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the canadian amateur

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Number Eleven

Oscar 7 : a new amateur satellite

CANADIAN AMATEURS ENTER SPACE AGE FIRST ANNIVERSARY OF A NEW DX BAND

Canadian participation in the amateur satellite programs is taking the form of financial aid, technical construction, command control and operating. Thanks to the author, Ernie Welling, VE3HD, and "Long Skip", the CANADX publication, permission has been given to reprint the following article which appeared in its November issue.

Amateur radio's satellite, Oscar 6, has completed one year of successful operation. It is due to be followed next spring by Oscar 7 which will have a Canadian beacon partially funded by CANADX.

Still going strong after more than 4500 orbits, the 40 pound Oscar 6 spacecraft provides contacts up to 5000 miles with a one watt repeater that transmits 10 meter output from 2 meter input. Many regular users have had contacts with three continents and several dozen countries. Scheduled operation currently has the satellite available for evening orbits only on Monday, Thursday and Saturday (GMT).

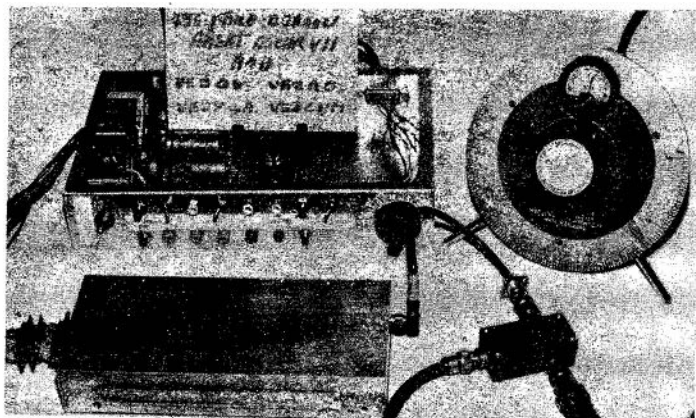
In its first ten months of operation the satellite has been used by approximately 1400* amateur stations, nearly half of them in the United States. It appears from reports made to AMSAT (the Radio Amateur Satellite Corporation) that between 100 and 200 new stations are coming onto the satellite with each passing month.

As of early August, the countries with the ten largest number of users were Germany (126 users), England (83), Japan (72), France (63), Australia (51), Canada (47), New Zealand (39), Sweden (35), USSR (23), and the United States (around 640). These countries represent about 85 per cent of

the calls of stations reported using the satellite. Stations in 64 countries have been operating successfully, and Amateurs in at least five other countries are known to be preparing for operation.

Among the interesting and unusual operations reported are dx-peditions by FP8AA, PJ7VL, PJ9JT and ZK1TA, automobile operation by W2GN, G31OR and JA1VDV, and aeronautical mobile operation by W6OAL.

*By the time this appears in print, VE3QB estimates there will be more than 3,000 users, including 50 Canadians.



The satellite module is shown here (covered unit) with its test ground power supply and instrumentation. This will be the first experimental unit turned on after separation from the mother vehicle.

The Canadian Amateur

Official Journal of the Canadian Amateur Radio Federation Inc., Published Monthly

Managing Editor: Steve Campbell
News Bulletin Editor: Doug. Burrill, VE3CDC

Volume 1

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All correspondence is welcomed and should be addressed to the Editor, The Canadian Amateur, Canadian Amateur Radio Federation, Inc. P. O. Box 356, Kingston, Ontario.

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From the Front Office

The past year, 1973, will be noted as the year in which CARF came of age and achieved recognition as the national Amateur organization of Canada. We quietly celebrated our sixth year of existence, our first anniversary as a chartered corporate body, and the fifteenth year of ARRL involvement with Amateur radio in Canada.

The year started with the first issue of THE CANADIAN AMATEUR and over 250 "Initial Subscribing Patrons" resulting in a circulation of just over 300 copies. The end of the year shows that over 500 additional members have been signed up, a large block of paid subscriptions have been taken out by the League and total circulation is approaching the thousand mark. Renewals are steadily being received with quite a few members taking out two to five years of additional membership.

The publication is "in the black" and further plans are in hand to publish a bigger and better T.C.A. as the paid circulation increases. Our forecast for 1974 is 1500 Associate members and we would like to be surprised and find that this figure is substantially smaller than predicted.

On the DOC front, a national referendum was taken re support for the Federation's request to have the phone sub-bands enlarged on 75 and 40 meters as a result of US phone expansion. Over 60 per cent of the Amateurs replying to the poll supported our request and we expect that suitable adjustments to Canadian phone frequencies will be made during 1974.

The published figures showed a strong feeling of support for domestic societies; 80, 40 and 20 meters (in that order) to be the most popular bands in use; a surprisingly high percentage of Amateurs use CW (66.3 per cent) with 76 per cent using phone; 56 per cent of the Amateurs are in the 'over 45' age bracket; and 30.7 per cent of Canadian Amateurs do not belong to the national organization, a provincial organization or the ARRL.

The CARF National QSL Bureau was accepted as the Canadian clearing-house for the reception of incoming QSL cards and, through the tremendous efforts of the Wheel Chair Round Up Amateurs, successfully handled thousands of cards from virtually every DX country and sped them on their way either directly to the recipient or through the offices of the ARRL call-letter QSL Bureaus.

The highlight of the year's activities must be the meeting between CARF and ARRL officials during the RSO Convention held in Kingston during the summer. A frank discussion was held between the presidents of the two Amateur organizations on the necessity of close co-operation and mutual support. Worthwhile results were achieved in the months following.

