

XTAL

130

OCTOBER

1947

Vol. 9 No. 10

for the

radio amateur

J. A. WAGGONER, VE1QZ
75 ... Rd.,
Halifax, N. S.

7/118



Published by
THE CANADIAN AMATEUR RADIO OPERATORS' ASSOCIATION
TORONTO, ONTARIO



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Courtesy of Science Illustrated

Captain Bjorn Arnold Rorholt, Los Angeles, Calif.
 c/o Norwegian Embassy
 Washington, D. C.

Dear OM,

I have the answers to the questions regarding the radio equipment on the Kon-Tiki; I will first put the question as sent to them and then their reply.

- 1 - Q. Have you tried generator GNS8 for receiver?
 A. No.
- 2 - Q. How many batteries did you take?
 A. All 41 six volts and 30 forty-five volts.
- 3 - Q. Is there any difference in output between generator and battery operation?
 A. Not tried yet.
- 4 - Q. Are you using 6995 KC crystal from the ten meter rig?
 A. Yes, but ten meter rig in use too.
- 5 - Q. Have you removed last audio valve in 173 Receiver?
 A. Tried, but receiver then too weak.
- 6 - Q. What kind of antenna do you normally use?
 A. I antenna
- 7 - Q. Have you tried balloon or kite supported antennas?
 A. Both tried.
- 8 - Q. Have you tried voice modulation since shortly after leaving Peru?
 A. Yes, results not good.
- 9 - Q. Do you use mark two transmitter?
 A. Yes, and then very good.
- 10 - Q. How does the NC-173 stand up under conditions on board?
 A. Excellent.
- 11 - Q. How many hours can you operate the transmitter on one set of batteries?
 A. High tension batteries very long life but long articles kill our heater batteries.

In case you did not hear me yesterday their heater batteries are used but Rooby tells me that they make 1 1/2 volt units from their 45 volt batteries and then use four of these for six volts and thus get about four days service from each set. They have about five sets left so are O.K. for sometime yet.

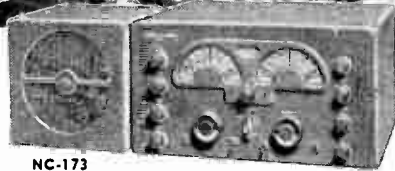
"Pen" sends his vy 73 to you as do I and I hope to work you again soon. I am anxious to meet the boys but I am also going to miss these daily contacts with the raft.

I hope Knut, and Tarstein keep up their radio and get on the air when they get back to Norway for I would enjoy very much keeping up our friendship via amateur radio.

Again VY73 to you Pronto and hope to see you.

Very Sincerely,

HAL - W6EVM



NC-173

Frequency coverage from 540 KC to 31 mc plus the 48-56 mc range. Calibrated amateur band spread on 5, 10-11, 20, 40 and 80 meter bands.

Amateur Net...NC-173 (with speaker) \$189.50



When 6 young Norwegian scientists, members of the Kon-Tiki Expedition, set out to brave the rigors of wind and sea by drifting across the Pacific on a raft 15 x 30 feet, they did so to prove a theory for science. In their customary careful way they also selected the finest radio equipment they could get.

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HQ-129-X



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TORONTO, 4



GENERAL ELECTRIC

Radiogram

Lighthouse Larry Comments:

IF YOU are designing a new receiver, converter, or what have you—and intend to use metal tubes—exactly which types should you select?

Here is a practical way to start. First, establish the particular application. Second, ask yourself the question, "Is there one tube better than others in *most respects* for this application?" Usually a little study will result in "Yes".

For instance, pentagrid converter tubes. Two popular types for this work are the 6K8 and the 6SA7... *Which?*

Let's compare these tubes on the basis of three performance factors: oscillator transconductance, conversion transconductance, and frequency drift. Big words, but don't let them throw you! What they mean, and

their relation to tube performance, follows:

If the tube is to be used at frequencies higher than 6 mc—and especially if there is broad-band tuning—it becomes extremely hard to maintain a high oscillator load impedance. Therefore, the tube should have high oscillator transconductance, as an offsetting factor, to make sure it will oscillate properly.

