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MAY 1990

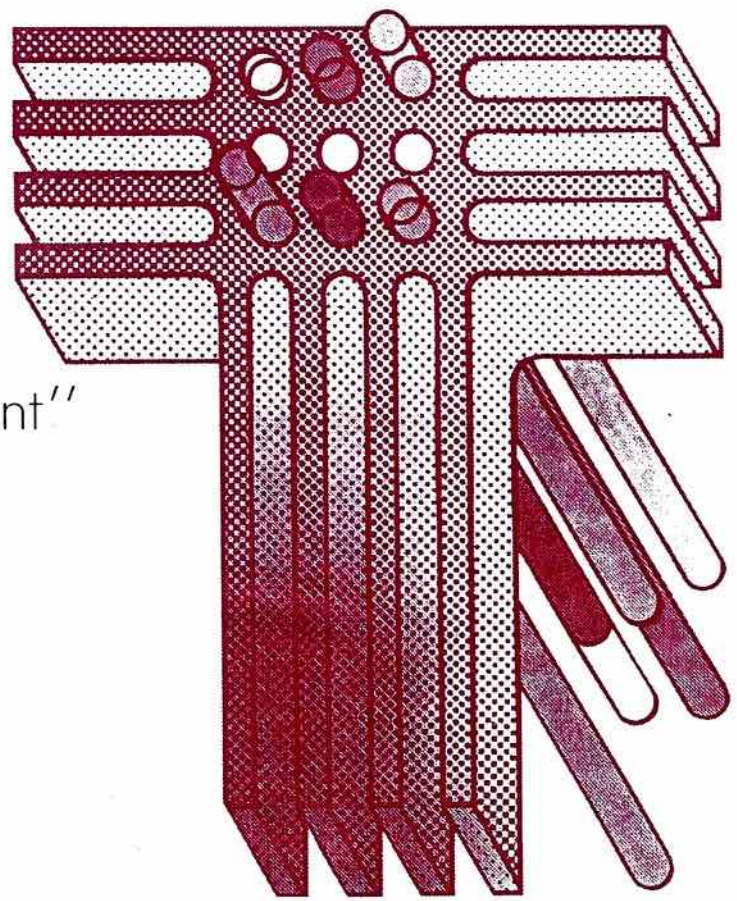
Canada's Amateur Radio Magazine

La Revue des Radio Amateurs Canadiens

World Telecommunication Day

"Telecommunications and industrial development"

— Page 8



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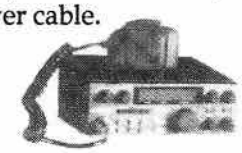

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Canada's Amateur Radio Magazine

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

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EDITORIAL

Notes from all over

By George W. Sansom VE3GWS

During the past few months a number of people have sent interesting articles to me with comments such as, "The same situations exist in Canada, perhaps you might republish them."

Well, obviously I can't bring the Editors of *Ham Radio* or *Worldradio* on to the staff of *The Canadian Amateur,* but what I can do is give you a sample of their comments and suggest that you purchase these fine publications. Then you can read the entire text for yourself.

Red Barber W3CVE's comments in *Worldradio Magazine* (March 1990) are in response to the proposed no code licence in the U.S.A. Here is a portion of his letter:

The Old Chestnut

It is disgusting, deplorable, ridiculous and downright blasphemous that the yackers and blabbers want to degrade the fundamental backbone of Amateur Radio. They yack, yack, blab, blab, grunt and grunt for a no-code licence...

Here is an adage that educators have quoted for centuries, "The person who has the ambition to study has the ability to learn". That is exactly correct.

The misfits who want to crack the hard shell of the Amateur Radio chestnut are LAZY with NO AMBITION to study. They want the easy way out— they do not realize that the International Morse Code is the only international language and that the International Morse Code is the BACKBONE of radio communications.

There are several advantages that CW has over phone RTTY and Packet emissions:

1. A CW signal occupies very little bandwidth. A CW signal sending 20 wpm occupies only 80 cycles, 30 wpm 120 cycles— approximately four times the speed of sending.
2. More exact. Every word is spelled out— no phonetics.
3. Language is no barrier. The operator need not know the foreign language.
4. QRM is not a major problem. A proficient CW operator has developed his powers of concentration whereby he hears ony the signal to be copied.
5. A proficient CW operator can copy a signal that is barely audible.
6. During every national emergency the radio Amateur has become one of the major factors providing National Security— technicians and PROFICIENT CW OPERATORS.

In the March 1990 issue of *Ham Radio Magazine,* Bill Orr W6SAI used his 'Backscatter' column to give his views on the 'No Code' situation and comes to the conclusion that the majority of CB operators don't really want to become hams:

Amateur Radio Growth?

I suggest you take an hour or so and listen to the spectrum between 26 and 29 MHz. CB radio, as it was known, has disappeared and a new form of 'hobby' radio has grown up in its place. The full 3-MHz range is chock ful of SSB stations going about their business in a 'ham-like' attitude. Seemingly absent are the loud-mouthed ignoramuses who made CB radio a shambles a few years ago. In their place are thousands of operators, behaving themselves, and having fun!

There's plenty of DX in this range, too. I counted 14 countries in about 30 minutes listening time. Not much talk about equipment, but a lot of chatter about friendships and local colour. It sounded very interesting. Too bad these thousands of operators are not hams!

But why should they be hams? What's the advantage? They can converse and enjoy themselves with no danger from the FCC. They exchange QSL cards and other pleasantries— and they have 3 MHz of space to do it! More frequencies than any HF ham band. The future radio hams are already on the air, and I don't see any chance of them becoming licensed Amateurs because there's little in it for them! They don't need Amateur Radio as we know it. A modified ham transciever and a store-bought beam puts the operator on the air, ready to work DX and make new friends. To add insult to injury, I recently received a QSL from an English Amateur. On the card were his call letters and also his 'identifier' for CB radio. He had the best of all possible worlds.

On a different topic, Bill Snyder W0LHS comments on the Bouvet 'hogpiles':

In my 57 years of Amateur Radio operations, I don't think I have ever seen such ridiculous goings-on as during this one. In my wildest dreams I never thought I would see such venom flow over the airwaves as was exhibited in the race to catch a new one called Bouvet. Wow!

On the CW side I listened to the usual self-appointed 'LID MANAGERS' calling everyone a 'LID' if they called on the same frequency as that on which the 3Y station was transmitting (while working split). Then the chorus of 'UP' ad infinitum, became the chief source of QRM on the Bouvet QRG...

It reached a point where the lid managers were the chief source of QRM. They interfered with the 3Y station so much it was nearly impossible to read Bouvet at all...

In the meantime, the same antics were going full blast on the SSB frequency. I heard one American Station whistle the Star Spangled Banner on the DX frequency. I heard profanity, guys telling other guys where to go and what to do. It was the worst I've ever listened to in all my DXing years.

I will qualify that last statement with this addition: I rarely listen to hogpiles on the phone bands; it's too much for my weak stomach.

Packet HF operations:

With the mention of digital subbands that brings up another soap box subject, but I am only going to report not comment.

For at least 30 years, the RTTY portion of the 14 and 21 MHz Amateur bands has been centred on 090 up from the bottom of the band. When AMTOR first appeared the operations gravitated to the 070 and 080 portion of each band.

Because AMTOR is an excellent automated mode, a number of 24 hour high frequency BBS stations went into operation. G3PLX, the godfather of the AMTOR operation in hamdom, had a scanning operation on either 14 or 21 MHz. Running with an attic antenna, his station was a good bell weather signal to see how the DX band situation was to Great Britain. I used to access it every day just to check propagation.

Our thanks to the above gentlemen for the use of their letters and editorials. ■

LETTERS

DISTURBING REMARKS?

To say, that Bob Brown NM7M's article 'Ionospheric Disturbances in W.W. II' *TCA* Dec. 89) contains "... a glaring error" is an unfortunate remark on the part of Doug Burrill VE3CDC (*TCA* Feb. 90, pg. 4-5). The obvious purpose of Bob's excellent article was to inform the reader of the nature and effect of these hitherto relatively unknown disruptions to radio communications in the high arctic during W.W. II. It was not intended to be a total recount of military actions by all participating nations.

Doug is too hard on Bob!

J.F. Hopwood VE7RD

Bob and Doug have since entered into correspondence and are exploring this phenomenon together. Anyone having further information should contact NM7M or VE3CDC ... Editor.

MORE CONTESTS

I am not a contester, and I take DX where I find it, but I would like to register a 'beef' and a suggestion, both relating to DX, contests and awards.

Today, March 17, I was listening to a station on 15 metres which was using a CF2 call, and he was the object of a pile-up that would do credit to a rare DX station. When I couldn't find him in my DXCC list, I sat and listened to eventually hear him identified as a VE2 in Montreal, using a CF2 prefix to represent the Canadian Flag anniversary. Since he had an accent, I'll be dollars to doughnuts that 75% or more of the stations anxiously trying to reach him thought they had a DX treasure instead of a common Canadian contact. What a farce! This is a blatant example of misrepresentation which we, as legitimate hams, should not condone. CF bears no resemblance to VE and raises false expectations.

In a more positive vein, I would like to see us promoting Canada with at least a couple of national awards such as WACC (worked all Canadian capitals) and WACP (worked all Canadian prefixes). CARF or CRRL or both together could, at little cost, print up a certificate bearing the Canadian flag and recognizing the achievement. Canadian embassies and travel bureau offices would, I am sure, gladly publicize and/or hand out information on the awards. It would do wonders for raising the knowledge of Canada abroad. Canadian hams should lead the way in making Canada known and understood both at home and abroad and we could do it with a simple certificate that recognizes the accomplishment and then briefly tells about Canada with emphasis on award information, e.g. listing the Canadian capitals, their geographic location and population in round figures, and on the other the provinces and territories, their geographic location and size. I'd be glad to throw a couple of bucks into the pot with fellow members if that's all that's needed to get the show on the road.

Any comments?

Leslie D. Saul VE7GBT

A CANADIAN VIEWPOINT

Just a few lines on a dreary early spring day (rained buckets all day yesterday) prompted by finishing the reading of my March *The Canadian Amateur,* received yesterday during the rain storm. Just the thing to take my mind off the weather and on to more pleasant things, like antenna construction, etc.

TCA is by far the most interesting to me of all that I subscribe to *(QST, QST Canada, Ham Radio, CQ, Antennex,* also newsstand copies of *73).* I guess I appreciate the Canadian viewpoint without a lot of political pontificating. How's that for a big word?... Particularly enjoy Moe VE6BLY's QRP column and have built a Neophyte RX and Two-fer TX kits from Small Parts Centre, who give tremendous service to us up here in Canada. Both Tx and Rx are built into a 5x3x6" R.S. enclosure and are individually shielded from the other unit... Neophyte working exceptionally well, with amazing sensititivity, but have had a small problem with the Tx, managing to fry the 2N3553 final transistor during a session of fiddling with the thing after I had it completed and working... Oh well, experimentation is the name of the game. On another subject: I think the balance of contents in *TCA* is just about right.

If anyone is interested, I vote strongly in favour of continuing both the Canada Day and the Canada Winter Contest, and to those who claim no one was participating, I say listen on 7050 to 7100 kHz during these contests and expect a surprise. By the way, when will the results be published for the 1989 Canada Day and Canada Winter contests? I entered both just for the fun of it— the only contests I enter, although I do participate in others to hand out the not-too-common VE4 multiplier.

Sorry for the disjointed letter, but am listening to ragchewing on 18 MHz while I type this. It is a shame more people aren't aware of the two gentlemen's bands, 18 and 24 MHz. Come to think of it, maybe it is better left alone with not too many kWs and 5 element mono-banders on them; makes it better for guys like me with 100W and wire antennas. Hi!

By the way, the TPN is not the only net on 7055 daily, look for the Aurora net at 2330 UCT and 0230 UCT daily, lots of friendly fellows on both times and quite frequently check-ins from coast to coast, including TPN alumni like Denis VE3EVI.

Best regards and keep up the good work,

G.A. Funnell

'Al' VE4FP

(One of the VE4's that does check the TPN!)

The results are being tabulated and will be printed as soon as I have them... Editor.

LISTENING TO THE WORLD

I thought that I'd finally take a minute to drop you a note concerning the reaction so far to the 'Listening to the World' column in *The Canadian Amateur.* I have first to thank you for giving me the opportunity to write a shortwave column for an Amateur magazine, something which I believe to be a first in the Amateur publications in North America.

The reaction to this column is an indicator of the growing friendship and closeness of the SWL and the Amateur communities, something that I have been striving for for many years. There are such obvious connections and similarities to our two hobbies, but for many years I experienced frustration and at times, even verbal abuse at the hands of the Amateur community.

I'd like to take a few minutes of your time to relate some of the comments I have received from Amateurs since starting the column. I think that this will give you an indication as to how successful and popular the column has become and it will show how the Amateur and shortwave community is growing closer together.

Art Ferguson VE3HP, Tobermory, Ont.: I always read your Listening to the World and enjoy it very much.

Henry Greenway VE3OMU, Ottawa, Ont.: I read your column every month. Very Good!

J.B. Rogan VE4MT, Winnipeg, Man.: Continue to enjoy your articles and am listening more to commercial and state DX stations now.

G.E. Baynham VE3OWQ, Prescott, Ont.: Your column is always interesting and

SILENT KEY

VE7WP— Walter 'Wally' Porter, a long time resident of the Okanagan Valley passed away suddenly Jan. 29. Wally was in his 80th year, and was well-known and respected by Amateurs throughout B.C. and he will be sadly missed.

has resulted in my listening to broadcast stations and bands much more than I ever have in the past. I sent in and received programme schedules from Russian, Turkey, Japan, etc... all data taken from your columns, so your column has had tangible results here. I like the way you have presented your information: very clearly, simply and directly without any appearance of pressing. Thank you for your work.

Rodger Henly VE7DZD, Victoria, B.C.: I have been an SWL for many years. I enjoy your column very much. I find your information is quite accurate.

Lloyd Cooper, Vancouver, B.C.: I have enjoyed your column so far. Please continue.

Frederick Bragg, Aylmer, P.Q.: I just finished reading your article. I found it most interesting and I'm glad to know that you will present the column throughout 1990. Being retired for the past 19 years, you can imagine I spend a good deal of time on the shortwave bands, both as a ham and SWL.

Fred Waterhouse, 100 Mile House, B.C.: Keep up the good work with your articles. It is always a pleasure to read something I can understand!

Doc Mackenzie VE3XY, Ottawa, Ont.: I read your article in *TCA* each month and look forward to it. Keep up the good work. Really enjoy it.

W.J. Sweeney, Flin Flon, Man.: I have been a shortwave buff for a number of years now, but I think I have learned more from your column in the magazine than anywhere else. Keep up the good work. I'll be looking for more as time goes by.

G.O. Heans VE1BDX, Aylesford, N.S.: I have been reading with interest your column. SWLing sounds like it would be a very interesting hobby as well as ham radio.

Ron Walsh VE3IDW, Kingston, Ont.: I enjoy your column in *TCA*. I guess an old DXer never quits. Thanks and keep up the good column.

Don Slater VE3BID, Lombardy, Ont.: Enjoyed your articles. I find as one gets older you do more listening than talking and I've started to get the bug for shortwave. Looking forward to future articles.

Patrick Brewer VE3KJQ, Nepean, Ont.: Thanks for writing your aricles in *TCA*. I find them interesting and it puts my transceiver to another use.

Derek Evans, London, Ont.: I regularly read your article. You sure do a very good job of it... Keep up the good work.

Jack Greenway VE3CXK, Windsor Ont.: Enjoy your Listening to the World... good job and well done, good health & DX!

Dave Gordon VE6NO, Calgary, Alta.: Keep the interesting articles coming; they are very informative.

There you have it. These are just some of the comments received since beginning the column. Other letters have been received ordering books, asking questions or advice about receivers, antennas, types of stations, etc., all pointing to the growing interest in shortwave among the Amateur community.

I have lots of good information coming up in future columns which I am sure the readers will find interesting. Some readers have made suggestions for topics which I will be including in upcoming editions. I look forward to doing the column each month and really enjoy getting the feedback from the readers. It makes it all worthwhile.

For the general interest of your readers in Quebec and Ontario, I will be attending many of the upcoming hamfests and flea markets throughout the spring and summer months ahead with our club display on shortwave radio. I look forward to meeting many CARF members at these functions. Plans so far are to attend the Ottawa Amateur Fleamarket on Saturday, April 21 and hopefully the Durham Region get together in Ajax on April.

I would be most interested in receiving any information you may have on upcoming hamfests or flea markets over the spring and summer. I would be interested in contacting the organizers of these events and getting our shortwave display into these events. I am also looking for a listing of the Amateur radio clubs throughout the province of Ontario. Would you have such a list or would you know where I might be able to get one? Your assistance would be greatly appreciated.

Once again, thanks for the opportunity to run Listening to the World in *TCA*. I hope it will continue to please and inform the readers for many years to come. Look forward to catching up with you at one or more of the events over the year. Best wishes.

Sheldon Harvey, President,
Canadian International
DX Club

LICENCE PLATES

Dear Fellow Amateurs:

On Feb. 28, 1990 a motion was passed by the Windsor Amateur Radio Club to petition the Government of Ontario to change the existing Amateur Call Letter Licence Plates. The proposed change is to replace the words 'YOURS TO DISCOVER' with 'AMATEUR RADIO'. This change is deemed necessary as a result of the introduction of personal choice licence plates and the resultant loss of uniqueness of Amateur call plates.

Continued on next page

QUESTIONNAIRE
AMATEUR CALL LETTER LICENCE PLATES

	YES	NO
Are you in favour of changing the existing Amateur call plates to replace the words "YOURS TO DISCOVER" with "AMATEUR RADIO"?	___	___
Do you currently have Amateur call licence plates on your vehicle?	___	___
Would you replace your current Amateur call licence plate with the proposed new issue when they become available?	___	___
Would you be willing to pay the current replacement fee of $10 to obtain the new issue plates?	___	___
If you currently do not have Amateur radio call licence plates, would you be interested in obtaining them when the new issue becomes available?	___	___

Please complete and return this questionnaire to:
Bob Gammon VE3CJX,
3640 Byng Road, Windsor, Ont. N8W 3H9

Please return by April 20, 1990.

Note to Club Executives: If you wish, you may duplicate this survey and have each member complete one, or return the form as a group response. Please indicate the number of respondents and their choices for each question.

I.e. If your survey indicates 30 people in your club are in favour of the proposal and 10 are not, put 30 under the 'yes' column and 10 in the 'no' column. This information will be used for a presentation to the Ministry of Transportation, Department of Motor Vehicles in Toronto, Ontario.

LETTERS *(cont'd)*

The proposed change would make the Amateur call plates self-explanatory and restore the original purpose, that of identification of Amateur Radio operators to government officials, law enforcement agencies, and the general public.

The public service value of Amateur Radio during emergencies or disaster situations has been well documented over the years and justifies our request for unique identification. This change would be the first such designation for an Amateur licence plate in Canada.

The precedent has already been set by the Historic Vehicle Society of Ontario with the inclusion of the words 'HISTORIC VEHICLE' on their licence plates. We are confident that Amateur Radio plates can be given the same status.

We are writing this letter to you asking for your support in our endeavour. We would appreciate your taking a few minutes to answer the enclosed questionnaire. Let us know your views on our proposal. May our conduct on the road and the air prove us worthy of these plates.

Yours for the advancement of Amateur Radio,
Bob Gammon VE3CJX, Windsor, Ont.
Paul Smith VE3PS, Willowdale, Ont.
Perry Basden VE3PJP, Windsor, Ont.

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Please use standard postcard-sized QSLs. This makes packaging easier and when more than a quarter of a million cards are handled each year it is desirable that users conform to this request.

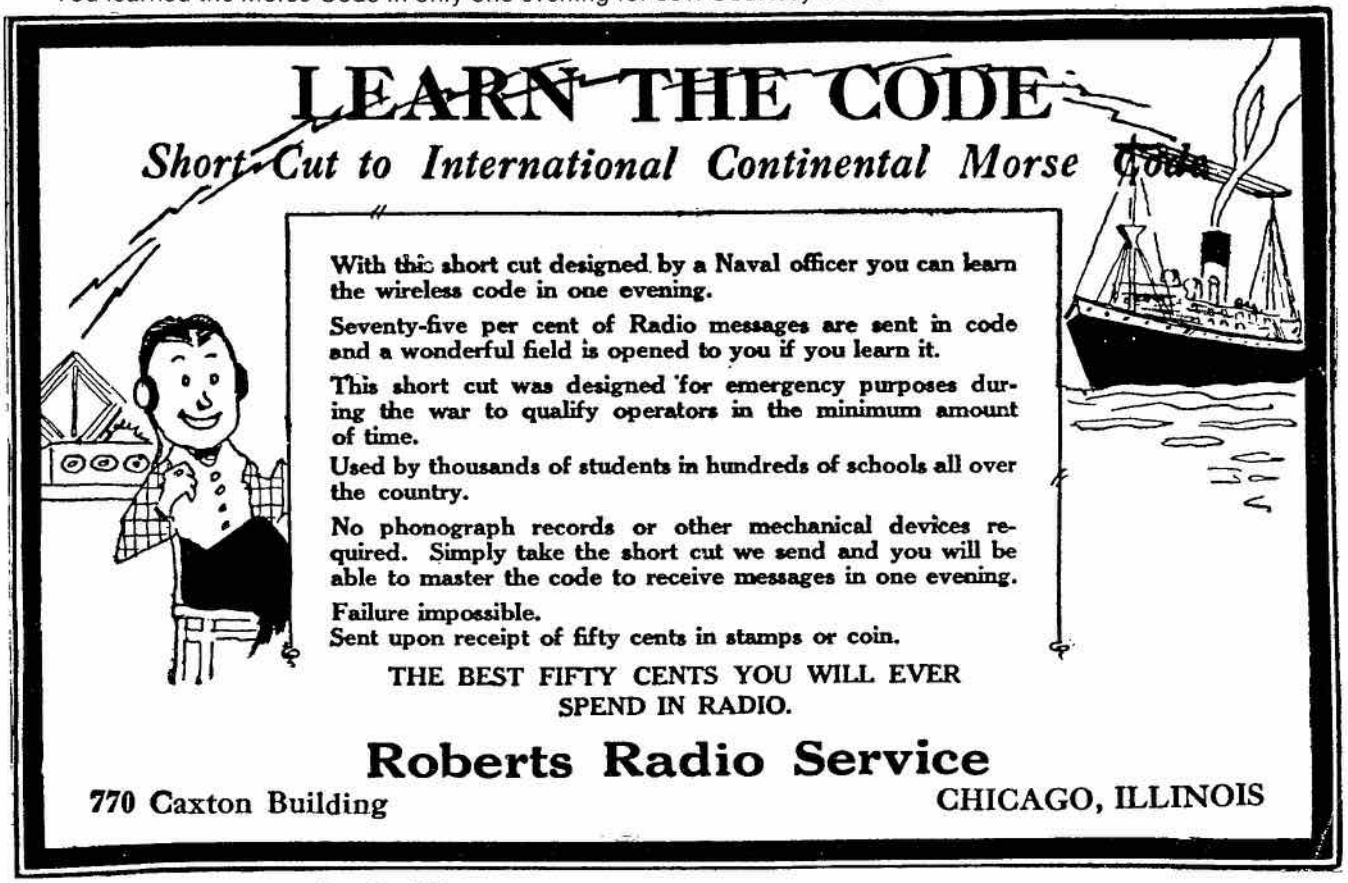
When using padded bags, do not use staples, as cutting them open releases the fibre padding, makes a great deal of dust and can be a possible health hazard to the volunteer staff of the Bureau. It is suggested that envelopes using plastic bubbles for insulation be used instead of the ones with fibre padding. Thank you for your co-operation.