Guidelines for the submission of joint proposals to the DOC are being drawn up, the Canadian Repeater Advisory Group and the Canadian Emergency Communications Advisory Board were founded under joint sponsorship of CARF and ARRL, and several meetings were held between CARF and Cdn. Div.

ARRL officials leading to a broader understanding of the problems encountered by the national Federation and the League.

Viewed from any angle, 1973 was a good year for Amateur radio in Canada and earnest efforts will be made to ensure that 1974 will be even better.

It seems to us.....

credit Otto Meginbur, VE6OH, President ARLA

The Amateur Radio League of Alberta has received its membership certificate from the national Federation.

ARLA is proud to have been one of the original groups that got CARF going.

I suppose there may be those who say "So what" or "Who cares". Well, all Amateurs who have had a vision of an independent, self-governing, Canadian organization must surely care. Also, all Amateurs who believe that a national organization, a national magazine and a dignified national identity is of value to Canadian Amateurs should care.

The backbone of CARF is made up of the individual provincial organizations. Obviously the administrative needs within each province differ; there are differences in goals, activities, and so on.

And yet, if the majority of Hams believe that CARF can do a job properly for us, then we must find something in common to urge us on towards this common goal.

So, I repeat that this common link can be found in a national magazine, and a QSL Bureau, and the other services that CARF is providing.

Items of interest from the FCC

credit VE3 CRL

1. The FCC has amended parts 2 and 87 of the Rules to provide 25kHz channel spacing in the Aeronautical Mobile (R) VHF band 117.975-136 MHz. Formerly, the rule required a separation of 50 kHz.

Equipment specifications were also amended to allow for use of the narrower channels without unacceptable interference. The new rules change the frequency tolerances of both new ground transmitting and new airborne transmitting equipment to 0.002 per cent and 0.003 per cent.

2. Transmitters used by class D stations in the Citizens Radio Service (CBers) now require type acceptance under new rules adopted by the FCC.

3. The FCC have requested suggestions for Amateur Satellite Service rules in a Notice of Inquiry. The Commission has invited comments on the type of stations or functions that should be provided in the new service in addition to Space Stations; the requirements for station licenses and privileges, and the representations to be made in applications for licensing; and the classes of Amateur radio operator licences that should be a prerequisite for station licences.

RECIPROCAL LICENSING WITH ITALY

Reciprocal licensing has been established between Italy and the countries of the European Economic Community.

Going to Italy to operate? Send 30 cents to VE NEWS to cover photostate and postage for form and address.

INTERNATIONAL AMATEUR RADIO UNION NEWS

Financial Matters

(Credit IARU Region I News)

The purpose of the Region I division is to take the actions necessary to safeguard Amateur service frequency allocations and also activities associated with this aim.

A proportion of the income of the Region is set aside to provide a fund from which the expenses of representatives at ITU conferences can be paid. The balance is used to finance the running costs of the Region, including the secretariat and publications, with further amounts available to support activities beneficial to the Amateur service.

Among the activities receiving Region I support are AMSAT (construction of future OSCARS), International Beacon Project (28 MHz beacons), IARU Monitoring System (Intruder Watch) and the solar observatory of R. A. Ham, BRS15744.

VHF Working Group

The Region I VHF Working Group, as implied by its title, deals with a variety of matters affecting operations and channelling, beacon station frequencies and band plans are some of the items currently under consideration.

International Telecommunication Union

The Conferences of the ITU determine the pattern of frequency allocation. The ITU consists of 145 member nations and its headquarters are at Geneva.

The last conference held in 1971 dealt with Space Communication and in 1974 there will be a Maritime Mobile conference. Although these conferences deal primarily with the services mentioned, it is vital that the IARU maintains a close watch on all conference matters which could possibly affect the Amateur service.

It is probable that towards the end of the 1970s there will be a World Administrative Radio Conference which will consider the frequencies of all services.

The representatives of the Amateur service must be adequately prepared and equipped with information, proposals and finance to meet the demands of such a conference. The Region I division established a fund for such events in 1950 and annual allocations are made.

Although it is not anticipated that matters vital to the Amateur service will be raised at the 1974 Maritime Mobile conference it was decided that at least two members of the executive committee (Region I) should attend at least part of the conference as members of the IARU observer team. The expenditure involved is considered to be a worthwhile insurance. It should be noted that the IARU is an organization invited by the ITU to its conferences and entitled to receive conference services without payment.

The Executive committee Region I considered other steps necessary to safeguard Amateur allocations. Participation in the work of the International Radio Consultative Committee is one way in which this aim may be achieved. Scientific papers originated by national societies and sent to the CCIR through telecommunications administrations reflect credit on the Amateur service and give support to this scientific background. IARU Region I continually urges all its members to establish and maintain good working relations with their respective authorities.

Oscar 7 :

(continued from page 1)

Canadian Command Station.

Launched on October 15, '72, the satellite has completed its one year design life. With the exception of a drastic drop in output of the 435.1 MHz beacon since January 10, 1973, and the loss of output from one of the six solar panels, the spacecraft has continued to work well. A problem of transient switching of the satellite's functions, including the intermittent switching of the two-to-ten meter repeater on and off, continues to be present but has been largely overcome, at least in some parts of the world, by the intensive use of ground control stations.

A major part of the ground control of the satellite has been carried out from Ottawa by Larry Kayser, VE3QB. To overcome the transient switcher problem he developed an automatic command system that fires instructions to the satellite when it is in range every two and one-half minutes. Millions of commands have gone to Oscar 6 from Ottawa.



Members of the Canadian team discuss the prototype hardware. Left to right : Bob Pepper, VE2AO (Montreal); Dick Bonnycastle, VE3FUA; and Ron Archer VE3CNM are listening to Larry Kayser, VE3QB. Dick, Ron, and Larry are all resident in Ottawa.

