.00 |
| (2)114-310-001 Std.key black wrinkle base,no switch | 9.00 |
| (3)114-310-002 Std.key with Navy knob " | 10.25 |
| (4)114-310-003 Std.key with switch | 11.50 |
| (5)114-310-104GP ALL GOLD PLATED HARDWARE with switch mounted on plastic base-a XMAS GIFT! | 65.00 |
| (6)114-312-001 Std.key with brass plated hardware | 9.75 |
| (7)114-312-002 same as above except with Navy knob | 10.75 |
| (8)114-312-003 same as -001 but with switch | 12.00 |
| (9)114-312-004 same as -003 but with Navy knob | 13.00 |
| (10) 114-320-001 Heavy duty,n.p.hardware,no switch | 11.50 |
| (11)114-320-003 same as-001 but with switch | 13.75 |
| (12)114-321-001 same as 320-001 base chrome plated | 17.25 |
| (13)114-321-003 same as -001 but with switch | 19.75 |
| (14)114-322-001 same as 320-001,brass hardware,no switch | 12.00 |
| (15)114-322-003 same as -001 but with switch | 14.25 |

UNLESS otherwise directed---shipping charge is 3% of order.
MINIMUM CHARGE is $1.00
Ontario residents add 7% OST

**WSI SALES COMPANY**
**Barlow Wadley Short Wave Radios**
18 Sheldon Ave., Kitchener, Ont. N2H 3M2
**PHONE (519) 579-0536**

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18 Sheldon Ave., Kitchener, Ont. N2H 3M2
**PHONE (519) 579-0536**

# New P.A. for Minister

On the upper levels of the DOC where "p. a." means "parliamentary assistant" and not "power amplifier", another M.P. has replaced Hon. Ross Milne as Parliamentary Secretary to DOC Minister Jeanne Sauve.

Hon. Crawford Douglas, Liberal M.P. for Bruce-Grey has taken over from Mr. Milne. Mr. Douglas, a native of Guelph, Ont., now living in Chesley, Ont., has his background in broadcasting for a number of Ontario stations to call upon in carrying out his duties as "p. a."

Mr. Douglas also knows about two-way communications as well as broadcasting as he, like many of our readers, operated No. 19 Wireless Sets. Too young for World War II, he had a number of years experience as a radio operator in the militia. He will add a practical touch to the DOC higher levels which are long on engineering, sociology and economics expertise, but short on communicators.

# Rotary Net

The well-known service club, 'Rotary International' has a series of nets consisting of Rotarians who hold Amateur tickets in various countries.

The 'ROAR' (Rotarians of Amateur Radio) round-table schedules are: (all times are GMT)

| Sundays: | | NCS | |
|---|---|---|---|
| 0830-1000 | Intra-British | G8ON | 3,692kHz |
| 1000-1030 | S. Africa | ZS2FA | 21,402kHz |
| 1030 | New Zealand | ZL1AJU | 21,402kHz |
| 1200-1300 | N. America | K1UIL | 14,320kHz |
| 0200 | USA-New Zeal. | ZL2RC | 21,320kHz |
| First Monday each month | | | |
| 0800 | New Zealand | ZL3ABC | 3,620 kHz |
| First Thursday each month | | | |
| 1000 | Australia | VK2BWF | 3,620 kHz |

For information write to Gerry Spooner VE3DQL, P.O. Drawer 130, Timmins, Ont. P4N 7C9 or CARF Atlantic Director Nate Penney VE1NP, P.O. Box 10, Shoal Harbour, Nfld. A0C 2L0.

# CB Spin-off

GOOD OR BAD ?

Modifying CB gear to fit the ten metre Amateur band can be inexpensive and fun, but for those who like QRP and 10 metres but don't have the time to modify a CB rig, Standard has announced a 10 metre AM rig version of their CB 29A set. According to 'HR Report', it will have 40 channels, with a price of $179 US. Let's hope there is some control at the point of sale or elsewhere, or it could be that other than Amateurs will appear on the 40 channels between 28965 and 20405 MHz. This machine could really louse up ten metres if it is sold over the counter in CB stores with no control over who buys.

# Correct Procedure

The use of the standard procedural phrases can speed up and ensure the accuracy of radiotelephone traffic. Here are the phrases officially recognized in Canada for commercial traffic:

| | |
|---|---|
| ACKNOWLEDGE | Let me know that you have received and understood this message. |
| AFFIRMATIVE | Yes, or Permission granted. |
| BREAK | I hereby indicate the separation between portions of the message. (To be used where there is no clear distinction between the text and other portions of the message.) |
| CHANNEL | Change to Channel ... before proceeding with this communication. |
| CONFIRM | My version is ... Is that correct? |
| CORRECTION | An error has been made in this transmission (or message indicated). The correction version is ... |
| GO AHEAD | Proceed with your message. |
| HOW DO YOU READ | Do you understand, do you hear. |
| I SAY AGAIN | "I repeat". |
| NEGATIVE | No, or Permission not granted or that is not correct, or I do not agree. |
| OVER | My transmission is ended, and I expect a response from you. |

| SWAN BEAM ANTENNA SPECIFICATIONS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Antenna Model Number: | Average Forward Gain: | Front to Back Ratio: | Boom Length & Diameter | Longest Element: | Turning Radius: | Maximum Wind Survival: | Wind Load @ 80 mph: | Wind Surface Area: | Net Weight Assembled: |
| TB-4HA | 9 dB | 24-26 dB | 24' x 1.5" | 28'-10" | 18'-6" | 100 mph | 148 lbs. | 6 sq. ft. | 54 lbs. |
| TB-3HA | 8 dB | 20-22 dB | 16' x 1.5" | 28'-2" | 16' | 100 mph | 110 lbs. | 4 sq. ft. | 44 lbs. |
| TB-2A | 5 dB | 16-18 dB | 6.5' x 1.5" | 27'-8" | 14'-3" | 80 mph | 60 lbs. | 1.8 sq. ft. | 18 lbs. |
| MB-40H | 4 dB | 16-18 dB | 15.75' x 1.5" | 30'-4" | 17'-6" | 100 mph | 80 lbs. | 2.5 sq. ft. | 40 lbs. |

| | |
|---|---|
| OUT | This conversation is ended and no response is expected. |
| READ BACK | Repeat all of this message back to me exactly as received, after I have given OVER. (Do not use the word "repeat".) |
| ROGER | I have received all of your last transmission. |
| SAY AGAIN | Repeat. |
| THAT IS CORRECT | Self-explanatory. |
| VERIFY | Check coding, check text with originator and send correct version. |
| WILCO | Your instructions received, understood, and will be complied with. |
| WORDS TWICE | (a) As a request: Communication is difficult, please send each word twice,<br>(b) As information: Since communication is difficult, I will send each word twice. |