SPECIAL EVENT STATION VO9WG

Special Event Station VO9WG will operate from the site of the 1990 Newfoundland and Labrador Winter Games, Feb. 25-March 3. Operations will be SSB/CW 80-10M. Special QSL will be sent to all making contact.

Remember When?

You learned the Morse Code in only one evening for 50¢. Courtesy *The Citizen's Radio Call Book*, Fall 1924.



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17 MAY 1990

World Telecommunication Day

ITU celebrates 125 years

By J.F. Hopwood VE7RD

On Thursday May 17, 1990 the 166 member countries of the International Telecommunication Union (ITU) celebrate World Telecommunications Day for the 22nd consecutive year. Our own Bill Wilson VE3NR, as a prominent Canadian member of the ITU Administrative Council, chaired the very first International Telecommunication Day for the ITU in 1968. A great honour indeed for Canada and for Bill! By the way, Bill is a Past President of CARF and currently CARF's liaison with the DOC!

'International Co-operation' was the Theme of World Telecommunications Day in 1989. The then ITU Secretary-General David Butler stated, "... it is through co-operation between nations that the ITU came into being... it is also thanks to co-operation that telecommunications technology has undergone such spectacular development over the last century."

Canada's commitment to the ITU is as strong as ever as we work in co-operation with other ITU member countries to bring about international harmony and progress in the development of effective telecommunications policies. Canadian radio Amateurs are proud of the support of our government in the furtherance of the radio Amateur interests through the ITU. We are also very proud of the contribution Canadians have made toward the stability of the ITU and, in particular, the honour paid to several VEs by ITU governing bodies. So! Why have a special day?

In honour of World Telecommunications Day, here's a look at the ITU— how it came into existence, what it is today and how important it is for the nations of the world and for Amateur radio.

THE HISTORY OF THE ITU

The ITU was founded on May 17, 1865, a time when electrical telegraph networks were developing rapidly throughout the world. Although many agreements regarding cross border telegraph lines existed, the divergence of languages and technologies often created confusion. Realizing the advantages of complete telegraphic uniformity for international relations, European powers met at the first International Telegraph Convention in Paris from March 1 to May 17, 1865. As a result, the International Telegraph Union was born.

With the advent of wireless transmission at the turn of the century, problems in communications surfaced again. For example, radio equipment companies exchanged signals only with other stations using the same equipment. To resolve the situation, a Radio Conference was held in Berlin in 1906. The first International Radio regulations were developed at this conference and the International Telegraph Union was asked to manage the affairs of the new RadioTelegraph Union.

In 1932, the 13th International Telegraph Conference and the 3rd International Radio Conference were held in Madrid. A joint Convention Committee and other joint committees worked towards unifying the conventions of the two organizations and subsequently drew up a single convention. It was signed by 80 countries and involved three sets of regulations: one for radio, one for telegraph and one for telephone. The merged organization was named the International Telecommunication Union (ITU).

The ITU became a specialized agency of the United Nations in 1947 as the first intergovernmental organization established by the UN. The ITU acts to encourage world co-operation in the use of telecommunications, to promote technical development and to harmonize the standards and policies of different countries worldwide.

THE INTERNATIONAL TELECOMMUNICATIONS UNION TODAY

Currently, the ITU is headquartered in Geneva, Switzerland and is considered one of the more successful UN agencies. It operates at four different levels— technical, regulatory, administrative and political.

The technical work of the ITU is carried out by four separate, permanent bodies. Although each is independent in terms of authority, they operate in a collaborative fashion. These four organizations include, the CCITT (International Telegraph and Telephone Consultative Committee), the CCIR (International Radio Consultative Committee), the IFRB (International Frequency Registration Board) and the ITU General Secretariat.

Telecom Canada is a member of both the CCITT and CCIR as a Recognized Private Operating Agency (RPOA). RPOAs are important 'lobby groups', but cannot vote at ITU conference and committee sessions. The International Amateur Radio Union (IARU) is recognized as 'an observer' organization also with 'no vote'. While the IARU has no vote on ITU matters, it is a very important forum for Amateurs worldwide to obtain a consensus of national Amateur bodies and to press hard to influence the ITU favourably toward Amateur radio interests. Amateur radio needs all the help it can muster to advance and defend its place in the world of international telecommunications.

But, having 'our man', an experienced and respected Canadian radio Amateur, on the Canadian WARC Preparatory Committee and as a member of the Canadian Government delegation to Spain in 1992 is essential. Canada has a vote. Canada's delegation enters into discussions and debates which influence the opinions and votes of other administrations. That is where the ITU 'vote' power lies and that is where we want an 'inside'

influence in the things which affect Amateur band allocations and operating regulations. The Defense of Amateur Radio Fund (DARF) must support the travelling expenses of 'our man' at Barcelona. More of that later. Now on with our story of the ITU.

The CCITT and the CCIR are responsible for international telephone and radio standards respectively. The IFRB oversees the registration of all radio frequency assignments made by different countries in accordance with Radio Regulations procedures. It is similarly responsible for the orderly recording of positions assigned by countries to geo-stationary satellites.

The General Secretariat of the ITU is directed by the Secretary-General, Pekka Tarjanne of Finland. The Secretary-General is ultimately responsible for all the administrative and financial apsects of ITU activities. Although not a licensed Amateur himself, Mr. Tarjanne is well acquainted with Amateur radio and has indicated a desire to work cooperatively with Amateurs.

At the regulatory level (and this is what concerns radio Amateurs), international regulations are developed and approved for radio matters at periodic World Administrative Radio Conferences (WARCs). They are held every two to three years and each one deals with a particular section of the radio spectrum and a particular service, for example— mobile, geo-stationary satellite or broadcasting.

WATTCs or World Administrative Telegraph and Telephone Conferences are held very infrequently, about every 15 years. The most recent was in Melbourne, Australia. As opposed to the WARC, the WATTC deals with all aspects of Telegraph and Telephone Regulations.Telephone companies, who are members of Telecom Canada are vitally interested in WARCs and WATTCs.

The administrative matters of the ITU are handled by the Administrative Council. This Council is similar to a 'Board of Directors' and it consists of 41 member country representatives. Canada is currently a member and we are represented by Pierre Gagne, the Director for Multi-Lateral Telecommunications for the Department of Communications.

The Administrative Council is responsible for implementing the decisions of the supreme authority to the ITU, the Plenipotentiary Conference. Operating at the political level, the Plenipotentiary is held every five to seven years and is the equivalent of a shareholders meeting. The output of this meeting is an international treaty approved by the governments of the member countries.

The Plenipotentiary is empowered to revise the ITU Convention, elect officers, name member countries to sit on the Administrative Council, set budget limits and membership fees. The last Plenipotentiary Conference was held in Nice, France in 1989. Some Canadian RPOAs attended as part of the national delegation. The IARU is usually invited as an observer.

THE ITU AND DISTINGUISHED SERVICE BY CANADIANS

Perhaps Canadians are not aware of the people from both the government and private sectors who have made major contributions to our ITU/CCIR Committee over the years. As part of the 1978 50th Anniversary of the CCIR held in Kyoto, Japan, the CCIR honoured persons who made notable contributions to its work over the past 50 (at that time) years.

The scientists and engineers honoured received a scroll citing the field in which their contribution was made. The presentation was made at the XIV Plenary Assembly of the CCIR in June 1978. The persons honoured were chosen by nominations from 154 Member countries of the ITU who, in their view, had made the most distinguished contributions to the work of the CCIR, either by highly significant technical work contributed to CCIR study groups or by distinguished

Continued on next page ►

'Telecommunications and Industrial Development'

'Telecommunications and industrial development' is the topic chosen by the Administrative Council of the International Telecommunication Union (ITU)[1] for the 1990 World Telecommunication Day.

Celebrated annually on May 17, the Day commemorates the founding of the Union in 1865, under the name 'International Telegraph Union', by the plenipotentiary representatives of 20 States signatories of the International Telegraph Convention— the first intergovernmental treaty for the regulation of international telegraphy.

In choosing this theme, the Council aimed at underlining the role of telecommunications in industrial development, a key element for national growth, the success of which depends on the Union's ability to meet the telecommunications requirements of the world community.

This year, World Telecommunication Day 1990 takes on a very special significance as it marks the 125th anniversary of the ITU. It should therefore be regarded not only as an opportunity for illustrating how each Member country of the Union can expand its industrial base through the development of its telecommunications network and services, but also as an occasion to highlight the role of the ITU in enabling world-wide communication for the last 125 years.

The World Day is celebrated in various ways at the *national level:* symposia involving users, the industry and policy-makers, televised discussions, radio programmes, press articles or open days are organized to stimulate reflection and the exchange of ideas on the topic chosen for the Day by the ITU Administrative Council. Information on specific programmes of activities may be obtained from the national telecommunications administrations of ITU's 166 Member countries.

At the international level, the ITU will mark the event with an 'Open Doors' Day at its Geneva headquarters. A small exhibition together with demonstrations of past and future telecommunications equipment and services will be featured including an old jack-plug telephone exchange linked up to telephones on which the public will be able to listen to songs and tales relating to the telephone and a crystal radio set in operation.

Planned demonstrations of modern telecommunications equipment include: Telefax, Videophone, Videotex, the new cordless extra-light telephones, radiodata system, mobile telephone (Natel C), Swissnet (the Swiss ISDN), remote access to a CD-ROM containing all frequency assignments of the world digital audio broadcasting, and more. ■

[1] The International Telecommunication Union (ITU) was founded in 1865 and as such is the oldest inter-governmental organization. In 1947, it became a specialized agency of the United Nations and now has a membership of 166 countries. It is the international organization responsible for the regulation and planning of telecommunications worldwide, for the establishment of equipment and systems operating standards, for the coordination and dissemination of information required for the planning and operation of telecommunications services and, within the United Nations system, for the promotion of and contribution to the development of telecommunications and the related infrastructures.

leadership of a CCIR activity over a period of several years. Of the 57 people honoured, five were Canadians. Among the five were two licensed radio Amateurs whose citations were as follows:

Robert Charles Eldridge (VE7BS) for contributions to CCIR students in maritime and land mobile communications since 1960.

William James Wilson (VE3NR) for establishing the Canadian national organization for CCIR and directed Canadian participation from 1962 to 1968; led the Canadian delegation to Plenary Assemblies 1966 to 1974.

Of course, many from other countries were also radio Amateurs. Additional persons were honoured in 1988, including Canadians (no Amateurs), on the occasion of the 60th anniversary of the CCIR.

ITU AND THE FUTURE OF AMATEUR RADIO

The ongoing impact of Amateurs who participate in CCIR and related WARC matters is significant. A radio Amateur working in close co-operation as one of many public and private sector members of the Canadian national delegation is a most valuable person indeed. A well qualified and respected Amateur must accompany Canada's national delegation to the 1992 and even the 1993 WARCs regardless of the presence of the IARU team. Canadian Amateur interests from both the national voting perspective and from the international IARU lobbying position is a two pronged strategy for the successful defense of Amateur radio.

The history of ITU is a unique story of international co-operation. It is probably the most successful agency of the United Nations in the past 45 years. That is why the annual celebration of World Telecommunications Day must be understood, highlighted and appreciated by Canadian Amateurs. Our presence among our government's agencies and committees and among private agencies such as the Radio Advisory Board of Canada is a most effective way to influence the preservation of our bands and privileges. Our position is known and advanced to those who decide on what, when and why to vote on the issues which concern Amateur radio.

World Communications Day - May 17th, is a celebration of success. The ITU is a story of co-operation and progress. Canada as a nation and we as radio Amateurs helped, in our own way, to make the ITU a great success. We are proud of our association with the ITU. We plan to have a say in how the ITU shapes our future. Happy 125th birthday to the ITU! May its members always support, protect and enhance the Amateur Radio service throughout the world! ■

COAST-TO-COAST WITH AN HT

IPARN, the Interprovincial Amateur Radio Network with HQ in Langley, B.C., is planning to establish and maintain a full-time Canada-wide VHF communications network using a geo-stationary satellite to interconnect the existing terrestrial networks.

For more info please write to IPARN, Dept. 290, P.O. Box 3156, Langley, B.C. V3A 4R5.

— CARF News Service

Remember When?

A call book cost 40¢! Courtesy *The Citizen's Radio Call Book*, Fall 1924.

AMATEURS ATTENTION!

OWING to the large amount of space devoted to amateur radio calls, the Board of Directors decided to publish a list of all the amateurs in the world in a complete book under one cover.

CONTENTS

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Complete fresh lists from the nine Radio Supervisors' offices, containing all new calls assigned and changes of addresses.

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Gentlemen:—

Please find enclosed 40c for which send me your complete and up to date CALL BOOK.

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On the Ionosphere, Back in Time

By Bob Brown **NM7M**

In two articles published in *The Canadian Amateur* in late '89, I offered some remarks on 'Ionospheric Disturbances and World War II'. Those were prompted by my interest in that general subject and the fact that major ionospheric disturbances had just become recognized or differentiated starting around the time of WW-II. Hope I hope you won't consider this pretentious, but I consider those to be articles on 'ionospheric archaeology', our efforts with the ionosphere having a history that goes back about 100 years.

In this article, I want to go back even farther and, needing a term of reference to describe what I'm attempting, I'd say it might be called an article on the 'pre-history' of the ionosphere. I say that as it deals with a period of time before the ionosphere was discovered, understood or even written about, starting around the middle of the 17th Century.

Now that you've read those remarks, you probably wonder just what I'm getting at and how I'm going to do it. To that I'd reply, "Simple: I'm going to apply our current knowledge of solar activity and geomagnetism in the setting of those earlier times." After all, our ionosphere is a creation of solar radiation and that's been around for a couple of billion years.

Moreover, we have a geomagnetic field and even some knowledge of how it has changed over the last 300 years or so. The two go together, the ionosphere created by the solar radiation and under geomagnetic control. Thus, by using our present understanding and some of those data, one can look back in time and write about how things might have been earlier in this millenium.

Before getting too far along, I should say there may be some who might argue at the outset that what I'm about to do is invalid or irrelevant, citing the tormenting philosophical question put to college freshmen: "If a tree fell in a forest and nobody was around there to see it, was there a sound of the tree hitting the ground?" That one is just too hard for me, so I'm going to brush it aside in my impatience and argue there was an ionosphere as far back as the 17th Century, even if nobody was really aware of its existence.

But why go back to the middle of the 17th Century? If you go to records of sunspot counts, you see immediately that the detailed record of actual counts doesn't begin until about the middle of the 18th Century, more than a hundred years later. Thus, we're now celebrating the peak of Cycle 22, some 135 years since the start of Cycle 1 in 1755.

What data was there before 1755? With that question, one gets into interesting territory as sunspot counts were made as early as 1610, but the problem with them is two-fold: the counting technique was evolving and the number of sunspots was quite low.

In that connection, it is now recognized that there was an extensive period of low solar activity from 1640 to 1715. In spite of that, the years of maximum and minimum of sunspot activity in that period are listed in the scientific literature and observations were even good enough to trace the 'butterfly pattern' or solar latitude distribution of sunspots back to 1621. But the actual sunspot counts in those times are another matter, being quite low and now estimated by C-14 dating and the low rate of auroral sightings over Northern Europe.

Suffice it to say, the MAXIMUM sunspot counts during that barren period, termed 'the Maunder Minimum', are thought to be comparable to the MINIMUM counts in some of the more recent cycles, say sunspot counts like 10-15. Obviously, that would have ionospheric ramifications but only if someone were there, 'on the air' at the time! (Remember the falling tree?!)

Going beyond solar activity, we know the ionosphere is under geomagnetic control. What, then, can we say about the geomagnetic field back in earlier times and its affect on the pre-historic ionosphere. In this instance, we don't have to go as far back as the 17th Century to find some interesting facts. Thus, with the magnetic exploration of the Canadian Arctic in the 19th Century, the geomagnetic dip pole was located near the Boothia Peninsula (70N, 264E) in 1831 by J.C. Ross. Since then, the dip pole has been wandering somewhat to the northwest and now is located at a position about 7 degrees further north and 5 degrees to the west of its position in 1831.

Now variations in the dip of the compass needle are of interest in this discussion, as the coordinate system based on magnetic dip organizes ionospheric data much better than other systems, either the centered or eccentric dipoles which average out all the local variations of the surface field.

On that basis, from the dip pole data, we can say that in recent times the ionosphere has been moving with respect to the earth's surface, its orientation moving slowly toward that of geographic axis. However, the two dipole representations of the earth's field are built up from a wider and longer data base and thus can be used to indirectly infer something of the earlier locations or motions of the dip pole.

To see how the centred and eccentric dipole axis wandered, one need only turn to a recent work of A.C. Fraser-Smith of the Stanford Radio Science Laboratory which was published in 1987. That article shows the positions of the theoretical poles since 1650. While they did not coincide with the dip pole at that time, they suggest that its wandering was 'hook-like'. Thus, for the north pole of the eccentric dipole, it was at 83N, 296E, just north of Alert, around 1650 and moved south to 80N, 294E by 1750; after that, it hooked around to 78N, 285E by 1835 and then moved somewhat west and north to its present position. It can be argued that the dip pole wandered in a similar hook-like manner, but details cannot be given for the period before 1831.

Before leaving the work of Fraser-Smith, it should be noted that it also indicates that the strength of the earth's magnetic field was about 17% greater at the beginning of the 17th century than it is at the present time. Indeed, this suggests that the field, more correctly the earth's dipole moment, is decreasing at a rate of about 4% per century. For the ionosphere, the pole wandering as well as the field changes would have significant consequences, and these will be discussed a bit later.

But now to go on, at the present time we are near the peak of Cycle 22, one that is challenging the greatest cycle in recorded history, Cycle 19. At the peak of that cycle, the smoothed sunspot

count exceeded 200, a factor of about 20 times that estimated for the Maunder Minimum. While the Maunder Minimum was unique in its own right, there have been other cycles with low sunspot counts. The two that stand out are Cycles 5 and 6, from 1798 to 1823, when the maximum sunspot counts fell short of 50.

In those times, aurora were seldom seen in Colonial America, in spite of its more favourable position in latitude relative to the geomagnetic axis, as well as a large growth in population of potential observers. Given such variability, even in more recent times, it is not out of the question that another period of low solar activity, perhaps even another Maunder Minimum, could occur sometime in the future.

Having said that, let's look at what it would mean to us now that we are aware of the ionosphere and making extensive use of it. First, low sunspot numbers translate into lower fluxes of the UV and Xrays which create the ionosphere. Presently, Xrays in the 1-8 Angstrom range are monitored by satellite altitudes on a routine basis. At the time of the most recent solar minimum, that flux was a hundred times lower than it is now, down to 0.1 microwatt per square metre. In such circumstances, the critical frequency of the F-layer at mid-latitudes would be around 5 MHz not in the 10 MHz range that we now enjoy.

Just by looking back at our experience in the mid-80s, one can understand what kind of HF propagation conditions would be in store for us if something like another weak solar cycle came to pass. Indeed, conditions during the recent solar minimum could well correspond to those at a solar maximum during another episode like the Maunder Minimum!

But low sunspot counts should not imply the total lack of solar activity. Thus, even during the recent solar minimum, solar flares did occur, magnetic storms wrenched the HF bands from time to time and aurora were seen. And the same was true during times of low solar activity such as the Maunder Minimum, the difference being their rarity.

Just to illustrate the point, Edmund Halley, the second English Astronomer Royal, spent his career watching the heavens and yet almost despaired of ever seeing an aurora. He was four years old when the auroral displays of 1660-1661 occurred and did not have his wish fulfilled until the great aurora of March 17, 1715. That aurora was seen in North America, from England to Russia and as far south as Spain and Italy.

Now going deeper in the ionosphere, a low sunsport count also brings down the critical frequency of the E-layer to about 3 MHz during the daytime. While the HF bands would be limited in the range of the MUF's because of low solar activity, the 10 and 15 metre bands probably being dead, a lower critical frequency for the E-layer would diminish the role of the E-cutoff frequency in affecting HF propagation on the 20 metre band. Further lower solar activity would reduce the number of magnetic storms which disrupt the bands and the lower incidence of aurora would have an effect on VHF propagation by auroral E-layers.

Even lower in the ionosphere is the D-region and the degree of ionization at those depths from solar UV and Xrays would be affected by a drop in the sunspot count. For example, experience during Cycle 17 when the sunspot number dropped from about 120 at solar maximum to around 10 at solar minimum showed the daytime ionospheric absorption from D-region ionization decreased by a factor of 2 around the 75 metre band.

While one can readily examine the consquences of a low level of solar activity on the ionospheric layers under direct solar control, the one aspect of the ionosphere which would be difficult to discuss is the presence of sporadic E-layers, the so-called Es phenomena.

Thus, present observations indicate a significant meteorological factor in the occurrence of Es, at least during the climatic conditions which currently prevail. The Maunder Minimum, however, occurred during an extended period of cold weather, the so-called 'Little Ice Age' from the 16th to 18th centuries.

While the connection between low levels of solar activity and climatic conditions is still rather speculative, it does raise the question again and makes it difficult to make any meaningful discussion or predictions about sporadic E activity during another extended period of low sunspot numbers.

Finally our discussion would be incomplete without touching on how changes in the strength of the geomagnetic field have affected the ionosphere. Thus, at the beginning of the 17th century, high energy particles approaching the earth, specifically galactic cosmic rays, would have encountered a more intense deflecting field and the intensity of the radiation reaching the earth would have been lower than at present. This would affect the background ionization in the ionosphere, most notably the D-region.

At the present time, with the dipole moment smaller by about 15%, more of the galactic cosmic rays are able to reach the earth, and that has served to increase the D region absorption, particularly after sunset.

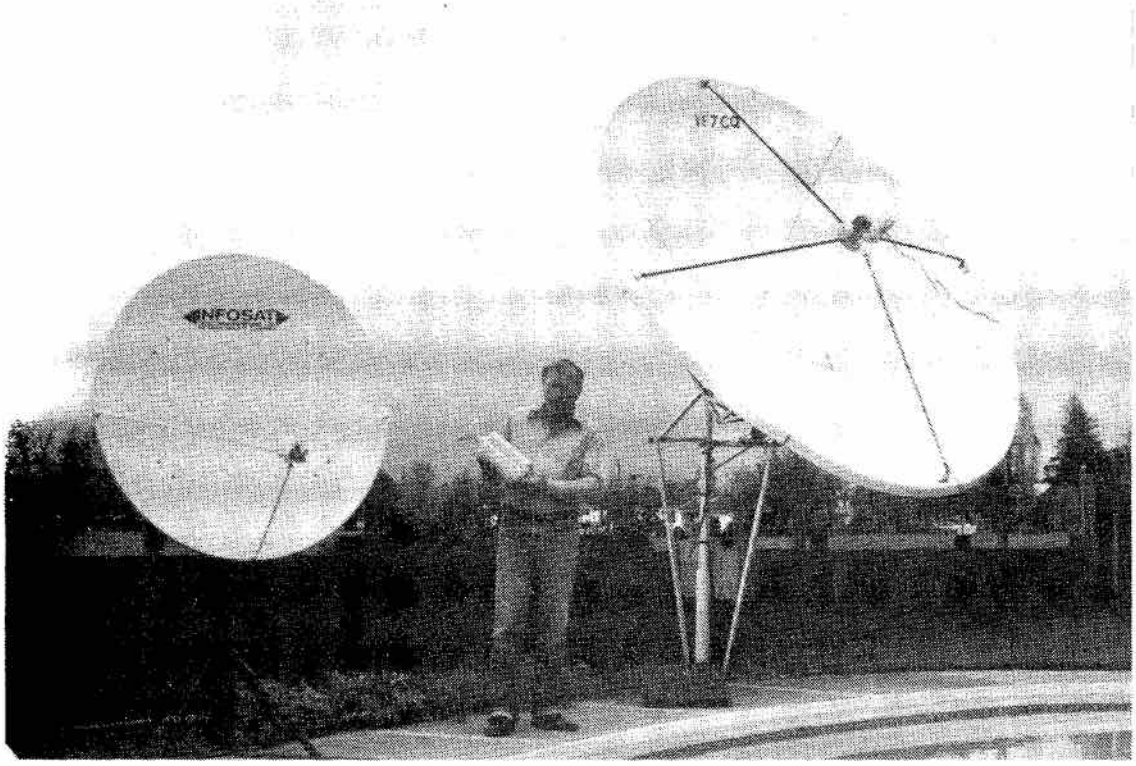
A more dramatic effect from the changes in the dipole moment is to be found with the arrival of solar cosmic rays in the polar regions. Thus, for a given geomagnetic latitude, more of the low-energy solar particles would reach the earth's polar regions at the present time when the field is weaker, thus making PCA events more intense and widespread than they might have been earlier. Of course, this was not a worry of a citizen of the 17th century. And, without any arctic exploration to speak of, even the weak polar glow aurora during intense solar proton events would have been missed.

