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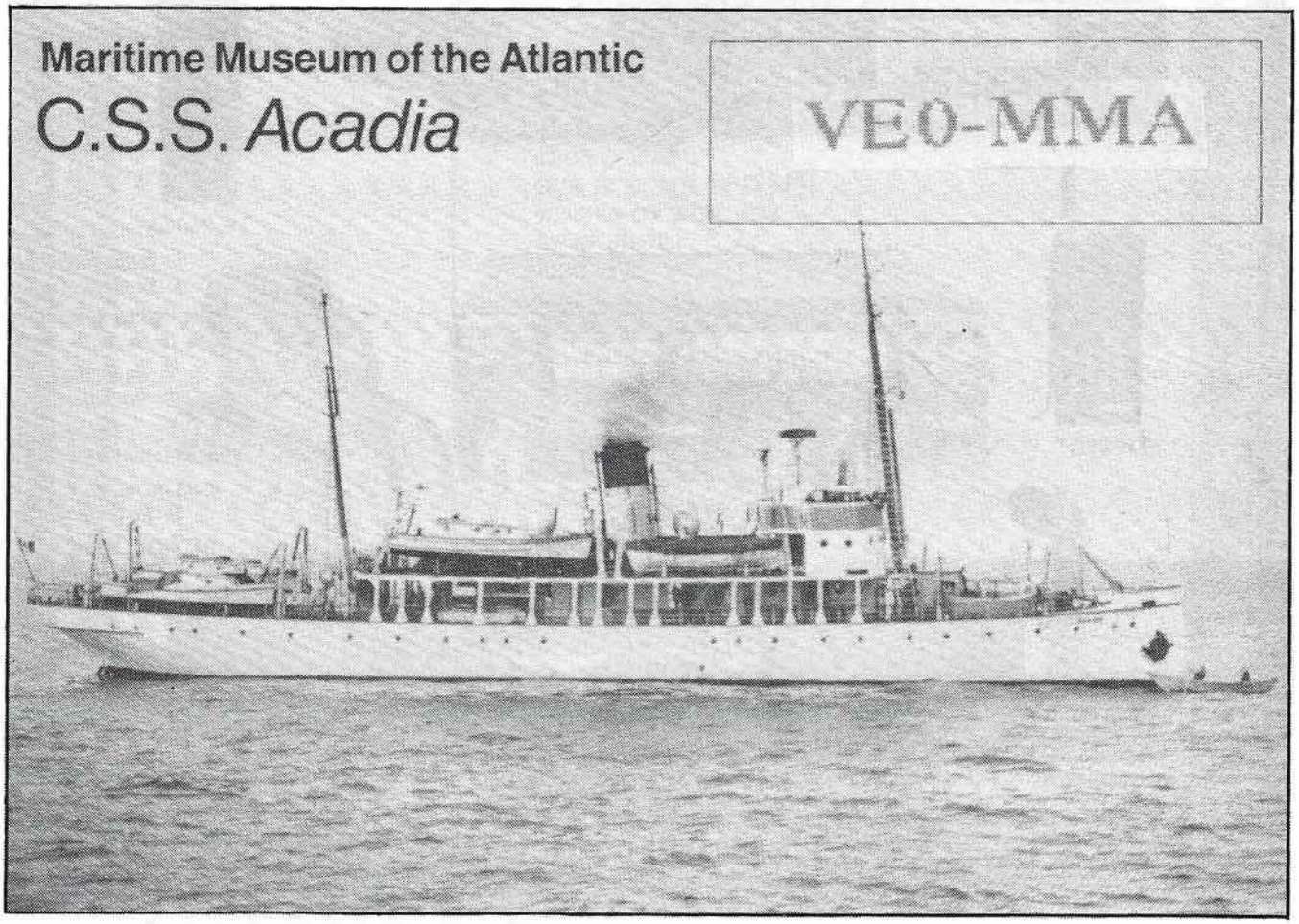
Canada's Amateur Radio Magazine

La Revue des Radio Amateurs Canadiens

OCTOBER 1989



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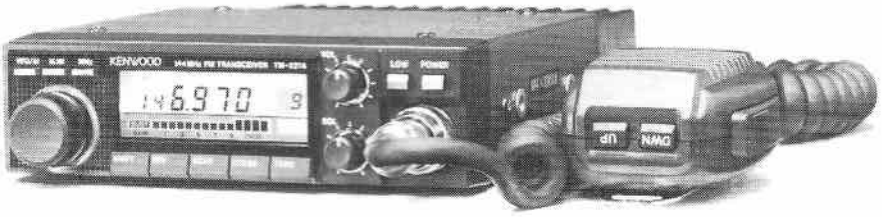

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Canada's Amateur Radio Magazine

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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Electromagnetic Interference— Ralph Cameron VE3BBM
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Ivor Nixon VE3IHN, 17 Romney Rd., Islington, Ont. M9A 4E9
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EDITORIAL

Anonymous Letters

By John Iliffe VE3CES

We get a lot of letters here at CARF. Some are bouquets. For these we give our sincere thanks.

Some are requests for assistance. Where we have a source we try to help. Please remember that CARF is a volunteer organization, a group of Amateurs helping Amateurs, and we may not be in a position to do anything. On the whole, it is a continuing surprise to me that so many people will use their special skills for the benefit of others and we can usually find someone with whom to put you in contact.

Some letters are complaints. Something CARF or one of our officials has done has annoyed someone. Fortunately, such letters are in the minority but we, as humans and not dispassionate observers, are bound to make the occasional faux pas. In these cases we try to explain our rationale and the support for our position. We may not agree with you or you with us, but we hope to at least establish mutual respect for each other's position.

Some letters are comments. These are the most valuable; they help to establish the positions CARF must take in our various projects.

We welcome all of these letters and we make an attempt to ensure that each letter we receive is answered. (Although sometimes rather slowly, I'm afraid!) They are the voice of our constituents and no one survives in business or politics without satisfying their customers.

There is a kind of letter, however, that is guaranteed to get my goat every time. This is the unsigned abusive, usually uninformed letter. I suppose that as the head of any organization, one should expect to get a few of these and usually they go in the trash. It is hard to accept that the writer believes in what he is saying if he is too cowardly to sign his work.

There is, in a number of these letters lately, an underlying theme, and while I have no idea of its source, I think it is time to lay the ghost to rest. The actual letter I have before me came from Scarborough, others have come from other sources.

"It is time you gave the membership an accounting... of your stewardship of their money." Every member is entitled to a copy of the annual financial statement on request. Write to the office and we will send you one.

After a period of small losses, CARF made a small operating profit in two of the last three years. In 1988 we show a small loss, offset by the substantial increases in reserves for longterm liabilities and a new modern multi-user computer system in the office.

CARF, incidentally, does not derive all of its income from the membership dues, a substantial portion comes from various commercial ventures and is used to offset the shortfall in dues income as compared to costs. We have never been in a position where we could not fulfill our obligations to our members fully.

"The enclosed piece about the provincial QSL bureau is a total fabrication. ALL these bureaus were set up, organized and supported by ARRL/CRRL before you were born... Why do you need to lie?" The piece enclosed with the letter is about the CARF OUTGOING Bureau. This was set up more years than I like to think about after I was born, and is fully funded by CARF, with generous volunteer help. On the same sheet of paper is a list of the incoming bureaux (note spelling) across Canada and is given, as clearly stated on the flyer, as an assistance for anyone who doesn't know how to use the incoming bureau system. We find that we are asked a lot of questions at CARF about the bureaux, both incoming and outgoing, and this was designed to answer the questions. For the record, most of the costs of the bureaux are borne by their users who supply envelopes and postage and by the volunteers who sort the cards themselves.

"The recent CARF mailing piece signed and presumably authorized by you is full of deliberate falsehoods. e.g. ARES etc." Since you didn't receive a copy if you are a member of CARF, I will quote from the mailer, 18,000 of which were sent to non-members across the country.

"Through the Amateur Radio Emergency Service (ARES), and the International Amateur Radio Network, CARF supports and actively participates in emergency services world-wide. Articles supplied by the ARES coordinator are published in their entirety in *The Canadian Amateur*, the only national publication where complete and unedited versions of this vital information are available."

As any reader of *TCA* will know, CARF has carried the ARES column since its inception, in full and unedited. This column is supplied to *TCA* by Bob Boyd VE3SV, and is also supplied in full to *QST-Canada* since their inception last year. Bob is an ARES coordinator for the Kingston, Ontario area. We carry the IARN column too, when available, and *TCA* has been responsible for all of the Canadian coverage of this vital organization.

"Perhaps the best thing is to pack up your tent and go home. We will be pleased to speed you on your way. We are just getting started." This confuses me. CARF is Canadian founded, Canadian run, and has developed all of its products and services in Canada. Where is our home supposed to be?

Keeping in mind Mark Twain's dictum that the only people who should refer to themselves as 'we' are kings, siamese twins and people with fleas, I have to conclude that maybe the itch is getting too much for our detractor. ■

LETTERS

1939: HAMS READY TO SERVE

I was browsing through an old newspaper for September 2, 1939 *(Toronto Star)* which claimed in headlines that Canada had just declared war on Germany.

Enclosed is a clipping from that date, which might be of some interest to your readers. The radio operators during the Second World War must have played a very significant role.

P.S. Do you have a Fax machine in your office? if so what is your number. How does the magazine communicate to the Amateur Radio Operators— by mail?

Earl W. McIlroy VE4VX

At present we do not have a FAX machine but we're working on it. We at the magazine are accessible via mail or via Packet Radio. Send questions etc., to VE3VCA or VE3IWJ.

500 RADIO OPERATORS ARE READY TO SERVE

Wire Department of Transport Offering Aid

The Canadian Amateur Radio Operators' association wired to W. A. Rush, director of radio, department of transport, Ottawa, placing the entire membership of 500 and the organization of the V.E. operators' association at the disposal of the government.

The executive committee wired Ottawa: "Our association is exclusively Canadian with membership from coast to coast.

"May we direct your attention to the fact that our association has been working co-operatively with the Canadian Amateur Radio Co-operation corps in connection with 'A' Corps Signals, Toronto, in the organization of that body. The effect of this activity is a co-ordination of preparedness and organization between the two bodies culminating in a unit which may prove of inestimable value in an emergency."

The message was signed by F. H. B. Saxon, president; T. G. E. Powell, vice-president; S. B. Trainer, secretary; R. Macdonald, H. Tattersall, J. L. Walker, T. S. Carpenter.

Sept. 2-1939

LETTERS

Send letters to the Editor to: Editor, *The Canadian Amateur,* Box 356, Kingston, Ont. K7L 4W2.

MORE ON F6FNU

In April you published a warning from a group of Italian Hams about the DX manager F6FNU. This came just as I was clearing up a two-year backlog of direct QSLs. I had three cards for this manager and set them aside waiting for further information. I then worked Rodrigues Island on the long path with five watts output and was told to QSL to F6FNU. I want that card, so I asked Ed W2MIG if he knew about the situation.

Ed explained the problems faced by a busy QSL manager in getting DX logs and keeping all of the requests straight. If we expect more than one card per envelope when the manager receives the logs six months apart, we are asking for a mix-up and disappointment.

He suggested that a separate return envelope with sufficient return postage would work. These could even be sent in one package, but would be returned one at a time as the information was processed by the manager. After I signed with Ed, another fellow said that he sent a card to F6FNU without return postage and the DX card came via the buro. I sent F6FNU four separate requests with one U.S. green stamp and a return envelope in each. Yesterday I received the first reply for a QSO with 5T5NU. It took at least nine weeks, but I expect to receive all four cards in due course. Doing it this way will cost no more than any direct QSL, which is about $2 each.

One more bit of advice: if you are going to spend all that money, don't wait for two years. You can spread out the cost and avoid the other operator making careless errors. In the past few weeks I have received 25 cards that cost me about $50. Two of them were dated 1987, but they came back dated 1989. All other information about the QSOs was correct, but someone was in a rush and this error makes the cards useless.

The 5T5 was confirmation number 67 for VE1AEQ/QRP. I am looking for 100 and the rest are in the mail or on my desk waiting for next month's allowance.

I hope those of us looking for cards from F6FNU can proceed with confidence.

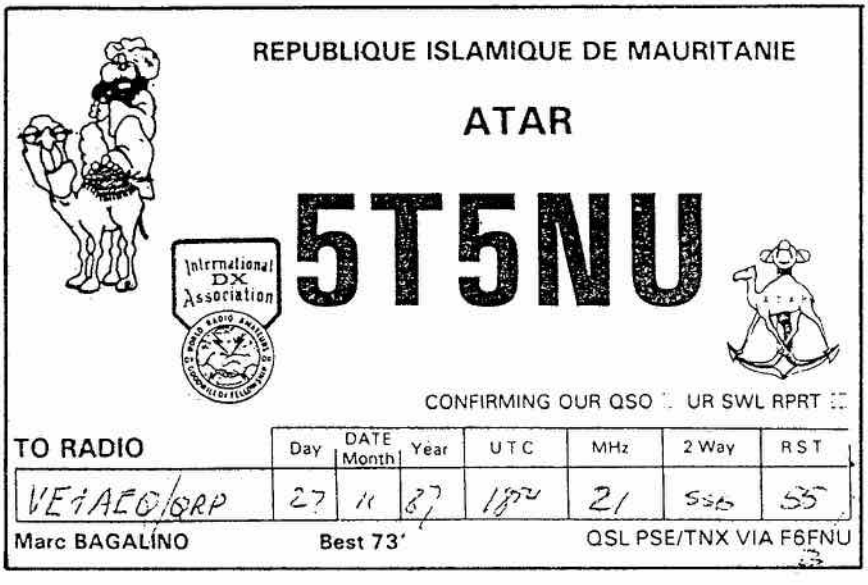
Jim Thompson VE1AEQ/QRP

SILENT KEYS

VE3ATJ— Donald Reavely of Ottawa, Ont. on July 24, 1989. Don was first licensed as a Commercial Operator in 1940 and served in the Royal Canadian Air Force with the Department of National Defence in various radio engineering capacities. He was an active HF operator and his light-hearted phonetics, 'Always Tuning Junk in Ottawa' was familiar to his many contacts in the U.S. and Canada. Don actively supported national radio clubs and the clubs in the Ottawa area. His shack was always open to Amateurs and aspiring Amateurs with whom he gladly shared the experience and knowledge of his many years in radio.— Tx VE3PDK.

VE7AHK— Harold A. Irish, a well-known North Vancouver Amateur, passed away Aug. 12, 1989.

VE1BMZ— William Phillip Wright of Woodstock, N.B. passed away April 20. He had fought a long battle with cancer. Amateur radio gave him many happy hours as electronics was his life.



Minutes of the Canadian Amateur Radio Federation Annual General Meeting

AURORA, ONT.
JUNE 17, 1989

ATTENDANCE

VE3CES John Iliffe, President, Chairman
VO1NP Nate Penney, Atlantic Director
VE3EBI Dan Holmes, Ontario Director
VE3NXQ Toni Salvadori, Incoming Ontario Director
VE6NM Earle Smith, Vice President (proxy for Mid-west Director)
VE7AHB Hoppy Hopwood, Pacific Director
VE3LYN Clayton Bannister, Incoming Vice President - Administration
VE3MGY Francis Salter, Outgoing Sr. Vice President - International Affairs
VE3NR Bill Wilson, DOC Liaison (part time)
VE3NB Bernie Burdsall, General Manager
VE3GWS George Sansom, Editor, *The Canadian Amateur*
VE3XE Eric Ilott, Secretary
VE3EMJ Marsh Jeanneret, CARF Member
VE3HAA Phil Washburn, CARF Member
VE3HBF David Adams, CARF Member

PRESIDENT'S WELCOME

The meeting was called to order at 9:35 a.m. and attendees were welcomed by the President who drew attention to the binder of papers issued to each attendee.

MINUTES OF PREVIOUS MEETING (June 18, 1988)

It was moved by Francis Salter VE3MGY that the minutes of the AGM and of the Special Meeting of Members on June 19, 1988 not be read, but adopted as issued. Seconded by Clayton Bannister VE3LYN. CARRIED.

MATTERS ARISING FROM THE MINUTES

There were none.

TREASURER'S REPORT

The Financial Statements for CARF Inc. prepared by the School of Business, Queen's University, were introduced by Bernie Burdsall VE3NB together with the Treasurer's Report. He explained that the accounting method had now been changed from cash to accrual, and with the computerized program a much better of picture of CARF's financial position was readily available in a continuously updated state.

It was moved by Bernie Burdsall VE3NB that the report be adopted. Seconded by Francis Salter VE3MGY. CARRIED.

AUDITOR'S REPORTS for the year ending Dec. 31, 1988

Bernie Burdsall VE3NB moved that the reports be adopted. Seconded by George Sansom VE3GWS. CARRIED.

APPOINTMENT OF AUDITORS for the year ending Dec. 31, 1989

It was moved by Toni Salvadori VE3NXQ that Wilfred Hill VE3ICQ and Morgan Pryce VE3MGN be appointed auditors for the 1989 financial year. Seconded by Clayton Bannister VE3LYN. CARRIED.

GENERAL MANAGER'S REPORT

It was moved by Bernie Burdsall VE3NB that his report be adopted. Seconded by Francis Salter VE3MGY. Some discussion took place on membership numbers, and the President reported on the recently inaugurated country-wide mailing to CARF non-members which was beginning to show signs of results. The motion was put to the vote. CARRIED.

PRESIDENT'S REPORT

a) The last year has been a very positive one in putting our house in order after a period of five years of tough going. We now have a new powerful computer, a better copying system and a new accounting program.

b) With the considerable help of the Scarborough Amateur Radio Club, CARF will again, with the DOC, hold an Amateur Symposium on Oct. 21, 1989.

c) Comments on DOC proposals have been forwarded to DOC after consultation with the membership on such topics as deregulation, use of 900 MHz band, wind profiler radar, etc.

d) We have become associated with the International Amateur Radio Network a new international emergency communications organization. We also provide material for the regular CBC shortwave programming on Amateur Radio.

e) We have continued issuing informative news bulletins regularly.

f) We have mailed a brochure and membership application form to all non-members, which is beginning to show returns.

g) Now that we have made the administration of CARF more efficient, we can spend more effort in improving services.

VICE PRESIDENT'S REPORTS

a) Sr. Vice President - Reciprocal Licensing and International Affairs: Included in Item 12.

b) Vice President - Education: Earle Smith VE6NM moved adoption of his printed report. Seconded by Francis Salter VE3MGY. Carried.

DIRECTOR'S REPORTS

There was no report from the Quebec Director. Nate Penney VO1NP moved adoption of the reports of all the other Directors. Seconded by David Adams VE3HBF. CARRIED.

REPORT OF EDITOR OF TCA

George Sansom VE3GWS moved that his printed report be adopted. Seconded by Hoppy Hopwood VE7AHB. During the short discussion, George thanked his columnists very much, as he depends very heavily upon them. Hoppy Hopwood VE7AHB and Earle Smith VE6NM thanked George for an excellent job and reported very favourable comments. Motion CARRIED.

COMMITTEE REPORTS

Nate Penney VO1NP moved that the 'Committee' reports printed in the handout (News Service, EMI, CSA, Reciprocal Licensing and International Affairs, Government Relations, and Office Manager) be adopted. CARRIED.

MOTIONS

a) To allow the positions of Treasurer and General Manager to be held by Associate Members

On behalf of the Board, the Secretary made the motion "That By-Law 7, Section Two, Article 2(b) be amended

by deleting the final period and adding thereto the phrase 'save and except therefrom the offices of Treasurer and General Manager'." The effect of this is to make it unnecessary for the positions to be filled ny Amateurs and hence to widen the field of possible candidates. Seconded by Francis Salter VE3MGY. After a very short discussion the motion was CARRIED.

b) To allow dues to be raised within specified limits

The following motion, which had been carried at the Special Board of Directors Meeting on June 16, 1989, was moved by Hoppy Hopwood VE7AHB. Seconded by Nate Penney VO1NP: "That, at the discretion of the Executive and the Board of Directors, single members' annual dues may be raised, not to exceed $30, at any time prior to June 1, 1990, but not thereafter without the approval of the members.

"Further, that life and family membership dues may also be raised at the discretion of the Executive and Board of Directors before June 1st, 1990, but not thereafter without the approval of the members." CARRIED.

c) To raise Membership Dues for Foreign Members

On behalf of the Board, the Secretary made the following motion which had been carried at the Special Directors meeting on June 16th, 1989. Seconded by Francis Salter VE3MGY:

"That the dues for foreign members be increased from $25 U.S. to $30 U.S. annually, and that the dues for each extra family member be increased from $2 to $5."

The purpose of this motion was to keep up with the rising postal costs encountered by CARF.

There was some discussion regarding the family member increase as some felt the small increase would not significantly add to CARF's income and yet might upset some family members.

Francis Salter VE3MGY made a motion "That the motion be amended by deleting all after 'annually' and adding a period." It was seconded by Eric Ilott VE3XE. There was no further discussion and the vote on the amendment CARRIED. ACTION: VE3NB.

DIRECTORS 1989-1990

The President announced that the following Directors were elected by acclamation for 1989-1990:

	TERM EXPIRES
PACIFIC DIRECTOR:	
Hoppy Hopwood VE7AHB	AGM 1990
MID-WEST DIRECTOR:	
To be identified	AGM 1991
ONTARIO DIRECTOR:	
Dan Holmes VE3EBI	AGM 1991
ONTARIO DIRECTOR:	
Antonio Salvadori VE3NXQ	AGM 1990
QUEBEC DIRECTOR:	
To be identified	AGM 1991
ATLANTIC DIRECTOR:	
Nate Penney VO1NP	AGM 1990

OTHER BUSINESS

a) Hall of Fame

The President stated that nominations are required for 1990, but emphasized that the organization was backed by CARF and used *The Canadian Amateur* for publicity, but its administration was by a separate Board of Directors.

b) Presentation of Awards

The following awards were presented by Bernie Burdsall: Canada Day Award to Toni Salvadori VE3NXQ; President's Trophy to John Iliffe VE3CES.

c) Art Stark VE3ZS

The President reported on the passing of Art Stark, a long time Amateur and a fine gentleman with great abilities which he unstintingly gave to his hobby. CARF has written to his daughter with a donation in Art's memory to the Cancer Fund.

ADJOURNMENT

It was moved by Francis Salter VE3MGY that the meeting adjourn. Seconded by Toni Salvadori VE3NXQ. CARRIED.

The meeting adjourned at 12:40 pm. Original signed by Eric Ilott, Secretary. ■

160 Canadaward

The Elusive Dream

By Ivan Payne VE3DO,
formerly VE3INQ

Every once in a while, a unique challenge presents itself in Amateur Radio. Working DX on 160 metres has always been a favorite activity with me since I was first licensed as VE3FSQ in 1964. Inspired by Stew Perry W1BB, who holds 160 DXCC number 1, I have spent almost 20 years and countless hours listening to noise and chasing DX while running 150 watts or less. Our DOC didn't remove power restrictions on 160 until 1985.

What was even more difficult than 160 DXCC was achieving the '160 metre Canadaward', as only a handful of dedicated 160 metre operators exist in this big country and to complicate matters further, two of the districts, VE8 and VY1 are in the auroral zone, where there are months of no propagation and very few operators. The first Amateur to achieve this was Gordy Wightman VE5XU, who holds 160 metre Canadaward number 1.

This is the story, then, of what was involved in making one of those contacts, that being a 160 metre contact from Ontario with Bill VY1CW in the Yukon.

Let me first explain that I live in Toronto and have my 160 station 150 miles out of the urban noise at the summer cottage at Sauble Beach on the shores of Lake Huron, where it is very radio quiet. It is a three hour drive and the trip is made many times in summer for vacations and throughout the winter months on weekends for participation in major 160 metre contests and top band DXing. It frequently involves lugging a Johnson Valiant II, a pair of receivers (75A4 and NC303), tools, food, warm clothing and other necessities. Many contests became a disaster as some weekends were spent with the snowblower and shovel.

VE8XO had been heard several times weekly during very short openings. Bill VY1CW was first heard on Jan. 26, 1987 working a W3, but selective fading conditions prevented a contact as he quickly disappeared. Now there was hope as he had at least been heard.

After much correspondence with VY1CW, we decided to try some skeds on 1823 and I called Bill every night from 0600 to 0700 during March of '87. Our mutual friend Brian WB9NSZ, a big signal on 160 from Wisconsin, was also on, helping with his long receiving Beverage antennas. Unfortunately we just didn't have propagation into the auroral zone but conditions into the west with VE7BS had been quite good around the end of March. I finally gave up on March 31 as I had to be back at work in April. I packed up the equipment and returned to Toronto with no VY1 in the logbook.

On April 3, from Toronto, I had a contact with WB9NSZ on 160 and to my surprise he told me that he had just worked VY1CW who had been 59 on SSB. I listened in horror as Brian described all the contacts made by VY1CW and that Ivan VE8ID was also in on their opening to the south. I was in shock! I decided that I would probably never work VY1CW on 160 and resigned myself to that fact. Bill had also indicated in a letter that he would possibly be leaving the Yukon soon.

