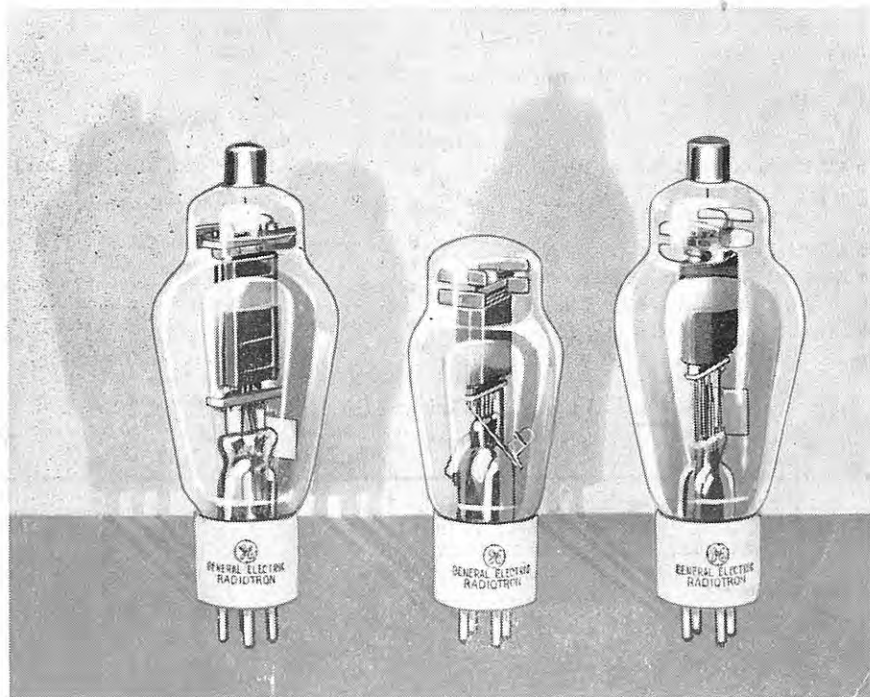


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GENERAL ELECTRIC TRANSMITTING TUBES



809

801

T40

809 A high- μ triode, which features high efficiency, excellent high frequency performance and economy—75 watts maximum input—a justly popular amateur tube. Amateur Net **\$3.75**

801 Rugged Carbon Anode Triode—20 watts plate dissipation—for those applications where good performance and reliability are prime requisites. Amateur Net **\$5.20**

T40 and TZ40

Sturdy, dependable triodes, now Canadian made—carbon anodes—40 watts plate dissipation. The T40 is a general purpose triode, an efficient Class C amplifier on frequencies up to 60 MC. The TZ40 is a high- μ triode for zero bias Class B audio and frequency doubling operation. Amateur Net **\$5.10**

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XTAL

VE3ACC J H Doble
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devoted entirely to

the VE amateur

1939



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NEW—For 35T, HK154, 50T, 808, 807, 809, T20, T40, T55, RK20, 31, 447, 804, etc., etc., use the new HAMMOND UNIVERSAL FILAMENT No. 1129. It has tapped primary and a single centre-tapped secondary, giving 5, 6.3, or 7.5 volts at up to 6.5 amps. No more changing transformers in experimental rigs.

Their cost is low—only \$3.00 60 cy., \$3.96 25 cy.

Yes, this is another Hammond development, and every amateur should have one.

- Correct Output.
- Liberal Design.
- Tapped Primary.
- Accurate Centre-tap.
- Minimum Dimensions.
- Stock Models for All Tubes.
- Low Net Prices.
- Soldering Lugs or Leads.
- Attractive Appearance.
- Ample Insulation.

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**“In Canada It's Hammond Transformers and
Amateur Equipment”**

CONDENSERS—CHASSES—PANELS—RACKS—CABINETS
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Sold by Canada's Leading Parts Jobbers

HAMMOND MANUFACTURING COMPANY

GUELPH : ONTARIO



XTAL

PUBLISHED BY
THE VE OPERATORS' ASSOCIATION

AT
106 JARVIS STREET
TORONTO, ONTARIO, CANADA



A Few Facts

This issue of XTAL being the last to be gratuitously distributed to non-members of the VE Operators' Association, it is appropriate that we offer a few comments about our association.

When we launched the VE Ops, we gave it as our opinion that it was time for the birth of a national organization. That conclusion was the result of our own analytical observation, and also represented the views of many other hams and clubs who had given the matter considerable thought. We abide by our opinion. In fact, we are more than ever convinced of the truth of the statement, for the past few months have brought us a steady and swelling expression of concurring opinion from all sections of the country.

So, with the courage of our convictions, and with cheering words of support ringing in our ears, we are going forward with a grim determination to make the VE Operators' Association one of the most successful of national organizations. We have taken plenty of time to gather up the loose ends, but now, having done so, we have a first-hand knowledge of the course we must pursue, and of the possible obstacles we shall encounter. They shall not deter us!

Elsewhere in this issue we direct the attention of VE hams to the fact that some years ago they were discriminated against. Whether wittingly or otherwise is not a consideration—the result is the same. The story of WAVE certificates paints a picture of our solution to the overcoming of discrimination by introducing our own certificate in acknowledgment of certain operating achievement. That activity falls within the logical field of a national organization.

Also in this issue is a story of our solution to the difficulty VE's have of working one another. That presentation is just another piece of evidence in support of the contention that only a national association can cope with certain difficulties.

The VE Operators' Association recently presented to federal authorities (through Mr. Alex. Reid, C.G.M., A.R.R.L.) a petition for official action to remove unlicensed operators from the five-meter band.

Among the responsibilities of our association is the protection of ham interests, and the operation of unlicensed individuals on any band places those interests in jeopardy. One bootlegger—who happens to be unusually short on discretion—can possibly do more harm to the prestige of our fraternity in one transmission than a dozen hams could rectify in a year, so they must go.