## *Check your Label*

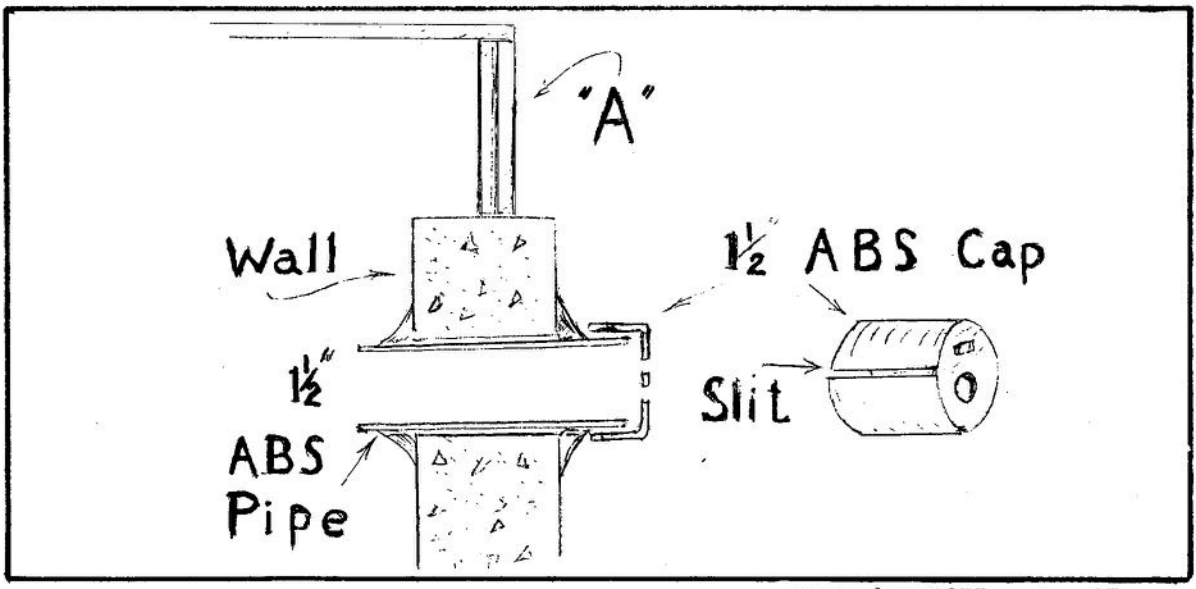
Your membership label has, as its first line, a coded reference such as: Y-999-JUN 77. The 'Y-(((' denotes your individual membership number as given on your membership certificate; 'JUN 77' indicates that our computer service will print out this label (and all others with this date) in June 1977 and these labels will be forwarded to the CARF HQ Office. The Office will then use the labels to forward a renewal notice. Renewal stickers are not issued for Membership Certificates due to the difficulties and expense incurred. Your address label is your renewal certification.

## Technical Talks

# Coax Feedthrough

(Here is a neat solution to a common problem. It surfaced in our scrapbook recently but, unfortunately, other than the fact that it apparently appeared originally in an Ontario club bulletin, we are unable to identify the publication. Anyway, thanks to the unidentified club editor.)

Here is a way of feeding coaxial cables, rotor control wires, etc. into the shack without putting more holes in the window frames. Required are: about 12" of 1 1/2" ABS pipe, a 1 1/2" ABS test cap, a brother-in-law with access to a masonary drill and bit. The plastic ABS pieces will cost about a dollar at



# 2020

**A BRILLIANT NEW SSB TRANSCEIVER PROVIDING AN UNBEATABLE COMBINATION OF ADVANCED ENGINEERING AND UNIQUE OPERATING FEATURES.**

**YOU MAY NEVER HAVE OWNED A TRANSCEIVER THAT OFFERS SO MUCH.**


- *Phase lock-loop (PLL) oscillator circuit minimizes unwanted spurious responses.
- *Hybrid Digital Frequency Presentation.
- *Advanced Solid-state design...only 3 tubes.
- *Built-in AC and 12 VDC power supplies.
- *CW filter standard equipment...not an accessory.
- *Rugged 6146-B final amplifier tubes.
- *Cooling fan standard equipment...not an accessory.
- *Microphone provided.
- *Dual RIT control allows both broad and narrow tuning.
- *All band 80 through 10 meter coverage.
- *Multi-mode USB, LSB, CW and AM operation.
- *Extraordinary receiver sensitivy (.3u S/N 10 db) and oscillator stability (100 Hz 30 min. after warm-up)
- *Fixed channel crystal control on two available positions.
- *RF Attenuator.
- *Adjustable ALC action.
- *High performance noise-blanker is standard equipment ...not an accessory.
- *Built-in VOX and semi-break in CW keying.
- *Crystal Calibrator and WWV receiving capability.
- *Phone patch in and out jacks.
- *Separate PTT jack for foot switch.
- *Built-in speaker.

## GLENWOOD TRADING COMPANY LTD.

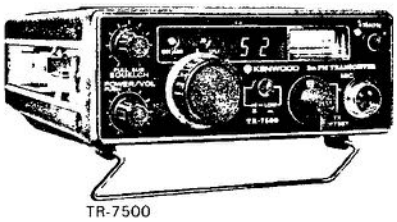
278 East 1st St., North Vancouver, B.C. V7L 7B5

any plumbing supply store. The brother-in-law has already been paid for.