"The worst was yet to come. Turning on the receivers, the QRN was a steady 20 dB over 9 of continuous static crashes about one second apart on all receiving antennas and 40 over on the big vertical."

On Saturday afternoon, April 4, Brian telephoned me from Wisconsin and told me that VY1CW had been on again the night before with even better signals from the Yukon. He also told me that Bill would be on again Saturday night looking for me at 0530 on 1840 SSB. I immediately checked the marine weather forecast for Lake Huron only to discover that a major spring storm was brewing over the Great Lakes. It had already been raining heavily for the past 24 hours. I checked the band at sunset Saturday and the QRN in Toronto was S9 plus 10 dB and I could not even hear the locals. The wind was building steadily and it didn't look good at all.

Suddenly in a panic, I decided to make the trip in the brewing storm to the 160 metre station where I figured that the receiving Beverage antennas might help. I also knew that this would be my last chance if Bill did leave the Yukon in May. After quickly loading up the gear and heading out of the city, I thought I must be nuts to be making the trip in the worst possible weather. Visibility was nil and the heavy rain and wind were pounding away at the Honda.

About half way to Sauble Beach on a low stretch of highway which was flooded to a depth of 10 inches, I hit a 300-foot-long patch of water at 45 mph. The wheels began hydroplaning and I lost control of the car as a great wall of water came up over the hood. Unable to see anything at all, I steered in the straightest line possible and got stopped. I had come to rest on the left shoulder of the highway in 10 inches of water. Fortunately there was no traffic out on a night like this. The engine compartment had completely filled with water, drowning the engine, and there was no way it would start.

In the torrential rain, I stuffed spare socks into the carburetor to try and soak up some water. More dry clothes were used to dry out the distributor cap. Still the engine would not start. Too much water had gotten into the carburetor. Since I had a toolbox with me, I was able to remove the spark plugs and clean and dry them. By threading the remains of a shirt into the cylinders with a screwdriver, I was able to get most of the water out of the cylinders. An hour later I had it running but it would stall every time I put it in gear. Eventually, after getting most of the water out of the engine, I could keep it running long enough that the heat was helping to dry it out. As I closed the hood for the last time, a large truck went by sending a tidal wave over the car but somehow it kept running even though it sounded like an old tractor.

Once again in motion, I miraculously made it to the station with 20 minutes left before the sked with Bill. I looked like a drowned rat with oil streaks up to my elbows. I just had to get into some dry clothes and have a cup of coffee before unpacking the equipment. That

was one of the better tasting cups of coffee in recent memory.

The worst was yet to come. Turning on the receivers, the QRN was a steady 20 dB over 9 of continuous static crashes about one second apart on all receiving antennas and 40 over on the big vertical. I could copy Brian WB9NSZ with his kilowatt and big antenna but Bob VE7BS was obliterated and only every third or fourth word could be copied. To make matters worse, a high SWR on the transmitting antenna prevented use of the 813 amplifier of 425 watts. The SWR was too high in the rain and the plate overload breaker kept tripping. So it was the TS530 barefoot into a 3:1 SWR or nothing. This was not going to work out, I pondered.

At 0530, VY1CW showed up on SSB and Brian quickly exchanged reports as did VE7BS. The band was again open to the Yukon which was exciting, and to my amazement, I could actually hear bits and pieces of Bill through the intense static and gaps in the crashes. He was a mere 2 x 4 when audible. Even more amazing was that he could hear me and sent a 2 x 2 report, but I could not copy my report through the static. A full half hour went by as many attempts were made to copy VY1CW, but just no luck in this racket. He then told Brian that he would try me again at 0700 and went on to work other stations who had a better copy while he had propagation.

As 0700 approached, it appeared that the average noise level had begun to lessen and was running at 10 dB over 9. Some slight improvement. The adrenelin began to flow faster as VY1CW again appeared, but still wiped out by static crashes. Excitement began building as he was again able to copy my 60 watts but every time he gave me my report, a crash would take out either the first or second number. I asked Brian at this point to get him to try CW. Bad luck was still rampant as Bill's keyer was not working.

Brian began laughing and trying to talk at the same time while asking Bill in desperation, "Can't you just touch two wires together?" Of course we were all in hysterics with what followed that comment. While I studied the static crashes, there was VY1CW whistling my report into his microphone. But the static crashes still continued to take out the elusive Yukon report. After his whistling session, Bill resumed giving my report in voice many times over at 0707 between two static crashes, I clearly heard him say you are 2x2. With a big sigh of relief I reached for the logbook. That will be a night I will long remember and positive proof that it is a challenge to work DX on 160.

Many thanks to all who made my 160 Canadaward #2 possible: VY1CW, WB9NSZ, VE7BS, VE8HL, VE6OU, VE5XU, VE4AJE, VE3QU, VE2FYR, VE1BPY, VE1ASJ, VE1ZZ and VO1IA.

The receiving antennas at the station are three half-wave Beverages, six feet above ground, terminated and matched to 75 ohm feedlines to a preamplifier. The transmitting antenna is a quarter wave vertical, linear loaded, 95 feet tall, tuned against 4000 feet of #14 radials from 50 to 130 feet long, with an eight-foot square of copper deck around the base to which all radials attach. A small rotatable loop is also used for some receiving applications. ■

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.

Several clubs run a code phone. Does yours?

ON4CLM, The Canadian Liberation March Award

In the autumn of 1944, Canadian troops fought a long and exhausting battle in the Belgian coast area. On Nov. 1, 1944, the town of Knokke was finally liberated, at great cost of Canadian lives.

Each year the Canadians are remembered with ceremonies, festivities and a 'Canadian Liberation March' which covers a distance of 37 km. Many Belgian and Canadian veterans, radio-Amateurs and VIPs are participating in the events.

Special event station ON4CLM (Canadian Liberation Movement) will once again be on the air from the Cultural Centre 'Scharpoord' in Knokke starting from Friday Oct. 27 till Nov. 3, 1989.

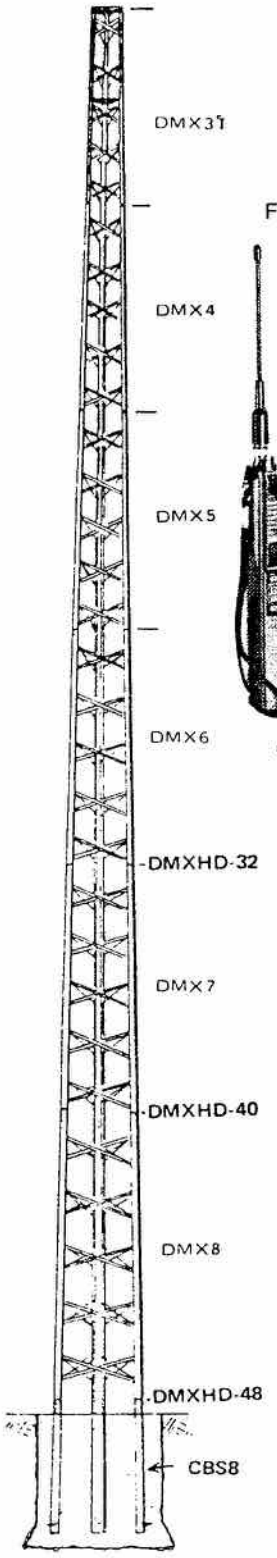
A magnificent six-colour printed award is available for all contacts with ON4CLM. This year's award features the badge of the 'North-Shore New-Brunswick Regiment'. Each successive year will honour one of the the nine Canadian regiments that participated in the liberation of Knokke.

Cost of the award is 2 Pounds or $5 or 10 IRCs, or equivalent, with all proceeds going towards a welfare fund. The money is used to maintain memorials, displays, etc.

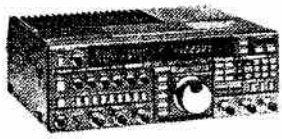
Listen to ON4CLM from: Oct. 27 until Nov. 3, 1989, on the following frequencies: 3/685, 7.045, 14.145, 21.245, 28.545 and 144.250 in SSB and 3.515, 7012, 14.020, 21.020, 28.020 and 144.020 in CW. We are also on 145.475 in FM.

To enable Amateurs to collect the entire series, there are still limited quantities of '83, '84, '85, '86, '87 and '88 awards available, honouring the Stormont Dundas and Glengarry Highlanders, the Regina Rifle Regiment, the Canadian Scottish Regiment, The Royal Winnipeg Rifles, The Queens Own Rifles of Canada and the Regiment de la Chaudiere.

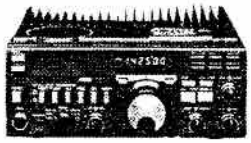
For information write to Radio ON4CLM, P.O. Box 110, 8300 Knokke, Belgium. ■



YAESU



FT-767

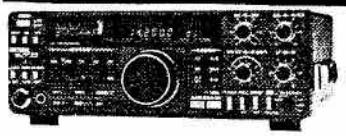


FT-767GX, 757GX, 747GX

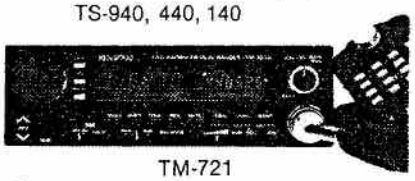
FT-23R, 33R, 73R

FT-727R
DUAL BAND HT

KENWOOD



TS-940, 440, 140



TM-721
TM-721A FM DUAL BANDER
TM-221A, 321A, 421A

TH-215AT, 315A,
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VE0MMA part of National Heritage display

'The old lady' had done her job well, so well in fact she's earned her place in Canadian history by being declared of National Historic Interest and a part of the Maritime Museum of the Atlantic (Nova Scotia) displays.

The Canadian Survey Ship (CSS) *Acadia* indeed had a very distinguished career.

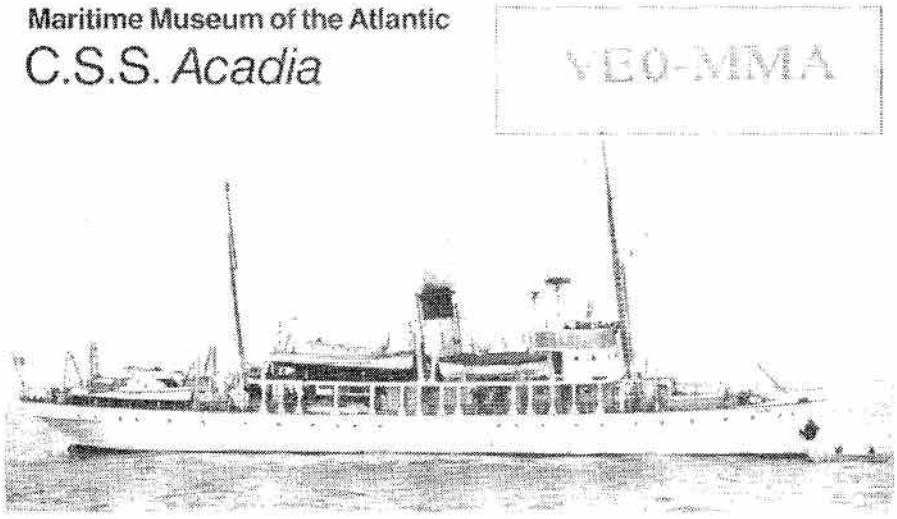
Built in England in 1913 for the Canadian Hydrographic Service (the first of many specifically for the CHS), she soon gained a worthy reputation for her capacity (or at least those who sailed her), to produce abundance of data used to make Marine Charts. Literally hundreds of thousands of miles of lines of soundings, bottom samples, tide and current data were gathered along the Canadian East Coast including Hudson Bay and Hudson Strait, the Labrador and Newfoundland coasts and off Nova Scotia. During the two World Wars, she served under Canadian Navy as a patrol and training vessel and through her active life, she was involved in several very worthy search and rescue missions.

In addition to the good old *CSS Acadia* being displayed as a National Heritage item, it has now become the home of Amateur Radio Station 'VE0MMA'.

Two years ago, two visionaries of the Halifax Amateur Radio Club negotiated with the Director of the Maritime Museum to establish an Amateur Radio Station on board the *CSS Acadia*. It was their vision to bring 'life' back to the old RADIO SHACK silent these many years.

And so it happened and terms of operation and antenna design were agreed to and last year during the tourist season (June to September) the station operated regularly over the weekends and holidays and periodically on the week days. The station is manned ('staffed' is the word these days) principally by old retired 'Sea Dogs' holding Amateur Licences; old Radio Operators ('SPARKS'), Deckhands and Deck Officers who give you the impression that they've never been away from it!

And so it is agreed we have a winner, tourists visiting the *CSS Acadia* moored at the berth at the Maritime Museum of the Atlantic (Foot of George St., Halifax, N.S.), have the opportunity to hear the dots and dashes of old, send messages to friends, get firsthand information on the history of the vessel and to listen to some old (and maybe slightly stretched) 'Sea Yarns'.



The *Acadia* (VE0MMA) can be found on any of the five DX frequencies, (80, 40, 20, 15 and 10 metres) lower end just above the DX windows on most weekends between 1300 UTC and 1900 UTC, occasionally on SSB and occasionally on week days.

Worthwhile Certificates will continue to be issued to any station working VE0MMA on any of the three above bands in either CW or SSB. Otherwise, QSL sure via Buro. ■

Electro-Cross 1

By Dave Bennett VE7YJ

The words are the names of scientists, experiments, manufacturers, business people, and hams, all of whom have had or are having an affect on the communications world as we know it. They may be found horizontally, vertically or diagonally, backwards or forwards, up or down. Draw a ring around each word you find. Not every letter is part of a name, and not every name you may find is one in the word list.

O	Y	N	O	S	L	I	W	A	Y	N	E
M	A	R	C	O	N	I	N	O	U	Y	E
A	G	A	F	E	S	S	E	N	D	E	N
M	I	X	A	M	A	X	I	R	A	F	D
B	A	E	K	A	R	D	O	H	M	O	S
I	E	R	T	X	I	F	N	O	P	N	I
L	U	L	R	W	R	I	R	A	E	R	D
L	O	V	L	E	Y	S	A	B	R	A	E
V	A	U	H	L	E	S	E	R	E	S	B
E	S	T	A	L	B	S	H	E	M	N	A
E	U	C	S	S	O	Y	Z	T	R	E	H
R	E	A	G	N	O	R	T	S	M	R	A

WORDS: Ampere, Armstrong, Bell, Drake, Edison, Fessenden, Hertz, Inouye, Marconi, Maxim, Maxwell, Morse, Nose, Ohm, Rutherford, Sarnoff, Sterba, Volta, Wilson, Yagi.

24 Hours in June
Moncton, N.B. 1989

By Glen Martel VE1BUG

Saturday morning, June 17, 1989, dawned cloudy with drizzle and rain in the forecast. This is not an untypical prognosis for the Atlantic Provinces for this time of year. The Second Annual '24 Hours in June' relay was set to commence at 1 p.m. Everyone involved was hoping that the weatherman was wrong.

In 1988, the first such relay to raise money for crippled children was held in Moncton. It was a most successful relay for a first year attempt. About $225,000 had been raised. The local Kinsmen organizers of the event, were confident that last year's record could be broken. The Moncton Area Amateur Radio Club was on the scene last year providing essential communications via 2-metres, thus ensuring the safety and security of the runners. We were pleased to be asked to participate again this year.

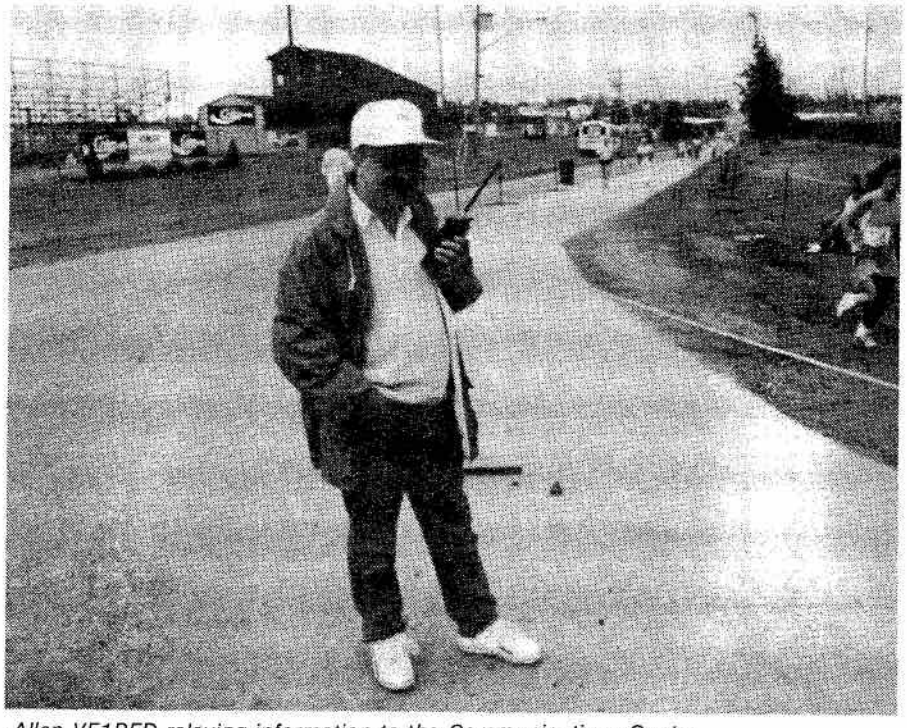
Stan VE1UM coordinated the MAARC participation with the organizers. A total of 23 Amateurs lent a hand, working in three shifts to cover the 24 hours plus the time required for setting up and dismantling. Each shift consisted of two Amateurs in the communications centre (a donated mini-home set up at the start/finish line) plus five or six Amateurs at strategic locations along the route. The relay was held in Centennial Park located in the western section of Moncton. The length of the course was 2½ km.

The communications centre housed a 2-metre mobile rig with power supply and a 5/8 mag mount antenna, a couple of handy-talkies, two Motorola commercial UHF rigs and two cellular telephones. All of the communications among Amateurs was carried out on 2-metres via the club station VE1EV, in which was located a home-brewed repeater to an Isopole antenna.

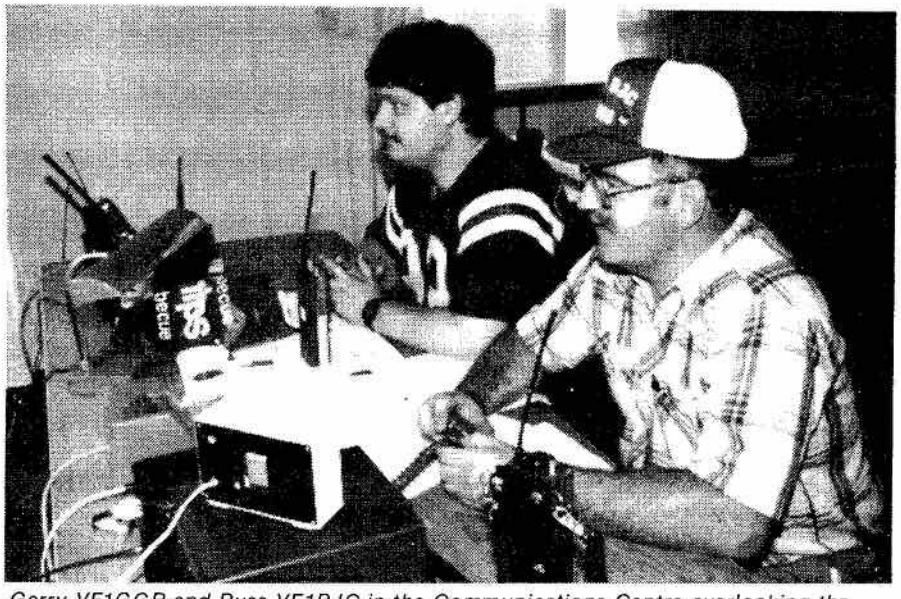
The repeater was built around two IC22s by Cam VE1CGY. The repeater worked without a hiccup for the duration and provided complete coverage throughout the park using HTs on low power. The commercial walkie-talkies were used to communicate with the information office, the security guards, and the first-aid attendants along the route. The cellular phones were used to make local telephone calls. Some calls were made to friends and relatives of runners who required pick-up.

The 24 Hours relay was a much bigger success than last year. The 1989 statistics were 88 team entries of 20 runners each and $333,000 raised for crippled children. Not bad for a city of 80,000!

The MAARC views this kind of event as an opportunity to show our community what we can do and it provides us with excellent training in preparation for a possible emergency. We look forward to next June. By the way, the rain started as soon as the relay was over. ■



Allan VE1RED relaying information to the Communications Centre.



Gerry VE1GGR and Russ VE1BJC in the Communications Centre overlooking the Start/Finish line.

A Brief History of British Naval Intelligence during World War II

By JP LeBlanc VO1SK

At the outbreak of WWI, Sir Alfred Ewing was asked by the Director of the Naval Intelligence Division to examine intercepted German radio messages. These messages had been intercepted by the stations of the Marconi Company. Sir Alfred quickly realized that valuable intelligence could be obtained from reading German wireless signals. A staff was recruited and Room 40 (later designated as ID 25) of the Admiralty was established with the task of intercepting and breaking the enemy's messages and codes.

The first intercept station was set up in a Coast Guard station in Hunstanton with the help of two Amateur Radio Operators: Russel Clarke and B. Hippisley. The number of stations eventually grew to 14 with all having direct lines to the Admiralty. In this way, valuable intelligence could be passed quickly.

In 1914, the codebreakers obtained copies of German codebooks from captured or destroyed ships. A copy of the German Mercantile Signal Book was obtained from Australia, while the German Naval Signal Book was obtained from Russia. In April 1915, a copy of the German Diplomatic Code was obtained and another rich source of information had been secured. This made the task of breaking and reading coded traffic much easier. By reading the German Naval traffic, Room 40 was able to give early warning to the British Grand Fleet about the movements of the German Fleet.

Early 1915 saw the establishment of the first Direction Finding (DF) station at Chelmsford. Soon other stations were established along the coast of England and Ireland. Room 40 now had another important source of intelligence as DF proved invaluable in locating German vessels and U-boats.

In May, 1916, Room 40 was instrumental in relaying up-to-date information on the German High Seas Fleet during the Battle of Jutland. Unfortunately, the information was relayed without comments and proved confusing. This resulted in the information being doubted by the Admiralty and was not acted upon, to their detriment.

Although the Battle of Jutland was a victory for the Germans, they weren't eager to face the British Fleet. Therefore, the Germans began extensive submarine warfare on merchant shipping which resulted in submarine operations becoming top priority for the staff of Room 40. Every scrap of information about the movements and intentions of German submarines became invaluable to the Admiralty.

When the Germans changed their codes in 1916, Room 40's DF and interception sections were so experienced that they were able to maintain a good flow of intelligence. More help came from divers who recovered codes from sunken U-boats. Room 40 was also able to give advance warning when the Germans sent their Zeppelins to drop bombs over England.

In 1917, Room 40 was re-organized and instead of simply passing decrypted messages, they were combined into intelligence reports. After years of studying the German Fleet, the staff of Room 40 was very knowledgeable and capable of making accurate intelligence assessments.

In early 1917, the cryptographers of Room 40 worked on what was to become the most important message solved in WWI: the Zimmermann Telegram. This message was sent by Zimmermann, the German Secretary of State for Foreign Affairs, to the German Minister in Mexico. Room 40's solution of the telegraph helped propel the United States into the First World War when it was shown to the President. Following is the text of this now famous telegram:

"We intend to begin unrestricted submarine warfare on the first of February. We shall endeavour in spite of this to keep the United States neutral. In the event of this not succeeding, we make Mexico a proposal of alliance on the following basis: Make war together, generous financial support, and an understanding on our part that Mexico is to reconquer the lost territory in Texas, New Mexico, and Arizona. The settlement in detail is left to you.

You will inform the President (of Mexico) of the above most secretly as soon as the outbreak of war with the United States is certain and add the suggestion that he should on his own initiative, invite Japan to immediate adherence and at the same time mediate between Japan and ourselves.

Please call the President's attention to the fact that the unrestricted employment of our submarines now offers the prospect of compelling England to make peace within a few months. Acknowledge receipt.

Zimmermann"

By 1918, the Germans were aware that their communications were being read and adopted methods of communication calculated to prevent the British from knowing or guessing the movements of their Fleet. But in early November, plain language messages were intercepted indicating that the German Fleet had mutinied. And so ended WWI.

An important achievement by Room 40 was that, both during and after WWI, intercepted traffic was used as evidence at trials of spies and saboteurs.

After the war, it was estimated that from October 1914 to February 1919, Room 40 had intercepted and solved 15,000 German Secret messages. Room 40 employed 800 wireless operators and 70 or 80 cryptographers and clerks. Room 40 was taken over by the Foreign Office and became Great Britain's main cryptanalytic agency.

In 1939, the Foreign Office moved its Department of Communications to Bletchley Park, about 50 miles northwest of London. From here we go on to the Ultra Secret and a man called Intrepid, but that's another story. ■

SOMEWHERE OUT THERE

No matter how fast technology advances, we're still stuck with some of the same old problems. For instance, I called up a firm in Europe that owes my company money. They assured me the cheque was in the satellite.