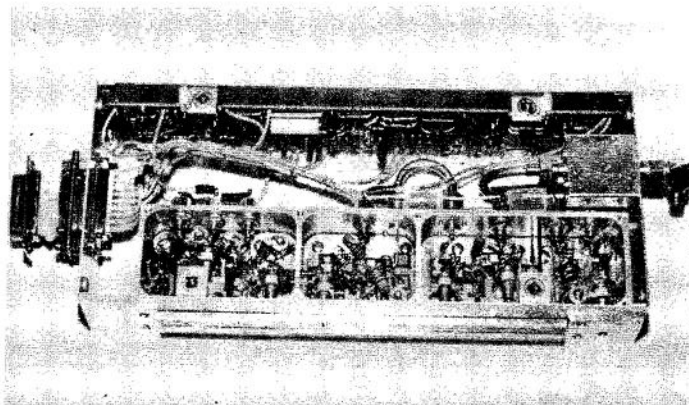
Canadian Content for Oscar 7

What next? Oscar 6 will end its useful life soon. By then it is hoped to have Oscar 7, which is designed for a three year lifetime, in orbit and in operation.

At present the launch has been scheduled for next spring. When it flies, Oscar 7's 435 MHz beacon will be a Canadian contribution to the amateur satellite program.

The spacecraft will be an international effort - the telemetry encoder and the command decoders will be from Australia; structure, power systems, antenna, and 432 to 144 MHz repeater from Germany; and a 144 to 28 MHz repeater and other systems from the US where it will be launched. Work on these items is well advanced. The 2 to 10 meter repeater has been in operation during an airborne test run. The Canadian beacon has passed the prototype testing stage. Two prototypes and two flight models are being constructed and work is being carried out by VE3QB with assistance from VE2AO.

Any equipment for space operation is fantastically



This is the DC control, modulator and regulator PC board and RF unit. This valuable bit of hardware is $7\frac{1}{2}'' \times 3\frac{3}{4}'' \times 1\frac{3}{8}''$ and took about 2600 hours to complete. For 1 watt DC power input, it puts out about 450 mw with CW or RTTY on 435.106 MHz. The box is milled from solid aluminum.

expensive. Components go through much testing and selection before they can be accepted as space qualified. A single small capacitor can cost \$15.

Because of the significance of this program to the future of DX and because of the desirability of Canadian participation, financial assistance from CANADX is being provided to VE3QB. The CANADX objective is the encouragement and support of operating techniques helpful to the working of DX by amateurs throughout the world.

The beacon program needs support; it is being funded completely in Canada and assistance from clubs and individuals would be welcome. So far contributions have been made by CANADX, VE3CJ, VE6AK and VE3HD.

Have you tried satellite operation? Just listening on 29.450 to 29.550 would be a start. Even if you didn't bother to gear up for Oscar 6 it will be worthwhile for Oscar 7. There are few thrills in Amateur radio to beat your first satellite contact.

(Editor's note: Canadians who wish to contribute to the Canadian part of the program may send their donations to AMSAT, Box 27, Washington, D.C., 20044, noting that it is for the Canadian program. It will be used to meet the expenses of our part of the venture. The Ottawa Amateur Radio Club recently donated \$100.)

A New Trick to Beat the Bootleggers and Other Unmentionable Illegal Operators

Earlier this year, a Hamilton, Ontario, judge made Canadian legal history when he stated that voice-print evidence is acceptable in a court of law, according to a CP dispatch.

The case, involving a charge of extortion, was a first for Canada. The judge denied a defence motion that tape-recorded evidence was unreliable and inadequate.

Now all the well-equipped Amateur needs is a DF loop, a tape recorder and a voice spectograph to pin down bootleggers on the amateur bands.

When analyzed on a spectograph, voice frequencies, overtones, harmonics and modulation characteristics are as individually identifiable by experts as fingerprints.

canadian capsule comment

The Editor requests that provincial societies, clubs and individuals forward items of topical interest on Amateur activities to PO Box 356, Kingston, Ont. K7L 4W2 -- a few lines hand-written on a postcard will suffice giving What, Who, When and Where information.

DOC TOPICS

Miss Anita C. Szlczak has been appointed as Director General of the International Telecommunications Branch and will be responsible for developing and co-ordinating policies for the Department's international activities and instituting programs to meet them.

She will evaluate international telecommunications developments to identify those of interest to Canada and advise senior management on Canada's position and strategy.

Her work will also involve keeping up to date on domestic developments and determining their implications for Canadian policy in the international telecommunications field.

In addition, Miss Szlczak will represent Canada at international telecommunications conferences.

NEW BRUNSWICK NEWS

VE1 KI in St. John will be changing its frequencies between February 15 and 30 to 146.220 input and 146.820 MHz output to give 600 kHz channel separation and to avoid interference with other areas using 146.94. Still 24-hour-a-day availability.

credit LCARC Bulletin

ONTARIO NEWS

To end the recently held DOC Ontario Region conference held in Kingston, a retirement banquet was held to honor Mr. W. (Buster) Doubleday, VE3 NF, the former Chief Radio inspector of the Kingston DOC District. Buster replied to the accolades paid him by recounting several experiences he had had during his long period with the department, mingling in several of the joke stories for which he is justly renowned. Various gifts were given to Buster and his XYL including a "super-duper" Phone Patch for use with his rigs.