Begin by selecting a spot for the feedthrough, such that it won't try to occupy the same place as another pipe, a stud, or an electrical fixture. Mark out a circle about the same size as the ABS pipe and proceed to drill through. You'll probably have to make three or four holes as close together as possible. Next, take a hammer and chisel and enlarge the hole to size. Push in the ABS pipe, leaving about two inches protruding past the exterior wall.

Use ready mix mortar and cement around the pipe, inside and out, to seal the pipe. The test cap is soft plastic and can be easily cut with a utility knife. Cut a slit and holes in the cap. Slide the cables into the holes. Slide the cap onto the pipe. Smear silicon rubber around the cables to weather-proof the assembly. If you make changes to your antenna system, a new test cap costs all of 12¢.

(In some types of construction, an easier place for the feedthrough hole is through the 2x8 inch boards on top of the basement wall at 'A'...Ed.)



TR-7500

# *Equipment Review*

## Kenwood TR-7500

Dave Robinson - VE3BTY

The Kenwood TR-7500 transceiver reviewed here was supplied by courtesy of Glenwood Trading Co. Ltd.. North Vancouver, through its Ottawa representative, Bytown Marine Ltd.

Kenwood's TR-7500 VHF FM transceiver is an ideal rig for the Amateur to use for repeater and FM simplex mobile operations with a minimum of effort.

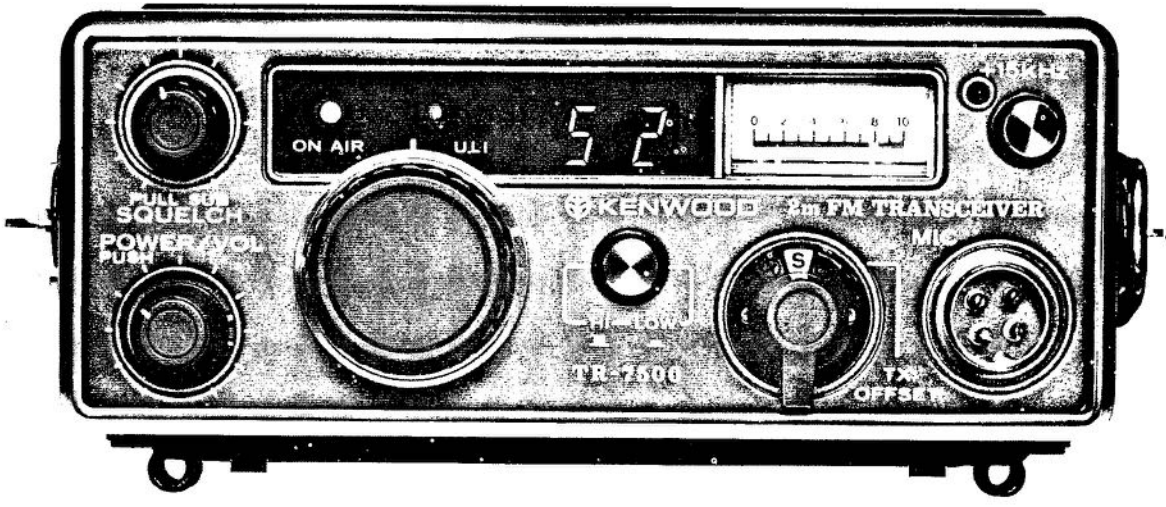
When you open the protective shipping carton you should find the transceiver, microphone, mobile mounting bracket, tilt-up bracket for base use, power cord (c/w matching plug for the transceiver and in-line fuseholder) two fuses, hardware for the mobile mounting bracket, two plugs (one for connecting an external speaker, and another for connecting a center-zero meter to monitor the discriminator output, and/or a touch-tone pad, thirty diodes and an operating manual. (Nine volts DC is provided to power the tone pad.)

Don't let these diodes scare you away: they are for adding six channels of your choice, (selectabel from a table of 23 frequencies) in case the 44 pre-programmed channels aren't enough for you! (These 44 cover all the repeater and simplex frequencies I'm aware of.) 44 + 6 = 50 channels with 30 KHz spacing. If you hit the +15 KHz switch that gives you another 50 channels between the 30 KHz spaced channels for a total of 100 channels between 146.010 and 147.990.

Receive frequency selection is effected by one rotary knob with 50 detents (one for each channel - this knob has no stops: you can go round and round and...) and the +15 KHz switch mentioned previously. The skirt of the rotary knob tells you whether you are above or below 147 MHz for transmitter frequency offset selection: for repeater use you determine the offset by using the three position "TX Offset" switch labelled "-", "s", "+" (-600 KHz, simplex, or +600 KHz). The receiver frequency output is via a LED display (0.3 inch numerals) of one digit for the six "solder-your-own channels", and two digits (100 KHz and 10 KHz) for the 44 pre-programmed channels. Other front-panel features are the on/off-volume, squelch (pull for sub-audible squelch if you bought and installed this option) mike connector, High (10 watts)/Low(one watt) power control; "ON-AIR" light, synthesizer unlock indicator, backlit Signal/Tx output

ORDER NOW

# TR-7500

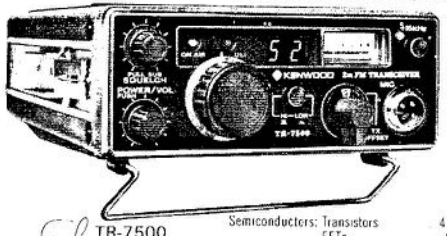



There are a number of good 2 meter FM transceivers on the market. You may already own one. But, even if you do, we suggest that you put your radio to this test. And, if you're thinking of buying one, this test should be a helpful guide.

**$429.**

| | NO | YES |
|---|---|---|
| Is it PLL synthesized? | ☐ | ☐ |
| Does it have 100 channels (88 pre-programmed)? | ☐ | ☐ |
| Does it have 12 extra diode programmable channels? | ☐ | ☐ |
| Does it have single knob channel selection? | ☐ | ☐ |
| Does it have a LED digital frequency display? | ☐ | ☐ |
| Dos it have a powered tone pad connection? | ☐ | ☐ |
| Does the receiver have helical resonators? | ☐ | ☐ |

If your answer is NO to any of these, the TR-7500 is the radio that you should own. And, in addition to these important features, you get proven Kenwood quality, value and service.



## TR-7500 Specifications

NEW!