— *Worldradio* via *Groundwave*

TCA COPIES

Copies of articles from *The Canadian Amateur* from Vol. 1 No. 1 Jan. 1973 are available. One article per issue $20 ppd.

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

Showstopper at the Shopping Mall

By J.F. Hopwood VE7AHB

Just like at the movies, a BIG WIDE SCREEN attracts the customers!

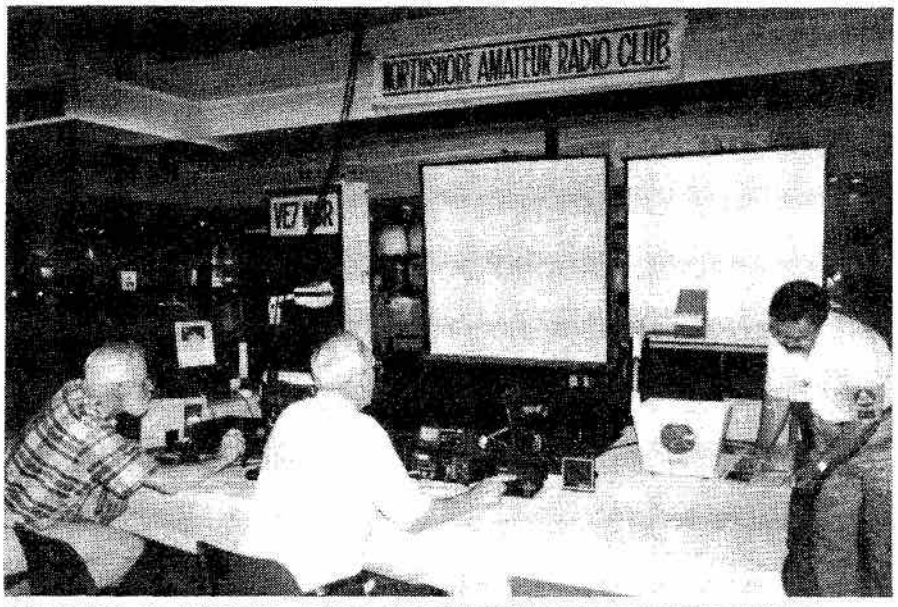
The North Shore Amateur Radio Club presented 'Amateur Radio' to the passers-by in the West Vancouver Park Royal Shopping Mall by projecting live Packet Radio QSOs and bulletin board material via an overhead projector to a large screen. A smaller screen was used to track the QSOs handled by the HF station at the same time. It proved a good idea and was a big hit with shoppers as they stopped to talk to the NSAR club members who went all out to tell our story.

The device which makes this possible is called Magnabyte. It is a large transparent LCD about 8"x 11" that lays over the overhead projector display stage similar to a clear transparency for business presentations. The IBM compatible requires a special card to run the Magnabyte. While it does not project in full colour, it can display several shades of the blues through yellow and orange. The Packet data is simultaneously displayed on the Magnabyte and on the computer screen. It was a great eye-catcher and prompted many questions from most shoppers who strolled by.

An IBM 'Storyboard' program presentation explaining Amateur Radio was used as a filler when there was a lull in packet or HF operator activity. This was also thrown up on the big screen complete with colour and animation. The weekend of June 2-3 was definitely not the time to do it though. It was a beautiful hot 25°C day and everyone was at the beach or out in the garden here at West Vancouver. Oh well, we'll have to do it again on a miserable rainy weekend in December when the Christmas shopping crowd is out in full force!

A great effort by the club under the leadership of Bob Piggot VE7CYU, John Hall VE7CZO, Dave VE7EC and a cast of club members. ■

Overhead projector at left with HF station and IBM compatible for packet radio. Left to right: Bob VE7CYU, Dave VE7EC and John VE7CZO. Photo by VE7CHU.



Bill VE7QQ, Mick VE7CBB and Bob Piggot VE7CYU man club station VE7NSR using overhead projectors. Photo by VE7AHB.

BE KIND TO YOUR LOW POWER FRIENDS

Be aware of the QRP frequencies and please try to not tune up on them. Don't put your KW too near if you really do not need to, and listen for them.

The frequencies: 1810, 3560, 7030-7040, 10106, 14060, 21060 and 28060. You'll find a great bunch of fellers there.

Gord VE3DY
in *Groundwave*

TECHNICAL ARTICLES

The Canadian Amateur welcomes technical articles. Please send them to the Technical Editor, Bill Richardson VY1CW, 36 Range Rd., Whitehorse, Yukon Y1A 3V1.

ARES AMATEUR RADIO EMERGENCY SERVICE

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

TELEPHONE TREES

How can ARES members be contacted when disaster strikes?

Most emergency communications plans call for all members to check in on a designated repeater when it is apparent that a disaster has occurred or is imminent. This is fine, if the incident is apparent to all members. But what if the incident is, say, an airplane crash in a remote area?

Many emergency plans contain a telephone tree which enables all members to be alerted quickly, and to be given brief instructions for initial action. In a typical telephone tree, the persons to do the telephoning are identified, together with the names, call letters and telephone numbers of those they are to call. Provision must be made for alternates, in case the designated callers are not available. Usually, each caller will be required to call no more than five others.

In our Kingston telephone tree, we have the EC and the three AECs in the top box. The person in this box who has been notified of the emergency will telephone the first available person in the two boxes below, together with the others in his box. The person in each of the boxes below who receives the call will do likewise with those in his box and the two boxes immediately below his. With 28 members, our tree consists of just three levels, with four persons per box.

But what if the telephone system is inoperative, due to damage or because it is overloaded with other telephone calls, as happened during the Mississauga train derailment disaster? If this is the case, the EC or an AEC can request local radio and television stations to make spot announcements. If it comes to the worst, ARES members can be rounded up by visits to their homes or places of business if the roads are open. For this reason, Kingston's emergency communications plan gives the address as well as the telephone number of each ARES member.

ARES IDENTIFIERS

In a disaster, ARES operators will be assigned to key locations like hospitals, emergency control centres and Red Cross headquarters and emergency shelters. When they arrive, how can those in charge identify them? The answer is to provide each operator with a proper identifier. This could be an ARES wallet size membership card, but readily visual identifiers should also be provided to each operator.

Here in Kingston, each member carries, in his emergency kit, a red cloth armband, with the ARES patch sewn to it. The band is held in place on the arm with Velcro fasteners. In Metro Toronto, each operator has an encapsulated membership card, with his photo. The card is hung from his neck with a light chain. Elsewhere, luminescent vests, like those worn by road workers, are used. These vests have the ARES crest applied to them. The vest pockets provide ready storage for spare batteries for the handheld, pencils, spare fuses, etc.

The use of an appropriate visual identifier by all ARES members, either in exercises or in the real thing, will help to show our professionalism to those we serve. If you are particularly proud of the identifier used by your group, send me a description and I'll pass it on to others in a future column.

HAZARDOUS MATERIALS

Ken Oelke VE6AFO, who is CRRL's Midwest Director, is also EC for Calgary and SEC for Alberta. In a recent issue of the Calgary ARC's *Key Klix*, he provided safety tips for anyone, including ARES operators, who may encounter spills of hazardous materials. Here are excerpts from his article:

"Hazardous materials can vary from explosives to radioactives to poison, flammable compressed gases and combustibles. When approaching any incident involving railroad or highway transportation, there is the possibility that hazardous materials are involved. The Federal Transportation of Dangerous Goods Act requires that all vehicles carrying any type of dangerous goods must have a placard displayed clearly on the vehicle in several locations. The placard will have a symbol and colour code as well as a Product Identification Number which identifies the particular dangerous goods on board.

The Federal Government makes available The Emergency Response Guide for Dangerous Goods which sets forth the immediate on-site response to an accident involving any dangerous materials. In emergencies, CANUTEC in Ottawa (telephone 613-996-6666) will provide, on a 24-hour basis, full information, when given the Product Identification Number. Here are some tips to help you:

"If you are the first at the scene, call your local emergency telephone number. Report the location of the accident and other important information that may be of help to the local authorities, including the Product Identification Number on the placard. Stay at least 1500 feet upwind until proper identification has been made.

"Consider any spilled material to be dangerous until declared otherwise by competent authority.

"Remember, hazardous materials can enter the body through the skin, eyes and nose. Even if you can't smell it or see it, you could still be in danger.

"Some hazardous materials can pass through leather and rubber. Different chemicals must be handled in different ways and require different types of protection.

"If you've been exposed to vapour or smoke, first aid may be necessary. Wash your hands before doing anything... eating, drinking, smoking or caring for other personal needs.

"Flammable vapours can be ignited by operation of equipment such as RADIOS, flashlights, cigar lighters, running engines, etc. Don't use portable transmitters in the immediate area. If you must transmit, do so upwind at least a quarter of a mile away.

"REMEMBER... in a hazardous materials or any other emergency situation, you are on the scene for communications purposes only! Let the authorized people carry out the containment and moving of dangerous goods. Follow directions from those in command to help render a safe and efficient service to the public."

QUOTATIONS

Jean Lane-Davis, Manager of Emergency and First Aid Services, Ontario Red Cross: "ARES was our sole link after the Barrie tornado. For many hours it was the only way we knew what was going on and what was needed." (Emergency Preparedness Digest, April-June, 1989).

John Lester VE3MB, EC for the Belleville-Quinte area: "A disaster is a situation that has occurred where nobody involved has made prior preparation for possible future trouble. An emergency, on the other hand, is a similar situation where those involved have taken prior training and are therefore able to cope."

Bill Westbrook VE3EKA in the bulletin of the Pioneer ARC of Ottawa: "Those guys in the Cumberland Group have class! They are currently raising funds in excess of $50,000 to acquire and equip a mobile communications vehicle and a state-of-the-art fixed station to be used for Health and Welfare communications, emergencies,

Continued on next page ➤

CLUB CORNER

J.P. LeBlanc VO1SK/VP9LA, Box 356, Kingston, Ont. K7L 4W2

SPLATTER YRARC
York Region Amateur Radio Club

Congratulations to David Adams, VE3HBF, editor of the York Amateur Radio Club newsletter, *Splatter*. For the third year, the newsletter has been accorded a 'superior' rating in the Amateur Radio News Service (ARNS) annual competition. The Splatter is a very professional publication and David deserves to be complimented on the excellent work he has done.

The York Club is also celebrating its 30th Anniversary. To mark the event, four of the original charter members were honoured. They are Bob Knowles VE3DLT, John Lewis VE3EXC, Jan Liefhebber VE3FRL and Doug Holmes VE3CWO.

YACHTING NEWS

Remember Jane Weber? Jane VE3JWE and her yacht, the *Tilley Endurable* has been getting a lot of media attention on her upcoming solo round-the-world trip. Jane was interviewed by both the Global Television network and CBC radio.

The Peel ARC has made Sue VE3SVS an honourary (life) member of the Club. Sue was a guest speaker at the club's meeting, where she gave a very interesting overview of her trip around the world starting on May 15. Her maritime call will be VE0MLT with an HF schedule to be set up later.

AWARDS

The Algoma Amateur Radio Club has selected Walt VE3CWE as 'Ham of the Year' and winner of the Dave Allison award for 1989. Walt was selected because of his longtime service to the club. It was a double header for Walt as he was also granted Life Membership in the club.

The Nanaimo Amateur Radio Association has named Gerry VE7BGP as their Amateur of the Year.

Shawn VE3MEE has won the Province of Ontario Development Foundation Award. This scholarship is awarded annually to two Ontario scholars and carries with it $1,000 cash.

Congratulations to Hank Bruhlmann VE3CGV and his wife Helen, who recently received the 'Paul Harris Fellowship Award' from the Chatham Rotary Club. This award honours their outstanding efforts in fundraising and activities for the Rotary Club.

Bob Leard VE3EQB has been named one of five Volunteers of the year by the City of London, Ontario.

The Welland County Amateur Radio Club has received a $250 donation from the South Niagara Rowing Club in appreciation of services the club has provided during the past year.

The President of the London ARC, Dick VE3LRB, was presented an attractively framed certificate by the London Boy Scouts Association recognizing the clubs past assistance to that organization.

ARES *(cont'd)*

public service activities or contests."

Doug MacKinnon, P.E.I. Emergency Measures Organization: "We had a meeting with the ham radio operators—they're really enthused and don't ever underestimate them. They can do great things for you." (Emergency Preparedness Digest, April-June, 1989). ■

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. Yours truly 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.*

COMMUNITY SERVICES

Fourteen members of the Calgary Club provided communications between checkpoints for the Winter Rally. Hats off to Ian VE6JX, Terry VE6CSO, Mark VE6LLB, John VE6ME, Earl VE6NI, Claude VE6LH, Phil VE6CCK, Cliff VE6CPM, Les VE6LES, Garry VE6CIA, Cal VE6LZ, John VE6AI, Duane VE6CAO and Hermanna VE6JI.

The club also received a very nice letter of appreciation from the organizers of the Pincher Creek Mountain Rally. There were 27 cars entered in the rally, some far away as California, New York and New Hampshire. Communications co-ordinator was Cal VE6LZ.

The North Okanagan Radio Amateur Club has received a certificate of appreciation from the Winter Carnival Committee for their assistance with parade communications. Club Members also provided communications for the Vachon cup cross country ski races. Taking part were Jim VE7AON, Mike VE7MK, Len VE7PE, Stu VE7BQY and Art VE7DKY.

The Dryden Amateur Radio Society set up a display in conjunction with the Red Cross at a recent Sportsman Show. Several local hams assisted with the installation of the booth, the antennas for the HF and VHF. Roy VE3BJD installed the G5RV antenna while the feedline was loaned by Joe VE3EEX. Many hams manned the booth during the three day event, including Susan VE3NNX and Carolyn VE3JJM.

The Peterborough club supplied communications for the Lakefield Baden Powell ½ marathon which was sponsored by the local scouts. Taking part were Ollie VE3MT, Roly VE3GRL, Gord VE3LKG, Orville VE3JTM, Jack VE3BLL, Harold VE3NZL and Larry VE3NTQ.

Eighteen Amateurs and seven non-Amateurs volunteered their services for the dispatch centre at the 1989 Brier held in Saskatoon. Radio equipment was supplied by Motorola and taking part were: Ed VE5GE, Bill & Janet VE5WC, Percy & Ethel VE5RP, Bill VE6DN, Rob VE5OP, Ernie VE5EH, Jim VE5KQ, Don VE5HQ, Mark VE5ZU, Syl and Ivadelle VE5YK, Dave VE5BEH, Keith VE5VJ, Chris and Linda VE5BAR, Eric VE5HG, Bruce and Bonnie VE5RC, Tom VE5UK, Monty VE5MN, Alan VE5PF and Brad and Lynda W1EBE.

The Brantford Club was busy providing communications for the Boston to Brantford Classic Run. Dave VE3MMN did such a good job as net control, that he has been booked for next year's event. The club was also involved in the Riverfest '89 activities. This consisted of providing site-to-site communications; coordinating a

Continued on next page ►

CLUBS *(cont'd)*

canoe race; co-ordinating the annual Riverfest Rubber Duck Race, and of course, having a good time.

The Halton Club was busy with providing communications for the Crazy Boat Race. Taking part were Mike VE3MAO, Dave VE3RCJ, Jim VE3IOM, Jim VE3IBH, John VE3SWG and G1VWW.

HOME BREW

Winners at the Ottawa ARC Home Brew night were: 1st place, Clare Fowler VE3NPC, RF pre-amp; 2nd place, Bruce Hodgkinson VE3JIL, Plug-in RF synthesizers for the IBM PC; and 3rd Place, Mike Kelly VE3FFK, 6 Metre handie talkie mods.

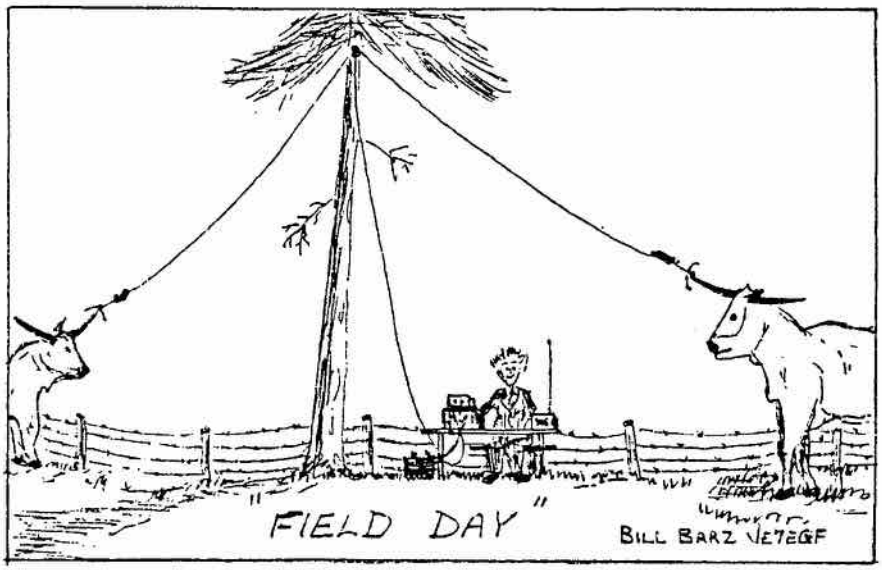
SCIENCE WIZARDS

Congratulations to Jean-Sebastien Busque VE3ZOO and his cousin, Pierre Paul Sauve VE3BBQ, in Timmins. Both hams recently competed in science fairs and both placed among the top finishers. They will be competing in the National Science Fair in St. John's Newfoundland.

BIG WINNER

The 8th Annual Durham Flea Market was a huge success. The committee was headed by Steve VE3MCZ, who did a super job in establishing communication lines between the South Pickering and North Shore clubs. The super price at the market was a PC compatible which was won by Carl VE3MDM.

Keep those club newsletters coming. This time around, I've received newsletters for the first time from the Amateur Radio Society of Dryden, the International Radio Group (which is an international group of radio Amateurs in Maine and New Brunswick with repeaters in Canada and the U.S.A.), the Canadian DX Association and the Saskatchewan Amateur Radio League. ■



QUA

News and Views from around the world

ITU

There are now 166 member administrations in the International Telecommunications Union. Vanuatu and Western Samoa are the latest to accede to the Convention. This is a plus for Amateur Radio— each member of ITU has one vote in WARC matters.

NEW ZEALAND

With effect from April 1, 1989 there is a deregulated telecommunications environment in ZL. The Ministry of Commerce is looking at the nature of changes that will be necessary in the Amateur Service, maybe including the handling of third party messages.

ZL4LW suggests the following method for adjusting a manual morse key:

"Set the contact gap to 8 thousandths of an inch (0.02 mm) with a feeler gauge. Place the key on a kitchen scale. Note the weight, then press down the paddle until the contacts close. The weight difference (hand force) should be between 750 and 800 grams."

I tried this. The method is useful, but I wonder whether an extra zero has crept in there! 750 grams may be OK for the operator in a tank while in motion, but it is pretty stiff for normal operation in the shack, and rather conducive to 'glass arm'.

ZL1OI says the user port on the Commodore 64 is very easily damaged. In at least one case, this was because of a difference in potential between the computer (grounded via the AC power plug to the main ground) and RF ground (taken to a ground rod). He thinks the best plan would be to isolate the computer completely from the rig, using an opto-isolator or a relay. Gary Bold ZL1AN ('Morseman') comments that he uses a 5 volt relay with a TTL chip driver powered from the C64 power supply, and says that relays are completely satisfactory to at least 30 wpm.

ZL1AN has an 'empirical CW filter rule', which he says holds pretty well for 4-pole bandpass filters. His rule is: "At a frequency of 800 Hz, the 3 dB bandwidth of a filter can be as narrow as twice the desired receiving speed in words per minute."

Is CH outmoded?

The British hit a communications problem during the Faulklands War. France had sold lots of computerized jamming gear to Argentina. Britain had planned to use several satellites for ship-to-ship, ship-to-shore and back to Britain. It is very easy to block the input to a satellite, with a wobbulator and an interruptor running at the current baud rate and amplitude modulation. To counter this, the British used amplitude modulated CW, and in most cases it was the only way to make contact with other sectors of the force. Signals personnel are now required to be CW operators at 20 wpm.

This is an aspect of the Morse code that it is easy to forget. Most data modes have a constant speed or repetition rate, and often a constant number of characters per group. Morse on the other hand has an irregular number of dits and dahs for each character, and therefore a constantly varying time difference between starting points for each character and word. It is much more difficult to jam.

Another interesting little story about the code concerns the meeting of Paul Godley and Harold Beverage in 1921, when Paul was on his way to Europe for the TransAtlantic Tests. K.B. Warner wrote about it in *QST* in December 1921:

"The radio gang had all been shooed ashore and were assembled in front of one of the large openings in the shed, through which Godley could be seen on an upper deck some 25 yards away. All was inexpressible confusion, the usual last-minute pandemonium at the sailing of a big ship, and the air was full of QRM. But did it phase these radio birds? Not a bit! They just held an arm up straight, above the crowd, and opened and closed the hand to form good old Continental in heliograph style. It was a cinch to read and we talked that way for half an hour, rather to the perpexity of the surrounding crowd.

"Now it happened that H.H. Beverage 2BML, Radio Corporation receiving engineer, was also on the *Aquatania* bound for Europe on business, but he and Godley had never met. To the surprise of the little radio crowd Beverage was discovered leaning over the rail not a great way from Godley. This dope was promptly QSRd to the latter by 'hand-radio' who was thereby enabled to walk straight up to Beverage and introduce himself. Beverage, it seems, had been watching these proceedings too, and as he shook hands with Godley with his right, he gave us a nonchalant 'OK' with his left."

Do THAT by hand in AMTOR! Incidentally, Beverage described his 'Wave Antenna' to Godley, who used a version of it at Ardrossan in the receiving tests, introducing the concept of the Beverage antenna to the Amateur world.

The Morse symbol for ! is KW sent as one symbol— dahdidahdidahdah. OS— dahdahdahdididit— is a colon. This info from Pauline ZL2QW.

Tom Clarkson ZL2AZ is the Grand Old man of Amateur Radio in regulatory matters. He signed the ITU Convention at Atlantic City in 1947 on behalf of New Zealand and has attended most of the important conferences since. He is an authority on radio history, and writes that the IARU was formed in 1925 in Paris with representation from 23 nations and the primary object 'the promotion and coordination of two-way communication between the Amateurs of the various countries of the world'. There was no official international radio body that the IARU could collaborate with until the Radiotelegraph Conference of 1927 in Washington. IARU was not officially represented there, but its objectives were advanced by delegations from countries that actively supported Amateur Radio, and six bands were allocated for Amateur operation between 1715 and 60,000 kHz. Regulations were also adopted to govern the service. At Madrid 1932 Telegraph and Radio Conventions were combined in the 'International Telecommunication Union', and the Amateur service defined.

When the constitution of IARU was changed to make it a federation of National Amateur Radio Societies, the HQ and secretarial functions were undertaken by ARRL. IARU has Regional Conferences in each of the three Regions (which parallel those of the ITU); there is an Administrative Council with representation from HQ and each of the Regions; there are 130 member Societies. IARU has Observer status at ITU Conferences.

Postal Portfolio

ZL4IZ put forward an interesting idea for NZART (the NZ national society) members. He suggests small groups of members (four to six per group) get together to form notebook-circulation portfolios on specific aspects of Amateur Radio (antennas, DXing, history, hints and kinks, experimental techniques, etc). The portfolio would be circulated regularly to each member in turn to have for up to ten days before posting it on to the next in the list. One looseleaf folder in the package would contain members biographies and letters, another would have contributions on the topic of interest. From *Break-In*, the journal of the New Zealand national society.

Continued on next page ►

Women Of Wireless

By Olive J. Roeckner VE7ERA

As a former seagoing brasspounder, it saddened me to learn that CW is to be phased out commercially by 1991. No longer the friendly chatter of morse around the world as ships on vast oceans reach out to other ships, or to coast stations on distant shores. The days of the wireless operator are numbered, soon to become just another illustrious chapter in maritime history.

Before the memories of those years become too dim, I would like to acquaint the reader with a relatively little-known fact. Mention wireless operator to the average person and an image comes to mind of a lone *man* hunched over a key, surrounded by a confusing array of switches and dials. A somewhat mysterious figure perhaps, that link between a ship and the rest of the world. How many are aware, though, of the part women have played in the annals of seagoing sparks, in particular Canadian women? Their numbers are few, but they are deserving of mention.

Records indicate the first young woman to serve at sea as a wireless operator was American, a Miss Graynella Packer. The year was 1910. Miss Packer only remained a few months, but by the end of the '30s at least 13 other young ladies had operated on vessels along the Atlantic and Pacific coasts and on the Great Lakes, their lengths of service varying from a few months to several years.

With the outbreak of WW2 began the Battle of the Atlantic with its savaging of convoys by U-boats. Ship losses meant losses of trained personnel, among them the wireless operator.