The members of the VE Operators' Association will cheerfully assist any individual to earn a license, but we are quite determined to be death to the person who attempts to operate without a license.

Did you get into the recent QSO party sponsored by the association? If not, you missed an opportunity to meet some of your Canadian brothers. That activity was an effort on the part of your association to bring Canadians closer together, and again proved the value of our nationalism.

Early in our association life we recognized the need for an exclusively Canadian ham magazine. XTAL may not be your idea of a class journal, and certain it is that it falls far short of our conception, but it is at least an honest effort. Its potential value is not impaired by its present form. It will grow in size and quality—watch it.

One of XTAL features which has met commendation is the new Canadian call department. Henceforth copies of published lists will be run off and retained for thirty days. Any member who wishes a copy may have one within that period by merely writing or sending a message. In this way call-books may be kept up-to-date without mutilating your copy of XTAL.

Draft copies of our constitution have been forwarded to all clubs who have been keeping in touch with the association. This will enable clubs to hold a discussion of our proposed constitutional provisions and to suggest such alterations and additions as respective clubs may decide. Once the constitution is definitely set, individuals and clubs will have a better understanding of our association.

We are at present giving attention to the establishment of a Canadian trunk line—exclusively within the Dominion. We anticipate supplementing the trunk with a system of feeders that will give excellent Canadian coverage. Clubs will then be enabled to keep in very close touch with association headquarters. That, coupled with QSO party activity, will permit the dissemination of association news at all times. In other words, your association will be very close to you, and its activities will be known to all.

We are sure that our readers will appreciate the vast amount of work that is being done by the boys at headquarters. And yet there is no grumbling. Finding time for air activity seems to be almost impossible, although a great effort is made for QSO parties. If you do not hear us as frequently as you think you should, you may set the cause down as being an abundance of association work.

The VE Operators' Association recently applied to the Radio Society of Great Britain for affiliation. That action was taken pursuant to the unanimous expression of our membership by referendum. We know that you will be happy about your association endeavouring to raise Canadian ham radio to the same status as that enjoyed by other Dominion bodies.

While on the subject of affiliation, it might be prudent to remark that your association will apply for affiliation with any body which our membership may desire. By so doing, we do not wish to infer that the VE Ops will take a secondary position. Not at all. We are a national organization. We purpose preserving our national status, and do not propose to waive one iota of that independence merely because of our affiliation with some body which is not of Canada.

If, by reason of our affiliation, we can be of service to any body which accepts our affiliation, we shall indeed be happy to render that service, and if, on the other hand, our affiliation will bring a

benefit to our members we shall be glad to receive that benefit.

The big factor in our creation, and continued existence, was and is the fact that no one seemed to be unduly concerned about VE's and their interests. That was a condition which could not possibly continue, so we came into being for the sole purpose of doing something about our own affairs, and we intend to carry on.

We suppose that here and there we shall periodically encounter some slight opposition which will present itself in a variety of forms. Opposition to something receiving the extent of acclaim accorded the VE Operators' Association is generally predicated upon a number of fish requiring to be fried. It makes not a particle of difference to us if the atmosphere is loaded with the piscatorial aroma which will arise from that culinary effort—we shall still go forward, and the frying fish can get along as best they can.

We are not quarrelling with any individual or group. On the contrary, we believe in the furtherance of the fraternalism which should be the soul of our hobby. At the same time, we want it understood that we shall brook no interference with our plans. It has taken some years for Canuck hams to realize that no one was doing anything for them in an internal way to further their interests, or to introduce additional pleasures to their radio activity. Having awakened to a realization of the fact that nothing would apparently be done unless they did it themselves, they do not intend to be thwarted in their purpose.

From time to time, matters pertaining to Canadian hamdom will present themselves, and you may rest assured that we shall not be found wanting. We have an organization which can, and will, serve your interests. We may walk on some pet corns in the process, but if that is necessary to the protection of our interests we shall not hesitate to tread on the pedal extremity pests.

We are sorry that we shall not longer enjoy the privilege of writing something for each issue of XTAL for the consumption of all Canadian hams. It is a fact, however, that gratis copies have been made possible only through the generosity of members. They have dealt kindly with their brother hams in bearing the expense as long as they have, and we know you will appreciate their decision to limit distribution to association members.

"Wave" Certificates

The purpose for offering certificates by various national amateur radio organizations is to place a premium upon QSO's with the amateurs within their respective territories. Scarcity of VE's in latest available lists of these awards seems to indicate that the VE is having a rather tough time.

In Toronto it seems that a European, having already worked a VE1 to put on his Century Club list, prefers to work W's to complete his WAS rather than struggle with a weak signal, covered by three layers of W QRM, from a VE3 who is trying to work a new country. Operators in different provinces will be able to fill the blanks in this picture to show the situation in their own particular locations. One member reports hearing six ZS's calling specified states one evening recently.

When the skip is on 20, it seems that W6's are interested in dx and Delaware, and W1's in dx and Idaho, but VE's rate in direct ratio to their WAS interest—nil. That we do get out when they wish to hear us, as in Sweepstakes and VE/W tests, indicates the fault is not entirely with our transmitters.

To overcome these undesirable conditions, and to re-establish VE's in the place they occupied before any of these national certificates were offered, the VE Operators' Association has decided to offer a "WAVE" certificate. Rules are as follows:

"Wave" Certificate Rules

1. The applicant shall submit proof of contact with two different stations in each province, contacts being on different bands (total of 18 confirmations). Yukon Territory and North-West Territories shall be considered as part of British Columbia.
2. All contacts for which the award is claimed shall be made on or after January 1st, 1939.
3. Applicants residing in territory designated by the prefix VE or W shall make all contacts from within one province or state.
4. The sum of twenty-five cents shall be forwarded with application to defray costs and return postage on cards. The fee shall be waived if the applicant is a member of the VE Operators' Association.