Semiconductors: Transistors 41
FETs 8
ICs 7
Diodes 35

Frequency Range: 146.01 to 147.99 MHz
Mode: FM
No. of Channels: 100
Operating Temperature: −20 to +50 degrees C
Power Voltage: 11.5 to 16.0V DC (13.8V DC nominal)
Grounding Polarity: Negative ground
Antenna Impedance: 50 Ohms
Current drain: Less than 0.5A in receive with no input signal
Less than 3A in transmit (HI) Less than 1.5A in transmit (LOW) (at 13.8V DC)
Dimensions: 172 mm (6-3/4") wide
250 mm (9-7/8") deep
75 mm (2-15/16") high
Weight: Approximately 2.2 kg (4.8 lbs.)

TRANSMIT SECTION

RF Output Power: High: 10 Watts
Low: 1 Watt (approximately)
Modulation: Variable reactance frequency shift
Frequency Deviation: ±5 KHz
Spurious Radiation: Better than −60dB
Tone Pad Input
Impedance: 600 Ohms
Microphone: Dynamic microphone with PTT switch, 500 Ohms

RECEIVE SECTION

Receive System: Double conversion superheterodyne
Intermediate Frequency: 1st IF: 10.7 MHz
2nd IF: 455 kHz
Sensitivity: Better than 0.4 uV for 20dB quieting Better than 1 uV for 30dB S/N
Squelch Sensitivity: Better than 0.25 uV
Selectivity: 12kHz at −6dB down
40 kHz at −70dB down
Image Rejection: Better than −70dB
Spurious Interference: Better than −60dB
Audio Output: More than 1.5 watts across 8 Ohms load 10% distortion
Intermodulation: Better than 66dB

FOR THESE AND OTHER ITEMS IN OUR LATEST CATALOGUE, WRITE TO:—

**GLENWOOD TRADING COMPANY LTD. 278 East 1st St. North Vancouver, B.C. V7L 7B5**

meter (illuminated green for low, white for high power) backlighting for the transmitter offset indicator; and a wee red LED illuminates when you've selected the +15 KHz feature.

The transmitter comes set for ±5 KHz deviation and the receiver 6 db bandwidth is 12 KHz. Due to the quaint English used in the manual (printed in Japan) I don't know how fast it rolls off after that, but the selectivity is more than adequate for 30 KHz spacing.

Some of the "wide" repeaters and simplex channels may sound rough (both because of their clipping and also because they will spill outside of the 7500's IF) but this can be minimized by use of the "soft-normal" audio switch on the back of the rig. I could listen to a distant repeater on 146.73 and not be aware that the local machine on 146.70 was being keyed. The 7500 showed no evidence of intermodulation when used in an area of downtown Ottawa that drives our mobile rig absolutely snakes.

I blush to admit this, but the reverse polarity power supply protection works fine: I muttered a few magic incantations (unprintable in English or Japanese) while I drilled the Canadian Tire cigarette lighter plug apart, reversed the leads, bolted it together, replaced the blown in-line fuse, plugged it in again, and smiled: - it worked!

In conclusion, we (myself and the other hams I consulted in this mini-evaluation) found the Kenwood TR-7500 to be an excellent 2 metre FM transceiver for mobile operations. The controls are simple (this feature minimizes a tendency to drive off the road while changing frequencies) covers all 600 KHz spaced repeaters (including both the 30 KHz and 15 KHz spaced channels. The receiver is sensitive yet is not bothered by hash riding on the car electrical supply. The transmitter output power is adequate for all but the alligator-type repeaters (all mouth and no ears) and is a clean, pleasant-to-listen-to signal.

Happy operating.

Dave VE3BTY

# DOC Publication index released

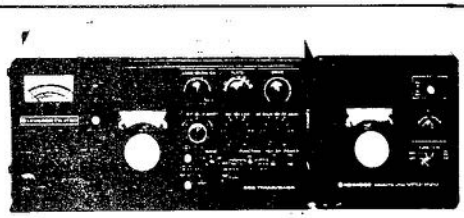
DOC has issued a new index of its technical publications. The index, dated September, 1977, lists the current Radio Standards Procedures, Radio Standards Specifications, Radio Inductive Interference Specifications, Standard Radio Systems Plans, Telecommunication Regulatory Circulars and publications on the Supression of Inductive Interference.

Those of our readers who are engaged professionally in electronics may do well to obtain the complete index and obtain from DOC the ones related to their particular area of work. Amateurs who are interested in solving problems of radio interference, especially those on club technical or interference committees, may be interested in the following on the Suppression of Inductive Interference;

TRC 17 - The control of Radio Interference from TV Receivers;
TRC 19 - Cross-Modulation and Swamping;
TRC21 - Identifying and Suppressing Radio and TV Interference;
TRC 26 - Principles Underlying the Suppression of Inductive Interference at Standard Broadcast Frequencies;
TRC 27 - Radio Interference Caused by Electric Heating Pads;
TRC 28 - Suppression of Appliances and Amall Motors;
TRC 29 - Prevention Easier than cure of Power Line Radio Interference;
TRC 30 - Causes of Radio Interference from Series Street Lighting;
TRC 36 - Suppression of Inductive Interference from Fluorescent Lighting;
TRC 36 - Suppression of Inductive Interference;
Antenna Factor - To convert measured volts (uv) to field strength (uv/m);

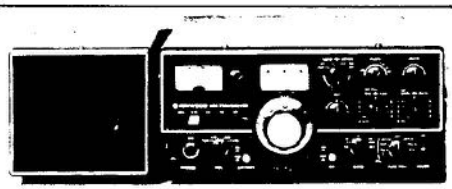
In addition to the TRCs listed there are a number of "Suppression of Inductive Interference Circulars "a number of which may also be of interest to Amateurs. These are SII-10-7 Flashing Electric Signs; SII-10-9 Oil Furnaces; SII-10-47 Interference Suppression in Small Marine Craft; Survey of Broadcast Interference from Household Appliances and last, but not least (!), Television Reception and Interference. Ask your nearest DOC District Office for the ones you need...and tell them you saw it in The Canadian Amateur.