In 1940 the Merchant Marine began recruiting operators in Canada and to a young Cobourg, Ontario, girl this was the opportunity of a lifetime. Twenty-year-old Fern Blodgett had grown up with a dream to some day become a sailor. Working days as a steno, she attended wireless night classes, gaining her commercial licence 18 months later, only to discover there were no positions open to women. A few weeks later however, Fern's former principal phoned and asked if she was still serious about wanting to go to sea. 'Yes' was the answer and that very night Fern was on a train for Montreal. Port authorities there were surprised to find that F. Blodgett was a YL but checked with the captain of the Norwegian cargo ship *Mosdale* to learn if a woman was acceptable. Captain Sunde was desperate for an operator and, as Fern seemed confident, he agreed to her coming onboard.

Once Fern had gained her sealegs she soon proved to be a capable operator. Constant storms were the ship's lot and Fern witnessed the many horrors of torpedoing and their attendant tragedies.

In July of 1942 Fern married Captain Sunde in Saint John, N.B. and their honeymoon was spent... at sea, in convoy. *Mosdale* was a lucky ship. Of the half-dozen fruit carriers to start the crossings in 1940 she was sole survivor. *Mosdale* could make 15 knots and often was allowed to sail on her own. In all, she made 98 Atlantic crossings of which Fern was aboard for 78.

Fern retired from the sea after war's end, to make her home in Norway. A book was written of her adventures and *Lucky Mosdale* (Lykkelig Mosdale) became a bestseller in Norway.

Fern had proven by her competence that women were capable of the job and, as there still remained a shortage of operators, the Norwegians had no hesitation in accepting other Canadian girls for the positions.

The second Eastern woman to take to the sea was Esther Crichton of Halifax. She sailed aboard M/S *Narvik* in the Pacific area during the latter war years. Esther remained with the vessel when it was renamed M/S *Siranger* at the end of hostilities, retiring in early 1947.

A number of young women across Canada earned their commercial tickets during the war years, the majority employed as interceptor operators at various DOT stations. The first girl in Western Canada to receive her licence was Ina Waller of Kimberley, B.C. While Ina did not go to sea, she served in the Marine Room at VAI, the Pt. Grey Wireless Station, and as an interceptor operator there and at Victoria.

It is arguable as to who was the first woman operator in Western Canada to go to sea. There were three who sailed wartime but the press gave the nod to Ola McLean of Vancouver and Alice House of Port Coquitlam. Both girls graduated from Sprott Shaw School of Radio in 1944. They were doggedly determined to ship out, succeeding later that year.

After an uneventful crossing of the Pacific, a newspaper article briefly reported that Ola and Alice had arrived safely in an Australian port aboard an Allied (not Canadian) tanker after a voyage in which they were treated royally. It stated further that the two were prevented from signing on a Canadian ship by marine regulations in this country. When an official was asked at the time if this meant that Canada would now allow women aboard its vessels, the response was a horrified, "Good God, no, we have enough trouble on ships now without having women onboard!"

Alice later served on the Norwegian tanker *Karsten Wang* and in 1947 married Captain Olaf Hansen who had been 2nd officer of the same Norwegian tanker on which she had made her first voyage, the *Kaptein Worsoe*.

Ola McLean remained at sea for a number of years, her voyages taking her to most of the ports of the world. After the year and a half on the *Kaptein Worsoe* in the Pacific theatre of war, Ola served on M/V *Glorono*, M/V *Beau Regarde* and M/V *Three Rivers*.

The third Western YL with wartime experience was Rosemary Byrom of Victoria. Rosemary joined her first Norwegian ship, the *Jotunfjell* in San Francisco, aboard which she remained for a year. Service on three more tankers followed, one of which sailed in the last convoy to cross the Atlantic before V-E day. From there the vessel proceeded to South American ports and carried fuel oil to Pearl Harbour for the U.S. navy, together with planes and tanks for the Pacific war zones. Rosemary retired from the sea about 1947.

After V-J day, women interceptor operators were released from government service. A few from VAI found employment with the DND at a station outside of Victoria, replacing personnel being discharged. Anna Ozol, who had worked in intercept at the Lulu Island station, went a different route and was successful in securing a position aboard a Norwegian vessel. While serving on M/S *Skaubo* in the late summer of 1949, Anna achieved the doubtful distinction of being one of the

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QUA *(cont'd)*

UNITED STATES

Schools in Radio program

Carole Perry WB2MGP and Gordon West WB6NOA have set up a net on Thursdays 0900 Pacific Time on 28,300 kHz and up to discuss anything connected with Amateur Radio in schools. For information on the curriculum for the schools program write Carole at 33 Ferndale, Staten Island, NY 10314. ■

few women, and the only Canadian woman that I know of, who had to send out an SOS. *Skaubo* took on a severe list while about 500 miles off the U.S. West Coast when her cargo of soft ore concentrate shifted during a storm. Happily the vessel was able to make port without aid.

Home in Vancouver on leave, February of 1947, Anna brought word a Norwegian ship in San Francisco needed an operator. The message was quickly passed to Victoria and within days Elizabeth King was flying south. She had drawn high card and was finally able to fulfill her longtime wish to ship out. In 'Frisco Elizabeth joined her first vessel, M/S *Vito* and sailed across the Pacific to the Philippines, Orient and Australia. She remained on *Vito* just over a year and after a lengthy holiday ashore shipped out again, this time on M/V *Skauvann*. This vessel also sailed the Pacific routes and Elizabeth served aboard until early in 1951 when she left the sea for good.

When Elizabeth flew off to San Francisco she was quickly followed by two other girls from Victoria, Norma Gomez and myself. Norma had the poor luck to be assigned to a small coastal vessel, the *Lutz* which carried newsprint from Powell River to U.S. West Coast ports. Accommodations on the ship were quite primitive, as was the R/R, and Norma retired six months later.

I was more fortunate, replacing Esther Crichton on M/S *Siranger*, a service that would last four years and cover much of the world.

The only other Canadian girl who went to sea in those years was Lylie Smith. She shipped out in 1946 but prior to that had been the first girl radio operator hired by the Hudson's Bay Fur Trade Co. for their northern posts. Probably the longest at sea of any of the Canadian YLs, Lylie spent five years on the Far East routes and another five years sailing between the U.S., Europe and South America.

By the late '40s and early '50s, Norwegian girls were taking over more of the positions on their country's ships. The few Canadian women operators swallowed the hook and settled ashore, no other Canadian YLs following in their wake. Until 1970 that is, when Dallas Bradshaw from Victoria, B.C. went to England for training, becoming the first woman operator to sail aboard a British ship, the ore carrier M/V *Duncraig*.

Predominantly it has been the Scandinavian countries who have accepted woman operators in their merchant fleets. Many Norwegian girls served as sparks and at one time, at least a third of the radio officers aboard Swedish vessels were women. Other 'progressive' nations have been Denmark, Finland, Germany, Russia and Great Britain.

The U.S. started it all, of course. Although their numbers have not been as great as the Scandinavians, during the latter war years on up to the present, American girls have continued to serve as wireless/radio operators in their merchant marine, Coast Guard and on Army transport and hospital ships.

A number of YL 'professionals' are also 'Amateurs' with callsigns many will recognize. Known to DXers worldwide is Elizabeth (King) VE7YL and the lucky ones perhaps had QSOs when she was EP2ELA and YB0ADT... and who hasn't heard of Kirsti VK9NL or Kari VR6KY? Among some of the lesser known calls are Sylvia LA1OGA, Mikaela DK5EJ/OH2SG, Esther W6BDE and Lota AC7V.

So, let this be a last Hurrah for Sparks... those ladies and gentlemen deep sea brasspounders. Ship's operators may disappear but morse will be around for a long, long time, of that I am convinced. For many of us it is, and always will be, mysterious music that spans the globe... our other language.

If there are any Canadian women who sailed as W/Os, whom I have not mentioned, my apologies. Please, I would like to hear from you at P.O. Box 789, Kaslo, B.C. V0G 1M0. ■

SWAP SHOP

FOR SALE: HOME in Nakusp, B.C., 733 Columbia Crescent. Nine yrs. young, 1450 sq. ft. plus 325 sq.ft. court-yard-sundeck. Beautifully fenced and landscaped. Double garage, Sauna with pool. Underground wiring, sewer, street lights, side walks. EXCELLENT DX-Location. Curling, fishing, golf, Hot Springs, Ski Hill. Contact VE7EHD, 604-265-3175.

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 Bisaillion VE3CBK, RR#1 Old Carp Road, Kanata, Ont. K2K 1X7.

FOR SALE: EIMAC 4C X 10,000D tube, socket and chimney (SH) $450.00. Also, EIMAC 4-1000 tube with socket (SH) $150.00 and EIMAC 4-125A new $35.00. Filament transformer for 4C X 10,000D $60.00 (SH). **WANTED:** Operating instructions and schematic drawing for Yaesu DXL-2000 linear, also for a SWAN 1200Z linear. Total reproduction cost honoured up to $40.00. Clem Beauregard VE2BIA, 286 Helen, Otterburn Park, Quebec J3C 1R6. (514) 464-6911.

FOR SALE: EZ-Way self supporting 40 ft crank-up tilt-over tower. Call for details. SB220 Linear Amplifier, good condition $800.00. Pair new 3-500Z tubes $230.00. Syd Horne VE3EGO, 531 Victoria Ave., Belleville, Ont. (613) 966-8670 evgs.

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.

FOR SALE: TI 99/4A Computer with interface for sending and receiving CW. Including modulated cass recorder, command modules, TV screen and books of instruction. $250. Knight KG-630 Wide band oscilloscope $25. de: Paul Pierrard VE3OFP, 1327 Essex St., Ottawa, Ont. K1H 7P1. (613) 521-8182.

FOR SALE: Kenwood TS120S 80-10M. 100W HF xcvr. Hygain 14AVQ 40-10m. Vertical Ant. Miniproducts C4 20-6m. Vertical Ant. Bohdan Brenko VE3BJY, 2 Vista Dr., Fonthill, Ont. L0S 1E2.

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.

REVIEWS

CONFIDENTIAL FREQUENCY LIST

Seventh edition 1988 by Gilfer Associates, Inc. Compiled by Geoff Halligey is distrbuted in Canada by Canadian International DX Club. The Canadian Amateur *carries the column 'Listening to the World' by Sheldon Harvey, from whom more information or a copy is available.*

Entries

The book has well over 30,000 CW, Voice, RTTY and FAX frequencies listed in the 4-28 MHz spectrum. It has considerable recognition around the world as the most comprehensive list available and could be the undisputed leader in that respect.

Anyone with an issue prior to 7ed may recall power was listed, but is now omitted as even 'flea power' can be used to work the world given favourable propagation.

Compiler

Besides the dearth of frequencies, it has notes on Using the Frequency list—column by column. He explains frequency as it applies to the various entries, mode with baud rates and their equivalent wpm, callsign commentary, locations are explained in a variety of spellings and confusion that may arise therefrom. Service is explained using two letter abbreviations. Remarks column enfolds a myriad of information all thoroughly explained under headings such as Marine, Aeronautical, Broadcasting stations, Meteo & Weather, Embassies, Military Units, Telecom, Traffic, Interpol, Commercial and more.

Anyone with a general coverage receiver and all-mode TNC will be more than pleased with a copy on their shelf. When ordering, tell Sheldon you saw it here first! — VE6BLY

ENGINEER'S MINI-NOTEBOOK

This is a series distributed in Canada by Radio Shack and written by Forrest M. Mims III who writes a series of Siliconcepts™ books. They are useful in themselves but may be a distinct advantage to those following *The Canadian Amateur* column 'Looking Ahead' by Art VE3AHU.

The first one covers 555 Timer IC circuits with schematics and explanations for 28 experiments. The second book covers OP AMP IC circuits with 40 experiments. The third book covers Optoelectronics circuits, all about lenses, enclosures, spectrum and some 50 experiments.

The fourth book is about Basic Semiconductor circuits involving simple explanations for resistors, capacitors, RC circuits, diodes, rectifiers, zener diodes, bipolar transistors, Junction FETs, Power Mosfets, unijunction transistors and more. Again with about 50 experiments including one entitled Miniature RF Transmitter using a single 2N2222.

The fifth book in the series titled *Digital Logic* circuits covers Introduction, Logic, TTL and TTL/LS Logic, TTL Input & Output Interfacing, TTL NAND Gates, and TTL application circuits. CMOS is a big part of this book with over 30 experiments followed by a section on Digital Logic Troubleshooting. At less than $2 CDN each, they would be a big advantage to any experimenter these days. See page 119 of the latest RS catalogue. — VE6BLY

Brunelle Multitester

TAKES A LICKING...

In January, John Brunson of Alabama received quite a surprise. The long-forgotten Icom IC-27A VHF mobile transceiver that was stolen from his car some five years earlier turned up in working condition. It seems the mud-filled unit was found in a storm drain on the Troy State University campus by a janitor!

Brunson, chief engineer at WTSU radio at Troy State University, discovered the unit when it was turned in to the campus motorpool. A quick check of serial numbers and the original police report confirmed the radio was indeed the one stolen five years ago.

"The radio was full of mud and rust," Brunson said. "I took a photo chemical tray, filled it with alcohol, and soaked the radio. Then I blew it out with compressed air and dried it with television studio lights."

Brunson then reset the microprocessor in the radio and hooked up an external speaker to it. To his surprise, the unit worked! He continued, "The only reason it was found is because a new building is being constructed on that site. It has probably been there since it was stolen. I'm utterly amazed that the IC-27A worked after five years in a storm drain!"

— Icom

BRUNELLE MULTITESTER

The NEW model 865 Multitester features include high input impedence, large easy-to-read dial, extra rugged, overload protection and single range switch with 43 ranges. DC volts 0-1200v +/-2.5%, AC volts 0-1200v +/-2.5% DC current 0-12a +/-2.5%, AC current 0-12A +/-2.5% and 5 resistance ranges. The model 865 is a useful alternative to digital type meters for electricians, service technicians, industrial maintenance technicians and appliance service technicians. The model 865 is not affected by large variances in temperature.

APPOINTMENT

The Canadian Amateur Radio Federation is pleased to announce the appointment of Paul Cooper VE3JLP to the position of representative on the Land Fixed and Mobile Committee of the RABC.

Mr. Cooper is a well-known columnist for *The Canadian Amateur* and an avid DXer. He lives near Ottawa and is President of the Ottawa Amateur Radio Club.

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

CARF OPERATING AID

The Canadian Amateur Radio Operator's Guide (c)
Table II
Authorized VHF/UHF Frequency Band Limits and Types of Emission

ALLOCATIONS		AUTHORIZED TYPES OF EMISSION	
FREQUENCY LIMITS (MHz)		AMATEUR	ADVANCE AMATEUR & 1 YR ENDORSE (add emissions)
LOW	HIGH		
50.000	50.050	A1..	
50.050	51.000	A1,A2,A3,F1,F2,F3.	
51.000	54.000	AO,A1,A2,A3,A4,F1,F2,F2,F4.	
144.000	144.100	A1.	
144.100	148.000	A0,A1,A2,A3,A4,F1,F2,F3,F4.	
220.000	221.000	A0,A1,A2,A3,A4,F1,F2,F3,F4.	
223.000	225.000	A0,A1,A2,A3,A4,F1,F2,F3,F4.	
430.000	433.000	A0,A1,A2,A3,A4,F1,F2,F3,F4.	
434.000	450.000	A0,A1,A2,A3,A4,F1,F2,F3,F4.	A5,F5.
902.000	928.000	A3,F3.	
1215.000	1300.000	A0,A1,A2,A3,A4,F1,F2,F3,F4.	A5,F5.
2300.000	2450.000	A0,A1,A2,A3,A4,F1,F2,F3,F4.	A5,F5.
3300.000	3500.000	A0,A1,A2,A3,A4,F1,F2,F3,F4.	A5,F5.
5650.000	5925.000	A0,A1,A2,A3,A4,F1,F2,F3,F4.	A5,F5.
10000.000	10500.000	A0,A1,A2,A3,A4,F1,F2,F3,F4.	A5,F5.
24010.000	24250.000	A0,A1,A2,A3,A4,F1,F2,F3,F4.	A5,F5.

DEFINITION OF EMISSION SYMBOLS

A0 unkeyed or unmodulated emission
A1 telegraphy by the on-off keying of an unmodulated carrier
A2 telegraphy by the on-off keying of an amplitude modulated audio frequency signal or by the on-off keying of the amplitude modulated carrier
A3 telephony by amplitude modulation
A4 (i)facsimile by amplitude modulation of a carrier, either directly or by a frequency modulated sub-carrier, or (ii)slow scan television.
A5 television by amplitude modulation.
F1 telegraphy by frequency shift keying where one of the two unmodulated carriers is being emitted at any one instant
F2 telegraphy by the on-off keying of a frequency modulated audio frequency or by the on-off keying of a frequency modulated emission
F3 telephony by frequency modulation
F4 facsimile by the direct frequency modulation of the carrier
F5 television by frequency modulation

8902

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ICOM's all new IC-4KL solid state HF linear amplifier represents a hefty step forward in modern electronic technology and futuristic station design.

It installs in a limited space, interconnects in a breeze and delivers band-commanding performance in the most reliable top-of-the-line fashion. Give your signal a power boost with ICOM's IC-4KL!

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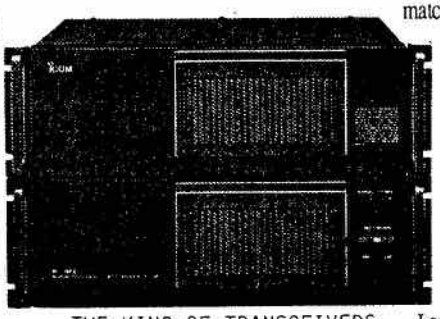

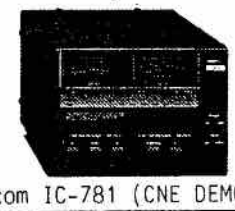

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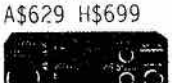

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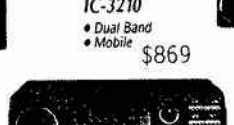

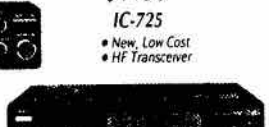

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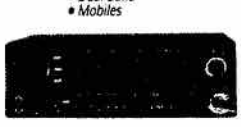

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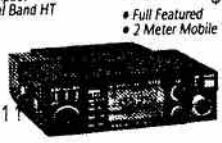

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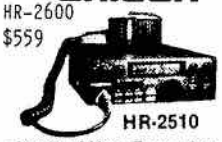

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IC-u4AT 440MHz Handy, -
IC-04AT 440MHz Handy, -
IC-471H 430-450MHz 75W -
Alinco ALR-72T 440MHz 25W M-

DualBand SPECIALS

Yaesu FT-727R 2M &440 5W Hand-
Alinco DR-500T 2M & 440 DualBa-
DR-510 2M & 440 DualBan-
ALD-24T 2M 440MHz Dual B-
Icom IC-3200 2M & 440MHz 25W

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Yaesu FTT-4 Touchtone Pad for
Icom LC-31 Soft Case IC-u2/4A
Icom EX-242 Optional FM Board
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Daiwa CN-650N Cross-Needle Me-
B & W TR-381C Tx/Rx Switch, El-
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ile Xcvr with TTMic	$699	$549
held	$849	$599
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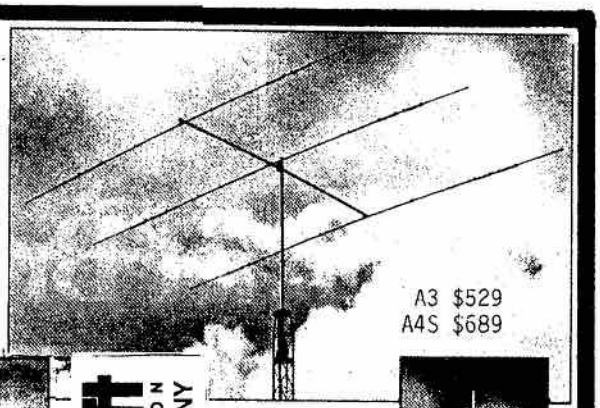

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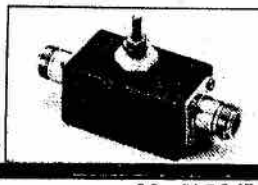

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Table 1
Authorized High Frequency Band Limits and Types of Emission

ALLOCATIONS			AUTHORIZED TYPES OF EMISSION		
METRE	FREQ LIMITS (MHZ)		AMATEUR		ADVANCED AMATEUR
BAND	LOW	HIGH	BASIC	6 MONTH ENDORSE	
160	1.800	2.000	A1	A1,A3.	A1,A3,F3.
80	3.500	3.725	A1	A1,F1.	A1,F1.
	3.725	4.000	A1	A1	A1,A3,F3,A4.
40	7.000	7.050	A1	A1,F1.	A1,F1.
	7.050	7.100	A1	A1	A1,A3,F3.
	7.100	7.150	A1	A1,F1.	A1,F1.
	7.150	7.300	A1	A1	A1,A3,F3,A4.
30	10.100	10.150	A1	A1	A1,F1.
20	14.000	14.100	A1	A1,F1.	A1,F1.
	14.100	14.350	A1	A1	A1,A3.F3,A4.
17	18.068	18.168	A1,F1.	A1,F1.	A1,A3,A4,A5,F1,F3,F4,F5.
15	21.000	21.100	A1	A1,F1.	A1,F1.
	21.100	21.450	A1	A1	A1,A3,F3,A4.
12	24.890	24.990	A1,F1.	A1,F1.	A1,A3,A4,A5,F1,F3,F4,F5.
10	28.000	28.100	A1	A1,F1.	A1,F1.
	28.100	29.700	A1	A1,A3,F3	A1,A3,F3,A4.

DEFINITION OF EMISSION SYMBOLS

A0 unkeyed or unmodulated emission
A1 telegraphy by the on-off keying of an unmodulated carrier
A2 telegraphy by the on-off keying of an amplitude modulated audio frequency signal or by the on-off keying of the amplitude modulated carrier
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A4 (i)facsimile by amplitude modulation of a carrier, either directly or by a frequency modulated sub-carrier, or (ii)slow scan television.
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F3 telephony by frequency modulation
F4 facsimile by the direct frequency modulation of the carrier
F5 television by frequency modulation

8904

·CQ DX·CQ DX·

Paul Cooper VE3JLP, RR 2 Metcalfe, Ontario K0A 2P0
613-821-2167

QSLs AGAIN!

Looking back over several years of columns, I see that the subject of QSLs and QSLing crops up fairly regularly. It's not surprising really, we have all heard the cynics who tell us that working rare DX is not the real challenge, the thing that sorts out the men from the boys is getting that DX card back!

These thoughts ran through my mind as I read a couple of interesting items in the summer issue of the *Northern California DX Foundation Newsletter* that directly relate to the subject. The first was an update on the 3D2XX, Rotuma, card situation by Kip Edwards W6XZN. You will remember the DXpedition which took place last October-November, but did you realize just how many contacts they made? 34,700. The article explained just how this avalanche of cards has been dealt with by the QSL manager for the expedition, Ross Forbes WB6GFJ, and his volunteer helpers from the NCDXF.

While they waited for the first batch of cards to arrive from the printer, the entire DXpedition log was punched into a computer. Easy to say, but can you imagine how many hours it must have taken to do this? Bob Wilson N6TV developed the special database program that was used to sort this mass of information and print out thousands of sheets of labels, in call sign order, ready to attach to the blank 3D2XX QSLs.

When the cards arrived, the monumental task began of sorting the incoming cards, finding the QSO in the labels, peeling it off and sticking it onto a 3D2XX card and stuffing it and an NCDXF flyer in the return envelope ready to be mailed.

Kip tells us that the team went to extraordinary lengths to ensure that your QSO was confirmed. If they couldn't find you in the labels on the first pass they placed your card in the 'NIL' box (not in the log) to be checked against the original log. If this check didn't produce a match, the card went into the 'SNIL' box (seriously not in the log)! At this point Kip took each card and went forward and back a day, an hour, two hours and in some cases through the entire log in an attempt to confirm the contact. As he said in his article, if you get your card back marked 'not in the log', that's exactly what it means!

The team's work in replying to all those requests for cards has put them in an unassailable position when it comes to offering advice on how to be successful in QSLing a DXpedition.

This attractive card confirmed a Mellish Reef contact, on ten metre CW, for your DX Editor.

They offer the following set of rules:

1. Make sure your callsign and the QSO data are on the same side of the card. If you have one of those 'flip it over' cards write your callsign in large letters on the data side too.

2. Write legibly or, if you can't, have your wife, husband or children fill out the cards. Kip mentions that some of the handwriting had to be seen to be believed.

3. Record the QSO time in GMT (UTC) and remember that this means that the QSO date may not be the same as your local date.

4. Don't send your cards in the same envelope as your wife's cards, your next-door neighbour's cards or, (gasp) your entire radio club's cards.

5. Be patient! Wait a reasonable time before sending a duplicate set of cards... if you must. It would be helpful to the QSL manager if your second set were clearly labelled as duplicates.

6. Take a critical look at one of your cards. Is the callsign easy to find, how about the time, band and date? If you have any doubts, choose a clearer design next time you have a batch printed. Kip recommends using a yellow highlighter on the callsign and band.