The Kingston club plans to hold a post-retirement party for Buster in the spring of 1974 as a gesture of appreciation for the many valuable services performed by VE3NF for the Amateur fraternity.

credit Kingston ARC

A.R.R.L. NEWS

In view of the US energy problem, after 1 January 1974, W1AW no longer will transmit code practice and bulletins on 10 or 15 meters during late hours when there is no long-distance propagation. (VE3 DV)

CASAX '73 RESCHEDULED

The South American 'DX' expedition by Dave Halliday has run afoul of Murphy's Law and VE3 SAX hence will not be heard until next June or July when Dave plans to finally get on the road. (see page 8 of the November issue)

ARLA NEWS

In 1974 the Amateur Radio League of Alberta will have been in existence for ten years. The League is planning a little something in commemoration and would be pleased to hear from charter members of ARLA how best they can celebrate the event.

The Cold Lake Amateur Radio Club repeater station, VE6 OC, is on the air.

The antenna system is located seven miles south of Cold Lake with an output power of 60 watts giving an operational range of approximately 60 miles radius. The station encompasses most of the recreational areas of Northeast Alberta and Northwest Saskatchewan and will augment the Amateur Radio SSB high frequency emergency communications network already established in the area.

The existing SSB emergency system has been called upon in the past to provide vital emergency communications between simulated and actual aircraft crash locations north of Cold Lake and the base itself. No other effective means of air transportable ground to ground communications with phone patch capability is available in the area.

Club members and their equipment, augmented by Amateur radio operators in the local area, are on continuous alert, ready to provide emergency communications should the need arise.

During practical training exercises, radio operators with portable equipment have been airlifted by helicopter and deposited in remote areas. Within minutes communications with the Base operations and the Base hospital have been established through a radio-telephone link with the Alberta Telephone System.

Club members have even established an airborne HF SSB and VHF FM communications relay capability. This link would be of immeasurable value during any disaster or crisis where maintenance of rescue communications was vital.

The local radio operators regularly keep families located at CFB Cold Lake in touch with husbands and fathers who are serving with the military in the Canadian Arctic. Phones for personal communications in the Arctic are not available, therefore the Cold Lake ARC utilizes Amateur facilities to conduct phone patches and thus provide the only means available to unite these families through personal phone contact.

credit "VE6"

Due to an error in printing, the ARLA NEWS was cut short in the December issue T.C.A.

The final paragraphs should read:

A loan of \$500.00 has been made to the Glacier-Waterton Hamfest committee as working capital for the holding of this Hamfest in 1974. Full details will appear in future issues of The Canadian Amateur.

The A.R.L.A. Executive has approved the granting of \$75.00 to the Hat Ham club, for the proposed repeater installation in Medicine Hat.

B.C.A.R.A. NEWS

The Victoria Short Wave Club has been requested to present "AMATEUR RADIO" at the 1974 Boy Scout Jamboree at Camp Barnard (Sooke) between August 1 and 10.

The Jamboree will be a 'top flight' effort with some 3000 to 4000 Scouts expected. Planning has gone on for over a year already with Scouts from all over Canada, the United States and Europe attending. Up to 9000 visitors are anticipated and the grocery bill alone will run some \$62,000.

The General Meeting of the B.C.A.R.A. on 25 November 1973 saw the following Amateurs elected to the positions shown in the Association:

PresidentH.E.Kirk VE7 BYR
 1st Vice Pres.....H.W.G.Kirk VE7 ARY
 2nd Vice PresH.E.Savage VE7 FB
 SecretaryV.P.Radicot VE7 AVR
 TreasurerR.J.Tate VE7 RJ
 credit Zero Beat

RADIO TELETYPE NEWS

Canadian RTTY enthusiasts participated in the third SARTG World-wide RTTY Contest held 18-19 August 1973.

Top Canadian scores were made by:

VE7 UBC - 73,700 points, No. 20 world-wide standing,
 VO1 EE - 20,460 points, No. 43, using less than 100 watts power,
 VE3 IR - 13,350 points, no. 47, using less than 100 watts power,
 VE4 SC - 5,865 points, No. 55.

Top score world-wide was made by I5 KG with a score of 171,450 and top low power score, by I4 AOV with 70,760 points.

Commencing November 13 at 0230 GMT, the WESTCAN RTTY NET will operate on 3632.5 kHz.

Initially the net will operate on Tuesdays, Thursdays and Sundays to provide for traffic and bulletin dissemination throughout the Western Provinces, to provide an RTTY back-up communication system for the soon to be introduced Canadian Amateur Radio Emergency System, and to provide technical assistance to RTTYers.

Note that 3632.5 kHz is already in use in some areas for Auto-start and assistance and encouragement to promote increased use of Auto-start will be given.

Sticking keyboards of teletype machines can be cleaned using "carbon tetrachloride or some such fluid that does not leave a residue."

Please note that carbon tetrachloride is a highly dangerous chemical as its vapours can cause severe harm to lungs and stomach passages if inhaled. It will also produce phosgene gas if heated-- a most toxic gas.

If used, keep the work area well ventilated and take special care that the vapours are not inhaled and that there is no possibility of spraying the chemical liquid on hot devices such as a soldering iron.

credit RTTY NEWS

EMERGENCY COMMUNICATIONS AND THE AMATEUR EXPERIMENTAL SERVICE IN NEW BRUNSWICK

by Frank Ryder, VE1 AIL

The public, as well as established emergency organizations and the public utilities, have and do rely on the Amateur Experimental service to provide support or supplemental communications in times of emergency when the normal means of communications are damaged or otherwise inadequate to the task.

In New Brunswick these communications activities have been taken place on the so called HF bands, between 3 and 30 MHz. In recent years, growth in the amateur ranks, and expansion of American privileges into space previously occupied only by Canadian and other amateurs have drastically increased the problem of interference to communications in the HF bands.