High conversion transconductance, in turn, means that a tube will show a good voltage gain. Naturally this is desirable, for the more voltage gain you can get, the fewer tubes will be needed.

Frequency drift explains itself. We all want this to be low.

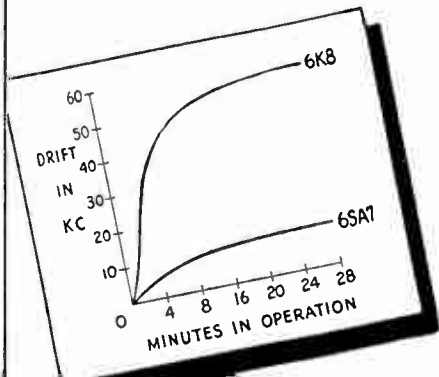
Now let's put the 6K8 and the 6SA7 side-by-side. You will find that the 6SA7 exceeds its companion both in oscillator transconductance (by 4,500 over 3,000) and in conversion transconductance (by 450 over 350). As to frequency drift, the graph herewith compares the curves of the two tubes, with receiver and tube operating from a cold start and tuned to 18 mc. The 6SA7's superiority is obvious.

Make no mistake—the 6K8 is a good tube, and often is applied in preference to the 6SA7, particularly in manufactured receivers. But for your own design use, you normally will find the 6SA7 better.

Comparative data on metal tubes can readily be obtained from G.E.'s Essential Characteristics Booklet, which lists and rates the hundreds of different types available. Write your nearest C.G.E. office for a copy of this handy booklet.

Lighthouse Larry

R 1047



CANADIAN GENERAL ELECTRIC CO LTD

HEAD OFFICE — TORONTO



XTAL

[C R Y S T A L]

VOL. IX
OCT.

1947
Vol. 9, No. 10

OFFICIAL PUBLICATION
of
CANADIAN AMATEUR RADIO

Published by
THE CANADIAN AMATEUR RADIO OPERATORS' ASSOCIATION
46 ST. GEORGE ST., TORONTO 5, ONTARIO
TEL. Midway 8235

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... we roll up

THIS issue of XTAL carries at its masthead the names of the members of CAROA Executive Committee. Some of the members are new to the committee but all have had a long and active affiliation with the affairs of amateur radio.

It is our purpose now to introduce them to you in their new official status but, first, let us review the circumstances leading to their appointment.

In 1939, when the shut-down hit us, the Executive Committee was composed of men who, a short time previously, had been placed in office by the association members.

Due to the war, the committee soon found itself decentralized. Some of its members were scattered to the four winds by virtue of service in the Armed Forces. Some found themselves in government service, and some in war-time industry but, as a group, still decentralized.

The factor which led to the decentralization of the Executive Committee brought about the centralization in Toronto of many association members from all parts of Canada who, by the nature of their employment, were in daily contact.

The spirit of amateur radio is infinite. It was natural that a group of men engaged together, and having a common interest in a peace-time pursuit, should re-act to the fraternal affinity of their common bond. Such is the spirit of amateur radio.

And so, meetings of the group were held. An occasional break in the clouds inspired them to optimistically hope for an early restoration of amateur bands. Concurrently, they thought in terms of the association, and of the steps the absent members of the Executive Committee, but for their absence, would be taking to prepare the Association for a resumption of its interrupted activities.

Their enthusiasm was given an opportunity of manifesting itself in the form of organizing and planning work. They were created a Committee of Management with administrative powers of an interim nature, their authority being given to them by a resolution of such of the members of the Executive Committee as could be assembled together.

Re-knitting the Association, and plotting its early steps along the road back, were the immediate objectives in anticipation of the day absent members of the Executive Committee would return to assume the burden.

