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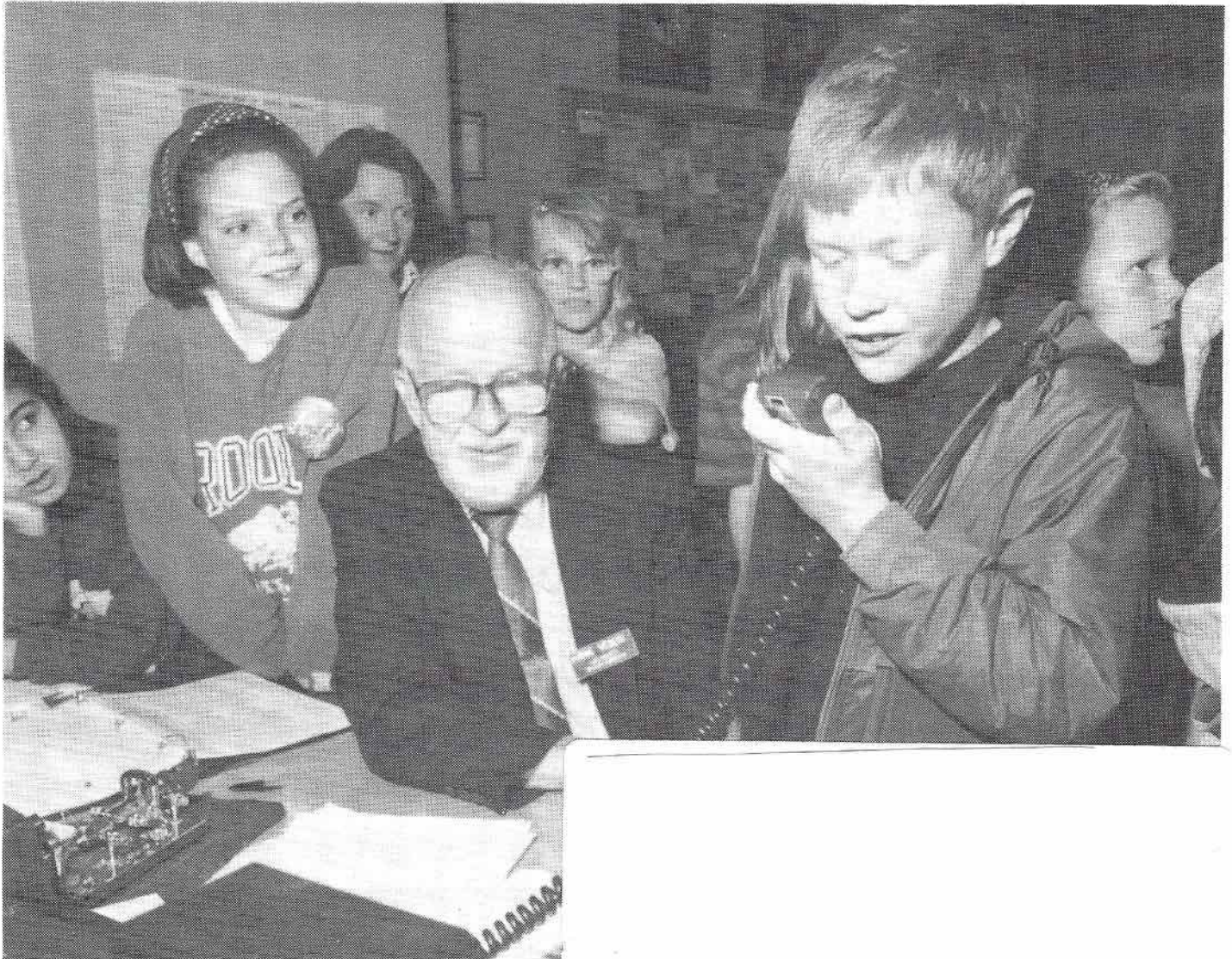
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FEBRUARY 1990

Canada's Amateur Radio Magazine

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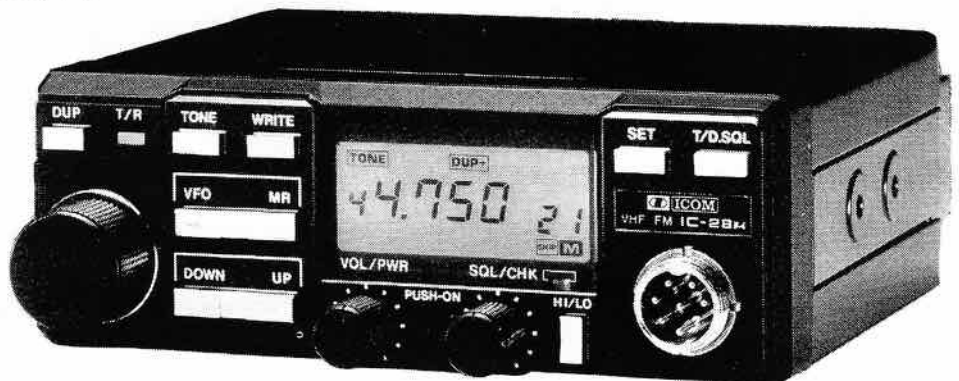
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The Canadian Amateur is published in Canada 11 times per year to provide Radio Amateurs, those interested in radio communications and electronics, and the general public with information on matters related to the science of telecommunications.

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

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



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EDITORIAL

The 1989 DOC Symposium

By John Iliffe VE3CES

The 1989 DOC Symposium was sponsored jointly by CARF and the Scarborough Amateur Radio Club. It took place in Toronto on Saturday, Oct. 21. The attendance of 52 was disappointing in view of the importance of the topics of discussion and the fact that few Amateurs outside of the national organizations have an opportunity to speak to senior DOC officials. Those who did attend, however, showed that they had done their homework and the question sessions were quite lively.

Of the five sessions listed in the original advertising, two were deleted. The topic: 'A National VHF/UHF Coordinating Committee for Canada' was deleted at DOC's request since it had nothing to do with DOC and was related to information CARF wished to acquire. The question of call signs was unnecessary because the topic had been resolved before the meeting.

One written comment was received, from the Chilliwack Amateur Radio Club.

DOC was represented by Andy Cobham, Manager, Operational Policies, Procedures and Programmes, Radio Regulatory Branch, of DOC Headquarters in Ottawa, Andy is the person in charge of Amateur Radio in Canada. With him was Jim Cummings, Senior Standards Officer, Authorizations, also of the Ottawa Headquarters. Jim has been writing the revised regulations and has presented a number of lectures on the subject. Serge Bertuzzo, Regional Manager—Authorization, Ontario Region has extensive experience in frequency allocation.

Because the attendance was rather small, the sessions were run serially and everyone was able to attend all of them. Therefore a final wrap-up was not required. Attendees from several clubs returned home and summarized the results for their clubs and club newsletters. Several of the attendees were teachers of club courses, and the restructuring material was of particular interest to them.

The objective was threefold—to allow Amateurs to discuss items of mutual interest with DOC officials at a level where they could obtain an authoritative answer, to allow DOC officials to obtain information as to the

feelings of Amateurs on any topic of interest to them, and to provide input to CARF to help us formulate our policy and responses to DOC.

While the numbers were certainly not statistically significant, it is obvious that Amateurs as a group are very strongly in favour of handling their own exams. CARF has supported this philosophy for some time in our activities, assisting in setting the exam questions and in our strong commitments to DOC to assist in any way possible to simplify the procedures of setting and marking the examinations. We will continue this position in future discussions.

We had hoped that some proposals would surface from the Shared Bands Coordination session as to how to go about coordinating in a mutually acceptable way. Unfortunately this session evolved into a question and answer format regarding the status of several different bands. Serge Bertuzzo put the DOC case quite forcefully—the DOC will attempt to coordinate with Amateurs to the extent possible; however they are the regulatory body and the final choice of a band and frequency in that band lies with them.

The onus is with us as Amateurs and spectrum users to coordinate our band usage so that we conflict as little as possible with the primary users and so that our use is as compatible as possible with them. To that end we are in future going to have to find out exactly what types of service are possible on a primary basis in each band, what kind of suppression is possible for each and which of our modes can coexist best, and which—if any—of our modes is likely not to cause interference to the primary mode. Then we are going to have to coordinate our use of the band so that space is available to allocate these primary services causing minimum conflict with our existing occupancy. CARF will welcome any suggestions of how to do this—it is critical to our continued existence as a service.

I would like to extend our thanks on behalf of CARF to the DOC personnel who gave up their Saturday to attend; to the session chairmen, each of whom did an excellent job of guiding the discussion; and to three secretaries from whose notes this article was prepared. ■

LETTERS

COLOUR COVER

I just received *The Canadian Amateur*, having renewed my subscription this year.

I am a former weekly newspaper owner and accordingly, take an active interest in format and production. Your editorial wonders about 1990. Should you go to a colour cover or 12 issues? This is a simple answer. Forget colour.

I recall my newspaper experience years ago regarding our venture into 2-colour ads for the revenue supplying grocery stores. We publishers loved it! It brought in bags more revenue! But was it worth it for the advertisers? I seriously doubt it. After I retired I didn't notice from one issue to the next whether the grocery stores carried colour. These days they are still in vicious rivalry with their competition, producing fliers in full colour. It costs them a fortune but I'll warrant the customer doesn't notice. I will concede the customers would notice a return to black and white.

No, your answer is simple. Go to 12 issues, raise your advertising charges to cover the cost and give your own direct customers the benefit of your publication EVERY month.

The advertisers won't bellyache too much. After all, you are providing a full 20% more exposure for them.

Fred Waterhouse VE7BPG

Thanks for the comments. The January issue 'in colour' was a special due to the lead story and availability of such excellent photos. We will not, however, be producing a colour issue every month. The reasons you give are very valid. Any stories or articles you care to write to help fill 12 issues are more than welcome. Editor.

Greetings to staff of *The Canadian Amateur* who keep producing and improving the TCA. Keep it as is—adding colour will not improve the content. Colour is strictly cosmetic.

Doug VE6BPS

MERGER SUPPORT

I am reluctant to write this letter as so many others have been written on the same subject with no discernable result. However with the WARC coming up I feel that another try is necessary.

It would be nice if the Canadian contingent to WARC could say that they actually represented all of the Amateurs in Canada. With two organizations professing to represent the Amateurs, this is not credible.

I have been hearing about the amalgamation of CARF and CRRL since I first became an Amateur back in 1978. I have seen nothing to indicate that this is going to happen in the

foreseeable future. There have been proposals made several times, but petty wrangling has prevented any serious discussion. Let us hope that the overtures that I have been reading about for the last little while are not simply another futile effort.

The advantages of one organization clearly outweigh the petty empire building attitude of the two organizations' officers. Here is my list of the advantages.

- One united front to present to WARC and DOC (CC).

- A more efficient, less expensive administration.

- Less dilution of administrative skills.

- More capital to work with.

- Less cost to those Amateurs who belong to both current organizations.

- Possibly more Amateurs joining. (I suspect that some do not join either organization because they can't afford to, or because they don't want to belong to a group that is too blind to see the advantages of joining together.)

- A better publication than either of the two now presented.

There are probably other good reasons also, and many of them have been eloquently presented in both publications and my rambling on would serve no further purpose. Let's get together people and make ONE excellent organization instead of two less than excellent ones!

Clarence W. Angst VE3LBU

Secretary of the Thousand Islands' Amateur Radio Association

NEW CLUB BULLETIN

Greetings to one and all. As the newly designated Editor of the Barrie Amateur Radio Club Newsletter, I wanted to let you know that we are again publishing a newsletter and I will send via post the first two issues that I put together.

It has been a lot of fun but quite a challenge at the same time, as I have only had my ticket about six months and also I still have a lot to learn about word processing software and putting a newsletter out. Any advice from your staff or any other newsletter editors who read this would be greatly appreciated.

In particular I would like to get an up-to-date list of Amateur Radio Clubs. If one is available on your packet BBS I can get someone here to download it for me. I want to let the other Editors know that I will run in our newsletter any club events such as Hamfests or items for sale from your swap nets.

I am also initiating a project that I could use help with. I want to create a database that would include:

SILENT KEYS

VE7SS— Fred H. Keller of Richmond B.C., November 1989. Fred was a retired DOC Radio Inspector and formerly with the MOT as an operator with Air Radio Services. Fred's sister Kay Dick is VE7FNY of Comax B.C.

VE7GD— George Doe of Salmon Arm B.C., on Dec. 10, 1989. It is with regret that we note the passing of George who was a well known and respected Amateur among the fraternity in B.C.

- Radio Club Name, address, club call
- Repeater calls, frequencies, location in latitude and longitude and any other info on your repeaters
- Packet digipeaters, PBBSs and packet addresses
- Club nets on HF, VHF and topic, e.g. ragchew, swapnet etc.
- Newsletter name, address, editor, etc.
- Any annual or special event planned for 1990 and confirmed or approximate dates.

Once completed I plan to make this information available through our PBBS and through any other PBBS or phone line BBS who would like to download it. Any help, information or advice would be greatly appreciated. Please contact me by mail, phone, radio (VE3LSR 146.85 - Wed. 7:30 p.m.), or by packet to VE3ADS @ VE3KYT.

Locally we are also working on a dBase program to record membership information and allow printing of address labels. Thanks very much George, to you and all of your staff.

Doug Strauss VE3ADS
211 Walnut Cres.
Barrie, Ontario
L4N 4J7

CANADIAN IONOSPHERIC DISTURBANCES

The article on ionospheric disturbances by Bob Brown NM7M in the December issue was a fascinating one, but contains one glaring error... at least it's a glaring one to old geezers like me who were involved in WWII. Canada's part in that conflict tends to be forgotten by U.S. and U.K. writers and Bob's statement "...consider the Allied landings on Spitzbergen; first there was operation Frithamm in May '42..." moves me to point out that nine months previous, in late August 1941, the Royal Navy escorted the troop transport *Empress of Canada* loaded with a Canadian Army raiding force and landed it on that Norwegian island.

At that stage of the game, ionospheric observation was not on the agenda; the objective was to destroy everything of value in order to prevent the island's resources from falling into German

hands. As recounted in Tony Foster's book *Meeting of the Generals*, a Canadian signals detachment landed at the island's main radio station "... where Norwegian radio operators agreed to begin forwarding false weather reports during their regular transmissions to Trondheim in German-occupied Norway, thus keeping German reconnaissance aircraft away from the island," while demolition of the island's coal mines and stockpiles was carried out. Some 2,000 Russians who had been working there were embarked and returned to Archangel.

All 800 Norwegian inhabitants were taken back to England along with some 50 Free French officers who had escaped from a POW camp on eastern Poland, seeking freedom via Russia, only to find themselves transported to Spitzbergen as virtual prisoners of a supposed ally. All of the military and civilians landed safely in England in early September, 1940.

To return to Bob Brown's story on solar flare disruption of communications, I recall that in 1940 or 1941, when working in radio station CHSJ in Saint John, there was a 24-hour blackout of trans-Canada telegraph and telephone lines due to the high DC voltages induced in the long open wire lines by the electromagnetic effect of a very strong solar flare. Network programs fell victim to the phenomenon and we had to answer the complaints of soap opera fans and play records hour after hour.

Doug Burrill VE3CDC

Doug Burrill VE3CDC is a former editor of The Canadian Amateur who still contributes regularly... Editor.

As a member of the Signal Corps (RCCS) during WW2, I know that Canadians participated in at least one of the Spitzbergen raids. That of May '42 would be my choice, but I can hardly see a Norwegian officer in charge.

I'm wondering if one or more of the hams (then and now) could be encouraged to tell us how it was from their (Canadian) standpoint.

D.A. Berry VE3XTM

ANONYMOUS LETTERS

I read with interest the editorial on anonymous letters and am disappointed this form of offensive criticism should be the work of any Amateur Radio Operator. I have always wanted to believe that one of the motivations for being a Radio Amateur was to promote better understanding and communications. Somehow I believe the author of the remarks you've quoted in the editorial has missed the mark.

In its way the fraternity of Radio Amateurs has served to break down the walls of isolation for people both on the personal level, nationally and inter-

nationally. I believe that Radio Amateurs have made positive contributions in the promotion of open and communicative societies on the personal scale from work with handicapped individuals all the way up in albeit a minor way to the dramatic changes we see today in Eastern Europe.

Long before the gates were opened in the Berlin wall, Amateur Radio Operators had extended the arm of friendship equally to those on both sides. I would ask, can people with such apparent hostilities (the author of the quoted remarks) share in the same sense of brotherhood with the rest of the Amateur Radio world or are they in reality ambassadors of ill will in all of their activities?

As far as criticism of CARF is concerned, personally I have few complaints. After being virtually inactive since 1973, I'm trying to pick up where I left off. I wrote letters both to CARF and elsewhere. CARF responded in good time with the desired information; the others too answered promptly but did fall well short of what I had requested. I was sold on CARF. This type of personal interest, I believe, will help to keep the hobby of Amateur Radio alive and well and hopefully encourage others to take up this greatly underrated hobby.

Not to downplay the benefits of a devil's advocate, and there is usually no shortage of eager volunteers, it seems to me to be a waste of a good stamp and discouraging to people who do have a conscience, to be anonymously, and often wrongly, criticized.

Ron Thompson FP/VE1KM

RADIO SHACK ON 10 METRES

Re: Radio Shack Catalogue 1990 Edition— Further to the Communications Canada letter that appeared on Page 5 of the April edition of *The Canadian Amateur* concerning the sale of a 10 metre mobile radio by Radio Shack Ltd., it would appear that the federal authorities are aware of this product and its release to the Canadian market. The membership of the Yarmouth, N.S. Amateur Radio Club expressed similar concern over the access of this item to the public at large at its October meeting.

To our knowledge, the local store has not stocked nor has it sold the Item No. 19-1101 which appears on page 69 of their 1990 Catalogue. Would you kindly advise if you are aware of any further directives that were issued by Communications Canada to Radio Shack Ltd. Similarly you may wish to suggest any action that we might take locally should the sale of this item to non-licensed individuals become a problem. To date we have not contacted the Regional office of Communication Canada nor have we directed any

inquiries to Radio Shack at any level.

Thank you for your assistance and attention.

J.B. Clark VE1JBC
Sec-Treas., YARC

BILL WILSON VE3NR

REPLIES

Dear Mr. Clark:

Your letter of Oct. 22 regarding the sale of 10 metre transceivers by your local Radio Shack distributor was sent to me by CARF Headquarters for reply.

DOC tells me that no further directives have been sent to Radio Shack. However, I was also told today that DOC is very aware of the problems presented by the sale of this equipment by Radio Shack and is preparing another letter to Radio Shack which, it is expected, will be along the lines of that published in last April's issue of *TCA* to which you referred.

In another area of the Department not involved with Spectrum Control (enforcement), they observed that stopping the sale of this gear might discourage would-be Amateurs— people who would buy this relatively inexpensive equipment because they are taking an Amateur Radio course and want to learn, or who, after listening for awhile, become interested and want to get an Amateur Licence!

The thought now occurs that maybe your club president could see the manager of the local Radio Shack store and strike some sort of cooperative arrangement whereby the manager would tell purchasers of those transceivers (either verbally or by means of a club bulletin) that they could take a course offered by your club and get licences to use that equipment. At the same time he would give your club the names of purchasers so you could invite them to become members and learn to be Amateurs. This would benefit both the club and Radio Shack and, certainly, DOC would not object to such an arrangement.

Notwithstanding this, if the sale of this equipment results in unlicensed people using it to transmit, you should contact the Manager of the District Office of the Department of Communications at 6009 Quinpool Street, Halifax B3K 5J7, and request enforcement action. You can help DOC by providing details of the infractions when requesting their action.

W.J. Wilson VE3NR
CARF DOC Liaison Officer

A REBUTTAL

I must take issue with Bill Rook's letter (Code and Theory Class Ideas, *TCA*, Nov/89). He implies that his club's problems were aggravated by having a paid theory instructor (i.e. myself). This seems to be a rather cheap shot.

Continued on next page ▶

LETTERS (cont'd)

Over five years ago, and while still a club member, I began teaching an Amateur Radio course for our local school board. While I must credit Bill for helping to initiate this arrangement, the fact is that, ever since, the school board has regarded me as its employee, and not a representative of another organization.

The assertion that "we were not allowed to encourage club membership" is absolutely untrue. On many occasions the students were invited to visit the club. Some who took up the invitation later confided in me that they were 'cold shouldered' and even 'made to feel unwelcome'. Little wonder that few joined!

Regrettably, I realized that few club members were interested in encouraging or helping new Amateurs.

While it is certainly encouraging to see even casual volunteer instructors coming forward, being paid (by the board, not the club) is a good incentive for adding three hours to an already tiring workday (helping to pay Bill's pension— HII!). This doesn't even include prep time (for which a teacher is not paid).

Finally, an effective instructor must have a good understanding of his subject, be able to communicate clearly, and design his course so as to 'get to the meat'. At \$60 for 60 hours of instruction, it's not such a bad deal in terms of value received. After all, you only get what you pay for.

Ken Grant VE3FIT

DOG DAZE!

Forgive me if I am wrong, but I thought *The Canadian Amateur* was a magazine for 'matters related to the science of telecommunications' and was the official monthly publication of CARF. With that in mind, would you please explain why the review of the 'Dog Dome' appeared in November 1989 issue (page 19).

I have no intention of paying for a pet (especially dog) magazine or continuing to support the organization it represents.

D. Stalkowski VE3HUR

TCA is not the official monthly publication of any organization but the production of C.A.R.F. Publications and is provided free to CARF members. The 'Dog Dome' article was intended as humour in keeping with the cover story. We thought 'HAMS' were pet lovers, even if they aren't all named Arnold Ziffel... Editor.

FROM JAPAN

Greetings from Japan! I thought I would take this opportunity to write you before the New Year and tell you a little about my situation...

My name is Nick Kovac (21), and I am a one-year exchange student to Ritsumeikan University, Kyoto, Japan,

from the University of British Columbia, Vancouver where I am studying Political Science and Japanese. Being sister schools, Ritsumeikan and UBC started an exchange program for their students from May of this year. There are now two of us Canucks here at Ritsumeikan which is a private university (not uncommon in Japan) in the north part of Kyoto city sandwiched between the historic Kinkakuji (The Golden Temple) and Ryoanji-temple, famous for its Zen rock garden.

Well, what is all of this to a bunch of Canadian Hams?... I'm a Ham, too! As VE7HAZ, I was compelled to communicate, so I joined the University's 25-member Radio Amateur club (MUSEN KENKYU KAI = 'wireless study group') JA3YQD and linked up with home. On Fridays at 0100 UTC on 21.330 (USB) I talk with UBC and at 0200 on 21.040 (CW) I QSO with my dad VE3HFM in Toronto. After missing a few skeds, I haven't gotten in touch with UBC yet but I have talked with two Hams in the Vancouver area.

Despite its appearance, JA3YQD's shack is very productive. I have never seen so much activity and excitement come contest time. This club, as well as most of the other university clubs in Japan, are very competitive. Among a jumble of coax cables and antenna parts, ash trays and game cartridges, lies two Trio TS H30s (that is Kenwood to us), a Yaesu FT102 and a Trio TS520. For the basic licence, Japanese are restricted to 10 Watts, but the club has modified all its rigs to put out a 100

Watts which is in accordance with the Japanese 500 Watt, unrestricted licence class.

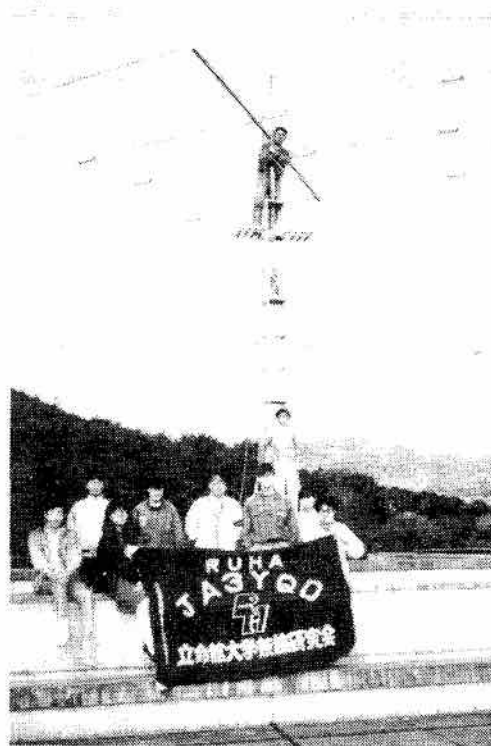
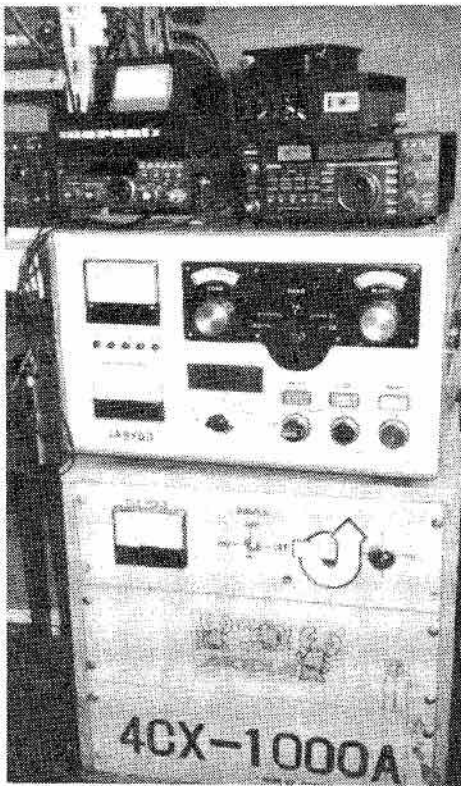
As far as amps go, there is a large homemade linear with a single 4CX-1000A tube final that stands solemnly in the corner as well as two commercially made amplifiers (Yaesu/Tokyo High Power). On the roof are a 20-10m Tri Band, a 15m 5-element mono band, a 10M and a 6M 6-element beam antennas. Packet-radio does not seem to be that popular although the club is set-up for reception in between computer game sessions.

Canada has a reciprocal licensing agreement with Japan, but it takes about two months and \$80 Cdn to get your licence which is only valid for one year. The normal licensing period is five years and the government is very strict. To apply for a station one must supply the exact details of the rig and antenna to be used. There are many radio Amateurs in Japan that have their licence but no callsign.

Please find enclosed a few pictures of the club in front of the Tri-band as well as a shot of the home-made amp.

I will be here at Ritsumeikan until the end of January and in Japan until the Spring. I hope to hear from a few more Canadians while I'm still on the air. Nick Kovac VE7HAZ.

Ritsumeikan International Centre
56-1 Kitamachi Toji-in Kita-ku, Kyoto
Japan 603



Photos referred to in VE7HAZ's letter.

CIDA Development Day

By Dan Holmes VE3EBI

For the second time CARF has participated in the CIDA Development Day to the benefit of both organizations. As you will remember from last year, CIDA conducts this event to publicize their work in the third world. CARF's part in this is to provide communications between stations in Canada and those in the developing countries.

There were 14 official stations set up across the country in various locations: Learner Centres, Secondary and Elementary Schools, Government Buildings and even the Olympic Stadium in Montreal. These stations are set up in public places to hopefully provide maximum public awareness and participation.

Participants are recruited in Canada and overseas by a mail-out from CIDA and publicity in *The Canadian Amateur*. It is hoped that as this event, with repetition, becomes widely recognized, more countries in the Third World will treat this as an annual schedule with Canada.

The special CZ/CK prefix was the same as that used last year and if we could prevail upon the DOC in future years to grant us the same prefixes, it would serve to create that recognition annually overseas.

While the event seems to be an unqualified success here in Canada, it seems that in both years contacts with countries considered to be in the Third World are scarce. This is probably due to several factors, not the least of which is propagation conditions at the time. Even though radio clubs overseas are advised of this event, it seems we really haven't yet stirred them to full participation. Perhaps next year we can get the message out a little earlier and see what happens.

Gina Watson, through the facilities of CIDA, has provided us with a report of the event at various locations across Canada.

Victoria, B.C.: The club station of the Lester B. Pearson International College was used to enable the international students to chat with other students and stations across the country.

Vancouver, B.C.: 24 hams set up in tents in Britannia School yard while classes of school children crowded around to listen. There was good media coverage of the event.

Camrose, Alta: George McIver operated out of the old fairgrounds in Camrose.

The International Centre arranged for the participation of 20 students from India and Canada.

Edmonton, Alta: Two events took place in Edmonton: one was at the Edmonton Space Sciences Centre, the other at the Red Cross House.

At the science centre, a permanent club station was used, but public participation was limited since the museum is usually closed that day. The Red Cross used the event to test their emergency ham radio equipment. School children were involved and there was good media interest from ITV and CBC.

Regina, Sask: Two events took place in schools in Regina where the principals are ham operators. The students were

prepared ahead of time and were very excited about the event.

Windsor, Ont: Eight volunteers operated the radio station in the senior citizens apartment building. They made contact with Panama and Senegal and with several Canadian stations.

London, Ont: About 80 high school students were invited to the Cross Cultural Learner Centre where Frank Salter VE3MGY attempted to contact developing countries. Propagation was poor but the students made contact with North American stations.

Ottawa, Ont: The club station of the Department of Communications in the headquarters was used for the event.