Consequently, the provision of reliable local and regional amateur emergency communications must now be based on the use of the VHF bands, those above 140 MHz. In these bands communication is possible only in line of sight eliminating interference but making more than local communications difficult.

Automatic repeaters installed on hilltops are used to extend the range to 20 to 30 miles, or to a local area.

Radio links joining two or more repeaters can effectively provide reliable regional communications.

It is precisely for that same reason that the regular services, police, fire and the utilities vacated the HF bands between around 2.5 MHz for the VHF band between 30 and 40 MHz and in recent years have moved again to the 152 to 174 MHz band, in between the two amateur bands 144-148 MHz and 220-225 MHz.

Presently there are six automatic repeaters operating on the two meter band, 144-148 MHz in New Brunswick providing local area communications to Moncton, Saint John and Fredericton. These repeaters are not joined by radio links.

BULGARIA

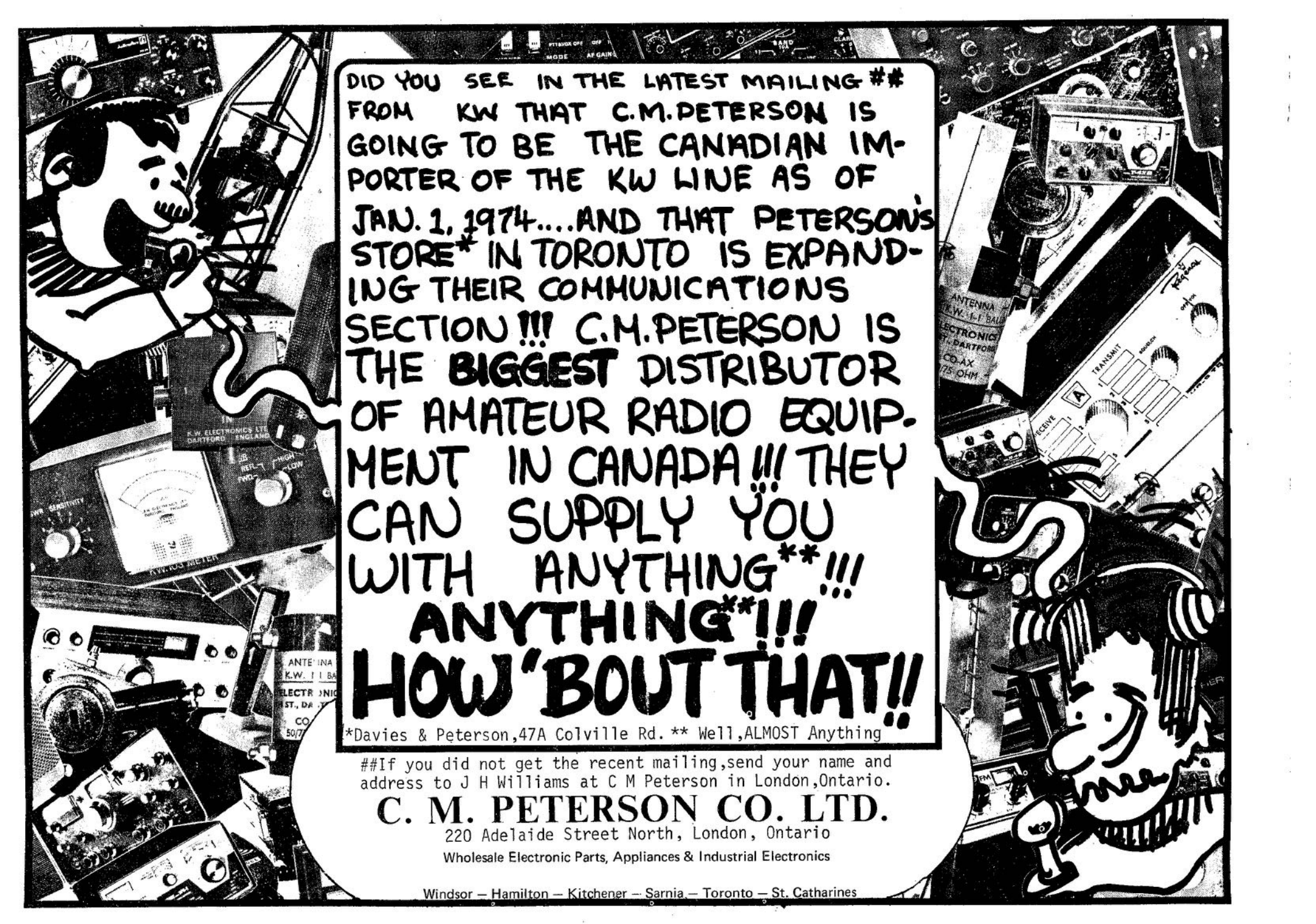
The Amateurs of Bulgaria have established the "Bulgarian Federation of Radio Amateurs" (BFRA) as the national society for the People's Republic of Bulgaria. This society replaces the former Central Radio Club of Bulgaria.

(Credit IARU Region I News)

One way to help overcome the 'energy crisis' is to wire a silicon diode rectifier, of suitable rating in both voltage and current, in series with the lighting facilities where less than normal illumination is satisfactory.

This also has the added attraction of giving substantial increase of life to the bulbs on the system. One member of the club has been using this system on several hard-to-replace bulbs and on outside Christmas lights for some years now with good results. Generally, a diode circuit 100 watt bulb will give the same illumination as a 60 watt at full brightness; a 60 as a 40; etc.

credit Kingston ARC



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SWR & all that

Howard Fralick, VE3RL, Technical Editor

Over the past year or so many articles have appeared in Radio magazines stressing the point that SWR is not really very important. We have no quarrels with the authors of these articles providing the reader thoroughly understands what is meant by "not important".