And then things happened—all manner of things. The exact sequence of their occurrence is of little importance, but their significance upon the shape of things was considerable.

There were changes in the personnel of the committee—the committee relinquished its duties to another pro-tem committee—a salaried official on a free-time basis was employed—war-industry personnel became decentralized—the services of part-time salaried employees were utilized—Armed Forces personnel returned to their homes—another full-time employee was engaged—unlimited optimism abounded—XTAL made its schedule—still another full employee was taken on the strength—a clear-cut picture of our financial position could not be obtained and—things continued to happen.

In due course, a committee was set up for the purpose of making a financial analysis. This revealed the ugly head of a deficit to be reared high. More changes followed.

Then came the day when the members of the Executive Committee resumed their responsibility when they took over from the interim group. That was just three short months ago.

The committee was keenly aware of the fact that the interim group had been fulfilling a temporary function, as a consequence of which their efforts were more than likely to have stemmed from the short term point-of-view. This conclusion seemed to indicate that the first thing to be done would be to survey the exact position of the association.

The members were determined that the committee would move slowly, and by so doing they hoped to move soundly. They deemed it imperative that they should become familiar with that which had been handed to them. Action was to be predicated on information. Thinking was to precede action rather than follow it.

One of the first steps taken in our rehabilitation was the polling of absent members of the Executive Committee to learn whether or not they desired to continue serving therein. This enquiry resulted in six vacancies; four due to removal from Toronto to such distances as to render attendance at meetings utterly impossible. One retirement was due to pressure of professional duties coupled with the responsibility of continuing with a commissioned rank in the Reserve Army, following return from overseas service. The sixth

our sleeves

resignation was due to the members accepting employment of such a nature as to render him constitutionally ineligible to continue on the committee.

The taking of that poll consumed time. The remaining members found themselves involved in the vacation period and, in any event, pending advice from out-of-town members as to their continuance on the committee, did not feel disposed to undertake major issues which were not of urgent importance. They deemed it only fair that such new members as the poll might require should have the opportunity of expressing themselves—and voting—on all matters pertaining to the administration of the affairs of the association.

In the meantime, the local nucleus of the Executive took stock, and in the intervening three months was able to clarify and consolidate our position.

At last we were in possession of the information which would permit rounding out the Executive Committee. The six new vacancies had to be appointed to complete the unexpired terms of those creating the vacancies.

This has been done and fortunate indeed are we that such men could find time to serve CAROA.

The committee will not permit the hasty or impulsive action that sometimes arises from an over abundance of optimistic enthusiasm to supplant the use of sound judgment. The affairs of the association will be conducted in accordance with the best dictates of business practice.

The administrative side of the association will be given the judicious direction which it requires, but the hobby side we hope will be characterized by the warm spirit of fraternalism it reflects.

Amateur radio is permanent, so also is CAROA. But permanency is related to time, and not to value. The permanency of CAROA must also be a permanency of sound value if the association is to take its proper place in Canadian amateur radio.

CAROA, under efficient management, has a tremendous future available to it. Undoubtedly it will become a structure requiring a solid foundation. It will be the purpose of the Executive to lay a foundation which will prove equal to carrying the structure that will rest upon it.

We shall build well—but slowly if need be. We do not intend that it shall be necessary to jack up the structure while we strengthen the foundation. We shall studiously endeavour to avoid the need of back-tracking. That we shall do by moving slowly and progressively.

Critics we shall have, but so did Churchill and Roosevelt.

It may be that the affairs of the association can best be furthered through the medium of working committees. If so, the functions and personnel of such committees will be set forth in the pages of XTAL. There will be adequate information placed before the Association membership.

XTAL will be developed into a magazine of which every Canadian amateur may be justly proud.

Already, we have converted a deficit into a surplus. Sound principles of financing will prevail. Efficient accounting records will be kept. Only this week an auditor from a government agency, in a routine inspection of our books, paid us a high compliment. You, the members, expect that quality of management to be given to your Association.