Continued on next page ►



Agence canadienne de
développement international

200, promenade du Portage
High (Quebec)
CANADA
K1A 0G4

Canadian International
Development Agency

200, Promenade du Portage
High (Quebec)
CANADA
K1A 0G4

October 31, 1989

Dear Mr. Holmes,

The second annual Development Day, October 2, was a great success. Your participation in the network of ham radio stations contacting developing countries made it even greater.

I would like to thank you for the time and effort you put into making the ham radio event happen.

From Victoria to Halifax ham radio operators used the special Development Day call sign prefix. Students participated in the event in Learner Centres, secondary and elementary schools, government buildings, at a fairgrounds, at a retirement home, at a science centre and even in the Olympic Stadium in Montreal.

The students were excited by the radio technology and by the prospect of talking to people in distant parts of the world. Not every station managed to contact a developing country, but the exercise helped to raise general awareness about developing countries. Many students enjoyed conversations with students in other parts of Canada, and with ham radio operators around the world.

Good communication is essential between the developing world and Canada. This event opens dialogue between Canadians and our partners overseas. It is a valuable experience for all who participate. I am glad that you were able to take part this year and look forward to working with you next year.

Sincerely,

Gina Watson
Information Officer
CIDA, Public Affairs

Using the call CZ9CC, it was anticipated that large pile-ups would result. Propagation conditions were indifferent, however, and while many European and Canadian contacts were made, nothing was heard from the Third World. Students from the Ottawa Montessori School enjoyed talking to far away places though they really didn't feel that Dawson Creek or London, England qualified as parts of the Third World.

Hull, Que: The emergency station in the Jules Montferrand building was used for contacts.

Rimouski, Que: The event which took place in l'Institut de Marine was a big success. Contact was made with Mexico and other Canadian stations. A CIDA speaker was also sent to the event. Media coverage was very good.

Montreal, Que: The Olympic Stadium was the site of the event in Montreal. Eight hams using our radios contacted mainly Canadian stations. The participating students also enjoyed the day.

Halifax, N.S.: The event took place at St. Mary's University. Again contacts with

Social Events

Burnaby ARC Annual Flea Market— Sunday, Feb. 4, 1990, Capitol Hill Community Hall, Hastings St. at Howard Avenue, Burnaby, B.C. Doors open at 10 A.M.; Table reservations from Jim VE7CZN. Tel: 327-1081. Everyone welcome.

Niagara Peninsula Amateur Radio Club Inc. announces **Big Event #12**, Saturday, Feb. 3, 1990, 0800 hrs to 1400 hrs., Canadian Auto Workers Hall, 124 Bunting Rd., St. Catharines, Ont. Indoor displays, New and Used Parts and Equipment, Commercial Displays. Hamfest 8 a.m. to 2 p.m.; Dinner Dance: Tickets \$20 per person, entertainment, Bar opens at 6:30 p.m., Family Style Dinner at 7 p.m. Dancing 9 p.m. till ??? Tickets for Dinner Dance include a chance for Grand Prize Draw. Contact: NPARC, R.R. 1, Jordan, Ont. L0R 1S0. (416) 562-4891.

The Peel Amateur Radio Club Inc. Flea Market— Radio, Computer, Electronic Equipment, Saturday, March 3, 1990, 9 a.m. at North Peel Secondary School, 1305 Williams Pkwy., Bramalea, Ont. Admission \$3. No weather problem - all space inside. PARC Flea Market, 20 Hillbank Trail, Bramalea, Ontario L6S 1P6. James L. McMurray VE3BDI— (416) 458-0505. Talk-in VE3PRC 146.880 -600 kHz.

developing countries were scarce but a goodly number of Canadian stations were reached.

In general, both annual events were a success. Considerable exposure of the Canadian public to the role of CIDA in Canada's external aid program and to Amateur Radio was created. Personal

contact however, via Amateur Radio can make Canadian aid to the poorer countries seem more personal. To this end I would hope that as more of these events take place and with perhaps better propagation conditions we can assist in forging even stronger bonds of friendship and assistance. ■

Highlights of new Radiocommunication Act

By Ralph Cameron VE3BBM

DEFINITIONS:

1. Radio Act changed to Radiocommunication Act. (Bill C-6)

2. Radio apparatus redefined to include a device or combination of devices intended for or capable of being used for radio communication.

3. Certain technical terms have been defined such as harmful interference.

a) Endangers safety related comms.
b) Significantly degrades or obstructs or repeatedly interrupts the use or function of radio apparatus or radio sensitive appliances.

4. Radio sensitive equipment and interference causing equipment are singled out as part of the disturbance equation. Applies to all electronic equipment.

5. Technical acceptance certificates required for certain equipment.

Exemption— Gov't of Canada. Government Departments are exempt from licence requirements.

Scope: Geographical location— Act applies to ships, vessels, aircraft, spacecraft, corporations, citizens, platforms, rigs, and structures up to 200 miles offshore.

Prohibitions: possession of transmitting equipment illegal.

4 (2) No Manufacturing, importation, lease, offer for sale or sell without certificate of compliance to DOC standard, when regulated.

Minister's Powers:

Issues radio licences.

Bdcast certificates

Radio op. certificates.

Technical acceptance certificates.

b) Can amend the operating terms and conditions of any of above at any time.

c) Make available to public any information set out in licence or certificate.

d) Establish standards & technical requirements for

- radio apparatus
- interference causing equipment
- radio sensitive equipment
e) Plan spectrum

f) Tower regulations - a federal matter.
g) Test for compliance.

1) Make determination relevant to the existence of harmful interference and issues orders to have the problem resolved. It may require the owner of either equipment to correct a radio-sensitive problem. (Of utmost importance to the owners of transmitting equipment as this provision offers recourse in law).

SUSPENSIONS

-Suspend or revoke licences still must be with operator's consent
Non payment of fees.

Power of Governor in Council

Makes regulations vs voluntary requirements for radio apparatus, interference causing equipt. and radio sensitive equpt.

- regulates whatever requires a technical acceptance certificate.

- regulates adverse effects of electromagnetic energy from any emission, radiation or induction (not defined)

- regulates manufacture, import of radio sensitive and interference causing equipment.

POWERS OF INSPECTION

8(1) Enter by warrant any place to inspect.

b) Examine equipment.

c) Examine logs.

N.B. There are conditions attached to the refusal of entry.

The owner of the premises shall also give assistance to the Inspector.

OFFENCES— PUNISHMENT

- fraudulent distress signals or interference with radiocommunication.

- No interception/divulging or making of use of interception of any radio communications.

- Fines of up to \$5000 per offence (1 yr.) per individual, \$2500 per company

- injunctive relief (suspension of privileges by legal instrument)

- summons by ticketing (i.e. by mail)

- Forfeiture of radio equipment in event of infraction

- Minister or his representatives are exempted from personal liability. ■

Amateurs and planned ITU World Radio Conferences



Bill Wilson VE3NR is Canadian delegate to 13 ITU conferences, 2 as delegate, 4 as Deputy-Head of delegation and 7 as Head of Delegation.

By Bill Wilson VE3NR

Two ITU World Administrative Radio Conferences (WARCs) are going to be held in 1992 and 1993. These could involve us in competitions for radio spectrum and have a profound effect on our hobby, especially if we lose frequencies. Let's see what these meetings are all about and how they may affect Amateurs.

HOW THE TWO CONFERENCES CAME TO BE AUTHORIZED

The ITU's Plenipotentiary Conference (similar to a meeting of the shareholders of a company), when it met in the summer of 1989, saw the need for a WARC in 1992 which would deal with urgent allocation and regulatory problems facing a few rapidly developing radio services. So it decided that the agenda of WARC '92 should take into account the 56 resolutions and recommendations of the WARC on High Frequency Broadcasting of 1987, the WARC on Mobile Radio Communications of 1987 and the WARC on the Use of the Orbit held in 1988. It also said that the conference may consider defining new services and making new allocations to them above 20 GHz. And it limited the duration to 30 days.

Then, assuming that WARC '92 would resolve the broadcasting service allocation problems, the Plenipotentiary Conference went on to authorize another WARC in 1993 which would take into account the four resolutions and recommendations of the WARC on HF broadcasting of 1987 relating to 'planning system and procedures', that is, to deal with plans and procedures for making use of the revised allocations.

It concluded by instructing the ITU's Administrative Council (similar to the company's board of directors) to set the agendas for these two conferences, in consultation with member countries of the ITU.

Since WARC '92 is going to deal with allocation problems, Amateurs must watch carefully until the agenda is set

and we know whether or not Amateur service allocations are to be involved. Also, knowing the problems the broadcasters have in getting agreed solutions to their problems, it would be wise to keep an eye on WARC '93's progress until we are satisfied that it will not make any allocation decisions either.

WHERE IN THE SPECTRUM THE ACTION IS LIKELY TO BE

The ITU's *Telecommunications Journal*, edited by the ITU's General Secretariat, describes WARC '92 as a "conference on frequency allocations in certain bands: 2-30 MHz or additional allocations to the broadcasting service; 0.50-3.0 GHz or allocations to the land mobile, mobile-satellite, direct broadcasting satellite, space research and space operation services; and 11.7-23.0 GHz for allocations to the high definition television broadcasting-satellite service.

Because the agenda has not been settled yet, various suggestions have been made on this matter. DOC says that the ranges of spectrum could be 2-30 MHz, 500 MHz-3.0 GHz and 20-30 GHz.

WHY AMATEURS NEED TO BE CONCERNED

Because the ITU has put broadcasting on the agendas of these two WARCs and because these broadcasters are hungry for more spectrum, those services which share or have adjacent allocations could be very easily swept onto the agenda of one or both conferences with the idea that they would be sources of additional spectrum. The broadcasters now have some of the 40 metre band and thus the Amateur Services could easily become involved.

THE PARTICIPANTS AND THEIR STRENGTHS

Let us look at the more important users and would-be users who will be competing for spectrum and, in some cases, geostationary orbital space. The strongest are the HF broadcasters. For most countries, HF broadcasting is an

instrument of foreign policy (for some, domestic policy also) and so their needs get very strong government support despite the fact that they have always avoided the use of modern technology which would make more efficient use of their allocations.

Indeed, so keenly do many countries feel the need to broadcast that they operate their stations 'outside' the ITU allocations. According to a report of the ITU's International Frequency Registration Board, about one third of all daily 'frequency-hours' of HF broadcasting are out of band. Hence many non-broadcasting communications are feeling the effects. Military spectrum needs come a close second and, of course, these too are strongly supported by governments, though they are not usually identifiable.

Next on the priority scale come the needs of those who want radio and orbit for commercial purposes. At one time the HF fixed (point-to-point) radio service used to be a strong competitor, but the advent of satellites and repeated submarine cables has resulted in the more advanced countries losing interest in the HF spectrum and gaining interest in the microwave spectrum. Increasing attention is being paid to satellite-to-satellite communications. Less developed countries still have an interest in HF.

The mobile (maritime, aeronautical and land) communications and navigation services will weigh in as strong competitors or obvious reasons UHF satellites are going to be used more and more to provide communications and navigational aid services in the years to come.

Personal and cellular communications are growing at an exceptionally fast rate in the developed world. Recently developed technology has combined with an urgent and popular need to create these situations and the ITU will have to find suitable fixed,

Continued on next page ▶

CONFERENCES (cont'd)

mobile and mobile satellite allocations at WARC '92.

It is rather difficult to arrange the remaining 25 or more radio services, including the Amateur and Amateur satellite services, in order of their 'winning strength' in a spectrum competition at a WARC. Every country will have its own list of priorities. Where the Amateur radio services fit in that list depends on how a country views Amateur radio.

THE AMATEURS' NEEDS

Amateur needs for spectrum are now being determined by representatives of CARF and CRRL and Amateur comment will be needed before they are finalized. But the recommendation we Amateurs finally send to DOC in February or March of '90 regarding the agenda will have to be based on our needs, if any, for changes in allocations and/or international regulations and also the likelihood of our getting those things at such a short conference. These must be the basis for any contingency plan we prepare just in case Amateur radio is put on the agenda.

POSSIBLE AMATEUR COURSES OF ACTION

Now let's look at the possible positions the Amateurs could take. Their choice would depend on their assessment of all factors.

1. If we want changes to the ITU Amateur bands or the ITU Regulations governing Amateur radio, we should ask to have the Amateur radio services put on the agenda.

This would give Amateurs an opportunity to argue for no change in some parts of the spectrum, for wider or more bands in other parts and for better or changed international regulations. It would also leave all the Amateur bands open for review and change, including the potential loss of spectrum. There are always opportunist delegates at a radio conference just waiting for some country to 'open up a band' so they can jump in and get the allocation changed to a service that interests their country! Amateurs would have to be prepared for some good fights at the conference if this was the Amateurs' choice.

2. If we want no change or we would rather take part in a conference where all services are up for review, then we should work to ensure that Amateur radio is NOT included on the agenda of WARC '92.

These are both just as valid positions as one that asks for change. There is an awful lot to be said for waiting for a general (complete review) WARC where there are many services in the competition and our chances of doing well are better. If this is our choice, we should tell DOC and other countries that we do not want Amateur radio on

the WARC '92 agenda. If the ITU excludes Amateur from the agenda, WARC '92 would not touch the Amateur bands or regulations. It could, however fiddle with other services that share bands with Amateur radio and recommend that a future competent conference make changes to Amateur allocations.

WHAT ARE OTHER COUNTRIES GOING TO DO

At this time (early December) we do not have much information as to what other countries are going to propose regarding the agenda. There are 43 countries, members of Administrative Council, that will have to decide on the agenda, that it will send to 150+ member countries of the ITU for final approval. Just about anything can happen up to the time when that final approval is given.

WHAT IS OUR BEST COURSE OF ACTION?

Until that time when the agenda is decided and the issues are clear, the Amateurs' best position surely must be a very flexible one capable of addressing any contingency at any time. To that end we must:

1. Review our present and future use of the spectrum and the international regulations that govern our service. Then we must rough out a statement of our needs, if any, bearing in mind the possibility that Amateur radio will end up on the agenda.

2. Participate in all Canadian Preparatory Committee (CPC) meetings to keep up to date on all developments, both domestic and international, that affect Amateur radio.

3. Develop our position on the agenda and have it accepted and included in DOC's proposal to the Administrative Council. We should also get IARU support for our agenda proposal.

4. Later, if Amateur radio is put on the agenda, we must polish up our rough statement of needs, taking care to justify with care each 'change' or 'no change' we want WARC '92 to adopt. Then we should persuade the Canadian Preparatory Committee to include them in the Canadian proposals to the Conference and get IARU to support them, too, at the conference.

5. Gather as much information as we can from other countries using all means at our disposal so that we will know how best to argue for our proposals and be able to foresee possible compromises.

6. Establish a fund (CRRL and CARF are in the process of doing this now) to cover the costs of a delegate, preferably an Amateur, on the Canadian Preparatory Committee as well as the Canadian Delegation, specifically to look after Canadian Amateur interests and vote accordingly at the WARC. From the Amateur's point of view, the best thing is to have every member of the Canadian delegation solidly committed to the furtherance of Amateur radio through the provision of adequate and exclusive Amateur radio service bands distributed throughout the radio spectrum. Also included in this fund should be a significant contribution to the IARU to cover the costs of an IARU team to look after world Amateur radio interests at the WARC because IARU participants can do a great deal to encourage and coordinate the support of Amateur radio by all delegations at the WARC. ■

CW: It's the Cat's Meow!

This is a strange story as told by the radio officer of a ship, and also a ham, who swears it is the truth, but prefers to remain anonymous.

This radio officer adopted a black cat name Maggie, and it became fascinated by the loudspeaker in the ship's radio room. The cat used to spend hours sitting in front of the speaker, just as though it was in cat's heaven.

During the long night watches with nothing to do, the radio officer got the idea to teach the cat the ship's callsign as an experiment. For weeks he initiated the ship's call on a buzzer, simultaneously tapping the cat's right forepaw on the office table.

After a time, sure enough, the cat would recognize the ship's call when

other ships called and it would stand up and meow. When the operator turned in at night, he used to leave the speaker on with Maggie the black cat keeping guard and wearing a happy expression.

Early one morning, weeks later, in the middle of the Pacific Ocean, the Radio Officer awoke to find Maggie on his bunk frantically pawing his face. So he dashed to the radio room and discovered another of the company's ships calling for medical assistance for one of its firemen who had symptoms of appendicitis.

This story is the cat's meow and the radio officer swears it is the truth. This reporter suggests that the cat's official ham call might be 'K8AT'.

— via ARNS

Early Broadcasting

By Larry Reid VE7LR

As a follow-up to the first broadcast with a modulated spark transmitter by Fessenden in 1906 (page 46, December 1989 issue), Dr. Lee De Forest in 1907 improved on the voice quality by using a modulated 'arc' transmitter. He followed this in 1910 by installing his arc transmitter in the New York Metropolitan and made the first live opera broadcast.

Another early broadcaster was William Dublier (later of Cornell-Dublier Co. fame) who, at the age of 22, was employed by Commercial Wireless

Telephone Mfg. Co. of Seattle, Washington. Dublier built a 2 kilowatt 'singing arc' transmitter and began intermittently broadcasting news and music on 4000 metres. His antenna was a huge cone made up of 40,000 feet of wire suspended from a 320-ft. wooden tower. The bottom of the cone was reported to be a quarter mile in diameter.

Dublier's broadcasts continued intermittently for about two years and were heard by ships at sea as far west as Cape Flattery and as far north as Vancouver, B.C. where one of the listeners was J.H. MacDonald, who was night duty

operator at the Point Grey Government Station. Macdonald reported Dublier's signals as strong and clear from 2200-2300 PST May 1, 1911. He evidently made a log entry of this and other interceptions which were noted by the station Operator-in-Charge L. James, who formerly reprimanded MacDonald for letting these broadcasts distract him from his normal watchkeeping duties.

Another of Lee De Forest's firsts was in 1907 when he sold the U.S. Navy 26 'arc' radiophones for use by President Teddy Roosevelt's 'Great White Fleet' on its 'round the world cruise. These sets were among the first to use his new audion triode tube as a detector in the receivers. ■

FESSENDEN DAY

The unveiling of a Commemorative Plaque, honouring the Canadian born radio inventor and pioneer, Reginald Aubrey Fessenden, will take place in Knowlton, Quebec, on Sunday, June 3, 1990.

The location chosen for the Bronze Plaque, sculpted by Evelyn Blackwood, is on one of the Museum buildings on Lakeside Drive, across the road from where Fessenden was born in his grandmother's house.

A small Fessenden exhibit will be set up at the Museum and plans are being laid to have ham radio demonstrations at a nearby school.

A preliminary get-together was held on Dec. 3, 1989, with 19 in attendance. Shown was the CBC film, *Reginald Fessenden, The Forgotten Genius*, an excellent production, showing, among other events, the first radio broadcast in 1906.

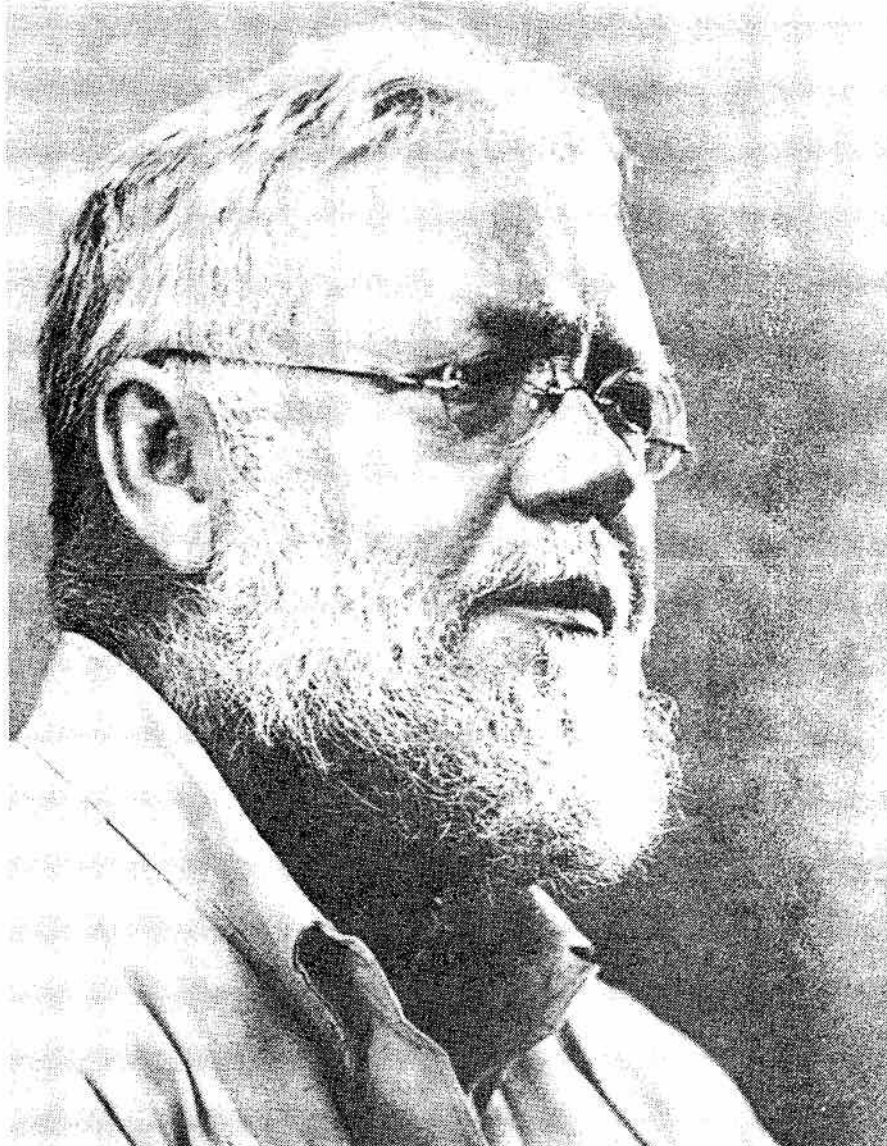
Knowlton is an hour's drive from Montreal, located on the shores of Broke Lake, Exit 90 on Autoroute 10. ■

TV INFO

It was 60 years ago on Sept. 30, 1929 that the first regular TV broadcast was made. It was from BBC station 2LO in London on 831 kHz from the Baird Studios. Wonder if that was also the first case of TVI?

ATTENTION ARTICLE WRITERS

Articles submitted for possible publication should be typewritten in LOWER CASE. Text that is typed in FULL CAPITALS requires much more time in the editing stage... Editor.



The International Amateur Radio Union

By George Spencer VE3OZW

From time to time we Amateurs read or hear of the IARU and it seems to be some obscure and far-off thing having little to do with the subjects which interest us most in our pursuit of happiness via Amateur Radio.

The IARU operates on a global basis and is instrumental in establishing internationally agreed rules, methods of operation, band plans and modes, etc. Hams learn early in the game that there are QSL Bureaus and a certificate or Worked All Continents (WAC) but most don't realize that these are some of the services and benefits that are arranged by the IARU. Indeed, our assigned frequencies, without which Amateur Radio would not exist, are a direct and tangible result of the efforts of IARU, on behalf of all Amateurs.

The IARU comprises four groups; first the worldwide organization comprising the International Secretariat and Administrative Council and secondly the three regional organizations. These are:

Region 1: Europe, Africa and nearby islands,

Region 2: North and South America and nearby islands,

Region 3: The rest of the world.

The IARU is structured in the same manner as the ITU, the International Telecommunications Union. In order to understand where IARU fits in, it is necessary to first understand something about the ITU.

THE INTERNATIONAL TELECOMMUNICATIONS UNION

Mainly Historical

The ITU began as the International Telegraphic Union. This resulted from the invention of the telegraph in 1843 by Samuel Morse. The telegraph became a worldwide reality in a very few years after its invention and created a new set of problems, especially in areas like Europe where there were many languages in relatively small countries that were close together.

The educated elite in these countries had communicated by letter for hundreds of years using latin or perhaps another common language, but the telegraph created a need for instant translation of words and ideas across borders and by literate but not

necessarily well-educated people. Agreement was necessary for acceptance of morse characters or letters plus accepts and other symbols. This led to the development of the Q Code which is still in use today by commercial interests and Amateurs.

Of course, when radio came along near the beginning of this century, it was in the form of spark transmission over a wide band of frequencies. There was no such thing as modulation by speech or music and morse code filled the requirements of the day namely to get the written word over long distances and in this case without wires! Naturally, all of the standard signals and procedures used for telegraph fitted the requirements for radio and the international organization, ITU, for telegraph filled the needs very well. The development of international agreements and standards for radio by the ITU were readily accepted by the member countries and the Q code was amended to fit some of the peculiarities of radio.

The development of the quartz crystal permitted a separate and discreet frequency for each station and to prevent chaos, frequency allocation became a function of ITU. Groups of frequencies were established for specific purposes (bands) for commercial, navigation, broadcasting, Amateur, etc. Standards were developed for such things as frequency tolerances, different modulation methods and so on, up to today's requirements for space communications.

Along the way, the name was changed to the International Telecommunications Union and after World War II it fell under the United Nations, as did many other international organizations such as ICAO for air regulations, WHO for world health, etc.

The Constitution of the UN permits one vote for each nation and that is the same for the ITU. It does not matter whether it is a large country like the United States or the U.S.S.R., a small country like Luxembourg or a small island somewhere, (possibly having no Amateurs). If it is a sovereign nation and is a member, it has one vote. There are now over 160 members of ITU and some of them have very little interest in Amateur Radio.

THE INTERNATIONAL AMATEUR RADIO UNION

So where does Amateur Radio fit into all this? You may have read or heard of the book *200 metres and down*, written in 1936 by Clinton DeSoto. That title describes the frequency assignment allocated to the Amateurs soon after commercial and governmental interests began to make use of radio. Of course, the Amateurs pioneered the techniques necessary at higher frequencies and soon demonstrated that much greater distances could be covered on the HF frequencies using relatively low power and smaller antennas. Again the commercial interests moved in. It became obvious that unless something were organized to influence governments who voted on resolutions at ITU meetings, the Amateurs would be squeezed out altogether.

In 1924, Hiram Percy Maxim W1AW, founder of the ARRL, was on a business trip to Europe and during that trip he discussed the formation of an international Amateur Radio union with some prominent European radio enthusiasts. These were not all licensed Amateurs; many European countries did not permit Amateur Radio in those days. That meeting led to the formation of the IARU at a meeting in Paris in 1925, more than 64 years ago. Canada was one of the 25 founding members represented at that historic gathering. Initially IARU had individual memberships but in 1928 the constitution was amended to society membership. One from each country. Today, it is quite clear that if that organization had not been formed, Amateur Radio would not exist, at least not in its present form.

Because Canada was a founding member of the IARU in 1925, the Canadian division of ARRL, now CRRL, is still the National Society which is recognized by IARU. Recognition in the worldwide Amateur community means that a society is a full voting member of IARU, participates in all its activities, and all its services such as QSL Bureaus are available to a member country's Amateurs through IARU.

Only one society in any country can be a member because each country has only one vote. This means that a proposal document for an IARU

meeting must originate with the member society which carries the vote. Under certain circumstances, it is possible by prior arrangement for observers from member and non-member societies to participate in the discussions.

If Amateurs do not vote at ITU and the ITU is the governing body on such things as frequency allocations, how then can IARU be effective? The simple answer to this is to be found in the operation of many organizations such as consumer, environmental and citizen's groups of all kinds in a democratic society.

IARU is a lobby group like the Consumer's Association of Canada, The Canadian Federation of Small Business, the Canadian Manufacturer's Association and many others. These specialized groups know their subject matter very well and provide advice to government, acting in the best interests of their membership. Some groups are concerned with domestic Canadian matters but many have international interests and wish to have the support of the Canadian government during international meetings. At ITU conferences where IARU maintains a watching brief, as an accredited observer, Canadian Amateurs, as well as other Canadian groups having a stake in telecommunications, attend the meetings, also as observers and advise the government on their wishes.

Of course Amateurs and governments do not go to these meetings without extensive prior study and research and therefore do not make decisions on unexpected subject matter. The agenda is published many months or years in advance. Positions are ironed out on all agenda items, first within countries then internationally at Regional IARU meetings.

Obviously, if the Amateurs of each country go in different directions and are successful in convincing their respective governments to vote in opposition to each other at ITU meetings, the Amateurs will lose out.

Once a common position is agreed upon by the member societies in IARU, it then becomes the responsibility of each member society to obtain the support of its government for that particular position before the actual ITU meetings begin. As in any democratic process, often there is not unanimous agreement on some motions before the IARU and ITU. Those societies which may disagree with some or all aspects of a resolution are duty bound to support the majority position when requesting their government's support at ITU; all this in the greater interest of the world of Amateur Radio.

Probably the very best example of success in this technique was the creation of three new Amateur bands, 10, 18 and 24 MHz, at the 1979 World

Administrative Radio Conference. The well-planned and coordinated efforts of IARU took many man-years of mainly voluntary and some paid labour plus expenses, but was very successful. The cost was substantial, probably well in excess of a million dollars. The unfortunate part is that less than one third of the Amateurs of the world contribute to the IARU societies which pay the bills, do the planning, the advance lobbying and just about all the work necessary to protect and preserve Amateur Radio for everyone.

