



the canadian amateur

Volume Two

May 1974

Number Five

Amateur Licences Possible for the Deaf

From two points comes news of teletype machines connected to residence phone lines for the use of deaf persons. A recent news item from Toronto noted the use by a deaf person of a teletype machine on his phone line to 'call' the police when he was a witness to a robbery.

The item stated that he was using a machine which the CNR donated to him in a program to assist the deaf with their surplus equipment. It is believed that this item is based on the operation of a program started by Toronto chapter of the Telephone Pioneers to develop and manufacture at a low cost an acoustical interface equipment between telephone and teletype. The telephone men worked with the Ontario Hearing Society to produce the black boxes.

A group of some 50 deaf persons have the same machines in Vancouver while the SONRA bulletin notes a similar program in Newfoundland sponsored by the Newfoundland School for the Deaf which is looking for Model 15 or Model 19 surplus machines to connect to the Newfoundland Telephone Company coupler. It permits the deaf subscriber to dial a number then communicate with a called party on a similar set-up. The system is being extended to allow these calls to be hooked into the continental standard emergency number of 911, which progressive telephone companies and municipal governments are adopting.

It would appear that a logical step for the Amateurs who are interested in helping the blind and physically handicapped to explore the possibility of putting together visual aids for deaf persons to become Amateurs and to operate a station. There is no reason to believe that the DOC would not waive the requirement to "receive BY EAR" the Morse code. After all the Department waived the

next part of that quote, from Section 110(z)(b) of the General Radio Reg's, part II..."AND WRITE LEGIBLY..." in the case of blind operators; and thousands of Canadians learned to read Morse by Aldis lamp during their Armed Forces service.

How about that idea...anyone interested in pushing it? Let the Federation know...Box 356, Kingston, Ont., and it will publicize such efforts in these columns.

U.S. 450 MHz

MORE ON THE 450MHz LOSS
BY U.S. AMATEURS

It has already been reported that U.S. Amateurs believe that they will lose the top 100 kHz of the 450 Mhz band to the new U.S. Emergency Medical Service. The reasons are made clear in the January issue of Electronics Magazine. First of all, to knock the EMS, due to its lifesaving potential, is like being against motherhood. The second and by no means least reason is manifest in these quotations from that magazine..."(it) is expected to create a good market in medical communications and electronic emergency equipment...". For a community of 2 million people the network "cost 2 million dollars in communications equipment alone". The promoters of EMS are after about 20 uhf duplex channels "from 450 to 470 mhz..."They want also to take "three military frequencies and three other Amateur frequencies...". With the heavy artillery ranged against them the U.S. Amateurs are about to concede defeat on this one.

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From the Front Office

Last year the Board of Directors authorized the issuing of Honorary Associate Membership in the national Federation to outstanding Amateurs. To date four such memberships have been granted - Harry Dannals, W2 TUK, President ARRL; Noel B. Eaton, VE3 CJ, President nominee IARU; William J. Porter, W3 AAC, U.S. Ambassador to Canada; and Charles Harris, VE6 HM. Mr. Harris was granted this honor in April 1974 to signify the appreciation of the Federation for his many years of dedicated public service work in supplying communications.

We note, in a recent issue of QST, that a survey of Amateur characteristics had been conducted by an independent research firm in the United States and several interesting statistics had been published. The average age of Amateurs has climbed to around 47 (which age coincides with the recent DOC referendum); half of the Amateurs are professionally employed in some phase of electronics; rag-chewing is by far the most popular operating activity; and the recent increase in U.S. Amateur fees resulted in eliminating a lot of "deadwood". The survey also showed that over half (66 per cent) of the Amateurs polled read QST and the national Federation heartily agrees with the remark made by the Editor QST "We think our official journal is entitled to take a bow".

From time to time we read in provincial, association and club bulletins, articles, reports and "squibs" about some problem or event that has raised a query on Canadian Amateur activity. The Federation does have the necessary personnel and administrative machinery to obtain authoritative answers to these and would appreciate direct requests being made to Box 356.

NEWCOMER AND YOUTH TRAINING IN GERMANY

There is an interesting article found on page 117 in the January issue of 73 magazine. It originally appeared in an European publication and outlines the growth of D.A.R.C.- the German national Amateur radio society - and its work in publicising Amateur radio... This has resulted in an annual increase of 8 per cent (1200 new Amateurs).

It appears that there are three classes of Amateurs in Germany - a receive only class (DE) which requires passing of a Morse test at 8 wpm, a technical and operating examination, and possession of a short wave receiver capable of receiving at least two Amateur bands with elementary frequency measuring equipment; a transmitting class requiring higher qualifications; and a VHF transmitting class that requires no Morse code qualification.

D.A.R.C. attempts to interest persons in the DE class starting at age 12-14 by encouraging Amateur radio in schools, by holding seminars on instruction at this level, and by sponsoring "vacation courses" organized annually by geographical districts.

The DE, receive-only class, and VHF-only class are two classes not found in Canada and might be worth investigating as a solution to our problem of attracting youth into Amateur radio and to populate our VHF/UHF frequencies. The Federation would welcome reasoned comment.

Your National Executive



Thomas B. J. Atkins - VE3CDM

Tom Atkins, VE3CDM, is presently Ontario Director for the Canadian Amateur Radio Federation Inc. He is also currently First Vice-President of the Radio Society of Ontario Inc. and has been a Director for the past three years. Tom has also worked for R.S.O. as a Metro Toronto Delegate, Chairman: Public Relations and Associate Editor of The Ontario Amateur.