A new Constitution is necessary. The matter is receiving attention, but it is a slow tedious job for a committee whose time for the task is limited. We must incorporate in our Constitution provision for national representation on the Executive Committee.

Some thoughts in that regard are being studied, but three thousand miles of geography contribute considerable in the way of difficulties. But when the draft for the new constitution is complete it will be submitted to the membership for revision as they may decide. This will be followed by an election in accordance with the provisions of the new Constitution.

All in all, there is a big and interesting job to be done. The members of the Executive Committee have their sleeves rolled up and invite your close scrutiny of their efforts in your behalf. Immeasurable success will be achieved if the committee is encouraged by your support and constructive comments and criticism.

A big program lies ahead, and we introduce you now to the new members of the Executive Committee who are going to assist with the utmost development of our potentialities.

A 100 Kilocycle Crystal Harmonic Oscillator

By Peter Posnikoff Ve3BBN*

ALMOST every amateur has at one time or another constructed a crystal calibrator using a 6SJ7 pentode tube oscillator and then given up in disgust when he failed to obtain adequate harmonic output above 5 Mc.

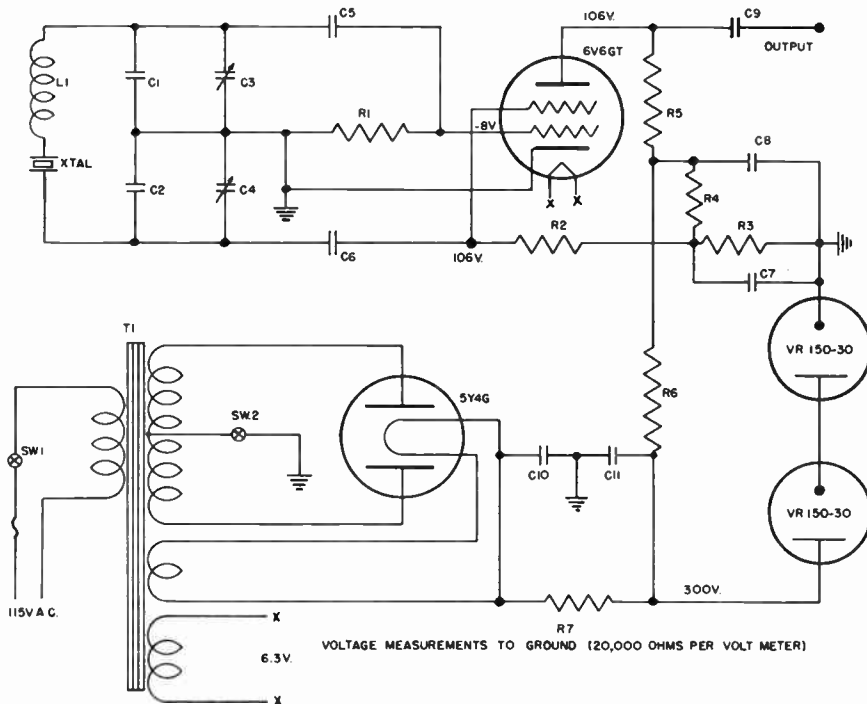
The Bliley Electric Co. supply such a circuit with their FM6-S crystal unit that we found possessed good stability characteristics but did not have sufficient output on high frequencies. Hence we reasoned that if we could change the Bliley circuit to provide high harmonic output and maintain a high degree of stability we would have something very useful for frequency calibration even at 28 Mc. After considerable experimentation we found that a beam-power tube with very low electrode potential was the answer to our problem. The low potentials on the plate and

screen prevented excessive plate and screen current flow with the result that the tube remained abnormally cool and our stability was increased as a consequence. However the good part of it was the high output rich in strong harmonics even at 28 Mc.

In our model of the crystal calibrator we used a Bliley FM6-S precision 100 Kc. unit primarily intended for use as a frequency standard, but any good 100 Kc crystal of reputable make and a good oscillator would be satisfactory.