In connection with all international relations, a certain protocol must be observed by any special interest group within member nations. For example, Canadians would find it offensive if a private organization in some other country attempted to deal directly with our government departments without going through their own diplomatic channel and thence through our diplomatic service. The rules of IARU are similar. A sure way for Canadian Amateurs to get into the international dog-house is for a Canadian Amateur or group to attempt to deal directly with the equivalent of our DOC in another country. In the case of Amateur Radio, the protocol is that the Canadian member society should take up the matter with the member society in the foreign country and that society will deal with their government on our behalf.

IARU Tenth General Assembly, Region 2, Orlando, Florida

This tenth triennial conference of Region 2 was held in September of this year. The most important decision made at this conference was to set in place the basic structure to prepare for a World Administrative Radio Conference (WARC) in 1992. It appears most likely that a concerted effort will be mounted by others against our HF and some higher frequencies once again. For the past 60 years, consideration of these frequencies has had a 20 year span between them. The last time was 1979 and now one is proposed with only a 13-year breathing space. It sounds ominous and we have much work to do before the next Region 2 meeting. Normally these are three years apart but we must do our homework now and probably meet in late 1991. In the meantime, there will be Regions 1 and 3 conferences in 1990 and 1991 respectively in concert with the meetings of the IARU Administrative Council.

As indicated above, CRRL and its predecessor, the Canadian division of ARRL, have represented the interests of Canadian Amateurs internationally for the past 64 years. In previous years, CARF has been invited to make suggestions for consideration at Region 2 meetings and a full conference report

was provided following each triennial IARU meeting.

This year for the first time a reply was received from CARF with a suggested topic for consideration at the Orlando meeting. The suggestion was that bandwidths for digital operation in each band be specified in terms of maximum permitted bandwidth rather than attempting to name each digital mode and assigned limits. A motion to this effect had already been submitted by Radio Club Argentino in accordance with the required deadlines for translation and advance distribution. That proposal was actively supported by the Canadian delegation during the Committee B discussion and was accepted during the final Plenary Session.

Cost of IARU Operation; Who pays what?

Each IARU member society pays annual dues to its regional organization. In Region 2 it is payable in U.S. funds. (In Region 1 it is in Swiss Francs and in Region 3 in Japanese Yen.) The funds so contributed pay for Region 2 administration and expenses for the Executive Committee to meet each year as required by the Region 2 constitution. Additionally, there are expenses incurred for travel to IARU Administrative Council meetings to assist less organized societies and for general expenses incurred in the continuing activity to protect our frequencies and interests.

In addition to the normal Region 2 annual operating budget (which is approved every three years by the General Assembly), a special initial WARC '92 budget of \$150,000 (U.S.) was approved in Orlando to prepare for the forthcoming WARC '92 meeting. This will have to be raised over and above the normal membership dues for Region 2 member societies.

Each member society pays for its own IARU administrative activity plus the expenses for its voting delegate to attend the Region 2 General Assembly every three years. Depending on the location of the host country, airline fares and hotel rates, this amounts to about \$600 (U.S.) per year for CRRL. Annual membership dues are based on the number of licensed Amateurs in each country and the cost is 7¢ U.S. per Amateur. This means the dues paid by CRRL for Canadian membership in IARU for about 23,500 Amateurs, plus the expenses outlined above, total about \$1645 + \$600 = \$2245 (U.S.) per year. At the present exchange rate, this means that 5,500 CRRL members are each paying about 48¢ Canadian per Amateur per year.

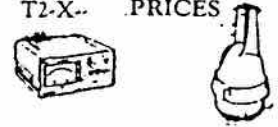
The creation of one Canadian Amateur society would help. A rebate percentage of our annual licence fee would help a lot more!

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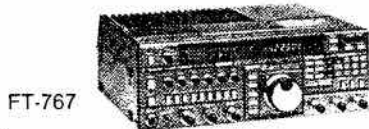
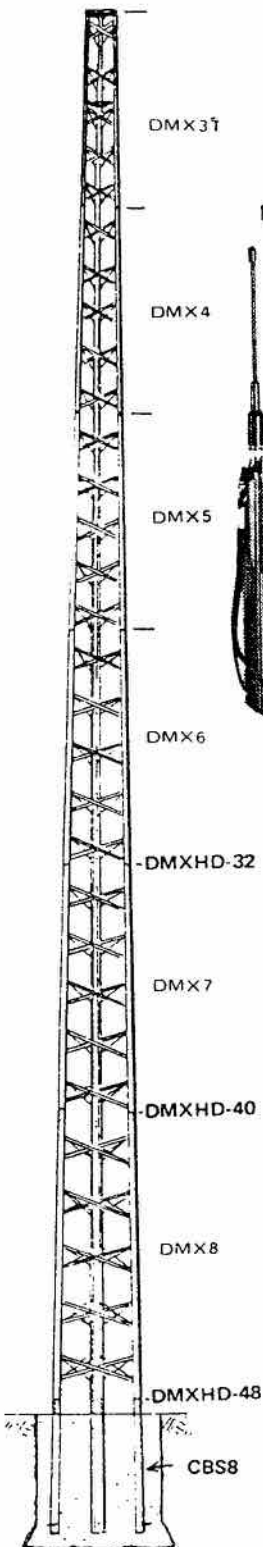


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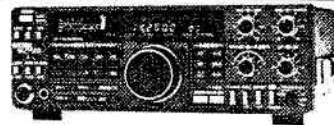


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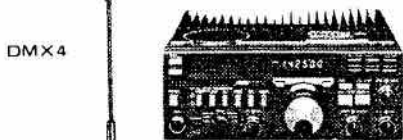
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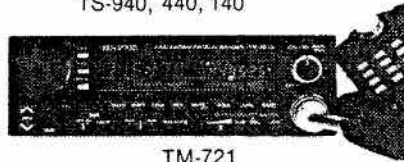
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Jamboree On The Air

By Jerry Daminato VE3IXS

JOTA (Jamboree On The Air) is an International Scouting and Ham radio event held the third weekend in October. This year was the 33rd year.

Boys and girls in the Scouting Movement participate with Amateurs in their own countries to operate the event and talk to Scouts in other parts of the world. They enjoy exchanging information about scouting events, hobbies and other interests. Many become pen-pals and learn more about each other and their culture.

Having operated JOTA for a number of years, we once again joined the 9th

Guelph Scout Group at Barber's Scout Camp, Guelph, Ont. Our annual camp would usually involve 40 to 80 boys plus visitors, but this year it was decided to amalgamate with the Regional Green Valley Camporee (1989) being held on the same weekend as JOTA. This required significant preplanning as the camporee was hosting over 500 Scouts plus staff and leaders!

We started out early on Friday, packing gear (including sleeping bags) and headed to Rockwood Conservation Park, 10 km from Guelph. The entire park was reserved for scouting and

included 24 hour security. Our equipment comprised of Kenwood gear (2 rigs), a 1000 Watt linear for one station, a 5-band trap dipole and a tri-band 4 element beam on a 25-foot manually rotatable portable tower (and winter clothes, as it did snow!). Since the operation was outdoors, in a pavilion with open sides exposed to the elements, the gear had to be stowed at night. The jamboree is a 48 hour event but 6 a.m. to 1 a.m. was plenty of air time for us. We operated on Friday night and wakened Saturday morning to a snow storm. To make things more interesting, the record solar fare put a bit of a damper on things.

Throughout the day we were able to have our boys and girls talk to most of North America. Highlights included Boy Scouts in Bermuda and the first Scout Troop of Hawaii. Sunday conditions were much better with openings to both sides of the Australian Continent. A few Scouts had the pleasure of talking to two Girl Scouts and their leader, who were mobile, on the way to a football game in Alabama.

We supported the event with a 15-minute talk about Amateur Radio and how it works, plus an ARRL half-hour video which was viewed while others worked the stations. During peak hours we had support from a total of six operators who controlled the stations and answered the never-ending questions. We were able at times to attract pile-ups with our unique call VE3WSJ (World Scout Jamboree).

The Saturday night events were well worth the effort with 500 people enjoying songs, skits and scouting fire-light. Press, radio and TV coverage of all the events helped most participants go home with dreams of Scouting and Amateur Radio.

Special thanks are extended to the operators who supported the event with their time, equipment and patience. They are: Harry VE3PTS, Joe VE3JVC, Paul VE3EWN, Rocco VE3YI, Ray VE3CZE, Mike VE3MAO, and especially Fred VE3PWT who supplied himself and his camper for the whole weekend (and that was the only time I was warm!).

If you would like to know more about JOTA, please contact VE3IXS or Scouting International Headquarters, Ottawa. If you are on the air during JOTA give a scout station a call, especially if they seem unable to find anyone. Sometimes the working conditions are not good (QRP in the bush on batteries) and the Scouts and operators are glad to talk to anyone. ■



J A M B O R E E O N T H E A I R

V E 3 W S J



SCOUTS CANADA

OCT. 21, 22, 1989

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DOC Symposium



RESTRUCTURING, THE DETAILS

This session was chaired by John Ellison VE3WHY, and the secretary was Forbes Simpson VE3EOD.

Jim Cummings VE3JPC of the DOC headquarters staff reviewed the existing structure of the Amateur service and the history of the current certificate levels. Jim is the DOC official who has been assigned the project of writing the new rules and coordinating the examination material.

Jim explained that the new certificate as proposed will be a single certificate with four levels of qualification.

In CW there will be two skill levels, 5 wpm and 12 wpm. There is no requirement to write the 5 wpm test first. You could write the 12 wpm at your first sitting of the exam if you wish.

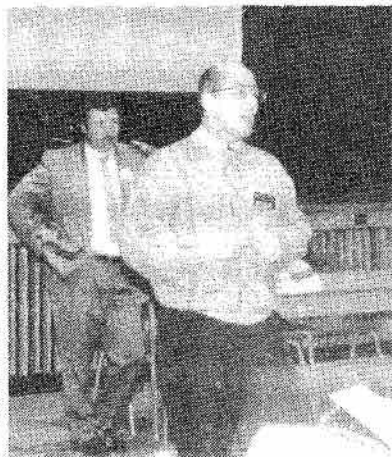
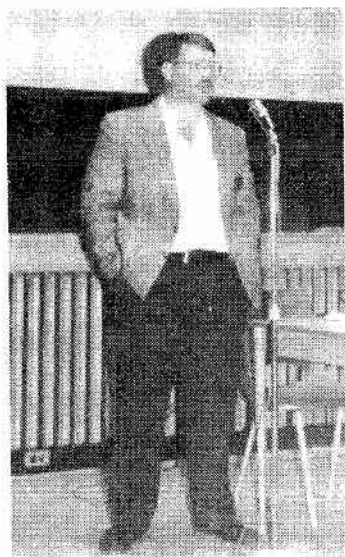
The two technical levels are Basic and Advanced.

Basic (formerly called the 'A' level) includes

- Regulations
- Basic Electronics Theory
- Interference Avoidance

The intent is that the level of skills required will be obtained in a 40 classroom hour course.

The Basic Level allows operation above 30 MHz at a maximum power of 250 Watts (input). Any transmitting equipment must be commercially constructed, however all other station equipment may be home-built. There are no mode restrictions on this class of certificate above 30 MHz. A holder of this class of licence may not sponsor a repeater.



Top: Andy Cobham, DOC; Jim Cummings, DOC; John Iliffe, CARF Pres, and Serge Bertuzzo, DOC, at the Symposium.

Above, left: Jim Cummings responds to a question from the audience; Above, right: Dave Boxall VE3OKN introduces the session on Amateur Exams.

Far Left: Serge Bertuzzo, DOC, gives the DOC viewpoint; Middle: Andy Cobham, DOC, lends weight to a point during the shared bands discussion; Left: Dana Shtun VE3DSS, CRRL VUAC, chairs the shared band discussion.

All photos by Stan Smith VE3DDX.

There are no HF band privileges for the Basic qualification.

With the addition of 5 wpm CW, a holder of the Basic qualification may operate on 160 and 80 metres on all modes.

With the addition of 12 wpm CW, the Basic qualification allows operation on all bands in all modes.

The Advanced qualification (formerly the 'D' level) allows in addition transmitter construction, full kilowatt power levels and sponsorship of repeaters. Topics on the exam are a more in-depth electronics knowledge including theory and circuit analysis and construction techniques.

Amateurs will continue to be able to give the CW exam. In addition, club presidents will be authorized to supervise the examinations.

In response to a question, Jim said that the intention in allowing exam supervision to club presidents was because the Amateur clubs are fairly stable and present a point of contact to the DOC. When a president is replaced, the club will notify DOC and the new person will then have the authorization.

Grandfathering of existing Amateurs will be as follows:

- Existing Advanced Amateurs will retain all privileges.

- Existing Amateurs will be granted all privileges.

- Existing Digital Amateurs will have 30 MHz and up as at present, plus the equivalent of the Advanced standing for transmitter construction, repeater sponsorship, etc.

- Existing CW credits may be maintained to apply against the 5 wpm qualification. (It will not be necessary to deal with anyone having a 15 wpm credit since such a person would have a licence already and so will be allowed to operate at the highest qualification level under the new structure).

- There will be no carry-forward credits for existing theory or regulations exams since there is no directly comparable exam in the new system;

HOWEVER if the person has BOTH theory AND regulations and has not obtained a licence under the current rules because he does not have a code credit, this person would immediately receive a Certificate with Basic Qualification.

The new certificate will be a wallet-sized card. It will not be issued to existing Amateurs unless they write the new exams.

Effective date of the restructured Amateur service will be 1 September, 1990. Anyone who writes an exam before that date will write the present ones, after that date it will be the new ones.

George VE3OZW raised the question of the choices of bands for all-mode operation on HF for Basic qualification-

holders. He felt that 160 and 80M are not appropriate in some areas of the country such as the prairies. Some discussion followed from others who had lived there and no conclusion was reached to have DOC review the proposed assignments.

Jim Cummings, in response to a question, emphasized that Amateur courses should discuss questions of practice not regulated by DOC. In particular the areas of the bands in which certain modes should be used (the "gentlemen's agreements").

In response to another question Jim stated that there would be no call-sign identification of various Amateur classes of licence.

AMATEUR EXAMS— SHOULD THE AMATEURS RUN THEM? —

This session was chaired by David Boxall VE3OKN and the secretary was Jean Evans VE3DGG.

The DOC was represented again by Jim Cummings.

The objective of this session was to find out to what extent Amateurs want the clubs or other Amateurs to set, supervise, and mark examinations and how far the DOC was prepared to go in allowing this.

Jim reviewed DOC experience with the current Amateur control of CW exams and some selected Amateur examiners who have participated in a study. This programme has gone well and the results were satisfactory to DOC.

The DOC feels that they should maintain, at least at this time, the database of possible exam questions. There are ways to have new questions inserted in the database and it would be appropriate if active instructors were to suggest new questions so the bank could be renewed continually.

For the restructured Amateur certificate the two national organizations reviewed and selected the questions, except for regulations. DOC wishes to keep responsibility for regulations questions in the department.

A document will be issued soon by DOC defining club participation in conducting examinations (see also the minutes from the restructuring session). This will be a revised RIC-1.

The document, which is about 12 pages long, will define who will qualify as a volunteer examiner and/or set examinations. DOC is very supportive of clubs and the president of a club will be responsible or supervision of examinations. He may delegate the tasks but will be responsible for the activity.

In areas where there is no club DOC will consider authorizing an Amateur with Advanced qualification to conduct exams.

At present three signatures are required on the examination paper when conducted by an Amateur. This

will not be required in the new rules.

The new approach is spelled out in a replacement RIC-1 document to be issued soon. It will be expanded to theory as well as CW as at present. A person setting an advanced qualification exam must be an Advanced qualification himself.

A person wishing to write an exam who is not a club member may apply to the district DOC office. They will refer him to a local club to write the exam at a mutually convenient time. The person may also write the exam at the DOC office, however the usual fee schedule will apply to any examinations administered by DOC. It is possible that this fee will exceed the current \$5 per section. Clubs may charge a fee to cover out-of-pocket expenses to people sitting the exam at the club, however they must not indicate that the fee is being collected on behalf of DOC.

It is not intended to commission a lot of examiners. One or two per club, with the president having responsibility for them is the objective. The examiners will be responsible to approve a certificate and DOC will issue it. DOC will also perform an audit function as necessary.

Access to the database of exam questions will be restricted mainly for purposes of cost containment. DOC is quite willing to produce an exam on demand and will provide a hard copy of the questions to the club examiners. Database maintenance will be done by the two national organizations who will review questions and supply new ones to DOC on an ongoing basis.

Note: a written comment was received from the Chilliwack Amateur Radio Club on this topic.

It was suggested that clubs take advantage of the option of inviting DOC speakers to their meetings to keep abreast of changes. ■

MAIL FRAUD

Michael D. Harrison WB2PTI, Oceanside, New York, was indicted on 50 counts of mail fraud on Aug. 28 by the U.S. District Court Grand Jury for the Eastern District of New York, Criminal Division. Each count carries a five year prison term and a fine of \$250,000— which adds up to a whopping 250 years in jail and \$12.5 million. Michael Harrison is the person who claimed and advertised to be the new owner of Atlas Radio and Dentron. He also claimed to be operating a joint effort with Uniden selling 10-metre transceivers. Many people lost hundreds of dollars, and some thousands, in checks and money orders to the fraudulent efforts of Michael Harrison.

VE3GO— 6 Decades of Amateur Radio and going strong!

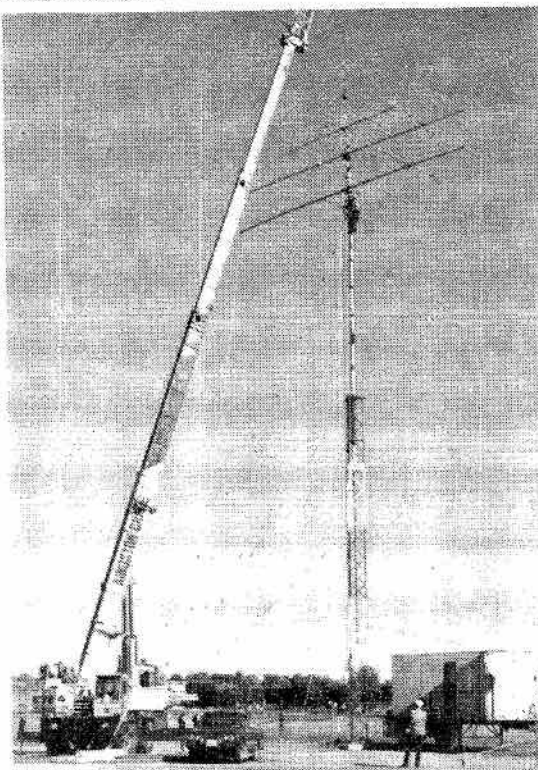
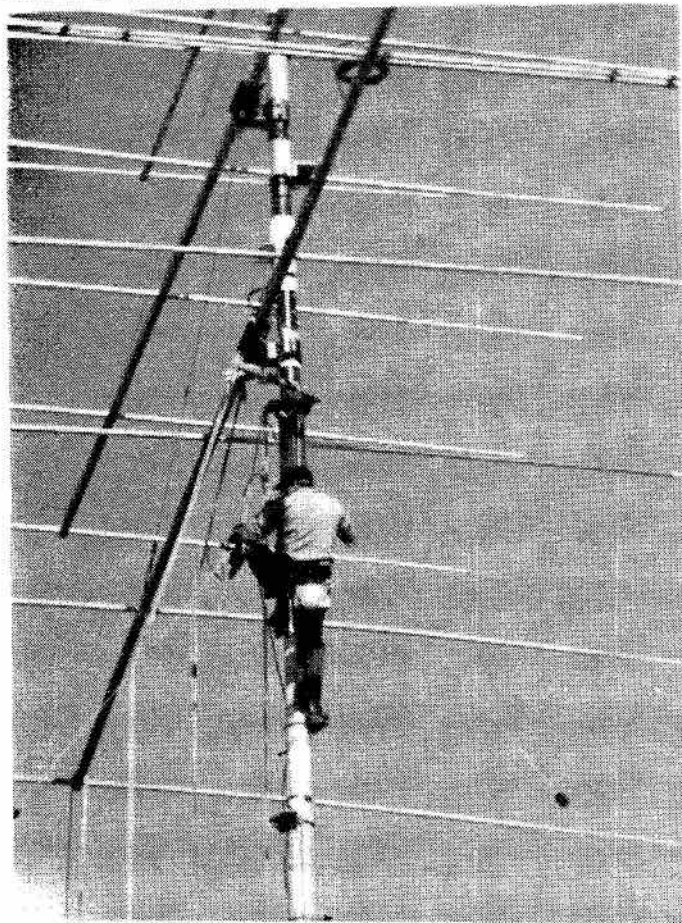
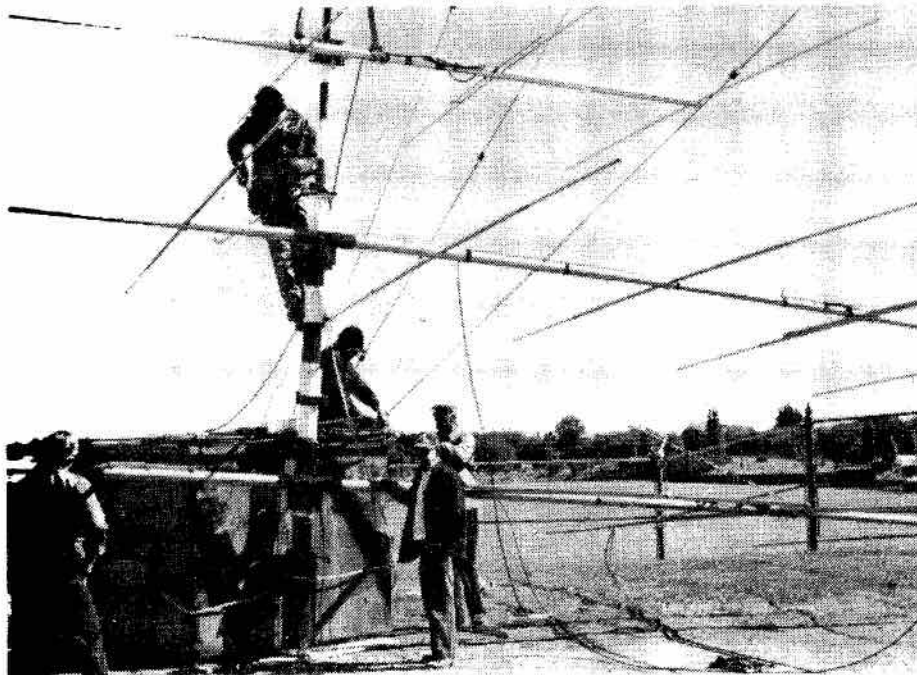
By Bill Butterill VE3MNW

C.A. (Chuck) Millar became interested in radio in 1926 when told that a company called Dominion Explorers, which was looking for minerals in the high Arctic, advertised for a radio operator to operate their radio station there. Chuck never went to the north, but the mystique of radio was triggered causing him to look into this mode of communication.

Chuck started to study, and practice his CW, and on Jan. 5, 1920, he received his 'Certificate of Proficiency' #1004, certifying that he was proficient in CW

Left: Assembly by Tom MacFarlane, Harold MacFarlane VE3BPM, Bill Butterill VE3MNW, Ed Edworthy VE3CLG.

Below, left: Climber Bob McDonald attaches the assembly to the mast. Below: Hanging it up!



Photos by VE3MNW

at 10 words per minute. He borrowed a home-brew radio from his friend VE3LL to get on the air. Chuck was issued the call VE3GO and still holds his original today.

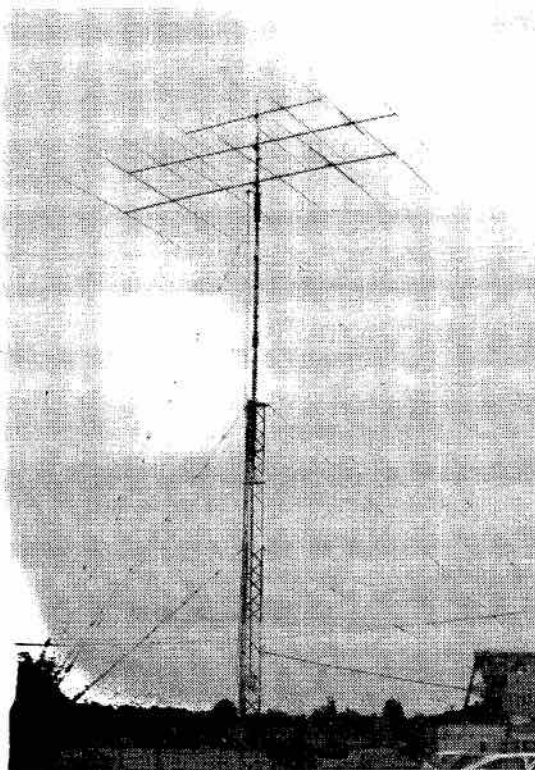
Not satisfied with this, he pursued his studies and hobby, and on March 28, 1931 he received his Commercial Radio Operator's Certificate.

In the spring of 1931 Chuck was employed as the radio operator on the lighthouse at Southeast Shoals in Lake Erie, south of Leamington. After completing one full season on the lighthouse Chuck declined an offer to go back the next year and got married instead. He tells me it was a lot more fun than living alone on the lighthouse.

Chuck was later employed by radio station CFRC at Queen's University as an announcer and newscaster for six or seven years. Queen's sold the commercial licence for the station to CKWS Radio in Kingston in 1944 and Chuck worked there for about a year.

Chuck was an avid boat racer and sailor in his younger days and in 1945 he and his XYL Francis acquired a marina known as Knapp's Boats located on the west end of the causeway over the Catarqui River at Kingston, Ontario. Chuck's love of boats and wood was very apparent in his repairs to the old run-abouts, and when they left his shop they were a work of art. He sold the marina several years ago but still lives and operates from this site.

VE3GO loved to experiment with



Above: 36.5 metres (120 ft.) to top; Top antenna 10M, middle 15M, Bottom 20M.

quad antenna designs and built many different types. One of his most frequent Amateur friends (then VE3CFG Silent Key) Frank Gauchier also liked to try out stacked and phased beams with varying results, but, Chuck says, "we had fun".

At one time he had 2 Collins 75A-4 receivers and 2 Collins KWS-1 transmitters complete with speaker patch, and had hoped to have one on each band. His station presently consists of a Kenwood 930 and a Henry IIIK, along with phone patch and all the other necessary gear that he has collected over the past six decades. The Henry has a cloth cover and boldly printed on the front is HENRY VIII. His present antenna system, installed in October 1989, is three stacked Telrex 1/2-wave beams with the bottom antenna at 100 feet or 30.48 metres. The three antennas and the mast they are attached to weigh about 500 pounds. Specs on the antennas are— 20 metre 6 elements on a 46-ft. boom— 15 metre 8 elements on

a 45-ft. boom and 10 metre 5 elements on a 28-ft. boom.

Contrary to stories and beliefs of many Amateurs, Chuck has never applied for any DX Awards, however he does have a fantastic collection of rare QSL cards that would most likely match any in Canada or the U.S.A. He has also received letters of commendation for emergency services rendered in time of disaster. He presently is active daily with skeds to pleasure craft in most of the ocean areas of the world, providing a communication link or relay back to base. Recently when off on a hunting trip, my stepmother had a severe heart attack and thanks to C.A. Millar, and my trustworthy little Kenwood 430 hooked to a battery and a couple of pieces of #14 wire, we were able to have constant updates on her condition.

Many, many people and Amateurs owe a great vote of thanks and gratitude to C.A. Millar for his devotion and kind deeds to and for Amateur Radio. ■



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WANTED: Wireless set no. 19 equipment and accessories. Especially looking for power amplifier and pocket-watch. I am willing to buy and/or trade equipment. Please write to Chris Bisailion VE3CBK, RR#1 Old Carp Road, Kanata, Ont. K2K 1X7.

FLORIDA QTH: For Rent, Indian Rocks, St. Pete's, 1 bedroom condo, Beach, Year Round Sun, Pool, tennis, hot tub. Contact Ron VE3NKS, week/monthly rates. Call: 416-875-2621.

WANTED: Old telegraph bugs (speed keys) such as Xograph by Rolph Brown, Wilcox by Fred Wilcox, Dow bent and rotatable by Dow or help in locating such, 73. Smiley, P.O. Box 5150, Fredericksburg, Va. 22403, U.S.A. WB4EDB.

FOR SALE: Tubes, over 600 types, including 807, 829B, 832A. All tubes \$2.00 each pls shipping. Send \$1.00 for complete listing or SASE for inquire to Al Ryan VE1TI, 313 Old Sackville Rd., Lower Sackville, N.S. B4C 2J5.

FOR SALE: Frequency Counter solid state to 32 MHz \$75, Signal Generator Model UPM-25D 10 kHz to 50 MHz \$75., Mutual Conductance tube tester

Stark Model 9-66 \$75., Frequency Meter Model URM-32 Range 125 kHz to 1000 MHz, converted to AC operation \$75., Tequipment Dual Trace 10 MHz solid state portable oscilloscope, like new \$275. All equipment guaranteed servicable. 514-631-6676.

Please send your 'Swap Shop' notices to the *The Canadian Amateur Swap Shop*, Box 356, Kingston, Ont. K7L 4W2. Single insertion is \$1.00 minimum (10 words) and \$1.00 for each additional 10 words. To renew, send copy and payment again. Please **TYPE OR PRINT CLEARLY!** and put your membership number and call (not counted) at the end of your ad. Include your full address with postal code; if using a phone number, include the area code. *The Canadian Amateur* accepts no responsibility for content or matters arising from ads. This feature is for the use of members wishing to trade, buy or sell personal radio gear. It is not open to commercial advertising.