In summary, our current knowledge of solar activity and geomagnetism can tell us something of prehistoric or future ionospheric conditions, both with regard to physical orientation and critical frequencies. But such discussions, say critical frequencies, are developed from steady-state parameters which can be linked statistically to sunspot numbers or, on the other hand, are inferred from surveys of the surface field. Both studies have been carried out over several decades and tell us something about average conditions.

A more involved topic, dealing with sporadic solar events, concerns ionospheric disturbances due to energetic solar particles (protons) from solar flares as well as from auroral particles (electrons) within the magnetosphere. Here, the data base is less than complete, going back to the beginning of the 'Space Age'. Thus, it is not clear how the strength of the steady component of the solar wind, the low-energy solar particles which compress the earth's magnetic field, varies with sunspot number. In short, that algorithm has not been developed as of this date.

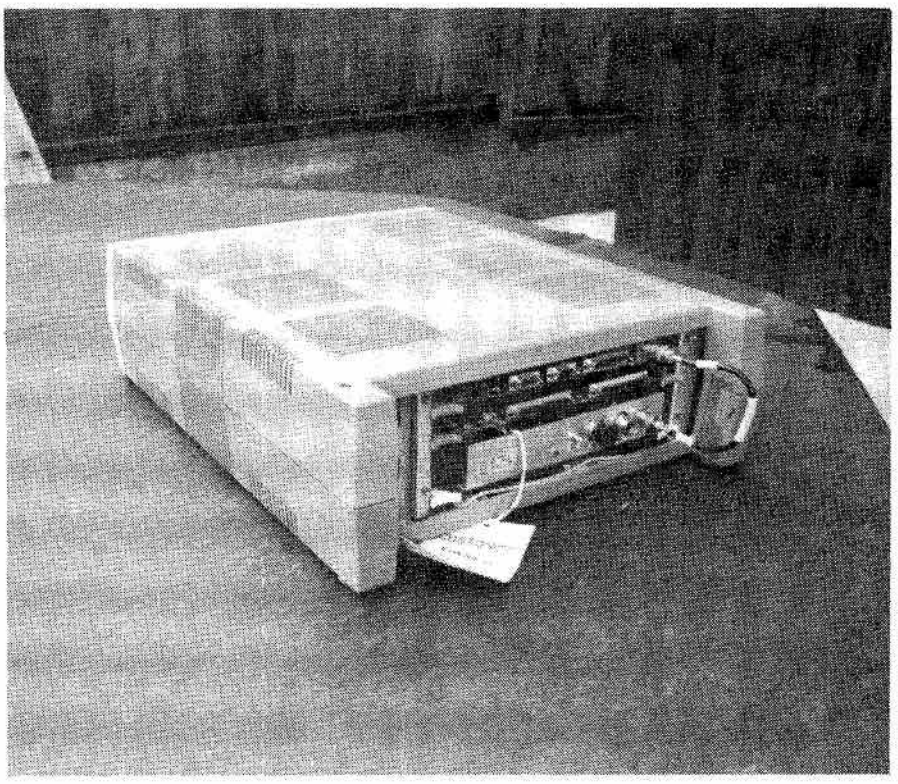
Moreover, the statistics of the puffs or

Continued on Page 15



IPARN

Above: Bill Blake VE7CQ shown holding the 'outdoor unit'/transmitter. The dish on the left is IPARN's. Below:A rear view of the 'indoor unit' Remote Terminal.



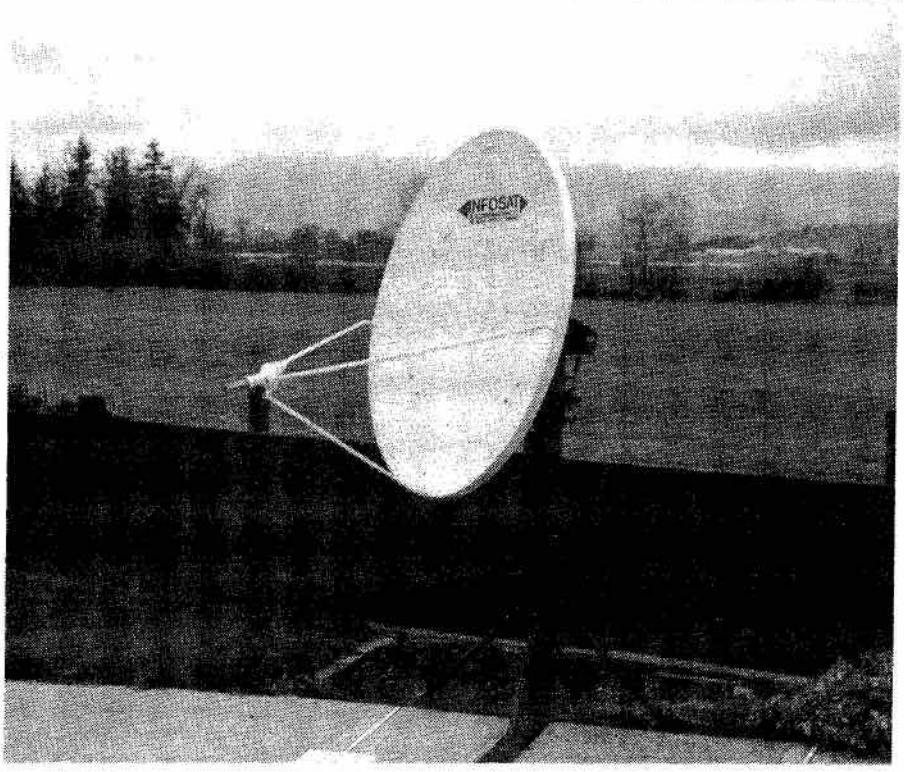
The Inter-Provincial Amateur Radio Network (IPARN) is working toward the establishment of a Canada-wide communications network. It will make use of existing VHF/UHF networks and interconnect them via a geo-stationary satellite.

IPARN is pleased to announce that the first satellite remote terminal has been acquired. The equipment is a 1.8 metre dish complete with an indoor and outdoor unit. Special thanks go to Nexus Engineering of Burnaby, B.C. and the many members of IPARN—both of which were instrumental to our acquiring this equipment.

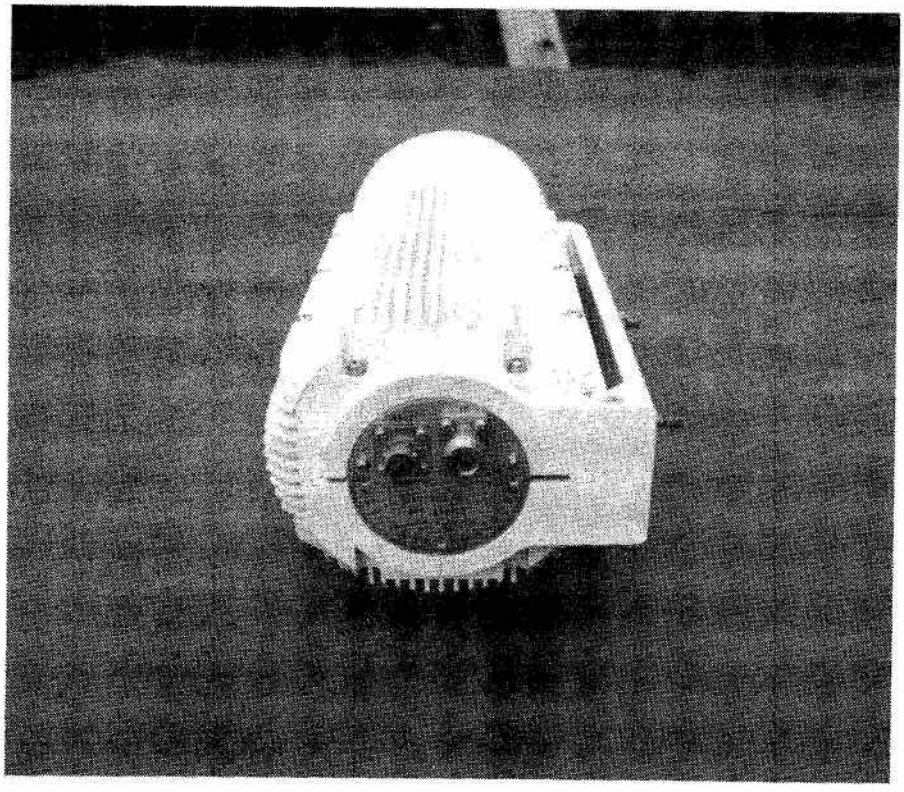
IPARN is now working on acquiring a second satellite remote. Once in place, the first phase of the network will become operational allowing inter-provincial communication using nothing more than a handheld!

Membership in IPARN is $36 a year for Canadian Amateurs ($95 for three years, $150 for five). Associate (non-voting) membership is available to Amateurs outside Canada and non-Amateurs for $30 a year. All members receive *NETWORK,* IPARN's bi-monthly publication which contains information on IPARN activities and articles of interest to Amateurs. With your support the second satellite remote will soon become a reality.

For more information write: IPARN, Department 1189, P.O. Box 3156, Langley, B.C. V3A 4R5. ■



Above: The first IPARN satellite dish (1.8 m diameter).



Above: A close-up view of the 'outdoor unit'/transmitter.

IPARN *(cont'd)*

blasts of the solar wind which give rise to geomagnetic storms and aurora or even the solar proton (PCA) events after some flare outbursts are also being developed at the present time. One problem is to be able to identify sunspot groups which may become sites of flare activity.

The next question is, given a flare outburst, what will be the terrestrial consequences, a prompt or delayed PCA event on one hand or a geomagnetic storm on the other? Those points seem to depend on the solar longitude of the flare site as well as its intensity.

Since satellite observations of those phenomena have only been available for the last few decades, not in a continuous fashion and with only a limited number of spacecraft, our present knowledge leaves much to be desired.

However, progress is being made and the NOAA forecasters, using the tools available, are making their daily forecasts from observations by instruments on the GOES satellites. This is another example of the situation where the development of knowledge has made our foresight better than our hindsight. But that doesn't keep us from trying to look back in time. ■

FRACK AND RETRY

One parameter you might try adjusting in your TNC is FRACK. This sets the time that the TNC waits for an acknowledgement before resending the packet. The default is 3, meaning 3 seconds. It is better to make it 10 or more seconds. I found that nodes sometimes take a few seconds to acknowledge, which can result in useless resends, degrading throughout on the frequency.

Also, the RETRY default of 10 is far too large and should be set back to something like 3. There is no point in retrying more than that; it only congests the network making life difficult for all. If you cannot get through with 3 retries, chances are that you can't get through with 100. The key, though, is FRACK being lengthened properly. With both set as above, you should really experience more efficient operation, which means, on good paths, very few retries.

Dave VE3EIH

SPECIAL CALL CK3

The special Amateur call sign prefix 'CK3' has been allocated as a replacement for 'CF3' to commemorate the City of Sault Ste. Marie, Ont. being named the Forestry Capital of Canada for 1990.

USER REPORTS

Digicom >64 V2.03

By Moe Lynn VE6BLY

John McKean, Field Application Engineer, Advanced Micro Devices Canada) Ltd., 2 Sheppard Ave. East, Suite 610, Willowdale, Ont. M2N 5Y7 has sent me a data sheet and Technical Manual for the 7910 which he advises is 'now actually a 7911'. Although it uses = and - 5VDC supplies, it can readily be seen how Barry W2UP uses a ICL 7660 inverter to supply these voltages from the computer.

Original Design is credited to VY1AQE, the disk program by a group of Amateurs in Germany and modified to the present Version 2.03 by Barry W2UP. Reproduced here is an excerpt from the Technical Manual just to give some idea of what the chip contains. Not all pins are used in the Digicom 64 V2.03.

Assembly was easy, simply by following instructions. Nothing was left to chance and all component placements were checked before and after soldering. Elmer VE6BLO found a cold solder joint but it is absolutely true as mentioned in some advertising and other reviews, no frequency alignments of the interface are required before you can operate packet.

User's Guide is contained on the floppy disk that comes with the kit. There are almost 16 pages to be printed out using the sequential file reader also on the disk. There are a total of 104 commands with this version brought to the screen with one key stroke 'HELP'. It is recommended that all sequential files be printed out and read before plugging the finished board into your computer. A section on 'HF Tuning' is included which is very interesting reading for anyone not thoroughly versed in packet terms.

Modem Family

Advanced Micro Devices offers a family of high-performance FSK modem chips that may be easily integrated in system designs to interface terminals and workstations to the Telephone Network. The product family consists of:

- Am7910 FSK Modem
- Am7911 FSK Modem
- Am79101 Autodial FSK Modem

1.1 FSK MODEMS

AMD currently offers three single-chip modems in the Frequency Shift Keying (FSK) series including the Am7910, the Am7911 and the Am79101. This family of modems includes most of the building blocks required for a complete communication system. Some of the on-chip features include: analog-to-digital and digital-to-analog converters, internal crystal oscillator, and the essential RS-232/CCITT V.24 terminal control signals with TTL levels. A DAA (Data Access Arrangement) or acoustic coupler must be supplied externally to provide the Phone Line Interface.

The FSK modem chips all have the same basic structure as shown in the simplified block diagram in Figure 1.1. The Am7910 and the Am7911 differ mainly in timing parameters with the Am7911 being tailored for better performance in leased-line, multi-drop applications. The Am7911 also includes an extended set of modem selection modes.

The Am79101 has the Am7910's timing, the Am7911's extended mode set, plus autodial support, call progress tone detection and an internal hybrid.

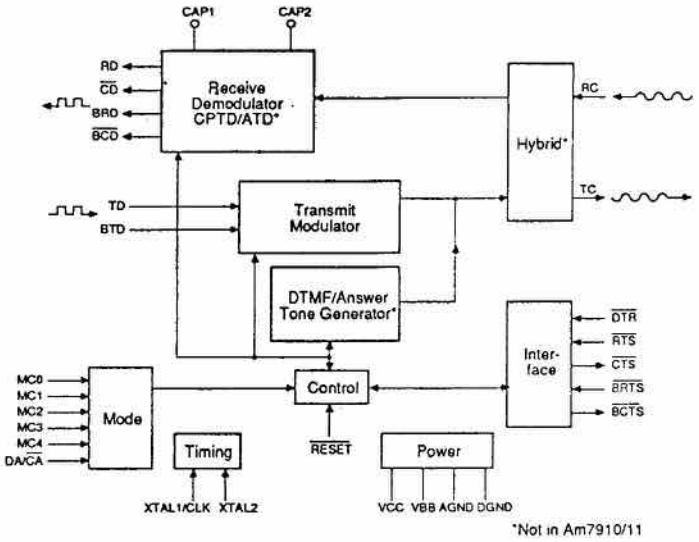


Figure 1: FSK Modems Basic Structure.

PERM FEATURE

As with most commercial manufactured TNCs, you have a choice of writing your preference of start-up commands to disk. From there they automatically load when you type LOAD"BOOT",8. Before executing any prompts or even inserting the system disk it would be a good idea to make a back-up disk and safely store the original. In the long run it might be a good idea to use a file copier and just have Digicom 64, BOOT, FSTLD and DC.PAR on your working disk.

Something new for me was to remember to delete the command colon (:) after a CONNECT and before entering into conversation. I found the program very friendly compared to my first packet experience on HF almost two years ago. This was AX.25 by Chris Mills from Australia.

Last year brought a Kantronics KAM into my radio room but there was no intrigue or experimenting to do after getting it to work. It was then loaned to Elmer VE6BLO who thought packet might be interesting. He eventually ordered a kit from Barry W2UP and was soon on the air using VHF. He now has the dubious honour of placing the board in a suitable enclosure to match his packet desk decor. (Another shack of the month picture lurking somewhere?)

Parts Layout Diagram is included (not to scale) but the board measures 65 cm wide by 121 cm long. You would need the schematic to see all the newest innovations added by Barry since publishing his first effort in *73 Magazine* (August 1988). If you think this is the end or ultimate 'Poor Man's Packet' as told by VE6ARE in *The Canadian*

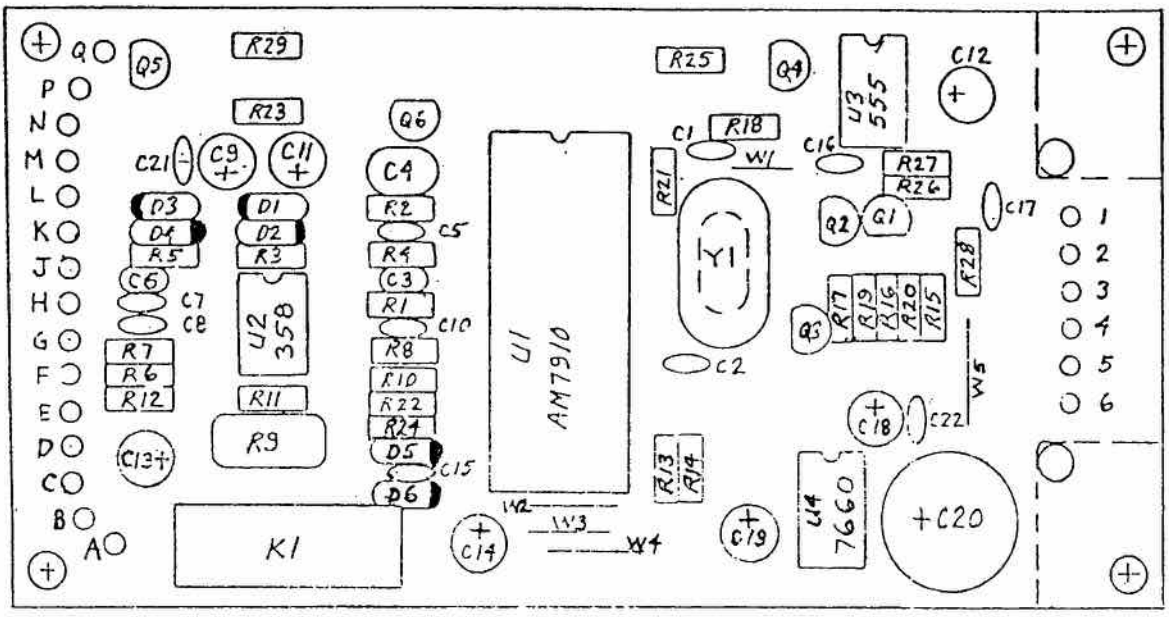


Figure 2: Component layout by Barry Kutner W2UP.

Amateur page 11 July/August 1989 issue, then wait until you see what Barry is working on now. (May even be on the market.) It is an autobooting cartridge version that allows parameters to be stored to the cartridge. His letter to me with our kit was written during the last week in November when he said, "It should be ready within a month."

Commands total about 104, but don't let these intimidate your decision because it is entirely possible to affect a ***CONNECTED TO status knowing only that setting the clock is asked first, then you should enter MYCALL VE6BLO on startup. From then on after :C VE6BLY and when advised of a CONNECTED TO VE6BLY in the receive window, just DELete the colon (:) then converse to your heart's content.

LIMITATIONS

Some advocates of packet communications maintain you MUST use a full blown state-of-the-art Terminal Node Controller. Digicom 64 must have these guys in hiding somewhere because it does all they can and more.

Did you know this system allows you to set up remote control of electrical devices while at home or away visiting your packeteer? It also has Teleconferencing capabilities, up to four multiconnects, 80 column viewing, NET ROM emulation mode, information on how to tune HF packet, baud adjustable from 0-1200, store CONNECTED information to disk if your buffer overflows, separate screens for each CONNECT, and enlarge or shrink your receive/transmit screens to suit yourself.

BEST OF ALL, after you send the command. PRINTER ON then somewhere along the line CTRL P you will get a readable hard copy.

Lacking a visual means (LED bar) for tuning HF only adds a little more Amateur Radio expertise to the operation. In other words, very gentle manipulation of the tuning knob or RIT with your digits! There is no reason left for not investigating this new mode of Amateur Radio Communications in The Public Service and Experimenting age, is there? At least don't knock it until you've tried It!

The kit in this report came from Barry Kutner MD W2UP, 614B Palmer Lane, Yardley, PA., U.S.A. 19067, for $49.95 U.S. plus $5 packing and shipping complete with software. Elmer found that it drew 100 milliamperes in the resting state. If you have an older C64 the power supply may not handle this additional load with other ports occupied.

Another kit has surfaced on the market built around Texas Instruments TCM3015JL that draws 40 milliamperes called a single chip plug-in card. It is small enough to allow other peripheral equipment to remain plugged in during operation from the cassette port. This new modem permits 1200 baud packet operation on VHF, UHF, and 10 metres with the Digicom 64 software. Kits are available for $38.50. Assembled $48.50 plus $2.50 shipping and handling for either, and all in U.S. funds. Contact CP Interfaces, 922 Baltimore Drive, Orlando, FL 32810-5531. (According to New Products column in *73 Amateur Radio* 1989, page 84. The review does not mention a disk program.) ■

USER REPORT

GEOS 128 V2.0

By Moe Lynn VE6BLY

Graphic Environment Operating System was going to solve all my desk publishing woes and give me a drawing facility besides. The package was available locally at $69.95 Cdn which would amount to the same as ordering from Berkeley Softworks, 2150 Shattuck Avenue Berkeley, CA. 94704 U.S.A. but without any giveaway. Their hyper advertisement in *RUN* magazine seen since will throw in **FONTPACK** V1.0 as a freebee **when you buy GEOS** 128 2.0 from **them direct**.

With the three **disks in the kit is a large** (almost 2 cm **thick) book**, *GEOS User's Manual for the Commodore C64* Two pages of **Errata Information is included** for you to **apply to the book before** reading it. **Then another book** called *GEOS 128 2.0 User's Manual Appendix*

Continued on next page ➤

REPORT *(cont'd)*

is almost half as thick as the first one.

The addendum comes with three pages called a 'Roadmap' which lists the differences between both books, adding considerable confusion switching from C64 data to C128 topics. Last but not least is the geoPaint Drawing Grid, a type of overlay used for tracing an image from a page before applying to computer screen. All this before you even plug in a disk is a bit disconcerting to say the least, especially being under the surveillance of a blank screen and one's urge to get started.

When first booting GEOS 128 the opening prompt asks, "Have you ever installed a Berkeley application product? Usually too late, you find out that being honest and answering NO is not the thing to do. What happens by answering 'no' is that it will now be impossible to install and run other applications from outside the GEOS kit. Unless of course you send in your disks for new ones and adding a $10 U.S. fee plus $2 U.S. for shipping and handling. This is how Berkeley copy protects their GEOS.