The fact remains that thousands of Amateurs have bridges and use them to get an idea of the conditions that exist on their transmission line. We have noticed however that there is a lot of confusion among the new Ham crowd in regard to the

readings they take and how to interpret them.

The confusion exists because there are two types of bridges in common use and the calculation for obtaining SWR is different for each of them.

Some bridges are calibrated in terms of SWR and the ratio is read directly from the bridge. There are others where the readings must be converted into SWR. This is particularly true of the power reading bridge.

The following information, if kept in a handy place for reference, will avoid the problem of making the calculations necessary to obtain the SWR ratio. In the case of power reading bridges, a simple division process is first required.

VOLTAGE READING BRIDGES

Home Brew, Armaco, Heath, Midland, etc.

$$SWR = \frac{E1 + E2}{E1 - E2}$$

where E1 = forward reading
E2 = reverse reading

POWER READING BRIDGES AND METERS

Bird, Collins, Drake, Jones, etc.

$$SWR = \frac{1 + \sqrt{\frac{P2}{P1}}}{1 - \sqrt{\frac{P2}{P1}}}$$

where P1 = forward reading
P2 = reverse reading

FWD	REV	SWR	% REFL. POWER	PWR RATIO $\frac{P2}{P1}$
10	.5	1.1 : 1	.25	.0025
10	1	1.2 : 1	1	.01
10	2	1.5 : 1	4	.04
10	3.5	2 : 1	12	.12
10	4	2.3 : 1	16	.16
10	5	3:1	25	.25
10	6	4:1	36	.36

The forward reading can be 1, 10, 100 or anything you prefer as long as the readings are in the same ratio.

Examples :

FWD	Rev	REV
100		10
10		1
1		.1

Note : % = REV²

To avoid making the power calculation, simply express the readings as a ratio :

$$\frac{\text{REVERSE}}{\text{FORWARD}}$$

and refer to the table.

Note : % = Ratio X 100

WHEEL CHAIR ROUNDUP

Rick Hedges VE3GJI

On Saturday, December 8 at 7:30 p.m. the W.C.R.U. had its second annual Christmas party held at the Villa Hospital. It was a tremendous success with the 85 W.C.R.U. members and friends attending. Food and drink were served and entertainment was provided by the Villa Choir.

We also had a special appearance by jolly ol' St. Nick VE3ERW. Many thanks to our social committee, Frank Brickenden VE3EVU, Colleen Lesperance VE3VPH and Ernie Hillard VE3HCW for planning and arranging this party.

* * * *

Thw W.C.R.U. has been in phone patch contact with Marty VE7AFY (ex VE3AKU) and as soon as he gets his antenna up he should be on the air.

* * * *

Ted Garrett VE3CDL, our newest graduate, should be on the air as soon as he gets his rig and antenna installed.

* * * *

We had two very special guests at our Christmas party from Newfoundland. Ed Samms VO1BO and his brother Lou Samms VO1BG. Both are confined to wheelchairs and we are very happy that they came to visit us.

Optimum times (GMT) for location noted to work in Middle East

15 JAN to 15 FEB 1974

Credit DND

As a service to the Amateurs, this column will contain optimum times for propagation between various locations in Canada and the Middle East using the 20-15-10 meter Amateur bands.

LOCATION	20M	(GMT)	15M	BEARING	MILES
Halifax	1130 - 1730		1330 - 1430	64.39°	5040
St Johns	1030 - 1700		1330 - 1430	72.13	4489
Fredericton	1030 - 1700		1330 - 1430	71.34	4528
Montreal	1300 - 1700		- - -	58.15	5456
Quebec	1230 - 1730		- - -	59.89	5312
Ottawa	1230 - 1700		- - -	56.69	5557
Winnipeg	1400 - 1600		- - -	42.18	6100

All locations west of Manitoba have maximum usable frequency less than 14 MHz.

The Federation wishes to thank Canadian Forces Communication Command for furnishing Trans-Canada propagation charts from which the above information has been extracted.

UNE AUTRE LEGENDE

Who has not heard tell of the six meter band? And who among us has seen a six meter station in operation? Not many, I am quite sure. This is probably because of a story circulating across the Province that six meter operation causes TVI on channel 2. I do not know where this rumor originated, but it seems to have had a long life.

Perhaps you don't know, but six meters is the only band where one can use all kinds of propagation such as reflections to and from the moon, the aurora borealis, from meteorites and from the Ionosphere and other layers; not forgetting the propagation by Ground Wave.

Do not be distressed by this legend about six meters... try it before the CBers seize it!!

(Translated Marcogram from RAQUI Journal)

Got the Shivers?

Want to try an experiment? Go to every electrical switch and outlet in your house and check for cold drafts. Some houses have excessive cold air pouring in around these electrical boxes.

To cure the problem, squirt caulking compound around the wires as they pass through the studding in the basement and the attic. If the draft remains, take off the cover plate and squirt compound around the cracks in the boxes and fill any holes.

There are two types of caulking available -- RTV (silicon rubber) costing between \$2 and \$6 per cartridge and ordinary caulking, around 35 cents per cartridge.

The RTV is best and will last the proverbial lifetime with the normal compound probably requiring replacing every few years.

credit LCARC Bulletin

USE OF UPPER CASE "A" FOR AMATEUR VE3 AHU

Several reports on the use of operators of the Amateur Expeditional Service and of the General Radio Service in various contexts, used "amateur radio operator" and "amateur" and "GRS operator" and "GRS". I was struck by the way in which "GRS" stood out and that a reader, not familiar with "amateur radio" would feel that the references were made to either operators of the GRS alone or to a group of untrained, unqualified operators that assisted the GRS.