BACK ISSUES

Back issues of *The Canadian Amateur* magazine for 1988/89 are available from the CARF office for \$2.50 each post paid.

TCA COPIES

Copies of articles from *The Canadian Amateur* from Vol. 1 No. 1 Jan. 1973 are available. One article per issue \$2 post paid.

Bring a blind Amateur with you to your next club meeting.

FCC looks into Third Party Traffic

The Canadian Amateur believes the following article from the Nov. 1, 1989, issue of the W5YI Report to be highly relevant to the use of our bands for 'third party traffic'. We offer it to our readers in light of the increasing widespread use of phonepatches and organizational news bulletins on our bands.

Does our present use of phonepatches leave us open for criticism because in some instances we are by-passing legitimate commercial enterprises licensed by statute to perform this service for profit? Are organizations such as news bulletin services making Ham Radio into a 'media event'? We would like your opinions on the current use of third party traffic. Write to the Editor, The Canadian Amateur, P.O. Box 356, Kingston, Ont. K7L 4W2.

The hectic situation on 20 metres has reached the point where we could easily see an end to phonepatches... even third party communications. For some time, Official Observers and the FCC have been monitoring what appears to be business communication between South Americans, recreational boaters and missionaries on the high frequency ham bands. In addition, new Amateur HF bulletin stations have appeared that seemingly broadcast without end. Amateurs are concerned that these communications are interfering with or precluding normal ham operations.

President Reagan signed legislation (PL 97-259) in 1982 permitting Amateurs to assist the FCC in monitoring the airwaves for rules violations. This was followed a couple of years later by an agreement between the FCC's field operations Bureau and the ARRL.

In late 1988 Erig Hogberg W4TAH of Sarasota, Florida, applied for and was granted a Memorandum of Understanding between the three Florida FCC Field Offices and two Section Managers. Thus the Amateur Auxiliary of the FCC Field Operations Bureau was born. They have investigated and have been very successful in resolving many disputes... mostly Amateur interference cases. The Commission has applauded their work. Much of the material in the report has been supplied by Hogberg.

A great deal of the third-party communications heard on the HF ham nets is borderline... some flagrantly illegal. The Rules clearly prohibit all business messages... and most inter-

national traffic if other authorized telecommunications services are available.

Some Amateurs, like the Virgin Islands' Herb Schoenbohm KV4FZ of St. Croix, have been pointing this out on the air waves in no uncertain terms. Schoenbohm has a group of supporters who agree with his views. The end result is an on-the-air-circus-type dispute which pits Amateur against Amateur. Many hams feel they are assisting humanity by volunteering their time to pass phonepatches and traffic for Americans in foreign countries, to missionaries... or to ships at sea. But once the message goes beyond simple greetings, they cross the regulatory line. The controversy and anger within the Amateur community is now raging out of control. Everyone seems to have their own view of what is legal and what isn't... or who is right and who is wrong. It's a real mess.

It is obvious that many participants simply are not aware of the rules— or feel that the FCC intentionally looks the other way. The Maritime Mobile and Intercon Nets were originally set up to handle phonepatches to military vessels at sea and servicemen stationed overseas. Now they appear to be used as a call-in frequency to the U.S. for business purposes... or to avoid the high cost of Maritime Service calls. The IMRA (International Missionary Radio Association) Net conducts church business on 14.280 MHz. The Inter-American Traffic Net and the Halo Net also serve as call-in frequencies for phonepatches. There are others.

Lots of boaters have been told by boat dealers that they can utilize Amateur gear for both emergency and personal phone call use and that it is much cheaper than buying the maritime equipment. Needless to say, phonepatching has become commonplace on the 15 and 20 metre ham bands. As many as a dozen phone calls can be in progress on the 20 metre ham band at once.

Then there are the regularly scheduled bulletin stations. W1AW, the ARRL's headquarters station, used to be the only ham station that routinely broadcasted bulletins of interest to Amateurs on many bands. The league even wrote the FCC regulations in order to allow them to be able to legally pay the W1AW operator a salary. These rules generally require 40 hours of code

practice and bulletin transmissions per week on all MF and HF bands.

Now there are others! While most stations limit their broadcasts to short range VHF/UHF spectrum, K1MAN, Glenn Baxter's IARN (International Amateur Radio Network) Bulletin Service has now joined W1AW. Many Amateurs are vocal in their objections to his dozens of daily transmissions on various frequencies. Some say his rambling transmissions are not for the general Amateur population... or are more like editorials of the station owner.

The FCC has received letters from other nations expressing their thoughts on the dispute. The Commission has now had enough and is taking action. A fact-finding letter has now been sent to many participants active in HF third party traffic handling. It was written by FCC Special Services Division Chief Bob McNamara. It reads:
File Re: 7230-J

This letter is being sent to you because you may be serving in an influential position with respect to third party telephony traffic, information bulletin or telegraphy practice communications transmitted on the Amateur service HF bands. You may possess, therefore, information and insight that could help bring about a resolution of the unfortunate continuing over-the-air dispute that takes place on the Amateur service 20 metre band. A similar letter also is being sent to other Amateur operators and organizations who may be of assistance.

We fear that enhancement of international goodwill— a fundamental principle of the rules for the Amateur service in the United States— is being jeopardized as a direct result of this dispute. We are concerned, moreover, that the experimental nature of the Amateur service is being suppressed. When a channel is used to carry on a never-ending debate, it is denied for the purposes for which the frequencies were allocated. Finally, requests to the Commission to resolve the dispute are diverting far too much staff time from other essential activities.

The Commission has, on numerous occasions, provided guidance to Amateur stations conducting third party communications. In the Report and Order in PR Docket No. 88-139, for instance, the Commission concurred with the American Radio Relay

League's observation concerning the proper balance in the rules between the flexibility to achieve the objectives of the Amateur Service and the degree of protection necessary to prevent exploitation of the service.

The Amateur service should be allowed to utilize its allocated frequencies unfettered by encroachment from commercial entities. It should not be allowed to be exploited by those who would use them as an alternative to the land mobile, broadcast, maritime, or common carrier radio services.

For the above reason, Section 9.113(a)... prohibits an Amateur Station from transmitting any communication the purpose of which is to facilitate the business or commercial affairs of any party. No Amateur station shall transmit communications as an alternative to other authorized radio services, except as necessary to providing emergency communication under Sections 97.401-97.407 of the Commission's Rules.

In the order adopted June 29, 1983, 48 Fed. Reg. 32999 (1983), the Commission stated that the term 'business' in this instance, is used in the broadest context. It includes all types of communications which are intended to facilitate the regular business or commercial affairs of any party, whether individual or organization, whether for-profit or not-for-profit, whether charitable or commercial, and whether government or non-government.

By Public Notice titled *Amateur Service International Radiocommunications* dated Sept. 1, 1989, the Commission further elaborated upon the scope of Section 97.113(a): All types of communications relating to business activities, including the advertising, soliciting, ordering, furnishing, delivering, accounting or billing of any supplies, materials or services are prohibited.

Although Section 97.115(a)(1) permits an Amateur station to transmit messages for a third party to any station within the jurisdiction of any foreign government whose administration has made arrangements with the United States, all international communications by Amateur stations are subject to Section 97.117 of the Commission's Rules which limits Amateur station transmissions to a different country to messages of a technical nature relating to tests and to remarks of their unimportance, recourse to the public telecommunications service is not justified. This rule conforms to the International Radio Regulations applicable to the Amateur service.

Considering the above limitations, it is not apparent why there should be any significant amount of third party communications transmitted in the Amateur service. It appears however,

that as much as 15% of the 20 metre band is being claimed for such communication by some Amateur operators and by organizations apparently organized specifically to utilize the Amateur service or third party telephony communications. The justification for any such entitlement, however, has not yet been made to the Commission. Nor does it appear as evidenced by the entire Amateur community.

Our approach has been to allow the Amateur community to resolve the issue in a spirit of cooperation, as it has for many issues several times in the past. Because this approach has not been effective in this instance, we are looking to other alternatives. One alternative approach may be rule making that could range the outcome from an outright ban against all third party traffic to the designation of specific channels in some segment of certain Amateur bands where only third party telephony communications could be conducted. Before taking so drastic a step, however we want to gain a better understanding of the issues behind the dispute.

We request your cooperation in resolving this matter. We therefore ask that you submit a report to us on this matter by Nov. 15, 1989. While the submission of the report is voluntary, failure to submit it may mean that we have to proceed without the benefit of your expertise. Your report should include the following information based upon your personal observations during periods when the Amateur service is not generally being used to provide emergency communications under Subpart E of Section 97.401-97.407:

(1) Is there, in your view, a channel plan? What is the channel plan for the analog emission segment of each Amateur service HF band? What is the channel spacing? How many channels are utilized for telephony in each band?

(2) How many channels in each analog emission segment are used by Commission-licensed Amateur stations for domestic third party telephony communications? What is the general nature of these communications? How many phone patches are transmitted per channel per day? What effect does the transmission of such communications have upon the Amateur service? Why isn't a public telecommunication system, maritime service or other radio service used for such communications?

(3.) How many channels in each analog emission segment are used by Commission-licensed Amateur stations for international third party telephony communications? What is the general nature of these communications? How many phone patches are transmitted per channel per day? What effect does the transmission of such communi-

cation have upon the Amateur service? Why isn't a public telecommunication system, maritime service or other radio service used for such communications?

(4.) How many channels in each analog emission segment are used by Commission-licensed Amateur stations for information bulletin telephony communications? How many Amateur operators listen to one of these transmissions? How many information bulletin communications are transmitted per day? What effect does the transmission of such communications have upon the Amateur service? Why aren't Amateur digital systems used exclusively for such communications? What stations transmit such bulletin type messages? Is the transmission of such messages desirable or necessary?

(5.) How many channels in each analog emission segment are used by Commission-licensed Amateur stations for telegraphy practice communications? How many persons make use of these transmissions for telegraphy practice? Why is an analog emission segment used for such communications? What effect does the transmission of such communications have upon the Amateur service? In view of the availability of recorded telegraphy training material, why are Amateur service frequencies still used for this purpose?

(6.) Please suggest a statement of practices that you believe should be followed by Amateur stations transmitting third party communications, information bulletins and telegraphy practice. Comment on whether the Amateur service can voluntarily adopt your suggested practices, or should Section 97.101, General standards, be expanded?

Please feel free to provide any other factual information that would assist in a more complete understanding of the issues involved in the dispute... Thank you for your cooperation.

Sincerely,
(Signed) Robert H. McNamara
Chief Special Services Division
Federal Communications Commission
Washington, DC 20554

LETTERS TO THE EDITOR

All signed letters to the Editor are eligible to be printed, space permitting. The Editorial staff reserves the right to omit libelous and slanderous material and make spelling and grammatical corrections. Please make an effort to type, print or write very neatly. Thank you... Editor.

VE3PHL'S DICTIONARY

High End: Refers generally to the hot (RF OF DC) end of a component or circuit; the end opposite the grounded or bypassed end.

— via Hi-Q

Amateur Radio provides major support for Detroit Free Press Marathon

By Perry Basden VE3PJP
and Windsor ARC

WINDSOR, Ont. Sunday, Oct. 15, 1989— It's 6:30 a.m. and about 15 teams from the Windsor Amateur Radio Club are getting their final briefing, ID cards, and staff T-shirts at the Queen Elizabeth Gardens in Jackson Park. On Belle Isle, in Detroit, Michigan, about 50 members of the Wayne County Amateur Radio Club are going through the same regimentation. Another year of organization and hard work will be coming to fruition.

The event is the 12th Annual Detroit Free Press International Marathon, sponsored by the *Detroit Free Press*, Ameritech Pagesplus Publishing and hosted by the Motor City Striders. The Marathon is 26 miles, 385 yards long and is certified and sanctioned by the Athletic Congress and National Wheelchair Athletic Association as well as the International Wheelchair Road Racers Club. It also qualifies participants for the Boston Marathon.

This event has several unique features in the world of Marathon racing. It starts in Windsor, Ontario, Canada and ends in Detroit, Michigan, U.S.A. and hence, an International event. It features the 'underwater mile' through the Detroit-Windsor Tunnel, which passes under the Detroit River. The tunnel is closed to vehicles during the race. Ventilating fans replace the air in the tunnel once a minute, reducing pollutants to virtually zero. The course also poses no obstacles to wheelchair entrants.

Communications are provided exclusively by Amateur Radio, as a joint effort between the Wayne County Amateur Radio Club on the American side of the course and The Windsor Amateur Radio Club which provides the same services in Canada.

Several repeaters are used, as well as backup simplex frequencies, with a Net Control station operating from Belle Isle. Operators use the 70 cm, 1¼ metre and 2 metre bands on both sides of the border and radio operators must be aware of, and abide by, the Federal Communications Commission rules as well as Communications Canada Regulations.

Back to the start. The clock is ticking

down to the 7:30 a.m. start for wheelchair athletes and racewalkers with the main body of runners scheduled to start at 8 a.m. The sun is rising into a cloudless sky and temperatures are expected to be in the 60 to 70 degree range (15 to 21° C), unseasonably warm for this time of year, it may pose a problem for the runners.

The briefing is completed as some 2,500 athletes begin gathering at the starting line. Amateur operators are leaving for their assigned aid stations located at each mile marker on the route. Every aid station is staffed by first-aid personnel, an Amateur Radio Operator and race scrutineers, as well as volunteers who provide refreshments to the runners as they pass. Some stations are also staffed with a podiatrist and sports medic specialists as well as wheelchair mechanics.

The first six miles of the Marathon is run on the Canadian side of the International Border. The timers at the finish line, on Belle Isle on the American side of the Detroit River, must be able to hear the starting guns to enable them to activate the official clocks. It is arranged that Bill Lefler VE3BMW, President of the Windsor Club, with Willis Lounsbury VE3WHT, the club special events co-ordinator as a backup, will be stationed at the Starting Line and will key the mike on the 2 metre rig ten seconds before the start. The signal transmitted over the W8ICN Repeater will be heard by all stations, including the Amateur Operator from the Wayne County Club stationed with the official timers.

Bob Gammon VE3CJX, an employee of the Ministry of Health, will act as liaison with that medical organization and provide communications between Net Control, located in the Casino on Belle Isle, and the provincial ambulance service, should an unexpected medical emergency arise. Carl Speranza VE3WPD, a member of the Windsor Police Department, will act in a similar capacity for communications with that Police Department, which is responsible for traffic and crowd control on the Canadian side of the race. Similar positions are held by American counterparts on their side of the border to give full race coverage.

Nervous expectation builds as the start time nears. A roll call from Net Control indicates that all systems are 'go' on both sides of the border. Bill is ready at the starting line as the count-down begins. The gun goes off, and the ham radio relay works perfectly. The wheelchair athletes are racing at surprising speed, led by the Windsor Police motorcade as well as a timing vehicle, also with an Amateur Operator on board.

In 15 minutes they manage to cover the first five miles of the race. Word is relayed by Amateur Radio to authorities at the tunnel entrance to close the tunnel to commercial traffic when the racers are one mile from the entrance. Another three minutes and they will be passing under the Detroit River. The Detroit-Windsor Tunnel is closed and remains so to all but Marathon participants for the next two hours.

By the time the wheelchair athletes and racewalkers are well on their way through the tunnel, the starting gun for the regular runners is sounded. Again, the radio relay works perfectly. Another motorcade of police vehicles and timing vehicles is on its way to the finish line along with 2,000 or so marathon runners.

Some of the runners are considered professionals and are known and respected worldwide for their efforts, while others are hobby runners who enter a few events each year, or perhaps, only this one. All are competitive; just to finish is an honour.

As the last runners pass each mile marker, the stations are shut down. Two buses are available to pick up stragglers and those who have fallen to the heat. Both of these buses are aided by Amateur Radio Operators on board.

All marathon participants are allowed free access across the border, without the usual customs clearance procedures. Customs officials watch everyone, however, with a wary eye. A few non-registered people attempting the marathon are stopped at the border. If you're not registered, you don't get through. The rule is strictly enforced by scrutineers at the tunnel entrance. Some of the 'fun' runners are disappointed at having their attempt so abruptly halted.

Radio operators from the closed aid stations, as well as several hundred spectators, gather at the tunnel entrance to cheer the runners on. Later, as the straggler buses approach the tunnel, the radio operators disembark, to be replaced by American operators when the buses reach the other end of the tunnel. All Canadian radio operators have finished their portion of the event. Everything ran smoothly and efficiently.

For the marathon runners, they're only one-fifth of the way through the event. The American ham operators are now busy at their aid stations. After the tunnel is opened to commercial traffic again, most of the Canadian Amateurs make their way to Belle Isle and the finish line. Here, refreshments are available for all volunteers and the Windsor Club members welcome the opportunity to have an 'eyeball QSO' with their American counterparts and renew acquaintances.

The rest of the marathon proceeds without a hitch, thanks to the efforts of Chris Kania N8FZT, who acted as Net Control for most of the event, with assistance from Don Johnson K8SUA and Stan Komar N8GU and about 50 other hams from the Wayne County Amateur Radio Club.

The overall winner of the Detroit Free Press International Marathon was Doug Kurtis of Northville, Michigan with a time of 2 hours, 17 minutes and 34 seconds. In second place was Rick Mannen of Brantford, Ont. at 2:21:28. This was Kurtis' third consecutive Free Press Marathon win. It was also his second marathon of the week, having finished 11th at the Twin Cities Marathon in Minneapolis, Minnesota.

In the ladies division, Ella Willis of Detroit placed first with a time of 2:38:22, bettering the course record which she set last year by over three minutes. Second place went to Cynthia Barber from Milan, Michigan.

The men's wheelchair title went to Luke Gingras of Sillery, Quebec, who set a new course record of 1:48:07, lopping off nearly six minutes from the

record set last year by Doug Wight of Vancouver.

In the ladies wheelchair division, Rose Winand of Wilmerding, PA, was first with 2:39:28.

Incidentally, the oldest competitor in the race was Jim Ramsey, 81, of Detroit who competed in the Men's 80-89 year old division. He finished the race with a time of 5:41:52. Of the 2,470 people starting the race, 2,042 finished and everyone of them a winner.

The biggest winners were the Canadian and American Multiple

Sclerosis Societies who share the funds generated from runners' pledges. Each runner is asked to have sponsors pledge support on a per mile basis. The usual amount is \$1 or \$2 for each mile run. This year the runners raised over \$225,000 for research.

And where do we go from here? Well, I don't know about you but The Windsor Amateur Radio Club and the Wayne County Amateur Radio Club have already started planning for the 1990 Detroit Free Press International Marathon. We hope to see you there. ■

Packet Symposium

By Geoff Smith VE1GRS

Amateur Radio Symposia are not restricted to just Upper Canada. On Saturday, Nov. 4, 1989, 'packeteers' gathered for the Maritime Provinces Packet Symposium at the Cox Institute on the campus of the Nova Scotia Agricultural College in Truro, N.S.

The event was a joint venture of CARF and the Nova Scotia Amateur Radio Association and was organized to provide a forum for 'information exchange' for packet users in the Maritimes.

Separate sessions for novice and experienced packet operators had been the original plan, but the logistics of this became impossible to solve. It was finally decided that the session would have to speak to the interests of both groups and it seemed to do so. The organizers had expected that perhaps 20 Amateurs would show up and were pleased to find over 50 in the auditorium, some of whom had spent four hours on the road in order to attend. The event had been planned to last about two hours and went for over four. Obviously this gathering filled a need.

Moderator for the symposium was Geoffrey Smith VE1GRS, one of the CARF Assistant Regional Directors for the Atlantic Provinces.

Murray Gordon VE1TE gave the first presentation, representing the Fredericton Area Packet Group (FAGP). He outlined the present packet network in New Brunswick and indicated the current problems which had to be solved. His group has built a very positive alliance with the New Brunswick Emergency Measures Organization who have been most supportive, particularly in securing sites for antennas.

Murray also brought along a modem board which would permit packet operation at 9600 Baud and discussed

the implications of this. His group has also been instrumental in marrying a packet system to a Kurtzweil reader, which will permit a visually handicapped Amateur to get involved in packet radio. Results of this are most encouraging.

Next on the agenda was a 'real live SYSOP'— Ron Mackay VE1AIC— who operates the VE1AIC PBBS in Charlottetown, P.E.I. This PBBS is part of MARCAN, the packet network in the Maritime Provinces. Ron's talk ranged over many topics including problems with the Maritime network and what has to be done to overcome these. He also gave the audience a vivid picture of the life of a SYSOP and passed on many suggestions on how packet users can get maximum benefit from networks.

Ron also touched on the trend towards local area networks (LAN) in heavily populated areas to relieve pressure on the main networks, this being analogous to local VHF stations using simplex frequencies rather than tying up repeaters. The audience kept Ron hopping with a steady barrage of questions, none of which seem to faze him, and many misconceptions about packet were dispelled.

Mike Fitzgerald VE1AJM, one of the organizers of the symposium, gave a talk on how to tie two TNCs together to one radio and the benefits of this type of operation.

The final speaker was Burt Amero VE1AMA, who conducted a session on the Kantronics KAM, 'demystifying' this popular TNC.

After over four hours the audience was still keen for more, so further questions were fielded from the floor and a poll taken as to which TNCs were being used by members of the audience.

Those in attendance felt that the afternoon had been well spent. It is hoped that a similar session can be organized for next year. ■

HF BROADCASTING IN THE 80 METRE BAND

Rumour has had it for some time that Radio Canada International (RCI) is broadcasting in the 80 metre phone band as permitted by footnote 514 to the allocation table accepted by WARC '79. RCI has told us this has never been done. This proposal was carefully examined by RCI some years ago, found to be economically unfeasible and never implemented. RCI has kindly volunteered to try to identify any HF broadcasting stations heard in the 3950-4000 kHz band. Tapes should be sent to CARF Headquarters.

Closeouts & Specials of the Month

YAESU FT-33R 220MHz Handheld, with 2½ Watt Nicad Pack, 10 Memories-----LIST WAS \$539 NOW \$349.95
 YAESU FT-727R 2M/440 Handheld, with 5W output Nicad pack, 10 Memories, Large LCD Display LIST WAS \$849 NOW \$499.95
 YAESU FT-711RH 440MHz Mobile FM Transceiver, 10 Memories, TouchTone Mike, 35 Watts output LIST WAS \$820 NOW \$499.95
 YAESU FT-712RH 440MHz Mobile FM Transceiver, 18 Memories, TouchTone Mike, 35 Watts output LIST WAS \$799 NOW \$599.95
 YAESU FRV-8800 VHF Converter for FRG-8800 Receiver, covers 118-136 AM Aircraft and 136-174LIST WAS \$220 NOW \$ 99.95
 YAESU FRB-757 Amplifier Relay for FT-757, Relay can be used for other situations-----LIST WAS \$ 29 NOW \$ 9.95
 YAESU FIT-3 TouchTone front panel for FT-203R-----LIST WAS \$149 NOW \$ 99.95
 YAESU FIT-4 TouchTone Pad add on kit for FT-23R/33R/73R-----LIST WAS \$ 99 NOW \$ 69.95

ICOM IC-u4AT 440MHz Handheld with 1.6 Watts Nicad Pack, TouchTone Pad, 10 VFO's, Charger--LIST WAS \$520 NOW \$349.95
 ICOM IC-3200 2M/440 Mobile, 25 Watts output on both bands, 10 Memories, TouchTone Mike---LIST WAS \$899 NOW \$599.95
 ICOM IC-3210 2M/440 Mobile, 25 Watts output, 20 Memories, 138-174Rx, TouchTone Mike-----LIST WAS \$1029 NOW \$799.95
 ICOM IC-28H 2M FM Mobile, 45 Watts Output, 138-174Rx (Mod for 1x) , 21 Memories, TT Mike--LIST WAS \$749 NOW \$579.95
 ICOM IC-900 MultiBander with choice of 2 band modules (10M 6M 2M 220 440) TouchTone Mike-LIST WAS \$1899 NOW \$1299.95
 ICOM IC-26AT 2M FM Handheld, 7 Watts output, 20 Memories, TTPad, 138-174Rx(Tx Mod) Chagr--LIST WAS \$629 NOW \$ 499.95
 ICOM EX-242 Optional FM Board for IC-740 or IC-745-----LIST WAS \$ 80 NOW \$ 39.95
 ICOM EX-241 Optional Marker Unit for IC-740 or IC-745-----LIST WAS \$ 39 NOW \$ 19.95
 ICOM LC-31 Soft Leatherette Case for IC-u2AT/u4AT with BP-23 or BP-24 Nicads-----LIST WAS \$ 30 NOW \$ 19.95
 ICOM FL-33 6kHz AM Filter for IC-751 or IC-751A-----LIST WAS \$ 60 NOW \$ 39.95

KENWOOD TH-25AT 2M FM Handheld, Small size, 14 Memories, TTPad, 141-163Rx, Charger-----LIST WAS \$489 NOW \$359.95
 KENWOOD TH-215A 2M FM Handheld, 2½ Watts output, Optional 5W, Direct Freq Entry, Charger--LIST WAS \$529 NOW \$469.95
 KENWOOD TH-75A 2M/440 DualBand Handheld, 20 Memories, DualBand Receive, Charger, TTPad----LIST WAS \$749 NOW \$599.95
 KENWOOD TM-231A 2M Mobile, 50 Watts output, 20 Memories, TouchTone Mike, 138-174Rx-----LIST WAS \$619 NOW \$499.95
 KENWOOD TM-701A 2M/440 Mobile Dualband, 25 Watts output, TouchTone Mike, 20 Memories-----LIST WAS \$869 NOW \$699.95
 KENWOOD TM-621A 2M/220 Dualband Mobile, 45/35 Watts output, TouchTone Mike, 30 Mem, DualRxLIST WAS \$949 NOW \$699.95
 KENWOOD TS-680S Gen Cov HF Xcvr 160-10M PLUS 6M @ 10W (HF output 100W) with Hand Mike----LIST WAS \$1489 NOW \$1250.00
 KENWOOD TL-922A HF Linear Amplifier 160-10M, includes 2 Eimac 3-500Z tubes-----LIST WAS \$2799 NOW \$2199.00

ALINCO DR-510T 2M/440 Mobile, 45/35W, 14 Mem, TTone Mic, CTCSS Encode & Decode-----LIST WAS \$ 929 NOW \$729.95
 ALINCO ALD-24T 2M/440 Mobile, 25W, 21 Memories, TTone Mic, CTCSS Encode & Decode-----LIST WAS \$ 880 NOW \$599.95
 ALINCO DJ-500T 2M/440 Handheld, 2½W, 20 Memories, TTone Pad, CTCSS Encode & Decode-----LIST WAS \$ 929 NOW \$599.95
 ALINCO ALR-721 440MHz Mobile, 25 Watts output, TouchTone Mike, 21 Memories, CTCSS En/De---LIST WAS \$ 699 NOW \$449.95
 ALINCO ALR-22T 2M FM Mobile, 25 Watts output, TouchTone Mike, 21 Memories, CTCSS En/De---LIST WAS \$ 649 NOW \$449.95
 ALINCO DR-110T 2M FM Mobile, 45 Watts output, TouchTone Mike, 14 Memories, CTCSS En/De---LIST WAS \$ 729 NOW \$499.95
 ALINCO DJ-100T 2M FM Handheld, 3 Watts output (6½W Optional) 10 Memories, CTCSS En/De---LIST WAS \$ 659 NOW \$349.95

HEIL HM-5 Desk Mike with Famous HC-5 Cartridge (Wired for 8 pin Kenwood \$79.95)-----LIST WAS \$ 129 NOW \$ 74.95
 A.E.A. FSTV-430 Fastscan TV Transceiver for 430MHz with 2 crystals USA/CAN Frequencies----LIST WAS \$649 NOW \$399.95
 KENPRO KR-010 RS-232 Interface for KR-5400A & KR-5600A Ez/Al Rotators for Computer ControlLIST WAS \$450 NOW \$199.95
 M.F.J.-1224 RTTY, CW, ASCII, AMTOR Interface, with Disk software VIC-20/COM-64 & Cable----LIST WAS \$199 NOW \$119.95
 M.F.J.-1225 same as MFJ-1224 but for Receive Only-----LIST WAS \$169 NOW \$ 89.95
 M.F.J.-1200 CW Computer Interface changes audio CW signal to TTL or RS-232-----LIST WAS \$119 NOW \$ 49.95
 M.F.J.-1210 CW Interface for TRS-80 Model I & III, Allows RX/TX with software on tape----LIST WAS \$119 NOW \$ 49.95
 M.F.J.-1221 Multi function tuning indicator for RTTY, CrossHair Tuning with sharp filters--LIST WAS \$149 NOW \$ 69.95
 M.F.J.-1273 TNC Tuning indicator, tunes HF, Oscar, and non-FM stations fast-----LIST WAS \$ 99 NOW \$ 49.95
 M.F.J.-304 Mobile Shortwave Converter gives you 19 25 31 & 49M bands between 800-1200kHz--LIST WAS \$149 NOW \$ 69.95
 M.F.J.-312B Mobile VHF Converter gives you 150-160 and 156-166 for 140-150MHz rigs-----LIST WAS \$109 NOW \$ 49.95
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VFOs	2	1	1
Memory Channels Store Any Offset	49	10	10
Wide Receiver Frequency Range (MHz)—VHF	140-173	138-174	141-163
Wide Receiver Frequency Range (MHz)—UHF	430-450	440-450	438-450
Built-in CTCSS Encode/Decode	Option	Option	Encode Only
Memory DTMF Autodialer	10	10	None
CTCSS Paging	Option	Option	—
Programmable Battery Saver	✓	✓	✓
Backlit LCD Display	✓	✓	✓
Backlit DTMF Keypad	✓	—	—
APC, Automatic Power Off	✓	✓	—
1 MHz Up/Down Stepping	✓	✓	✓
Vinyl Case	✓	Option	Option
Scan For CTCSS Tone	Option	—	—
Built In VOX	✓	—	—
Clock	—	✓	—
Odd Split, Any Tx Or Rx Frequency In Any Memory Channel	49	10	1
Price	\$449	\$539	\$499

DUAL-BAND HANDHELD SPECIFICATIONS	YAESU FT-470	ICOM IC-24AT	KENWOOD TH-75A
Memory Channels	42	40	20
VFOs Per Band	2	1	1
Wide Receiver Frequency Range (MHz)—VHF	130-180	138-174	140-164
Wide Receiver Frequency Range (MHz)—UHF	430-450	440-450	438-450
Built-in CTCSS Encode/Decode	Included	Option	Encode Only
Memory DTMF Autodialer	10	4	None
Dual Receive With Balance Control	✓	✓	✓
CTCSS Paging	✓	✓	✓
Cross Band Full Duplex	✓	✓	✓
Programmable Battery Saver	✓	✓	✓
Backlit LCD Display	✓	✓	✓
Backlit DTMF Keypad	✓	—	—
Alternating Band Scan	✓	✓	✓
Cross Band Repeater	✓	✓	—
Power Output on 2 Meter and 440	2.3W	1.5W	1.5W
APC, Automatic Power Off	✓	✓	✓
1 MHz Up/Down Stepping	✓	✓	✓
Memory Channels Store Any Offset	42	40	20
Clock	—	✓	—
Odd Split, Tx Or Rx, Any Frequency In Any Memory Channel	42	40	2
Price	\$779	\$789	\$699



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 • 10 Watts Output on 6 Meters and 1.2 GHz • 100 Memories



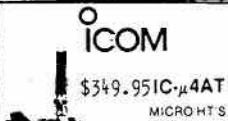
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 • Receive 30 kHz to 33 MHz
 • 26 Memories with Band Stacking Registers



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 Dual VFO's for Each Band
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 Built-in 10-Memory DTMF Autodialer



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DXCC— DELETE ONE?