# CHOOSE TOP PERFORMANCE FROM THIS SHOWCASE OF H.F. RIGS



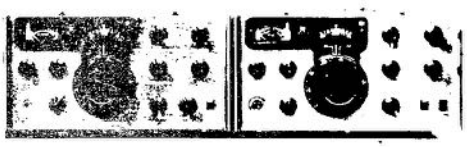
**NEW . . . TS-820S from KENWOOD**

The same superb transceiver but with the digital-readout now factory installed. Many features, including 10 thru 160 meter coverage; 200 watts P.E.P.; integral IF shift; solid-state except driver and final stages; nois-blanker; VOX and semi break-in CW; PLL Circuitry; USB/LSB/CW/FSK; phone patch terminals; RF Speech processor; and much more.



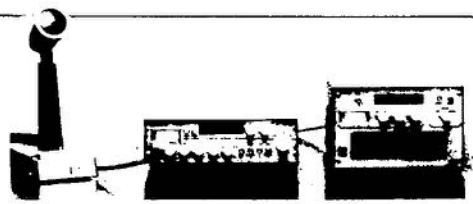
**NEW . . . TS-520S from KENWOOD**

It combines the fine, proven characteristics of the original TS-520 with many new and improved features! Covers 160-10 meters completely plus WWV. Improved sensitivity and spurious response characteristics; new improved speech processor; new highly effective noise blanker (ANOISE BLANKER THAT REALLY WORKS!); phone patch terminals; completely solid-state except driver and final stages; built-in supply; switchable AGC; RTI control; 25 Khz. calibrator and much, much more, at an unbelievably reasonable price.



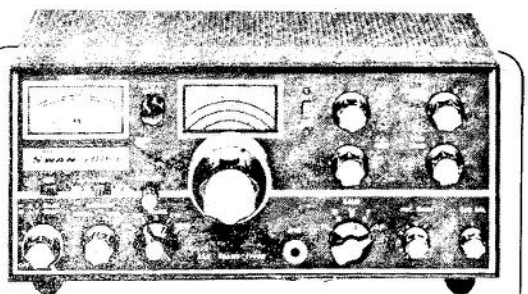
**KENWOOD R599D/T599D . . . THE TWINS**

The no compromise pair . . . R-599D features all solid state; 1.8 to 29.7 MHz; WWV; 1KHz readout; crystal filters; effective noise blanker; 4 way VFO; built-in squelch; accurate S-meter regardless of RF Gain setting; switchable AGC; 25 Khz. calibrator; RIT . . . The T-599D features solid state except driver and finals; highly stable VFO; 4 way VFO; VOX Semi-break-in CW with sidetone; transverter terminals; covers 3.5 – 29.7 Mhz. Drop us a line for detailed specifications.



**NEW . . . THE ASTRO 200**

Brand new transceiver built in the U.S.A.; state of the art 100% solid-state communications center with over 40,000 frequency synthesized channels covering 80-10 meter bands completely with 200 watts P.E.P. input. Push-button VFO frequency control – no tuning knob!; large 6 digit frequency display; fully RIT and harmonic suppression; built-in SWR bridge; broadbanded – no finals to tune; CW filter/station console/AC Supply/Matching speaker/mobile mount, available. Write for specs.



SWAN ELECTRONICS

**SWAN ELECTRONICS 700CX TRANSCEIVER**

700 watt P.W.P. Powerhouse, 80-10 meters; 25 Khz calibrator; best "watts-per-dollar" value on the market today!

**UNIDEN 2020 TRANSCEIVER**

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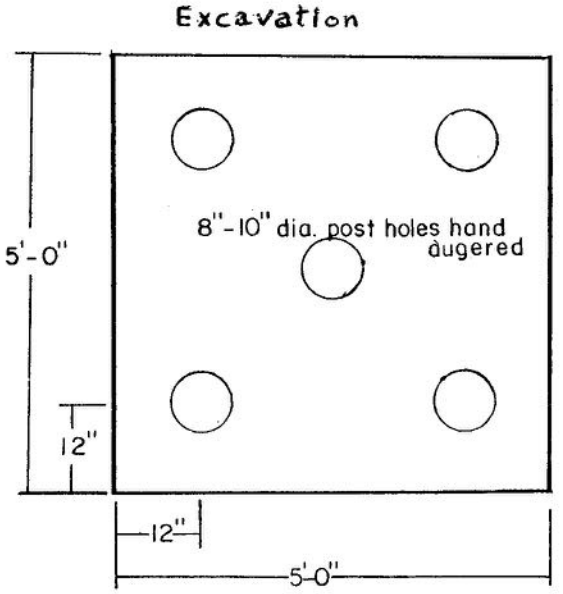
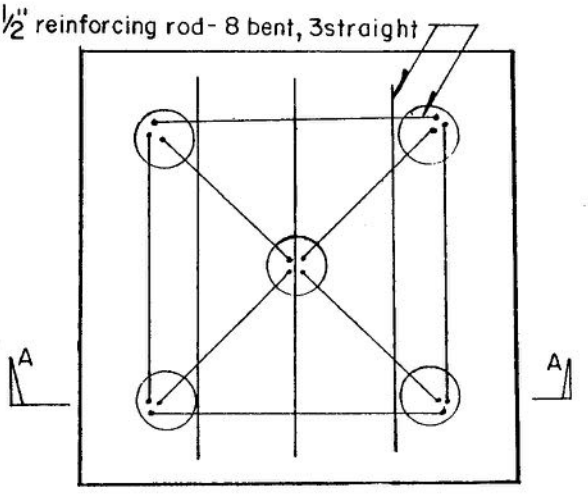
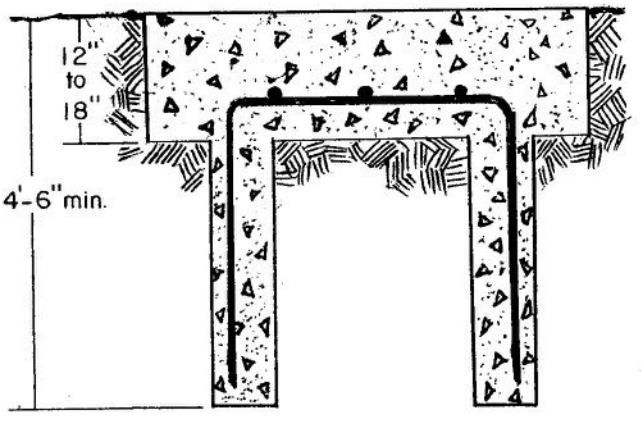
# HAMTRADERS INC.