Your original 'Boot Disk' writes a serial number to your 'Back-up Disk' which you now use for working with GEOS 128. All applications are imprinted with the same serial number, forcing you to use it each time and *no disk from someone else*. Quite a questionable scheme to say the least, and all without giving an explanation or second chance. So, unless you have bought every application put out by Berkeley in your first purchase, be prepared to dole out those ten dollar fees ad infinitum.

My first attempt at using GEOS was a dud and the three disks were returned. No mention was made when Berkeley sent them back about their method of copy protection. So mine are all stabilized and will shut out any additional applications like geoCalc and others they put out in the future. It seems strange that they have adopted these methods for what is purported to be an easy-to-use operating system. There is more to learn about GEOS programs from *RUN* magazine and *Compute!s Gazette*.

Speaking of the latter, in one of their issues the department called 'Geowatch' makes mention of Mystic Jim Shareware, a collection of GEOS utilities such as GEODUMP, and GEOTAB. Also GEOICON II for creating dialog box icons and files plus some hacker programs that create boot work disks and change serial numbers. No doubt one will require a considerable knowledge of GEOS programming before messing with serial numbers, but I guess it had to come.

Their geoWrite 2.1 has menu operated application but doesn't support daisy wheel printers. This information is not contained in any advertising. Printing anything in draft form from geoWrite 2.1 (a tediously slow word processor) occupies the whole page, leaving no margins whatsoever. I never did get mine to print using the other two fonts, BSW and BSW 128. There must be a way to print a properly formatted letter, but until something else shows up in these two confusing manuals or a window drops down, my printing is done with Pocket-Writer, RUNscript or Timeworks Word-Writer 128.

Their geoPaint is going to take a lot longer to learn to use than first expected, even with my mouse. No doubt the rest of GEOS will require the same amount of considerable attention before it is fully functional. The person who wrote the first manual also wrote GEOS 128 2.0 User's Manual Addendum, but did not likely use geoWrite 2.1 or any part of GEOS unless she is an accomplished double-meaning writer. ■

OVMRC FOR LIFE

Congratulations to Merv Lemke VE3CV and Gerry King VE3GK, both recipients of a Life Membership in the Ottawa Valley Mobile Radio Club.

These gentlemen have made many contributions to Amateur Radio over the years. Merv has held his original call VE3CV for 55 years, and Gerry King, the 'Golden Kilowatt', is the writer of the excellent column 'The Gain Game' in CARF's magazine *The Canadian Amateur*.

— CARF News Service

SWAP SHOP

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

FOR SALE: ICOM -761 Loaded Transceiver, hardly used; must sell. Wish to upgrade to a 781! Asking Price $2600 firm. Contact: Zoltan Rigo VE3RIG, 2 Berkwood Place, Fonthill, Ont. L0S 1E0. Tel: 416-892-0794.

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: MOVING - purchased new Aug./89 Kenwood TS-440 SAT transceiver w/built-in antenna tuner and PS-50 power supply, Hygain TH3JRS antenna, Ham IV rotor system, Delhi 55 ft. heavy-duty tower, Shure 444 mic., etc. etc. Contact Howard VE3HRH (416) 738-5885.

WANTED: Operations Manual for Sharp Pocket Computer Model 1246. Moe Lynn VE6BLY, 10644-146 Street, Edmonton, AB. T5N 3A7.

FOR SALE: Knwd AT-230 antenna tuner $200.00; Ten Tec Argonaut 509 $270.00. Contact Nick VE7NJP 604-752-9571.

FOR SALE: Kenwood TS-930S/AT transceiver c/w auto antenna tuner, hand held Mic., MC-60A desk Mic., complete instructions, original cartons, plus Kenwood LF-30A low pass filter, MFJ-815 SWR Wattmeter, Hy-Gain 18 AVT/WB-A vertical antenna. All the above for $2,200.00. Contact Earl VE3MVJ. 416-477-3954.

WANTED: Kenwood VFO-120, Claude Bouchard VE2BUB, P.O. Box 1005, Station A, Montreal, Quebec H3C 2W9.

FOR SALE: Bancroft, Ont. area QTH, 1984 custom bungalow, 2600 sq. ft., garage, self-contained apartment, 200 amp. service, deep-well pressure system, Jacuzzi, Channelmaster Sat., security, appliances, drive shed, woods, pond, garden, 2 acres, el. 1550, 6 ft. Samson tower, TH6DXX, Ham IV. Numerous area lakes, clean air, clean water, clean DX. Contact Werner VE3HIV (613) 332-3598 or Dave/Diane after 6 p.m. (613) 474-2091.

FOR SALE: Drake T-4XC transitter, R-4C Receiver, MS-4 Speaker, AC-4 Power Supply, MN-2000 Matching Network. Heathkit SB-220 Linear Amplifier, 1144A Power Supply, SA-1480 Remote Coax Switch (2), Cantenna. Swan 700CX Transceiver, 117XC Speaker/Power Supply. CDE-HAM II Rotor Control (2). Contact Jack VE3JCM at 613-687-4238.

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 not open to commercial advertising.

USER REPORT

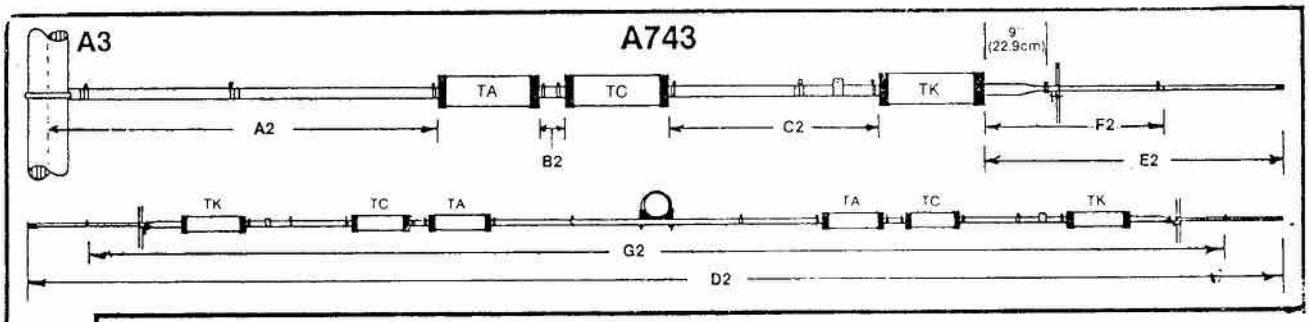
World Ranger

By Moe Lynn VE6BLY

Cushcraft A3/A743/ARX2B is a combination rotary beam A3 for 10, 15 and 20M, an add-on kit A743 for 30 or 40 metres (you cannot have both together), and the ARX2B Ringo Ranger II for 2 metres mounted on the same rotary mast but one foot above the director, recommended separation between the two. Aluminum tubing is 6063-T832, centre insulator is fibreglass 1" OD x .25" x 10" (2.5cm x .64cm x 25.4cm).

When unpacking any Cushcraft equipment, they recommend keeping the red label which states, 'Contents of this package have been verified by weight'. It is also helps knowing these

Continued on next page



40 METER (7 MHz)

CODE:	A2 FT-IN CM	B2 IN CM	C2 IN CM	E2 FT-IN CM	D2 FT-IN METERS
PHONE	6 - 8¼ 203.8	5¾ 14.6	18¾ 47.6	5 - ⅜ 153.4	33 - 2¼ 10.12
CENTER	6 - 11½ 212.1	6 15.2	19 48.3	5 - 3⅜ 160.3	34 - 3¼ 10.45
CW	7 - ⅜ 215.6	7 17.8	20 50.8	5 - 6⅜ 168.0	35 - 4 10.77

Figure 1: Driven Element Length Adjustment - 40 M

A3 THREE ELEMENT BEAM

All you need is a lightweight tower and a rotator to enjoy the benefits of the A3. It's a proven performer in DX-peditions and contests and handles full-power from your linear. It has pinned boom sections and formed aluminum element brackets.

When space is at a premium, but you want the benefits of a full-size tribander, the A3 is right for you!

MODEL	A3
Frequency, MHz	28, 21, 14
No. Elements	3
Forward Gain, dBd	8
Front to Back Ratio, dB	25
SWR 1.2:1 Typical	
2.1 Bandwidth, KHz	>500
Power Rating, Watts PEP	2000
3dB Beam Width, Deg, E Plane	60
Boom Length, ft(m)	14(4.26)
Boom Diameter, in(cm)	1.50(3.81)
Longest Element, ft(m)	27.75(8.45)
Element Center Dia, in(cm)	1.13(2.86)
Turning Radius, ft(m)	15.50(4.72)
Mast Size Range.in(cm)	1.25-2.0(3.18-5.08)
Wind Load, ft²(m²)	4.36(0.47)
Weight, lb(kg)	27(12.9)

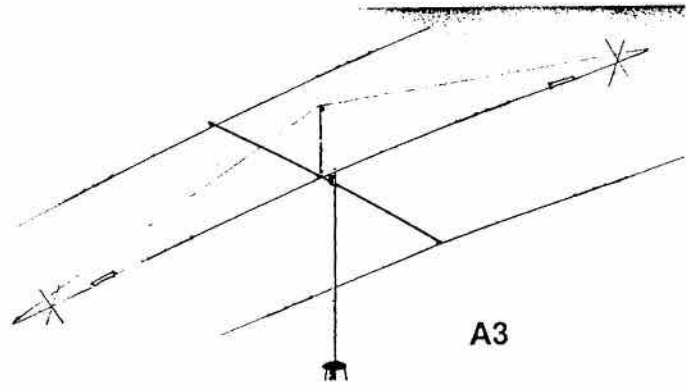


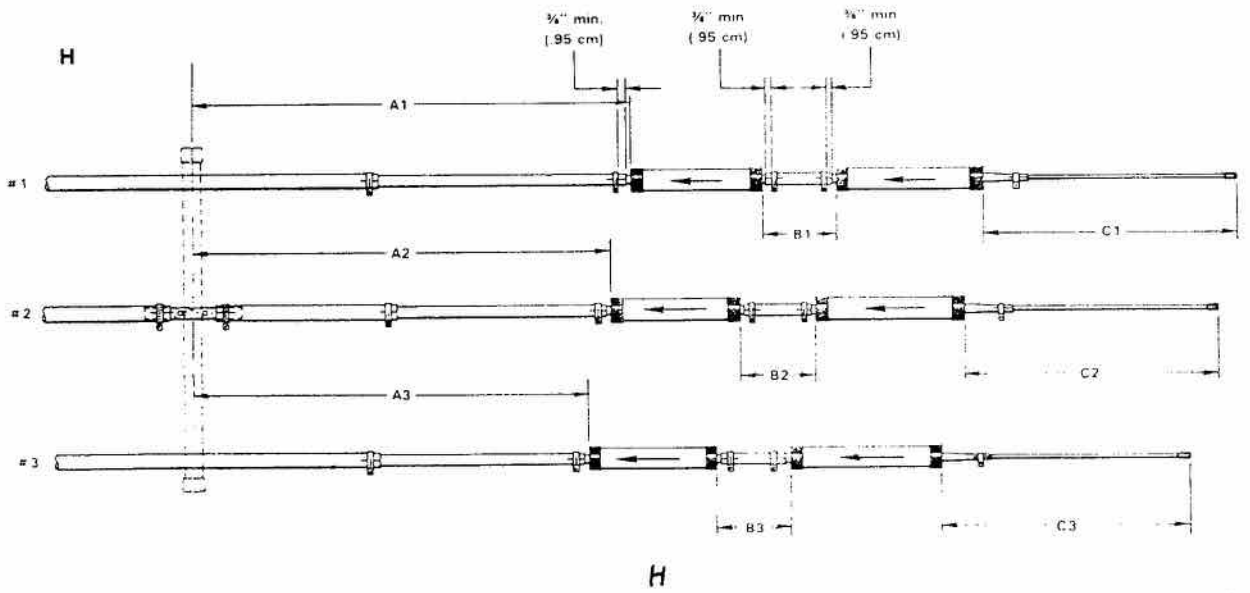
Figure 2: Cushcraft clipping. 40M kit has been drawn on their photo.

	#1 REFLECTOR				#2 DRIVEN ELEMENT				#3 DIRECTOR			
	A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3
Phone	7' 10" 238.8cm	6 1/4" 15.9cm	3' 1" 94.0cm	26'8 1/2" 8.14m	6' 9 1/4" 206.4cm	5 3/4" 14.6cm	3' 1 1/2" 95.3cm	24' 7" 7.49m	6' 2 3/4" 190.0cm	5 3/4" 14.6cm	2'11" 88.9cm	23' 1" 7.04m
Center	8' 1/2" 245.1cm	6 1/2" 16.5cm	3' 1" 94.0cm	27' 2" 8.28m	6' 11 1/2" 212.1cm	6" 15.2cm	3' 1 1/2" 95.3cm	25' 7.62m	6' 5" 195.6cm	6" 15.2cm	2'11" 88.9cm	23' 6" 7.16m
CW	8' 2 3/8" 250cm	7 3/4" 19.7cm	3' 1 1/2" 95.3cm	27' 9 1/4" 8.83m	7' 7/8" 215.6cm	7" 17.8cm	3' 1 1/2" 95.3cm	25' 4 3/4" 7.74m	6' 6 1/8" 198.4cm	7" 17.8cm	2' 11 1/2" 90.2cm	23' 11 1/4" 7.30m

CHART 1

CHART 2

BAND	20M	15M	10M
Phone	14.25	21.35	28.60
Center	14.20	21.275	28.350
CW	14.10	21.125	28.150
	CENTER FREQUENCY (MHz)		



Frequency	SWR	POWER/w	Frequency	SWR	POWER/w
21005	1.2:1	121	28003	1.57:1	100
21050	1.15:1	121	28100	1.5:1	112
21100	1.4:1	121	28200	1.4:1	112
21150	1.2:1	121	28300	1.28:1	112
21200	1.31:1	120	28400	1.2:1	115
21250	1.57:1	120	28500	1.1:1	115
21300	2.15:1	95	28600	1.08:1	112
			28700	1.1:1	115
7003.5	2.9:1	68	14003.7	1.37:1	122
7035.3	2:1	121	14060.6	1.13:1	123
7062.5	1.5:1	122	14100.6	1.07:1	122
7117.7	1:1	123	14160.6	1.09:1	122
7171.2	1.5:1	122	14200.6	1.2:1	115
7189.3	2:1	120	14235.9	1.08:1	112
7244.4	3:1	72	14268.4	2:1	100

Table 1

weights in order to acquire the proper rotator too. None of the three boxes were short shipped and if anything there were a couple of small screws and two 'internal tooth washers' oversupplied.

Assembly was done on a 3.5' (1 metre) stub mast stuck in the ground which held the two 7' (213.4cm) x 1.5" (3.81cm) diameter boom and splicing sleeve of 1' (30.4 cm) slipped over the inside ends. To this then is fastened Reflector, Driven Element and Director whose lengths are determined from Chart 1. Except you do not use the whole of this Chart 1 because the driven element length is determined using a chart supplied with the A743, all of which are reproduced here. My figures for overall length of each element when assembled did not match the published figures even after double checking. They have been sent to Cushcraft for their commends which if any will be relayed through a letter to the editor when received here. To quote the Cushcraft sheet of instructions: "The procedure for assembly of the A3 is straightforward as depicted in the illustrations."

When applying A743 (40 or 30 metre kit) it is best to read all instructions, then decide if you are going to jump some finer points and the assembly ends up with the kit properly installed or just bits and pieces on the mast. In this User Report it was found easier (being alone) to assemble A3 then apply the modifications because that is the way Cushcraft wrote the instruction sheets. The Ae tuned according to what few specifications were available. SWR and Power Output are shown as read off the meter of an IC-761 with the automatic antenna tuning feature disengaged. They will also be sent to Cushcraft for comments.

TUNING PROCEDURE

"Set the element lengths for the portion of the band you want to operate on using Chart 1 and Figure H. Your A3 is now ready to use." BUT, you say, this is to have a 40 metre kit added so you check under ASSEMBLY in the A743 package and it says: "The procedure for assembly of the A743 is straightforward as depicted in the illustrations." Needless to say their illustrations and one step layout are all you need, particularly when they show an overall assembly with blow-ups of specific areas. Overall length of the Driven elements grew from 35.396' (10.79m) to 36.125' (10.01 m) with the 40m Kit added, See Fig. 1 and Fig. 2.

PERFORMANCE

This particular A3 was never erected without the A743 kit (add .58 square feet, .05 square metre, for wind loading) so it is not possible to make any comparisons. Judging from the Cushcraft SWR curve in Fig 2. it would appear from my figures in Table 1 this assembly would fall inside the ballpark. Used on QRP about three hours over a period of ten days it has yielded 13 countries with reports ranging from S2 (I0KNX) to S9 (P40V and LY1BYK).

RINGO RIDER

Assembly of this antenna was simple enough for one person just by following the assembly instructions. Tuning was a little more complicated and required an extra pair of hands at the Ae while an operator pressed the key at various frequencies. We were forwarned by Jack VE6BOX (silent key Oct. 29) that a 1:1 match was possibly by using a metre between the Ae and coax feeder. In fact he had made me a present of his Yaesu YS-500 SWR & Power Meter the same day we drove to his doctor's appointment, lunch at our place, and thence to the hospital for another appointment. (Jack knew something was in the wind because he had his suitcase packed when I picked him up.) One radial rod was broken off atop the tower and came tumbling to the patio, but its absence does not appear to affect overall performance at any frequency in use so far with just the other two rods remaining.

Alfa and Central Western Communications, 7747-85 Street, Edmonton. AB T6C 3B4 assured me their man takes care of after sales servicing of a total $755.95 for all three Ae FOB their store. The proprietor Stan VE6AWX uses similar antennas so it comes highly recommended. ■

CQ ONTARIO AMATEURS

Windsor, Ont. A.R.C. is asking VE3 Amateurs to support their petition to the Government of Ontario (MTC) to change the wording on callsign licence plates from 'Yours to Discover' to 'Amateur Radio'. For info please write Bob Gammon VE3CJX, 3640 Byng Road, Windsor, Ont. N8W 3H9

— CARF News Service

WHAT WILL THEY THINK OF NEXT?

From *Electronic and Technology* magazine, January/February 1990. Ottawa's DOC and Alberta have announced a field trial involving the first attempt to use the unused band edge of a TV signal for interactive voice and data communications via satellite and using very small aperture terminals (VSAT) for telecommunications for both public and private users.

TCA COPIES

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

CONTEST SCENE

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

CONTEST CALENDAR

May 5-6 Massachusetts QSO Party
May 5-6 Nevada QSO Party
May 5-6 MARAC County Hunters CW
May 12-13 Alabama/Georgia QSO Party
May 12-13 CQ-M DX Contest
May 19-21 Michigan QSO Party
May 20 OMARC Spring Midnight
May 26-27 CQ WW WPX CW Contest
June 2-3 RSGB Field Day
Jun 9-10 ARRL VHF QSO Party
Jun 16-17 All Asian Phone Contest
Jun 23-24 ARRL Field Day
July 1 CARF Canada Day Contest
July 14-15 CQ WW VHF WPC Contest
July 14-15 IARU HF World Champ
July 20-21 World Champ.
July 20-21 World Radiosport Team Chp.
Aug 4-5 ARRL UHF Contest
Aug 25-26 All Asian CW Contest

Courtesy John Dorr K1AR and CQ Magazine

WPX SSB 1989

The results are out, and it looks like two records have fallen. VO1MP moved the single-op all bands record up to 6.7 Meg and was seventh world high. XL7SV, as reported in the high claimed scores, creamed the old 21 MHz record with an astonishing 6.2 Million points for #4 in the world. Also placing fourth in the world was Paul VE1CYL's 3.2 Meg on 14 MHz. VE1GJ had a very healthy second-place VE all band score of 3.7 Meg.

Participation was somewhat lower than in previous years, but the quality of scores made up for it. By the time you read this, of course, people will be warming up for the WPX CW at the end of May. Judging the high claimed scores for the WPX CW, none of the records will have changed. The new records table for the WPX SSB, and last year's probably current records for the WPX CW appear here.

It is interesting to note the scoring trends in this contest over the last few years. Five or six years ago, scores seemed to bear a strong relationship to the class of entry. Single banders can, and did, put in great scores, but these scores were usually significantly smaller than the scores achieved by the most competitive all-band and multi-op entrants. The only outrageously high single band scores came from LUs, CEs, PYs and ZPs who, during years of poorer propagation, enjoyed being the only game in town on 10 and 15 metres. Remember, there are overwhelmingly more people north of the equator than south of it, and when propagation is only north-south, South Americans, southern Africans, ZLs and VKs can clean up.

Now, with conditions the best they have been in perhaps 30 years, the propagation andvantage enjoyed by our anti-podean friends has been reduced. 10 and 15 metres have become extremely popular for the more casual operator, and opportunistic people that we are, for the contester as well.

In the WPX there is almost no incentive to change bands if you are an all-band entrant. Sure, low-band QSOs are worth twice as much as high-band QSOs, but if the rates achieved on the low bands are less than 50% of the high-band rates, a quick trip to the low bands can be counter-productive.

The other element of one's score, the multiplier, is made up of callsign prefixes. Each prefix counts once, regardless of band, so again, there is little incentive to change bands if you believe you will work the close-in multipliers anyway. For the single-band entrant in the WPX, the strategy can be blissfully simple: plan for the best 30 hours and blast away.

Continued on next page

Canadian Records - CQ WPX SSB

		Score	QSO	Px	
A	VO1MP	6,710,445	3134	789	1989
28	VE3BMV	2,796,255	2120	495	1980
21	XL7SV	6,202,042	3438	721	1989
14	VE1NG	3,916,965	2223	689	1986
7	XL7SV	3,454,864	1770	436	1986
3.5	VE3BMV	1,928,720	1239	388	1986
1.8	CG3MFA	319,140	522	162	1985
MS	VE1DXA	8,272,704	4285	704	1982
MM	CK7WJ	16,545,370	10468	590	1979

Canadian Records - CQ WPX CW

		Score	QSO	Px	
A	XL7CC	3,398,598	1901	567	1986
28	VE3BMV	113,412	317	156	1980
21	VE3BMV	1,534,669	1263	461	1981
14	CY3BMV	2,341,680	1627	528	1983
7	VE3BMV	1,489,950	797	385	1984
3.5	VE3BMV	311,080	364	202	1985
1.8	VE3BMV	43,428	149	77	1986
MS	VE1DXA	3,728,256	2147	584	1983
MM	CY3PCA	4,977,919	2703	611	1983

Canadian Results CQ WPX SSB 1989

CANADA

VO1MP	A	6,710,445	3134	789
VE1GJ	A	3,720,792	2028	677
VE4SD	A	465,460	589	340
VE5US	A	414,100	615	312
		(Op. VE5ZX)		
VE7XO	A	264,880	402	220
VE3PYA	A	187,188	310	228
VE3EZU	"	152,250	269	210
VE4RP	"	81,672	191	166
VE2FUR	A	28,518	113	98
VE2HLS	"	22,922	117	73
VE5UF	28	1,826,778	1835	502
VE4GV	28	988,395	1047	393
VE3SDX	28	618,410	740	335
VE1JON	28	579,076	914	284
VE3VET	"	157,242	275	219
VE3ZCO	"	95,088	222	168
XL7SV	21	6,202,042	3438	721
		(Op. VE7SV)		
VE2EW	21	152,064	239	198
VO1AW	21	36,480	116	114
VE1CYL	14	3,250,443	2130	651
VE3NBE	14	16,480	80	80
VE3NYT	7	1,444	19	19

QRP ENTRANTS

CF1DX	A	175,770	364	210
VE3HX	28	67,044	176	148
VE7EKS	28	8,736	66	56

MULTI-SINGLE

VE7ON	7,800,594	3670	762
CF1IDX	6,942,950	3543	830
VE5GF	4,811,324	2808	713
VE6WP	4,198,944	2570	687
VE6AO	3,609,802	2479	643
VE3BXY	747,492	637	373

CONTEST *(cont'd)*

During these years of good conditions, the plan for the all-band entrant can be almost as simple: plan for the best 30 hours on 10 and 15 metres, and blast away. When we get down to the multi-ops, both single and multi-transmitter, the only classes that can use the whole 48 hours, only they have any real incentive to operate on all the bands, and that is to maximize their QSO rate.