Most of the recent excitement about the DXCC Countries list has centered on the addition of new ones. Readers will recall that the DX Advisory Committee has been considering adding six more countries, mostly as a result of a rule change which affects the status of a number of remote islands. Two of these, Conway Reef and Banaba Island, have been approved and passed on to the ARRL Awards committee for their final blessing. Remembering this, it was a surprise to spot a news item from Reuter, printed in the *Ottawa Citizen*, that suggests to me that we shall shortly see the deletion of one of the currently listed countries, South Yemen, 7O.

It seems that the two Yemens have finally agreed to merge. The one in the North, which is pro-Western, has been using the prefix '4W' while the southern and much smaller Marxist state, known as the People's Democratic Republic of Yemen, has used the prefix '7O'. After 18 years of intermittent talks apparently perestroika has provided the necessary nudge to 7O to bury the hatchet with its northern neighbour.

A draft 136-article constitution will shortly be referred to the legislative bodies of the two countries with a six-month deadline for ratification. Will we now see desperate efforts to mount a DXpedition to 7O to put it on the air before it disappears once and for all?!



3Y BOUVET ISLAND


At the time of writing this column, mid-December, it appears that both Bouvet DXpeditions are on track. The LA DX group are planning to land around Dec. 22 and they hope to use a helicopter to simplify getting supplies and operators onto the island.

The Legion of Indianapolis DXers, under the leadership of Mike Koss W9SU, are planning a February landing, without helicopter, and if conditions are too rough there is talk of diverting to the South Sandwich Islands instead. If you look at your map this makes a certain amount of sense since the latter group is relatively close to Bouvet Island.

Mike's party will include 12 Amateurs and they plan to assemble six complete stations using the new Yaesu FT-1000 transceivers with FT-767s as back up. They have announced the frequencies they plan to use as follows, almost all their operations will be on a 'split' basis:

On SSB (transmit/receive) 3.695/

ROC	TAIWAN	DATE	UTC	MHz	2x	RST	QSL
		15 Jul 89	2222	21 CW	449		TNX
				BV2DA			



Op. C. S. Feng (ex XW8BP) TAIPEI / ZONE 24
QSO verified by DL7 FT QSL- manager VY 73 *Paul*

Still not very much activity from Taiwan, so I was particularly pleased to see this card arrive.

3.800+, 7.055/7.200+, 14.145/
14.200+, 21.195/21.300+, 28.295/
28.450+.

On CW (transmit/receive) 1.825/1.835,
3.505/3.525+, 7.005/7.025+,
10.105/10.125+, 14.005/14.025+,
18.070/18.080+, 21.005/21.025+,
24.095/24.925+ and 28.005/28.025+
MHz.

You will be pleased to hear that the operators plan to sign the call 3YOB every fifth QSO on CW and will announce bands and modes of other stations every 40 QSOs on phone. They expect to have at least three stations manned at all times. To allow the maximum number of DXers to make contact with Bouvet the operators ask that stations send their whole call (No partial calls, please) and their signal report only.

Tail-ending calls will be accepted but allow for complete transfer and confirmation of callsign for the station in QSO before you call. SSB stations will terminate a QSO with 'QSL', 'Thanks' or the customary 'QRZ'. CW stations will end a QSO with 'TU', 'R' or '3YOB'. The operation will run for 10 days, planned for Feb. 2-12, so they ask that 'insurance' contacts be postponed until after the first few days on the air. For the first day or two they plan to operate at 35 wpm but this speed may be lowered later depending on the congestion on frequency.

By the time you read this column I hope many of you will have worked the

first group and will be able to sit back and just listen to the inevitable monster pile-ups on the Indianapolis DXpedition. Despite what this group says, remember that every time you make an 'insurance' contact with either one of these teams you have deprived some deserving DXer elsewhere in the world of a chance to add a new one to his DXCC total.

THE COLVINS AGAIN

Readers may remember that I mentioned in last month's column that Lloyd and Iris are off on their travels again, this time on a swing through Africa, Bahrain, New Zealand and Tahiti. In November they wrote an open letter to all their friends in the DX world giving a few details of their recent operation in Niger. They followed this with a stay in Burkino Faso where they signed XT2KG. I'll quote from their letters which I spotted in a recent issue of *QRZ-DX*:

November 19th, 1989

Dear Friends,

In January 1989 we arrived in Niger, after a very rough trip from Nigeria. We had corresponded with the communications authorities for more than a year and expected to receive permission to operate Amateur Radio. Such was not the case. They told us that all major departments must approve permission and that it would take many more months. Greatly disappointed, we left, but told the authorities that we would

return if they decided to let us operate Amateur Radio in Niger. To our surprise, we were notified a short time ago, that we could now operate Amateur Radio in Niger, but that it must be done in 1989.

We immediately arranged to return to Niger. We obtained the call 5U7QL (for both of us) and have just concluded a very successful operation on four bands CW and SSB. We made some 8,000 QSOs with Amateurs in 146 countries, from Nov. 3 to 18, 1989.

The natives helped us erect our antennas (a Cushcraft 4-band beam). They failed to tighten the elements to the boom properly. After the beam was 30 feet in the air, we discovered that the elements would twist in strong winds. We solved the problem by daily pushing the elements back in line, using a 25-ft. tree branch..."

DXAC REPORT

Not all Canadian DXers know that our representative on the DX Advisory Committee of the ARRL is Garth Hamilton VE3HO. He recently wrote to

all Canadian DXers with an update on the work of the committee which I think you will find interesting. Here is the text:

"Prior to taking up this post in late summer, there were several wording changes made to the DXCC rules to try to further clarify the interpretation of the rules. This unfortunately caused more problems than it solved.

"These changes are presently under review to see what can be done to correct the previous omissions. This has brought a considerable work load of items to be discussed amongst the members of the DX Advisory Committee (DXAC). As all the correspondence is by mail the process is slow, particularly when there is a vigorous discussion on the topic.

"At this time we expect to vote on the following new country applications in November: Austral Islands (FO), Marquesas Islands (FO), Conway Reef (3D2), Frederick Reef (VK9), Banaba Island (Ocean Island) (T33), ballots to be issued on the first and returned on the 15th. There is a great deal of

controversy over which, if any, of these should count, so expect split decisions in the voting.

"New country applications are currently being finalized for presentation or under discussion are: Basilica Del Santo (HV), Brazilian State Acre (PY), Walvis Bay (ZS1). Of these the only one which has filed a complete petition is Walvis Bay.

"Other old business still under committee business are rewrites to the rules under section 2 and 3 of the DXCC Rules.

"New petitions coming up for discussion are Tatoosh and Guemes Islands (W7).

"Anyone wishing to comment on these items may write to me at: Garth Hamilton VE3HO, 1309 Pelham St., Bx 1156, Fonthill, Ont. L0S 1E0. You may address your remarks directly to DXAC also, by writing them care of ARRL, Newington CT.

"GUD DXING, 73s de VE3HO"

Subsequent to Garth's letter, the results of the DXAC vote have been announced and they read like this:

Application	For/Against
Conway Reef	16/0
Banaba Island	14/1
	(1 abstention)
Frederick Reef	1/15
Marquesas Islands	6/10
Tatoosh Island	0/16
Guemes Island	0/16

BITS AND PIECES

XW8KPL Laos— We all have to thank a group of six Japanese Amateurs for putting XW back on the air after a 14 year interval.

They have established a station in the offices of the national news agency, which is licensed to the deputy general director. During the first two weeks of operation, the station had made 3,200 QSOs with 60 countries on 10, 14, 18, 21, 24 and 28 MHz. A second group of Japanese operators will be active from this station Dec. 22-28. Due to the expected pile-ups on the 3Y5X DXpedition, we are told to expect this operation to be on frequencies other than normal DX ones.

Laotian operators will take over the station very shortly from the Japanese groups and everyone is hoping they will continue to operate XW8KPL regularly. However, a letter from the leader of one of the JA groups says, I quote "...but we hope that Lao operators continue their operation after their Japanese teachers leave," so perhaps we should not expect a DXpedition level of activity in the immediate future from Laos!

ST2 Sudan— I put ST in the semi-rare category, along with its northern neighbour Egypt, so it was good to read in *QRZ DX* of the recent arrival of Brian G4WYG/ST2 who has started a 12-

Band Reports

Thanks to Jack VE3BTQ for these extracts from his log. (He warns us not to expect any further reports until the Spring, he is off to Florida for the Winter!)

CALL	FREQ.(MHZ)	UTC	DATE	QSL
J28DN	28.519	2032	Oct 3	
UM9TWA	14.200	2046	Oct 4	
UM8UN	21.273	1321	Oct 16	
UJ8KAA	21.306	1417	Oct 16	
YI1BGD	21.191	1541	Oct 17	*
UG7GWB	28.456	1540	Oct 18	
9Q5XX	21.247	2945	Oct 18	KC4NC
HL5BDS	21.006	0002	Oct 19	
VP8ADR	14.208	1012	Oct 19	
5N29FEA	21.252	2030	Oct 22	
HL9EP	14.165	1315	Oct 25	
9K2RA	21.260	1655	Oct 30	
ZD7KM	21.250	2058	Oct 30	
5N2NRK	21.341	2118	Oct 30	
UG7GWB	21.219	1507	Oct 31	
UD6DJ	14.182	0415	Nov 3	
VR6KB	14.138	0444	Nov 3	
JT1BR	14.017	1308	Nov 3	

* Still no QSL from previous QSO!

Continued on next page

CONTEST SCENE

Dave Goodwin VE2ZP, 15 Oval, Aylmer, Quebec J9H 1T9

CONTEST CALENDAR

Feb 3 Carnival de Quebec CW
 Feb 3-4 Vermont QSO Party
 Feb 3-8 New Hampshire QSO Party
 Feb 4 North America CW Sprint
 Feb 10 Carnival de Quebec SSB
 Feb 10-11 QCWA CW Party
 Feb 10-12 YL/OM SSB Contest
 Feb 11 North America SSB Sprint
 Feb 12-16 School Club Roundup
 Feb 17-18 ARRL DX CW Contest
 Feb 23-25 CQ WW 160M SSB Contest
 Feb 24-25 UBA SSB Contest
 Feb 24-26 Maine QSO Party
 Feb 24-26 YL/OM CW Contest
 Mar 3-4 ARRL DX SSB Contest
 Mar 9-11 Japan Int'l CW DX Contest
 Mar 10-11 QCWA SSB Party
 Mar 10-11 Commonwealth Contest
 Mar 10-11 Wisconsin QSO Party
 Mar 17 YLRL East Meets West SSB
 Mar 17-18 BARTG Spring RTTY Contest
 Mar 17-18 Bermuda Contest
 Mar 24-25 CQ WW WPX SSB Contest
 Apr 11-13 YLRL DX-YL to NA-YL CW
 Apr 18-20 YLRL DX-YL to NA-YL SSB
 Apr 28-29 Swiss Helvetia Contest
 Courtesy John Dorr K1AR and CQ Magazine

CQ WW DX CW

At time of writing, the CQ WW DX CW is a three-week old memory. Conditions were very good, and at least two records are known to have fallen. VE7ZZZ marked the beginning of their tenth year by making the Multi-multi mark a very respectable 7.78 Meg, and VE2ZP moved Yuri VE3BMV's seven-year-old 20 metre record up to 807k. Other potential new records are VE6OU/3's MS performance and VO1MP's single op, all bands entry. I have no rumours of their scores, however.

Canadian activity, despite all the record-bashing, was much lower than might be expected.

DX (cont'd)

month assignment there. His favourite frequencies are 14.010 and 14.053 MHz and you should look for him from about 1800 UTC daily. QSLs, for those lucky enough to work him, should go to G4OHX (G. Kennard, 15 Shuttle Close, Sidcup Kent. DA15 8EP England) direct; no bureau cards will be accepted.

Brasil DX Net— This is another DX net to look out for. You should be able to find it on 28.530 MHz at 1200 UTC each Saturday and Sunday or on 21.205 MHz at 1900 UTC on Saturday only. Thanks to PT7BI and QRZ DX for this information.

Thanks are due to the following sources for some of the material appearing in this column: QRZ DX, Ottawa Citizen, VE3BTQ, CQ Magazine, Long Skip and PT7BI. ■

Conditions definitely favoured the higher bands, and there were lots of stories of incredible six-metre openings among the VHF crowd. While not being directly relevant to the contest, this helped explain the very short skip that was noticed on 10, and the almost 'round-the-clock propagation on 20. From my vantage point on 20, that band seemed almost lost in the crush of activity on 10 and 15, and I missed what are normally easy multipliers in zone 32 and 12.

Frank VE7AV, one of the VE7ZZZ operators, sent me a full breakdown of their record-smashing MM score:

Band	QSOs	Zone	DXc
160	66	5	5
80	695	24	36
40	684	30	71
20	1489	33	96
15	1814	33	92
10	1111	27	68

All 5859 152 368

Score = 7,784,920

That score moves the old record up by a fantastic 150%! ZZZ are a unique group in that they are Canada's only regular Multi-multi, and in that they have been together for an incredible ten years. Other multi-op groups have come and gone, but ZZZ remains, doggedly fighting serious propagation disadvantages, and setting a record that will be tough for any Eastern group to touch.

By the way, in the November/December issue of *NCJ*, VE7ZZZ is profiled. While they are described in terms about as accurate as can be expected in the U.S.-focussed *NCJ*, as the YUKONtesters, the article did a great job of communicating the sense of fun that seems ZZZ's hallmark.

Other score rumours:

VO1MP A 2500q, possible new record
 VE2PJ A 800q 32z 129z
 XL3JCV A 507q 87z 180c 348k
 VE2AYU A unknown
 VE2LJ 28 1621q 27z 82c 420k
 VE3SMA 28 418q 27z 84c
 VE2ZP 14 2043q 36z 110c 807k
 VE6OU/3 MS unknown, but probably high

The score from VE3SMA is particularly worthy of examination. That was made with 100 watts and a short-wire antenna inside Steve's apartment. If there was an award for serenity in the face of adversity, Steve should be the hands-down winner, and his score ain't bad either.

CANADA CONTEST

As mentioned in last month's column, and widely remarked upon, the Canada Contest was attended by an unusual amount of confusion. There were as many as three advertised dates for this year's contest. TCA alone mentioned two. Frantic phone calls, and slightly less frantic letters attempted first to resolve the date, then to prevent a recurrence. I gather the resultant activity reflected the confusion in the minds of the contesting public, as there was plenty of nothing going on.

I wish I had score rumours to pass on, but I have heard nothing to date. This particular error is explicable. In most years, the Canada Contest was usually scheduled for a Saturday or Sunday in Christmas week. In five out of seven years, this presents no problem, but this year, with Christmas Eve and New Year's Eve occurring on Sundays, it's hard to find a really good date.

Many years ago, this problem was forseen by the contest committee of the day, who produced a rules sheet which foresaw the contest dates for the balance of the decade. This year's contest was then set for Dec. 17, in the vain hope: 1) the same people would be running it; and 2) that date would be the best compromise between Christmas Eve (impossible) and New Year's Eve (hopelessly inadvisable). For this, I must take responsibility. I was the committee at the time, and for reasons best left out of these pages, I felt compelled to resign in 1983.

Coincident with this situation is the still-unresolved question of what to do with the Canada Day and Canada Contests. The ills that currently plague these contests, principally, unpopularity, lack of serious competition, and poor scores, remain a feature of the past several years. Suggestions for change have been solicited, and a few have been received, notably from VO2AC, VE3BQL, VE3RMM and VE7EIK. No decisions have yet been made, but the support of CARF officials seems fairly firm now. Jeff Parsons, VE6CB/3, the organizer for the Canada Contest (December), an experienced contester, is reviewing options, and is dedicated to the future of the contest. There is still plenty of time to let your opinions be heard, so if you have something to say, please put it in a letter and send it to me at the address above. Let me emphasize that on-air comments are no good. If you want your opinion to be taken seriously, you have to write.

NA SPRINT

These unusual contests take place once again this month. These two four-

hour shorties are a real test of your search-and-ponce skills, as the rules prevent you from holding a frequency and calling CW without end. Canadian participation is usually scant, and when we appear, we tend not to be popular. Team contesting is also a feature of this one, as you and a group of buddies can combine your single operator scores and enter twice.

The rules appear in the contest rules supplied by K1AR and CQ elsewhere in this column.

ARRL DX CONTESTS

The world works Canada and the U.S.A. in this one. Although a poor cousin to the CQ WVs or the WPXs, the ARRL DX will provide its share of interesting DX, and without the competition from the Europeans or JAs.

I haven't printed a records table for this one, as with few exceptions, it simply doesn't attract the Canadian participation to justify a table. Some of the records, such as they are, date back to 1970, three complete sets of rules ago. If you want to make your mark, the ARRL DX is fairly open territory.

MARCH CONTESTS

The RSGB's Commonwealth Contest, an age-old tradition, is set, as usual, for the second weekend of March. Canadian participation has always been limited, although their eminences VE7CC and VE6OU/3 have been regular first-place finishers. RSGB are looking at a number of options, including changing the very nature of the contest, to try to increase its popularity. A great low-pressure contest with occasional semi-rare DX, the Commonwealth Contest is a great place to develop your CW contesting skills.

The WPX SSB, the #2 phone DX contest, takes place at the end of March as usual. A tentative records table will appear next month. ■

Contest Information

CARNAVAL DE QUEBEC DX CONTEST

CW: 0000-2359Z Sat., Feb. 3
SSB: 0000-2359Z Sat., Feb. 10

In celebrating Canada's Carnaval de Quebec, the Club Radio Amateur de Quebec is sponsoring the Carnaval de Quebec DX Contest. The submitted rules were somewhat sketchy, but the basic details include worldwide participation. I suggest you write to the CARQ for more information. Basically, the exchange is callsign and signal report on 80-10 metres (WARC bands excluded). A special souvenir plaque will be available to the first five Amateurs working the special event station, CY2CQ. Mailing deadline for logs is April 15, 1990 and they should be sent to CRAQ, VE2CQ, CP2341, Quebec, Que. G1K 7P5, Canada.

NORTH AMERICAN SPRINT

CW: Feb. 4 SSB: Feb.11
Sunday 0000Z to 0359Z (Sat. Night)

This is the spring edition of the 'Sprint' run by the *National Contest Journal*. As the name implies, it's a shorty, only four hours long.

North Americans will be contacting other North American stations as well as stations in other countries, single operator only. North American boundaries are as defined by the rules used in the CQWW DX Contest.

Exchange: Call QSO no., name and QTH (state, Canadian area or country).

Scoring: Multiply total QSOs by the sum of states, Canadian areas, and other North American countries worked for your final score (U.S. and VE not countries; KH6 not a state). There are eight Canadian multipliers: VE1/VO1/VO2, VE2-VE7, VY1/VE8. Non-North American countries do not count as a multiplier.

Frequencies: Three bands only: 80, 40 and 20 metres. CW— 3540, 7040, 14040. SSB—

3850.7225, 14250. (Plus or minus QRM.)

Awards: A trophy to the highest scoring entrant. Certificates to the top scorer in each U.S. call area, Canada and North American country. Also the ten top scores, to each member of the winning team, and the highest scoring entrant on each team.

Team competition is limited to a maximum of 10 operators as a single unit. Pre-contest registration is required for each team before the start of the contest— with WN4KKN for the CW and K7GM for the SSB.

There are other detailed rules, a special QSY rule, disqualifying penalties, etc. I suggest you write to WN4KKN or K7GM if you do not have a copy of the *National Contest Journal*.

Entries must be received no later than 30 days after the end of each Sprint. The CW goes to: Trey Garlough WN4KKN, 7609 Hardy Drive, Austin, TX 78757; SSB goes to: Rick Niswander K7GM, 910 W. Claremont, Phoenix, AZ 85013. ■

Vancouver DXers get DX Packet Cluster BBS

By J.F. Hopwood VE7RD

Fred Classen VE7CQD is installing and testing Pavillion Software's PacketCluster program on a packet BBS for group DX spotting. This program has proven itself to many serious DXers in the U.S., and as a result it is being used for some special provisions for DX spotting in contests. Although there are currently about 100 to 120 packet clusters in the U.S., apparently this may be the first one in Canada.

What does PacketCluster do? It is essentially a BBS with message and file handling, and mail forwarding, similar to MBL, RLI and BB programs. However, its main purpose in life is to allow multiple users to connect at once (Fred's hardware will support up to 32) and exchange DX and WWV information. When you first connect, you can recall previous reports of DX stations. Also you may want to, at the same time, recall a few hours of WWV reports that others have entered, just to see how good the DX will be. Then you start tuning the bands.

If you find a good DX station, you can

first work the station and then send a report such as: DX 14001 HZ1HZ listening up 2. Next, one line reports get sent to all the users currently attached. In Table I is an example of what one DX cluster's 24 hour activity was like, and how it would appear on your screen.

Lower mainland hams will be able to find the beam headings and MUF from their QTH for any station that appears. PacketCluster will look up their latitude and longitude for their station (they must previously specify), and look up the prefix of the station that has been reported, and then send them this information.

Other ham programs have been written to make use of PacketCluster. K1EA's CT contest program has a packet window, and can dupe the call, QSY your rig and log the call. MFJ's Easy-DX will monitor the cluster and send 'DX' in Morse Code if a country they haven't worked is reported. Programs have been written to give DX band statistics, and apparently some clusters have programs that extract QSL information that gets sent to W6GO and K6HHD to make up the GO lists. ■

14256.0	TT8GA	13-Nov-1989	2346Z		<VE7EM>
21215.0	9Q5XX	13-Nov-1989	2140Z	QSL KE4AI	<VE7DXO>
21335.0	TR8CJ	13-Nov-1989	2009Z		<VE7DXO>
21335.0	9X5KP	13-Nov-1989	1941Z		<VE7BDD>
21292.0	5Z4BI	13-Nov-1989	1939Z		<VE7BDD>
28600.0	D2/IJ6ELF	13-Nov-1989	1420Z		<KD7LM>
28028.0	FY5YE	13-Nov-1989	1312Z	UP 2 KHZ	<KD7LM>
14187.4	JW5QFA	13-Nov-1989	1229Z		<VE7MAH>
14006.6	VU2JIT	13-Nov-1989	1229Z		<VE7AF>
21025.2	OX1B	13-Nov-1989	1158Z	UP 3	<VE7CNE>
21022.1	PI64NWG	13-Nov-1989	1144Z		<VE7CNE>
14222.0	VU2NR	13-Nov-1989	1138Z	ROGER	<VE7MAH>

ARES AMATEUR RADIO EMERGENCY SERVICE

Bob Boyd VE3SV, P.O. Box 356, Kingston, Ontario K7L 4W2



SUPER NPVA '89

Ken Oelke VE6AFO, Emergency Coordinator for Calgary, reports as follows:

"On Oct. 3, 1989, at 18:30, Disaster Services received a call from Transport Canada indicating that a light aircraft had crashed. Two minutes later a second call reported that a wide body jet had crashed at the south end of the airport near McKnight Blvd. and 12 Street N.E. It was then established that "Fantasy Airlines Flight 182" had collided with a Cessna. Fire, Police, Ambulance and ARES operators were dispatched to the scene.

"The above scenario really did take place, but fortunately for all of us, it was entirely simulated. This was the largest simulated air crash disaster ever staged at an International Airport in Canada. It was also the first time that Calgary ARES members were used by Disaster Services for on-site assistance. ARES members were dispatched to the Disaster Area, 911 Centre, Emergency Operations Centre, Peter Lougheed Hospital, Rocky View Hospital and Red Cross. We also had HF liaison with the Alberta Public Safety Service via VE6ACD in Edmonton, to which a message was sent.

"All in all, we came through with flying colours, however not without a few hiccups. One of the biggest problems was trying to activate ARES members from an already-known scenario with pre-planned locations and predetermined times each would be dispatched. The reason for having to do this was to meet identification requirements. All major players had to be notified and given orange Calgary Disaster Services arm bands. Without these nobody would be allowed to move as the fellows found out quickly. With the armbands, they were able to breeze past the Police, fire and other services with no problems. The confusion started when 'Primary Net' was waiting for instructions from the Emergency Coordinator to activate members when in fact the EC thought that everyone knew the date, time and place of activation and would just fit in automatically.

"This particular confusion was no one's fault— it's what happens with a pre-planned exercise when things are assumed. The real thing would be easier as the objectives would be much clearer. This however didn't cause a major problem other than that a few major players were sent to 'Secondary Net' which was used for the standby

ARES members checking in with their resources.

"With some of the operators now stuck on this net, rather than the 'primary net' where all major activity took place, a couple of fellows were left wondering what to do. Fortunately this didn't affect our overall communication capabilities into hospitals or the EOC. We did learn though that the 'Primary Net' communication flow structure needed a couple of modifications. We also learned that the EOC needed direct communications with the hospitals and the triage area rather than going through the 'Primary Net'. These problems are only minor and have already been sorted out.

"On the other side of the fence, Police, Fire and Ambulance services had their own problems also. ARES communications saved the day when the command post at the disaster site lost all contact due to a power plant failure. This one single incident proved immediately that ham radio is a very valuable back-up. The Fire Chief was very pleased to learn that when he lost communication with his command post, ARES could still provide contact with the disaster site.

"This has been a tremendous experience and ARES members are anxious to participate in future exercises with the City. We learned much from this exercise."

FIXED EMERGENCY ANTENNAS

In our September column, we discussed the importance of installing fixed antennas on key buildings that would be involved in a disaster. The Amateur Radio Society of Dryden have done a fine job on this, as we learned from their Club bulletin. Gary McNally VE3MOR, EC for the Dryden area, reported as follows:

"On Sept. 20, the Amateur Radio Society of Dryden installed the first of four antennas on the roof of the Dryden Fire Hall in the downtown area. The Town had requested that the Society install throughout the town emergency antennas which could provide an inter-communication voice link between senior heads of their organizations when they were involved with an emergency.

"Those assisting in this installation were Ron VE3RHT, Jim VE3JLN and Gary VE3MOR. The entire installation was completed in about three hours with the final test being made with Dave VE3LMU using a handheld at the

airport. All went well. The cable is concealed above a ceiling tile in the Fire Hall. This antenna will eventually be moved to the top of the Town Hall once an Emergency Response room is established in that structure.

"The second installation was completed a week later by Dave VE3LMU and Gary VE3MOR at the Dryden Municipal Airport. The third installation was completed the following week with the help of Rob (SWL), Roy VE3BJD and Gary VE3MOR on the roof of the Dryden District Hospital. This installation went off like clockwork in just over three hours. The antenna cable is now accessible in a corner of the Hospital Administrator's office. The fourth antenna was installed at the Ontario Provincial Police building.