Canadian Field Day Trophy

Purpose of Award:

To encourage construction and maintenance of independently powered stations of a design suitable for emergency work.

Eligibility:

Entrants shall be owners of stations entirely independent of power mains, movable, and operated away from the home address under Canadian call for the contest period. The call of the owner shall be used.

Entrants shall give an undertaking to maintain a station eligible for this contest for a period of one year. (This will be changed next year to limit entries to those who complied with this requirement, i.e., those who have maintained a similar station for a year.)

Entrant may enlist the assistance of as many operators as he desires for the field day competition.

Scoring:

Scoring shall be on same basis as annual A.R.R.L. field day, with possible bonus of 25% of score, apportioned as follows:

15%—Design (schematic diagrams and photographs to be submitted), antenna system, all-band operation, monitor.

10%—Movable power supply.

Entries shall be received by the secretary of the VE Operators' Association within 21 days of close of contest. A committee of three judges shall be appointed by the president of the association, and their decision shall be final.

Prize:

The winner will receive a cup known as the Canadian Field Day Trophy, awarded by the VE Operators' Association, to be his permanent possession.

Results of First VE Ops QSO Party

The first QSO Party for members of the VE Operators' Association took place on Nov. 5th. In order to qualify for the two prizes it was necessary to originate a message giving your guess as to the number of members that would be active during the party. Although no one guessed the correct number, first prize goes to VE3DA, and second prize to VE3RO, whose guesses were closest.

All VE Contest, January 28-29

Many of our friends from time to time have remarked how seldom one does work a VE in the course of general operating on the bands unless you are a 'phone station. All it appears necessary to do is to look back in your log where CQs have been called and you will be amazed at the scarcity of VE contacts. On the other hand, however, if you make it a point to only listen for VEs you will be agreeably surprised at the large numbers that you can hear on all bands. Working them is a different matter, for a CQ results in a W QSO about nine times out of ten. Likewise, your chances of raising a VE you do hear are slim. Even a CQVE brings all sorts of QSOs other than VEs. The phones have been most fortunate in that they have bands almost entirely to themselves and work fellow VEs from coast to coast with ease. In fact, a glance at a VE phone log shows a predominance of VE contacts in most cases. Is there nothing that can be done to aid the CW VEs to work more VEs? We think there is, and with that in mind we are sponsoring a contest to give it a whirl. It should even give some of our lowest power stations an opportunity to work more and better Canadian DX. We should not forget that we VEs have very much in common. We should endeavour to become more acquainted and better acquainted. We live in a large country, but it is infinitely small when proper times and proper bands are used. Consistent skeds may be kept from coast to coast, made possible only because the two participants know where and when to look for each other. Can we not increase this participation an hundred-fold, and without pre-arranged skeds? We think we can!

We cannot ask and expect to receive more or any frequencies for exclusive use of VE CW stations. We shall have to content ourselves with the W QRM that exists on our bands and make the best of it. And the best has not been made in the past. So, lacking any better suggestions, we present the plan below for your approval. We are making it into a contest as well, an All-Canada affair, in which each and every VE may participate.

We are splitting up the popular bands as below, and in order that you may obtain maximum count for contacts made in the contest it will be necessary for you to operate your station within the frequencies allotted to your province. With much hesitation we list these frequencies:

P.E.I., N.S., N.B.—			
	3525-3550	7025-7050	14000-14050
Quebec—			
	3550-3575	7050-7075	14000-14050
Ontario—			
	3575-3650	7075-7150	14050-14100
Manitoba—			
	3650-3675	7150-7175	14250-14300
Saskatchewan—			
	3675-3700	7175-7200	14250-14300
Alberta—			
	3700-3725	7200-7225	14250-14300
N.W.T. and British Columbia—			
	3725-3800	7225-7300	14300-14400

Now, we realize that these selections will not be agreeable to the majority, because each and every one of us has his own pet spots in every band, or else we have but one or two crystals, etc., etc. But a plan that may succeed must have a start. Laying out the frequencies in the same order for each band (and harmonic relationship is about impossible) will enable us to remember where to look for a certain province. Many of us will be unable to use the frequencies assigned without new crystals or installing EC, but there is time to use Santa's money for the needed crystals. And if these are not forthwith coming you may use any frequency you desire in the contest, but you will note the points obtained from such contacts are reduced considerably. Naturally we wish to encourage use of the frequencies above, so that for all time to come we may be able to work any province at almost any time, just because we shall know where to look for one another. Those of us who cannot use these frequencies can take part, and we expect they shall, and that they will offer their suggestions for some alternative plan that may be better. And for these a special prize is being given for the highest scorer in this group.

The contest will take place from 6 p.m. E.S.T. Saturday, Jan. 28th, until 3 a.m. E.S.T. Sunday, Jan. 29th. Each contact made by a VE using the frequencies allotted to his province with a VE in an adjacent province shall count two points; with a VE two provinces away, three points; with a VE three provinces away, four points, etc., etc., one point more for each further distant province. So that a VE2 QSO with a station in B.C. will count six points. Prince Edward Island shall be considered as Canada's most easterly province, and the Northwest Territories shall be the most westerly.

No points shall count for contacts made with a station within your province. All stations heard but not worked outside of your own province shall count one point. The total number of points shall be multiplied by the number of provinces worked, which, including the Northwest Territories, is 10. If you are not transmitting on the frequencies allotted to your province at any time, your total score shall be divided by two. The contest is open to 'phone and CW stations, and equal count may be had by CW-CW, CW-Phone or Phone-Phone contacts. All phones must use the 'phone frequencies as allotted to them on their licenses, other than frequencies also used by W Phones. If more than one operator operates at a station a separate score must be submitted by each operator.

Please note particularly that this contest varies from any other in the past in that no credit is given for contacts with stations within the same province. What counts are interprovincial contacts and Canadian DX.