All this reflection was provoked by the outstanding score submitted by Dale XL7SV on 21 MHz in the WPX SSB last year. Dale actually broke the single op all bands record, which had stood since 1982. VO4MP's all-band score was higher still, but not that much higher than Dale's.

I do not say that this is a shocking situation which needs to be corrected. The rules for the WPX are good rules, and changing them simply because people make surprising scores is not a good prescription for the continued health of the contest. On the other hand, this tendency will probably keep the low bands very quiet during this contest for the next few years. There are lessons to be learned from all this, and that is what makes contesting fun.

NEW U.K. CALLSIGNS PROPOSED

At present, all U.K. Amateur callsigns begin with the letter G but the present Class A calls G + O + 3 letters and Class B series G + 7 + 3 letters are rapidly running out. When this happens the DTI (equivalent to our DOC) will use the letter M and will also use a number in the call to indicate the country, with a second letter in the prefix indicating the class of licence.

For example: MA2AAA would be a Class A licence in England; while MK4AAA would be a Class B licence in Wales. If MA2AAA moved to the Isle of Man he would become MA6AAA. The country numbers proposed are 2 England; 3 Scotland; 4 Wales; 5 Northern Ireland; 6 Isle of Man; 7 Jersey; 8 Guernsey; 1, 9, 10 are spare.

This agrees with most countries that use a number as a geographic indicator. Remember when U.K. last used 'M' calls in the early days of Marconi Wireless Operators. SS *Titanic* MGY, *Lusitania* MFA, *Carpathia* MPA and *Mauretania* MGA

— CARF News Service

TECHNICAL QUESTIONS?

Questions of a technical nature may be directed to the CARF TECHNICAL EDITOR. Please include SASE.

IARU HF CHAMPIONSHIP

It appears that this year's IARU contest will not have the benefit of on-site contesting as a demonstration event at the Goodwill Games. According to Billy Lund KR1R, ARRL Contest Manager, IARU was willing to move the date of the contest from the second to the final weekend of July if the Goodwill Games accepted Amateur Radio contesting as an event. I can only conclude that either the decision was not made in time to meet *QST's* publishing deadline, or Amateur Radio was not accepted. Despite a rather more optimistic story published as a news item in *TCA* a few months ago, it may be a while yet before the hobby gets some sort of outside recognition as a sport.■

Social Events

SKYWIDE ARC FLEA MARKET

The Skywide Amateur Radio Club is holding a Flea Market on May 7, 1990, at Central United Church, 1 King Street, Weston, Ontario (corner of Weston Road and King Street).

Doors will open for vendors at 4 p.m., and for purchasers at 6 p.m. Admission is $3 per person, tables $5 plus admission. Contact Mel Allen VE3DOJ, 3423 Clanfield Crescent, Mississauga, Ont. L4Y 3K9 Phone: (416) 276-4450

Advance Vendor registration is requested. Talk-In Frequency 146.985- or 443.100.

OLDE TYME REUNION

The Olde Tyme Radio Operators Reunion, will be held Thursday, June 21 at Couchiching Park, Orillia, Ontario.

Hams, XYLs, YLs: Come to our annual gathering, starting at 2:30 p.m. for an informal ragchew and get together. Look for VE3 licence plates and see you near Champlain's Monument.

Dinner will be served at 5 p.m. in the Saturn Room, Sundial Inn— just five minutes drive from the park. Cash bar from 4 p.m.

Cost of the dinner is $16 per person, by June 1. For further details and tickets contact 'Ding' VE3ATK, 318 Short Ave., Woodstock, Ont. N4S 4B1, Tel: 519-537-7343. Door prizes and a few surprises, but no speeches! A good time is scheduled, with an early return to the QTH— leaving around 7 p.m. in daylight hours.

ENCAN C.R.A.L.L.

Le 5 Mai 1990, le Club Radio-Amateur Laval-Laurentides Inc. vous invite à son Encan et Marché aux puces annuel, au 40 - 84ième avenue, à Blainville, Qué., Il y aura guidange sur 2m, sur VE2REL à 147.315 +600 MHz.

C.R.A.L.L. AUCTION

On May 5, 1990, the Laval-Laurentides Ham Radio Club invites you to its annual Auction and Flea Market, at 40-84th Avenue, in Blainville, Que. There will be radio guidance on 2M, on VE2REL at 147.315 +600 MHz.

QUEBEC HAMFEST

Quebec Provincial Hamfest will be held on Sunday May 27, 1990 at the Tracy Curling Club. Admission $5, table (outdoor) $8, (indoor) $10, limited quantity, please reserve before May 15. Open at 0900 (0700 exhibitors). For more information write to Sorel-Tracy ARC, P.O. Box 533, Sorel, Q.C. J3P 5N6 Canada.

Le hamfest provincial du Quebec aura lieu au club de curling de Tracy le dimanche 27 mai 1990 à 0900 (0700 pour les exposants). Admission $5, table exterieure $8, interieure $10, N.B. Quantitée limitée, priere de reserver avant le 15 mai. Ecrire à C.R.A. Sorel-Tracy, C.P. 533, Sorel, Q.C. J3P 5N6 Canada.

DOWN EAST FLEA MARKET 1990

The 1990 Down East Flea Market will be taking place on Saturday May 26, 1990, at Exhibition Park in the Atlantic Winter Fair Grounds located in Halifax, N.S.

Last year was a resounding success that included Amateur Radio, Computer and general electronics enthusiasts (commercial and private). More of the same is scheduled again this year. An informal Friday evening watering/ragchewing session is scheduled at a nearby hotel (details not complete at this time).

Doors will be open to the public between 0900-1500 hrs. on Saturday. A canteen will be available for fast food and beverages in the table area.

Table reservations may be made by sending cheque or money order to the address below or contacting VE1PQ @ VE1EI on packet. Tables not confirmed with payment two weeks prior to May 26, 1990 will be considered unreserved.

Come and join the fun and meet a lot of old friends in the Maritimes. For more info, write P.O. Box 768, Bedford, Nova Scotia B4A 3H5.

Bob Swinwood VE1PQ
Chairman

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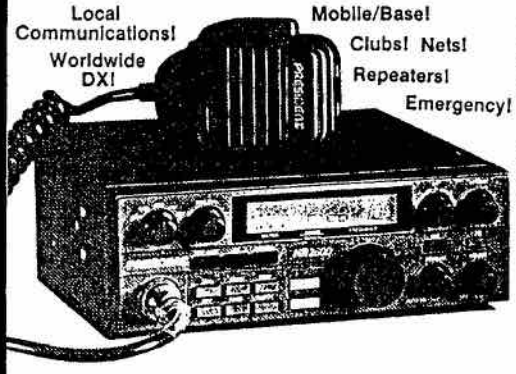

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We have an amazing hobby. Every new contact is as exciting as the first, no matter how long ago that was. Take 10 meters, for instance. Just the other day 10 was open as I cruised along a road near my house. As I tuned around on my 10-meter rig I heard Cyprus, Malta, and Ireland. Not being one to let an opportunity go, I called each station, and what do you know! They came back to me: Cyprus on the first call, Ireland on the first call, and Malta on the third. The amazing thing is that it was all done with 25 watts from Uniden's modest power level transceiver, the HR-2600, into a base-loaded, mag-mounted mobile antenna.

The HR-2600 looks the same as its predecessor, the HR-2510. About the only way you can tell them apart is the HR-2510 label on the older model and the RPT setting on the front panel of the HR-2600. That's it.

excerpt from 73's review by Marc Stern on HR-2600 Mar90

CAUTION !

During the past few months several new outlets that offer Amateur Radio Products have come on the scene. *A WORD OF CAUTION !!* Make sure that the dealer you buy your expensive transceiver from is an *authorized* dealer for that product in Canada.!! Only an *authorized* dealer can provide after purchase service from the manufacturer in Canada. If you aren't sure ask if the warranty is good at Kenwood Canada or Icom Canada, or check with the company directly.

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Technician - This position requires you to be very familiar with amateur radio equipment repair, especially recent technology. You should hold a technician's or technologist's diploma. Starting salary depends on qualifications and also on your experience, up to $50,000.

Insured Shipping & Handling -- Please add 2% ($5.00 Minimum) to all orders Some heavy or long items are subject to freight collect. ONTARIO RESIDENTS ADD 8% SALES TAX AFTER ADDING SHIPPING. All prices are subject to change without notice. Please send 2 first class stamps for catalogue and info requests. Special prices are based on cash or cheque with order. Credit Card orders add 2% to discount prices only. New Fax Fone 631-0747

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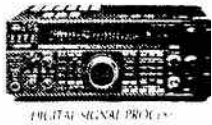

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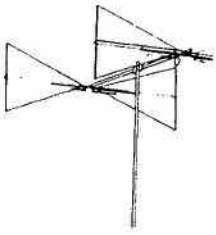

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Bob Boyd VE3SV, P.O. Box 356, Kingston, Ontario K7L 4W2

EMERGENCY ANTENNAS

Elsewhere in this issue is a description of an Extended Double Zepp 2 metre antenna for emergency communications. John VE3MB, the author, has done a fine job of constructing and installing these antennas at critical points in the Belleville, Ont. area. So far, he has placed them on the Emergency Operations Control Group Headquarters buildings in Belleville and Trenton, the Red Cross HQ, the Belleville and Trenton Provincial Police buildings and the Belleville General Hospital.

Why not look over your area, and decide where the installation now of similar antennas would improve communications in an emergency? They are effective and inexpensive and they're fun to construct!

CUMBERLAND EMERGENCY EXERCISE

Rick VE3NJM has provided an interesting and thought provoking report on a recent exercise conducted by the Cumberland Group. The scenario was a simulated collision between a passenger train and a chlorine tank truck at a level crossing in a small village. The village required evacuation and his group provided communications between the disaster site, the Emergency Communications Centre and the evacuation and medical sites. As always in an exercise, a number of lessons were learned. Some of these were:

- always have sufficient backup operators.
- know the true capabilities of your equipment and have contingency plans to cover weak signal areas.
— make sure your equipment is stored where it is supposed to be. Send someone, or go yourself, to verify the status of your equipment on a regular basis.
— have a status board for keeping track of operators and their assignments.
— have a second operator at the NCS to handle messages, the log and the status board. Also, have up-to-date maps available.
— be very cautious of information given out over the air, especially when handling emergency traffic. (And, we might add, the NCS should be sure to repeat, "This is an emergency exercise" at frequent intervals.)

Our congratulations to the Cumberland group for an excellent exercise.

NEW ARES GROUPS

In recent months we have received several letters from hams planning to establish ARES groups in their areas. In response to their requests, we have provided suggestions and tips to help them get started.

Dave VE7DWA writes: "Salt Spring Island, where I live, is one of those communities with a dormant emergency program... I would like to find out how one could energize our plan on this island... the role played by Amateur radio operators has been worked out on paper but Amateurs have not had any training in message handling... How are they to receive training and experience in message handling, setting up control centres, erecting emergency antennas, etc.? How does one become a member of ARES?"

John VE3GOX writes, "As licensee of the Morrisburg repeater VE3SVR, and personally, I would be interested to learn how to become affiliated with ARES. Presently I am in the process of putting together a proposal to present to the Ontario Lotteries Corporation for funds to upgrade the Morrisburg repeater. Involvement with ARES will be a must in this upgrading process to make it more useful in times of emergency."

Lorne VE3MNR's letter says, "I am writing to you on behalf of the Timmins Amateur Radio Club. We have an active membership of some 12 Amateurs out of 35 licensed hams in the area. We have been asked by the Canadian Red Cross to participate in their emergency planning exercises... We would like to investigate the possibilities of developing a local Amateur Emergency Communications Plan, to see if we can better serve the community, and in particular the Red Cross."

Rick VE3NJM writes: "The coordinators of the Cumberland Emergency Radio Group feel that it is important to reap the benefits of the experience and knowledge of other emergency groups. With this in mind, would you please advise me what is required for our group to become affiliated with ARES?"

COMMUNICATIONS VANCOUVER

Janis VE7JAN called to invite me to attend the March Emergency Communications Seminar being organized by Communications Vancouver. Also invited were representatives from all of the private and public emergency response organizations in the Vancouver area. This initiative by the Vancouver ARES group was planning to explain the capabilities of the group to serve in an emergency. It sounded like a very worthwhile effort, and it was with great reluctance that I had to decline Janis' invitation.

KINGSTON ARES

Here in Kingston, we have just finished revising and reissuing our Emergency Communications Plan. While we weren't unhappy with the previous Plan issued several years ago, experience had shown the need for some changes. In addition, we gleaned numerous good ideas from reading the plans sent in by other ARES groups across the country. To ensure the maximum input from our members, we devoted two recent ARES meetings to a page-by-page review of the old Plan. Some excellent suggestions for improvement were elicited and were incorporated in the revision. A very useful by-product of this group review is that all now have a better understanding and appreciation of the Plan's contents.

The revised Plan is being issued to various local emergency response agencies, including Red Cross, municipal emergency control groups and police and fire departments as well as the ECs of neighbouring ARES groups. We are trying to get back all previous copies of the plan, to prevent confusion from the use of an obsolete Plan under emergency conditions.

Have you looked over your Emergency Communications Plan lately? Have changed conditions or experience with it suggested the need for any changes?

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

Please address correspondence to the Editor at Box 356, Kingston, Ont. K7L 4W2.

YL News & Views

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

Our special YL this month is known to many of you. I'm talking about Louise Ramsey Moreau W3WRE.

When I wrote Louise and asked for some up-to-date information on her, she said, "Things really haven't changed very much since I last saw you in Philadelphia at the YLRL Convention." I looked back in my file to find that it was in 1979!

I've mentioned before that when YLs have a Convention or get-together, we have what we call 'swaps', with items usually representing our QTH or handmade. I remember Louise's swap was a book of matches with her name and call and on the back. It said: 'W3WRE 99.99% CW'.

Louise is known worldwide for her Morse key collection. She says she's not actually a collector, but rather an 'Historian-Collector'. The keys she has are actually 'one of a kind', which illustrate the changes in construction over the past 150 years. She has about 200, dating from 1848-1941, including hand keys, bugs, military keys and some foreign ones. (DX) from all over the world. An English one dates to around 1870. One key is from the communication desk of the Battleship *California,* which was bombed and sunk at Pearl Harbour. When the ship was later raised, the man in charge of salvage gave it to her, with the story of the ship. You've all heard about the Johnstown, PA. flood. Well, she even has a key from the Western Union office there. There's a human interest story here, as Louise's grandmother went through that flood. Louise says that particular key is 'a beauty'!

She has the very first Vibroplex, the one Horace Martin used as a model when he applied for his patent in 1904.

She has a miniature bug called the 'Ultimate' that was used on the press deck at the Dempsey-Tunney fight and sent that famous Long Count to the paper. Another bug was used aboard the Sir Hubert Wilkins submarine *Nautilus* in 1931 for his ill-fated trans-polar trip to the North Pole. The operator, Ray Meyers W6MLZ (SK) used it to send the SOS for the crew. He sent SOS for 24 hours before anyone heard him.

As Louise says, these keys are the tongue of the transmitter, the rest is just power!

A big thrill for Louise was meeting Marconi's daughter. She has also met Samuel Morse's granddaughter and Alfred Vail's grandson.

One of the funniest things to Louise is when she sees one of her articles translated into another language. This has happened twice, once in Holland, and once in Japan. She did manage to pick out her name and callsign.

Louise became licensed in 1953 and began acquiring keys that same year, then added WB6BBO while they lived in California. She still holds her W3WRE call. She claims to get tongue-twisted with a mike and so is 99.99% CW-100 Traffic (except for a few personal contacts).

Louise belongs to the Antique Wireless Association, ARRL, Society of Wireless Pioneers, Morse Telegraph Club, Fellow and Life Member of the Radio Club of America. She was contributing Editor of YL News in *QST* 1967-1979. She now writes about keys for the AWA's old timers' bulletin and has several articles in the *AWA Historical Review,* which is published annually.

Louise has received the following awards: Houck Award for Telegraph History from the Antique Wireless Association in 1974; The President's Award for research and History of YLs in Communication in 1974; The Ralph Batcher Memorial Award from the Radio Club of America in 1980.

Truly a YL we can all be proud of! With that I will leave you 'til next time. I would like to hear from some of the new YLs.

73/33/88 as the case may be. ■

VE7NKI AND THE U.S. MULTI/MULTI RECORD-BREAKING TEAM

Congratulations to Niki Bloom VE7NKI for her part in helping the WZ6Z team score well in the 1989 CQ WW WPX SSB Contest. WZ6Z's 18.7M points was good for a new U.S.A. multi-multi record as well as a fine world fourth high. Station WZ6Z was operated by WZ6Z & N6IG K3EST, K6TMB, N6RO, WA6VEF and VE7NKI. Niki's OM, Gary WA6VEF, is an accomplished contester from the San Francisco Bay area who just moved to Port Coquitlam, B.C. Niki and Gary became XYL and OM recently.

Niki hails from California and has lived in the Vancouver area for a number of years. Hamming is in her family. Niki takes after her mother Louese KA6ING, who is another avid contester, although she admits that her father KD6XY would rather work DX. The CQ WW WPX was Niki's first contest and Mom and Dad were very proud of her. Niki went on to place 3rd overall in the December 1989 Telephone Pioneer QSO Party and 2nd in Canada operating VE7NKI. There's no doubt we'll be hearing more from this VE7 XYL in the big contests to come!

- J.F. Hopwood VE7RD

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CLUB CORNER

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

Each time I open the parcel containing the latest batch of club newsletters, I wonder about what surprise lies in store for me. This time around, it was the Niagara Peninsula Club's December newsletter which contained a full colour photograph of Santa with the children. I wonder if this is a first?

CALGARY NEWS

As always, the Calgary club has been very busy. The Packet bulletin board now has a club roster stored in it. Using a simple command, you can look up any club member by specifying call, name or address. Even if you misspell the name, you'll still get the closest thing it can find.

Communications were provided for the first rally of the year, and the Sports Car Club was pleased with the club's performance as usual. Congratulations to VE6BA who is celebrating 63 years as an Amateur.

VY2 NEWS

Jim VY2UA was recently honoured by the local flying association with the presentation of a plaque and lifetime membership, in honour of his many years of service to the club and aviation.

The club again this year supported ATV's Christmas Daddies program with a donation of $50. They also donated three small turkeys to CBC's turkey drive for the Upper Room and Food Bank. It is hoped, through these donations, they were able to make Christmas merrier for those less fortunate.

The Charlottetown club has formed an EMI committee and will be ordering good low and high pass filters, and some snap-on chokes to aid in diagnosing problems concerning EMI. It appears that more and more island Amateurs are switching to the new VY2 prefix.

SUGGESTIONS

From the Newsletter of the Peel Amateur Radio Club in Brampton comes the following suggestions. Wear your name tags at club meetings— you may know who you are, your friends know who you are, but new members or visitors don't. Another excellent suggestion is to make arangements to have new Amateurs visit the shack of some of the more experienced Amateurs. I'm sure a worthwhile exchange of information will take place.

PICTURE PERFECT

The Pioneer Amateur Radio Club in Ottawa was shown a videotape by Bill VE3EKA of a Pioneer fast scan ATV QSO between his QTH in Orleans and Norm VE3JDJ in Vanier, a distance of about eight miles. There have been other fast scan QSOs, but this was a first between these two locations.

The club had a very interesting guest speaker in Ron VE3AUM, who is well known in the Ottawa area for his involvement in providing emergency communications. Ron gave a very interesting and entertaining talk on this recent trip to Russia with six other Amateurs as guests of the Russian government in recognition of their services to the Russian-Canadian ski trek across the North Pole in 1988.

DEATH OF A CLUB

I found the Editorial of the Amateur Radio Society of Dryden newsletter very interesting. The editorial makes mention of a statement made by Wayne Green W2NSD of *73 Magazine* fame. Here is what Wayne had to say: "Business meetings can be the DEATH of a club, so use the newsletter as much as possible to get business out of the way. Make sure you have an executive committee and let them handle most of the business, then be sure to report it in your newsletter, so members don't get surprises. The remaining business can be whipped through in a few minutes if it's been covered properly in the newsletter. Business kills clubs. It's inherently boring, and can drive your club members away." Food for thought...

The newsletter also mentions the fact that Gary VE3MOR has been very busy doing lots of public relations for Amateur radio in the local paper. Gary came upon two accidents and was instrumental in contacting emergency officials.

SANTA TELLS ALL

Members of the Ottawa Valley Mobile Radio Club held a 'Talk to Santa Claus' via Amateur radio. The event was a success despite the low visitor attendance due to inclement weather. About 40 children available themselves of the service. Pat Brewer VE3KJQ has a very interesting column in the club's newsletter entitled 'News and Views from here and there'. He receives newsletters from other Amateur Radio Clubs across Canada and keeps club members informed of what is going on, just like I do in *TCA*.

Twelve members of the Ottawa Amateur Radio Club helped children at CHEO talk to Santa at the North Pole. Playing the part of Santa were Ron VE3AUM, Ron VE3MYC and Tom VE3OFN. Acting as Santa's elves and helpers were Gerry VE3GK, Marcel VE3FNG, Joe VE2DZT, Chuck VE3PAP, Harrie VE3HYS and Howey.

TROPHY PRESENTED

The Nortown Amateur Radio Club in Willowdale has donated a new Canadian Field Day Trophy. So get your field day station organized and, who knows, your club could be the first ever to win this new trophy next field day.

MORE WORDS OF WISDOM

The following excerpt is from the South Pickering Club's newsletter and was written by Rick VE3ORY: "The foundling and senior members of SPARC have given us a prosperous and active club, with a healthy membership. Our senior members have all served their terms on SPARC's executive and various committees. In my opinion, the time has come when we, the newer membership, are being 'thrown the torch'. The affairs and activities of SPARC are many and varied. They can require a LOT of effort on the part of a FEW, or a LITTLE effort from EVERYONE concerned. For the continuing betterment of our club, let's all try to contribute in whatever way possible. Even your smallest efforts will be appreciated". Are you doing your share for your club?

ANOTHER MERGER

I found the editor's view column of the Ottawa Valley Mobile Radio Club very interesting. The question was asked: why so many clubs in Ottawa, some struggling to maintain membership and programs? It also went on to say that there is a good deal of duplication, such as membership fees, newsletters meetings, accommodations. Also, each club is able to provide only a partial range of services to its members. The question is, will we see a merger of Amateur clubs in Ottawa? It remains to be seen.

TV ANYONE

The London ATV group has established an ATV repeater in London (VE3TVL). At one of their meetings John VE3JO made 60-second clips of club members' shacks which was shown as a 15-minute video.

ARE YOU GUILTY

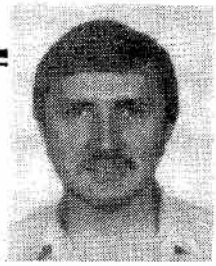
I'M A NEW MEMBER

I see you at the meeting but you never say 'HELLO'

Continued on next page ►

Listening To The World

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



The face of eastern Europe and other areas of the world continues to go through dramatic and historic changes; changes which our descendents will be reading about in their school history books in the years ahead. These changes not only lead to headlines in our everyday newspapers and newscasts, but make fascinating listening for the shortwave radio listener. I have had the opportunity to make many great tape recordings over the last six months or so from many of the international broadcasters, logging history on tape as the events took place in the countries around the world.