His first formal association with amateur radio began in 1943 and he joined the Radio Society of Great Britain. He holds the call G4ABN, having passed his examination for a British amateur licence in 1950. He became active as VE3CDM in 1968.

Tom is a former member of the Executive of the West Side ARC of Toronto, past Chairman: Public Relations, for the Ontario Science Centre ARC, and most recently was one of the founding members of the Ontario ATV Association. Other amateur radio affiliations include membership in the Canadian Division of the A.R.R.L., Toronto FM Comms. Socy., Canadian DX Association, and the Royal Signals Amateur Radio Society. Tom is active on 80 metres through 75 centimetres - his latest interest is fast-scan television on 439MHZ. He is also trustee for the Club Calls VE3RSO and VE3XTV.

Other facets of his background include twenty-six years of active and reserve military duty, starting with the R.N.V.R. in 1943 and concluding with retirement from the Canadian Army Supplementary Reserve of Officers in 1969. During this service he was involved with many different aspects of military communications. He is interested in boating and has been both a member and instructor in the Canadian Power Squadrons for a number of years.

Tom is the President of Independent Communications Sales Ltd. with headquarters in Toronto. With his wife and two daughters he lives in Willowdale.

It seems to us...

Have the fun, thrills and adventure vanished from Amateur Radio?

The old-timer will always remember the wonderful feeling that occurred when the 'pile of junk' he had just built was first put on the air and his first QSO took place. That tremendous feeling of accomplishment...the realisation that a piece of equipment fabricated with his own two hands now enabled him to enter into the ranks of the radio experimenters...is no longer experienced by the Ham neophyte - and more's the pity. The pride and prestige when his 'single 807' (that was a tube, young man, not a bottle of brew) managed to put a signal across into Europe can never be matched by working the far ends of the Earth using modern-day, commercial equipment.

Go to any Ham club meeting these days and usually all you will hear is a discussion on the respective merits of US, British and Japanese manufactured transceivers, their ease of tuning, their various gimmicks, their expected re-sale value, and where to send them for repair. These are not Amateur experimenters talking, these can only be classed as amateur communicators. No longer do we hear talks about antennas and best ways to tune, test and rotate same; now it's whether to buy this or that breed of tri-band beam and will a heavy-duty TV rotator handle it...and don't fiddle with it after purchase but put it together as per manufacturers instruction

For a short while Two Meters opened up a field full of Amateur derring-do even if only to take a worn-out, ex-taxi radio and make it work better than the original manufacturer dreamed possible. But now we are back to the normal modern trend - is the new Heath kit a better buy than the.....rice-burner complete with twenty odd channels. There is a refreshing, experimental outlook amongst repeater licencees but we do hear tales that a group out West has managed to obtain a federal grant of some thousands of dollars to put up a first class (commercial) repeater for, we gather, use in emergencies and in public service operations.

To end this soap-box oration, we are now informed that an international frequency conference will be held in the late 1970's---has any one any bright ideas how our representatives can justify the continued existence of the Amateur EXPERIMENTAL Service???

DOC NEWS

A letter received from DOC Ottawa thanking the national Federation for our comments on FCC Docket 19880 - Emergency Medical Service communications possible use of a portion of the US 450 MHz Amateur band - and assuring that all comments received shall be taken into consideration.

A reciprocal Amateur licencing agreement has been concluded between Canada and HONDURAS, effective 4 April 1974. This agreement enables Amateur station licencees of either country to obtain authorization to operate their stations while temporarily in the other country.



Canadian Repeater Advisory Group

The accompanying 220 mHz frequency plan is recommended by the American Radio Relay League for use in the U.S.A. It would appear to be suitable for use in Canada. Comments on its application to Canada are invited from CRAG correspondents and other interested parties.

In view of recent events in the United States concerning the proposal to allocate 224-225 mHz to the Citizen's Radio Service (CB) in the United States, the prospects of its succeeding has dimmed and the 220 band plan therefore includes this last megahertz in the Amateur allocation.

220 mhz BAND PLAN

Control Links	220.30 - 222.00
Repeater Inputs	222.30 - 223.40
Simplex	223.40 - 223.90
Repeater Outputs	223.90 - 225.00

REPEATER CHANNELS
27 channels

13

SIMPLEX
CHANNELS

Input Output

222.34	223.94	
222.38	223.98	
222.42	224.02	223.42
222.46	224.06	223.46
222.50	224.10	223.50
222.54	224.14	223.54
222.58	224.18	223.58
222.62	224.22	223.62
222.66	224.26	223.66
222.70	224.30	223.70
222.74	224.34	223.74
222.78	224.38	223.78
222.82	224.42	223.82
222.86	224.46	223.86
222.90	224.50	223.90
222.94	224.54	
222.98	224.58	
223.02	224.62	
223.06	224.66	
223.10	224.70	
223.14	224.74	
223.18	224.78	
223.22	224.82	
223.26	224.86	
223.30	224.90	
223.34	224.94	
223.38	224.98	

Calling freq.

Channel spacing
is 40 Khz

*It has been suggested that in any new area, allocations start with 222.34/223.94

Out of a CRAG list of 82 repeaters, the following in order of popularity, is the usage of the frequencies in the suggested Canadian repeater frequency plan. (This list does NOT show repeater channels, but rather the occurrence of input frequencies and output frequencies alone).