Your log should be submitted made up under the following headings: Date, Time, Transmitting KC, Station Worked, City or Town, Province, Approximate Frequency, and Points. Show at the bottom of your log your transmitter lineup, watts input to the final, total score, your name and address. All logs must be post-marked not later than Wednesday, February 8th, 11.59 a.m. local time. All logs should be sent to the VE Operators' Association, 106 Jarvis Street, Toronto.

VE5HP just advised that after fifteen years of operating he finally QSOed a VE1. Maybe he can work a few more in the VE contest!

It is suggested that you call CQVE1, CQVE2, etc., etc., depending upon what province you wish to contact, and then look for such contacts within the frequencies as allotted to that particular province.

One prize shall be given to the highest scoring phone, one prize each to the two highest CW scorers, one special prize to the leading member of the VE Operators' Association, and one prize to the leading CW station not using the provincial frequency of his province.

Keep the Provincial Frequencies before you and we'll BCNU on Jan. 28th.

XTAL has made arrangements whereby they can furnish crystals within your provincial frequencies within 24 hours, and at regular prices. XTAL has also arranged with a leading grinder to re-grinder your crystals to a frequency within

your provincial frequency at approximately the spot you desire at a charge of 50c per crystal. The grinder will guarantee certain crystals, but will not assume responsibility for all makes, but XTAL can assure you the grinder is entirely reliable. When sending a crystal in do not fail to mention the manufacturer's name, and XTAL will inform you whether the guarantee holds on that crystal before any altering takes place.

BERU TESTS

The Association has applied for affiliation with the RSGB, and if said affiliation is granted at their next Council meeting, December 13th, all members of the Association shall be eligible to take full-fledged participation in the BERU Tests which start with the Senior Contest on February 4th, and the Junior Contest on February 9th. Taking part in these tests is an opportunity for all VEs to work many British Empire countries without having to compete with our friends across the border. Full particulars as to contest rules and times will go forward in ample time to all members. Keep the dates open to see just how well that rig of yours is getting out.

STANDARD RACKS

Strongly welded 1½" angle iron, accurately drilled and tapped for 10/32 screws at 1¼" and ½" centres, for all standard panels. Flat black finish, 20" wide, 15" deep, 69½" high, net weight about 50 lbs. Price \$12.00. Any size made to order. Write for quotation.

A. M. HALE, VE3BG

Box 467

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BUGS

No! not in the rig, but out of it. We mean BUG KEYS. VE3DT's famous Bugs with Silver to Tungsten contacts. Ask the ham who uses one. Orders filled by return. \$5.00.

VE3DT

35 MCGEE STREET
TORONTO

New Amateur Calls

Maritimes—VE1

NR—346 Maynard St., Halifax, N.S.
 NS—39 Edward St., Halifax, N.S.
 NT—Miss N. D. McLean, Beaver Harbour, N.S.
 NU—Box 820, Fredericton, N.B.
 PP—Rev. F. L. Landry, Louisdale, Richmond Co., C.B., N.S.
 RC—Moncton Amateur Radio Club, 43 St. George St., Moncton, N.B.
 RS—Boy Scouts Assoc., Saint John, 19 Spring St., Saint John, N.B.
 NY—Box 513, Chatham, N.B.
 HZ—229 Brunswick St., Truro, N.S.
 OA—3 Pagan St., Richibucto, N.B.
 OB—99 Wellington St., Halifax, N.S.
 OC—91 Pleasant St., Dartmouth, N.S.
 OD—50 Ryland Ave., Truro, N.S.
 OE—11 Bauer St., Halifax, N.S.
 OG—47 Allen St., Halifax, N.S.
 OH—A. R. Shaw, Berwick, Kings Co., N.S.
 OI—W. Baxendale, Sydney Mines, N.S.
 OJ—J. B. Bernard, New London, P.E.I.
 OK—169 Albert Rd., Dartmouth, N.S.

Quebec—VE2

PF—A. Ford, Portneuf Co., P.Q.
 PG—263 St. Cyrille, Quebec, P.Q.
 PI—156 Quinn Blvd., Longueuil, P.Q.
 PJ—C. Dagonaise, Rang St. Georges, Beauharnois, R.R. 2.
 PL—77 St. Foy Rd., Quebec, P.Q.
 PM—2 Rue du Roi, Charny, Levis Co., P.Q.
 PN—J. C. Drolet, 23 Bigaouette, Quebec, P.Q.
 PP—J. C. Duchosneau, Riviere-du-Loup, P.Q.

Ontario—VE3

AVU—F. O. Perrier, Sioux Lookout.
 AVV—94 Lorne Ave., Ottawa.
 AVW—463 Concord Ave., Toronto.
 AVX—H. A. McGowan, Sioux Lookout.
 AVY—D. Lepine, Lavigne.
 AVZ—207 Browning Ave., Toronto.
 AWA—W. R. Ouderkerk, Chesterville.
 AWB—57 Lebel Ave., Kirkland Lake.
 AWC—471 Gainsboro Rd., Toronto.
 AWD—165 Cranbrooke Ave., Toronto.
 AWE—13 Robinson St., N. Grimsby.
 AWG—7 Kingswood Rd., Toronto.
 AWH—33 Glebeholme Blvd., Toronto.
 AWI—E. Barker, Goderich.
 AWJ—M. J. MacMonagle, MacTier.
 AWK—155 Lytton Blvd., Toronto.
 AWL—106 Queen St., Sioux Lookout.
 AWM—385 Laurier Ave. E., Ottawa.
 AWN—R.R. 2, Box 844, Waterford.
 AWO—21 Brookmount Rd., Toronto.
 AWP—231 Gainsboro Rd., Toronto.
 AWQ—P. R. Wharton, Waterford.
 AWR—R. J. Anderson, Slate Is. Light-house, Jackfish.