"All installations are equipped with a BNC adapter fitting, which will allow direct connection of most handhelds to the antenna feed cable. These adapters can be removed, leaving the PL-259 connector available if direct connection to a mobile or base station radio is required. Also attached to the cable at the connector is a small log book. Once a month, the Emergency Coordinator or his delegate will be responsible for conducting a test on each of the four antennas and for recording the results in the log. This will allow us to keep a close eye on the working state of each of the antennas, ensure accessibility to our antenna cables and maintain a good rapport with the people at each antenna location.

"Thanks must be given to those who volunteered their time and energy in helping to install these very important emergency antennas. Thanks are also due to the Town of Dryden for arranging the equipment funding for this project and for believing in our organization."

LINE LOAD CONTROL

In a disaster, citizens reach for the telephone to call for help, to inquire after the safety of a relative or friend, or to report on their own safety. This immediately overloads the system to the point where it becomes useless, as happened during the Mississauga train disaster, the San Francisco earthquake, and many other disasters.

In order to provide continuity of service for essential users, Bell have developed the function of Line Load Control. This enables previously designated users to make outgoing calls, while blocking out all non-

Continued on next page ►

YL News & Views

Cathy Hrischenko VE3GJH, 2 Dalmeny Road, Thornhill, Ontario L3T 1L9



GOTA— GUIDES ON THE AIR

A reminder— GOTA takes place this year on Feb. 24-25, 1990. The calling frequencies are the same as last year. If you'd like to participate, but can't have any girls at your QTH, you can help by being NC on a calling frequency. We found this beneficial last year. Not only did it speed contacts and move off the calling frequency, but it also helped bring together those on other bands.

If you need any last minute information, call me at 416-764-6962.

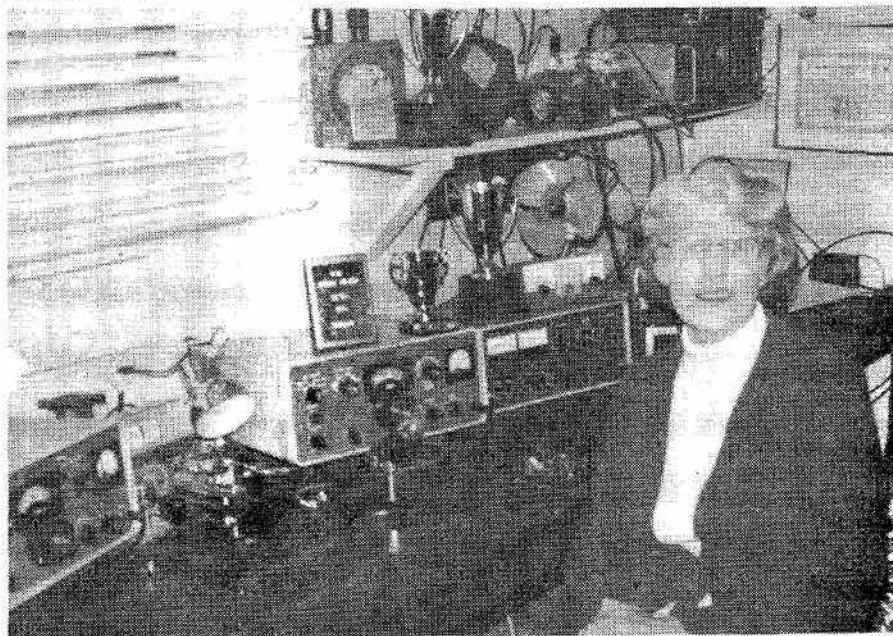
You may remember a few years ago, a very active YL from Prince Albert, Sask. who would come on the air and say, "This is VESOH Mae from PA." I hadn't heard from Mae for a long time, so sent a card. In return I received a note from her husband George. He is not a ham. He informed me that Mae has been in a nursing home for over two years. She lost the use of her legs and sometimes doesn't remember or recognize anyone. If you'd like to send her a cheery note, here's the address: Mae Beaton, c/o George Beaton, Apt. 1206, 33 River St. E., Prince Albert, Sask. S6V 6C1. George and family visit her everyday. Remember— don't expect an answer. Mae is not up to it and George has enough to do already. (Couldn't find good photo of Mae but the photo of her quad after a storm is on the 'Lighter side'.

I'd like to thank VE7AHB for the following info: A surprise party for Mavis VK3KS in celebration of her 50 years in Amateur Radio. Eighteen members of the Australian Ladies Amateur Radio Association, two daughters of members and six OMs were present. She also received greetings from around the world. A luncheon was served along with a cake

decorated with a big 50. Mavis was presented with a sheepskin rug for her operating chair. Congratulations Mavis.

The DX net controlled by Christine GM5YMM is found on 14.241 MHz at 17:00 UTC. Recently TA2YA checked in. She is the only licenced YL in Turkey.

That's it for this time. Don't forget the CLARA Contest is coming soon! ■



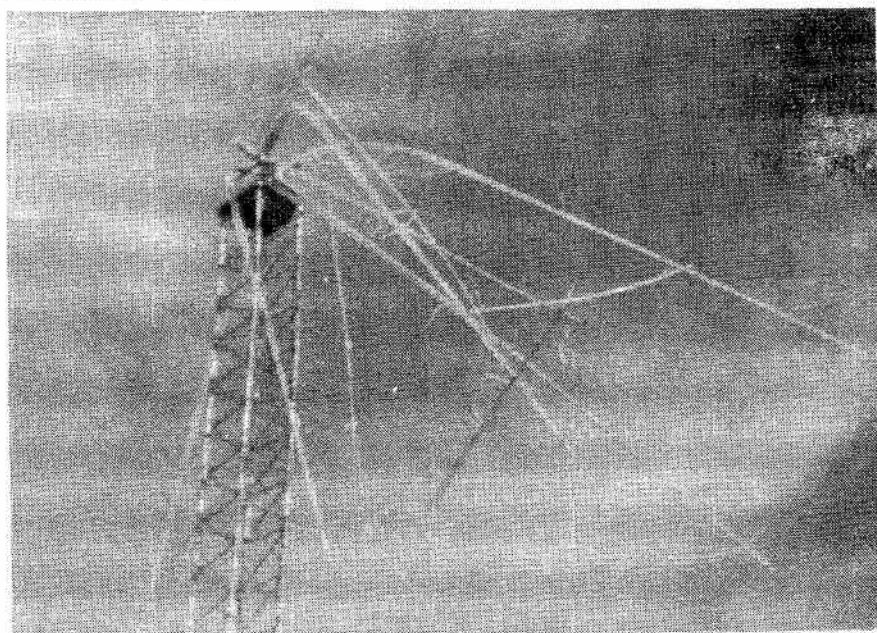
Above: Mavis VK3KS

► ARES (cont'd)

essential callers. Incoming service is not affected. Essential users are identified by provincial government emergency organizations and include hospitals, doctors, police and fire departments and local government officials.

Line Load Control is a partial solution to the telephone overload problem during disasters. It does not, however, significantly reduce the need for the emergency communications service that we in ARES can provide. ■

It is hoped that this column, which is being submitted to both The Canadian Amateur and to QST Canada, can become an ongoing source of news and information for members of both organizations on ARES activities across Canada. ARES members and particularly ECs are invited to send along information on what they are doing and on any developments they would like to share with other ARES groups. Bob Boyd VE3SV will pull this together in future columns, all with the objective of increasing our collective ability to serve our community and our nation, should disaster strike. ■



Above: VE5OH quad after a five-minute storm.

PACKET RAP

Bernie Murphy VE3FWF, 3 Herrington Court, Nepean, Ont. K2H 6B9

OVERVIEW OF CANADIAN BULLETIN BOARD NETWORK

This month's column is a review of the Canadian Bulletin Board Systems (BBS) and how they are interconnected. A list of the known Canadian BBS systems is outlined in Figure 1.

Examining Figure 1 in detail points out some rather interesting information. Most local access is via 2 metres (145.01 MHz). Several locations have a secondary frequency so that local hams can use the BBS without clogging up the mail forwarding frequency of 145.01 MHz.

The eastern part of Canada uses 80 metres (3.606 MHz) to forward mail. The western part of Canada uses another 80 metre frequency (3.610 MHz) to forward mail. Long haul transmission uses 20 metres (14.107) as a 'backbone' network. Some 'hub' gateways such as VE2ED, VE3GYQ and VE3WZL link several frequencies at one place. These linked machines provide a very efficient method of moving mail between the HF network on 20 metres and the local network on 2 metres. It is quite an accomplishment to have built up such a comprehensive network over the last few years. The SYStem OPeratorS (SYSOPS) who have built, and maintain, this network should be congratulated.

DOES THE NETWORK WORK?

Judging by my own experiences, the answer is 'Yes!'. I have used the ham packet network to send messages to England and across the country. I typically get 3-to-4-day turnaround on a request. If you are not on packet yet, you are missing out on a lot of fun (not to mention free mail anywhere in the world to any ham radio operator with a packet station!). The connectivity provided via ham packet radio is truly worldwide.

ACKNOWLEDGEMENTS

Many thanks to Dave W9ZRK for allowing *The Canadian Amateur* to use his initial list of Canadian BBS stations. Barry VE3JF provided an updated list. Note that the list presented in this column is current as of Dec. 1, 1989. I'm sure that there are several omissions and some of the information is out-of-date. Please pass on any corrections or updates to me and I'll forward them on to the proper channels. Send your information via Canada Post or via packet. My packet address is VE3FWF@VE3JF. As always, your comments and suggestions are most welcome. See you on packet... ■

VE1AIC	CHARLOTTETOWN	PE C0A1H0	145.01	14.107	[00]
VE1BZV	SUMMERSIDE	PE C1N2N7	145.01	145.05	[00]
VE1AOE	TRURO	NS	145.01		[0]
VE1EI	HALIFAX	NS B3L4J5	145.01	3.606 10.149	[COC]
VE1KWG	HALIFAX	NS B3K4B2	145.01		[0]
VE1TE	FREDERICTON	NB	145.01		[0]
VE1WL	FREDRICKTON	NB E3B5K1	145.01		[0]
VE2AQC	MONTREAL	PQ H2E2Z7	145.01	145.51	[??]
VE2CRL	MONTREAL	PQ H7N1Y3			[]
VE2CSC	ST. CESAIRE	PQ J0L1T0	145.01	145.05	[CO]
VE2ED	LAVAL WEST	PQ H7R4A7	145.01	3.606 7.095 14.107	[000C]
VE2FKB	MONTREAL	PQ HA42S6	145.01	145.03	[CO]
VE2GEP	ANCIENNE LORETTE	PQ G2E2P4			[]
VE2PAK	SHERBROOKE	PQ J0B1M0	145.01	145.51	[CO]
VE2RAI	GRAND-MERE	PQ			[]
VE2RCG	POINTE-AU-PERE	PQ			[]
VE2RJM	CHICOUTIMI	PQ G7H5A2	145.09	7.095	[00]
VE2SAY	CHICOUTIMI	PQ G7H6C9	145.01		[]
VE2SJC	ST-JEAN CHRYSOTOME	PQ G6Z1V8			[]
VE2UMS	MONTREAL	PQ H7N5M1			[]
VE3CX	THUNDER BAY	ON P7B5C6	145.01		[0]
VE3EUK	KITCHENER	ON N2N2A2	145.01	145.09	[00]
VE3FJB	ORILLIA	ON L3V3M4	145.01	145.07	[00]
VE3FOD	ECHO BAY	ON P0S1C0	145.01		[0]
VE3GF	SAULT SAINTE MARIE	ON P6A4R5	145.01		[0]
VE3GVZ	TORONTO	ON M5P1G9	145.03		[0]
VE3GYQ	LONDON	ON N5X1G8	145.01	145.07 220.52 14.109	[COCC]
VE3HPL	BURLINGTON	ON L7L3Y6	145.59		[0]
VE3INF	MISSISSAUGA	ON L5N2J2	145.01	145.57 145.59 221.50	[000C]
VE3IWJ	BROCKVILLE	ON K6V5T4	145.01	14.098	[OC]
VE3JEZ	EXETER	ON N0M1S2	145.01	145.09 14.105	[000]
VE3JF	OTTAWA	ON K2B6Y1	145.01	145.07	[CO]
VE3KYT-1	BORDEN	ON L0M1C0	145.07	446.95 7.093	[000]
VE3NAV	GREELY	ON K0A1Z0	144.91	145.07	[OC]
VE3NUU	SCARBORO	ON M1V3G2	145.01	145.03	[00]
VE3OV	TORONTO	ON M2L1A7	145.03		[0]
VE3RUN	CHATHAM	ON N7M5J1			[]
VE3SNP	WAINFLEET	ON L3K5V4			[]
VE3WQ	PEMBROOKE	ON K8A6W7	145.01		[0]
VE3WZL	GODERICH	ON N7A1W1	145.01	145.09 223.4 3.606	[0000]

Figure 1:
List of Canadian Bulletin Board Stations

VE4BBS	SELKIRK	MB R1A2H9	145.01	14.109	[OC]
VE4KV	WINNIPEG	MB R3J1C9	145.01		[O]
VE4PBS	PORTAGE LA PRAIRIE	MB R1N2G1	145.01	14.107	[OO]
VE5AGA	REGINA	SK S4S7A1			[]
VE5DA	REGINA	SK S4V1S6	145.01	3.606 14.107	[OOO]
VE5VA	SASKATOON	SK S7N2L2			[]
VE6HC	EDMONTON	AB T1H4G4			[]
VE6JR	LETHBRIDGE	AB T1H4G4	145.01	145.09 3.643	[OOO]
VE6LH	CALGARY	AB T2J1G5			[]
VE6MC	EDMONTON	AB T6C1Z1			[]
VE6NQ	CALGARY	AB T2J5J6	145.01	145.11 OTTSAT	[OOC]
VE7AV	PRINCE GEORGE	BC V2N1Z7			[]
VE7BPH	SORRENTO	BC V0E2W0	145.01		[O]
VE7BQB	KELOWNA	BC V2B4E5	145.01		[O]
VE7BQX	VERNON	BC	145.01		[O]
VE7CFL	NORTH VANCOUVER	BC V7L2K3	145.07/145.67	DUPLEX	[O]
VE7CTJ	SQUAMISH	BC V0N3G0	144.97		[O]
VE7DIE	VICTORIA	BC V8X4H3	144.97	3.610	[OO]
VE7DQC	LAZO	BC	144.97		[O]
VE7DQC-1	COMOX	BC V0R2K0	144.97		[]
VE7DSN	PRINCE GEORGE	BC	145.01	3.610	[OO]
VE7DVB	PORT ALBERNI	BC V9Y7L6	144.97	3.610	[OO]
VE7EMR	PRINCE GEORGE	BC V2KIH4	145.01	3.610	[OO]
VE7FG	PRINCE GEORGE	BC V2L3V4			[]
VE7GCT	VICTORIA	BC V8LT4T	144.97		[O]
VE7JOB	VANCOUVER	BC	145.05	145.07	[OO]
VE7KIT	VANCOUVER	BC V5R5J7	145.07		[]
VE7PE	VERNON	BC V1T8G2	145.01		[O]
VE7PGS	PRINCE GEORGE	BC	145.01	3.610	[OO]
VE7RTS	SORRENTO	BC V0E2W0	145.01	3.610	[OO]
VE7TOM	RICHMOND	BC V7E3S8	145.01	14.107	[OC]
VE7UBC	VANCOUVER	BC V6C2L8	145.01		[O]
VE7VBB	VICTORIA	BC V8L4V2	144.97		[O]
VE7VHF	BURNABY	BC V5C2B3	145.01	3.610	[OO]

Public Cordless Telephone System

Communications Minister Marcel Masse has announced that the Department of Communications has published a *Canada Gazette* Notice and issued a discussion paper initiating field trials for cordless telephones in a public setting.

Public cordless telephone service involves the use of small portable handsets that interconnect with the telephone network via public access points or base stations. Typically, the user will be able to employ the

handset while located within about 200 metres of public base stations in shopping malls, subway stations and other high-traffic settings.

The field trials for public cordless telephone service will serve to determine radio spectrum requirements, develop a consensus on technical standards, identify appropriate licensing requirements and determine the future demand and market possibilities for the service in Canada.



John Marles VE6BIW, left, and Roy Usher VE6EA.

IS THERE ANYONE LISTENING ON HM TONIGHT?

A common voice around the Edmonton area, Roy Usher VE6EA, is heard just about every evening on the local repeaters.

Roy is one of the oldest Amateurs in Canada and the oldest licensed Amateur in the province of Alberta. Roy was born in England in 1910 and came out to Canada in 1911 with his parents. He has lived in Canada ever since. Now 79 years young, he first became licensed as VE4EA in 1929 and after the war changed his call to VE6EA. Roy started collecting old radios in 1929 and has a very large collection of about 30 early vintage radios. Roy also collects *QST* and has every issue from 1926. His total QSOs to date number 20,700! The photo shows John Marles VE6BIW presenting Roy Usher with a plaque depicting his 60 years as a licensed Amateur. ■

INTRODUCING

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NYBLES AND BITS

Antonio Salvadori VE3NXQ, 17 Colborn St., Guelph, Ontario N1G 2M4

MS DOS PART II

First and foremost I must apologize to my many readers for my months of silence last year. Thanks for all your encouraging letters.

This month I want to go on with MS DOS and tell you a little about the organization of your computer disk(s). When you organize your personal papers you normally have a few filing cabinets with shelves and drawers. You neatly organize things by subject area or relationship. For example you may put all of your TCAs on a particular shelf, you may file away your QSL cards in a particular drawer, you may file your correspondence in a cabinet, etc.

You should do the same with your computer information. If you do not have a hard drive, then you should put all related information on separate diskettes, i.e. have a diskette for your ham log data, etc. Label your diskettes clearly and file them in a plastic container box to protect them from dust. If on the other hand, you have a hard drive and all has to go on one disk, how can you put everything in its own compartment?

The answer lies in disk *directories*. Directories are compartments that you create for each category of data that you want to store. Using the example above, you would have a directory for correspondence, a directory for your programs, a directory for your data, etc. Directories may contain *files* or other *sub-directories*.

All of your directories do not have to be separate; you can put one inside another, just like a filing cabinet with many drawers in it. Figure 1 shows a structure with three main directories labelled: CORRESP, GAMES and RADIO. The RADIO directory has two sub-directories in it: DATA and PROGS. The PROGS directory has a further two sub-directories in it called BASIC and OTHER.

The \ in Figure 1 is called the *home* or *root* directory. It is the directory in which the system starts when you turn on your machine.

Let us look at another example. The directory structure of my GEMRADIO system is shown (see *TCA*, Feb. 1989, Page 20). I have set up a RADIO directory as a subdirectory of the home (\) directory. This contains two sub-directories called DATA and PROGS. DATA is further sub-divided into four sub-directories called COMMON, CONTEST, PERSONAL and TEMP. Finally, PERSONAL contains two sub-directories called DB and QUATTRO.

The rationale behind the structure of

Figure 2 is as follows. The RADIO directory contains all of the information pertaining to the GEMRADIO system. All of the executable programs are stored in the PROGS directory. The data is split into four groups:

- data available to everybody such as, DXCC country list, U.S. county lists, prefix codes, etc. is placed in the COMMON directory;
- contest data is in the CONTEST directory;
- personal data containing log information is placed in the PERSONAL directory— this directory also contains database information in the directory DB and spreadsheet information in the directory QUATTRO—a terrific spreadsheet package from Borland;
- temporary files created by the system are temporarily stored in the TEMP directory.

Using this structure, all of the information is well organized and as we shall see shortly, easily accessible.

So much for the conceptual ideas... how can we create such a directory structure using MS DOS?

When you are in a directory you can make sub-directories in it by means of the Make Directory command.

```
MD <directory name><-
```

You must leave at least one blank between the MD and the <directory name>. (Do not type the <>). On some systems you may have to use MKDIR instead of MD.) The <directory name> has at most eight letters or digits in it. As stated above, when you turn on the machine you are placed in the home directory called \. (Why they did not label it HOME beats me— but then computer people are almost as unique as radio hams!) Let me go through the commands to set up the structure of figure 1.

At the DOS prompt C> type

```
MD CORRESP<-  
MD GAMES<-  
MD RADIO<-
```

How do we create the DATA directory? To create it, we have to be in RADIO— remember that you can only create a sub-directory if you are in the parent directory. (I will show you another way later.) How can we get into RADIO from the home directory \? The DOS command to move to a particular directory is

```
CD <directory name><-
```

where CD stands for Change Directory. Hence to continue with the example of Fig. 1 we would now type

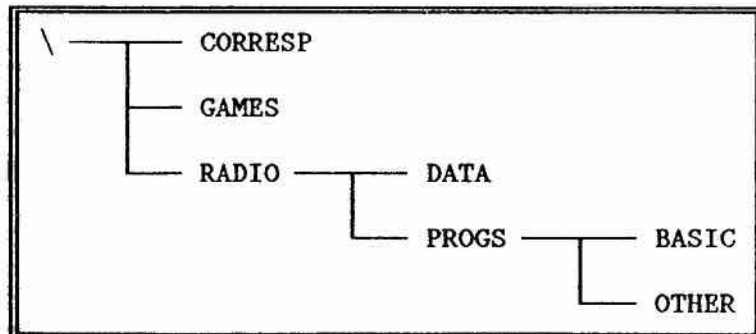


Figure 1: Simple DIRECTORY structure.

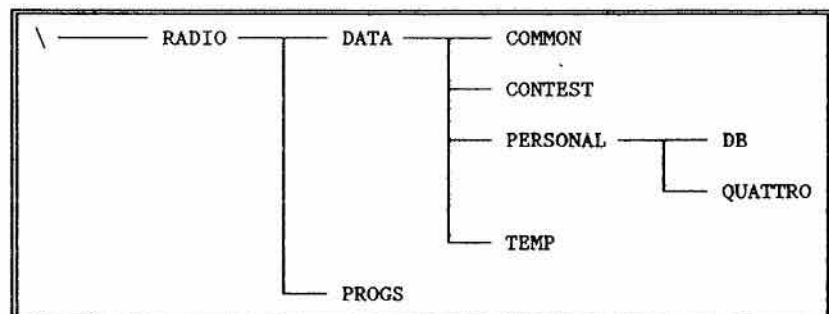


Figure 2: Directory Structure of the GEMRADIO System.

```

CD RADIO<-
MD DATA<-
CD DATA<-
MD BASIC<-
MD OTHER<-
CD \<-

```

The last command puts us back to where we started, i.e. in our home directory.

Let us run through the example of Fig. 2, again starting and finishing in our home directory.

```

CD \<-
MD RADIO<-
CD RADIO<-
MD DATA<-
MD PROGS<-
CD DATA<-
MD COMMON<-
MD CONTEST<-
MD PERSONAL<-
MD TEMP<-
CD PERSONAL<-
MD DB<-
MD QUATTRO<-
CD \<-

```

The command to go up one directory level is

```
CD ..<-
```

If, in Fig. 2, we were in TEMP then, executing CD .. we would be in DATA; if we were in RADIO we would then be in \.

Hence, to summarize: in order to organize your data you should draw a sketch of all of the categories of information you want to look after and then by using the MD and CD DOS commands you can transfer this organization onto your disk.

As you execute the command CD and get further away from home, you may suddenly find that you have no clue of where you are. The DOS prompt should remain as

```
C>
```

This situation is completely intolerable, as you just do not know where you are. Luckily DOS comes to your rescue with the PROMPT command. Look up this command in your DOS manual. I will only give you a couple of outline examples here. Try typing

```
PROMPT $p$g<-
```

and see what happens. (Your prompt should now be C:\> telling you that you are in your home directory.) Now try

```
PROMPT $t $d $g<-
```

You should see the time, date and > at the prompt. Finally try

```
PROMPT Command Master$g<-
```

The prompt should now change to: Command Master >. Try a few more combinations of \$p \$g \$t \$d and ordinary text to see what results you get. The PROMPT command allows you to

change the DOS prompt according to certain codes that we have outlined above—the complete list is in your DOS manual. I strongly urge you to use PROMPT \$p\$g in all subsequent work—I will later show you how to have this executed automatically on start up by using a special file called *autoexec.bat*.

So much so for this month. Next month I will teach you how to remove unwanted directories, a few shortcuts and about the all important AUTOEXEC.BAT file.

CORRESPONDENCE

Thanks to VE6AFQ, VE3NET, VE3JHT, VE3NCD, VE3MZE, VE3GX, VE2DC, VE5FX, VE3OHH, VE3NDV, VE5AEG, VE3VH, VE3RCI, VE3LXJ, VE5ACE, VE7FIL, VE3NJM, VE4OK/3, VE3OZ, VE4AHL, VE5NL, VE7GC, VE5LC, VE8CM, VE2BP, VE3NQI, VE7AHB, VE3JLP, VE7EBI, VE3ST, VE3NQT, VE7AVC, VE3HAH, VE6RLA, VE3OGP, VE6BLY, VE2CD, VE3ZU, VE3PVR, VE3MFE, VE3EV, VE3FHC, VE3TS, VE2FNF, VE2ARU, VE3SV, VE7EIK, VE3JPW, VE7GC, VE7JY, VE3CES, VE3CJk, VE7DSH, VE7ERA, VE1AHB, VE7DRA.

Clay VE6AFQ asks me a couple of questions regarding the GEM DUP program in the March-April issues. On looking at it I notice that a couple of the line numbers in the explanation do not match the program. In particular 1440-1490 in the explanations should be 1430-1480. As regards my choosing 4 columns and 10 lines per page, that was quite arbitrary, as mentioned in the explanations. You are free to choose whatever is most appealing to you. I will add your suggestions for titles, etc., in a later column. Thanks Clay.

Tom VE3LXJ writes: "...I owned a C-64, MFJ interface and a Yaesu FT101zd... upgraded to an Amiga 500 and a Yaesu FT980... Do you know of any interface that would match up these two?..." Your Amiga should have an RS-232 interface which can be hooked up via an MFJ-1278 or the PK-232 to your rig. The software to drive it however, may be hard to find and/or put together. Has anyone connected an Amiga to a rig? Any information on the procedure would be welcome.

I really appreciated Norm VESNL's newsy letter. Norm if you want to write an article about any topic, just go ahead and send it to me. I will be more than pleased to get it ready for publication.

My good friend Fergie VE3NQI feels that the best way to improve the column is to get a new writer! Hi! Hi!

Dick VE7GC sends the following tidbit which may be of interest to other readers. Please contact Dick directly.

"... I am using the C-64 along with the program Speedscript to make titles for recording on my VCR. The video is taken off the line going to the monitor which is a colour TV set and a 72 Ohm

cable run to the input of the VCR. I made a little metal-covered connecting box with one input from the C-64 and two outputs, one to the monitor and the other to the connecting cable of the VCR.

"An interesting twist is that I am able to modulate the carrier with a tape recorder for background music on the titles. This is done by feeding in the output from the earplug on the recorder to the C-64. The connections are to a five pin DIN plug which plugs into the back strip. The centre, #2 pin, is the ground connection and the other lead goes to the #3 terminal, the audio out, through a 10mfd capacitor. The recorder level should be kept only high enough to provide suitable modulation." Thanks a million, Dick.

Chris VE3CJk has an Atari 1040ST and would like to hear from anybody who may have a terminal program that would work with Kamtronics or MFJ equipment. I am going to write to both Kamtronics and MFJ to get some information, Chris. Can anyone help Chris in the meantime?

Thanks for your note and suggestions, Hans VE7DSH, for an article on printers and how they can be interfaced.

If you have any solutions to problems that hams are having, please send me a copy of the possible solution so that we can publicize it through this column. Some of you are complaining that I have not replied to your letters. Please note that I cannot reply on an individual basis unless you supply an SASE. I will, however, reply to all queries via this column. ■

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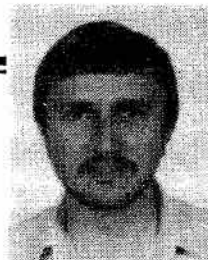
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Listening To The World

Sheldon Harvey, 79 Kipps St., Greenfield Park, Quebec J4V 3B1



Shortwave radio monitoring really attracted some attention as the year 1989 wound down. With developments in Romania, Panama and East Germany all taking place at once, it was difficult to choose from the truly historic programming which aired from day to day.

But shortwave is not simply hard news stories. I spent Christmas evening on a world tour celebrating the holiday with many countries around the world. A Mohawk Indian Christmas from Radio Canada International, carols in Greek from the Voice of Greece, a traditional Christmas story from Radio Prague Czechoslovakia, and a break in the Colombian drug wars with Spanish carols from Bogota, Colombia were just some of the highlights which came across the airwaves on Christmas Eve.

COUNTRY OF THE MONTH

This month I'd like to take you to a place which is rich in history, natural beauty and tradition. The country is Spain. Spain's voice on the shortwave bands of the world is Spanish National Radio. This is one of the most prominent voices on shortwave here in North America with one of the stronger European services available to the North American audience. Spanish National Radio also uses the Spanish name of Radio Exterior de Espana (REE).

Although not a large broadcaster in comparison to others such as Radio Moscow, the Voice of America and Deutsche Welle, Spain's international voice is strong and clear. There are two divisions of the station: the Foreign Service broadcasts Spanish programming to all parts of the world. The International Service broadcasts programming in three languages, Arabic, French and English to Europe, the Americas Africa and the Middle East.

Spanish National Radio employs a series of transmitters at three locations. Noblejas-Toledo, Spain is home to six 350 kilowatt transmitters; Arganda del Rey, Madrid has five 100 kW transmitters; and Las Mesas, Santa Cruz de Tenerife in the Canary Islands has two 50 kW transmitters. Spain also uses relay transmitters in Beijing, China.