This is one of the major selling points of shortwave monitoring which can be used to attract the uninitiated to the experiences available to them on shortwave. I have had the opportunity to incorporate many of the reports I have monitored of late into news reports for various local radio stations and newspapers; much of the material is being received via shortwave much quicker and in much more detail than through conventional news gathering methods. I hope that some of you have had the opportunity to monitor some of the historic events of the past year via shortwave.

COUNTRY OF THE MONTH

Our stop this month takes us to the location of one of the most dramatic and inspiring events of the past decade, the Romanian Revolution. This month we focus on the country of Romania and their international shortwave broadcast station, Radio Romania International.

Yes, that's right. Some of you may still call the station Radio Bucharest Romania, but after the revolution of Christmas 1989, the station has recently changed its name, as well as the contents of its broadcasts. I'll have more on these changes later on, but first off we'll take a closer look at the station itself.

Although not a large broadcasting organization, Radio Romania International, government operated by Radioteleviziunea Romana, has been a familiar voice to the shortwave listener for many years with quite reliable signals.

With a series of 120 and 250 kilowatt transmitters, the station broadcasts from a transmitter site in the city of Lugoj. The foreign service consists of broadcasts daily in 13 languages targeted at Europe, Africa, the Middle East, Asia, the Pacific, Latin America and of course, North America. Now more than ever, the station appreciates receiving correspondence from their listeners abroad.

The television and radio stations, as in most revolutions, were one of the major focuses of attention. In fact, many of the revolutionary forces set up bases in the studios of the radio and TV stations and broadcast their messages to the world from this location. Many staff members were forced to work through the dramatic events going on around them and had to try to keep their composure during the trying times.

Throughout these tense and volatile situations, Radio Romania International continued to broadcast and suffered only minor disruptions to their service. The foreign service, once the mouthpiece of the dictator Ceausescu, was heavily burdened with the accomplishments of the leader and made for rather mundane and dull programming.

But during and since the Christmas revolution, Radio Romania kept the world in touch with developments. The dramatic chase, capture and subsequent execution of the leader and his wife made for some of the most compelling listening I have ever heard on radio. When things settled down, the changes in broadcasting were obvious and we were told of the horrendous conditions which the Romanian people had been subjected to for so long.

Probably one of the most touching broadcasts took place on Christmas Day as the staff of the foreign service gathered on the air for a celebration. The sound of Chrismas carols, to this point forbidden by the Ceasescu regime, was both heart-warming and chilling to listeners around the world. To finally hear the people able to voice their true opinions and feelings on this special day really drove the message of the revolution home.

In the days since, Radio Romania has continued to change. The name was officially changed in mid-March from Radio Bucharest to Radio Romania International and a new opening interval signal and theme music was added. The broadcasts are much more creative and entertaining, but a sense of instability within the country continues to present itself through the comments of the broadcasters.

A recent edition of the 'mailbag' show, featuring listeners letters, told the world of the unstable conditions in the country and expressed the incomplete confidence in the new ruling bodies. Radio Romania appealed to their listeners to supply them with newspapers, magazines and even subscriptions to western news-magazines and weeklies such as *Time, Newsweek,* etc. The staff members have little in the way of resources for news gathering and even many of the country's libraries were destroyed or damaged during the revolution. They have a desperate need for this type of material in order to see how the rest of the world views the happenings in their country.

They expressed a lack of confidence in the new government who had promised many things to the media, but have yet to deliver. You can help. If you would like to support the people of Radio Romania and can spare newspapers, publications, etc. please feel free to pass them along to the station.

Radio Romania International will welcome your reception reports at this important time in their existence. They must know how they are being received around the world and your comments about the contents of their broadcasts, together with your opinions on developments in their country, would be invaluable to them. You can write to Radio Romania International at the following address: Foreign Service, Str. Nuferilor 60-62, 79756 Bucharest, Romania.

As for hearing the station, you can tune in two daily broadcasts to North America in English. Here is the schedule: 0200 to 0300 UTC and 0400 to 0430 UTC on 11940, 11830, 9570,

Continued on next page ►

► CLUBS *(cont'd)*

You're busy all the time you're here with those you already know
I sit amongst you strangers, yet I'm a lonesome guy
The new fish all as strange as I, you old ones pass us by
But darn it, you all asked us in, and talked of fellowship
You could just step across the room, but you never made the trip
Why can't you nod, and say 'Hello', and stop and shake my hand?
Then go and sit among your friends, and then I'll understand
I'll be at the next meeting, perhaps a nice time to spend
Do you think you could introduce yourself?
I'd like to be your friend.
Dusty YB from the Newsletter of the Royal United Services Institute, Vancouver via Surrey B.C. Club. ■

LISTENING *(cont'd)*

9510, 6155 & 5990 kHz. For anyone wishing to hear their transmissions in Romanian, tune the same frequencies at the following times: 2300 to 2400 UTC & 0130 to 0200 UTC.

In addition to hearing reports of the latest developments in the country, you will learn a lot about the country, plus be exposed to some of the local culture of Romania through their people and their unique music. It is hoped all will work out well for the Romanian people in the future. You can monitor their progress through the foreign service of Radio Romania International.

THE SHORTWAVE DIRECTORY

I have received a number of letters wishing more features on utility stations broadcasting on shortwave. Many of you ordered copies of the Confidential Frequency List giving you a listing of frequencies and stations which share the shortwave spectrum with the international broadcasters and Amateur operators. The sixth edition of a very popular publication has just arrived here, *The Shortwave Directory* by Bob Grove. This 258-page brick of information in a large 8½ by 11 inch format is crammed full of detailed and useful information mainly focusing on the world of utility broadcasting.

Unlike the Confidential Frequency List, the book is sub-divided by type of service rather than in frequency order.

Of greater importance is the additional description of the various types of stations detailing the purpose of the stations together with listening tips for getting the most action out of the frequencies given.

As Bob Grove indicates in the publication, the utility spectrum is an enormous range to tune blindly, so this publication is designed to highlight the most active and interesting types of transmissions to be heard in this spectrum. Many listings are very unusual, such as terrorist networks, freebanders, spy number stations, hurricane networks, oil rigs and emergency nets.

The publication deals mainly with voice communications in USB and LSB, touching only occasionally on CW, RTTY and Fax stations which also fill the bands. The book is also full of high quality photographs of ships, planes, transmitter locations, aeronautical and nautical radio control rooms, both land and mobile, plus various charts and maps detailing locations of many commercial and military based stations.

Here is the rundown of the table of contents: Air Force, Navy, Army, Coast Guard, Federal Government, Aircraft, Space, Maritime, Public Safety, Business, Scientific, Private, Common Carrier, Broadcasting, Longwave and Glossary. The book covers 0 to 30 MHz. I find it to be the perfect companion to the Confidential Frequency List and vital in supplying detailled information on the wide variety of stations operating throughout the spectrum. The book is now in stock and available at the price of $22.95 including shipping, payable by cheque or money order to my address indicated above.

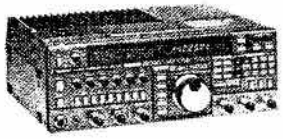
If your voyages across the radio dial have presented you with many puzzling types of stations, this publication should have the answers you've been looking for. This is a most useful publication to any radio hobbyist.

Finally this month, as mentioned last time, I attended the 3rd Annual Shortwave Winterfest in Kulpsville, Pennsylvania in February. The event attracted almost 150 people from the northeast. Seminars were held on a number of various subjets, presented by experts in the fields of mediumwave, shortwave, utilities, QSLing, propagation, pirates & clandestines, and radio memorabilia. In addition a banquet with numerous door prizes, including a grand prize of a Panasonic RFB65 receiver, was held on Saturday evening.

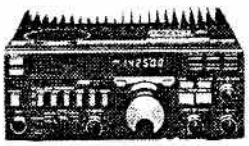
Various member clubs of the Association of North American Radio Clubs were also in attendance with club exhibits. This gathering is unique in that it is organized by the ANARC Shortwave Listeners Net, a network of Amateurs and SWLs who gather each Sunday morning on 7240 kHz LSB at 1500 UTC. This gathering brings together both hams and SWLs under the same roof to share their experiences and to build friendships and cooperation among the two groups. Once again the event was extremely successful and we all look forward to next year's event.

I look forward to seeing you at many of the upcoming hamfests and flea markets in Eastern Canada this summer. I will be present at many events with our Canadian International DX Club exhibit, helping to further introduce the Amateur community to the fascinating world of international radio monitoring. I'll be looking for you. Please stop and say hello. Until next time. ■

YAESU



FT-767



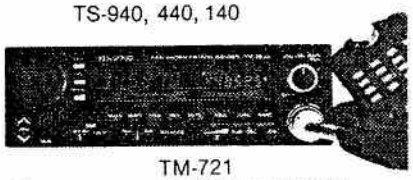
FT-767GX, 757GX, 747GX

FT-23R, 33R, 73R

FT-727R
DUAL BAND HT

KENWOOD

TS-940, 440, 140

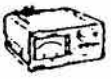


TM-721
TM-721A FM DUAL BANDER
TM-221A, 321A, 421A

TH-215AT, 315A,
415A, TH-205AT

TH-25AT, 45AT

Rotors



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LOW BAND DXPEDITION?

Over the past four years I've been lucky enough to be able to wangle a holiday in the Caribbean each winter. These trips have been 'bareboat' sailing charters where I visited a number of islands in the Windward group. J3, J6 and J8 have all been covered but unfortunately my duties as skipper, navigator and trip organizer have never allowed me to include my own mini-DXpedition. The temptation has certainly been there; we have stopped at 4 or 5 tiny islands that have never been activated, as far as I know, for the IOTA award.

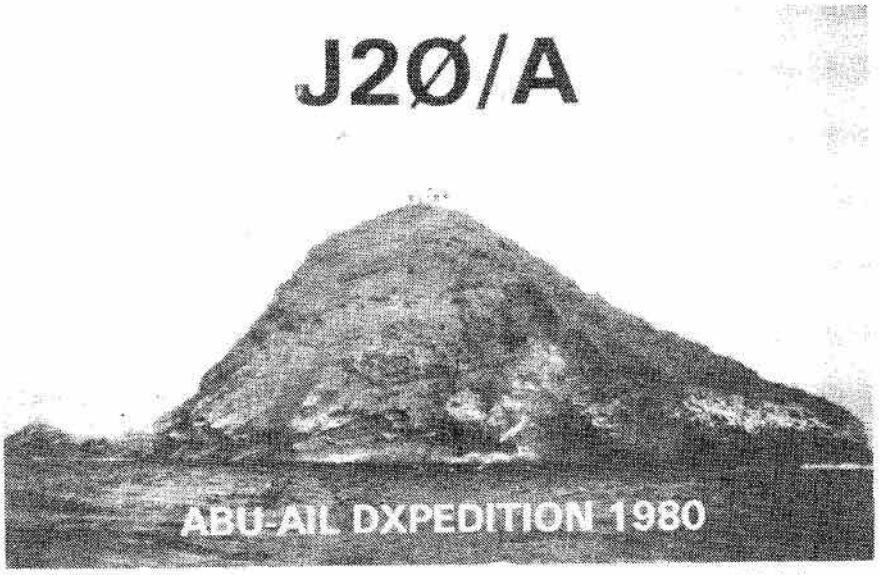
Has anyone ever worked a station on Cannouan, Meyero, Carriacou, or Union Islands or on the Tabago Cays? I'm mentioning this not to gloat over my good fortune but to lead up to a possible opportunity I spotted as we sailed up the West coast of Grenada. From the sea I saw this solitary tower, about 300 feet high, located in a low lying area right on the coast. It looked like an AM broadcast station radiator and I confirmed this when I saw it close up from the road, later in the trip.

The interesting thing is that it appears to have been abandoned. The coil hut at the base of the tower has a big hole in one wall and the only building that could have housed the transmitters looks as though it was the target for some shell fire, probably something that happened during the American invasion of a few years ago. However the tower looks in fine shape. It's a radiator; I could see the base insulator clearly from the road, so for sure there is a very extensive ground system buried all over the site.

Just think how well all this would load up on 160 metres, or even 80! I don't known how much, if any, activity on 160 ever comes out of J3. Precious little is my guess, so anyone who took the initiative to use this tower would be welcomed with pile ups every time he touched his key or mike. The bonus is the kind of signal an antenna of this size would put out with its height and very adequate ground system. One would not only be DX but one of the strongest signals on the band!

Well there it is, who's going to pick up the challenge? By the way I think Grenada would be one of the easier administrations to deal with, as far as licences and permission to use the tower. They are a very friendly, laid back people and their slogan seems to be 'No problems in Grenada'.

Before leaving the subject, I see in a recent issue of *QRZ DX* that the Michigan DX Association were active from Grenada from Jan. 11 to 30. They planned to operate on all bands, 160 through 10, and hoped to operate as J37XT during the CQ World Wide 160 Metre CW Contest, so there has been *some* 160 metre activity there recently.



It's been nearly ten years since the last Abu-Ail DXpedition, which I was lucky enough to work on phone.

CORRESPONDENCE

Interesting note from George Scroxton VE7AYJ about the February issue of the column. He thought he recognized the BV2DA card I used to illustrate my article but, when he checked his shoe box, he found his card was for a contact with STORK back in 1978. Simple explanation, DL7FT was the QSL manager for both stations and he obviously likes that little sketch of the card descending by parachute!

George also corrects me on how long it is since the last DXpedition to Laos, XW8. I thought it was about 14 years but he worked SM0AGD/XW8 in June of 1979, just ten years ago.

BHUTAN OPERATION?

It seems as though the persistent efforts of Jim Smith VK9NS are finally paying off. For three years now he has been patiently negotiating with the Government of this tiny Kingdom in the Himalayas for permission to operate there. *QRZ DX* reports that Jim has just received telephone confirmation that his request has been approved. He calls it "one of the happiest moments of my Amateur radio DXing career".

He hopes to be operating from the capital, Thimphu, with a callsign that will probably be A51JS. The timing is not yet firmed up, but he could be on the air with this call as early as April. While he is not limited by his licence to the length of his stay, it seems there is a rule that you are supposed to be spending at the rate of $200/day while there.

This will obviously put a clamp on an extended stay as the HIDX (Heard Island DX Association) does not have the necessary funds. They are, in fact appealing for any donations DXers can make, BEFORE Jim leaves, to help to make his stay there as long as possible. Jim already has a visa to enter Bangladesh, S2, while enroute to and from Bhutan, but as yet he has no permission to operate. I read that Jim's enquiries have resulted in correspondence with the Bangladesh Prime Minister himself, nothing like going to the top! If he does get permission he will stop off there on his return journey. Otherwise he will try to arrange an S2 DXpedition for some time in the future.

BOUVET ISLAND AGAIN

A recent phone call from VE7IX raises an interesting point in connection with QSLs for the 3Y5X DXpedition. Everything I have read in the DX news sheets indicates we should be sending our cards to LA6VM. This is what I did, looking up his address in the Call Book. However it seems that various knowledgeable (?) types on some of the DX Nets have recently been telling all and sundry to send their cards to

several other Norwegian addresses, none of which coincide with the CB address! What is going on, asked VE7IX? I couldn't answer his question but after thinking about it I have drawn a few tentative conclusions. The frequent mentions of LA6VM as 'the official QSL route' must mean that the Call Book address is OK.

These other addresses may well be OK too, they are probably the home addresses of other hams involved in the massive task of responding to about 50,000 requests for cards. However I am sure the safest route for everyone's card is to LA6VM; just ignore those other addresses. For the record, LA6VM's address is: Jacob Fayes vei 6, N-0287 Oslo 2, Norway. By the way, the cards are coming in at the rate of 800 a day. The logs will be computerized during February and March, then labels will be printed and statistics generated. The first cards should be in the mail in April.

Before leaving the subject of the Bouvet Island DXpedition I spotted a useful wrap-up in *QRZ DX*. I have already expressed my disgust at the antics of some Amateurs who choose to transmit on 3Y5X's frequency. Well it's great to read, for once, that big brother was listening too. Apparently the FCC has issued citations to over 240 Amateur stations for transmitting out of their band! I suppose it's too much to hope that these citations will result in improved behaviour by the stations involved. Club Bouvet didn't only operate a DXpedition. Apparently they made zoological studies, shot 7 hours of 16mm film for a TV production and took lots of colour slides during the 17 days they were on the island. As most people know by now, they used a helicopter to ferry all their supplies to and from the island. Operations by boat were attempted but given up due to rough seas on the unprotected shore. Weather conditions were pretty much as they expected with very strong gusty winds sometimes reaching hurricane force. Certainly this DXpedition was one of the most physically demanding of recent years and the organizers deserve great credit for pulling it off.

DX ONTARIO

Now that more and more Canadian Amateurs are buying rigs with a general coverage receiver and *The Canadian Amateur* has its own SWL column by Sheldon Harvey, I think it is time to draw everyone's attention again to the Ontario DX Association. I have been receiving their monthly magazine, *DX Ontario*, for a couple of years now and although I am not a regular SWL I always find things of interest to read. Recently the association bought a Macintosh SE and a desktop publishing package and the already professional looking magazine took on an even more polished look. I'm pleased to see that their membership includes quite a number of radio Amateurs. (I noticed that Ralph Cameron VE3BBM, who writes 'Crosswaves' for *TCA*, joined recently).

Clearly the old progression of 'first an SWL then a licensed Amateur' does not mean that the earlier hobby of short-wave listening necessarily gets abandoned, far from it! With over a thousand members, three quarters of them living in Ontario, this is a healthy, vibrant organization. The wealth of practical information their magazine carries should provide any SWL with the information he needs to tune the bands with a purpose. How to join? Write to: ODXA Membership Secretary, P.O. Box 161, Station A, Willowdale, Ont. M2N 5S8. For Canadian residents the annual dues are $28.75.

BITS AND PIECES

J6, St. Lucia— Rick VE6GK writes from Calgary to tell us that he will be acting as QSL manager for J6LSJ. Jay is also from Calgary and is working for CUSO in St. Lucia as a hospital technician. He is often to be found on 14.140 MHz looking for patches in the evenings. He plans to be active throughout 1990. Rick ends his note with a plea for SASEs please. His address is: Rick Zabrodski, 84 Woodacres Cres., S.W. Calgary, Alberta T2W 5B6.

OY Pirate Caught— Anyone worked OY7ML or OY1B in the last few years? Perhaps you have already realized that your contact was a pirate. If so, you will be glad to read that after several years of investigation by the UK DTI they have finally nailed the culprit, a British Amateur whose identity has not been revealed (wonder why not?). He also pirated other calls on HF CW. Who knows how much damage this misguided enthusiast has caused, on a worldwide basis, before the DTI closed him down.

Thanks are due to the following sources for some of the material appearing in this column: VE7IX, *QRZ DX*, VE7AYJ, VE6GK and the *DX News Sheet*. ■

FCC to Hams: Know your VFO!

Bouvet means pink slips for many

The FCC has issued over 240 notices of violation to Amateur stations in connection with the Bouvet Island DXpedition that began operating on Dec. 28. The operation was marked by massive pileups and QRM (we described it as an 'HF riot' in our January 15th issue). Bouvet, in the South Atlantic, is governed by Norway. The DXpedition signed 3Y5X.

Hams were cited for the violations between Jan. 2 and Jan. 13, 1990. The citations went out for transmitting phone emissions on frequencies not authorized to the control operator for phone emissions, a violation of 97.305(c) which partitions the HF bands into segments for different uses.

The FCC said that this partitioning "... facilitates Amateur service stations using inharmonious emissions within a given band. Voice and data emissions tend to dominate the spectrum when the two emissions share spectrum. The unauthorized use of the Amateur service band in this manner disturbs the carefully arranged balance between frequencies for analog and digital emissions."

Bouvet worked 'split'— transmitting phone legally, under their rules on 14.145 MHz for example, and listening higher in the band— but many U.S. hams apparently failed to set their VFOs properly and ended up calling Bouvet on its transmit frequency out of the U.S. phone band.

"Although these violations appear to have resulted from misuse of increasingly complex Amateur service equipment rather than any willful action," the FCC said, "Amateur service licensees are reminded that the station licensee is responsible for the proper operation of the station and will be held responsible for the transmission of an unauthorized emission under Section 97.103 of the Commission's Rules."

The notice of violation does not carry a monetary fine. A $200 Notice of Apparent Liability for forfeiture would come when the station is cited a second time for the same violation.

Although 240 stations may sound like a major enforcement action, it is but a small number of the well over 4,000 contacts that the Bouvet operation made in its 2½ week period.

"The goal of the game was to get into Bouvet's logbook, which you can't do if you are transmitting on their transmit frequency," one FCC staffer observed. "But in the heat of battle, sometimes circuits in the brain don't connect."

— *W5YI Report*

PACKET RAP

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

WEST COAST PACKET UPDATE

Frank VE7AV provides us with the following information. The packet situation on the West Coast has been evolving rapidly. The HF packet network is quite well developed in British Columbia, with most of the activity concentrated on 7103 kHz. Frank operates an HF facility with the *msys* software running on a 386 computer. The frequencies used are on 7103, 10145, and 145.01.

The 30 metre band operation was started around December 1989. Frank mentions that it would be really nice if the odd BBS system from VE5, VE4 and VE3 started operating on 10.145 MHz on a regular basis. Frank indicates that 30 metres is a really good daytime band with the potential of becoming a major connector for all parts of the country. Frank is eagerly looking for stations east of B.C. to network into on that band.

BBS CORRECTIONS/UPDATES

Table I shows updates to the BBS list that appeared in the February, 1990 'Packet Rap' column of *The Canadian Amateur.*

The following stations are no longer BBS stations: VE3EMR, VE7PGS, VE7DSN.

Frank VE7AV also provided the information in the table. Thank you Frank!

THE IMPORTANCE OF STANDARDS

A newcomer to packet radio must wonder why there are so many different networking packages in use today. There is: AX.25, KA-Node, ROSE, NET/ROM, THE/NET, PC/Node, TCP/IP, TexNet, etc. Why is this so? The reason is a common one in the communications industry. It is called the *NIH* syndrome or Not Invented Here.

The sad truth is that the lack of protocol standardization will hamper ham packet radio for several years. There are really only 2 'standard' protocols in use by hams today. They are AX-25, which is a variant on X.25 (a worldwide standard), and TCP/IP (a *de facto* worldwide standard).

While protocols such as NET/ROM 'work', they do not scale well and some operate VERY poorly in a radio environment. A major problem is that most networking packages are not compatible with one another. NET/ROM can't communicate with TexNet and TexNet can't communicate with ROSE, etc. Not all is lost though. Certain communications software packages such as Phil Karn's Net program can act as a *gateway* between different networking protocols.

Today, Net supports AX.25, NET/ROM, and TCP/IP over NET/ROM and TCP/IP over AX.25. The term 'over' in this context means that the *data* portion of an AX.25 packet contains the IP data packets.

A big plus for Net is that it is free! Also, source code is provided. Thus, other enhancements and features can be added by anyone willing to do the work. The Net package is written in a computer language called C. The C language was designed to allow programs to be 'portable'. A computer program written in C is portable due to the fact that the C language makes no assumption about the particular type of computer that is being used. Machine dependent code in a portable computer program is usually found in one or two small routines.

Because Net is written in a portable language, it can run on most common computers. Today, a version of the Net program is available for IBM PC compatible computers, the Apple Macintosh, the Commodore Amiga, the Atari 520 and most UNIX based computers. Unfortunately, no one has ported Net to run on the Commodore-64.

Net has been discussed in some detail in previous 'Packet Rap' columns. If you need more information on Net, please contact your local SYSOP. He should be able to help you out. If you are still stuck, then drop me a line.