AWS—W. R. Wort, Avonmore.
 AWT—R. W. McMaster, Dryden.
 AWU—218 Soudan Ave., Toronto.
 AWW—25 Taylor Ave., Kirkland Lake.
 AWX—79 Kersdale Ave., Toronto.
 AWY—244 3rd St. E., Fort Francis.
 AXD—R. S. Lorch, Box 281, Aylmer.
 AXE—135 Kingsmount Blvd., Sudbury.
 AXF—J. V. Mattenley, Gilford.
 AXG—102 Fourth Ave., Ottawa.
 AXI—L. A. Laporte, Gogama.
 AXJ—82 Sussex Ave., Toronto.
 AXK—129 Arlington Ave., Toronto.
 AXL—88 Rosedale Heights, Toronto.
 AXM—202 Scarboro Cr., Scarboro Bluffs.
 AXN—E. J. Silver, Box 206, Dryden.
 AXO—V. E. Oliver, Dryden.
 AXP—1238 Pierre Ave., Windsor.
 AXQ—403 Water St., Peterboro.
 AXS—136 Goulburn Ave., Ottawa.
 AXT—33 Lavinia St., Swansea.
 AXU—488 Kingston Rd., Toronto.
 AXW—54 Glenmore Rd., Toronto.
 AXX—99 Gorham St., Newmarket.
 AXY—1004 Ossington Ave., Toronto.
 AXZ—67 Bartlett Ave., Toronto.

Prairie Provinces—VE4

AOL—147 18th St. W., Prince Albert, Sask.
 AOM—D. N. Van Nes, Hoosier, Sask.
 AON—11342 79th St., Edmonton, Alta.
 AOO—353 Pacific Ave., Winnipeg, Man.
 AOP—2065 Albert St., Regina, Sask.
 AOR—W. A. McGillivray, Hudson's Bay Co., Rossville Post, via Norway House, Man.
 AOS—M. Onychuk, Luscar, Alta.
 AOT—10254 107th St., Edmonton, Alta.
 AOU—232 High St. W., Moose Jaw, Sask.
 AOV—A. W. Bowman, Fork River, Man.
 AOW—330 15th Ave. E., Calgary, Alta.
 AOX—1625 3rd Ave. N., Lethbridge, Alta.
 AOY—352 Settee Ave., The Pas, Man.
 AOZ—W. J. Bruce-Marsden, Milo, Alta.
 APH—1102 5th Ave. W., Calgary, Alta.
 API—713 5th Ave. N.W., Calgary, Alta.
 APJ—524½ 4th Ave., Medicine Hat, Alta.
 APK—W. Carr, Turtleford, Sask.
 APL—2304 22nd Ave. W., Calgary, Alta.
 APM—229 10th St. N.E., Calgary, Alta.
 APN—E. W. Hampton, Oxford House, Man., via God's Lake.
 APO—773 Broadway Ave., Winnipeg, Man.
 APP—236 College St., Winnipeg, Man.
 APQ—885 Ashburn St., Winnipeg, Man.
 APR—602 12th Ave. N.E., Calgary, Alta.
 B.C., Yukon, N.W.T.—VE5
 AGM—W. H. Dawson, Port Radium, N.W.T.
 AGQ—P. C. Lay, c/o C. M. & S., Yellowknife, N.W.T.

AGW—1226 2nd Ave., Prince Rupert, B.C.
 AGX—2165 W. 7th Ave., Vancouver, B.C.
 AGY—J. Dohm, Princeton, B.C.
 AGZ—R. J. Love, R.C.M.P. Barracks, Dawson, Y.T.
 AHA—1348 E. 60th Ave., Vancouver, B.C.
 AHC—W. L. Smith, Fort Norman, N.W.T.
 AHD—316 Lumsden Ave., Cranbrook, B.C.
 AHE—Kiwanis Boys Club, 900 E. 12th Ave., Vancouver, B.C.
 AHF—A. D. Baillie, Alenby, B.C.
 AHG—1617 W. 3rd Ave., Vancouver, B.C.
 AHH—J. A. McFegan, Princeton, B.C.
 AHI—4854 James St., Vancouver, B.C.
 AHJ—J. L. Hall, R.D.M. 4, Victoria, B.C.
 AHK—827 Collinson St., Victoria, B.C.
 AHL—C. R. Rendle, Y.M.C.A., 1203 Blanchard St., Victoria, B.C.
 AHM—N. Macdonald, c/o J. Critcheley, R.R. 1, Steveston, B.C.
 AHN—561 Springer Ave., Burnaby, B.C.
 AHO—3826 W. 16th Ave., Vancouver, B.C.
 AHP—J. E. Bouchard, R.R.1, Eburne, B.C.
 AHQ—3578 W. 29th Ave., Vancouver, B.C.
 AHR—4694 W. 7th Ave., Vancouver, B.C.
 AHS—2148 Wellington Ave., Burnaby, B.C.
 AHT—W. G. MacKinnon, Snowdrift, N.W.T.
 AHB—1735 Collingwood St., Vancouver, B.C.
 AIE—W. A. Macfie, Princeton, B.C.
 AIF—629 Seymour St., Kamloops, B.C.
 AIG—W. G. Mitchell, White Horse, Y.T.
 AII—Rev. F. Delalande, c/o Govt. Radio Station, Coppermine, N.W.T.
 AIJ—D. O. MacKay, Spuzzum, B.C.
 AIM—2710 Mt. Stephen Ave., Victoria, B.C.
 AIN—1541 E. 12th Ave., Vancouver, B.C.
 AIO—G. I. Cameron, Pelly P.O., Selkirk, Y.T.
 AIP—W. R. Henry, McLeods Lake, B.C.
 AIQ—J. T. Buchan, Fort Ware, B.C.
 AIR—D. L. Baillie, Alenby Bunk House, Alenby, B.C.
 AIS—1741 W. 40th Ave., Vancouver, B.C.
 AIT—1539 W. 4th Ave., Vancouver, B.C.
 AIU—630 W. 21st Ave., Vancouver, B.C.
 AIW—C. E. Bradbury, R.M.D 1, Sidney, B.C.
 AIX—1584 29th Ave. W., Vancouver, B.C.
 AIY—66 Wellington Ave., Victoria, B.C.
 AIZ—1226 Effingham St., Esquimalt, B.C.