INPUT	OUTPUT
146.46 mHz 32	146.94 mHz 29
146.46 mHz 32	146.94 mHz 29
146.34 mHz 21	147.06 mHz 10
146.16 mHz 4	146.76 mHz 4
146.28 mHz 4	146.88 mHz 3
146.22 mHz 2	146.82 mHz 2

Out of 32 146.46 inputs, nine are out on 147.00 but five of these are in Alberta, which is contemplating changing to 600 kHz standard input-output spacing on these five. If they are changed and retain the present 146.46 input, this will give "94 out" a total of 34.

Most repeaters in Canada are now using, or will use, the standard spacing. Those not using the suggested Canadian plan pairs are mostly in congested areas of southern Ontario and British Columbia. Most of them have chosen ARRL plan pairs to supplement the five Canadian plan channels; 34/94, 46/06, 16/76, 22/82 and 28/88.

Region 1 Beacon Stations

A listing of 10 and 6 meter beacon stations that might be heard by Canadian operators:

5B4 CY-Cyprus 28.180 MHz	GB3 SX England 28.185 MHz
3B8 MS-Mauritius 28.190 MHz	DLO IGI-Germany 28.195 MHz
DLO AR-Germany 29.000 MHz	ZS6 S. Africa 50.100 MHz
ZC4 VHF-Cyprus 50.500 MHz	

HOW TO LIST YOUR REPEATER

Due to lack of response, the Canadian Repeater Advisory Group will not pursue the publication of a Canadian repeater directory. The ARRL repeater directory covers Canadian repeaters and hence Canadian repeater groups should register with it.

Registration of all Canadian repeaters in this directory should be through CRAG where Howard Cowling, VE3WT, St. Catherines will provide the formal channel to ARRL headquarters.

Repeater sponsors are reminded that registration before May 1, 1974, will ensure their inclusion in the 1974 Directory. Forms CD85A may be obtained by writing to Howard Cowling, VE3WT, 67 Dunkeld Ave, St. Catherines, Ont. L2M 4A8, or to Lyle Ward, VE3CEZ, 2188 Iris St, Ottawa, Ont. K2C 1B3.

U.S. AMATEUR REPEATER REGULATIONS EASED

News from ARRL sources reveals that long and loud protests by U.S. amateurs at absurdities in the FCC repeater regulations passed over a year ago have resulted in the deletion of regulations requiring certain technical data be submitted to the FCC with the application for the repeater licenses. Instead it is to be entered in the repeater log.

This stifles some of the criticism but also gets the FCC off the hook in its problem of processing the mountain of paper work resulting from the original regulations.

In an FCC order dated January 11, the Fcc, seeking to still the troubled waters states: "It is evident to us, from the experience gained in processing almost 500 applications for amateur repeater stations, amateurs have developed the knowledge and capability to properly determine the parameters of antenna height above average

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terrain and effective radiated power, in accordance with our rules. Therefore, data on these parameters are changed from application requirements in Section 97.41 (f), to logging requirements in Section 97.111(f). This revised procedure will benefit applicants, since they will no longer need to include data with their applications. It will also benefit repeater station licensees, since they must no longer submit proposed changes to the Commission, before making modifications to their stations which would change these parameters. It will benefit the Commission, since it will not be necessary for us to review and approve data. Therefore, these amendments offer mutual benefits to amateurs and to the Commission."

CHANGES TO CRAG BULLETIN NO 2 FEBRUARY 1974

On page 4 of Annex 1 to the above bulletin make the following changes to bring the British Columbia list up to date, according to the BC FM Communication Association's Bulletin: DELETE: under 146.28/146.88 "VE7CNR", ADD:"146.04/146.64 VE7CNR", "146.31/-146.91 proposed BCFM Assoc. repeater", "147.81/147.21 VE7ES, proposed Totem repeater".

On page 4 of the Bulletin, before para. 2, ADD: "The Canadian Amateur Radio Federation states that it was not asked by ARRL or IARU to comment presumably.....".

On page 4 of the Bulletin, at the end of para. 3 ADD: "....the Federation noted."

opinion

In reply to the article in February 74 Canadian Amateur on the U.S. 450 Mhz situation, we are strongly against permitting these frequencies 220-225 Mhz and the high end of our 440-450 Mhz band, in particular, to be taken from us or rendered useless in whole or in part for any reason without a fight.

We the technical and executive of the SJARA are in the third successful year of operation of our two meter

repeater VE1KI. We on the technical committee are also employed in the electronic industry and believe that our experiences and experimentation in this phase of Amateur Radio has better equipped us to cope with similar technical difficulties we become involved with outside Amateur Radio.

This summer we are going to be doing a lot of experimentation on 440-450 Mhz with up-links, down-links and the like. We not only do this for the enjoyment we get out of it, but to provide as good and reliable a mode of communication and control as possible. This repeater as well as most others has provided a public service with assistance summoned from the scene of accidents saving precious minutes which means a life saved or a life lost.

Having these present communications at our fingertips and with our proposed use of the U.H.F. frequencies, we hope to have a reliable communication facility available to all amateurs and always ready for any emergency should the need arise.

We feel that the existance of amateurs on two meters has been more than justified and it will be only a short time till their effect will be felt on the bands now in question.

We cannot see any long term success coming from the allocation of the 224-225 Mhz segment for C.B. use in the U.S. A typical C.B. day can be heard on any of the present 23 27 mhz channels now in their control.