7. Send one card and one return envelope in each outer envelope (see 4 above).

8. A note that says 'thanks' or 'great operation' works wonders. It doesn't mean that you will get your cards any faster or that you will be in the log when you really are not! But it will make the person answering your card feel better.

9. Also sending money doesn't mean that you are entitled to special treatment either, or that the manager will bend the rules and find you in the log when you are not there. However any contribution over the cost of return postage will help to defray the DXpedition's costs, which are often quite high.

In summary, it's all pretty obvious stuff, isn't it? However it is clear that what is obvious to most of us is news to a sizeable group of DXers looking for confirmation of their QSOs.

The other item on QSLing was also in the same issue of the *NCDXF Newsletter*. Entitled 'Africa in the Computer Age' by Don Greenbaum WB2DND, it described a very elegant computer logging program that he has developed over the last few years which has been used by a number of DX stations in Africa. His friend Tom Gregory 9Q5NW, TN4NWE, TL8TG, etc. is one of his users and the program has helped him in a number of ways.

For example, Tom's log now contains over 50,000 QSOs, but if you work him he is instantly able to refer to any previous QSOs you may have had with him. On his recent DXpedition to TN, Congo, he made over 15,000 contacts, but any stations that attempted to make insurance contacts on the same band and mode were immediately told that they would not be logged!

Continued on next page ►

Even more important is the ability to send the logs to his QSL manager, AL7EL, on a disk. The computer speeds the search for a particular QSO enormously and can print the QSL labels automatically. Incorrectly entered callsigns can often be found by browsing the chronological features of the program. The status of prior QSL requests can also be seen instantly. However the greatest benefit to all of us can be seen by analyzing 9Q5NW's logs before and after he started to use this program. Apparently his QSO rate has increased tenfold!

A number of other stations are using the program including Peter ZS8MI on Marion Island. He has added a few refinements which fit his operation. After every 50 QSOs he copies the database to a program that will compress the data into text format. These files are further compressed, using an archiving program, before they are sent by HF packet radio to his QSL manager in South Africa. Result, fast turn around for all our cards. We learn that Peter has been very sensitive about 'insurance' contacts in his first months of operating from Marion. As Don said at the end of his article, "Hopefully those who have a habit of proving, week after week, that they can bust the pile-up for the same rare one can now give some of the rest of us a chance!"

If you are interested in the details of Don's program, send him an SASE at 250 Standish Street, Duxbury, MA 02332 U.S.A.

'THE COMPLETE DXER'

It's good to read that a second edition of Bob Locher W9KNI's book has gone to press. I recall reviewing the first edition a couple of years ago in this column and there is no doubt in my mind that it is one of the best books written on the subject of DXing. The new edition has been considerably revised and updated, taking into account changes in the world of DXing while retaining the very successful approach of the first edition. Check with your local radio store, after September, for copies which will retail for about $15 (Can).

DX REPEATERS

If you have ever wondered about how useful a DX repeater might be, consider these statistics from the *NCDXF Newsletter*. Over 500 Amateurs in Northern California and Nevada are usng the new 'DX Packet Spotting Network'. There were 245 countries reported from June to September 1988! This included 6325 announcements of 3049 DX stations. Similar networks are operating in New England, Colorado, Georgia and other places. Now I understand why the pile-ups grow so fast in certain call areas!

BITS AND PIECES

3D2, Conway Reef— Good news for those of you who didn't manage to work the first two DXpeditions to this proposed new DXCC country. 3D2RY will be on the air from Nov. 3 to 13. OH1RY and some of his group will be operating from Conway Reef and a number of other, as yet unknown, Pacific locations.

ZS8, Marion Island— Since I mentioned Peter ZS8MI and his skills in turning QSLs around fast earlier in this column, it seemed like a good idea to give readers some hints on where to find him. *Long Skip* says he is not easy to find, but he is active and does work some CW. Try 14.175 MHz at 1300UTC. Other frequencies to check, between 1000-1900 UTC, include 28.390, 28.410, 28.050, 14.075, 7.045, 17.172, 28.400, 21.230 and 14.180 MHz(!). That should keep everyone busy.

When you've checked all those frequencies, you could also try 14.185-190 between 1400 and 1500 UTC; 14.222 at 1000 and 28.800 MHz between 1200 and 1400 UTC. It all sounds a bit like looking for a needle in a haystack, but we are assured that if we keep looking we will find him. (Where is that DX repeater now that we really need it?!)

CY0, Sable Island— Early August saw another DXpedition set up on Sable Island in the Atlantic off the Nova Scotia coast. I haven't heard how CY0DXX got on but VE3ANO phoned to tell me of a potential pitfall for anyone looking for QSLs. The manager is VE1AL and his address is fine on the U.S. Call Book, however it is *wrong* in the CARF callbook and also in a listing of Maritime hams published somewhere in VE1-land. You have been warned, look up his address in the U.S. published Call Book ONLY!

YL DXCC Countries— Lenny K5OVC would like to know who has worked over 200 YL countries. According to Lenny, WA3HUP has worked 196, 4X4JV 210, K9ECE 205 and he has 225. Please contact Lenny direct.

High Speed CW— K7NW, in *QRZ DX*, reports the first meeting of a U.S.S.R. high-speed CW club. It was established five months ago and they used the special callsign 4L1QRQ during their first meeting.

The club transmits bulletins on Saturday at 0700 UTC on 14.070 MHz. Membership will be open to Amateurs capable of operating above 34 wpm who have recommendations from five club members. For those of us who are still struggling to push our code speed over 25 wpm their entrance requirements sound pretty daunting. However one Ottawa area DXer, Bryan VE3CRG, already has a certificate from a European High Speed CW club for 60 wpm!

Thanks are due to the following sources for some of the material appearing in this column: W6SZN, *Northern California DX Foundation Newsletter*, WB2DND, VE3BTQ, *Long Skip*, VE3ANO, K7NW, and *QRZ DX*. ■

Band Reports

Thanks to Jack, VE3BTQ, for these extracts from his log.

CALL	FREQ(MHz)	UTC	DATE	QSL
4X6TC	21.277	2042	JUNE 27	
UA0BEZ/UA10	21.246	1636	JULY 4	Franz Joseph
YC6KOS	21.232	2119	JULY 4	
UA6HZ/JW	21.268	1628	JULY 12	UA6HZ
UJ8JCM	21.244	0310	JULY 13	
JY5DL	21.215	1442	JULY 13	
YI1BGD	21.258	1944	JULY 13	Call Book
FH8CB	14.256	0401	JULY 14	
C17GRN	14.262	0440	JULY 14	Green Is. new IOTA #118
TA2KA	21.250	1346	JULY 14	
VQ9IF	21.355	1736	JULY 15	Diego Garcia
		Qsl to Box 9-801, FPO 96685.San Fransisco.		
3DA0AH	21.335	1751	JULY 15	Box 2726, Mbabane. SWAZILAND.
T77V	21.345	1929	July 18	Call Book.
SV0GX	21.246	1519	JULY 25	Crete,WA7QAR.
A92BE	21.315	1253	JULY 27	(Shalin)
6Z7X	21.245	1959	JULY 31	Box 538, Monrovia
VP8BZR	21.273	1235	AUG 7	G6XYW
L4H	28.350	1916	JULY 22	LU7HJM
T32IO	14.226	1259	AUG 9	AH6IO

CONTEST SCENE

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

CONTEST CALENDAR
Oct 7-8 Pennsylvania QSO Party
Oct 7-8 VK/ZL Oceania CW Contest
Oct 8 RSGB 21/28 MHz SSB Contest
Oct 15 RSGB 21 MHz CW Contest
Oct 28-29 CQ WW DX Phone Contest
Nov 10-12 Japan Int'l DX Contest
Nov 11-12 European RTTY Contest
Nov 25-26 CQ WW DX CW Contest
Dec 2-3 Telco Pioneer QSO Contest
Dec 31 CANADA WINTER CONTEST
(Courtesy John Dorr K1AR, CQ Magazine and The Canadian Amateur)

CQ WW DX SSB

This month the 88-89 contest season really begins with the CQ WW DX SSB contest. Although the results of last year's contest were not available at time of writing, the high-claimed scores released in June *CQ* tell a tale of great conditions, and superb performances by Canadians. Table I is the records table as modified by the high claimed scores.

On the subject of the CQ WW DX Contests, in K1AR's column in August *CQ*, three changes were announced to the rules. The most significant change was to create a new single operator class, 'Single Operator Unlimited'. Under the old rules, all single operators had to be completely unassisted in all the operating functions of the station. They could not have someone sit in while they took a break, they could not take multiplier spots off the local 2M repeater. If they did, they would be classed as a multi-single. Single operator meant one person alone.

The new unlimited class developed out of the packet revolution. Packet radio is now being used widely in the United States for collecting DX spots in a manner similar to the use of DX spotting repeaters as exist in Toronto, Halifax, Winnipeg and Vancouver. Packet, however, offers the opportunity to maintain and organize the information in a database, and to look up spots provided by others well after the announcement is made. AK1A has written some networking software for this specific purpose, and several chains of digipeaters have grown up in the U.S. exclusively for the dissemination of DX spots. Seeing all this potential, a lot of U.S. single operator types have become frustrated with the apparent restriction on their potential.

The question I ask is: what impact will this have on the old single operator class? I doubt whether this new class will have much of a following outside the U.S., where this use for packet radio is most extensive. Here in Canada, I am given to understand there is only one such network, down in the Toronto area. It is clear that entrants using packet to get spots are in a different class from those who do it alone. I question whether it is necessary to create a separate class. It is wonderful to see this new technology being adapted, but it seems to me that someone using packet, 2M FM or the telephone to get spots belongs in a multi-operator class.

To *CQ's* credit, they have maintained a coherent set of rules for their contests for a long time. They would not have made such a change if they had not felt there was a need. I just doubt if the need is widespread enough to justify a change.

PROFILE: VE7EIK

George Furtado VE7EIK is one of the most reliable west-coast participants in CQ WW CQ WPX and ARRL DX Phone contests. Thirty-one years of age, George has been a ham since 1982. He has a strong interest in DXing, and claims DXCC totals of 249w/233c. He is still waiting for a QSO with Zone 34 to finish off WAZ. His goal in contesting is to do better than he did last time, and "hopefully someday I can give somebody nightmares. Hi."

VE7EIK is located in Penticton, in the Okanagan Valley, and contesting from a mountainous region like the interior of B.C. can be frustrating. The horizon is blocked in most directions by hills. While most of the hills are below eight degrees, to the east, the ridge on which George's house is built rises to 12 degrees. Things look much better due north and south, down the length of the valley.

In some respects, the topography puts George behind the eight-ball, but to combat this disadvantage, and Eastern Canada's easier access to Europe and Africa, George has developed a simple two-part strategy. First, know propagation well, including what times of day are best for what regions of the world. George uses computer propagation models, backed up with on-air verification. Second, once the contest begins, he runs as fast as he can, while the band is open, and he finds the computer is a real help in that it performs all the logging functions very efficiently.

George's two towers support 5-element monobanders for 10, 15 and 20, manufactured by Hy-Gain. For the low bands, George uses a Butternut HF2V. In the shack is a Kenwood TS-94SAT, an Amp Supply LK-5000ZA amplifier, a Heil BM-10 handset with boom mic, and a DVK-100 voice keyer. The DVK is a real voice saver, according to George. Logging chores are handled by an IBM—PC-AT compatible, and W2GGE's software (see Nov. *TCA* for review, in this column). George is also set up on 2M with a Kenwood TS-711A all-mode transceiver, KLM 2M22C antenna and a PK-232 TNC. Judging from the picture, George also has plans for satellite work, but does not mention this in his letter.

Professionally, George works as a seismograph station operator for the Federal Department of Energy, Mines, Resources in Penticton. He is married with two children. Among his other hobbies are computers and flying radio-controlled model airplanes.

George is a perennial in the major Phone DX contests, and an avid DXer at other times. VE7EIK has the attitude of a true sportsman, in that he does his best, and is always looking to do better with the resources at his disposal.

TABLE I

Canadian Records - CQ WW DX SSB

		Score	QSO	Zon	DXC		
A	VB3XN	5,373,693	not official			1988	*
28	VE5DX	1,340,184	not official			1988	*
21	VO1SA	1,650,352	not official			1988	*
14	VE2ZP	1,254,282	not official			1988	*
7	XN3BMV	546,615	1882	31	104	1984	
3.5	VE3BMV	383,040	1629	25	89	1985	
1.8	VE3BMV	52,240	662	14	26	1986	
MS	VE6OU/3	9,406,875	not official			1988	*
MM	VE3KZ	10,612,755	6960	152	483	1978	

* indicates high claimed scores, June CQ

CALIFORNIA QSO PARTY

This is perhaps the most active of all the state QSO parties in the U.S.A. The rules appear below. Check the AWARDS paragraph for an interesting innovation.

Continued on next page ►

CONTEST *(cont'd)*

1989 CALIFORNIA QSO PARTY

Sponsored by the Northern California Contest Club. BEGINS: 1600 UTC Oct. 7, 1989. ENDS: 2200 UTC Oct. 8, 1989.

Single operator entries may operate only 24 hours; off times must be clearly marked in the log and must be at least 15 minutes long.

Multi operator entries may operate the full 30 hours.

Stations may be worked once on CW and Phone on each band.

All contacts must be simplex; no MCW.

Single Op and multi-single entries are allowed only one transmitted signal.

All CW contacts must be made in the CW sub-band, except for 160 metres.

California stations that change counties are considered to be new stations and may be contacted again for point and multiplier credit. CA stations operating from a county line may be counted only as one QSO.

OBJECT: Stations outside of California work as many California stations in as many CA counties as possible; stations in California work anyone.

EXCHANGE: California stations send QSO number and county; stations outside of California send QSO number and state/province/country.

QSO Points: Each complete phone contact is worth 2 QSO points. Each complete CW contact is worth 3 QSO points.

MULTIPLIERS: California stations use states and VO/VE1-7 and VY1/VE8 for a possible total of 58. Out-of-state stations use the number of different California countries for a possible total of 58. CA stations on a county line may be claimed as a multiplier for any or all of the counties they give in their exchange.

TOTAL SCORE: The total score is the number of QSO points multiplied by the total number of multipliers.

FREQUENCIES: 160 through 2 metres excluding all WARC bands. CW on 1805 and 40 kHz up from the band edge. Phone on 1815, 3850, 7230, 14250, 21300 and 28450. Novices 10 kHz up from the band edge and 28450. Try CW on the half hour. Try 147.54 MHz at 2000, 0000 and 0400Z. Try 160 metres at 0500Z; 80/75 metres at 0300 and 0700Z.

DEADLINE FOR SCORE SUBMISSION: All logs and summary sheets must be sent to NCCC c/o Gary Caldwell WA5VEF, POB 8014-56, Blaine, WA 98230 by Nov. 15, 1989. Please include a business size SASE for results. Entries of more than 200 QSOs must include duplicate sheets.

For a CQP paperwork packet containing log and summary sheets, county abbreviations, and contest records, send a business size SASE to the above address.

AWARDS: Certificates to the highest scoring single operator entry in each CA county, each state/province, and each country, and each station that scores 100 or more QSOs.

Trophies to the top three out-of-state single ops; the top three California single ops; the top multi-single and multi-multi in California; and the high scoring single-op and multi-op California county DXpeditions.

Special CQP Wine Award— The top 20 single operators in California, along with the top 20 single ops out of state, will receive a personalized bottle of Northern California Contest Club Private Reserve California wine. Wine winners who are under legal drinking age will receive a non-alcoholic personalized award.

Special Trophies— Chairman's Award to the CA single op who makes the most CW QSOs. Other tropies to the mobile single-op or team with the most total QSOs; the high scoring low power entry (200 watts or less) in CA and out of state; the top Novice/Technician entry in CA and out of state; the out of state single op with the most CW QSOs; and the top club in California (5 entries minimum— Northern and Southern Cal Contest Clubs are ineligible). ■

BELT YOUR CLUB MEMBERS

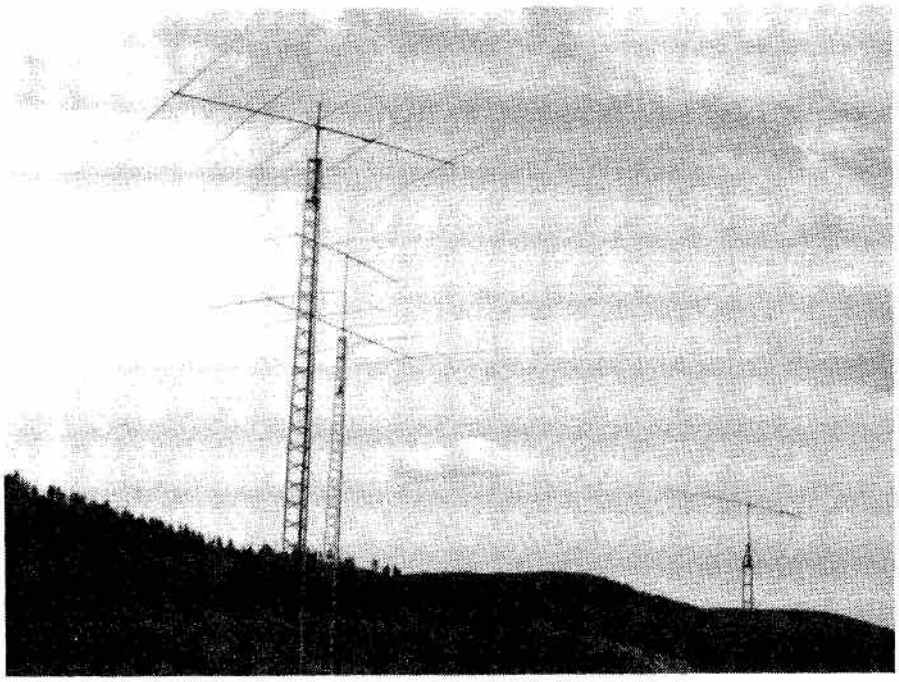
Clubs should consider buying (acquiring) a climbing belt for the use of members. Though they are expensive, they are necessary for any Amateur doing antenna work, climbing masts and even trees.

The important point is that they are a lot safer than any lashing an Amateur might try to rig using a piece of rope, and a lot easier to manage. It will contribute to members' safety, at very little expense.

Also, clubs should build a decent lightweight Gin Pole that could be used on various towers.

— Algoma Amateur

George Furtado VE7EIK at the operating position.



Antennas at VE7EIK. Background: stacked 20 and 10 metre yagis; foreground: 15m yagi; Right: 2m yagi at 30 feet.

DOC 1989 Symposium

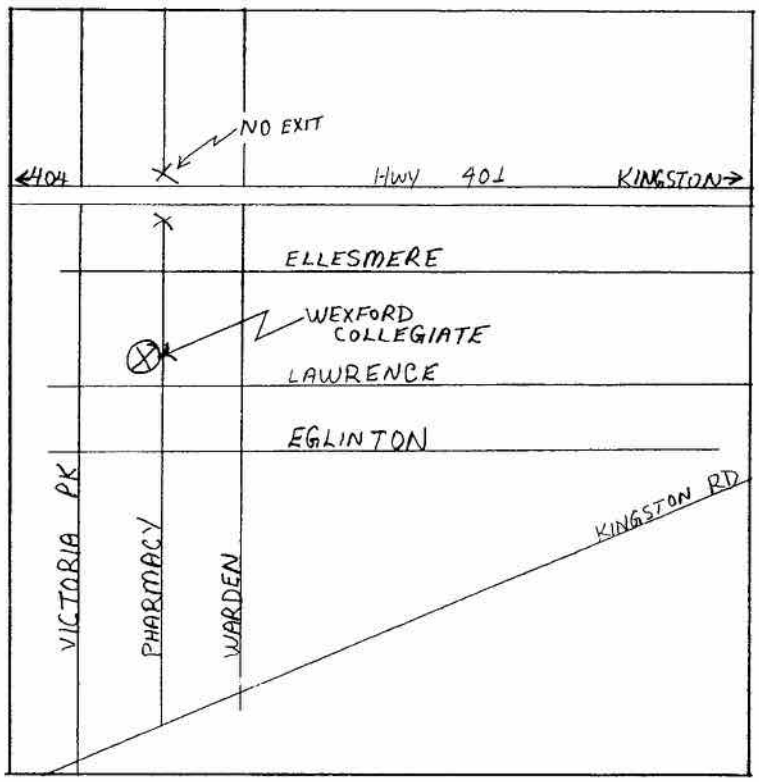
Sponsored by CARF and the Scarborough Amateur Radio Club at

Wexford Collegiate
in the City of Scarborough, Ontario
October 21, 1989

Topics:

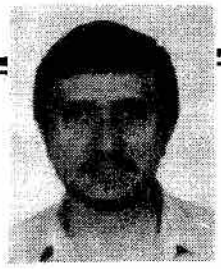
- Frequency Coordination on Shared Bands
- Restructuring, the details
- Amateur Exams - should the clubs run them? - who should set and mark them?
- A national VHF/UHF coordinating committee for Canada
- Callsigns - where do we go from here? VE3 near end of block; Basic/Advanced certification in restructuring, etc.

DOC will have officials at each seminar who are knowledgeable and can give the official DOC position. THIS IS YOUR CHANCE FOR DIRECT INPUT TO THE DOC. The minutes will be submitted at the top levels of DOC and, together with the reports of the DOC officials in attendance, will influence their future policy.
PLAN TO BE THERE!



Listening To The World

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



It is really amazing how quickly the time goes by. This is the first anniversary of 'Listening To The World'. We have all been very pleased with the reaction received to the column over the past year. I have had the opportunity to meet many hams to read the column regularly. It appears that we have succeeded in supplying the Amateur community with useful and interesting information designed to get many Amateurs back to the 'listening' side of radio broadcasting. I look forward to my second year as editor of this column and I hope that I will have the chance to meet up with many more of you over the months ahead. As usual, I always appreciate hearing from you through your letters.

COUNTRY OF THE MONTH

We head off to the northern region of the globe this month with our radio voyage coming to rest in the Scandinavian country of Norway, with a visit to Radio Norway International.

Although a fairly small country, Norway puts a strong voice out the world on shortwave. With a 350 kilowatt transmitter at Fredrikstad and 500 kw transmitters at Kvitsoy and Sveio, all locations north of 59° North, Norway succeeds in covering the globe with news of this Nordic country in two languages, Norwegian and English. The station also operates a 1200 kW mediumwave transmitter in Kvitsoy on 1314 kHz, but more on that one later. Until very recently, Radio Norway International was also broadcasting a brief five-minute weekly program in Spanish. This has since been discontinued.

Radio Norway International is operated by the NRK-Norsk Rikskringkastin, a non-commercial enterprise operated by an independent state organization. This organization also operates the longwave, mediumwave and FM domestic and regional services in the country.

RNI's Foreign Service dedicates all of its broadcasting time to the Norwegian language with the exception of Sundays, when the English programming is also broadcast. The content of their broadcasts is mainly regional in nature, focusing on events in the Nordic region, with news, interviews, feature programming and music from the area. If you understand the Norwegian language, you can tune into daily broadcasts several times per day, but for most of us we will have to focus on the Sunday broadcasts in English.

Although only a once-a-week broadcast, the service is strong and reliable, particularly for those transmissions to North America.

The English programming consists of a half-hour segment repeated several times throughout each Sunday to listeners around the wrold. Called 'Norway Today' it can be heard several times each Sunday here in North America. The best times and frequencies to tune in the weekly broadcast follow. The times are in UTC (GMT). This schedule is applicable from Sept. 3 to Nov. 4, 1989. 0800Z on 15165 kHz, 1200Z on 15165 kHz, 1600Z on 21705 and 17840 kHz, 1700Z on 17840 kHz and 1200Z on 11785 kHz.

As with most international broadcasters, Radio Norway has experienced some financial cutbacks, which resulted in the cutting of the Spanish service. At the present time, a proposal is on the table for Norway to help out another Nordic country with shortwave service to the world; that being Radio Denmark. Denmark presently is negotiating with Radio Norway with the hopes of using the Norwegian transmitters to rebroadcast the international service of Radio Denmark. No firm details on this are available at this time. I'll keep you posted.

Radio Norway International publishes a fine program and frequency schedule which they will send to you, free of charge, upon request. Comments on programming are always appreciated by the station and they look forward to receiving letters at: Radio Norway International, Bj. Bjoernsons pl.1, 0340, Oslo, 3, Norway.

For those of you into mediumwave DXing, Norway will be of particular interest. One of the most exciting aspects of mediumwave DXing is the possibility of tuning in TransAtlantic or even transPacific stations on AM. One of the prime targets for European reception on mediumwave is the Radio Norway transmitter on 1314 kHz. We are now entering the time of the year for long distance AM reception. This station should be one of the first to appear, particularly in Eastern North America. This station was, in fact, my first transAtlantic mediumwave catch a number of years back and I even managed to QSL it! Keep your ears open for Radio Norway.

ANARC CONVENTION REVIEW

As mentioned last month, two of our Canadian International DX Club members were fortunate enough to participate in the annual convention of the Association of North American Radio Clubs. This year, the 25th Anniversary Convention was held in St. Petersburg Beach, Florida on the weekend of July 14 to 17. This was the first time the event had been held in the Southeast section of North America. The theme focused on broadcasting in Latin America, with many guest speakers, displays and presentations by broadcasters from the Caribbean, Central and South America.