# A Different Tower Base

Jim Fathers VE3AHN




A-A

Now is a good time to explode the myth that you need weight to hold up a tower. It is actually the resistance to overturning that keeps the tower standing.

Try this experiment: place both feet together with your arms at your side, then have someone push on your shoulder while you try to push back using only your leg muscles. Now try the same thing with your feet about two feet apart - now you can visualize the stresses which a tower base must overcome.

Similarly, it can be shown that the tower base proposed here will take a 50% greater wind load before developing the same 'overturning moment of force' or horizontal earth pressures.

Looking at the drawing, instead of the usual block you will see a concrete 'slab' structure with five pilings or posts extending into holes dug by a hand post-hole auger.

A 12-inch thick slab with 8-inch diameter holes requires 1.15 cubic yards of concrete while an even sturdier slab base using 10-inch diameter holes will need 1.28 cubic yards.

This is adequate for towers up to 50 feet with a tri-bander and a two metre beam on top. For larger towers or heavier antenna arrays, use an 18 inch slab. If you dig 8-inch diameter holes, the total 'pour' will require 1.6 cubic yards.

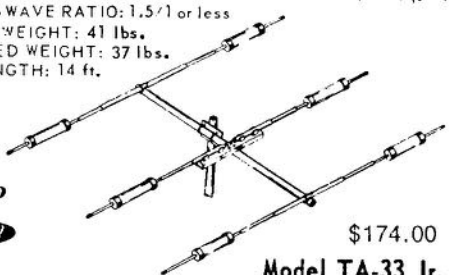
All of the figures here are for a total of the slabs and the posts or pilings that

# MOSLEY ANTENNAS

## Model TA-33 for 10, 15, and 20 meters $238

The Mosley TA-33 three element beam provides outstanding 10, 15, and 20 meter performance. Exceptionally broadband – gives excellent results over full Ham bandwidth. Exclusive Mosley trap design offers resonant frequency stability under all weather conditions. Element center sections are of double thickness. aluminum to reduce sag. Boom requires no bracing. Heavy duty universal mounting plate fits masts up to 1½ inch O.D. Antenna handles full KW AM/CW or 2 KW P.E.P. SSB input. Feed with one coax line, RG-8/U recommended. The TA-33 may also be used on 40 meters with TA-40 KR conversion. Complete with Hdw.

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



TRAP MASTER

$174.00

## Model TA-33 Jr.

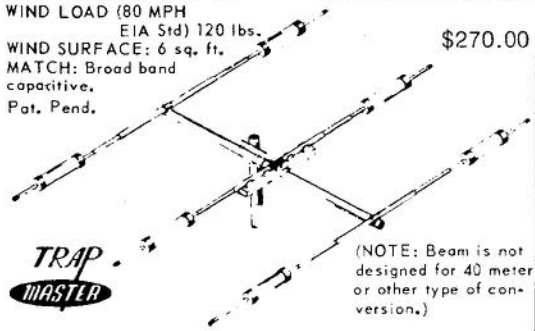
Mosley TA-33 Jr. has quality and performance found in the TA-33. Rated to 300 watts AM and CW, - 1000 watts P.E.P. on SSB. Complete with Hdw. The Junior may be converted to MP-33 with higher power rating with MPK-3 Kit. Shipping weight 28 lbs. Assembled weight 20 lbs.

# The Classic 33 10, 15, and 20 meters

Beam designed to provide the extra gain for working hard-to-reach DX. Incorporates exclusive Mosley 'Weather-Proved' traps with resonant frequency stability. Features new boom to element clamping and balanced radiation. Hardware is stainless steel. Feed with 52 ohm RG-8/U coax. Fits up to two inch mast. Use with most heavy-duty rotors. 1 KW AM/CW or 2 KW P.E.P. SSB input.

FORWARD GAIN: Full 8 db. compared to reference dipole or 10, 1 db. over isotropic source.
FRONT-TO-BACK: 20 db. or better on 15 and 20; 15 db. on 10 meters.
STANDING WAVE RATIO: 1.5/1 or better.
MAXIMUM ELEMENT LENGTH: 27 ft.
ASSEMBLED WEIGHT: 42 lbs. BOOM LENGTH: 18 ft.
SHIPPING WEIGHT: 47 lbs. TURNING RADIUS: 16 ft.
WIND LOAD (80 MPH EIA Std) 120 lbs.
WIND SURFACE: 6 sq. ft.
MATCH: Broad band capacitive.
Pat. Pend.

$270.00



TRAP MASTER

(NOTE: Beam is not designed for 40 meter or other type of conversion.)

# CL-36 $349

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MY-144-5 E1 10dB 2KW Yagi $39.50
MM-144 5/8 mobile C/W spring and base $31.50

HF Vertical Antennas
RV-4C 40 - 10 mtr, 2 KW $77.25
RV-8C 80 mtr conversion $45.25
80 - 10 Mobile antenna available
MPK-3 $63.00
TA-33 Jr. Pwr. Conversion Kit

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| 204BA 4el. 20 meter beam | $259.00 |
| BN 86 balun | $ 22.50 |
| RG-8U 25¢ft. RG-8U foam 28¢ft. | |
| PL-259 connectors $1.00 | $10.50 doz. |
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| TR-2200A | $299.00 |
| TR-7500 | $399.00 |
| CDE ROTORS | |
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| HAM II | $199.00 |
| HAM III | $209.00 |
| Big-Talk | $125.00 |
| Tail Twister | $379.00 |
| Rotor plate | $6.50 |
| Rotor wire | 21¢ft 8 wire<br>12¢ft 5 wire |

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fill the holes. One continuous pour is required.

Contrast the above concrete requirements with that for the 4'x4'x4.5' block used by most Amateurs which runs to about three cubic yards. There is a saving of 1.3 to 1.7 cubic yards -- enough for a second base!