As for the 450 Mhz take-over by the E.M.S. we feel this to be completely unnecessary. We would suggest they persue the use of frequencies 450-1250 Mhz and leave the Amateur Experimental Service to setting up and maintaining a communication facility which cannot be duplicated at any cost.

D.R. Welling, VE1ACU,
Secretary,
Saint John Amateur Radio Association

canadian capsule comment

B.C. NEWS

H E Kirk, President BCARA, has informed the Federation that the Association has changed its constitution from an association of Amateur radio clubs to one of individual members. This has resulted in administration and financial problems. As this may affect their membership in the national Federation, the CARF Board of Directors have requested full details so that suitable arrangements may be made for the continuance of BCARA as a charter member until their problems have been overcome.

SASKATCHEWAN NEWS QSO

At 0110 hours, 23 November 1973, Lee Cheney, VE5 UZ, PINEHOUSE LAKE, was advised that a local Cree Indian needed immediate medical aid. Regular communications were out and a call raised W5QQQ/& in TACOMA, Washington who was asked to contact a Canadian station to supply a plan and Doctor. Chip, W5QQQ, raised Pete, VE7 BXK, PORT ALBERNI, who contacted the RCMP. Shortly after, VE7 AOA, came on frequency and patched through VE7 CEX (a M.D.) who gave information of First Aid to stop bleeding. The plane was scheduled to arrive around 4:00 AM and this necessitated a round-up of snowmobiles to light the runway in Pinehouse Lake. The injured man survived, in good condition, and the Doctor later informed Lee, VE5 UZ, that without the immediate First Aid given, and the speedy arrival of medical help, the patient would not have survived.

Congratulations to Lee, VE5 UZ, Chip, W5 QQQ/&, Pete, VE7 BXK, Gerry, VE7 AOA and Dr. MEL, VE7 CEX.....a very FB job - we are all proud of you.

R.A.Q.I. NEWS

Les administrateurs de R.A.Q.I. met at Drummondvill, Quebec on 6 April 1974 and elected the following officials for the current year: President: Mr. Jean-Louis Tetreault, Vice-President: Mr. Jean Pepin, VE2 NT, Secretary-Treasurer: Mr. Bernard Cote, VE2 AP.

R.S.O. NEWS

The Ontario Amateur

The Radio Society of Ontario recently conducted a survey among its members with some interesting results. Approximately 400 of their members responded with answers, giving the following data:

"What other Amateur publications do you subscribe to" - QST 66 per cent; The Canadian Amateur 32 per cent, Ham Radio 19 per cent, 73 17 per cent, CQ 12 per cent, Radio Communications 4 percent.

"How many years licenced" - 0-5 31 per cent, 5-10 14 per cent, over 10 55 per cent.

"Bands used" - 75/80 80 per cent, 20 66 per cent, 40 59 per cent, 2 43 per cent, 15 42 per cent, 10 25 per cent, others 1 per cent.

"Modes used" - SSB 70 per cent, CW 59 per cent, FM 40 per cent, AM 7 per cent, RTT 6 per cent, Other 2 per cent.

I.A.R.U. NEWS

Region 1 News

Editorial note: Region 1 includes Europe and Africa, not North America. Unfortunately no news or information has yet been received detailing Region II activities.

DANGER

the amateur frequency bands above 30 MHz are regarded with desire by the representatives of other services. With the increase in the demand for frequencies, particularly for all forms of mobile [land, sea and air] activity, the Amateur service will have to fight hard to retain its allocations. For the same reasons that other services are demanding additional frequencies, the Amateur services require enlarged band to accommodate the thousands of new Amateurs and to enable them to communicate and experiment without intolerable interference.

The main reason for the existence of the IARU is to co-ordinate the ideas and efforts of the National Societies. In order to succeed in its aims at ITU conferences, the IARU must present a co-ordinated plan acceptable to as many national administrations as possible. The IARU can not approach a national telecommunications administration[such as the DOC], except at the specific request of the society concerned and this request would not usually be made. Therefore the liaison with each national telecom admin must normally rest with each national society.

Examples of danger to Amateur VHF/UHF allocations are the recent restrictions placed on French Amateurs. The French PTT is a member of the European PTT Group which includes most of the administrations of Central and West Europe. Their example must not be followed by the other administrations.

AMATEUR RADIO ENDED IN YA

By order of the Minister of Communications of the Republic of Afghanistan on 18 August 1973, all Amateur radio activity in this country has been ended and equipment used for that purpose sequestered by the Ministry. Until this ruling is modified to permit such activity, there will be no further activities of an Amateur radio nature emanating from Afghanistan.

In sending out this notice, we do so with our thanks for all the co-operation, good fellowship and technical assistance that has been afforded to the radio Amateurs in Afghanistan and hope that someday, somewhere, we may see you again. The radio Amateurs of Afghanistan

BRAZILIAN CALL AREAS.

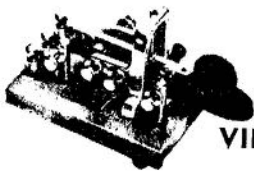
Brazil now has eleven distinct call areas. The Federal District of Brasilia is "PT", "PY1 to PY9" refer to call areas within continental Brazil and "PY" refers to Fernando de Noronha Island, St Peter and Paul's Rocks, Trinidad and Martin Vaz Islands lying off the coastal area.