The keynote speaker at the annual ANARC banquet was Ernesto Betancourt, Director of Radio Marti, the U.S.-financed Anti-Cuban station broadcasting out of Florida aimed at Cuba. Seminars included A Radio Listener's Tour of the Caribbean and Central America by Glenn Hauser, host of World of Radio, The State of Clandestine Radio Broadcasting in Latin America, and The Role of Radio in the Democratization of Panama by Panamanian Senator/radio broadcaster Mayin Correa.

One of the most popular events at each and every ANARC convention is the International Broadcasters Forum. This year's forum received the largest number of international broadcasters ever present with over 30 different representatives on hand from as far away as Radio Japan and Radio Seoul Korea. The usual displays of the latest in equipment, antennas, etc. as well as a selection of videotapes and films from the Library of the International Telecommunication Union were present for the enjoyment of the attendees.

This year's attendance was down somewhat over previous years with a little more than 100 radio enthusiasts including a delegation of DXers from Japan. The convention wrapped up on July 17, with an optional all-day visit to either Disney World or Epcot Centre in nearby Orlando.

All reports indicated a good time was had by all. The location for next year's event is unconfirmed at this time, but a tentative location may be Virginia Beach, Virginia in conjunction with an annual East Coast DXers gathering taking place there.

Here in Montreal on July 22, the Canadian International DX Club held our first annual Montreal Shortwave Radio Festival in conjunction with our 5th Annual CIDX Montreal Barbeque. This was the first time that an event such as this was staged in the city. The response was overwhelming with over 200 people stopping by to explore the world of international radio

monitoring. Displays were set up to introduce the public at large to the medium.

Ham radio played a part in the event as well, as the South Shore Amateur Radio Club graciously set up a working ham station at the exhibition and manned the display to respond to questions about Amateur Radio. The event featured exhibits of new and vintage radio equipment, a QSL display, an antenna and technical exhibit, books and publications, a CIDX club display and an exhibit from Radio Canada International manned by RCI producer/broadcaster Ian McFarland.

Our intent was to attract the newcomers and the curious to the exhibition and we succeeded in doing so. Most in attendance had had little or no exposure to international radio, but were anxious to obtain information. We were supplied with three tables full of free promotional material from the international broadcasters, radio clubs and shortwave retailers. All of this material was quickly snatched up by the attendees, hungry for information on the subject. Our club has already received 12 new membership applications, but more importantly, we succeeded in introducing over 200 people to the fascinating world of international radio monitoring.

We are already working on a bigger and better event for next time, hopefully with the continued support and assistance of the local ham community. Our next local exhibit will be our 5th appearance at the Montreal Hobby Show, taking place on Thanksgiving Day weekend, Oct. 7, 8 and 9 at Montreal's Place Bonaventure exhibit hall. This event is attended by over 50,000 people each year and it gives us an excellent opportunity to promote shortwave radio monitoring. If you are in the Montreal area at this time, please try to stop by our display booth at the show. There are hundreds of hobbies on display and it is a wonderful way to spend a day.

I'd like to bring to your attention once again our radio club, CIDS, which I mention frequently in this column. We are in our 27th year of operation and we are approaching 350 members. A sample copy of our monthly bulletin, *The Messenger,* is available for $2 from my address. Together with this bulletin, you receive our club information package which introduces our club to you.

We pride ourselves in covering all aspects of radio monitoring, including our very popular Ham Band Column. We are one of only two of the 18 ANARC member clubs which devote space in our bulletin to Amateur Radio. We are gearing up once again for our 16th Annual CIDX Ham DX Contest which we run concurrently with the CQ Worldwide DX Contest weekend at the end of October. Last year's contest saw CIDXer David Oliphant of Medicine Hat, Alberta take first place with a total of 407,626 points! Yours truly finished 4th with 266,880. We had 17 participants in the contest and we hope to have more this year.

We score the contest in the same manner as the Amateurs do, but we are participating from a 'listening only' angle. Quite unique, don't you think? We are looking forward to this year's contest and I extend my best wishes to any of you who regularly participate in this annual event.

Until next time, when we'll set sail for another shortwave destination, stay tuned to your radios and let me know what wild and wonderful things you are hearing on the shortwave bands of the world. Until next month! ■

VE3VCA

CARF would like to invite Amateurs who are in the Kingston area to come operate the club station, VE3VCA. If you'd like to visit the station, just contact the CARF Office and make an appointment.

LETTERS WELCOMED

The CARF General Manager welcomes your signed letters of praise or discontent. Anonymous letters are unfortunately not acceptable for any action other than disposal.

Joe Norton Award

At a small luncheon meeting recently, the Ottawa Amateur Radio Club presented its annual Joe Norton Award to Otto Capella VE3HCD.

This award is presented annually to an Amateur, licensed in the previous year and who, on the strength of a written submission, is judged to have made a significant contribution to Amateur Radio.

Otto, a professional engineer, has worked in Ottawa since 1978. After receiving his Amateur ticket he became active in the club. He was a winner in the 1988 club home brew night. Otto is employed by Gandalf Ltd., but his company has now sent him to work in Holland. Since Otto was to depart before the next scheduled meeting of the club, Paul Cooper, the president, made the presentation informally over lunch.

From left to right in the photo are Dan VE3EBI, George VE3NJN, Paul VE3JLP, Otto VE3HCD and John VE3NVF.

Joe Norton VE3PN was the founder and Vice President of Computing Devices of Canada and was a long-time Amateur Radio operator. When Joe became a silent key in 1979, his family decided that his radio equipment would be donated to the Ottawa Amateur Radio Club to further the hobby.

In line with the family's wishes, the equipment was sold and the money used to establish a trust fund, the interest from which each year provides the award. This prestigious award serves to help new Amateurs get started and get involved in Amateur activities. ■

QRS WAVES

Ralph Cameron VE3BBM, 30 St. Remy Drive, Nepean, Ontario K2J 1A3

POWER SIGNATURE HANDBOOK

ESD magazine for January '89 reports the availability of a handbook of power signatures. Lest you think this is some collection of political autographs, it is, in reality, a series of photos of the identifiable characteristics of noise on powerlines which are due to power disturbances and impulses. All the useful parameters of waveshape caused by line sags, surges and harmonics are detailed. The book is available from those with a $100 bill (U.S.) from Basic Measuring Instruments, Foster City, Ca. Sorry no ZIP code available.

RF LIGHTING

Some of the reports coming from the U.S. would caution us about the harmonics radiated by RF lighting. I have been on the lookout for one of these devices in order to do an evaluation. These lights are very efficient, however media reports last year indicated they operated, or rather were excited, by radio frequency energy which caused interference throughout the B.C. band and above. The FCC has since taken steps to ensure that any radiated harmonics were purposely attenuated from 520-1600 kHz, the current B.C. band. Beyond those frequencies, the levels were relaxed. The point of concern is that harmonics of the levels stated, when attached to lighting conductors in, say, a shopping centre, could cause local Amateurs much grief. Luckily no reports of this problem have yet occurred.

QRP LAMPS

I received one local report that a new type of high efficiency lamp was being advertised and the temptation was too good to pass up. I bought one and can verify that the lamp is indeed 'hi-tech'. It comes in a variety of bulb housings but consists of a 'U' shaped fluorescent tube enclosed in a clear or fluted plastic housing. It is about 3" longer than a standard light bulb, but has much to commend it. The Philips model SL18 has an efficiency of 74%. What this means is that it only consumes 18 watts but provides the light output of a 75 watt lamp. The light output is very close to natural light and I use it all the time now in the shack.

It runs so cool that you can grab it and remove it at any time without fear of burning. The cost is much higher ($25) but it will last for 6-7000 hours. It does not work well below 10°C. because of poor ionization. The electronic ballast used does not cause any EMI that I can detect over the range 100 kHz-30 MHz. There is even a notice on the box to say the product meets the FCC requirements. It also solicits users to notify Philips Labs should any such interference occur.

By the way, in the store where I purchased mine, they had a demo unit showing the ballast— very impressive— quite a lot of electronics and what looked to be at least a couple of SCRs. For use outdoors I understand there is a sodium version called the SLO 18, if yellow light doesn't bother you. Seems to be a slick way to save power.

GROUND FAULT ISOLATORS

These units are becoming quite popular, especially in new homes. Some Amateurs over the last three or four years have reported tripping them on various bands. While I don't have a circuit of one of these devices, I know they used to be based on using SCRs to sense when there was a differential current flow. Early models even used a transformer to sense when there was a miniscule amount of current being drawn from the live side of the line and something else other than the intended load (i.e. a human being).

Some of the problems reported several years ago occurred on 10M. Recently, one closer to home gave an opportunity to experiment a little. Ron VE3FIN reported he had two GFIs that operated on different bands. I had not expected that devices designed for power line frequencies would respond to radio energy, however, what we have learned through practical experience is seldom a marketing feature unless a profit can be derived therefrom.

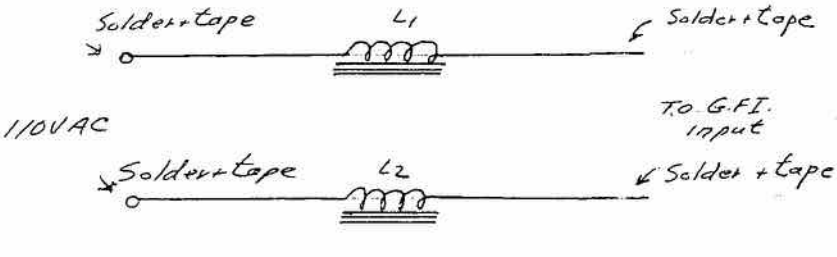
VE3FIN's experience showed that one GFI device installed at the incoming power service box operated when he was on 80M. The other one, located in the first floor washroom, operated when 40M was used. This malfunctioning occurs because house wiring, like any other wire, acts as an antenna. It can absorb more and more energy the closer it is to resonance on the band causing operation and the nearness to the transmitting antenna.

Even though the threshold leakage current through the GFI must be a very few milliamperes to cause it to operate, it was reasoned that some RF isolation was in order. Exactly the same technique is used in employing toroids for use in isolating susceptible appliances from local RF sources. It was further reasoned that if the energy common to both conductors (common mode type) were effectively reduced or eliminated then the GFI unit would not malfunction. Such proved to be the case.

A small diameter toroid about ½ inch long by 3/8 inch o.d. (available from Amidon) was used. Permeability is 850 and is called Mix 43. Clear plastic line cord (#16 awg) was used with a four-turn winding. One toroid was used for each side of the line and its placement is very important! It is spliced in series with the 110V line just before it enters the GFI. See sketch here. Since one would not want to leave such a device exposed, it could also be placed inside a suitable electrical outlet box. The object is to keep the length of line between GFI and toroid to a minimum.

The results on 80M have been successful and I suspect when Ron gets 'arountuit' it will solve his 40M problem too.

Here's another case of common mode energy causing the intended operation of a device to malfunction. If anyone has had the occasion to take one of these GFI devices apart, please enlighten me



L1, L2 each 4 turns #16 insulated lamp cord on toroid core (see text). Note: 3rd wire safety ground is not disturbed.

Fig. 1: RFI Suppression in Ground Fault Isolator.

YL News & Views

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

At the time of writing this column, we (George and I) are in a mess— oops, I meant to say Maze, but we are in a mess too! This building a new road and home is not an easy task. I'm sure many of you known what I'm talking about. Al VE3DQJ and Libby VE3IOT, Hans VE3CJZ and Erika VE3CXE are going through it too.

NAME & CALL DROPPING

I was watching the Nashville Network the other night and they had a video about Ronnie Milsap. They showed through his home and mentioned his hobbies including Amateur Radio and computers. He holds a W4.

Listening to radio station CHAY in Barrie the other day, I recognized the voice of Devon VE3DEV.

An article in the *Whitby Free Press* (and it actually is free!) about garbage dumping caught my eye when I noticed the name of Brenda Davies of Cherrywood. Her call is VE3HUG.

DX VISITORS

Had the pleasure of having Dave ZL1AMN and Aola ZL1ALE come to visit us again. Aola is a member of CLARA. While visiting we did the usual sightseeing and shopping. We got home one evening about 6:30 to find a couple of extra cars in the driveway, from the State of New York. Bob N2HZS and Diane KB2GDH had made a special trip to meet Dave and Aola. The other surprise guest was daughter Cathi VE3FBL. Luckily I had a roast of beef in the oven, so I invited all to dinner, giving us more time to visit.

The following evening we had a dinner buffet party with the local YLs & OMs who were available. It's always hard during the summer to find people at home.

The following day Ian Redpath and his family came by. We had lunch and visited together. For those who don't know, Ian and his family lived in New Zealand for awhile and are now living in Stoney Creek, Ontario. Keep the letters coming. We enjoy your comments and ideas.

DID YOU KNOW that Bruce VE3GDZ has QSLs with the CLARA logo available?

That's it for this time 73/33/88 as the case may be. ■

Right: Tom VE3GZV and Dave ZL1AMN.

Erika VE3CXE with nephew visiting from Germany and SWL Linda.

Right: Sue (XYL of Brian VE3GVR), Glen VE3HGB and Brian VE3GVR.

Below: Viv VE3HGA, Trudy VE3HTW and Sue.

CROSSWAVES *(cont'd)*

as to what is inside. Any old telephone pioneers may remember the 'Osborne Protectors' used on Hydro telephone circuits.

These devices were differential transformers intended to assist line balance and which automatically grounded both sides of the communication line when an unbalance occurred. They operated frequently in electrical storms and whenever the EMF induced in the line from dropping a large load exceeded a certain threshold, usually an amp or two. These were necessary because the communication circuits were mounted on the same poles as the power distribution conductors. The analogy to modern GFI malfunction is uncanny— eh wot?

Next Crosswaves, we will talk about telephone line filters and some practical tips for tracking commercial noise sources. ■

International Amateur Radio Network

Glenn Baxter K1MAN, Long Point Lodge, Belgrade Lakes, Maine, U.S.A. 04918

TRIO OF IARN DELEGATION TO SOVIET UNION GETS TASS COVERAGE

The following went over the Tass wire throughout the United States and the Soviet Union July 13, 1989:

FIVE U.S. AMATEUR RADIO OPERATORS WILL VISIT THE U.S.S.R., New York, July 13, 1989 Tass - Special for Tass by Dawn Smith.

Five members of the International Amateur Radio Network are preparing to visit the Soviet Union to strengthen ties formed between Soviet and American radio operators during the December, 1988 earthquake in Armenia, IARN Manager Glenn Baxter said in an interview with Tass.

The network, which has about 1600 members in 45 countries, organized legal third-party communications, or message handling, with its Soviet counterparts during the Armenian disaster in an effort to assist those concerned about their relatives' conditions and whereabouts. The IARN-affiliated message center, called POISK, is located in Yerevan, Soviet Armenia.

Part of this effort included sending two delegates to the Soviet Union in December, 1988, with radio equipment valued at $20,000. Although the delegates were turned away after three days and the equipment reported missing for weeks, the representatives later returned to the U.S.S.R. to ratify two IARN accords— one with the central committee of the Young Communist League, and another with the Armenian Young Communist League.

The upcoming trip, scheduled for mid-October, Baxter said, will be an attempt tp further implement the aspects of the accords, including negotiations for written agreements legalizing third-party communications between IARN member countries and the U.S.S.R. recognition of POISK supervisor Victor Goncharsky as Soviet IARN Director, and, of course, continuation of emergency communications.

Baxter said the October Delegation plans to visit various Soviet organizations such as Radio Moscow, Radio Sports Federation, Radio Magazine, and, if possible, visit briefly with First Secretary Gorbachev. He added that the group will also be seeking to establish programs between Soviet and American universities.

"We're not confining ourselves to Amateur Radio, " Baxter said. "We're interested in other exchanges of ideas." IARN reporter and delegation member Bob Sherin said he hoped the visit would not only "propel and forward" Amateur Radio communications, but also "Having grown up during the cold war," Sherin said, "This is a fresh breeze. This is a trip of a lifetime for us."

IARN MANAGER OFFERS 13.313 MHZ PROPOSAL

K1MAN has been active recently in trying to solve the problems on the various 13.313 MHz nets. At the urging of IARN Director, Bob Sherin W4ASX, K1MAN pulled out of on-the-air intervention and then left behind the following proposal for other 14.313 MHz. net managers to consider:

The IARN 14.313 Proposal

What is missing for a solution is mutual cooperation among the stations involved which will be required by the new FCC rule 97.101 (b) as of Sept. 1, 1989. Believe it or not, it is the Net Managers who are not cooperating right now. The Net Managers are having a hard time accepting the facts of life:

1. No one owns 14.313 MHz.
2. KV4FZ is here to stay (unless he slips up more than he has so far.)
3. BARF is here, gaining ground, and probably here to stay.
4. K1MAN will be around for a long time.
5. Maritime Mobile, Seafarers, and Intermar are here to stay.
6. The Intercontinental Net is on shaky ground these days.
7. The 14.313 Service Net, managed by K1MAN, can come back strong at any time.
8. No one group or collection of groups can handle 14.313 MHz alone.

Here is the only thing that will work:

A. All Net Managers must recognize the above facts of life.

B. All Net managers must agree to share management of nets on 14.313.

C. All Managers must agree on a mutually acceptable operating schedule. For example:

0600 to 1000 UTC: Intermar
1000 to 1200 UTC: BARF Traffic Net
1200 to 1300 UTC: 13.313 Service Net
1300 to 1400 UTC: BARF Traffic Net
1400 to 1600 UTC: Intercontinental Net
1600 to 2200 UTC: Maritime Mobile Net
2200 to 2400 UTC: Intercontinental Net
0000 to 0200 UTC: Maritime Mobile Net
0200 to 0600 UTC: Seafarers Net

D. All nets should help the other nets as relays and U & V stations.

E. No net should compete with another net on 20 metres.

F. Each net must allow Amateur self-regulation to come into the net when violations are being pointed out.

Any station or net manager who refuses to go along with such a plan, or something similar, will be obviously guilty of violating 97.101 (b) which says:

"Each station licensee and each control operator must cooperate in selecting transmitting channels and in making most effective use of the Amateur service frequencies. No frequency will be assigned for exclusive use of any station."

This means that any one station has, in effect, veto power over the above schedule. Please send your comments to K1MAN.

IARN BERLIN SPONSORS SOVIET REPEATER IN YEREVAN

Robert Bruce DJ0XC, President of the IARN Chapter in Berlin, has raised $500 for transportation of a repeater from the United States to the Soviet Union. IARN headquarters received a request for a donated repeater from our joint IARN/POISK (search) office where station RGSWS operates daily on AMTOR with equipment loaned to Soviet IARN during the Armenian earthquake crisis in 1988. A primary reason for the repeater request was the need in the area for reliable two meter communications over the large mountain range there. Glenn Baxter K1MAN, IARN Manager, told officials at IARN/POISK to apply for a repeater licence and he would find a U.S. donor for the repeater gear. The Soviet licence has now been granted with receive frequency of 145.200 MHz and transmit frequency of 145.800 MHz. When found, the donated repeater will be flown to Berlin and taken by train to Yerevan where DJ0XC will assist with its installation.

IARN NEW ZEALAND GETS PERMISSION TO TRANSMIT WEEKLY PROGRAM

John Lane ZL2ARF, IARN Director for New Zealand, has just received special permission from the government there to re-transmit our weekly 45-minute program. This will be every Sunday, Monday and Tuesday on 14.275 MHz at 0830 UTC. This will give the weekly IARN program listeners in Japan and China for the first time. ■

PACKET RAP

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

SERVERS

With the advent of a worldwide packet network, many applications are now becoming a reality that were impossible a few years ago. High-powered, low-cost computing allows *speciality servers* to be accessed by any ham who has a packet radio station. We will look at what is available today and what *might* be possible in the future.

NEW REQQTH SERVICE FOR CANADA AVAILABLE

Barry, the SYSOP at BBS VE3JF has a new service that many of you might be interested in using. He has established a server that allows you to request the full name and address of any ham in Canada. The server is named REQQTH for 'Request QTH'. The REQQTH server covers all Canadian callsigns. The method for requesting information from the server follows the same format as WA4ONG REQQTH service.

To use the REQQTH server, you simply send a message to REQQTH VE3JF, list the callsigns (separated by spaces or commas) for which you need QTH information in the subject line, followed by the BBS call (preceded by an ") to which you want the information sent. Any text in the body of the message is ignored by the REQQTH server. For example, suppose your home BBS is VE4BBS, and you need QTHs for VE1AAA, VE3DNT and VO1ZZ; enter the message as follows (it can be entered in either upper or lower case). Prompts from your local BBS may differ from those shown in figure 1.

```
sp reqqth VE3JF
enter subject for msg # 9999:
VE1AAA VE3ONT VO1ZZ VE4BBS
send message. use cntl-z /ex to end:
z
```

Figure 1: Example of using REQQTH server

Since the maximum subject line length is not standardized, it is suggested that you keep the number of requests per message down to no more than 5 or 6. The information in the REQQTH database is current as of May 1989. Please note that this database is for VE/VO/VY calls only. Requests for U.S.A. based QTHs should be sent to REQQTH WA4ONG. Remember to include the call of your local BBS in the subject line since the REQQTH software needs to know where to send the reply.

I'm sure other REQQTH servers for other countries will be popping up on 20 metres any day now! Please send comments about this new service to VE3JF @ VE3JF not to the server!

OTHER POSSIBILITIES

The applications for servers are immense. Possibilities include:

1. A 'wanted' server (e.g. looking for that exotic tube?)
2. A DXCC server for DXCC hounds. This could include countries registered, a list of *hot* countries, etc.
3. News servers. You may only want certain information about a certain topic. News servers which allow you to be on *interested parties lists* would be much better than the current ad hoc system now in place.
4. A diagnostic server. This could be used to help you debug or fix known problems in complicated equipment.

The server could help you resolve problems or give you hints on what should be tested first. If you have ever seen an automotive diagnostic machine in action, you will have an idea of what is possible.

I hope I've whet your interest. We need applications to make our technology useful. Hopefully, some of these ideas will give some of you an incentive to dream up some neat software systems.

G8BPQ AX25 PACKET SOFTWARE REVIEW

John Wiseman G8BPQ has written a very interesting piece of software called 'thenode'. Thenode supports AX.25 and is NET/ROM capable. Thenode allows a multiport node to run with a single callsign. It can support AX25 links at speeds up to 64 kbps or greater (given suitable communications hardware. The software also allows the user of the system direct access to the network. Thenode supports up to 16 copies of the chief multiuser BBS systems that run in a multitasking environment (WA7MBL and WORLI)

BENEFITS TO BBS SYSOP

Thenode allows a multiuser MBL or RLI BBS system to operate with just one radio. This means that several users can access the BBS at once and a minimum number of transceivers and TNCs are required. Since the software is 'NET/ROM' compatible, routing between multiple ports is automatic.

BENEFITS TO BBS USERS

The user benefits from being able to call the BBS directly from his local node. He will not be blocked if someone is already on the BBS. The user does not have to try various ports or frequencies if one port is already in use.

THENODE SUMMARY

Anyone running a multiport BBS should give serious consideration to running thenode software. Barry, the SYSOP at BBS VE3JF in Ottawa, has been running the G8BPQ software since July 1989. Thenode seems to work very well and the users like the concurrency feature as well.

THE MAILBAG

Al VE1MDD writes asking about the availability of ham software for the Apple II. Anyone out there know about useful Apple II software? The only communications software package that I'm aware of is Kermit. Kermit is in the public domain, so the price is right. Surely there must be thousands of Apple II and Apple II clones out there that are being used for more than playing games! The software situation for the IBM PC or clones is of course a different story— there are lots of choices and there is some excellent public domain software. Please drop me a short note so that I can tell other *The Canadian Amateur* readers what is good and what is not so good.

FEEDBACK REQUESTED

Please take the time and give the author or the *TCA* Editor some idea of what you would like to see in this column. If it stinks, we want to know— if it is useful, we also want to know! Lack of reader feedback usually indicates that a column is either too trivial or too advanced. Your comments please... ■

QRP

Moe Lynn VE6BLY, 10644-146 St., Edmonton, Alberta T5N 3A7

METERS

(With apologies to Milli and the Electronic Industry)
There are metres prosaic
and Meters iambic
and Meters of musical rhyme
but the Meter that's sweeter, and far more completer is to Meet'er on the corner, at nine!

Anonymous?
Submitted by Al VE6AXW

The 'ONER' kit that Angela VE7ANG sent Al VE6AXW was assembled in quite a hurry and, much to his dismay, he found that manufacturers of solid state components do include smoke in their assemblies because he saw some! Replacement parts are easily come by (he is an outdoor salesman for Cardinal Industrial Electronics) or through his friends at Active Components across the river.

Original design of the ONER is the brainchild of George GM3OXX who does not mind it being passed along if mention is made of him and *G-QRP SPRAT* as the original publication. Al also built a low pass filter so the output would be more readily accepted by his homemade auto-tuned antenna.