By beating the 50th harmonic of the oscillator against WWV on 5000 Kc, it is possible to adjust the circuit to exactly 100 Kc, at 25 degrees centigrade, by adjusting padders C3 and C4.

*Moffats Ltd. (Crosley Corp., Radio Div.), Weston, Ont.



100 Kc Crystal Harmonic Generator Parts List

- R1—1 meg $\frac{1}{2}$ W
- R2—50,000 ohm 1 W
- R3—100,000 ohm 1 W
- R4—8500 ohm 1 W
- R5—50,000 ohm 1 W
- R6—50 ohm 1 W carbon
- R7—500 ohm 4 W
- C1-C2—50 mmfd. mica condensers
- C3-C4—75 mmfd. padder condensers
- C5-C6—.05 - 600 volt tubular condensers
- C7-C8—.01 - 600 volt tubular condensers
- C9—7 mmfd. mica

- C10-C11—10 mfd. 450 W.V. electrolytic condensers
- T1—Hammond type 271 transformer
- SW1—SW2—Single pole single throw toggle switches
- Xtal—Fm6-S Bliley 100 Kc crystal or equivalent
- L1—20 M.H. R.F. Choke
- 1—5 prong socket for crystal
- 4—Octal sockets
- Tubes—5Y4G, 2-VR150 30, 6V6GT
- Fuse Holder (panel type mounting)
- Jewel and bracket
- Microphone jack and cable
- Hardware

VHF IN CANADA

Conducted by GORDON COLEMAN, VE3ANY

WE, in Canada have always looked with envy, and perhaps a bit of doubt, at the reports of regular 100, 150 and 200 mile QSO's on 144 Mc., by our friends across the border, and especially in the W1, W2, and W4 call areas. Around Toronto, Halifax and Vancouver an 80 mile QSO on 144 Mc. is really something. Granted, we have had some good 200 mile contacts, but always with the help of temperature inversion. What have those U.S. boys got that we haven't, we kept asking ourselves? Well, we have decided to see for ourselves. Having been allowed a vacation from the local sweat-shop where we make our bread-and-butter, yours truly made the 500 mile journey to A.R.R.L. Headquarters in West Hartford, Conn., W1AW, Newington, and of course, Seldon House where W1HDQ holds forth.

Upon arriving we were taken in tow by John Paddon, VE1BLZ who plays at antenna building, etc., for A.R.R.L., and ushered out to the penthouse-like location of W1HDQ. It is something like being up in a plane, looking out of Ed's window to see the whole city of Hartford spread out before you. The distant hills, beyond which is the seacoast, seems without touching distance.

It sure is one grand location for VHF work. Ed (always the ham) is building a house on another hill 250 feet higher. Yipe!

We have some pretty good hills in Canada. There's Montreal mountain, Waterdown heights and Hamilton mountain, Citadel hill in Halifax and, of course, the Rocky Mountains out of Vancouver. The best we have been able to do is 100-200 miles and only once in a while with the help of temperature inversion. We turned the receiver on, pointed the beam up Boston way and boy, what a show! Two meters down there is like 75 meter 'phone band in Toronto any Saturday night in the winter. It wasn't long before we had hooked a lad. He was really roaring in, so I asked Ed, "how far?" The answer, "Oh, 150 miles or so," completely floored me. He was using a converted SCR522 with about 25 watts to a 4 element vertical beam. We continued on, talking to one after another 100, 150, 250 miles away, and his nibs says that this was just an ordinary evening, no inversion! After much probing and questioning we could see that poor band occupancy was the answer to our failures here. The old law of averages worked here too, and it is logical that if there are 50 stations active, 20 per cent do the dx regularly. Another part of their success may lie in their vertical antenna polarization. They

SIX METER DX DERBY

Call	Number of DX Contacts	Number of States Worked
Ve1QZ	145	19
Ve7AEZ	125	23
Ve7VY	96	20
Ve3ANY	54	23
Ve3AZV	52	16
Ve7AHZ	42	6
Ve1NM	40	5
Ve7BQ	35	3
Ve3AXM	26	16
Ve3KM	18	10 and Ve1
Ve3AIB	18	10
Ve3BPF	17	9
Ve4YW	16	9
Ve3AXT	14	9
Ve3NH	12	7
Ve4GQ	10	7
Ve3AVJ	10	7

For reasons of space we have not listed the 15 or so stations who have worked less than 10 DX contacts.

swear by vertical for 144 Mc. down there, and they should know!