QRR in B.C.
Tulsequah, B.C.

I should like to comment on the splendid co-operation and general good-will that exists between the operators of the amateur fraternity, whether W's, K's or VE's, which are my principal contacts. The writer has lived for the past two years in an isolated community whose only outside connection for many months each year is by radio, and during this time has often been thankful for the QSP means of sending messages between friends in all parts of the country.

Two specific instances, which saved a life in each case, were as follows:

The doctor came into the shack on the evening of Sept. 29, and wanted a plane at sunrise to transport a very sick patient 60 miles to the hospital in Juneau, Alaska. All regular outside connections were off until 10 o'clock next morning, so the ham bands were the only outlet. A CQ QRR call on 80 meters CW raised K7EUA on Canyon Island, Alaska, who was able to relay the message to Juneau.

The second case was on Sunday, Nov. 6, when all regular connections were off. This time a short CQ QRR on 40 raised K7DWM, who QSP'd several messages and remained in contact with us for several hours. The case was one of acute appendicitis, which turned out successfully due only to the fact that the message handled by amateur means speeded the plane's arrival.

The readiness and willingness with which these cases were handled, as well as many others of lesser importance from this station, was an eye-opener to the spirit that prevails in the amateur fraternity, and because of the above two cases I think another star can be posted up for our hobby.

J. L. AVENT, VE5RX

VE's

We cordially invite you to visit us
the next time you are in Buffalo.

W8RRL, W8OLB, W8GJ

Dymac Radio

216 E. GENESEE ST.
BUFFALO, N.Y.

Buffalo's Leading Radio Distributor

56 MC October Field Day

More than 25 stations participated in the October 16 field day, compared with six on May 1. Messages were exchanged between Chestridge, Md., and Toronto in less than three hours.

Mobile W8RV at Holland, N.Y., and W3CIR at Aliquippa, N.Y., were heard in Toronto in the afternoon.

Among stations taking part were: VE3DC, Dundas; ABZ, AAS, Galt; KM, XZ, OJ, AOR, NH, Hamilton; ZB, St. Catharines; AGS, Thorold; PL, ADO, KV, KJ, ATB, AVW, AXT, Toronto.

The Hamilton Club have erected an experimental shack for ultra-high frequency work on Hamilton Mountain. With portable equipment they are working nice dx.

Toronto Hams Visit R.V.C. Plant

On Thursday, Dec. 15, the Canadian General Electric Co. Limited were hosts to a large gathering of amateurs who were shown through the R.V.C. plant in Toronto, where a special staff was on hand to show the complete operation of how C.G.E. make their tubes for amateur uses. There is no need to say that it was an interesting evening. Those who did not attend really missed something!

There is a bootlegger wandering about on 80 meter phone, in and out of the band, using a badly rippled note and the call VE3ATL. The real VE3ATL is only on 14 MC CW. XTAL suspects the bootlegger will be caught very soon.

Canadian Amateur Radio Co-operation Corps

For a long time the president of the VE Ops has been endeavouring to have an Army-Amateur Corps started in Canada. He is pleased to advise that the activities are rapidly rounding into shape, and that a station is being constructed in Toronto at the present time which will act as Corps area station upon completion. It is fully expected that this will be the nucleus for a nation-wide Army-Amateur system which when in complete operation will be second to none.

It will be recalled that attempts have been made in the past by certain amateurs to interest our Government in an Army-Amateur or Navy-Amateur system, without success. That an Army-Amateur system is now well under way will come as great news, we are sure, and we wish to express our appreciation to those who have done some very fine ground work and to our president, who is directly responsible for bringing a Canadian "AARS" into being.

For further information please communicate with F. H. B. Saxon, VE3SG, 302 Lee Avenue, Toronto.

As XTAL will appear regularly in future at the end of each month, do not forget that space is available for notices of club meetings, etc., etc.

Annual Meeting

The first annual meeting of the Association will be held at 8 p.m. sharp, Wednesday, January 18th, at the Oxford Hotel, 30 King St. W., Toronto.

All members of the Association are requested to attend this meeting of their Association. Minutes of this meeting will be sent to all members who are unable to attend.

The Executive of the Association wish to extend season's greetings to all Canadian Amateurs, with the wish that 1939 will bring you all the best of everything.

New Members

Will the members please add the following calls to their list of members for future reference: VE2ET, 2IB, 2LC, 3AGD, 3AGG, 3ASU, 3ASX, 3FB, 3HP, 3IA, 3IM, 3QC, 3WX, 5BJ, 5IA, 1KQ, 5IL.

QSL Cards for VE Ops

Reproduced below is a member's QSL card, which has been designed and drawn by VE3RF. It is printed in red ink on good quality yellow card. Quantity order enables us to offer these cards, imprinted with your call and address in black, postpaid anywhere in Canada, at the following low prices: 100, \$1; 200, \$1.70; 300, \$2.35.

GREETINGS FROM		DATE _____
MEMBER STATION OF THE VE OPERATORS ASSOCIATION S From Coast - to - Coast in the DOMINION OF CANADA		TIME _____
		FREQ. _____
To Station _____ Remarks: _____		RST _____

BLILEY CRYSTALS

10-20-40-80-160
METER BANDS

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THROUGHOUT CANADA

BLILEY ELECTRIC CO.,

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Electrical Instrument Repair Service Toronto

We have excellent facilities for the repair and calibration of every type of instrument used by the radio amateur and technician.