We worked back and forth with his one watt signal touching S9 all the time. Martin VE6ARA and I have been trying to get Al to submit a picture for 'Ham Shack of the Month' and so far only have partial views, but we might make a montage yet! It is always interesting to get an insight into the work area of an electronic wizard.

ONER KIT

Actual size PCB foil side is included here in Fig. 1 and measures 2.5 x 2.5 cm. The size of the board involved is one ideally suited to an old straight pen and fingernail polish style of construction. Then a dozen or more could be etched in a community solution to keep costs down.

The schematic Fig. 2 and parts list should be self-explanatory. Fig.3 is the component layout which of course is not to scale, but we hope clearly shows the exact location sufficiently for all to use. Fig. 4 photo is the completed project with low pass filter (adapted from one designed by W4NQN) and

Continued on next page ►

Figure 1— Foil side. Actual size

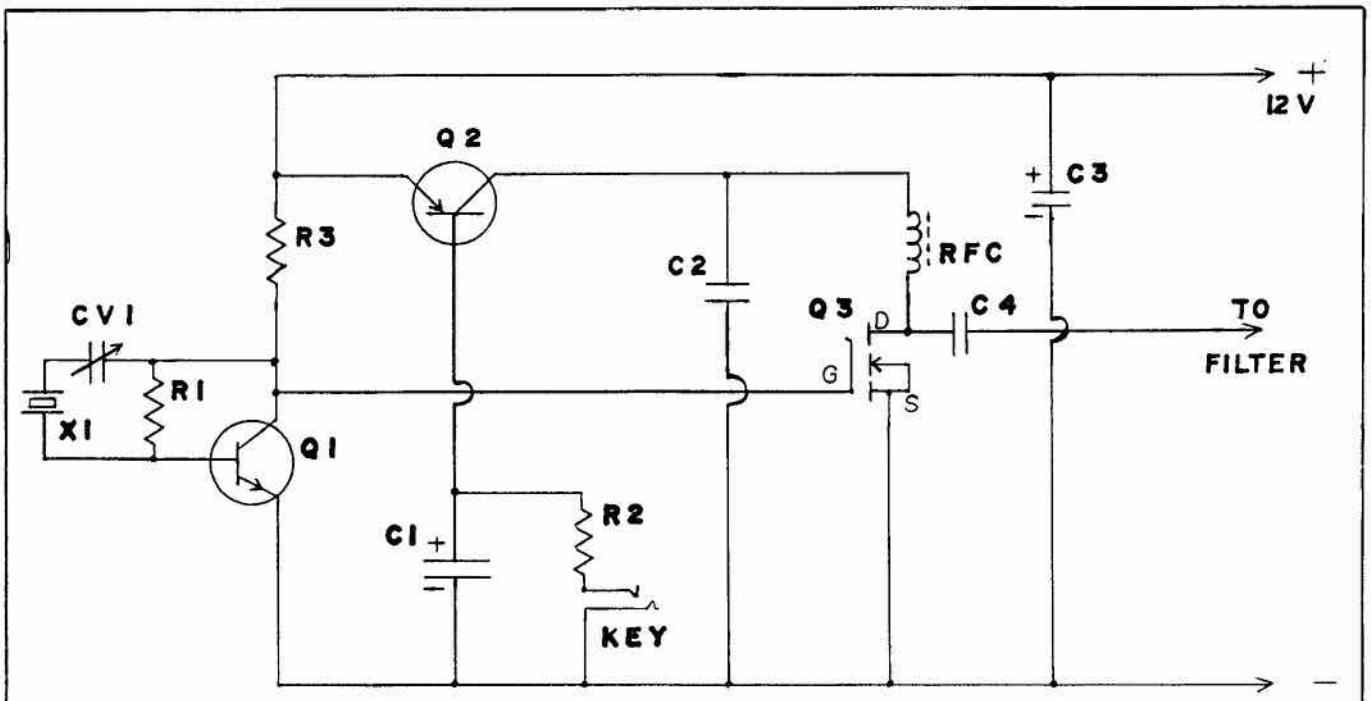


Figure 2— GM3OXX 'ONER' design. 1 w output. Zo = 50 Ohms.

'ONER' Parts List.

CV - 10-60pF PIHER or equivalent.
C1 - 1mF 16 v electrolytic.
C2,C4- .1 mF disc ceramic.
C3 - 10mF 35 v Tantalum.
Q1 - 2N3904.
Q2 - 2N3906.
Q3 - VN10KM V-FET.
R1 - 100K 1/4 w.
R2 - 1K 1/4 w.
R3 - 3.3K 1/4 w.
RFC- 8 turns #30 enamel in Amidon ferrite bead FB43-101.
X1 - TV colorburst crystal. OR whatever for 80 metres.

outboard crystal with CV in series at the opposite end.

The filter shown in Fig. 4 will be discussed next issue if enquiries are up to expectations. As well, a complete kit both for transmitter and filter can be made available from local parts suppliers, again based on readership response. Don't forget to shop around for crystals. The latter vary in price from 50¢ (Small Parts Centre) to considerably higher from other advertisers.

CV, which is used to 'bend' the crystal up or down about one kHz, can be as low as 7-35 pf or something you may have in your junk box that will give you the same performance. Volume buying greatly reduces individual costs, so let's hear from all you QRP enthusiasts and we will give you a quote.

For example, our cost for 25 each 2N3904 is $5.25 and the same for 2N3906. The 1mF electrolytic is 10 for $1.75, 10mF tantalum 15 for $10.95. Clubs can do the same through their local Active dealer or alert competitor, but write if you are interested. Don't forget a SASE.

SCIENTISTS AND AMATEURS

A recent article in our *Edmonton Journal*, written by Anne Mullens of the *Vancouver Sun* caught my eye. She says in part, "Dr. Samuel Milham, Jr., an epidemologist for Washington State Department of Health is head of Chronic Disease Epidemiology, has conducted a number of studies of the causes of death of men in various occupations. He found that men who worked around strong electrical and magnetic fields— powerline workers, electricians, Amateur Radio operators, aluminum workers— all had an increased rate of death from leukemia, brain tumours and lymphomas. His results have been supported by two small studies from Sweden and New Zealand. Seems strange to me no one mentioned the lady Amateurs, electricians, etc., or did they confine their studies to 'men only using a linear'??

GLEANINGS

Naturally the lowly QRPer knows the best and highest antennas will pay off in the long run. Some may remember our experimenting with a Butterfly HF4B on top of the apartment where Jack VE6BOX has his ham shack?

Then we took it down to ground level at my QRA but only had a 16' mast. No one would climb the 32' lattice steel mast tied to a steel clothesline pole and anchored at the base with a four foot length of 2½" galvanized pipe driven in the ground. With two broken legs and right wrist, my climbing days were over. Anyway Bud N9FWM did some enquiring through an advertisement in *QST* and sent me the results. Generally his findings revealed that we experienced along the lines of three basic viewpoints.

1. Difficult to assemble. 2. Difficult to tune. 3. Front to back ratio is moderate at best... Anyone interested in the full report need only send me a SASE. *73 Magazine* also had a single viewpoint review in their September 1988 issue.

The latest issue of *VE6*, ARLA's Official Publication carried an editorial on retaining Morse Code as a means of qualifying for even a digital communications licence. CW is important to some countries who are not of the 'take all you can' mentality, if we are to maintain Amateur Radio communications internationally! Even 2 metres is fast approaching the same thing via satellite, but how many channels are there for voice or packet?

Judging from the latter activity, it would suggest the effort to learn Morse Code might also teach a few courtesies and consideration as a result for other users. It seems to me that no-one listens or asks if the frequency is in use, particularly HF, before the screech is unloaded.

Another unwritten law has encroached on our bands from both ends when you hear AMTOR, RTTY, Packet and voice creeping higher and lower along the limits previously suggested by IARU. Oddly enough, it is still possible to engage in and enjoy a QRP QSO regardless of the inconsiderate local or distant station. All it takes is a little concentration (learned earlier while studying Morse, remember?) and you have practically a clear channel. Some of our latest black boxes even have filters arranged such that you might accomplish the same result.

Letters to the Editor are not as effective as one sent to your Member of Parliament requesting retention of Morse Code as a requirement for any licence (postage FREE). The International flavour (glasnost) is probably one of our better arguments unless it is the making of a more efficient member of the Amateur Radio Service. (For which the latter requires a licence and $20 annual fee so we cannot class it as a hobby.)

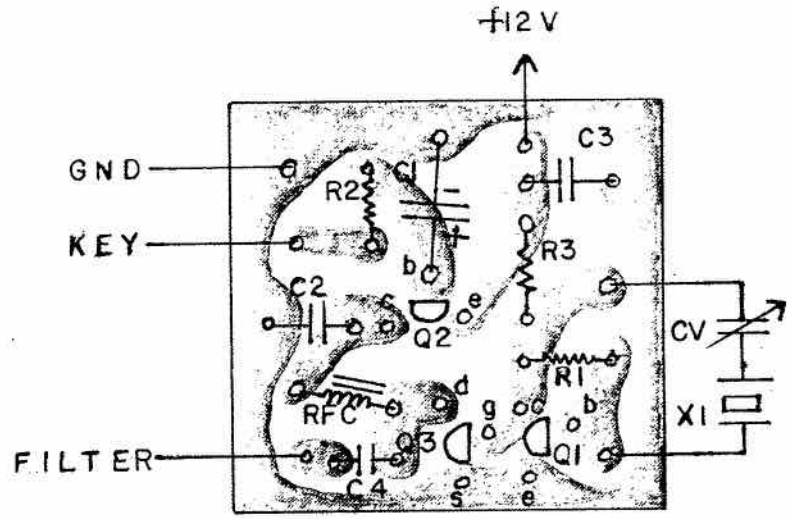


Fig. 3— Component layout, not to scale.

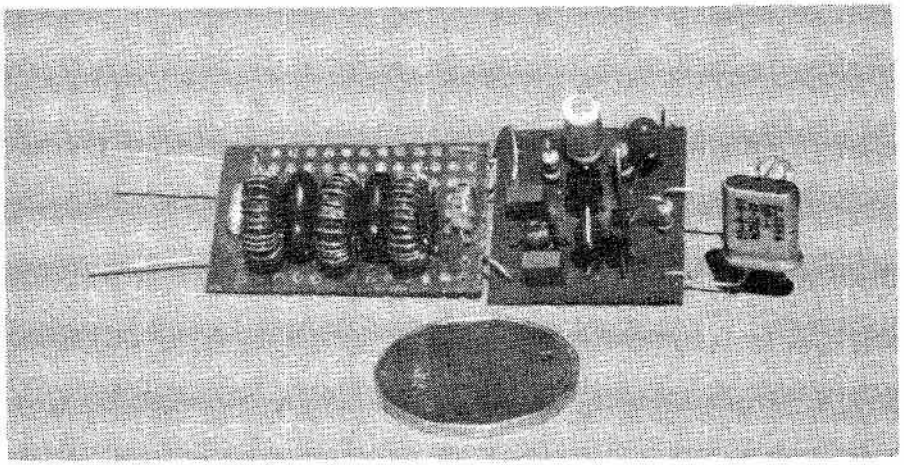


Fig. 4— Completed 'ONER', built by Al VE6AXW.

Someone correct me there and actually name a hobby in Canada that requires a licence and fee... Without Morse Code on our bands it would not be unreasonable to expect further portions will be allocated to Commercial uses in a NIB category, the onus lying with us fee-licensed Amateurs! Think a little about why Amateur Radio got started— Public Service— and get involved two or three times a day handling some traffic.

Get to meet your neighbour or establish amiable relations with the most appreciative of the general public— those who receive a FREE greeting or message via Canada's Amateur Radio Service. The activity will hone up your skills and prepare you better for some Quaint Relaxing Pleasure elsewhere on the band. Voice or CW makes no difference, get involved just to fill our experimental promises.

A letter from Paul Kane, Executive Director of SOWP arrived expressing his enjoyment while reading *The Canadian Amateur* since joining CARF sometime ago. He is also having fun with a vintage 1940s Underwood Code Machine Model RIP5 which was used during World War II to copy Kata Kana.

He has been told his is only the second one in known existence outside the Naval Museum in Washington, D.C., but it cannot be proven. His poem 'Ode to CW' in the last issue of the SOWP newsletter is very fitting to this day and age. He wanted to call it 'Owed to CW' but thought some readers might interpret it as a misspelled word. More of the same Paul, and we just might keep the Morse Code alive in the Amateur Radio Service for both.

Another nice letter from Bob NM7M who reports he is now a 'qualified plumber'. Mary Lou is out in the South Pacific running radio along with three other YLs off of Wallis Island (FW), QRP we hope too. Then they moved to Fiji for a week of more pile-ups. All this after he phoned one day in mid-July just to say 'hello and how are you.'

TWO ONLY TWO-FER II KITS

These were mentioned last month as being set aside after preliminary tests. The kits are the revised version having a 33v zener to protect the final against high SWR. Mine now repose inside a plastic box with room for 10 nicads. (See photo elsewhere).

In this state it will become useful as a portable, back-pack, beachcombing, THING (Treasure Hunting) accessory. Not to mention all the other necessary outings that require keeping in touch. Or someone might want to send a message home while on holidays who has a stretched budget yet!

Back to the kits: to emphasize double checking all placement of parts in their correct slot. My transmitter worked fine but the receiver, when connected as per instructions, was dead. Besides a poor solder joint on the interconnections, it was found that the pre-amp transistor was installed backwards and when corrected, the receiver did what was required. As everyone knows, propagation has not favoured any activity, let alone QRP, so the best that could be done was check it through my 3560 vertical with Al VE6AXW. He gave me an S7 report which compared with my IC-761 running 5 watts into my G5RV. His signal hovered around S9 out of his Quad on my 761 and was quite readable with the TWO-FER volume turned almost off. Being rock bound with +/- 1 kHz leaway does not lend itself well to numerous contacts, but Norm VE6NR gave me an S7 while testing his linar which did not register on my 761 meter. Then the next night Angela VE7ANG gave me a readable report but would not be traffic quality. One thing is certain, at 22.5 mA drain on receive, it is a cheap way to monitor a specific frequency. A solar charging system and VFO would make the rig doubly valuable in emergencies. It is even good for everyday activities for that matter, while awaiting an urgent event.

Plastic box houses latest version of Small Parts Centre kits (TWO-FER II RX and TX) each on a separate 2"x3" PCB. On extreme left is knob for CV behind which is the volume control. Not visible is the crystal. TX board stacked on the RX board with separators. Front panel left side is the key jack and beside it the earphone jack. Second half of the box contains ten nicad rechargeable cells. Both kits were assembled by VE6BLY in about two hours.

MORE RECENT GLEANINGS

Al VE6AXW had already ordered a few items from Small Parts Centre and handed me their latest catalogue today (Aug. 15). It has grown to 32 pages reflecting some new items and price changes.

Chris KM8X now has the world-famous W7EL transceiver available in either 40 or 30 metre versions. Some may recall this transceiver first appeared in August 1980 *QST* and updated in *ARCI QRP Quarterly* of July 1987. Chris has revamped it again with happy results flowing in almost daily.

Al was on his way to mail in his order after he inspected my TWO-FER transceiver and eagerly looks forward to receiving the W7EL transceiver shortly.

Chris reports they (he and his XYL Deb N8DHR) have begun work on their next project... a superhet receiver. He is again carrying the Motorola MBD101 hot carrier diodes, so has added the homebrew double balanced mixer kit to his stock once more. What else is new? Send them a green stamp for their latest catalogue and find something to fit your Christmas stocking!

Chris has also added a coil capacitor series resonant antenna pick off circuit to obtain full QSK on the TWO-FER II kits. It sounds good while sending, you can hear background noise or someone sending or trying to break-in. The transmitter can now be used with any receiver without the use of an antenna T/R switch. The oscillator can also be keyed instead of running at all times which makes it more useful with a separate receiver.

The VFO he was designing would not

Continued on next page ►

Social Events

ONTARIO HAMFEST

The ONTARIO HAMFEST '89 was held on July 8, 1989 at the Fair Grounds in Milton, Ontario. It was a very successful event, hosted by the Burlington Amateur Radio Club.

The basic theme of this Hamfest was 'Back to Basics'! Many Amateur Radio Activities in the area are fast becoming just Flea Markets. Nothing wrong with Flea Markets, but years ago, Hams got together to put a 'face to a voice' or 'fist' with whom they had been QSOing with during the past year, as well as to look at some of the new equipment on the market.

This year's activities included: Outdoor Fleamarket, Children's Program, Beer Garden, Commercial Vendors, Beef on a Bun, Auction, Antenna Raising Contest, Demonstration of Advanced Communications Techniques (Packet, SSTV, etc.)

The enthusiasm was high as indicated by the sale of 1100 admissions, the presence of 23 commercial vendors along with the presence of six trailers/tents set up in the campground area, on the Friday evening prior to the Saturday Event. A few even stayed over Saturday evening, leaving on the Sunday.

As with most Amateur Radio gatherings, prizes were not in short supply. The assortment was sufficient to enable prizes to be drawn twice per hour. The Main Super-Prize was a complete Packet 2 metre Station, consisting of an IBM Clone, TNC & 2 metre Xcvr. This was very well-received and was won by Warren Gay VE3WWG of St. Catharines, Ont., recently licensed Amateur as of October 1988. In addition, the Pre-Registration Draw Prizes went to: Dave Rypma VE3HTC, Alex Duthewych VE3PIG and G. Harvey Doherty VE3BYR.

As with events of this type, we can learn from our mistakes. Under the leadership of Ted Barrette VE3TED, we have already begun to organize next year's event. The event is still growing and, although it won't compare with the Dayton Hamvention, it will be an event for local and vacationing Amateurs to put on their calendars.

C U Next Year at ONTARIO HAMFEST '90 on July 7, 1990, Milton, Ontario. ■

Hamfest Committee, left to right: George Foster VE3NKJ, Norm Freidin VE3CZI, Loreen Ambler VE3EAZ, Ted Barrette VE3TED Hamfest Chairman, Ingo Gueldenpfenning VE3MMM, Bob Fugard VE3DUF, Ferg Kyle VE3LVO.

QRP *(cont'd)*

work while connected to both Tx and Rx, so now lazes on the back burner. He is also working on a crystal-controlled converter and a product detector for a direct conversion receiver. The design is being submitted to an Amateur Radio magazine for possible publication. No doubt the kits will be available through his store about the same time. He sent me the prototype design and all his good ideas, but it wouldn't be any easier for me to read if it were written in Swahili. So, as we used to say in Africa on leaving someone's company, 'Kwaheri' which means goodbye or au revoir!

Remember the International QRP frequencies 1810, 2560, 7030/40, 10106, 14060, 18106, 221060, 24906, 28060, all 24 hours per day. 14060 on Sundays at 1900 UTC for VE QRP get together followed by ARCI TCN at 2300Z on or about the same 14060 +/- QRM. We would all be pleased to hear you drop in or call CQ if the frequency is quiet. ■

Call for Nominations for Regional Directors 1990-92

A healthy organization is one in which the members take a serious interest in how well it is run. CARF policy is set by its Board of Directors who are six in number, of whom three are elected each year for a two-year term of office. Often, too many directors are elected by acclamation. Let's have plenty of nominations this time so that we can actually *hold* elections.

The following positions will become vacant Summer 1990. The terms of office will be for two years.

Atlantic Region
Ontario Region
Pacific Region

Nominations are required from full voting CARF members (Canadian residents with Canadian licences) of each region. Each nomination must be supported by the signatures of Five CARF full members and the acceptance signature of the nominee. If you wish your incumbent Regional Director to continue in office, he must be re-nominated.

Ontario members should note that the term of only one of their two Regional Directors (Toni Salvadori VE3NXQ) will expire in 1990. The term of the other (Dan Holmes VE3EBI) will expire Summer 1991.

The deadline for receipt of nominations is Jan. 15, 1990. Please address your nominations to Secretary CARF, Box 356, Kingston, Ontario K7L 4W2. Send by REGISTERED MAIL.

ANTENNAS
THE GAIN GAME by GERRY KING VE3GK

10 TURN HELICAL BEAM FOR USE IN OSCAR COMMUNICATIONS

INTRODUCTION

A very interesting part of Amateur Radio is communicating through Oscar Satellites. One mode of operation is transmitting up to the satellite on 70 cm and receiving down on 2M. This article will concentrate on the 70cm up link antenna system.

Antennas have to be extra special because satellites are sometimes 40,000 km away. Gain, good directivity, as well as the correct circle polarization are important for successful communication.

Right Hand Circular Polarization (RHCP) is very important when using link aerials on OSCARS 10 and 13. These satellites are set to receive RHCP and optimum gain occurs when both systems are matched.

To achieve right or left hand circular polarization with yagis, one has to use two yagis with delay line in one of them. The vertical and horizontal elements are usually on the same boom with the delay line providing the twist. This arrangement works very well and a large percentage of satellite Amateurs use them.

10-TURN HELICAL BEAM

This article will describe a homebrew helical beam that I found inexpensive, easy to construct and easy to tune. I have had many contacts with only 10 watts input.

CONSTRUCTION MATERIALS

A. 10 to 12 ft. of 1¼" Hardwood Dowel
B. 15 ft. of 3/8" Dowel
C. 1"x 1"x 12 ft. of No. 1 Grade Cedar
D. 3 ft.x3 ft. ¼" Chicken Wire Screen (solder dipped)
E. 50 Miniature Tie Wraps
F. 1/8" thick x ½" wide x 4" long Teflon Strip (Capacitor Dielectric for Matching Network)
G. 1. UHF Connector

CONSTRUCTION

(refer to construction drawings)

Reflector:

Make a 20"x 20" frame using the 1"x 1" cedar boards as shown in the drawing. Install the ¼" chicken wire in between the cedar boards and bolt securely. Install the coax connector 4" from the reflector centre at a convenient location. You don't have to be too accurate because the antenna is very broad banded.

Remember to solder the braid and the inner conductor together onto the UHF connector. Use a good silicone sealant to insulate the UHF connector from the weather.