AMATEUR TV DEMONSTRATION

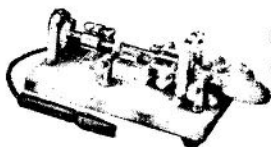
The Ontario Amateur

The Burlington, Ontario ARC hosted the Ontario ATV Association at their February meeting and were treated to a fast scan ATV demonstration and technical presentation. Tom Atkins, VE3 CDM, Dan Robertson, VE3 FOV and George Davis, VE3 BBW, travelled from Toronto with a station-wagon load of equipment to show and explain what it is all about. A short video-tape recording of off-the-air transmissions was shown as well as a typical station set-up, complete with live monitor pictures of the meeting proceedings.

The enthusiasm and interest by the audience was most gratifying for the first public demonstration of fast scan ATV given by the Association.



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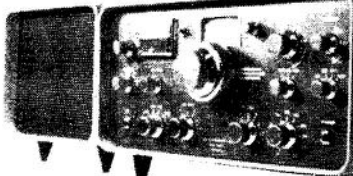
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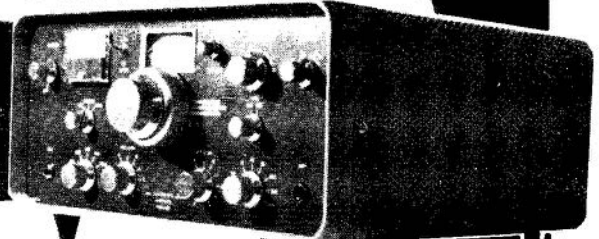
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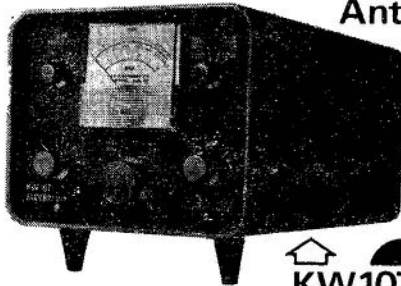
KW204



KW202

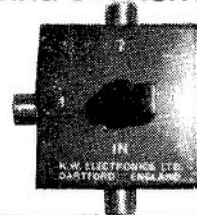


KW1000



KW107

Antenna Switch

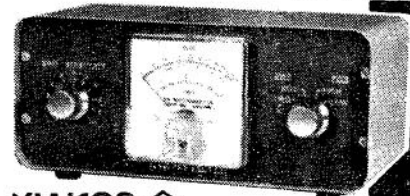


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ARRL NEWS

The diplomatic and legislative ranks of the world embrace few amateurs, as we noted in a recent issue. But to add to the number, Art Meen, VE3RX, Toronto, has been elevated to the Ontario Cabinet as Member of Finance. As a consequence of accepting this appointment and its work load, Art has regretfully resigned as legal counsel to the American Radio Relay League's Canadian Division.

CLARA

Two Amateur Radio Clubs have chosen YLs as their Amateur of the Year. Freda Musket VE7TH has been awarded the MERIT AWARD for Victoria Short Wave Club, for her outstanding contributions to the club.

Cathy Hrischenko VE3GJH was voted Amateur of the Year by the Scarborough Amateur Radio Club for her club efforts. She was also top scorer for the Trillium Week-end Contest.

Number 1 YL-DXCC Award has already been achieved by none other than Howy Bradley W2QHH who has a total of 121 countries. So he not only has the certificate, but also the first! Congratulations Howy from CLARA.

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

Cathy VE3GJH

FOR CONTEST FANS...

Two unique contests sponsored by faraway places are on the board this year. From ARRL sources comes a notice form from the Argentine Radio Club that they are running a DX contest in August in the 48 hours from 0000GMT August 10 to 2400 GMT August 11. From the Far East comes notice from the Japan Amateur Radio League that it will run an "All-Asian" DX Contest on phone on the third weekend in June, with a CW contest on the following weekend.

Details of these contests will be in your favourite U.S. monthly magazines.

VE1 'P.L.' CLUB GETS NEW MEMBERS

Two well-known and very active Maritime amateurs have taken up hamming full time now. Art Wentzell, VE1YE and Brit Fader, VELFQ, joined the professional loafers association on a full-time basis at the first of this year. Brit is known far and wide in Eastern Canada as the guy who for more years than one cares to count served as the genial NCS for the Maritime Net.

THE CANADIAN D-X ASSOCIATION

The Canadian D-X Association - CANAD-X - publishes a Bulletin - LONG SKIP - that is of particular value to any Amateur interested in working that elusive foreign station. CANAD-X also has an out-going QSL service available to members. Full particulars can be obtained by dropping a line to CANAD-X, PO Box 717, Stn'Q', TORONTO 290, Ont.

DEVELOPMENT OF 2M FM IN ITALY

In the last three years the increase of this mode of communication has been noticeable, the users now numbering nearly 1,000. A meeting was recently held at Ferrara of representatives of nearly all Italian regions. The main objective is to cover the whole national territory by a limited number of repeaters. Experimental repeaters awaiting licencing now number 29 which cover almost all of Northern Italy but only a limited percentage of the South.

CANADIAN WINTER CAR RALLY
TESTS AMATEUR COMMUNICATIONS

The 22nd annual running of Canada's Rally Classic, from Toronto to Ottawa and return, from 8 to 10 February, was based on the European format. This involved a variety of specially selected stages over public and private roads linked by slower highway transit sections. The success of the event depended on fast, efficient communications between 'Selectives' and for passing information to the various Rally Officials stationed at 'Passage Controls' and to the 'Result Controls' where boards denoted the standings of the competitors.