The next day, we visited Headquarters and I was introduced to the whole staff. They are a swell gang. All are busily engaged in re-writing the hand book. Judging from the effort they are putting into it, the 1948 Handbook should be a honey! In their well-equipped workshop every piece of gear shown in the Handbook is first built up roughly, cut and hashed over, tests made and values altered, rebuilt from new parts, dressed up with dials, nameplates, etc. and then photographed. These prototypes are kept for a period and finally disposed of. I saw many familiar pieces of equipment that have appeared in the pages of QST. Of considerable interest to the visitor are the display cases of ancient radio parts and tubes which line the halls. Old Tesla coils, rotary spark gaps, ancient tubes, etc., all neatly labelled and described, made a real museum.

A trip to W1AW was very interesting, and a plaque in the entrance, dedicated to the memory of Hiram Percy Maxim the grand "old man" of Amateur Radio, gave one a feeling of pride to realize that we, too, belong to the same brotherhood as some of those who have done so much for the amateur and the Science of Radio.

All in all, the trip to Hartford was most informative and leaves fond memories of a good time with a swell gang.

The business of local rag-chewing, message handling and experimenting on the Very Highs, goes merrily ahead throughout Canada. During the latter part of July and the whole months of August there was a sharp

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C A R O A NATIONAL REPORT

KIRKLAND LAKE HAMFEST

Registration opened at the Park Lane Hotel at 9.30 am. The Technical Sessions were held at the Lake Shore Mines recreation hall at 2.00 pm. A very interesting talk by Jack Bain of Northern Electric on the PA and Sound Systems installed at the C.N.E. was enjoyed by the gang. Then a round of "amber coloured refreshment" allowed a get-together for a while. Alex Reid, C.G.M. for A.R.R.L., was at the Hamfest and while he was at the Technical Session the xyl's had a tea and ragchew at the Y.W.C.A. Then the second speaker of the afternoon, Les Haimes of General Electric, presented a paper on FM from the service engineering end of production. This paper was very interesting to the whole gang.

The banquet at the Park Lane Hotel was under way at 6.30 pm, that is the punch bowl part of it was. Bud Clement—3TZ, is to be highly commended on the excellent punch he prepared. Brian Shellon, the manager of Radio Station CJKL, was the master of ceremonies at the dinner and the principal speaker was Alex Reid with a report on conditions to date from the Atlantic City conferences. Alex Reid made quite a hit with our lady Reeve, Ann Shipley, who is the boss of Kirkland Lake and Teck Township. Ann welcomed all the hams to

QSY to page 14

Ve 1

Ronald J. Hesler, Ve1KS, Sackville, N.S.—AW now has an HRO receiver. From all reports it looks like BC and OW have departed from the ham bands for good. EP is departing for VO land. FB is at present off the air, but plans a come back soon. FQ is having a mite of trouble in his co-ax. GR's modulation transformer got lazy and is now using grid modulation. LL is selling out, lock, stock and barrel. LZ is busy with a new rig. MZ is active on 20 with 200 watts and on 80 with 50 watts. NQ is seriously considering the VHF's. PB is active on 10 phone again. QG has a new VHF-152 converter. TH will be hearing wedding bells tolling soon. TA is having difficulties designing an 80-meter antennae loader. OB and NE have BC-348's. NE has a new converter for 10 operating. SE is active on 10 fone. FO, the Halifax Club station, now has a BC-348 to round out their emergency equipment. TL was recently host to the executive of the H.A.R.C. at the Newport Naval Station. SF is doing a swell job in reporting the "goings on" of the Halifax gang to your DR. EW continues to knock off the dx at a great rate with 200 watts on 20 CW. Congrats to IZ and xyl on the arrival of their new junior opr. FC installed a pre-selector to his S20R. MR recently arrived back from a trip to the Radio Shack in Boston loaded to the gills with surplus equipment. RQ is giving EW a run for his money in the elusive dx.