The programming of Spanish National Radio puts an emphasis on events in and around Spain, with a heavy national content. The main feature programme is called Panorama, giving a broad view of the situation in Spain with selections from the Spanish Hit Parade, commentaries, reviews of

the Spanish press, weather and general in-depth reports in the fields of art, science, technology, politics, economics, literature, film and theatre.

A number of programmes feature traditional music of the different regions of Spain. One of the most popular features on the station is their Spanish language lesson programme, helping to give you a working knowledge of the Spanish language.

As I mentioned, Spanish National Radio will be very easy to hear with their strong, clear, signal. Here are the times and frequencies of their daily English language programmes to North America. From 0000 to 0200 UTC (GMT) on 9630 and 15110 have been used for broadcasts to North America for years and are always very reliable.

Spanish National Radio does welcome your reception reports, together with requests for their frequency and programme schedule. They will respond with some very colourful QSL cards to add to your collections. The address is: Radio Exterior de Espana, Apartado 156.202, 28080 Madrid, Spain. Please be sure to give them your comments on their programming. Programme comments are most important to all shortwave stations. I hope you enjoy the broadcasts from sunny Spain.

QSLING— A HOBBY WITHIN A HOBBY

I am sure that many of you are QSL collectors. It is an exciting and challenging part of the Amateur Radio hobby, but I am sure that some of you will be surprised to find out that it is just as big a part of the shortwave listening hobby as well. In fact, nearly all shortwave broadcasters, be they international giants like the BBC or Radio Moscow, to the small regional shortwave services of the South American or African countries, enjoy receiving listeners' reception reports and will respond with their own unique station QSL verification cards. In some cases, some smaller stations do not have special QSL cards but will respond with QSL letters or other unique forms of verifications.

In addition to simply sending along the QSL, many stations take the opportunity to forward promotional material from their station, such as pennants, pins, magazines, calendars and sometimes even books and records. In most cases, a current programme and frequency schedule will accompany your QSL card.

Collecting verifications for many shortwave listeners has become as important a part of the hobby as actually hearing the broadcasts. But in recent years it has become increasingly more difficult to obtain cards from some of the smaller and rarer stations. Everyone has developed their own techniques for obtaining QSLs from broadcasters.

In addition, shortwave listeners have not restricted themselves to QSLing the broadcast stations only. QSLs are also collectable from utility, AM, FM, Amateur, private and clandestine stations. All of these types of stations are much more difficult to verify than the basic shortwave broadcasters.

One of the leaders in QSLing in the shortwave community is a gentleman by the name of Gerry Dexter. In 35 years of DXing, Mr. Dexter has verified over 90% of the more than 1400 stations he has heard. He has managed to QSL all 225 countries recorded in his log. He has taken the time to put his years of QSLing together into a book entitled *The Secrets of Successful QSLing*.

In this book, Mr. Dexter takes you through a course in 'Reception Reporting 101' giving you all the basics in preparing and following up reception reports. There are many useful tips included, tips which Mr. Dexter has learned through his years of experience. There are special chapters dealing with QSLing various types and modes of stations. There are also tips on how to prepare reports in foreign languages.

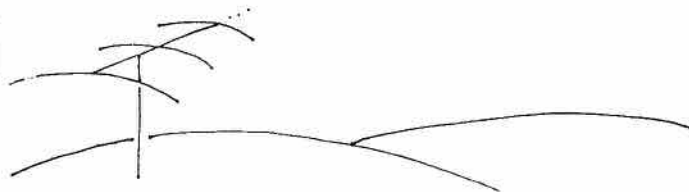
There are many photographs included of some of his memorable QSLs together with examples of various types of reception report forms. This book will be of great interest to anyone with a desire to raise their verification return rate. The 113-page book is available in Canada through me at my address indicated above. The cost for the book is \$14.50, postage included, by cheque or money order payable to me. This will be a unique addition to your radio publications library.

If any of you would like to obtain a complete listing of all the books which I stock, please forward a self-addressed, stamped envelope to my address above. By the time you read this column, the 1990 edition of the *World Radio TV Handbook* should be available. The cost for this publication, now entering its 44th year of publication, will be \$27.50 postage included. I hope to have a

Continued on next page

OVER THE HORIZON

Bob Brown NM7M,
504 Channel View Dr.,
Anacortes, WA, U.S.A. 98221



With all this talk about fusion reactions, 'hot', 'cold' or in a test tube, it should be comforting for us to know that our own fusion reactor, the sun, is up there and working just fine, thank you. True, some of its reaction products seem to have runaway moments, solar flares that give us bursts of X-rays or puffs of the solar wind, and we suffer the consequences on the HF bands. But, by and large, it serves us well, as it follows the mysterious course of its cyclical behaviour.

Of course, being an astronomical object, the sun can be described quantitatively by numbers that are 'astronomical' in size. However, for the purposes of our discussions we should deal with the huge energy output per second in a selective manner. For starters, let's focus on those aspects of the solar emissions that give us the ionosphere, photons in the ultra-violet and X-ray part of the solar spectrum. At this point in time, we have a pretty good idea of the solar spectrum, thanks to early work with high-altitude rockets. Before that, what knowledge we had was limited by the 'atmospheric window', only visible light reaching down to the earth's surface.

Even without rockets, the mere fact that the ionosphere existed at all told the physicists something about the solar spectrum. In particular, there had to be portions of it which were energetic enough to ionize the principal atoms and molecules up there. And it didn't take exotic atom smashers for them to come up with some of the basic features. I say that as the ionosphere is really a problem in atomic physics, not nuclear physics. Thus, the physicists knew the range of energies required of the solar spectrum, radiation that would ionize atoms and molecules of nitrogen and oxygen.

But you don't have to be a physicist to get a feeling for the magnitude of the

energies involved. Before the days of LEDs as indicators for panel displays, it was common knowledge that small neon bulbs, say NE-2s, took some tens of volts to strike a glow discharge and even less to maintain it.

Okay, that sort of statement doesn't give the precise measure of the voltage needed to ionize neon atoms, but it gives you a 'ballpark figure' and, when you get right down to it, an electron in the neon bulb must move through a potential difference of 21.5 volts to ionize a neon atom.

As indicated, electrons are the agents that ionize by collisions in a neon bulb. The energy they acquire from the electron field in going through a potential difference V is expressed in joules or as so many 'electron Volts', eV for short. Thus, the ionization potential for neon turns out to be 21.5 eV. Any other agent, say photons from a light source, could ionize neon if their energies were equal to or greater than 21.5 eV. But neon is just a minor player in the atmosphere; we need to know the energy required to ionize atoms and molecules of the principal constituents. A quick look in a physics handbook tells us what we need: 12.5 eV and 15.5 eV for oxygen and nitrogen molecules, then 13.6 eV and 14.5 eV for atoms of O and N.

Now you didn't start to read this article to get a short course in atomic physics. So the question is: how do we relate those numbers to the sun and the ionosphere? For that, we have to leave the realm of classical physics and go to quantum physics, treating light or electromagnetic radiation from the sun as protons, particle-like entities which carry energy directly according to their frequency or inversely to their wavelength. However, we don't have to re-invent the wheel; we can use the results developed more than 50 years ago when scientists like Einstein, Millikan and Compton were on the scene.

For that, we have a time-honoured equation for converting photon wavelength into photon energy in electron Volts:

$$E(\text{eV}) = 12,400 / (\lambda(\text{Å}))$$

where λ (Å) is the wavelength of the radiation in Angstroms or 'Å', a mere one hundred millionth (1/100,000,000) of a centimetre. A bit of high-school algebra allows us to invert that equation and find the longest wavelength that can ionize the atoms in our ionosphere. If you grab your calculator, you'll find that we're talking about photons with wavelengths of 992

Å and 800 Å or less to ionize molecules of oxygen and nitrogen as well as 912 Å and 855 Å or less for O and N atoms, respectively.

Okay, that was wasn't hard; with those values, we know the longest wavelengths of solar radiation that can create our ionosphere. But where do they fit in the larger scheme of things, say relative to radiation in the visible portion of the spectrum that reaches ground level? There experience shows that the eye is sensitive to light from the violet end of the spectrum, 4000 Å, to the red end of the spectrum, 7000 Å. On that basis, we can expect so-called ultra violet (UV) light from the sun to start ionizing the constituents of the atmosphere.

The next question is simple: was the exercise relevant to our present day approach to the ionosphere? The answer has to be a resounding 'YES!'. With the advent of satellite technology, we are now able to monitor the sun's emissions in the UV and X-ray regions. As a matter of fact, both NOAA's Solar and Geophysical Activity Report (SGAS), issued daily via teletype at 0245 UTC, and its weekly Report and Forecast give background levels of solar X-ray fluxes in the 1-8 Angstrom range. Those photons are a bit more energetic than the minimum required to ionize atmospheric constituents but certainly much closer to the energies which are relevant to ionospheric problems.

Next, we should consider how these ideas relate to our knowledge about the growth of Cycle 22. In that connection, the GOES satellite gives 24-hour averages of the X-ray flux and that data is reported each week in the *Boulder Report*. There, the data is given in a rather interesting way, using letters and numbers such as B7.2. In that type of representation, the letter indicates the power of ten for the flux, in watts/sq. metre, and the number gives the factor by which the power of ten should be multiplied. Thus, with the letter B corresponding to 1/10,000,000 or 1E-7, a flux given by B7.2 is just one of 7.2E-7 watts per sq. metre. Actually, there are other ranges of flux, the letter sequence going upward by factors of ten: A, B, C, M and X.

Given that sort of definition, where are we in Cycle 22? Well, early in the cycle, say in mid-'87, the background X-ray flux was in the low A-values and two years later, it reached the low C-values. In case you weren't paying

Continued on next page ►

► LISTENING (cont'd)

review of the new 'shortwave listener's bible', as it is often called, for next month's column.

I was pleased to receive a letter from a regular reader of this column who tells me that he has been able to not only hear each of the stations profiled in this column to date, but that he has also been able to QSL each of them. He looks forward to more challenges in the future. If you have a particular country which you would like to see profiled in this column, please let me know. Until next month. ■

HORIZON (cont'd)

attention, that's two orders of magnitude difference, about a factor of 100 increase in the 1-8 Å X-ray flux in two years! And we're not even to solar maximum yet!

Beyond that, back in mid-January of '89, when propagation was absolutely fantastic, the background flux was reported as C5.0. The same scheme is used in reporting peak X-ray fluxes during solar flares and the big flare on March 6, 1989 came in at X15, saturating the GOES X-ray detector and giving rise to an intense SID.

As you know, other measures of solar activity in current use are sunspot numbers and the 10.7 cm flux, both reported on a daily basis. For the same two-year span of time, the values of the sunspot number increased from about 35 to 200 while the solar flux values increased from about 85 to 190. The mid-January '89 period was characterized by peak sunspot number of 285 and a solar flux of 299.

No matter how you look at it, a solar cycle is an exciting phenomena, not only to follow but also to be part of it through one's efforts with Amateur Radio. But if one were satisfied just to watch the cycle come and go, then periodic glimpses at reports showing the rise and fall of the sunspot count would be sufficient.

However, for Amateur Radio purposes, where propagation conditions are vital to our operations, we need indicators as to the current status of solar activity. For some time, the only indicator available to us on a widespread, daily basis has been the 10.7 cm flux and we jump with joy when it goes up by a sizeable amount, say 25 units.

But those photons are not even close to the energy range where the real action is, at least for ionospheric purposes, and given the higher energy required, we'd be better off to follow the X-ray flux in making predictions of times of enhanced propagation. At the moment, those who subscribe to the *Weekly Report and Forecast* from NOAA-SESC can plot that data week by week and use the possibility of 27-day recurrences which occur from time to time to anticipate future HF band conditions.

However, aside from the expense involved, that information is collected over a week's time before publication and then subject to delays in the mails. Thus, since HF radio communication is a day-by-day affair, not something after the fact, as it were, we'd all be better served if the X-ray data could be included in the hourly WWV broadcasts.

Of course, the radio world, Amateur

and otherwise, would have to learn the A, B, Cs, even the Ms and the Xs. X-ray flux reports but, as you've seen above, it's not all that hard. I think it would be worth the effort and will show you how easy it is when I get to summarizing the trends in the X-ray flux levels, A through X, since solar minimum. Stay tuned!

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No doubt everyone is well satisfied with what Santa dropped off either to fix, buy batteries for or build! Speaking for myself, almost every day is like Christmas in more ways than one, even when too slippery to go for a walk. When Jack VE6BOX was here, he would often tell me how lucky I was with all the things Lois did or made arrangements for.

The World Wireless Beacon (SOWP quarterly) mail their Canadian members copies from Seattle via Air Mail and they still take six days to arrive. We shouldn't complain though because members in Great Britain have yet to receive their FIRST copy. This latest issue's front page editorial is titled, 'We Need A New World For Christmas!'. Judging from events overseas, some countries are working toward that end. We may yet be safe in our present orbit for a few years ahead.

Ted W8TP is the editor and has written a very interesting account of a trip he and his wife took through Seattle, Victoria, Kelowna, Canadian Rockies of Alberta, Banff, Columbia and Athabasca ice fields back through Kamloops to Vancouver where they embarked for Alaska aboard *MS Noordham/PICO*.

Naturally Ted visited the PJCO radio room and of course was amazed at the five associated bays of equipment and then two Satellite dishes topside. Ted was able to work his handheld (QRP?) aboard ship and talked to Ted VE7CHE. Then, enroute home, he contacted Elizabeth VE7YL and Art VE7AAT. Shortly after docking, Ted found a bus waiting for their return trip to Seattle, then by air to Columbus, OH.

"Our 20 day vacation trip was over, yet it was one of our very best," he said.

Olive VETERA, whom one hears on the 'Jack Binns' SOWP net each week, writes a column headed 'Buoys and Gulls'. Her latest story is about a young lady who signed on as a Radio Officer at age 22. Sylvia LA10GA who lives in Arendal, Norway is quite active and operates primarily 20, 15 and 10 metres (particularly the latter) from about 0600-0800 UTC, 1100-1300 UTC and during her evenings. It would be interesting to know if she is a QRP fan when someone works her!

QUEEN MARY W6RO

In this same issue there is an item announcing the demise of any further operating aboard ship. Various reasons were given having to do with a conflict with management and their illegal demands. There goes my QSL card for

having worked W6RO over two years ago.

Edward and Lee Anne Sharpe wrote about their afternoon with Barry Goldwater. They operate the Southwest Museum of Electricity and Communications in Phoenix, AZ, and have their address at 2224 West Desert Cove Road, #205, Phoenix, AZ 85029 U.S.A.

CUSHCRAFT WORLD RANGER

As promised in the January issue, SWR curves were sent to Cushcraft as were the dimensions of each element. They replied, "Your curves indicate that the tuning came out very good. If you wish to move the point of best response on any band, you may do so by adjusting the tubing lengths on the driven element. Leave the director and reflector spacing as suggested. The overall dimensions do not include the variation of plastic cap thickness and cap placement on the trap." Quite a brief reply, but certainly appreciated considering some big businesses choose not to reply at all.

PHYSIOFIELD

Be on the lookout for the latest contribution to the RFI problem especially for QRP operators. Tune-up procedure for the unit calls for the user to tune in the output on their FM receiver! Your guess is as good as mine as to where other harmonics fall before reaching the FM spectrum. The one in our neighbourhood must be too far away, or my operating frequencies are not compatible with the output of her \$700 investment. Or, under the 30-day money back guarantee, it could be long gone!

CANADIAN AIRLINES

This international in-flight magazine for November '89 carried an article, 'Why You Get The Winter Blahs!', by Nancy Johnson Smith. Apparently studies are underway to look into Seasonal Affective Disorder (SAD) both in the U.S.A. and Canada and recommendations are that it be treated with light. Literature mailed to me came from Medic-Light Canada, Toronto, Ont. who offer to ship an Ultra-Bright 10,000 lux light system for \$595 plus \$35 shipping. Recommended exposure runs from about 2 hours with a 2500 lux illumination level to 30 minutes using the 10,000 lux system. The literature very carefully avoids recommending any treatment with any unit unless supervised by a qualified therapist or psychiatrist.

In the November 6, 1989 *Edmonton*

Journal there was an article by Peter Gerner of the *Chicago Tribune* with the headline, 'Feeling Blah? your suprachiasmatic nucleus might be fast!' In 1978 Dr. Charles Czesler, 36, a physician-researcher, presented the evidence that the pacemaker (internal clock) of human beings is indeed exquisitely sensitive to light by showing that even ordinary room light is sufficient to synchronize the human circadian (from the Latin *circa* and *diem*, meaning 'about day') rhythm to a 24-hour day. The article goes on to say, "By 1986, with 16 years of research under his belt, Dr. Czesler began to believe he perhaps could become a circadian watchmaker. Maybe he could take people whose internal clocks were set to the wrong time of day and reset them."

Personally, I feel we could all treat ourselves to a better life by building QRP equipment during daylight hours, dispose of linear amplifiers, and be selective in our lighting needs while operating QRP!

GLEANNINGS

Ralph VE3BBM wrote to say thanks for the Physiofield literature and expressed his enjoyment from reading this QRP column (gossip might be more correct of late). Anyway, he thinks the Physiofield will make for some interesting talks with Health and Welfare and DOC. GL Ralph and thanks.

A 'Soft Shop Mail Order Consumer Price List' of computer software arrived during the latter part of November. Listings are for IBM, ST, Amiga, MAC, C64, and IIGS but comprise mostly games in 19 pages. Their address is 11341-93 Street, Edmonton, AB T5G 1C3 and if you write tell them you saw it here.

International Radio and Computers, Inc. sent their catalogue No. 26 at the end of November too. Some readers may recall this is the company who publishes a Newsletter for Kenwood, Icom and Yaesu equipment. They are also exclusive distributor for Fox Tango crystal filters, computers and a myriad of Amateur radio equipment except the Icom 761 and accessories. Their address is 751 South Macedo Blvd., Port St. Lucie, FL U.S.A. 34983. Tell them you saw it here first.

Nick VE7NJP mailed out another two-pager to bring us up to date on his ramblings. Currently he is working on how to put a transceiver in a baby's soother! Highlight of his QRP QSOs was

Continued on next page

QRP (cont'd)

working Rick VE8VK (VE7FOU) in Inuvik (Place of Man) with 3 watts. He is kept thoroughly occupied with the latest addition to their family, it seems. Except for putting up a small tower and a classic 33 Mosley beam. Michael KD8JB wrote asking for the filter to go with the ONER so we mailed him a photocopy. He included his regards to all at CARF.

A brochure from Elec Western Medical Devices Ltd. in Calgary arrived advertising Magnetic Field Therapy (tradename: Centurion system). They go on to say "The Magnetotherapy Home System is designed to be easily used in the home. It may respond to Arthritis, Low Back Pain, Open Ulcers, etc. and is safe to use with metal or plastic implants. The low-frequency magnetic field will penetrate every single cell being exposed to the pulsing field, etc." No mention is made as to power used or output, but I wonder why speaker magnets would not serve the same purpose?

Dennis VE7EII dropped two and a half pages of typing in the mail from Kamloops. We have had a number of QRP QSOs. He treasures the QSL and letter after a QRP QSO with Sam W6FZZ who others may recall is Samuel F.B. Morse III still active at 87 years of age. Other QRP contacts gave him a lot of satisfaction such as YC1IOI with 3 watts. His HW-8 provides him with a lot of good DX using a full wave loop on 40 metres. At age 63 he still copies marine weather from 3BM, Mauritius on 12,988 at 1630 UTC as nostalgia of his 'sparks' days aboard ship.

Louis VE6LVI wrote asking how to connect Digicom 64 to his ICOM 02AT and if the newest version 2.03 is available in Canada as he wants the AMD7911 chip to facilitate both HF and VHF packet. Tom VE7BNI responded with his usual holography but this time four pages and a hand drawn schematic of his favourite VFO. He says it was built from the November 1979 QST page 55 but we will reprint it here if enough response comes in to have it prepared by a draftsman or someone can send in a camera-ready copy. He and his son set two up between the house they were building and a trailer at Seton. Doug did exceptionally well with the code and passed with a commendation from DOC. Due to an 82% vision handicap, he was unable to do as well with theory or regulations, so does not have his licence, and that's a shame.

Don HZ1AB is also a member of Meeting 64/128 Users Through The Mail and just dropped a line to say hello. He operates on 28,460 from 1300 to 1600 UTC usually unless there is a pile-up when he stays until 10 metres folds. Whether he is into QRP or not has yet to be determined, but he did ask

about *The Canadian Amateur*. Did we scoop Paul VE3JLP with this bit of rare DX?

CIRCUIT BOARDS

Circuit Board Specialists have finally sent the missing parts for the Iambic Keyer built for Jack VE6BOX (SK). My last letter was sent as a personal letter to their president! Jack had modified the keyer before bringing it over the last time, so it's in an unserviceable state at present. The meter face reads WPM and, when installed, all that remains is to remove the modifications, tune it up again and read words per minute directly off the meter. Jack would have liked that feature!

NET AND OTHER ACTIVITY

Outside of Stan VE6SW, there were no new faces on the VE QRP Net every Sunday at 1900 UTC. Dennis VE7EII checked in again, but was not too enthused with band conditions or the Contest QRM on weekends. The U1SV/A mentioned last month should have read Anatol U1ZA/A and was among quite a group—G3IDY, 4N7EC, OK2MV, LY1BYK, XL3CRG, IOKNX, UA4NBH, P40V, 9Y4GR, UV9CAI, UA4SV, UBOYZ, DL5BCW, 4S7TP, SP5CTY—that adorned my log in that three hour stint over the course of three days with 5W. As for working the last QRP contest Dec. 10 from 2000-2400, my 2.5W on 40M at that time of day netted me a little over 5000 points. Unless someone else from VE6 enters the contest with more or fewer points, my entry will be so much excess paper. It means, of course, that another rig will have to be built for 20M and 10M I suppose in order to get a higher score.

INTERNATIONAL QRP

Think about these frequencies on a few occasions and see what materializes, whether QRP or otherwise: 1810, 3560, 7030/40, 10106, 10120, 14060, 18106, 21060, 24906, 28060—all on a 24 hour basis. Then try not to forget VE QRP net every Sunday at 1900 UTC followed at 2330 UTC by TCN the ARCI QRP on 14060 or thereabouts depending on QRM.

LATE NEWS

Just received the day after my deadline was the latest catalogue from Small Parts Center, 6818 Meese Drive, Lansing, MI U.S.A. 48911. Chris and Debbie have sure been burning the midnight oil to have come up with so many new kits. Their catalogue has expanded to 24 pages and is still available for one green stamp, U.S.-type. A list of kits without their full-blown description is listed here just to whet your appetite: Two-fer II Transmitter Kit; Micro-30 CW Superhet RCVR kit; Three Band Receiver Converter Kit; High Performance Shortwave Converter Kit; CW/SSB

Active Filter Kit; T/R Switch-Sidetone Kit; El Cheepo Keyer Kit; Diode Detector RF Wattmeter Kit; Neophyte III Receiver Kit; W7EL 40 or 30 metre QRP Transceiver Kit; Crystal Calibrator Kit; Solo-16 Acoustic CQ Speaker Kit.

When you write for your own personal catalogue, which carries a great number of small parts useful to the homebrewer and experimenter, tell him you saw it here. Everybody I've talked to that put a kit together just raves about its simplicity, complete instructions, and having received all the parts in one shipment. He is now starting on a varactor diode tuned utility VFO for 80, 40, 30 and 20 metres. The prototype is finished and working well, so he is going to try to add a diode doubler and tripler. This should then permit him to offer a version for 17, 15, 12 and 10 metres all in a single band version to eliminate the necessity to buy crystals. The output will be adjustable in the 10 dBm range and sufficient to drive a transmitter or the SBL-1 Mixer. His letter closes with his plan to offer quite a few mini-kits (or modules) that can be used as building blocks for a transmitter, receiver or transceiver. He has discontinued the Two-fer Receiver. ■

CONSULTATIVE COMMITTEE ON TV5

Communications Minister Marcel Masse and Quebec's Communications Minister Liza Frulla-Hébert have announced the formation of a consultative committee on the TV5 television network. The committee will make recommendations to the ministers by March 30, 1990 on the programming offered by TV5 Quebec-Canada and the participation of Canadian, Quebec and foreign partners in this francophone television network.

"Consolidation of this international francophone network strikes me as being vital in many ways," said Mr. Masse. "TV5 is an alternative service for many Canadians and it must offer a selection of quality cultural and information programming in French that would otherwise not be available. This international chain also allows us to make our audiovisual products known abroad, as is now the case in 24 countries.

"Now that the future of TV5 Europe is assured, it is time we did an in-depth study of our participation in TV5 Quebec-Canada. This committee's recommendations will contribute to the efficient development of TV5, the only francophone television network that knows no borders. It is an essential tool for promoting our language and our television expertise."

W7EL Transceiver for QRP

By Moe Lynn VE6BLY

With this story you will find a photo of the completed W7EL 40 metre transceiver for QRP. It was built by Al VE6AXW who is no newcomer to Amateur Radio operating, building or design. He tried to take an interior top view, which may not reproduce very well, but he advises it is a very compact little rig, (11.5 cm W x 11 cm D x 6.5 cm H).

The design has changed over the years since first appearing in *QST* in August, 1980. A follow-up article also written by Roy W7EL included a 30 metre version published in *QRP Quarterly* (QQ) in their July 1987 issue. Readers may recall this is the quarterly newsletter for Amateur Radio Club International (ARCI) who run a number of QRP contests as well.

Chris KM8X has modified it further for the use of a Mini-circuits SBL-1 double balanced mixer. The receiver will now outperform the original design without the hassle of properly phasing 12 wires and matching four diodes. The audio amplifier section provides over 100 dB of gain, which is plenty to drive headphones or a small speaker. It is recommended that anyone contemplating building this kit should read both articles. Although all updates are included in the current kit from Small Parts Center, 6818 Meese Drive, Lansing, MI U.S.A. 48911, you may want to read the articles before buying. Chris has an information package which includes the schematic, parts and price breakdown for each section and a more detailed circuit description. Send \$1.50 to cover printing and postage costs for the info package.

The completed kit shown in Fig. 1 is what you get without the lettering and is compact enough to carry while camping or hiking. Don't forget to specify 40 or 30 metre version when ordering. Complete or partial kits are available, so it might be a good idea to use the information package as your first guideline. Individual craftsmanship has a whole lot to do with the final appearance of your efforts.

THINKING AHEAD

Double sided PCB is used throughout, such that the copper on the

Continued on next page ►

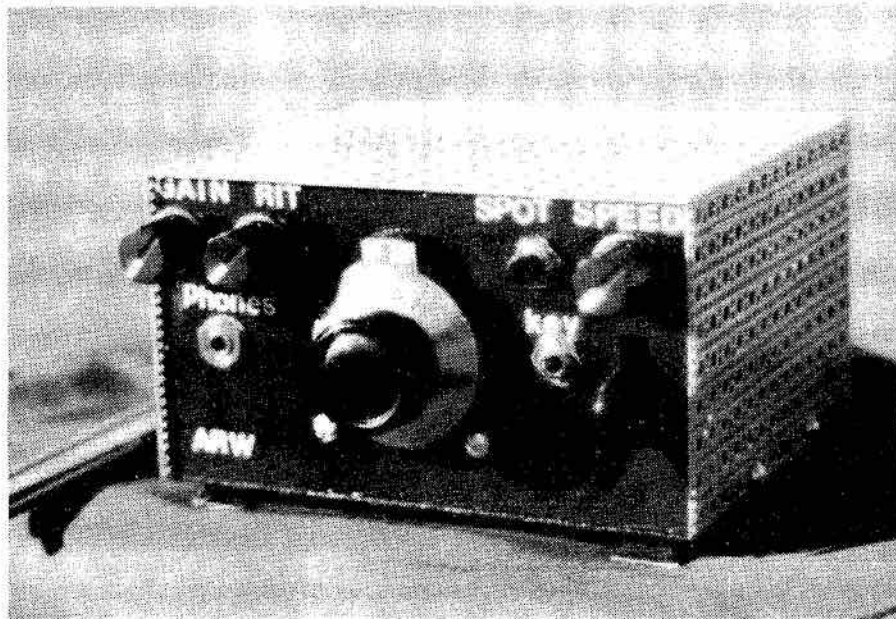


Fig. 1: Front view of homebuilt kit from Small Parts Center. See QRP column for more on W7EL kits.