In performance, the slab-and-post design is 1.5 times superior to the block design in overturning moment alone, based on contacted surface area, without considering the friction factor of the soil between the post holes, a safety factor we can consider as a bonus.

In addition, if we consider support weight, the slab will support 2.5 times the dead load that the block design can before settlement becomes a problem. The soil pressure due to the block alone will be 675 lbs/sq. ft. -- think about that if you are putting a tower base adjacent to your basement wall!

To sum up: let me point out that resistance to overturning is the prime factor we are looking for in a tower base; to this end it should be obvious that weight is not the major factor involved. As an example, if we take a large concrete block and a patio slab of the same weight and apply an increasing force to the side of each, it becomes evident that the block will overturn first.

This same example holds for the two types of tower bases even though they are imbedded in the ground rather than resting on it. The side force is still present due to wind loading on the tower and antenna structure.

Both designs have about the same resistance to frost heaving because they are both at the same depth. The solid slab, however, is more susceptible to ice lens formation due to its greater single plane surfaces.

Weight distribution or the spreading of the vertical load is a function of the area in contact with the soil. Since most soil in the top 5 or 6 feet has a finite load carrying capacity, it is most important to have the largest contact area possible. There is not much point in going larger than 5' x 5' for an 18" thick slab because the load is distributed along a $45^{o}$ cone from the point of loading and will be only partially effective in any area beyond two feet from this point of application.

Following this thinking, our solid block ceases to develop any further load distribution below two feet from the surface as this is the point at which the cone will exit from the side of the block.

I have used this design to support many wind loaded structures in the past ten years and have never had a slab crack, even under the severest conditions.

# Newfoundland Communications Pioneers

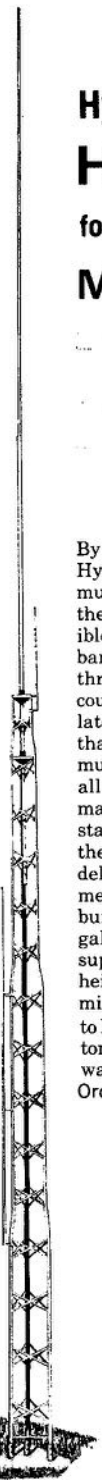
The part played in early Canadian telecommunications by Newfoundland and some of its far-seeing people is related here in an edited text of a talk by Melvin Rowe of St. John's.

Two years ago the Heart's Content cable station--which was phased out in 1965 after a career of 99 years as a world centre of Trans-Atlantic submarine telegraphy--took on a new meaning and purpose--It was declared by the Newfoundland Government as a place to protect and display the early cable apparatus dating from 1845 to the present day. Such priceless apparatus--all of it original is now on display in a Red brick building erected in 1873.

Submarine telegraphy would never have been possible in the 1850's except for the inventive genius of a famous English physicist--Sir William Thompson--later to become world renowned as Lord Kelvin. It was he who made it all possible by inventing the Reflecting Galvanometer and the Siphon Recorder.

Although I will from time to time to refer to that great American industrialist, Cyrus Field, and his bold and daring exploits in making undersea submarine telegraphy a reality, my purpose today is to tell you about two communications visionaries--one an Englishman--the other a Newfoundlander.

The former was Frederick Newton Gisborne and the latter Bishop J. T. Mullock of the Roman Catholic Diocese



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Special hinged base assembly on Model 18HT allows complete assembly of antenna at ground level...permits easy raising and lowering of the antenna.

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**for 80 through 10 Meters**

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Take the wide band, omni-directional performance of Hy-Gain's famous 14AVQ/WB, add 80 meter capability plus extra-heavy duty construction—and you have the unrivalled new 18AVT/WB. In other words, you have quite an antenna.

- Automatic switching, five band capability is accomplished through the use of three beefed-up Hy-Q traps (featuring large diameter coils that develop an exceptionally favorable L/C ratio).
- Top loading coil.
- Across-the-band performance with just one furnished setting for each band (10 through 40).
- True 1/4 wave resonance on all bands.
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## The Versatile Model 18V FOR 80 THRU 10 METERS

The Model 18V is a low-cost, highly efficient vertical antenna that can be tuned to any band...80 thru 10 meters...by a simple adjustment of the feed point on the matching base inductor. Fed with 52 ohm coax, this 18 ft. radiator is amazingly efficient for DX or local contact. Constructed of heavy gauge aluminum tubing, theModel 18V may be installed on a short 1⅝ inch mast driven into the ground. It is also adaptable to roof or tower mounting. Highly portable, the Model 18V can be quickly knocked down to an overall length of 5 ft. and easily re-assembled for field days and camping trips. Shpg. Wt., 5 lbs.

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of St. John's. Years later, Gisborne was quoted as saying that it was he--and not Bishop Mullock--who conceived the idea of an Atlantic cable. By keeping his mouth shut, Gisborne lost for all time his niche in communications history as the person, who according to himself, first thought up the idea--but by putting it on paper Bishop Mullock recorded a lasting place in the history of world telegraphy.

It was in 1850 when Bishop Mullock, becalmed on his yacht in the Gulf one day, fretted at the delay in communications in that part of the world; he felt that an overland cable would do the trick. Yet, whenever the subject of an overland cable was mentioned as a means of bringing ships arriving from Europe into quicker contact with New York the cable's proposers always mentioned Halifax as the Eastern end of the wire. This, the Bishop decided, was nonsense; it should not be Halifax at all, but rather St. John's.

> The Bishop hoped that the day was not far off when St. John's would be the first link in the electric chain uniting the Old World and the New.

When he returned home he wrote a letter to the editor of the St. John's newspaper COURIER pointing out that a glance at the map would tell anyone that a telegraph line could be set up from St. John's overland to Cape Ray at the southwest tip of Newfoundland from whence it was only 45 miles under the water of Cabot Strait to St. Paul's Island just off Nova Scotia's Cape Breton coast.

The Bishop concluded his letter with the hope that the day was not far off when St. John's would be the first "link in the electric chain which will unite the Old World and the New."