JS has completed his new rig. IZ has a new scope in operation at his shack. FL and xyl AYL are motor boat devotees and spent most of the summer boating on the St. John river. EE also forgot ham radio for the summer and took up outboard motor boating. FV is another boating "joe". AK is back on the air again on 80 with a converted AT7. The L.C.A.R.C. net was inaugurated on the 23rd of Sept. with IE as master of ceremonies. A big hand is in order for IW and FV, the editors of the L.C.A.R.C. Bulletin, for the excellent "house organ" that they turn out—nice work, fellows, and keep it up. Recent visitors at the shack of KS were: IE, TN, PA, BK and HT. CX is planning big things on 10 fone with a new beam.

LG is another 10-meter beam builder. MA is very conspicuous by his absence on 75 during the summer. LH was a recent visitor to the cit yof St. John and the Radio Shack in Boston. KC has 500 watts of phone ready to hit the ether as soon as his b.c.i. audience will permit. ES is working 20 CW now with a Millen exciter. DJZ is planning to go easy in the future. CX is active on 75 phone and is in the process of building a two-element beam for 20. DC is operating an 813 with 125 watts to it on twenty-meter phone and works out fb. EV is working dx on 20 CW with an 813. EL works on 20 phone between his frequent hunting trips—has pair of 814's with 175 watts going to them. GF, a relative newcomer, is working out fb on 20 CW with a pair of 807's—used to be 31M (no prefix) in Toronto. NH is another active newcomer and is using an AT7 transmitter on all bands. TZ changed his mind again on what he wants to use in his rig and is now working on an N.B.F.M. exciter unit (wonder why?). GS is busy building a new house—too much QRM at his present QTH and expects to get good dx from his new QTH. TE is looking for fire insurance for his receiver. GA is using an HT-9 transmitter and a BC348 inahler to good advantage—believe he confines his activities to 20. EX is putting out a swell signal and wonders why GF comes in so strong and is blocking his received. RD is really working out in fine style from the QTH of Dieppe. MI—if you are not getting out call Emery; if he is not eavesdropping something must be wrong. LD has been off the air for the summer due to having to go to work. PI is using a single 807 and complains about much QRM from DC, JG, EL, GF, etc. QJ, another Dieppe man, is doing fb on all bands. JG is working 75 and 20 fone and is winding coils to hit 10 for the busy season ahead—also does an excellent job as a reporter of club happenings to the writer. EB has a new Millen exciter and works all bands with it on CW. RC, the club station of the M.A.R.C., is at present building a new transmitter—is using an 1155 for a receiver. Regret to announce the passing of SV (Jimmy Sergeant) an active member of the M.A.R.C.

By the time that all of you read this report the winter operating season will be well under way. We will all be interested in hearing about your activities, dx, etc., so how about dropping the writer a postcard and letting the rest of the gang read about your successes. How about helping me make this column bigger and better as time rolls by. To date we have achieved an envious record—let's make it even better. 73—RON.