One final note, the IP and TCP protocols used in Net are mature, well thought out protocols. The TCP/IP protocols are the result of thousands of man years worth of research and development. Applications serviced by TCP/IP are used every day by hundreds of thousands of people in Universities and commercial institutions all over the world.

I hope that hams won't invent any more RYO (Roll Your Own) protocols for the ham radio world— we just can't afford to do that. What is needed now are *applications* that make our technology useful and interesting.

NEWS FROM YOUR AREA?

I would like ham radio news and information regarding the area where you live. Is there any digital activity in your area? Do you find that Packet Radio is useful? Do you care about this mode. Have any teenagers become Amateurs due to their interest in digital radio? Surely there must be some activity out there... Has anyone worked all zones and worked all Provinces on Packet? Who claims to have the most HJF packet QSOs? I need information and feedback to make this column interesting.

ANTENNA TIME

Now is the time to get that antenna work done before the heat of the summer is upon us. Make sure to follow proper safety procedures when climbing towers and walking on rooftops! Take note of all power lines in the immediate area when handling antennas. Remember to work with a buddy if you are doing serious tower work. See you next month. ■

HELP WANTED

The CARF Office needs the current addresses of the following Amateurs, listed by name and last known address. Let Debbie know at P.O. Box 356, Kingston, Ont. K7L 4W2.

William Kent VE2GOX, 89E Sympatica Cres., Dundas, Ont.

Larry Fitzpatrick, 203-1310 20th St. West, Saskatoon, Sask.

R.E. Dollfuss VE7FRX, 6926 Arbutus St., Vancouver, B.C.

Station	Location	Frequencies Used
KL7NC	KETCHIKAN	7103 146.55
KL7AW	JUNEAU	7103 145.05
KL7HFI	JUNEAU	7103 10145 14109 145.05
VE7CTJ	SQUAMISH	7103 144.97
VE6LH	CALGARY	7103 443.01
VE7AGJ	FORT ST JOHN	7103 146.55
VE7AV	PRINCE GEORGE	7103 10145 145.01
VE7BPH	SORENTO	7103 145.01
VE7RTS	SORENTO	3606 145.01
VE7PE	VERNON	3610 145.01
VE7DBK	VANCOUVER	3606 145.07
VE7DIE	VICTORIA	3610 144.97

Go Canadian!
Go Canadian!
Go Canadian!
Go Canadian!
Go Canadian!

You get a great deal from the Canadian Amateur Radio Federation...TCA- The Canadian Amateur Radio Magazine; FREE QSL Service (with the new postal rates, this is a real deal! Many Amateurs get their money's worth in this service alone!); representations to the Department of Communications and other areas of government; and much, much more!

CARF

Canadian Amateur Radio Federation

P.O. Box 356 Kingston, Ontario, Canada K7L 4W2
613-545-9100

QRP

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

Edmonton radio Amateurs are fortunate to have a copy of the book *The JOY of QRP: Strategy For Success* by Adrian Weiss W0RSP in the Centennial Library. To quote from the Preface: "A book has long been needed for newcomers to the exciting and challenging low power (QRP) area of the Amateur radio hobby." (Although some people treat Amateur radio as a hobby it is wrong to call it such as we pay an annual fee and our government calls it a 'SERVICE' having raised the renewal fee another 10% to $22 in 1990.)

Regardless of how one looks at it, the book should be read by anyone contemplating some Quaint Relaxing Pleasure. Whether you are a newcomer or veteran there is something to be learned from the book. Adrian is an old timer in the radio game, both in writing and operating, so you can imagine the wisdom from which the book is written.

He points out that there is a lot of philosophy involved with QRP and that frustration plays a large part in success or failure. For instance, a mediocre antenna gives you a small degree of pleasure using your normal 100-150W. Do not expect to perform wonders or log a lot of DX when you suddenly start running 5W or less. The book will show you how to have as much fun with that mediocre antenna and more. If you find yourself getting out only 'so far', then you may have to be content with that distance on a regular basis. It makes a lot of difference, too, as to just who is on the ohther end of your QRP signals. Keep an ear out for DX pile-ups that call QRZ QRP because they have ears for you!

Beginners in Amateur radio will welcome the less costly advantage of QRP. Kits are now available for transceivers under $100 and are good starter sets. Under the proposed new DOC regulations you will need a commercial transmitter and here again QRP is the most economical road to follow. It not only becomes a starter kit but can also be used while mobile or portable on field trips and holidays. Ideal for back-packers, cyclists, mountain climbing and any other out of the way activities. QRP at one time was defined as 100W as evident in the 1928 Fourth Edition of *The Radio Amateur Handbook* on page 58. "A low power station is one to which the power supplied is less than 100 watts and where the voltage supplied is less than 400 volts." Today, of course, QRP is 5W or less CW and 10W input or less SSB.

If your library does not have a copy of *The JOY of QRP: Strategy for Success* by Adrian Weiss ask them for an intra-library loan card and fill it out using Edmonton Centennial Library as the source. Adrian may consider a second edition if enough requests are made direct. The Publisher is Milliwatt Books, 833 Duke St. 83, Vermillion, SD. U.S.A. 57069.

CONSTRUCTION

Transmitters and receivers mentioned in the book are a bit complicated for the beginner unless you have been following 'Looking Around' by Art VE3AHU in *The Canadian Amateur* recently. For the absolute beginner it is recommended starting with a kit from Small Parts Centre, 6818 Meese Dr. Lansing, MI. U.S.A. 48911 or some such supply house that provides complete kits with instructions. At least build your own receiver and test equipment if you don't qualify for a homebuilt transmitter under the new proposed regulations.

GLEANINGS

Mr. B. Harris of Port Maitland, N.S. sent along an extract from the 1982 *Hints and Kinks* publication which shows an 80 metre VFO for the Sardine Sender from *QST* October 1978. We have not had any enquiries for the VFO that Tom VE7BNI uses, which is identical to the one Mr. Harris sent me, except Tom has shown a keying transistor preceded by a key click filter network. Do we have an enterprising soul who would like to put the VFO together and report on his or her results?

The Sardine Sender is 12 years old and improvements have been made since, such as in the TWO-FER II mentioned here many times. Whether this VFO will drive it or not could involve more professional experiments than would be profitable to anyone's time. Chris KM8X is doing the design and experimenting, as far as I am concerned, when he brings out new kits periodically.

Gerry VE5DC advises through VE6AXW that he has a Ramsey kit to report on very soon. Garry VE3REP runs a Ramsey 20M rig and a homebrew 40M rig in the 10 months he has been in Amateur radio. His request is for the W7EL information kit and the FAR circuits sheets. He calls himself a rookie and already is dabbling in QRP, for which we commend him and thank him for his compliments on this QRP column.

Ollie VE3MT also wrote for the FAR Circuit sheets. All we need now is word from more of the Maritimes and VE4 land to round out input to this column from all of Canada. Jerry VE6BED has just recently acquired an Argonaut 509 which indicates someone else in Edmonton is going QRP.

Art VE3AHU writes his 'Looking Around' articles well in advance, but if you have an idea for some home-brewing drop him a line. His QRP work was during the '60s and '70s using homebrewing tube equipment when he acquired certificate 32 of the QRP-WPX Award. He still puts an HW-8 on the air every now and then, so we see that 'old' QRPers never die... they just keep pounding along. Tom Brent from Dewdney, B.C. wrote asking for the FAR Circuits sheets but does not say if he is an Amateur or not on his Fordson Tractor Club stationery.

GENERAL MOTORS

GM has issued 'Guidelines for installing a radio telephone or land mobile radio' including QRP sets in GM vehicles. They assume no responsibility for any adverse affects in any such installation nor for expenses incurred. The five-page brochure includes two that you use to describe your problem and what information they require on make, model, power, frequency and antenna type.

The guideline includes a drawing of how to use AC Delco Side Terminal battery adaptor package 1846855 and states that power feeds should not be connected to any other point. On the same page are their recommendations for transmitter and antenna location, antenna cable routing, antenna tuning, radio wiring and connection locations, wire routing, troubleshooting. A telephone number is listed if you have a persistent problem with a GM vehicle that was designed and extensively tested for immunity to known sources of RF energy.

My copy arrived postpaid from General Motors Corporation, E.M.C. Dept. Bldg. 40 Milford, MI. U.S.A. 48024-2001. So if you are having trouble and need help with your GM vehicle while in the middle of preparing for the upcoming mobile season, write them at the above address. Then you will know your QRP noise level is not of your own making and tell them you saw it here.

ROYAL BANK LETTER

The Sept/Oct 1989 issue long evaded me, but the Main branch in Edmonton

Continued on next page ➤

mailed a substitute for my direct copy. It is entitled 'The Importance of Teaching'. Their eye catching opening paragraph states: "We are all in favour of education, (Amateur students, too! ed.) but we tend to take for granted the people who provide it. If our society cares about the future, it will resume giving teachers the support and credit they deserve."

One of their better issues that we should all read. Their Jan/Feb 1990 issue of 'News in Our Time' is also good reading and begins, "Mass communications have given us a window in the world, and we often might not like what we see through it. But without the news, we would be without the means to correct the ills and injustices of modern-day life..." More good reading!

ARCI-QRP QUARTERLY

This, their first for 1990, is Vol. XXVIII Number 1 and may be hard to equal or surpass in the remaining three quarters. With all the varied news items and projects in 24 pages (sans publicité) no advertising and Bob NM7M missing from the masthead, it will be difficult, no doubt, to keep their production improving in the rest of the year. We could all possibly learn something from this organization of volunteers still operating at the beginning of their 28th year! Deadlines for articles this year are May 15 for July issue and August 15 for October.

Don't forget *The Canadian Amateur* also needs your input, good, bad, or indifferent and maybe a sketch or two, a photo or a note via Amateur radio. Mark WB3ELL has a single N channel MOSFET transceiver featured in the January issue but without a PCB it might be difficult to reconstruct. He says it works but with limitations due to its simplicity so we will not burden you with it here just yet. Larry NF0Z includes his version of 'The DX Zapper' which is a mobile antenna for 10, 12, 15, 20 and 30 and uses a modified coil, Part #3026 @ $6.75 U.S. from Surplus Sales of Nebraska, 1315 Jones St., Omaha, NEB. U.S.A. 68102.

If the coil is still available and anyone decides to build the antenna, just drop me a line for the inventor's address. We cannot continue to list each and every article just suffice it to say there were 16 volunteers involved in writing the articles for this issue that filled 24 pages. Our readers input would go a long way toward making a more interesting publication of *The Canadian Amateur* for more members of CARF to receive FREE with their membership.

NETS AND OTHER ACTIVITY

Kyp WZ6N answered my CQ VE-QRP call on Feb 18 and then was able to raise NA1E/5 who was unreadable here. Val VE5XK came up on frequency during a call in January and Pete VE5VA was also included. The ARCI QRP Transcontinental Net (TCN) seems to draw a considerable number of check-ins each week. The Special Events station W0CUO/P of Grand Island Nebraska were celebrating the return of the Sandhill Cranes on RTTY. They also consented to work our granddaughter Mandy and myself in three other modes, AMTOR, Packet and CW, which rounded out our operating that day.

INTERNATIONAL QRP

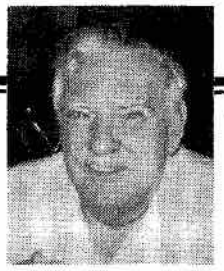
A gathering around 1810, 3560, 7030/40, 10106, 14060, 18106, 22106, 24906, 28060, being 24 hours per day. Then come up on 14060 at 1900 UTC each Sunday for VE-QRP followed on the same frequency by TCN at 2330 UTC. Don't be shy just QNI! ■

THE KING'S VISIT

Congratulations to the VE6s who handled the visit of King Hussein JY1 to Alberta in such a professional manner.

VE7RD

LOOKING AROUND



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

In the previous column the basic reasons for including an Antenna Tuning Unit (ATU) in your station set-up were discussed and a brief description of a Transmatch that I have used for many years. There are, of course, many other designs of ATUs and a brief description of the four basic configurations to match into a coax-fed antenna system follows.

All ATUs use combinations of inductors and capacitors to match the output impedance of the transceiver, 50 to 75 ohms, to the input impedance of the antenna system, usually a complex impedance R + jX. Figure 1 is a simple series circuit and a tapped, or rotary, coil of about 28 uH and variable capacitor of 200 pF will function from 80M to 10M. In all these designs, capacitors with wide enough spacing, to prevent arc-over with RF powers handled, must be used and diameter of the inductor should be in the 2 to 3 inch range with 6 to 16 turns per inch. Suitable capacitors and coils can sometimes be found at Amateur flea-markets.

Figure 2 is an 'L' configuration of a single coil and capacitor using values similar to that of Figure 1. Both configurations are useful with multi-band antennas when a slightly high value of SWR does not permit full output from a solid state transceiver. Components of either may be reversed to give better matching.

Figures 2 and 3 add a second capacitor in a 'pi' or 'T' network and these designs will give much greater range of matching than the two simpler types. A series variable may be added at point 'A' in the 'pi' matching network to give better range and easier adjustment for matching to 1:1 SWR. The 160M band can be covered by adding fixed capacitors, capable of handling the RF voltages produced, across the variable capacitors.

There have been designs in various Amateur handbooks and articles that give switching arrangements so the coil-capacitor combinations can be readily changed to give any of these four configurations to assist in proper marching of complex loads. Note that, in all except the 'pi' network, the capacitors used must be insulated from ground (chassis) and this can be accomplished by mounting the capacitor(s) on a ¼ inch thick plate of plexiglass, or other RF insulating plastic, and using an insulated coupler between the shaft and dial. Also, that it is not necessary to shield the ATU so breadboarding techniques may be used. ■

ANNUAL GENERAL MEETING

The AGM of the Canadian Amateur Radio Federation will be held on June 16, 1990 at the Donald Gordon Centre, Queen's University Kingston, Ontario, commencing at 0930 hrs.

All members are encouraged to attend this important annual event to hear about your Federation's past year's activities and to learn what is planned for the future. Come and take part. See how the Federation works and give it the benefit of your advice and suggestions.

Eric Ilott VE3XE,
Secretary,
Canadian Amateur Radio Federation Inc.

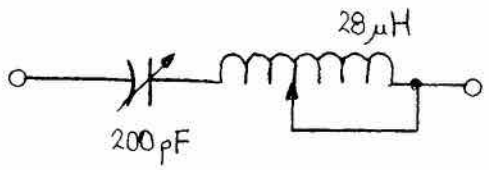


Fig. 1 - Series Matching circuit

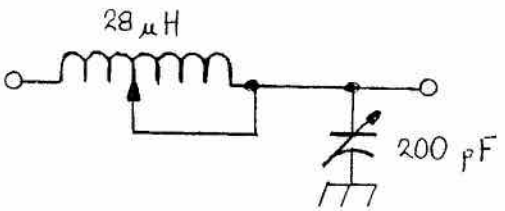


Fig. 2 - "L" Matching Network

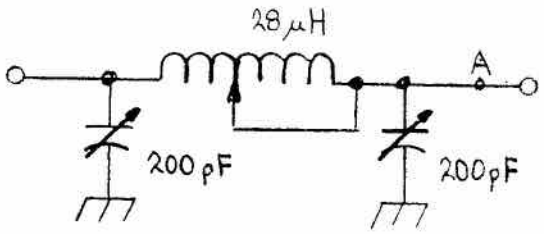


Fig. 3 - Pi Matching Network

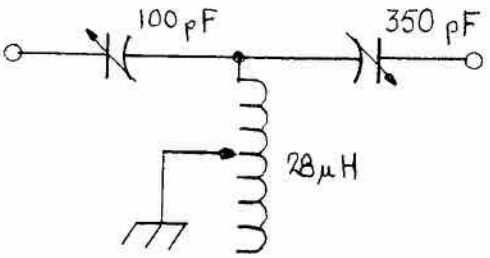


Fig. 4 - "T" Matching Network

Extended Double Zepp Fixed Emergency Antennas

By John Lester VE3MB

In the City of Belleville, Ontario area, two metre radio operation is sometimes difficult from autos because our local repeater is located out of town.

Because of this fact, I have been actively engaged in locating antennas on buildings in and around Belleville, where they might prove useful in an emergency. An antenna design for 2 metre work that has proven popular here in the Quinte Amateur Radio Club has been adopted by ARES for this application.

For anyone wishing to use it, the antenna details are as follows: the basic material is plumber's ½ inch diameter Type K hard drawn copper tubing. Three pieces, two at 48" in length and one at 50" are needed. Also required are four end caps, two 90° elbows, and four tees. The accompanying drawings will help make the details clear.

The resulting antenna has two radiating elements, each over ½ wavelength, fed in phase. They are joined by a hairpin section which provides a convenient feed point and the necessary structural support. The unit is inexpensive and easy to construct, is very resistant to weather and is easy to tune. Performance is quite good, there being little loss, with considerable RF gain over a base loaded whip.

Referring to the drawing, the 50" piece of pipe is cut up into pieces as follows: two pieces 14" long, four pieces 4" long and two pieces 3" long. For those who have not had previous experience with copper piping, the following assembly directions should be noted.

The outside of each pipe end and the inside of each fitting to be soldered should be carefully polished with fine emergy cloth and should then be lightly coated with soldering paste. The pipes and fittings should then be assembled on a flat surface. The plastic spacer should be put in place midway along the length of the 14" pieces until soldering is completed.

When all is in place, each joint should then be soldered, using a propane torch and plain 50:50 solder. The copper

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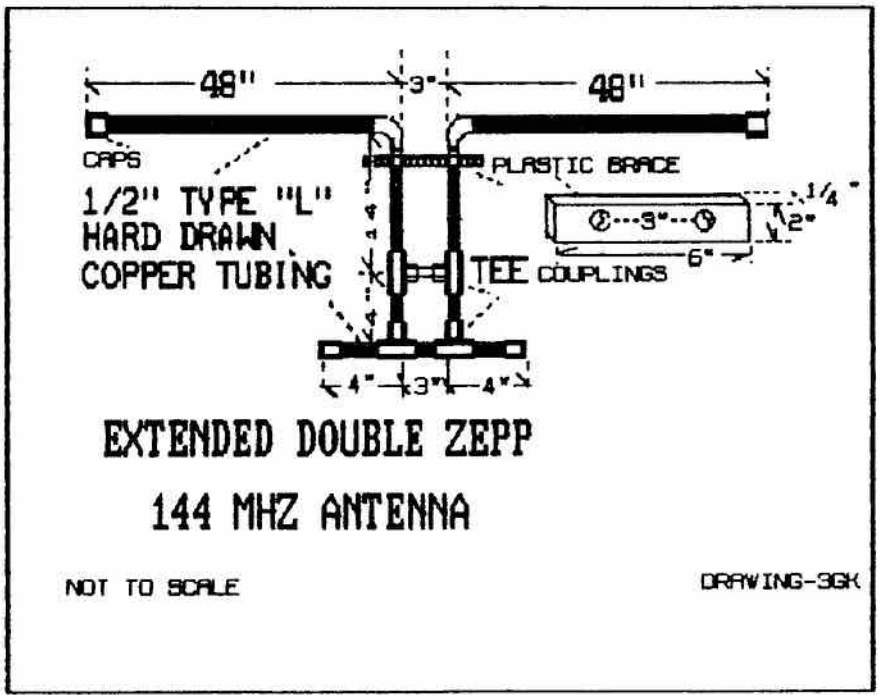
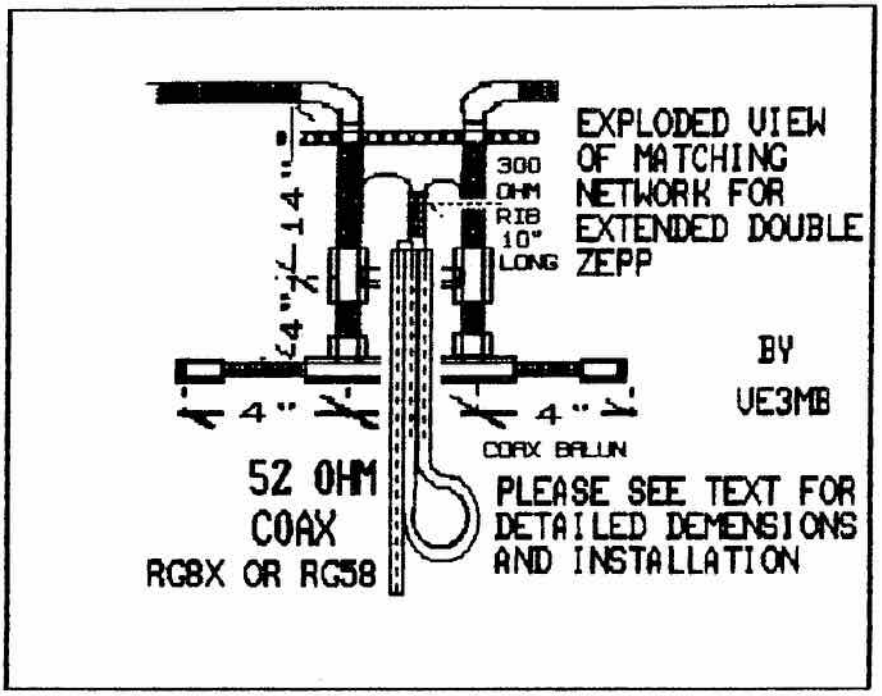




should be heated until the solder flows on it. The solder should be applied to the joint, where it will flow into the joint until it is filled. Enough heat should be applied to cause the solder to flow, but excessive heat must be avoided. With the right temperature, the solder will flow easily.

Once the joint is filled, solder application should be discontinued—excess solder at the outside of the joint should be avoided. After the assembly cools tap the plastic spacer along the hairpins so that it rests snugly against the two 90° elbows. You should file off any excess solder near the elbows so that the spacer can fit closely. If the spacer is a bit loose, it should be taped in place.

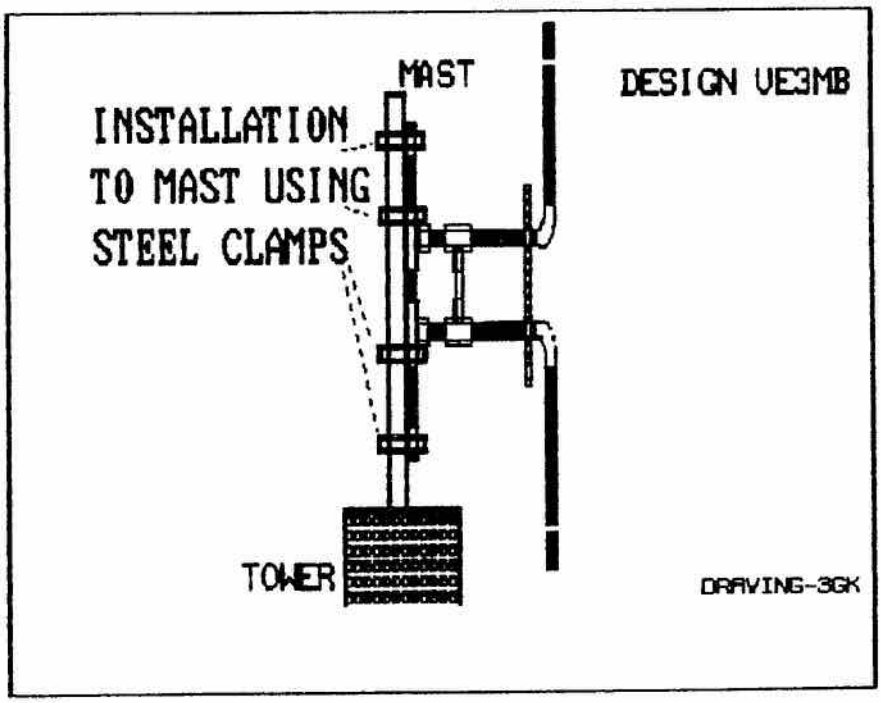
The RF signal is fed to the antenna using 50 ohm coax, either RG-8X or RG-58. Make a coax balun, remembering that the length of it should be ½ of the wavelength times the Velocity Factor. This factor is 0.66 for coax having polyethylene dielectric and 0.80 for foam dielectric, so the balun length (for 146 MHz) becomes:

$$\frac{5540 \times 0.66 \text{ (or. } 0.80)}{146} = 25.04'' \text{ or } 30.35''$$

for polyethylene or foam respectively.