Boom & Elements:

Draw two parallel pencil lines 180° apart down the 1¼" main support boom. These lines are to guide you when you drill the 3/8" element support holes. Shape the end of the boom parallel so it can be attached to the cedar frame reflector with a pair of

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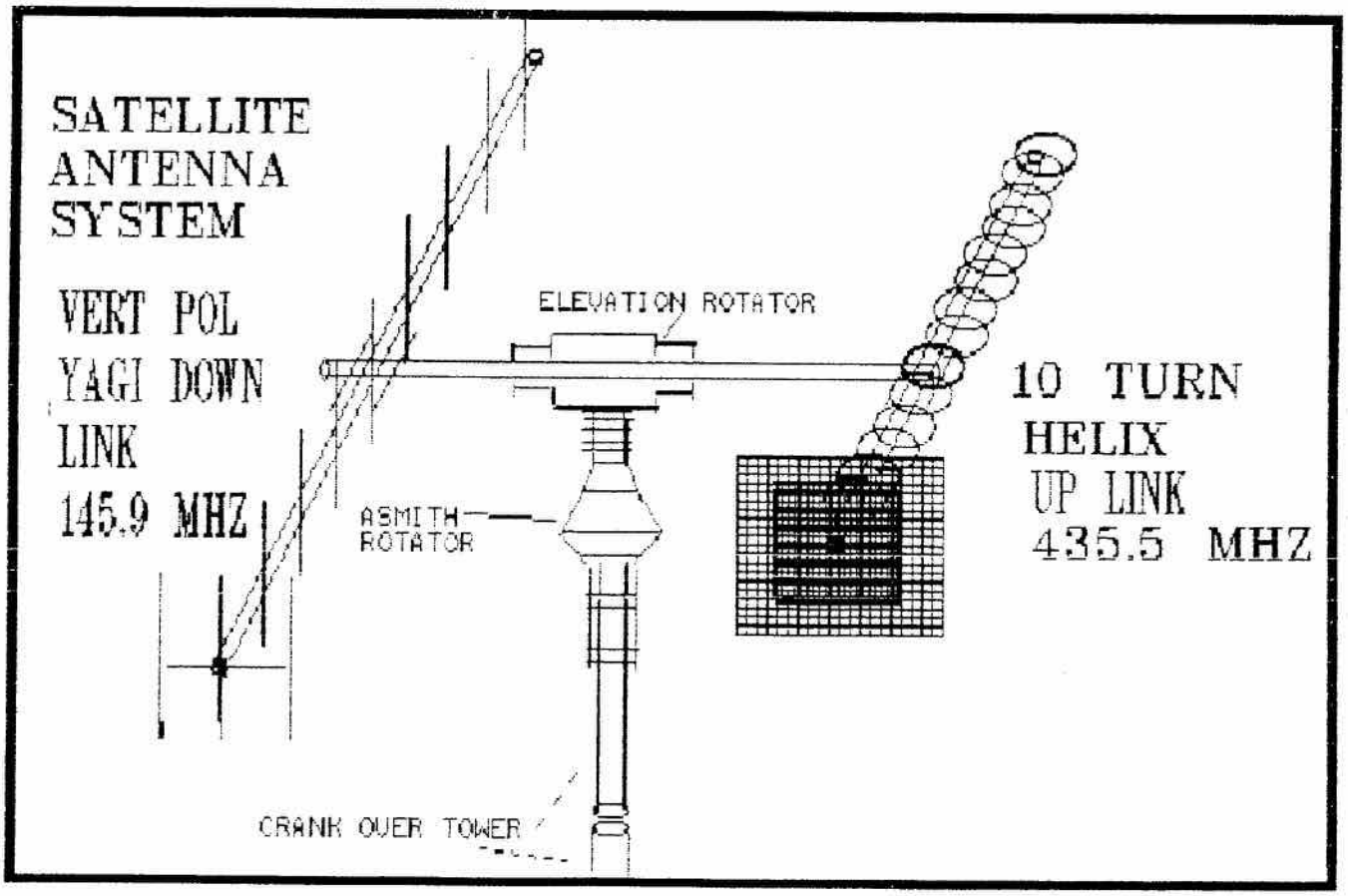
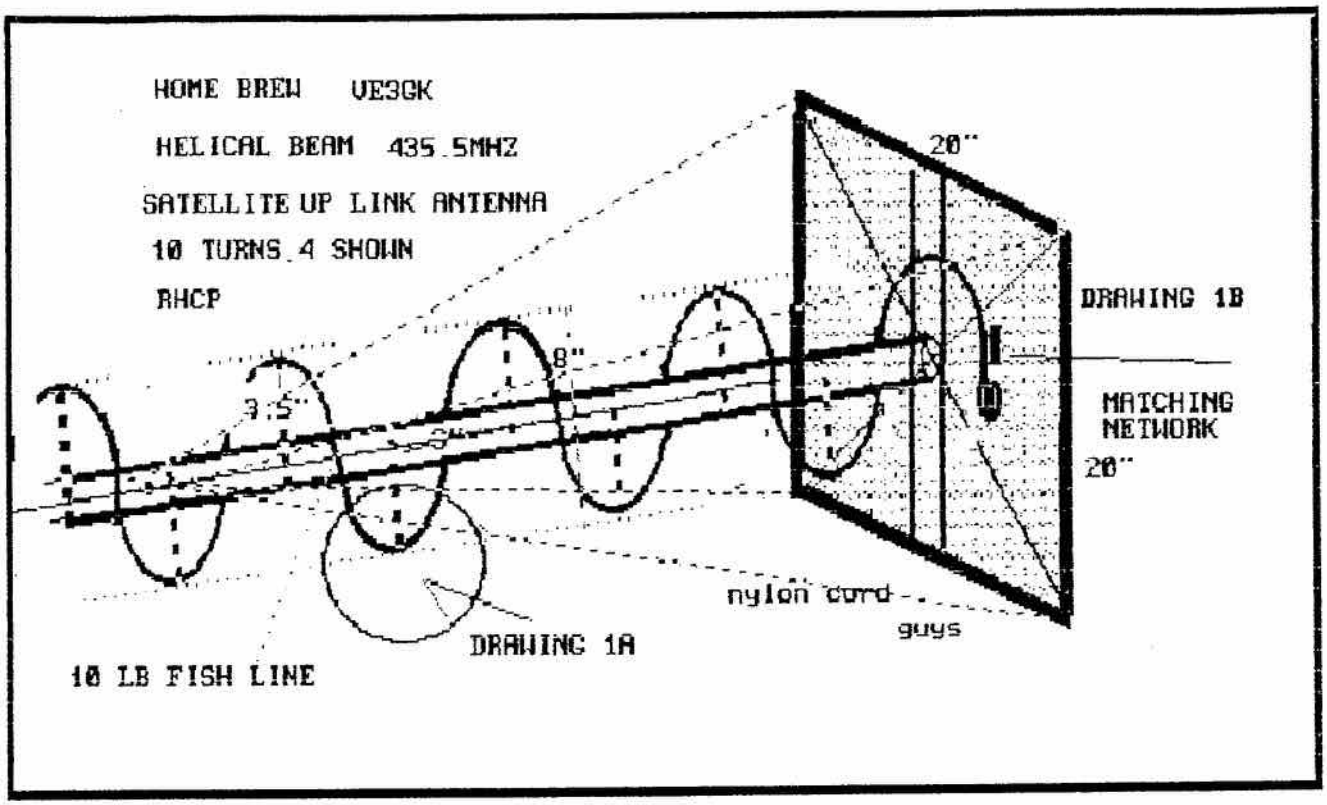
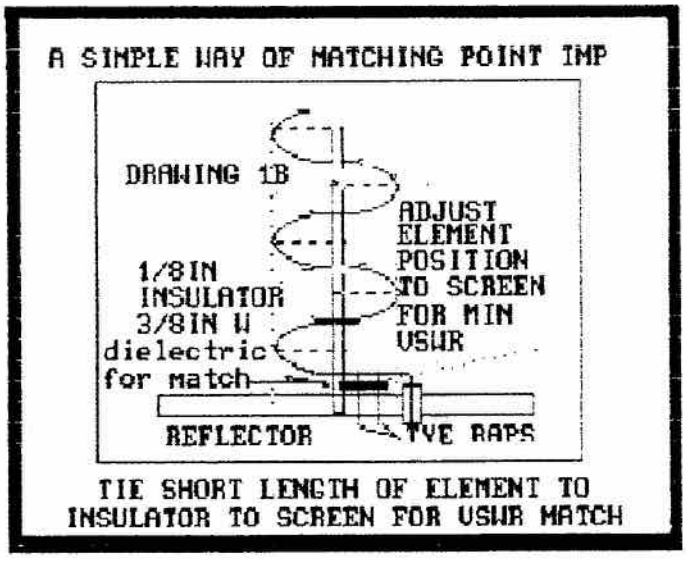
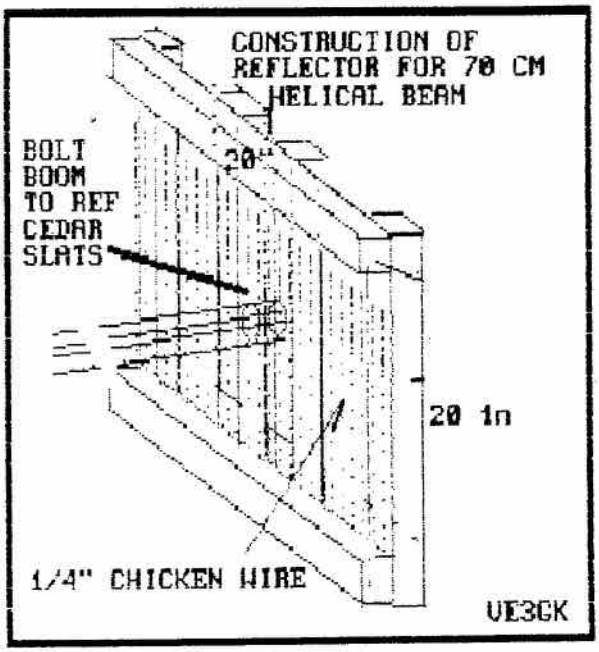
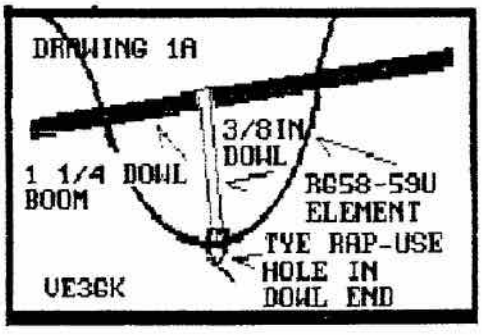
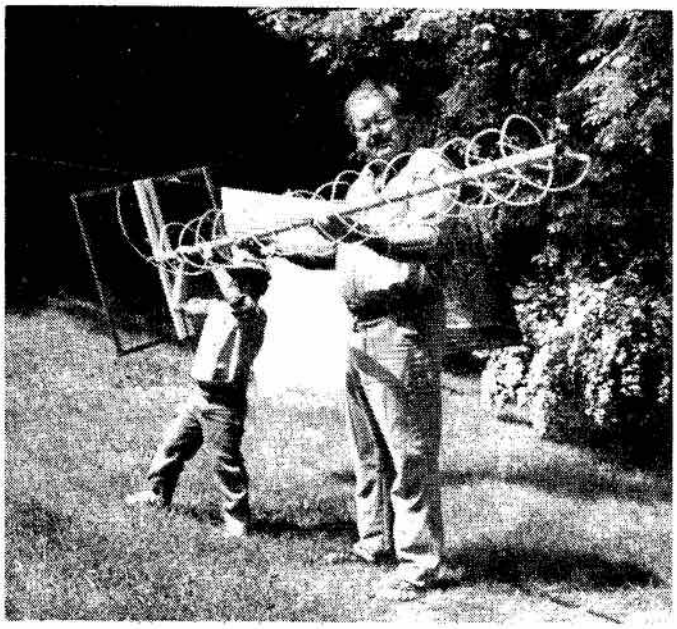



HOME BREW VE3GK
HELICAL BEAM 435.5MHZ
SATELLITE UP LINK ANTENNA
10 TURNS 4 SHOWN
RHCP
20"
DRAWING 1B
MATCHING NETWORK
20"
8"
3.5"
nylon cord
guys
DRAWING 1A
10 LB FISH LINE


A SIMPLE WAY OF MATCHING POINT IMP
DRAWING 1B
ADJUST ELEMENT POSITION TO SCREEN FOR MIN VSWR
1/8IN INSULATOR
3/8IN W dielectric for match
REFLECTOR
TYE RAPS
TIE SHORT LENGTH OF ELEMENT TO INSULATOR TO SCREEN FOR VSWR MATCH

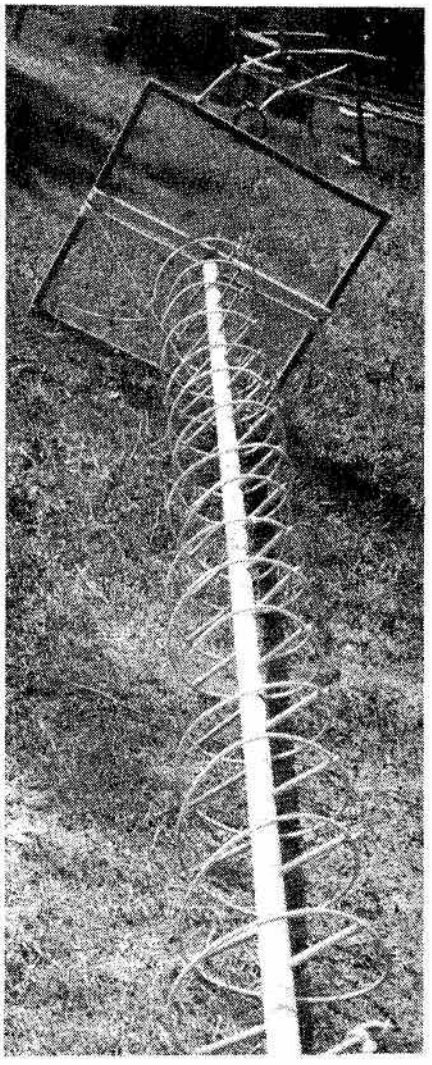

CONSTRUCTION OF REFLECTOR FOR 70 CM HELICAL BEAM
BOLT BOOM TO REF CEDAR SLATS
20"
20 1n
1/4" CHICKEN WIRE
VE3GK


DRAWING 1A
3/8IN DOWL
1 1/4 DOWL BOOM
RG58-59U ELEMENT
TYE RAP-USE HOLE IN DOWL END
VE3GK



VE3GK with grandson Patrick and the helix project.

Far right: 70 cm 10 turn helix for uplink on Oscar 13. 13 dbd.



3/16" bolts. Starting at the reflector, drill an accurate hole every 3" straight through the boom. Continue this every 3" all the way to the end. I drilled a 3/16" hole as a pilot hole first for greater accuracy. Cut the 3/8" dowels 5" long and drill a small hole in one end to allow tie wraps to be inserted. The dowels, with their holes lined up with the element, should then be glued in alternated sides. Place the element material clockwise out from the reflector on the 3/8" support posts and secure with the tie wraps. This diameter and turns pitch should result in about one wavelength per turn. Remember to weatherproof the antenna when the project is complete.

TUNING

The first requirement is that you use an RF bridge that responds accurately to UHF. I used a BIRD 43 wattmeter in between two short 50 ohm lines, one connected to the helix and the other to the transmitter.

The tuning is simple. Mount the insulator with a couple of tie wraps to the screen reflector in line with the element. Insert a tie wrap up through the screen and pull the element onto the insulator. The insulator acts as the dielectric of the matching capacitor. The amount of capacitance changes with the amount of element pulled onto the insulator. When the correct amount of capacity is reached, the reflected power should drop to a very low level. It may take several tie wraps to arrive at the correct amount of capacitance for a proper match. My installation took two tie wraps allowing about 1" of element to be parallel to the screen.

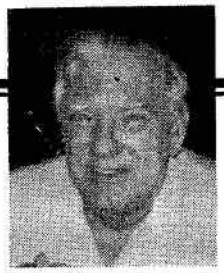
MECHANICAL STABILITY

When the boom is mounted to the reflector and the elements are attached, guy the reflector corners to the boom with nylon cord. I also used 10 lb. fish line to connect from element to element for added stability.

CONCLUSION

I have used this antenna for over four years and am very pleased with its performance. It has excellent gain and good directivity. Have Fun! ■

LOOKING AROUND



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

Several months ago we purchased a used Astro-150A HF transceiver for use at our summer location on the Rideau Canal system. This is a 100 watt RF output, solid state transceiver using broadband tuning circuits and digitized tuning with a SWR assembly that will reduce the power output if the SWR of the antenna system is greater than 1.5:1 into a 50 ohm resistive load.

Like most modern solid state transceivers, the tuning up is simple— put the transceiver on band and frequency required, the mode switch to CW, press the microphone pressel switch and adjust the MIC GAIN control for 100 watts output as indicated in the front panel meter. For SSB, put mode switch to USB or LSB, press microphone switch and talk.

The set feeds a G5RV antenna through a Heath HM-102 SWR/Power bridge and a homebrew antenna tuning unit, but I found that, when ATU was adjusted for 1:1 SWR on the meter, the maximum power output was only 75 watts. But an adjustment to the ATU would give rated RF output with SWR indicated as 1.4:1. The SWR meter was recalibrated, using a 50-ohm dummy load, but this did not cure the problem. As could be expected, the operating manual supplied gave no information about solving this problem so schematics supplied were consulted. Figure 1 shows the circuit used which is similar to the circuit of the Heath bridge.

To correct the problem, I fed the transceiver output through the SWR bridge and ATU to the dummy load. I adjusted the controls to give about 50 watts output into 1:1 SWR reading of the bridge on 20 metres, attached the DC probe of a FET multimeter to the input of the REV variable resistor and adjusted the variable capacitor C103 for minimum reading. Again I checked power output into the 1:1 SWR load and found a slight improvement but still not full power output until the ATU Load control was adjusted slightly with a resultant 1.3:1 SWR reading.

The next step was to slightly adjust the FWD and REV variable resistors and, after a few hit and miss tries, the circuit was working to specifications. The two variable resistors and variable capacitor are clearly marked, readily accessible when the cover is removed and easily adjusted.

If you have the same problem with your solid-state transceiver, this adjustment can be readily made. However, if the circuit is really out of adjustment, the full procedure would be to adjust the RF output control to give about ½ rated output and set the FWD resistor to maximum and REV resistor to minimum (ground). This will reduce RF output drastically.

Adjust the FWD resistor until RF output reads same as before. Then adjust the REV resistor until the RF output just decreases. Check that the maximum RF output is according to specifications given in the manual, with reference to SWR, and, if not, make slight adjustments to the resistors and variable capacitor until specifications are met.

Note that the positive DC outputs, from the two arms of the SWR bridge, are fed to the inverting input of the LM358 operational amplifier IC so that the sum of the two positive inputs will produce a negative output from the IC. This negative output is fed to an RF preamp stage and controls the output of this stage, and thus the RF output of the transceiver, depending on the voltages supplied to the input of the IC. ■

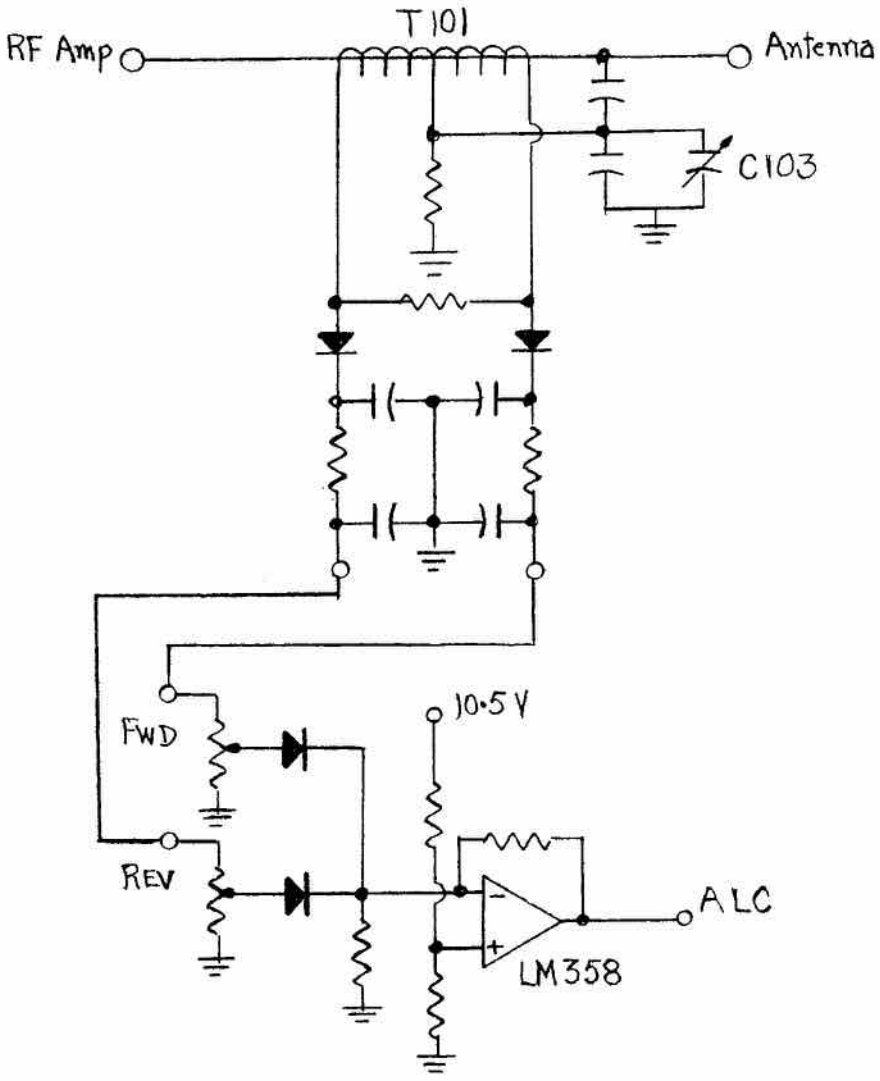


Figure 1— SWR/Wattmeter RF Control Circuit.

TECHNICAL ARTICLES

The Canadian Amateur welcomes technical articles. Please send them to the Technical Editor, Bill Richardson VY1CW, 36 Range Rd., Whitehorse, Yukon Y1A 3V1.

KENWOOD

TS 940, 680S, 440, 140

TM-721A, 231A
TR-751A

TH-205AT, 215A
415A, TH-205AT
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TH-25AT, 45AT

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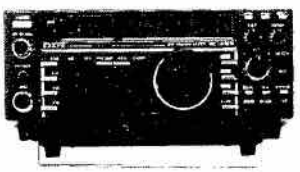
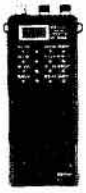
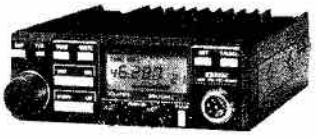


IC-725, 735, 765, 751A, 781

IC-2GAT, 32AT, 4GAT, 2SAT





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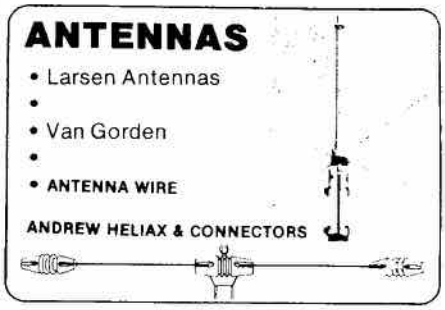

ACCESSORIES

- Power Supplies
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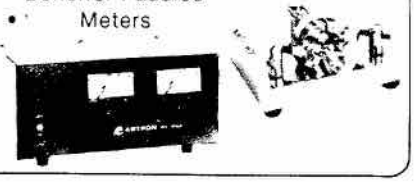

PUBLICATIONS

- ARRL
- Radio Amateur Callbook
- World Radio TV Handbook
- Gordon West Radio School

ANTENNAS

- Cushcraft
  AP8, A3, ARX-2B, 215 WB + more
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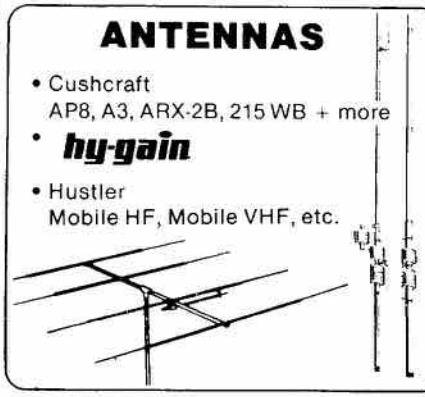
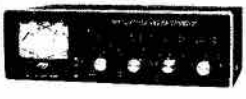


ACCESSORIES



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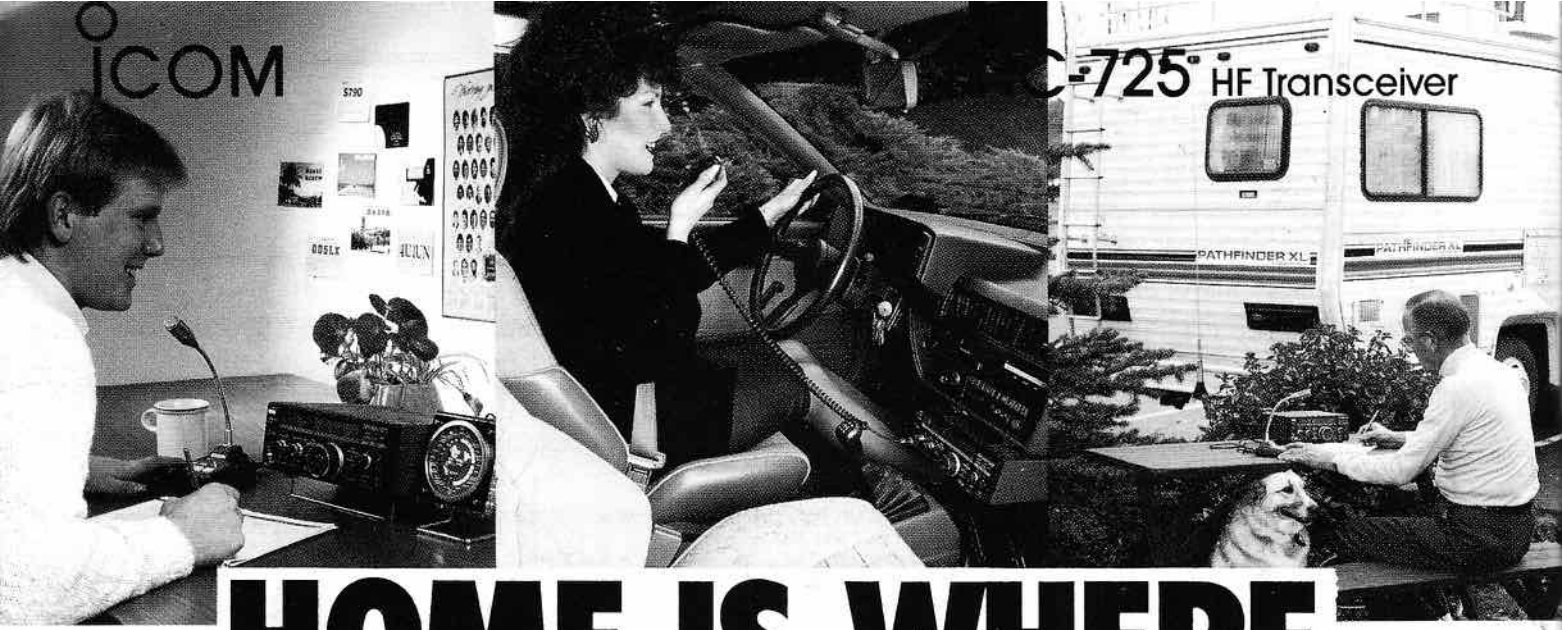

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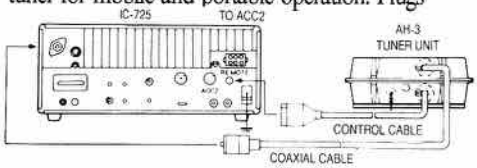

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