Prices reasonable. Work guaranteed
Estimates given

4 ALLENVALE AVENUE
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SHURE-ASTATIC — BLILEY
TAYLOR — RAYTHEON

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OPEN EVENINGS

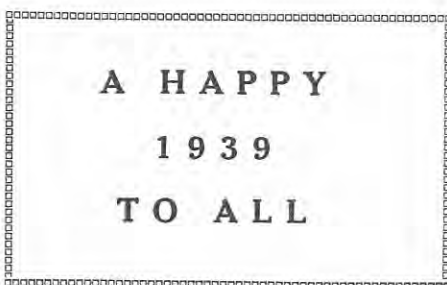
How Hams Keep the Wolf A way

Nearly all of us are busily engaged somehow in the struggle for existence attempting to earn a living in business. And, strangely enough, very few of us appear to be in the same form of endeavour. With this thought in mind, and with the thought that possibly a fellow-ham can save you money and serve you better, XTAL is sponsoring this column, which shall be added to from month to month. All members of the Association are asked to send a note or business card to the Association, so that they may be listed below in future issues of XTAL. For example, suppose you are working for a mine, perhaps you can do better by enquiring about thermometers to VE3MS, or milk products for the camp table to VE3GT, or for drawings and drafting to VE3RF, etc., etc. Let us know what you do for a living, and all members shall have free listing. To start with here are a few:

- Law and Legal Matters—VE9AL.
- Canned and Powdered Milk—VE3GT.
- Medical and Commercial Thermometers—VE3MS.
- Stocks and Bonds—VE3VA
- Drawings and Drafting—VE3RF.
- Coal—VE2BE.
- Engraving—VE3GR.
- Banking—VE3JI.
- Musical Training—VE3VD.
- Chartered Accountancy—VE3IW.

Dope for News Dept.

Several clubs have advised us that their secretaries or certain appointed members of their clubs will report news of activities of their members and any other individuals that they may know of to the association once a month. Please accept this as an invitation to all clubs or individuals to send in news every month in order to reach 106 Jarvis St., Toronto, by the 15th of each month. Commencing with the February issue, XTAL departments will be inaugurated under such headings as DX, Traffic, News, Technical, Ultra-Short Wave, etc., with a different member of the Toronto gang directly responsible for each department. You can appreciate that as XTAL is a national publication, news of national interest is very much desired. With the co-operation promised from some and that which we know will come from many other clubs and amateurs, the news department of XTAL will soon become a very interesting section, we feel sure.



APPLICATION FORM

VE Operators' Association

I hereby make application for membership in the VE Operator's Association. One dollar is enclosed for one year's fees and subscription for XTAL—or—Three dollars is enclosed for one year's fees and subscriptions for XTAL and QST.

Name..... Call.....

Address

Proficiency Certificate No. Station License No.....

Member of following radio organizations

Regarding Prizes

The donors of prizes for the Central Ontario hamfest on Oct 1 were as follows: A. & A. Radio, Atlas Radio Supplies, K. Blevis Laboratories, Burgess, Canadian General Electric Co., Canadian Marconi Co., Canadian Westinghouse Co., Continental Carbon Co., Hammond Mfg. Co., International Resistance Co., Doug. Lovat (agent Canadian Transformer Co.), Radio Trade Supply Co.

Manufacturers and jobbers advertising in this issue:

- Bliley Electric Co.
- Canadian General Electric Co.
- Dymac Radio.
- Electrical Instrument Repair Service.
- Hammond Mfg. Co.
- K. Blevis Laboratories.
- Mohawk Radio.
- Radio Equipment Corp.
- Radio Specialties.
- VE3BG.
- VE3DT.

No merchandising business comes readily to mind which is more dependent on good-will than the sale of radio parts for amateur use. Unlike the service man whose customers demand certain items which he can resell at a profit, we can make more or less similar reproductions for our own use, since time is not of primary importance, we can wait for delivery from anywhere in the world, or we can do without. We suggest the possibility that you will get the friendly service you desire from firms who reciprocate your good-will by their generous donations of hamfest prizes.

Further, the primary purpose of advertising is to put into profitable use existing facilities for production or service which are presently idle or not working at full capacity. The firms who want your business, and can handle it, are the ones who make those facts public, and at the same time help support YOUR magazine.

As mentioned in the editorial, a draft copy of the constitution of the VE Operators' Association has been sent to all clubs who have at any time written to the association showing interest one way or another. This draft copy is made up in order that each section may be commented upon and suggestions made as to any possible alterations. If any clubs are interested in helping to make the final association constitution please drop a line to the association and a copy will be sent by return mail.

The Canadian Made Transmitting Tube 807Jr.

The Canadian General Electric Co. Ltd. have just put a new and interesting transmitting tube on the market, known as an 807 Jr. This tube is similar in characteristics to the 6L6G, and is particularly adaptable as a crystal oscillator. We understand the price is to be \$2.50 net to amateurs. We list below some of the characteristics of this new tube:

- Heater voltage—6.3 volts.
- Heater current—.9 amps.
- Base 5-pin ceramic.
- Plate lead at top.
- As Class C amplifier telegraphy:
 - Plate voltage—400 volts.
 - Grid voltage—minus 50 volts.
 - Screen voltage—250 volts.
 - Plate current—95 m.a.
 - Screen current—8 m.a.
 - Control grid resistor—15000 ohms.
 - Screen grid resistor—20000 ohms.
 - Plate dissipation—21 watts.

FOR SALE.—Complete station. Xmtr RK-23 Tritet driving RK-20 with 750 on the plate of the RK-20 together with coils for 80, 40, 20 and final tank coil for 10, xtal for 80, suppressor grid modulator, four Hoyt meters. Rcvr Sky Buddy. All parts high quality. Both \$100.00 cash, or \$75.00 cash for xmtr alone. For particulars, write VE4YR, Watson, Sask.

SALE.—Complete outfit. 9 Tube Superhet with preselector all National parts and air tuned coils. 150 Watt Transmitter 3 bands pair 809s in final all Hammarlund condensers and parts, steel cabinet black crackle finish, complete with power supplies. VE3ASL, HO. 6868, Toronto, Ont.