Prepare the coax ends, letting the braid show for ¼" or so, leaving ¼" of dielectric exposed for isolation of the core. The above balun length should be measured from end to end of the braid. Then take a 10" length of the highest quality 300 ohm TV ribbon that you can get, and tie the exposed conductors to the end of the coax as shown on the sketch.

Solder thoroughly. Wrap a piece of bare tinned wire around the three pieces of braid to assure a complete bonding job and solder. Wrap the coax assembly thoroughly with PVC tape to give a waterproof joint.



Then lay the coax assembly on the antenna unit so the 300 ohm ribbon lies in the centre of the hairpin, with the end of the ribbon pointing at the plastic spacer. Next, tie the coax carefully and strongly in place using butcher cord. The cord tie goes from one side tube of the hairpin support to the other, and half way between the two 3" pieces of pipe.

Next, wrap the cord tie with PVC tape to render it waterproof. Bare the outer end of the 300 ohm ribbon lead ¾" and split the ribbon for 4". Emery the pipes for three inches, centred at the 8" point from the back of the hairpin, using emery cloth. Temporarily tie the exposed ends of the ribbon to the hairpin pipe, one to each pipe, using scraps of tinned wire.

Now, apply RF at the desired repeater frequency to the antenna via the coax. Slide the ribbon ends along the pipes until the SWR metre shows that a perfect match has been achieved. Solder the ribbon conductors to the tubes. Tape these two soldered joints, including the ends of the ribbon insulation with PVC tape. Finally, seal all of the PVC with clear silicone bathtub sealer or with E-6000 or similar styrene base sealer. Cover all of the PVC carefully, so that water cannot work inside over a period of time.

The antenna can then be mounted to a vertical mast of steel tubing, using stainless steel clamps of the type intended for use with polyethylene semi-rigid piping. Use two clamps above the hairpin, and two below, to clamp the 4" pieces of pipe to the mast.

These antennas have a very long service life, which is just what is needed for this application. The total material cost for each, including the four clamps, is under $30. ■

A HAM RADIO TOWER

Why do people get upset when one puts up a radio tower?

A few things in its favour:

IT DOESN'T: Squeal its brakes. Screech its tires. Blow its horn. Roar its motor. Slam its door at ungodly hours. Shine its headlights in your bedroom window. Nor does it backfire.

IT DOESN'T: Bite you. Bark or meow. Leave deposits on your property. Dig up your garden. Scratch on your door. Widdle on your tires. Nor does it dig into and scatter your garbage.

IT DOESN'T: Drop leaves that you have to clean up. Grow branches over your house. Drop leaves or needles which block your down pipes. Block your view like a tree or a building. Grow roots that damage your walk or driveway. Nor does its roots plug your sewer.

IT DOESN'T: Have boisterous parties. Or play loud music. Or have swimming parties through the night. It does not ring your phone (accidently?). Nor does it ride bikes across your lawn.

IT IS JUST QUIET, AND HAS NOTHING TO SAY.

— VE7BJ

(Besides making it easier to find another ham's house... Ed.)

TECHNICAL SECTION

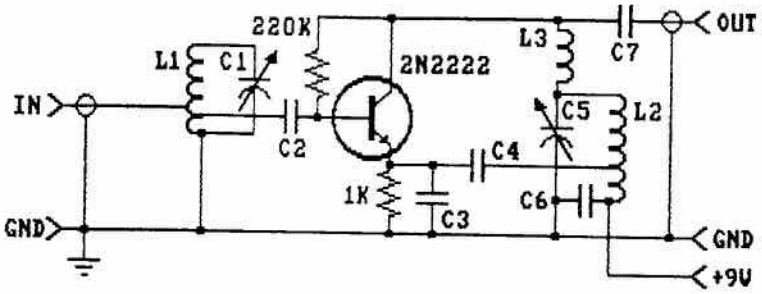
Bill Richardson VE6PN, Box 68, Grimshaw, Alberta T0H 1W0

VHF Converter

By Dick Pattinson VE7GC

The following converter was developed to tune below the two metre band using the Icom 2AT. It covers 8 MHz in two 4 MHz segments. A self-excited oscillator beats with the Icom 2AT. Current drain is less than one milliampere at nine volts. Sensitivity is very good.

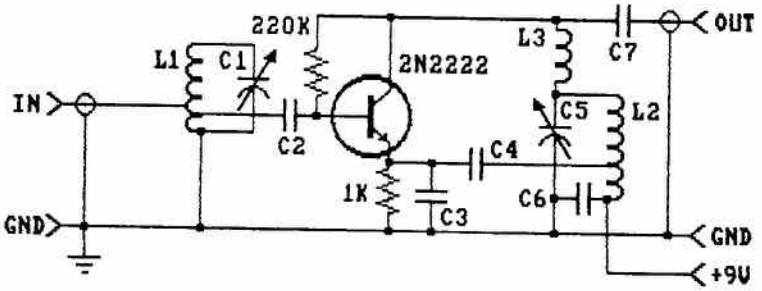
Construction is self explanatory from the schematic. ■



VHF CONVERTER SCHEMATIC DIAGRAM

L1	4 TURNS #24 TINNED, SPACE WOUND ON 1/4" FORM. BASE TAP – 1 TURN UP; ANT. TAP – 2 TURNS UP.		
L2	18 TURNS #24 ENAM. ON 1-3/16" DIA. FORM (PILL BOTTLE). EMITTER TAP – 3 TURNS UP.		
L3	25 TURNS #24 ENAM. CLOSE WOUND ON 1/4" FORM.		
L1/C1	ADJUST TO INPUT FREQUENCY. . .		
L2/C5	TUNES FROM 4 MHz TO 8 MHz. . .		
C1	TRIMMER, 7 – 45 pF	C5	100 pF VARIABLE
C2,C4	.001 MFD	C6	.01 MFD
C3	10 pF	C7	5 pF

ICOM 2AT SET AT 148 MHz TO COVER 140 – 144 MHz.
ICOM 2AT SET AT 144 MHz TO COVER 136 – 140 MHz.



VHF CONVERTER SCHEMATIC DIAGRAM

PACKET RADIO STARS IN A TREK FLICK

For you Star Trek fans out there, were you aware that those unmistakable braaaps of packet radio made an appearance in the motion picture Star Trek IV?? Well, it's true!! During the scene where Scotty is valiantly trying to beam both Chekov and Uhura back from the *U.S.S. Enterprise*, Scotty is having a hard time hearing them. One of the sources of interference appears to have been packet radio!!

To prove this point, Bob McGwier N4HY enlisted the help of Phil Karn KA9Q to decode the packets. This little challenge was not an easy one. It required some pretty fancy Digital Signal Processing footwork and a super-computer (the Cray-2) to finally unravel the mystery.

As it turns out, the packets were confirmed as being part of a conversation between WA8CZN-0 and N6AEZ on 20 metres HF packet! Congrats on the high-tech sleuthing, Bob.

From Compuserve's *HamNet* via *Packet Radio North*

JUST TO EASE YOUR MIND

A follow-up investigation was done on the photograph of the damaged quad which appeared in Cathy VE3GJH's column in the February issue. To the thousands of Quad owners: it was not VE5OH's five-minute storm that was the culprit, but a 200 lb. load of ice that did the antenna in!

Lightning & N-EMP Surge Protection for do-it-yourselfers

By George VE3TAG

Effective yet inexpensive surge protection can be constructed at home to guard against lightning and N-EMP (nuclear electromagnetic pulse). For the Ham or SWL such protection is a must if financial loss and inconvenience are to be avoided in the long run. Too many of my friends have had their equipment zapped. You can either pay lots of money for commercial surge protection devices or... roll your own. Candidates for surge protection should include:
a) your power lines or receptacles to which sensitive equipment connects;
b) telephone lines hooked to your computers, telephone patches, radios;
c) control lines, antenna rotor lines, etc.;
d) your antennas, transmission lines, antenna tuners, switchers, pre-amps.

There are at least two types of surge protector that should be considered if your aim is to protect both 1) low frequency (power-line, audio, control) and 2) radio frequency (transmitter and receiver) circuitry.

1) LOW FREQUENCY

Probably the cheapest and most effective are the so-called MOV devices. These metal-oxide-varistors are widely available and can be obtained in a variety of voltage and current values. When a predetermined voltage is exceeded between its two terminals and MOV will suddenly turn into a near-short and is capable of shunting currents of typically 500 amperes or more for very short periods. MOVs intended for 120 VAC household line protection should be rated for 300 volts or more. The Siemens S14K130 MOV is ideal. For low-voltage AC or DC, including the common 12-14VDC radio supplies, the Siemens S10K20 or GE V36ZA80 or equivalent are good. MOVs will generally cost you about $1.50 to $2 each (less in quantities).

Power-Line Protection

For power-line protection, you will normally need to solder in three (3) MOVs. You'll also need some type of multiple outlet device that has enough room inside it to allow installation of these MOVs. Alternatively, you may wish to install MOVs inside your equipment so that protection is not compromised if you take it over to your friend's place.

Each MOV has two (2) leads extending from it which are soldered to two of the three AC power lines inside your multiple outlet (see diagram). The reason for using three (3) MOVs is that a MOV detects voltage changes between the two lines (hot and neutral). So, if you only use one MOV, and both lines get zapped with the same voltage surge (common-mode situation), there is no detected difference between those two particular lines but maybe a lot between them and the third line (therefore, IT DON'T WORK!!). So, if you use three (3) MOVs, as shown in the diagram, the difference will be detected whether it is from hot to neutral, neutral to ground or hot to ground. Check for shorts after you have done your work and before you apply power.

Phone-Line Protection

To build a protector for a phone line is basically the same as building one for your AC line. The phone company has usually already installed their own lightning protection circuitry where the line enters your residence or building. Additional protection is needed because of the long cable runs in your home which are susceptible to inductive transients from both lightning and EMP sources.

Although modular telephone plugs and their associated cables normally have four wires, most telephones and telephone installations actually use only two, or at the most three, wires. The two wires that are absolutely required are usually coloured red and green (tip and ring). The third wire, if it exists, is usually black and is rarely used. Check inside your telephones to see which wires are actually connected, and protect MOVs. The diagram shows you what to do.

Use the same principles to protect your control lines and other conductors, especially if they are of any significant length and especially if they make their way outdoors. Install a MOV between each pair of conductors and also a MOV from each conductor to ground.

2) RADIO FREQUENCY

Unfortunately, MOVs can't be used for protecting radio frequency circuits. This includes antennas, transceiver inputs and outputs and transmission lines, etc. Why? Because MOV devices have very high capacitance which serves to short out the signals that you are trying to transmit or receive. Gas-discharge devices (sometimes called gaps) can be used instead. They typically have less than one pico-farad of capacitance and if carefully installed can be successfully used even at UHF frequencies. They are usually more expensive than MOVs. Siemens and Clare (a division of General Instrument) are two suppliers of gaps. For low RF power applications (up to 30 watts or so), such as for protecting your VHF transceiver, the Clare CG90L (90 Volt breakdown) gaps or equivalent are a reasonable choice. For higher power HF operations and particularly where high impedance transmission lines are used, much higher breakdown-voltage gaps must be installed. The Clare CG2350L gap (350V breakdown) will be OK for 100 to 200 watt operation in 50 or 75 ohm feeds provided VSWR is not outlandish. You can calculate the required breakdown voltage for your protector as follows:

V = PxZxVSWRxSF

where V = Breakdown Voltage (Volts),
P = Power (watts) in your cable or at the output of your radio,
Z = impedance at the protected point (usually your coax impedance),
VSWR = Voltage standing wave radio at the protected point,
SF = Safety Factor (usually 2 to 3).

Thus for a 100 watt transmitter using 50 ohm coax and a maximum VSWR of 1.5 we would have V = square root of (500 x 100) x 1.5 x 3 = 318.2 Volts. The safety factor is needed to assure that under adverse conditions of static or other transients, your transmitter does not trigger the gap and short your RF to ground (bad news).

Although I have used gap protection based on a safety factor of only 1.5 for a

LIGHTNING *(cont'd)*

30W VHF installation without ill effect, it would be better not to use an SF of less than 2 or so. The safest is to use an SF of 3. For very high power (you get a linear) or when high impedance open transmission line is used, try two CG2470L gaps in series across the line and another two in series from each side of your line to ground (six in all).

Coaxial Cable requires fewer protective devices and in addition, your typical RG-8 breaks down at about 5600 Volts peak which itself acts to limit surge voltages. On coaxial cable simply install your gap from the centre conductor to the shield and make sure the shield is grounded at that point or close to it.

You can also construct an in-line protector using a small box with two RF connectors and a ground lug. Run a wire from your ground lug to your station ground. Use 12AWG or heavier wire if you can. Or you can use a UHF Tee and use one of the three ports to solder a gap between the centre conductor and shield. You can then wrap that port with Teflon tape that plumbers use and again securely with aluminum or copper foil.

Finally, I should mention that there exist three-terminal gaps to make your life easier in some cases and consist of two gaps joined together. An example is the PMT3(310) series made by Clare.

As in the case of the MOVs, you may wish to actually dig into your equipment and install protection inside your radio gear as opposed to installing it on the coaxial lines or elsewhere outside. This will give you portable protection. Also, in many cases it is advantageous to install protection both at the antenna and at your radio. This will give you some protection for your transmission lines, connectors, baluns, etc.

IFS AND BUTS

You knew this was coming. None of the above by itself will necessarily protect your gear from a direct lightning hit. You still should use all (?) the knowledge that you have accumulated with regards to grounding your equipment, tower, antennas, etc.

Ideally, you should employ a single point ground (SPG) in your station, to which you bond all your conductors. This SPG should in turn be connected to your tower ground, your utility ground, etc... but this is another subject. I believe the contents of this brief article are reasonably accurate and should provide you with a cheap alternative to the commercial equipment on the market. However, I will not be held accountable if something goes wrong. I have reviewed plenty of references and have plagarized freely in the interests of bringing it all together for Hamdom. ■

START PLANNING FOR SUMMER NOW

Flea Market, Monday, May 7, Skywide ARC, Central United Church, 1 King Street, Weston, Ont. Vendors 1600 hrs. tables $5.00. Door open 1800 hrs. $3. admission Info: VE3DOJ Mel Allen 1-416-276-4450.

Old Tyme Radio Operators Reunion— Thursday, June 21. Meet at Champlain's Monument, Couchiching Park, Orillia, Ont. 1430 hrs. warm up; 1700 hrs. food and cheer, Sundial Inn. $16 per person. Door prizes. Info: Bob 'Ding' Dunn VE3ATK, 318 Short Ave., Woodstock, Ont. N4S 4B1, 1-519-437-7343.

— CARF News Service

WIND PROFILERS WARC '92

Amateurs may be competing with Wind Profilers in the 400-500 MHz band at WARC '92.

Nothing so far in the Preparatory Committee's work for WARC '92 that would bear on the HF Amateur bands. HF broadcasting has not been mentioned. However, Environment Canada is interested in the use of the 400-500 MHz band for wind profilers and is heading a working group preparing information on spectrum needs for these radars. Amateurs, recalling the Egbert discussions, will be responding to this development.

Second Annual RTTY Roundup Jan. 6-7, 1990

This was a contest for the Computer buffs! The modes were to be PACKET, AMTOR, and ASCII. The contest period was from 1 p.m. Saturday to 7 p.m. Sunday with a time limit of 24 hours of operation and two compulsory rest periods of 3 hours each. Of course, there were the usual categories of Single operator-Multi band, Multiple operator-single transmitter, etc.

It sounded like a fun deal and not too strenuous, so we decided to get our feet wet and learn something about the new modes of contesting for me. And let me tell you... a learning experience it certainly was!

The first order of business was to review the operating commands for the PK 232 and attempt to commit them to a near non-existing memory hi! This exercise revealed the need to learn how to employ the 'Soft Keys' of which there are 20, in the PK-232 TNC. These may be described as 'macros' which would accommodate short messages such as 'CQ', 'Signal Report', 'Sign Off' and 'QRZ'. These macros saved an incredible amount of typing (which I'm not good at in the first place).

These messages could be readily called up by ALT/F1 (or F2, F3, etc.) key operation and a complete contact would result with nothing more than commanding the transmitter ON and OFF.

Now for the 'on the air' acid test.The first two hours netted a meagre 10 contacts per hour. Then we got the hang of it after having some supper and deciding to really get with it. The next hour saw 23 contacts in the Log! Logging to disc was another process to be learned as part of it all.

Band conditions might be described as good and there were any number of stations on the air. However, the AMTOR stations that I monitored did not seem to be in the contest as they were 'rag chewing'. The only packet contact I made was with VE3FJH across town. Frank did very well on packet though.

The 80, 40 and 20 metre bands worked out well, but Murphy reared his ugly head when it came to operating on 21 and 28 MHz. The TNC would trigger the Tx ON but it would not shut it down... neither would the keyboard command, perhaps as the route for the signal was the same. A lot of time was spent studying this phenomenon in an effort to make it work. Tests seem to indicate that it was an RF feedback problem, so these two bands were abandoned.

Our first contact was VE2OWL and it wasn't until near the end of our operating time that we worked our second Canadian, VE7ZZZ. PA0RKT was called, but in vain. The rest of the 77 contacts were all American, spread from coast to coast and the Gulf to Lake Superior. It was fun, guys, you should give it a 'GO'. ■

Reino VE3AC in
Packet Radio North

DC to DC Car Adapter

By Larry Nason VE1CX

How many times have you been using your handheld in the car when the battery dies in the middle of your conversation? How many times have you had the handheld in the car but did not turn it on, so as to save the battery for when you really need it? Anyone who uses their handheld in the car without a DC to DC adapter has probably experienced one of these situations.

I have included a schematic and parts list for a DC to DC adapter which will take your car's 12 volts and reduce it down to an adjustable 9VDC to 12VDC, at 1.0 amp. max. The input voltage to this adaptor can be anywhere from 11 to 16 volts DC. The 2SB633 transistor must be heat-sinked. The entire circuit will fit into a Radio Shack enclosure Cat. no. 270-230. This enclosure has an aluminum cover which could be used as a heat sink.

The input can be connected to a standard cigarette lighter plug with a 2.0 amp fuse in line. The output will have to be tailored to the appropriate jack which will fit your particular radio. Remember to get the polarity correct on the output jack to your radio and the cigarette lighter plug.

The 1K pot is used to adjust the voltage from around 9VDC to 12VDC. You will need to find out the correct voltage that your handheld requires, usually marked on the battery pack. Always remember to have the power switch turned off on the handheld while inserting or removing the adapter jack.

If one wanted, a small LED in series with a 100 ohm resistor across the input of the adaptor could be used as a power indicator. This could be mounted through a small hole in the enclosure. Do not install the LED without a resistor in line, as the LED will be destroyed.

It must be noted that not all manufacturers of handhelds conveniently install input adapter jacks in their radios. If yours does not have one, one can be installed if space permits. You will have to decide whether it is worth the effort. Very small mini-jacks can be used which take up little space.

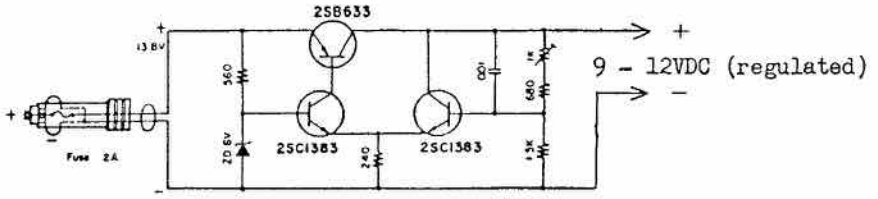
NOTE: This adapter can only be used in cars with battery voltages of 12 volts and having a negative ground system.

PARTS LIST

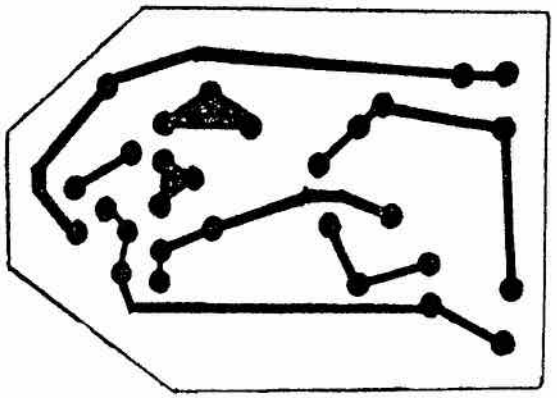
one each 1K pot.
one each 560 ohm resistor
one each 680 ohm resistor
one each 240 ohm resistor
one each 1.5K resistor
two each 2SC1383 transistors (NPN)
one each 2SB633 transistors (PNP)
one each 0.01 uF ceramic discs
one each Zener diode 6 volts (Radio Shack 1N4735 - 6.2 volts will do.

Miscellaneous Parts: cigarette lighter plug, two amp fast flow fuse, appropriate jack for input to radio, enclosure (Radio Shack enclosure cat. no. 270-230 will do), LED plus 100 ohm resistor (for power indication if wanted). ■

DC TO DC SCHEMATIC

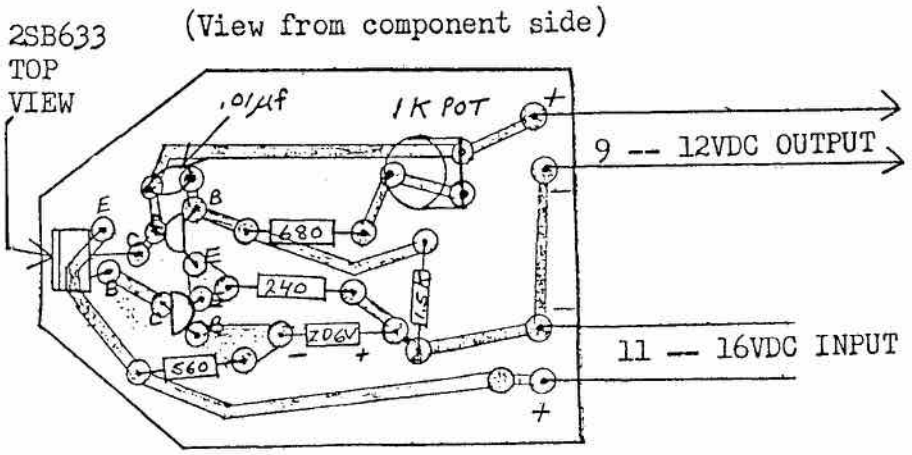


Printed Circuit Board Details



White area = etched
Black areas = unetched

X-RAY OVERLAY VIEW



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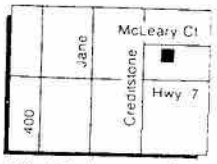

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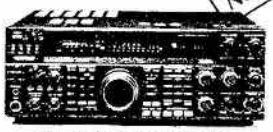

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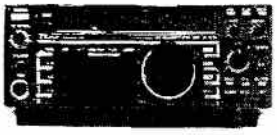

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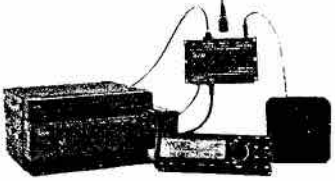

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