The Rally started at 6:30 p.m. Friday from Toronto with competitors arriving in Ottawa Saturday morning. Rally resumed at 6:00 p.m. Saturday with scheduled finish Sunday afternoon - total mileage about 1200 miles, with 38 Selectives. Each Selective had an amateur station positioned at Start and Finish with the Selectives in use being closed to normal traffic and competitors timed over the stage.

Communications between Selectives, to Rally officials and to Base stations were normally performed on 2 meters, direct and through repeaters, with Base stations linked through 75 meters. Over 75 Amateur mobiles were in operation during the Rally, several travelling over 300 miles to get into position and all spending over four hours in the back country, many in sub-zero conditions.

The Rally was a gruelling affair with 13 out of the original 93 cars finishing. Indications are that this type of Rally will be followed in future events. Communications are vital to their success and supplying this need will be one way in which Amateurs can demonstrate our expertise, knowledge and adaptability.

A considerable amount of organization and administration will be required and this could be a worthwhile field for the provincial Amateur organizations to enter. This type of communications, and problems involved, is very similar to communications that would be necessary in emergency situations and would be of tremendous value in the organization and training of the Canadian Amateur Radio Emergency Service.

One Rally Official commented, "I only wish that the Rally Officials were half as well organized and efficient as your bunch."

BANGLADESH JOINS ITU

The Government of the People's Republic of Bangladesh, whose application for admission as a Member of the Union has been accepted, has acceded to the International Telecommunication Convention, Montreux 1965. The instrument of accession was deposited with the General Secetariat ITU on 5 September 1973 and on that date Bangladesh officially became a member of the Union. There are now 146 members of the Union.



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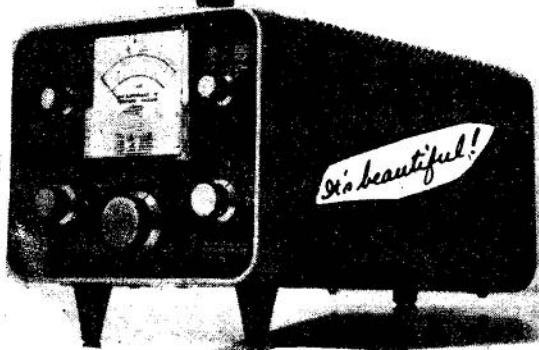
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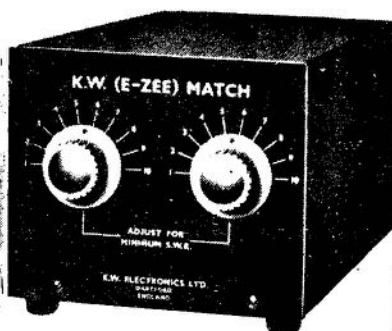
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CANADA

V7P - 2L6

A Small City, Local Coverage Repeater

Installment Two

The Kingston repeater - VE3 KER - is located in the service penthouse (17th floor) of Elrond College, one of the highest locations in the area.

The antennas are coax ground planes that give 4.5 dB gain with the receive antenna mounted on a 20 foot mast above the penthouse. The transmit antenna is mounted similarly on the roof of the 15th floor, at the opposite end of the building from the receive antenna and shielded from it by the penthouse structure. The receive antenna is omni-directional while the transmit antenna radiation is curtailed to the south-east.

RG-213/U is used for both feed-lines, 30 feet for receive and 120 feet for transmit, and no interaction between the two antennas has been detected and cavities are not required.

In installment 1, we observed that there was a desensitization problem. This was traced down to generation of wide band noise from the transmitter driver stages getting into the receiver front end internally. This was overcome by feeding in a weak signal to the receiver and carefully tuning the driver stages of the transmitter until the receive meter reading limiter current showed no increase, or decrease, when transmit 'on'.

A rule of thumb: if transmitting gives an increase in limiter current that can not be overcome as above, then a cavity is required in transmit line; if a decrease in limiter current is noted, the cavity is required in the receive line. Care must be taken when tuning the driver stages that sufficient drive is maintained to the final amplifier so a constant check must be made on meters reading limited current, drive current and final amplifier current and power output.

The receiver/transmitter used in VE3 KER is a Motorola 140D, suitably modified for repeater operation with a husky power supply. The receiving preamp is an 'exotic' type using a pair of JFETs in a shielded, triple compartmented enclosure, (QST, July 1972, p. 18), and this has outperformed every preamp tried.

Receive audio is taken off through a 12AU7 cathode follower from the grid of the 6AQ5 audio amplifier stage. (Experimented with using pre-squelched audio to produce a 'noise tail' but this proved unpopular with the users). The system is wide-band with the transmitter deviation set at plus or minus 10 kHz to accommodate narrow band equipment.

The control system, fully solid state, is contained on a separate sub-chassis and holds the carrier operated relay, (COR), two minute and five minute timers, audio interconnections and tone decoder for remote control.

The code identifier is separate and has an additional timer that turns on the transmitter every two minutes

This beacon type operation has done away with the plague of 'kerplunkers', checking to see if the repeater is still operating.

All audio circuits are 600 ohm with screwdriver pre-set controls on the receiver take-off, code identifier output, station mike, transmit deviation control and a master knob control feeding into the transmitter audio. All circuitry used is 'standard' and has appeared in major Amateur publications.

The terrain around Kingston is notably poor for VHF propagation.