Small case "amateur" refers simply to a non-professional; large case "Amateur" refers to an operator in the Amateur Experimental Service. Let us all denote reference to the Amateur Experimental Service with a capital "A" so that there is no misunderstanding and that we, as Amateurs, deserve the publicity and recognition we deserve for our efforts.

THE AMATEURS ENCYCLOPEADIA Hertz? Renta Hertz? Mega Hertz? No, Heinrich Hertz!

The unit of measurement of frequency is not, contrary to some beliefs, a monument to the car rental business, but a tribute to the German physicist (1852-1894) who, building on the work of Maxwell and Faraday, was the first scientist to produce and detect radio waves.

Hertz was a true amateur in that he conducted his experiments with spark gap transmitters purely for the advancement of his scientific theories. He was interested only in his technical achievements and never really believed that his discoveries had any practical value or commercial application. It's just as well that he never lived to sit through an evening in front of the boob tube.

Maritime Nets :

NET	LOCAL TIME	FREQUENCY
OLD TIMERS	8:00 am Sunday	3750
P.L. (PROFESSIONAL LOAFERS)	9:00 am Daily	3780
N.B.A.R.A.	9:15 am Sunday	3750
SPARKETTES	9:30 am Wednesday	3770
P.E.I. DISCUSSION GROUP	1:00 pm Sunday	3800
N.S.A.R.A.	4:00 pm Sunday	3750
NUT NET	5:30 pm Nightly	3760
WHITE CANE	6:00 pm Nightly except 3:00 pm Sunday	3770
NEWFOUNDLAND PHONE	6:30 pm Nightly	3785
MARITIME	7:00 pm Nightly	3750
APN (ATLANTIC PROVINCES)	8:00 pm Nightly	3654
L.C.A.R.C.	9:30 pm Nightly	3750
MSSN (MARITIME SLOW SPEED)	9:00 pm Wednesday 10:00 am Sunday	3680

SPECIAL CALLS FOR 25TH ANNIVERSARY

Amateurs in Newfoundland are authorized to change the two usual prefixes, VO1 and VO2, to VX1 and VX2. Amateur operators can use either the VO or VX prefix during the year 1974.

On April 1, 1949, Newfoundland elected to become a province of Canada. This special assignment commemorates the quarter century of union with Canada.

The provincial organization, the Society of Newfoundland Radio Amateurs (SONRA), has been granted the use of a special call, "VX1XXV". The XXV represents 25 years.

Cards for the VX prefix should go to the new VO QSL manager, Bill Coffen, Box 6, St. John's, Nfld. AIC 5H5.

FCC PROPOSES EXPANSION OF US FACILITIES FOR EMERGENCY MEDICAL COMMUNICATIONS

The Commission has released a Notice of Inquiry and Proposed Rule Making, Docket 19880, to expand the facilities available for emergency medical communications.

Some 35 frequencies in the 150 and 450 MHz area are proposed with some of these currently in use and the remainder reassigned from present usage by other services.

Three of the proposed channels are within the Amateur assigned frequencies: 449.850, 449.900 and 449.950 MHz, and these would be used for paging. It is recommended that all frequencies assigned to this service be made available on either an exclusive or a priority basis.

Assignment of the three channels noted may have a serious effect on Canadian Amateur communications in the areas bordering the United States, such as the Windsor/Detroit area, and the Federation is ascertaining what safeguards, if any, will be put on U.S. operations in these areas.

(COMMENT: Remember the 'good old days' when the Amateurs pioneered the use of higher and higher frequencies and had commercial communications move in as we proved their value? Now we have the situation in reverse where the commercial communications are gradually taking over Amateur frequencies due, in no small measure, to our lack of communication capability and usage in the UHF spectrum.)

VO QSL MANAGER PASSES

It is with regret that we report the death of Ern Ash, VO1AA. He served VO Amateurs as the QSL manager for 25 years. Ern became a Silent Key on November 23, 1973.

The VO QSL Bureau operation has now been taken over by Bill Coffen, VO1KM, PO Box 6, St. John's, Nfld. AIC 5H5.

TWO-TWENTY ACTIVITY STARTS

I have heard of a few hams who are all set to go on 220.

Some useful starter equipment has come on the surplus market recently. In fact, it has been available for some time, but some ingenious ham has just recently come up with a use for it.

The W.S. 29-B is a Canadian Army developed set, manufactured in 1945 by RCA Victor, Montreal. This little gem is a compact package, with a superhet-superegen receiver, a one-watt transmitter, AM modular, power supply operating off 12 or 24V DC at 3 amps, one watt audio and a bonus PA system.

It has two fixed frequency switched channels of 235 and 245, both of which can be shifted into the 220 band by front panel screwdriver adjustments. The only modification necessary is the replacement of the antenna connector and the provision of a 4 wire control head with mike and speaker. Circuit diagrams and modification instructions are available to RSO members. Antennae are small and simple.

At \$15.00 a pair, these 9x4x6 packages are a real buy at Surplus Sales in Mississauga.

credit George Davis VE3BBW

Do you know-

—that a Radio Inspector does not require a Search Warrant to enter your station for the purpose of conducting an inspection.

—that a Radio Inspector, when conducting a station inspection, has the right by law to inspect not only the radio apparatus but "all other telegraphic instruments and apparatus", e.g., teletype, in the station whether or not it is connected to the radio. He is also empowered to inspect "all books and papers such as log books, messages, instruction books, QSL cards, etc., used in connection with the operation of the station".