One brand new TZ-40 in original carton, never opened, \$4.00. VE3GT.

KBX Crystals

Clearing overstock of 40 meter crystals 7200 to 7300 KC only

Special \$1.50 Special

This is your opportunity to obtain a crystal for the little used portion of the 40 meter band at a ridiculously low price.

Due to this low price it is impossible to give an unconditional guarantee, but you will find them satisfactory oscillators, particularly with a 6L6 oscillator.

From stock to your nearest specified frequency, unmounted, \$1.50.

K. BLEVIS LABORATORIES
263 Fairlawn Ave. Toronto, Ont.

Skeds and Traffic

How many of us have said "73 & cul" at the end of a QSO? Perhaps that contact just ended has been a most enjoyable one, and it would add to our further enjoyment of ham radio had we made arrangements for another chat in a few evenings. If our conversation has been interesting to the other operator too, it is more than likely that he will be eager to make a sked with us, and it is right there that we can make a good impression by being on time for the sked. Topics for conversation cannot be laid down, as they will naturally take care of themselves as the sked progresses. Should your sked live within a reasonable distance, the friendship can be further strengthened by occasional visits. In this way a common, ordinary rag-chew or a simple contact can be developed into a lasting friendship, something that you will be pleased to tell your friends about.

Should you feel that you would like to handle traffic, there are always plenty of stations looking for traffic skeds. Speed is not essential; anyone who can send and receive at fifteen words per minute will have no trouble getting skeds. To keep a traffic sked from becoming a dull affair it is necessary that each station

originate as much good traffic as possible. Our government allows amateurs to transmit third-party messages provided they are not of a commercial nature. We all have acquaintances who have friends in distant cities, or even in Hawaii or the Philippines, who would be glad to be able to send some family news in this novel manner. The pleasure shown by the recipient of one of our messages more than pays for the small amount of effort on our part in making delivery.

The A.R.R.L. Trunk Line "I" handles a lot of traffic from coast to coast, but it could not exist if it were not for the "feeder" nets that keep it supplied with traffic. This trunk line operates on a spot frequency of 3690 kc. At present there is a 7 mc Trans-Canada net being organized. Stations in this net at present are located in Halifax, Toronto and Edmonton, and a station in Vancouver or Victoria is all that is needed to complete the chain.

XTAL

We are sorry to have to advise that this issue of XTAL is the last to be sent free to all VEs. Commencing with the January 1939 issue, XTAL will go forward only to members of the Association.

To Our VE FRIENDS

Thanks For Your Valued Patronage, and Now—
IN ORDER TO SERVE YOU BETTER
WE HAVE MOVED

When in Detroit, Visit Us at Our New Location

325 Jefferson Avenue

RADIO SPECIALTIES CO.

WHOLESALE RADIO SUPPLIES

Larger Quarters

Larger Stocks

W8JT W8JDG W8GDT W8BNG W8LQI W8RQC

**Designed by MEISSNER Engineers
Built with traditional MOHAWK Quality**

14 TUBE HAM SETS 8 TUBE

Man, what a radio! Think of this—a 14 tube, 5 band Communications Receiver that has everything. Now you can check those countries right off the map and bring 'em in, for the world is yours to explore—possibly far beyond the confines of your transmitting rig.

**OUTSTANDING FEATURES
of the 14 tube Lyric Traffic Master**

- 530 KC to 32.4 MC (9.25 to 565 meters).
- Better than 1 M.V. sensitivity on all "Ham" bands.
- 5-Band Pre-Aligned Tuning Unit.
- Electrical Band-spread Condenser.
- Band Setting and Band Spreading Controls.
- Large Full-vision Dial, with 9" Linear Scales.
- Separate Pointer on 0-100 Scale for Electrical Band Spread.
- Flywheel Tuning on both Main and Band-spread Controls.
- 3-Gang Precision Tuning Condenser—Ceramic Insulated.
- "Align-Aire" (Air-Tuned) Coils.
- Mono-Unit Crystal-Filter.
- Beat Frequency Oscillator with Pitch Control for CW Sigs—Air Tuned.
- "R" Indication Meter; Carrier Level Indicator Calibrated 1 to 9 for Signal-Strength Reports.
- 8.5 Watts Undistorted Power Output.

Housed in a Black Crackle Finished Cabinet, 14" x 19" x 10"

Amateur Price, with tubes and speaker, \$199.50; less speaker, \$185

You asked for this—an unbeatable 8 Tube 5 Band Communications Super with Electrical Band-Spread—and here it is. Lyric and Meissner Engineers have spared no expense in design or material in the construction of the best 8 tube receiver on the market!

**OUTSTANDING FEATURES
of the 8 Tube Lyric Traffic Scout**

- 5-Band Pre-Aligned Coil Assembly for R.F., Mixer and Oscillator Stages.
- Frequency Coverage Continuous, 9.25 to 565 Meters (530 KC to 32.4 MC).
- "Align-Aire" (Air-tuned) Individual Coils for each band.
- 3-Gang Precision Tuning Condenser, Ceramic Insulated—Electrical Band-Spread Condensers on same unit.
- Large Full-Vision Dial.
- 9-inch Linear Scales—Two Pointers.
- Separate Indicator on 0-100 Scale for Electrical Band Spread.
- Flywheel Tuning for Rapid Scale Coverage on Main Tuning and Band-Spread Controls.
- Beat Frequency Oscillator with Pitch Control.
- 6V6 Beam Power Output, Class A. 4.25 Watts Undistorted Power Output.

Housed in a Black Crackle Finished Steel Cabinet, 15" x 10 3/4" x 11 1/2"

Amateur's Price, with tubes and speaker, \$135; less speaker, \$125

So as to introduce these remarkable sets to the Canadian amateur, we are offering one set to each club at a special price. Fill in this coupon and obtain particulars.

Name of Club Membership.....

Name of Regular Radio Supply Jobber from whom you purchase supplies

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