There are ranges of hills running East to West that seriously curtail coverage but reports indicate that mobiles can effectively work through the repeater from approximately 35 miles in any direction.

Mobiles coming from the East experience a gap between Brockville and Ivy Lea on Highway 401 (although a new repeater in Watertown NY, USA 146.16/.76 should cover this), and from the North there is a gap between Smiths Falls to Joyceville on Highway 15. However, from Kingston west to Windsor there is solid repeater access.

The Kingston ARC is involved with the local EMO communication system and has, over the years, been instrumental in the installation and maintenance of the stations used throughout Frontenac county. In addition the club is committed to supply local coverage communications in emergencies and the repeater plays a key role in this, as it is connected to an emergency power source.

It has proven its worth in several emergency exercises and in the supply of communications for 'Miles for Millions' and the like. And has proven to be a unifying force for the local Amateurs judging by the comments made at every club meeting and on-the-air.

NOTE: GUYANA and NICARAGUA are now included in the list of Third Party Traffic agreements on the facing page.

OPTIMUM TIMES (GMT) FOR LOCATION NOTED TO WORK MIDDLE EAST

Note: 1-No 15 meter operation forecast between Canada and the Middle East.

2-Optimum times listed should be suitable for passing traffic.

LOCATION	20M(GMT)	BEARING	MILES	OPTIMUM TIMES (GMT)
15 May to 15 June 1974				
St Johns	0830 -2400	72.13	4489	1000 -2230
Halifax	0930 - 0130	64.39	5040	1100 -2230
Fredericton	0930 - 0130	61.79	5140	1130 - 2230
Quebec	1030 -0130	59.89	5312	1100 - 2230
Montreal	1030 - Q130	58.15	5456	1100 - 2230
Ottawa	1030 - 0130	56.69	5557	1100 - 2230
Winnipeg	1300 2400	42.18	6100	1300 -1600
Calgary	1430 - 2300	29.03	6470	-----
Edmonton	1430 -2300	29.30	6316	-----
Vancouver	1530 -2300	21.51	6757	-----
15 June to 15 July 1974				
St Johns	0830 - 2400			0930 - 2230
Halifax	0930 - 0130			1030-2230
Fredericton	0930 - 2400			1030 -2230
Quebec	0930 - 2400			1130 - 2200
Montreal	1030 - 2400			1100 - 2200
Ottawa	1030 - 2400			1100-2200
Winnipeg	1230 - 2400			1230 - 1630
Calgary	1430 - 2330			1500
Edmonton	1430 - 2330			-----
Vancouver	1500 - 2330			1500 - 1530

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CARF members may have the emblem added at no extra cost.

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For package of samples, send 25 cents in stamps to: C.A.R.F. QSL DEPT. P.O. Box 356, Kingston, Ont. K7L4W2.

CANADIAN RADIO REGULATIONS HANDBOOK TEMPORARILY IN SHORT SUPPLY

The Canadian Amateur Radio Federation wishes to thank its members for the popularity of the Handbook.

Unfortunately, due to the popular demand for the publication, the Federation has temporarily run out of copies.

As a result, we request that no more orders be sent in for the handbook until the advertisement re-appears in The Canadian Amateur indicating that more have been printed.



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The official journal of the Canadian Amateur Radio Federation offers you news and information on the Amateur scene to aid in the fullest enjoyment of your hobby.

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BANNED COUNTRIES LIST

Cyprus*, Gabon, Irac, Pakistan, Turkey, Libya, Khmer Republic**, Viet-Nam**, Yemen.

*-Amateur operations suspended except for operation on special occasions when call sign 5B4 will be used and communication with all other countries is permitted.

**-Station XV5AC in Viet-Nam and XU1AA in Khmer Republic have been granted permission to communicate with stations in other countries.

THIRD PARTY TRAFFIC AGREEMENTS

Bolivia, Chile, Costa Rica, Dominican Republic, Honduras, El Salvador, Israel, Mexico, Peru, Venezuela, U.S.A. (Territories and Possessions), Trinidad and Tobago.

RECIPROCAL LICENCING AGREEMENTS

Belgium, Brazil, Dominica, Dominican Republic, France, Ecuador, Federal Republic of Germany, Guatemala, Israel, Peru, Luxembourg, Mexico, Netherlands, Norway, Nicaragua, Portugal, Republic of Panama, Senegal, Sweden, Switzerland, U.S.A., Uruguay, Venezuela and Denmark.

Note: All Commonwealth countries are eligible for reciprocal Amateur operating privileges unless evidence that a country does not grant reciprocal operating privileges to Canadian Amateurs.

AUTHORITY TO OPERATE IN THE U.S.A.

The national Federation has copies of the FCC Form 410. This form, properly filled out and stamped, is necessary for Canadian Amateurs to operate their equipment while in the United States. Send a self-addressed, stamped envelope (marked U.S. FORM) to CARF, Box 356, Kingston, Ont. K7L 4W2.

RADIO HANDBOOKS FOR THE FRANCOPHONE

There are two excellent handbooks for the Canadian Amateur, written in French by Canadians. They are useful as a training aid for those who wish to obtain their Amateur certificate.

The books are: "Electronique d'Amateur", published by the Quebec provincial society, Radio Amateur du/of Quebec. It is available from the secretary, RAQI, P.O. Box 1516, Quebec, P.Q. for the price of \$6.00.