The Bishop's letter started a most interesting chain of events when it caught the attention of a young engineer, Frederick Newton Gisborne. Soon after the Bishop's thoughts and ideas appeared in print, Gisborne showed up before the Newfoundland Legislature and told them of his plan to build a telegraph line across the southern part of Newfoundland identical to that suggested by Bishop Mullock. But instead of an underwater cable between Cape Ray and Cape Breton, as suggested by Bishop Mullock, Gisborne proposed to use steamships and carrier pigeons for this link!

It is ironic that of all Gisborne accomplished in the field of telegraphy--there is no plaque or statue to his memory other than a large body of freshwater at the upper end of Fortune Bay named Gisborne Lake. Nearby is a stretch of water known as Hungry Grove Lake--named no doubt as a lasting reminder of the difficulties which beset him and his party in their survey of the south coast in 1852. No sooner had he started in on the overland phase of his circuit, beginning at St. John's when he ran short of cash after having strung and stepped only 40 miles of wire and poles. His plight became desperate and he nearly starved in the desolate wilderness. He came close to freezing in the bitter weather. Of the Indians in his party--one died of exposure--2 deserted and the fourth stumbled back to St. John's nearer death than life.

That same year, 1852, while in command of his own vessel--the "Ellen Gisborne"--he laid the first successful cable ever put down in American waters between Prince Edward Island and New Brunswick. When he was 27 he resigned the superintendency of the Nova Scotia Telegraph Company and organized his own Company--The Newfoundland Electric Telegraphy Company.

> Gisborne's plight became desparate and he nearly starved in the desolate wilderness!

In 1851, 15 years before Heart's Content was to become famous throughout the world as the landfall of the first successful cable Gisborne had founded the St. John's and Carbonear Electric Company. In founding the company he felt sure that Carbonear, Harbour Grace and Brigus--great fish exporting centres at that time--would bring him enough revenue to make his venture a paying one. On November 24, 1851 Gisborne sent the first message over the line from Carbonear to St. John's.

Having launched the first telegraph circuit to operate in the Island, apart from St. John's, he now turned his attention to another facet of telegraphy.

Following a personal appearance before the Newfoundland Legislature, the Government guaranteed the interest on $250,000 in bonds to take over his bankrupt Newfoundland Electric Telegraph Company and to form a new company--The Newfoundland and London Telegraph Company, with unlimited capital put up by Cyrus Field. Gisborne along with Matthew Field, an engineer and a brother of Cyrus Field, built an 8-foot bridle path to tranpsort materials to finish building the telegraph circuit from St. John's to Cape Ray.

Cyrus Field also ordered a 90-mile cable in England and it was brought by barquentine to Cape Ray. But the cable unfortunately snapped 30 miles off Cape Ray. Field promptly ordered another one and in 1856 it was successful laid across Cabot Strait. The first message was passed on October 1, 1856.

Now that Newfoundland was connected with Canada by a landline and cable wire the Associated Press was quick to take advantage of the telegraph and cable system. In 1859 it set up a news bureau at Cape Race to expedite news stories originating in Europe for speedy transmission from Cape Race to the United States. To get vital messages and other urgent despatches to the United States, the news agency hired one John Murphy to operate the "news boat" from Cape Race. Murphy would intercept the liners as they made land-fall near the Cape where the captain cautiously manoeuvering his ship to shore--sometimes too close to avert tragedy--would toss the news canister overboard and Murphy would pluck it from the sea; take it to the telegraph office where it was opened and the news despatches sent to the United States.

# Part 2

NEWFOUNDLAND COMMUNICATIONS PIONEERS

Ninety years after the famous ride of Paul Revere, a telegrapher born at Brigus was to make a similar ride. His mission and purpose, unlike Paul Revere's was to stop a war and not start one.

In 1861 the US civil war began between the North and the South and the British Government leaned towards the South, all because of the great cotton trade British businessmen carried out with the Southern States. When the South formed its own Government Britain gave it full recognition. In fact the North's feelings of bitterness and animosity towards England reached such a pitch that Abraham Lincoln was seriously considering declaring war on England. No doubt war would have resulted other than for the part a young Newfoundlander--Thomas Scanlan--played in averting what might have been a great conflict.

On a Saturday evening in June 1861 the liner "Prince Albert" arrived at St. John's bringing with her diplomatic dispatches of the greatest importance and addressed to Lincoln telling him that England had taken a neutral position in the Civil War.

It would have been a simple matter for Scanlan just to sit down at his desk at St. John's and tap out in dots and dashes such world shattering news which would be printed in bold type in American newspapers on Monday morning. Alas, such important news could not be sent by landline as the circuit was out of working order all the way from St. John's to La Manche--a distance of 90 miles. Right away, Scanlan offered to take the documents to La Manche and telegraph them to the United States.

With the precious diplomatic papers tucked safely in his pocket, he left by Horse and Carriage and 3 hours later arrived at Kelligrews. The next morning he left Kelligrews by boat for Brigus and walked to Spaniard's Bay. He then drove by horse and carriage to New Harbour where he got some fishermen to row him across Trinity Bay to Rantem. Hungry, soaked to the skin, tired and worn-out by his long land and sea trip, he finally reached La Manche where he burst open the old telegraph shack and started tapping out in dots and dashes the exciting news which the American newspapers carried in banner headlines on Monday morning--England Adopts A Policy Of Strict Neutrality In The War Between The South And The North. In all the long history

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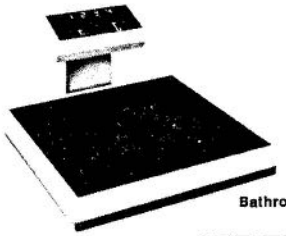

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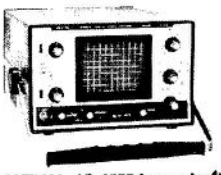

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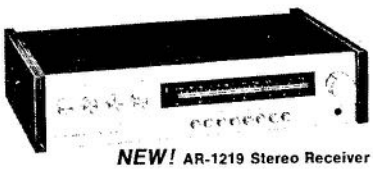

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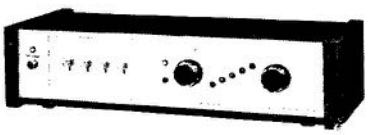
***NEW!*** **AD-1304 Audio Processor**



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