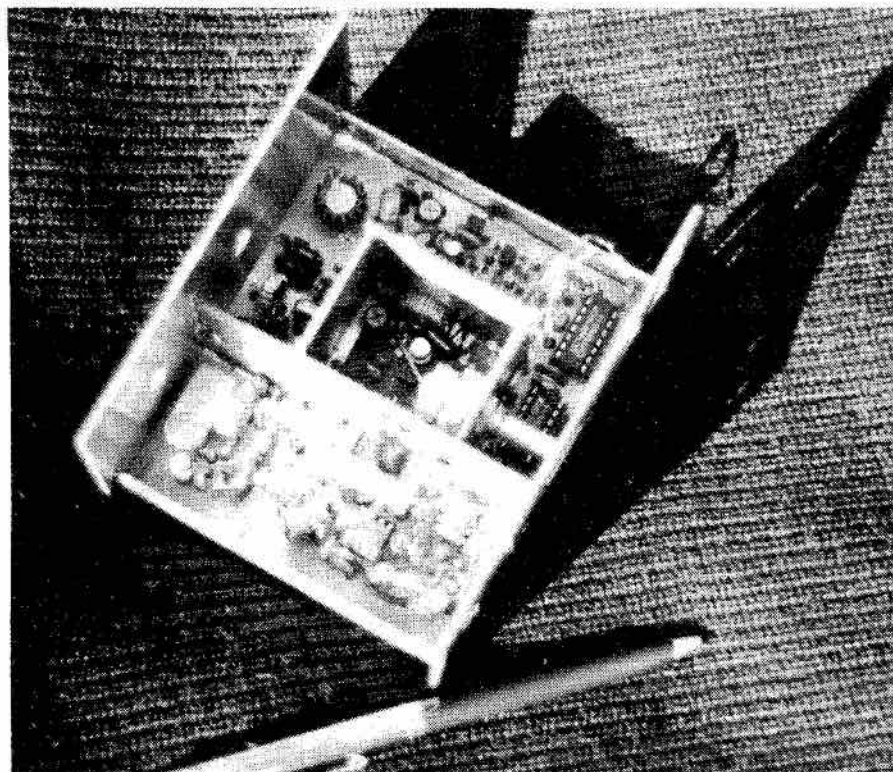


Fig. 2: Top inside view of W7EL kit designed for the experienced homebuilder.

REVIEWS

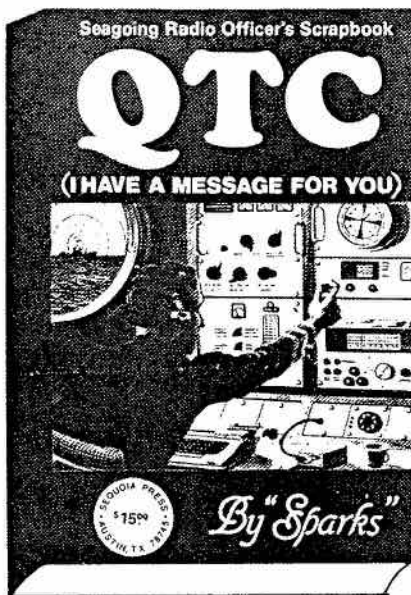
QTC

By Sparks. Hardcover, ISBN 0-0945845-10-6 \$15 U.S., Paperback, ISBN 0-0945845-01-4, \$8.95 U.S. Available from Segura Press TX, 2502 Cockburn Drive, Austin, Texas, U.S.A. 78745.

Radio has always fascinated me. As a young man in the years 1938/39 I was living in lodgings near Bristol England and on weekends a friend and I often walked down to Avonmouth docks to chat with the radio operators on the merchant ships waiting for the tide to take them up the Avon River to Bristol. This is the life for me I thought, a ship's radio operator with that natty uniform which should attract the girls in every port on the seven seas. But, alas, it was not to be.

Now along comes *QTC*, a real seagoing radio officer's scrapbook, an interesting tale of sea and radio, which shows what my life might have been. The book begins with the early days of wireless, a history of the inventors, a subject which should interest all Radio Amateurs. There are many photographs of early wireless equipment, both on land and in ship's wireless rooms.

We follow Sparks on his first ship where his nervousness on watch must match that of many Radio Amateurs making their first QSO. Things worked out okay for Sparks; his smart uniform, or maybe his charm, soon had him



finding girlfriends. His love for Nelly, a Dutch nurse, and Sumiko in Japan had him frustrated as his ship kept going in the opposite direction. The story of his life aboard ship, girlfriends and radio operating at sea makes for pleasant entertaining reading.

A chapter on disaster at sea makes one wonder if the phasing out of ship's radio operators due for the 1990s will be a grievous mistake. To rely completely on signals from automatic electronic equipment under adverse conditions is not the same as the presence of a skilled radio operator. The many operators who lost their lives saving their shipmates shows their dedication to duty.

An entertaining, informative book about a way of life which unfortunately is coming to an end. It will be enjoyed by all those who are interested in the Romance of radio. The 376 pages include many photographs, line drawings, charts and wx maps.

— B.H. Burdsall VE3NB

A SELECTION OF REVIEWS OF THE 'FIVE-PACK' BOOKS

Available through AD Astra Books, Box 2087, Dorval, Quebec H9S 3K7.

North Atlantic Cat

"An airman's account from the cockpit of a service which delivered 10,000-odd aircraft to the war zones. In addition, McVicar played a key role in laying out the flight paths to Goose Bay, Greenland, Iceland and Britain over the secret 'Crimson Route.'" — John Ross, Montreal Gazette, Quebec.

"Every now and then a pilot comes along who knows how to tell a story. The flying scenes are absolutely first class.

Highly recommended." — Jeff Ethell, Warbirds (EAA) U.S.A.

A Change of Wings

"This autobiographical story contains the real essence of piloting, with a wealth of flying experience from wartime ferry work to bush flying." — Air Pictorial, U.K.

"Fascinating glimpses into the idiosyncrasies of piloting various aircraft from huge Liberators on 'circuits and bumps' to the trials of the Mosquito." — R.H. Aerospace Historian U.S.A.

Mosquito Racer

"Don McVicar's books transport the reader back to a time when life seemed a great deal less complicated than today. He tells of how he entered a deHavilland Mosquito in the Bendix speed race. His daring girlfriend Loretta found the ideal solution to the long separations a career in aviation could inflict upon couples—she became his co-pilot." — Ronald Sutherland, Globe & Mail, Toronto, Ont.

"Most Warbird buffs will be interested in the story of McVicar's entry of a deHavilland Mosquito into the Bendix as very little has been written by the pilots who raced in the post-war period. Highly recommended." — Air Classics U.S.A.

More Than a Pilot

"The adventures and enlightened opinions of a peripatetic Canadian pilot who writes history— and also makes it." — George Haddaway, General Aviation News, Texas.

"From his lore of flight history, his experience as a pilot, and a lifelong enthusiasm for Amateur Radio, McVicar has distilled a pleasant brew." — David Reid, Quill & Quire, Toronto.

I Kept No Diary

By Air Commodore F.R. 'Rod' Banks: "The author was the leading engine and fuel expert behind the Schneider trophy and the land speed records of Seagrave and John Cobb. In the second World War he was appointed Director-General of engine production under Lord Beaverbrook. In the years after the war he was a director of three aircraft companies, his final position being Chief Executive of Hawker Siddeley at Hatfield, England." — Airlife Publishing, Shrewsbury, U.K.

— Don McVicar VE2WW

VE3PHL'S DICTIONARY

Barkhausen Effect: A succession of abrupt changes which occur when the magnetizing force acting on a piece of magnetic material is varied.

— via Hi-Q

TRANSCEIVER (cont'd)

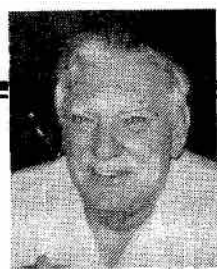
component side acts as a groundplane to reduce many if not all of the ill effects associated with many direct conversion receivers. The VFO, a Hartley oscillator, is very stable through the use of NPO monolithic capacitors providing the tuning ranges of 7-7.15 kHz or 10-10.150 kHz. The completed kit includes all board and non-board parts and components, air variable capacitor, vernier drive, wire, etched-drilled-plated printed circuit board, 18 pages of instructions, and case. You supply the Q-Dope, soldering iron (25W), solder and good construction practice.

TRANSMITTER OUTPUT

A double-sided, plated printed circuit board (9 cm x 10.2 cm) is used. The transmitter will provide between 1.5 to 2W (or more) of RF output using a 12 VDC supply. For those of you that like to operate in the milliwatts, an RF drive control is included. The keyer paddle is constructed from 2-sided PCB material and solders to the back panel, or an external key/keyer can be used.

When you write Chris, tell him you saw it here!

LOOKING AROUND



Art Blick VE3AHU, P.O. Box 356, Kingston, Ontario K7L 4W2

A couple of enquiries have been received with reference to the CPO described in the September '89 article:

1. The CPO can be keyed in the negative 9V line. As described, if the CPO is mounted in a metal cabinet, the key jack must be insulated; keying in the negative line does not require insulation.

2. A 4-ohm speaker can be used, but the series capacitor in the speaker line should be increased to, say, 100 uF, for maximum volume.

Additional uses for solid-state diodes:

A. A power diode can be used to protect equipment, using an external power supply, if the input voltage is reversed. Fig. 1 shows a single diode protective circuit that prohibits current flow if the inputs are reversed; Fig. 2 shows a bridge protective circuit that will enable equipment to be powered, correctly, no matter how input voltage is supplied. Note that there will be a 0.7V drop through the single diode and a 1.4V drop through the bridge circuit, i.e. a 13.6V supply will be reduced to 12.9V or 12.2V and this reduction can usually be overcome by adjusting the power supply output control if full voltage is desired. The circuit used can be added to the power supply output or to the equipment input. Diodes used must have a current rating equal to, or preferably greater than, the maximum current supplied and a PRV rating higher than the power source.

B. Input solid-state circuitry of a receiver can be damaged by the antenna system picking up relatively high voltages from such occurrences as snow static, nearby electrical storms or disturbances, etc.

Fig. 3 shows how a pair of signal diodes can be used to bypass, to ground, all voltages greater than 0.3V, if germanium diodes are used, or 0.7V for silicon diodes. If this circuit is added to the receiver section of a transceiver, it must be added at the receiver input after the T-R switch.

C. A DC ammeter can be converted for use as an AC voltmeter by using a bridge circuit, see Fig. 4, consisting of four matched silicon signal diodes (say 1N914s). The resistor 'R' is adjusted to give the required full-scale deflection reading. Diodes can be readily matched using a normal VOM by noting the forward and reverse resistance readings for each diode and selecting the four diodes that have approximately the same readings.

D. We were playing around with circuitry that required a single dry cell for power (1.4V). It was inconvenient to

use a battery, so we hay-wired the circuit shown in Fig. 5, and powered it from the bench 5V supply. By adding

two more silicon diodes, the circuit will produce 2.8V, the equivalent of two dry cells. ■

Fig. 1:
Diode Protective Circuit

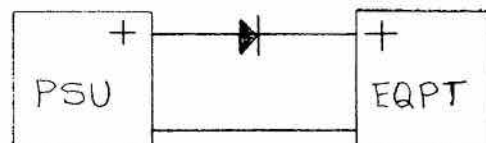


Fig. 2: Bridge Protective Circuit

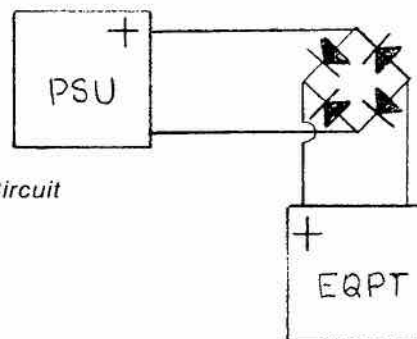


Fig. 3:
Receiver Input
Protective
Circuit

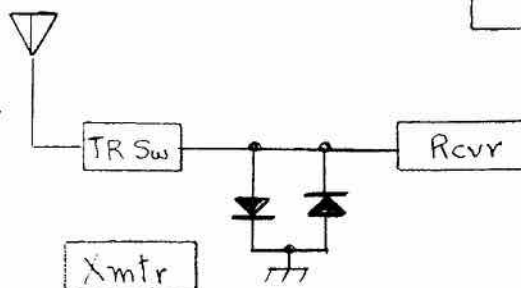


Fig. 4: AC Voltmeter

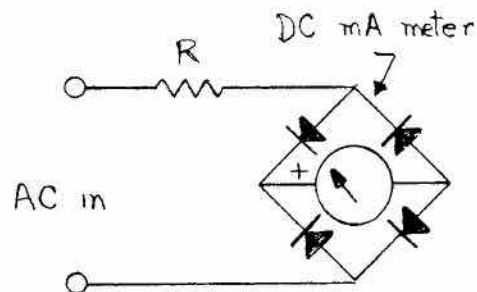
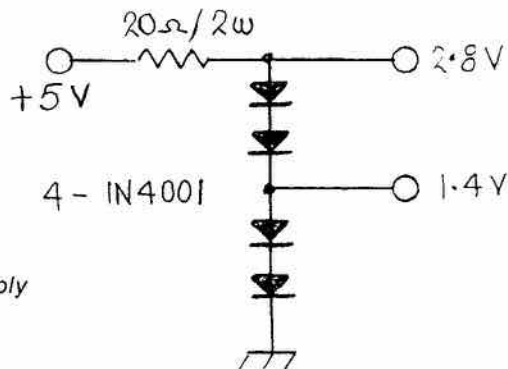
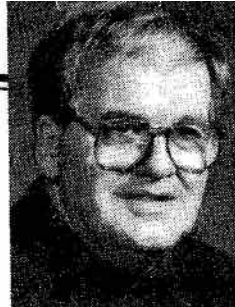


Fig. 5: 2.8V and 1.4V supply





Multiband Windom Antenna & Off-centre Fed Multiband Antenna

According to Dave Benson NN1G in the October issue of the *QRP Quarterly*, the Windom antenna was named after General Windom. He was a law student who helped two electrical engineering students erect the first Windom aerial in the 1920s. He didn't really claim to have invented the antenna, he just had permission from the boys to send the article to *QST* and the name stuck. The original Windom antenna invented in the 1920's, and the one I used in the 50s, used a single wire feedline. If you're a QRP enthusiast, this type of antenna is for you.

The antenna is a simple one, not to difficult to build or erect. It is a true 'KISS' antenna (Keep it Simple, Stupid). It will fit in your pocket (minus the tuner of course). I seem to remember that this was a temporary antenna, one used when you were on a vacation. It was used with #19 sets in the last war, according to Ray VE3WI. However, due to RF-sensitive home entertainment systems being 'a pain in the you-know-what', I have hesitated recommending this antenna because of its radiating feedline.

According to the *ARRL Antenna Handbook* (and from what I remember), you have to be very careful as the feeder wire radiates. This is because it does not

have a nearby conductor to cancel the fields. Using twin lead is also tricky because of the asymmetrical feeder connection. Probably in many cases the parallel lines act more like a single wire feedline. This situation could lead to RF in the shack and some RFI problems. Adding or subtracting 1/8 wavelength (on the worst problem band) will usually help.

The antenna will operate satisfactorily on even-harmonic frequencies. For example, if the system is cut for 80 metres, it would work well on the 10, 20 and 40 metre bands. It can be cut for 40 metres, and so on, if space is a factor. Other bands will be able to be tuned with a quality tuner and operate as a sort of a top-loaded long wire.

The positive side is that the antenna works like gangbusters, that is, if you can get it to work without any RFI problems. It is worth a try, and there is certainly not much work involved.

It is really important to have as good a ground as possible, as the return circuit for the feed system is through the earth. Also the system works best when installed over a surface having high ground conductivity. Ideally, if you could bury another windom wire in the earth directly below the one in the air you would really have a efficient

system. The single wire shows an impedance of about 600 ohms with reference to this earth circuit.

A more recent version of the off-centre fed (*miscalled* Windom) uses 300 or 450 ohm parallel lines instead of the single-wire feedline. The flat top is disconnected with an insulator about 1/3 of the way out from one end. Whatever feed system used, you will have to use a matching network to effect RF energy transfer to the feedline and antenna system with the new fixed 50 ohm output modern day transceivers.

When I used the antenna in the early 50's I just stuck the end of the single wire into the coax connector of my Elmac AF67, PI output 90 watt transmitter. I do not remember using a tuner, I think the output network of the old transmitter was able to match the even harmonic bands quite nicely.

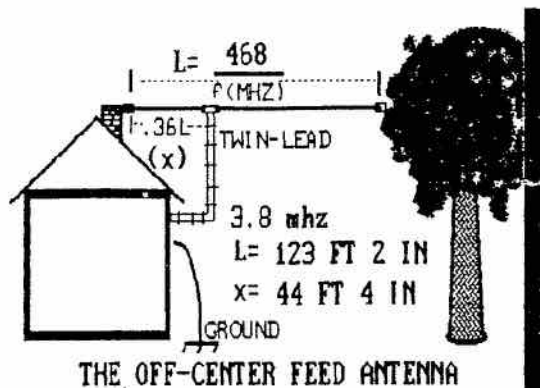
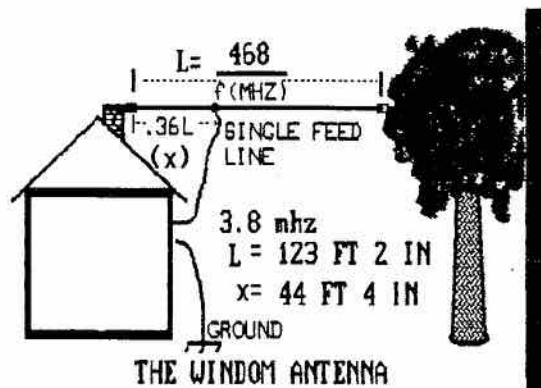
Off the subject a bit...

I wonder if any of the 'old-timers' remember the Elmac AF67 transmitter. As a trivia question: what were the two tubes used in the AM modulator? Send your answer(s) to the editor describing the neat tubes, maybe someone will remember them... Hi! Remember, the tubes were common tubes in a re-designed envelope to conserve space. ■

MULTIBAND WINDOM ANTENNA

+

OFF CENTER FED MULTIBAND ANTENNA



TECHNICAL SECTION

Bill Richardson VY1CW, Box 68, Grimshaw, Alberta T0H 1W0

Two Metre Beam from the West

By Terry Atkinson VESABF

The following article describes my 2-metre antenna which, at times, has been called a "Plumber's delight" by some and an eyesore by others. It is a good performer, low in cost and may even impress some of your local Ham buddies with your skill as a builder. This aspect requires that you get it on the tower before anyone discovers how little there really is to this project. Thanks to the climbing skills of B.J. VE5FX, my antenna is resting comfortably at the 13 metre (42') level on my tower. The proximity of the apex of my 80-metre dipole and the old J-Pole on top of the tower do not appear to affect performance.

MATERIAL

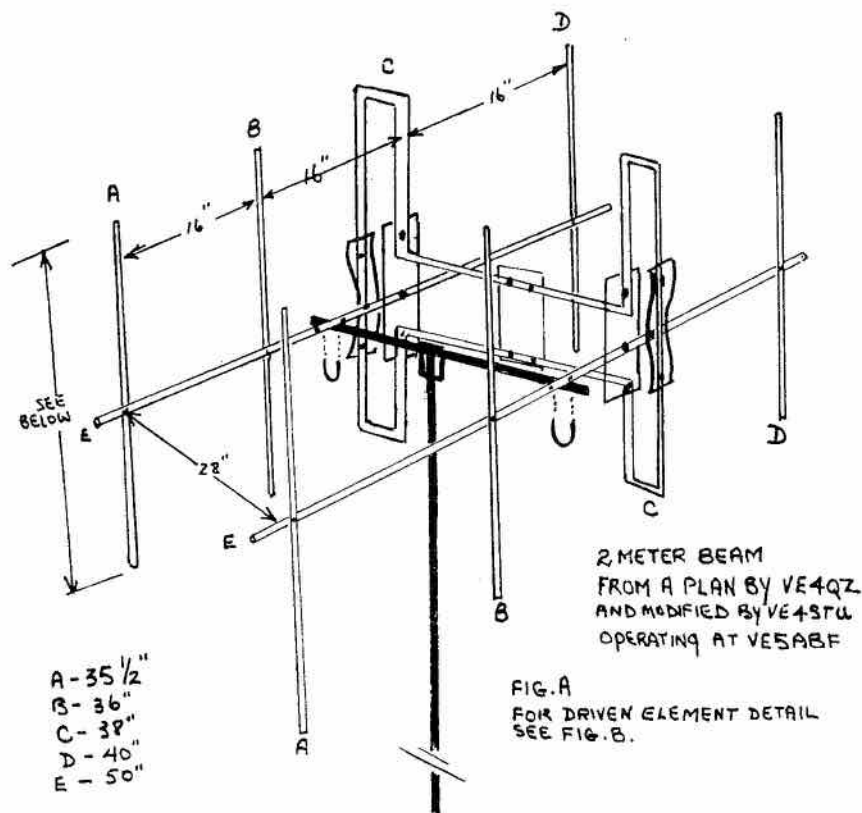
- Several old TV antennas with elements of sufficient length (save the old mounting brackets for re-use);
- An old TV boom 3 metres (9') long to cut in half for the two new 1.5 metre (4'2") booms;
- 76 cm (30") of old TV boom for the crossbar;
- Some 3 mm (1/8") plexiglas for insulation straps and connector plates;
- assorted small nuts, bolts and lock washers;
- 74 cm. (29") of COAX for the balun—use the same type as the feedline (RG8U);
- all bolted parts were sealed with a glue gun to prevent vibration from loosening the connections.

CONSTRUCTION

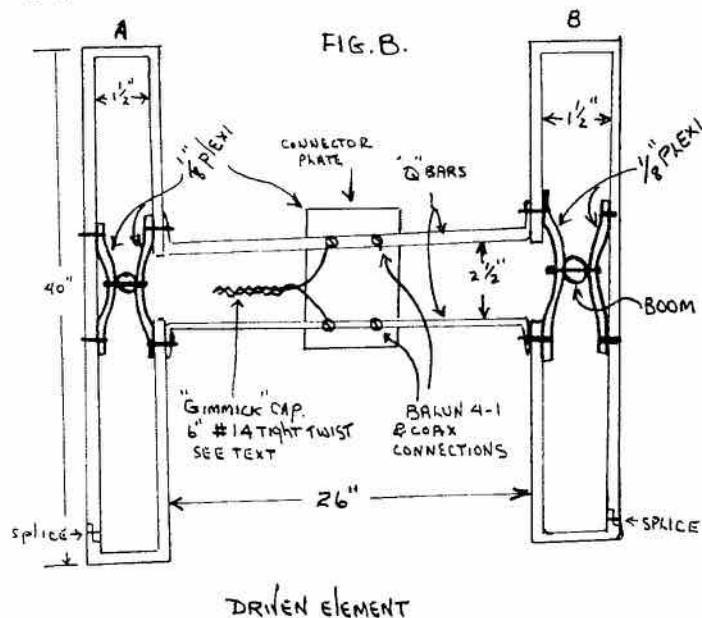
- Cut two 127 cm. (50") lengths for the booms.
- cut old TV elements to required lengths as per diagram— flatten ends to seal.
- starting with 'A', 25 mm. (1") from the boom end, drill at centre and mount by drilling through the boom and bolting using old TV element mounts. You can bolt directly to the boom, but elements tend to bend away from right angles.
- mount element 'B', spaced 41 cm (16") from the outside of the surface of element 'A'.
- mount driven element 'C', which is constructed as follows:

Refer to Fig. B:

Sides A & B utilize the longest available elements but will have to be spliced as shown. All joints and splices are made by flattening the element ends



A, B, C, D, FROM OLD TV ANT. ELEMENTS
E FROM OLD TV ANT.



Continued on next page

and bolting with small bolts through holes drilled in the flattened sections. Silicone or glue the joints to prevent loosening from vibration. Lengths and spacing must be exact.

The two cross (Q) bars are made and joined in the same manner. The connector plate is 3 mm (1/8") plexiglas of random size; 10 x 10 cm. (4" x 4") is adequate. The plexiglas standoffs insulate the driven element from the booms and are 3 mm (1/8") and 2.5 x 20 cm. long (1" x 8"). I used a heat gun to form the shape as shown. Small bolts fasten the plexiglas to the elements and 3 mm (1/8") bolts through pre-drilled holes in the plexiglas and boom hold the element rigidly. Mount the driven element as per Fig. A.

Mount element D, again ensuring the spacing is 41 cm (16") face to face between elements.

Attach the crossbar across the two beams using small U-Bolts. ensure that the beam separation measurement is 71 cm. (16") This should align the two beams in parallel if the plexiglas standoffs have been formed so that the beam passes through the centre of each side of the driven element.

FIG. C



Attach the balun, Fig. C, to the connections indicated on Fig. B. Fasten a 15 cm. (6") length of #14 insulated wire to each point on the connector plate as shown in Fig. B, and twist tightly.

TUNING

Attach the antenna to a pole and lay over wooden supports or over the edge of the deck of your house. Ensure that no metal objects are near. Connect the feedline to your rig and the antenna terminals as shown on Fig. B. Point the antenna vertically so the reflector elements are nearest to and parallel with the ground. If VSWR is high, prune the twisted pair a bit, checking VSWR after each cut. I found that, in the end, I did not need this and disconnected the twisted 'Gimmick Capacitor'. VSWR is

at a reasonable 1.3:1 at 5 watts and at 2:1 at 45 watts, both in the tune-up position and mounted on my tower.

The origin of this design is not known. Those who have tried construction with various materials, such as 3 mm aluminum rod or #6 aluminum wire for elements are VE4OD, VE4QZ and VE4STU. In addition, 12 m (40') of 300 ohm coax to a 4:1 balun has also been used, but I found that I could not bring the VSWR down with this type of feed.

The antenna is supposed to resonate with 1:1 VSWR at 146.52 MHz and is also supposed to have 13 dB gain, when constructed with five elements. For five element construction, an 87.5 cm (34.5") element, 41 cm (16") from A is used and A is 89 cm (35") long.

By using scrap material and old TV antenna parts, this project can be completed for a few dollars and gives the novice builder valuable experience.

Tribute to Jack VE6BOX

By Moe Lynn VE6BLY

Edmonton Amateurs in general and the Northern Alberta Radio Club in particular recently lost an ardent Amateur. Jack VE6BOX became a Silent Key on Oct. 28, 1989.

John F. (Jack) Chislett chose VE6BOX as his callsign in 1981. He served his time on the air using both landline and radio Morse Code with just enough of a mixture to keep one on his toes. He went back for his Advanced Amateur licence and wrote a 100% theory exam besides 100% in Morse code. No one ever did say which code he used with the examiner, but we know he did equally as well with regulations.

Jack was born in Cape Breton, Nova Scotia in March 1900. After partly finishing school, he joined his older brother George with Western Union, about 1916. He transferred to Toronto with Canadian National Telegraphs in 1922 as an equipment technician and shortly afterwards moved to Edmonton.

One of the stories Jack told which interested me especially, was his trips by street car with the working apparatus (basket) for replacing a reportedly broken down unit at Northwest Territories and Yukon Radio System station VED. For years he carried out that duty, rain or shine, snow or sleet, to keep the equipment serviceable even though the street car stopped at the CN main line railway tracks and Jack had to walk the remaining six blocks carrying his basket. Messages were passed from the north by radio to Edmonton for points east of Winnipeg and McMurray where the operators used landline Morse to send messages west of Winnipeg to Northern Alberta Telegraphs in Waterways.

Jack retired from CNT around 1956, returning to Edmonton from Vancouver after some 40 years as a telegrapher and technician.

He never mentioned his age unless some young whippersnapper pushing 65 said something about being or feeling old. Jack might then say, "Awakening each day meant more to him than figures on a calendar."

Jack was an enthusiastic supporter of anything to do with Amateur radio and even if he could not climb towers he would be on hand with friendly advice or a 2 metre rig.

Jack was a member of the Whispering Hills Amateur Radio Club, a group with senior citizen status who installed a repeater north of Edmonton for use in their summer lakeside sojourns. He also extended energy toward support of another repeater club, VE6QCR, which has long range capability and is comprised of members with a minimum quarter century radio or communications activity.

Everyone who knew Jack in the box will sadly miss his cheerfulness on or off the radio. He never had a bad word to say about anyone although jokingly would say, "My B'y, there'll no be room for protestants when yer toime cooms." The unmistakable Cape Breton accent showed itself at times when he used to recall standing by his mother's knee. Very seldom would you ever notice him telling the same story twice, it would just be more colourful!

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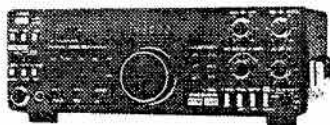
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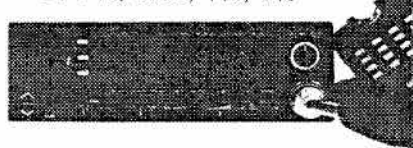
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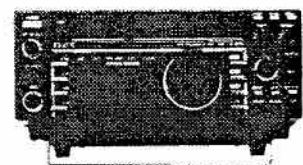
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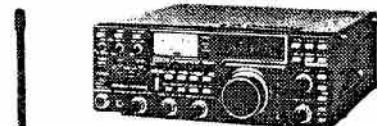
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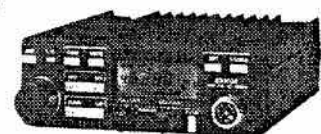
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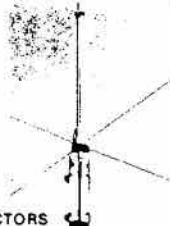
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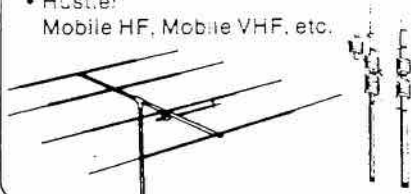
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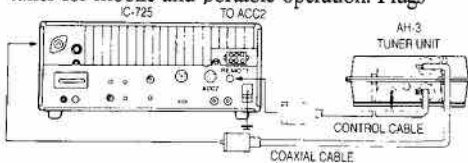
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