"Electrinique Pour Le Radio Amateur" is priced at \$8.50 and is available from Librairie Beauchemin Ltee, 450 Beaumont St., Montreal, P.Q. or Payette Radio Ltd., 730 St. Jacques St., Montreal.

C.A.R.T.G. BULLETINS

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HW-202 SPECIFICATIONS—RECEIVER—Sensitivity: 2 dB SINAD* (or 15 dB of quieting) at .5µv or less. **Squelch threshold:** 3µv or less. **Audio output:** 2 W at less than 10% total harmonic distortion (THD). **Operating frequency stability:** Better than ±.0015%. **Image rejection:** Greater than 55 dB. **Spurious rejection:** Greater than 60 dB. **IF rejection:** Greater than 75 dB. **First IF frequency:** 10.7 MHz ±2 kHz. **Second IF frequency:** 455 kHz (adjustable). **Receiver bandwidth:** 22 kHz nominal. **De-emphasis:** -6 dB per octave from 300 to 3000 Hz nominal. **Modulation acceptance:** 7.5 kHz minimum. **TRANSMITTER—Power output:** 10 watts minimum. **Spurious output:** Below -45 dB from carrier. **Stability:** Better than ±.0015%. **Oscillator frequency:** 6 MHz, approximately. **Multipplier factor:** X 24. **Modulation:** Phase, adjustable 0-7.5 kHz, with instantaneous limiting. **Duty cycle:** 100% with ∞ VSWR. **High VSWR shutdown:** None. **GENERAL—Speaker impedance:** 4 ohms. **Operating frequency range:** 143.9 to 148.3 MHz. **Current consumption:** Receiver (squelched): Less than 200 mA. Transmitter: Less than 2.2 amperes. **Operating temperature range:** -10° to 122° F (-30° to + 50° C). **Operating voltage range:** 12.6 to 16.0 VDC (13.8 VDC nominal). **Dimensions:** 2 3/4" H x 8 3/4" W x 9 3/4" D.

*SINAD = Signal + noise + distortion
Noise + distortion

New Heathkit 2-meter Transceiver ONLY \$237.⁵⁰

It's an all solid-state design that you can build and completely align without special instruments. And this compact little beauty gives you 36 channel capability with independent push-button selection of 6 transmit and 6 receive crystals. 10 watts minimum output into an infinite VSWR without failure. And for the ultimate in convenience there's the optional tone burst encoder for front panel selection of four pre-settable tones. The HW-202 kit includes two crystals for set-up and alignment and simplex operation on 146.94; push-to-talk mike; 12-volt hook-up cable; heavy duty clips for use with temporary battery; antenna coax jack; gimbal bracket, and mobile mounting plate.

- Kit HW-202, 11 lbs., mailable 237.50*
- Kit HWA-202-2, Tone Burst Encoder, 1 lb. 32.95*
- Kit HWA-202-1, AC Power Supply, 7 lbs. 39.95*
- Kit HWA-202-3, Mobile 2-Meter Antenna, 2 lbs. . 29.95*
- Kit HWA-202-4, Fixed Station 2-Meter Antenna, 4 lbs. 25.95*

... and here's 40 watts out for your 10 watts in

The Heathkit HA-202 2-Meter Amplifier works with any 2-meter exciter delivering 5-15 watts while pulling a meager 7 amps from any 12 VDC system. No additional power supplies are required. All solid-state components mount on a single circuit board for easy two-evening assembly. Manual shows exact alignment procedures using a VOM or VTVM. Connecting cable and antenna cable are included.

Kit HA-202, 4 lbs. 89.95*

HA-202 SPECIFICATIONS—Frequency range: 143-149 MHz. **Power output:** 20W @ 5 W in, 30W @ 7.5W in, 40W @ 10 W in, 50W @ 15 W in. **Power input (rf drive):** 5 to 15W. **Input/output impedance:** 50 ohms, nominal. **Input VSWR:** 1.5:1 max. **Load VSWR:** 3:1 max. **Power supply requirements:** 12 to 16 VDC, 7 amps max. **Operating temperature range:** -30° F. to +140° F. **Dimensions:** 3" H x 4 1/4" W x 5 1/2" D.



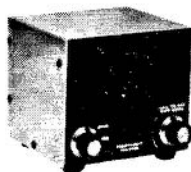
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... then there's this perfect 2-meter tune-up tool

The Heathkit VHF/SWR Bridge tests transmitter output in power ranges of 1 to 25 watts and 10 to 250 watts ± 10% of full scale. 50 ohm nominal impedance permits placement in transmission line permanently with little or no loss. Built-in SWR bridge for tuning 2-meter antenna for proper match, has less than 10-watt sensitivity.

Kit HM-2102, 4 lbs. 39.95*

HM-2102 SPECIFICATIONS—Frequency range: 50 MHz to 160 MHz. **Wattmeter accuracy:** ±10% of full-scale reading. **Power capability:** To 250 W. **SWR sensitivity:** less than 10 W. **Impedance:** 50 ohms nominal. **SWR bridge:** Continuous to 250 W. **Connectors:** UHF type SO-239. **Dimensions:** 5 1/4" W, 5 1/4" H and 6 1/2" D, assembled as one unit. ***Using a 50 Ω noninductive load.**

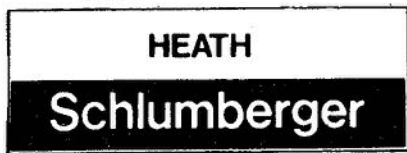


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