(By Art Stark VE3ZS)

ARRL COUNTRIES ADDITIONS

Announcement is made of one deletion and two additions to the ARRL Countries List. The deletion is the present listing of Germany, the additions are the Federal Republic of Germany and the German Democratic Republic, effective September 18, 1973. Contacts before that date will be credited to Germany. West Berlin will be credited toward the Federal Republic of Germany listing and East Berlin toward the German Democratic Republic. DXCC credit submissions for the two new listings may be made starting December 1, 1974. Submissions received for these two new listings prior to that date will be returned without credit.

CANADIAN RADIO REGULATIONS HANDBOOK

The national Federation publishes the Canadian Amateur Radio Regulations Handbook, containing the 'official' interpretation of the Radio Regulations affecting Amateur Radio and much more valuable information on station licencing and operation. This Handbook is a "must" for any Amateur operating in Canada and can be obtained by sending \$2.55 by cheque or money order to C.A.R.F., Box 356, Kingston, Ont., K7L 4W2.

AUTHORITY TO OPERATE IN THE U.S.A.

The national Federation has copies of the F.C.C. 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 address envelope (marked U.S. FORM) to C.A.R.F., Box 356, Kingston, Ont., K7L 4W2.

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 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, Ecuador, France, 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.

MONITORING STATIONS

If you hear serious infractions of the regulations and wish to assist in tracking them down immediately, then phone your nearest DOC monitoring station, furnishing as much information as possible as to type of infraction, mode of transmission, frequency and time of observation and if possible, tape and record it.

Here are the numbers:

	A.C.	TEL. NO.
British Columbia		
Ladner (near Vancouver)	(604)	946-2715
Alberta		
Wataskiwin (near Edmonton)	(403)	352-5625
Saskatchewan		
Melville (near Yorkton)	(306)	728-5997
Ontario		
Acton (near Guelph)	(519)	853-2840
Thunder Bay	(807)	935-2561
Almonte (near Ottawa)	(613)	257-3552
Quebec		
Senneterre (near Val D'Or)	(819)	737-4431
St. Lambert-De-Levis (near Quebec)	(418)	889-2552
P.E.I.		
Montaque (near Charlottetown)	(902)	838-2451
N.W.T.		
Fort Smith	(operator assist call)	872-3541

THE CANADIAN AMATEUR

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.

It relays events, proposals and decisions from major organizations across the country.

Each issue features an updated listing of banned countries, traffic and licensing agreements.....items that concern you as an amateur radio operator.

The Canadian Amateur is offered to you at a cost of \$4.00 for a yearly membership. Clip out the coupon below and mail it today with a cheque or money order to :

*H.T. (Ed) Edworthy VE3 CLG
Treasurer Canadian Amateur
Radio Federation
P. O. Box 356
Kingston, Ontario*

I would like to receive The Canadian Amateur for a period of year(s)

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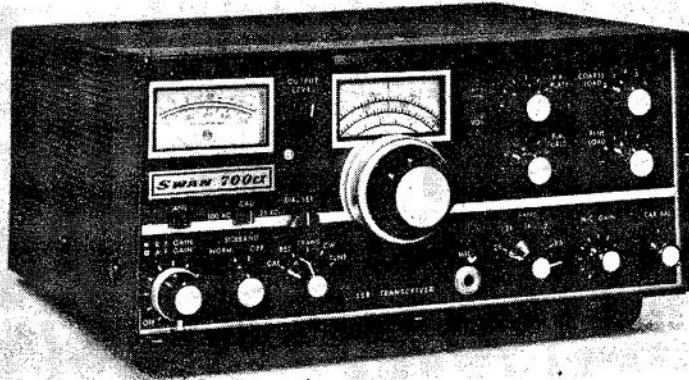
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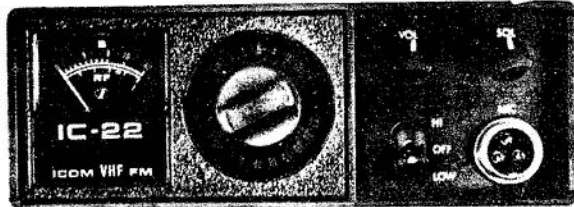
700WATTS PEP



SWAN 700 CX

In all of our experience in amateur radio we have never experienced so much interest and popularity in a new transceiver. We have already received our initial stock and the many hams across Canada that are using the 700 CX report they now have "power to spare" for Q5 contacts. Uses a pair of rugged GE 8950 tubes for reliable long lasting transceiver enjoyment. Also has the additional special features - sidetone osc. for C.W., AALC, shifted carrier C.W., stable solid state VFO, single conversion high I.F. system, 25/100KC calibrator and A.G.C. With these features & Swan's reliability, you will be working Q5 with the big signal 700W P.E.P. 700 CX.

- | | | | |
|------------------------------|----------|---------------------------|----------|
| 700CX | \$699.00 | Model 508-Ext VFO | \$199.00 |
| 117XC power supply/spkr | 140.00 | FP-1 Phone Patch | 59.95 |
| VX-2 VOX access. | 44.06 | NB-500 Noise Blanker..... | 105.95 |
| SS-16B - 16 pole filter..... | 93.95 | | |

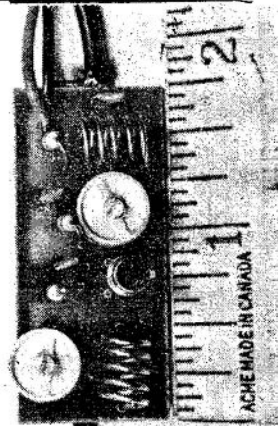


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- 4 76/76
- 5 52/52

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