Ve2

Floyd G. Gribben, District Representative, Quebec, Ve2XR, 5120 Westbury Ave., Montreal—Howdy fellas! Here we are again—this time with the October report. If you are not mentioned in this month's "doings" it's just because that I'm not "in the know" on what's doing over your way. It is a very difficult job to get ham news and I find myself continually quizzing those I meet in person and on the air, or in relying on the proverbial grapevine and my receiver. This column sure would start to grow and be a lot more interesting if only I could hear from more of you fellows. How about making it a point to drop a QSL my way in time for next month's issue? Make sure that you mail it before the 15th of the month. If you live in and around Montreal, give me a call on the phone. My number is EL 5387. What say OM's? . . . The Ve2 licenses have now exceeded the 700

mark. The three letter calls have been making their appearances in the last few months. LE of the pre-war Quebec City gang is now signing G3BLT on 20 phone from Wiltshire, England. DL says he's lining up two 813's and a pair of 828 modulators to take his share of the spectrum. WY finds that it's quite a financial investment to put up a beam antenna. BEEF DEPT.—Why is it that so many of the Montreal gang make a continual practice of local round-table QSO's on 20 fone, gumming up the band for those who would like to work out of town? Let's be fair about it OM's. There's always 6 meters and the B. T. Co. for local gabs. It'll save tempers and power too! VL and family gave the BCL's a break when they took their vacation to Ve3 land to see the folks and the Toronto gang. SA inaugurated his new speech clipper on 10 phone. JJ has new rotatable pipe mast for his 10 meter twin-three beam which he turns at present with a pipe wrench! He's also sporting a new R.C.A. GR110 receiver. XX rebuilt his rig using PP 812's in the final during the August heat wave and is now enjoying the new rig on 20 phone. WK takes it all back about what he said about DX not QSLing. He sent an envelope to the QSL manager and reaped a harvest. QS let his BCL's rest when he took the junk to his summer QTH at Plage Laval where he gave 10 meter phone a good going over. BR's beam is getting to be quite a landmark in Montreal West. AX says he's going to put up a telephone pole on his front lawn for his new beam. GE is rebuilding a second hand desk for his new operating position. JM says there will be no new gear around his place for quite some time. His vacation to Toronto cost him a new engine and two new tires for the gas buggy. DR has finally hit the air waves again after a long layoff while getting settled in his new VLA house in Point Clair. IS and the xyl are reported to be beaming over the fact that they have a brand new daughter. Congrats. WF is now using PP 813's as a linear amplifier for his ten meter phone and hooked three ZL's as a starter. ZM has fun with his 25 watts to an 807 in his portable mobile job. HD is a new voice on ten phone. ex-JK, ex-3JK, ex-3BDX is now QTH'd in Winnipeg with the T.C.A. XI returns to the air after a summer close-down. KH has 16 confirmed states on 6 meter fone. AE is on ten with 10 watts and a 3L squirter. CA has double zepp which really knocks off the boys "down under" on 20 phone. HR has acquired an SX-25 receiver. LY joined the Navy for a five-year stretch and is reported to be stationed in B.C. HI, HI, Dept.—Then there's the guy who says an antenna is definitely a "put-up job". And the lid who wants to know if all these hams and beam antennas belong to the Rotary Club! Well, OM's, I guess that does it up for this month. BCNU here in the November issue. 73.

Ve5

Bill Gordon, Ve5MW, DCM, Oxbow, Sask.—50P was a vacationer at Vancouver and Seattle and returned with a National 173. The Moose Jaw was just going again after the summer. 50M and 50P are putting up beams for 10 and 20. 5CO and 5FK are building houses. 5AW at Prince Albert is on 75 along with 5AT at Govan and 5AS at Lloydminster.

5LY is heard again on 75, 40 and 20. 5RD got down on his hands and knees and scrubbed the shack floor. Reg says he never uses anything but Lux.

5MW was a visitor to some of the Moose Jaw and Regina gang recently.

Ve6

W. R. Savage, Ve6EO, Lethbridge, Alta.—6EY—Reports in form us that Bill has a fractured spine. Tough luck, OM, and here's wishing you a fast recovery.

OD—Is waiting for good condenser to return on 75 meters, in the meantime he is studying a new handbook (Forever Amber).

6KA—Visits Lethbridge now and again when he can make it.

6AF—Must be on 20 meter fone. He gets a British S.W.L. Card. When do we have that sked Daisy?

6PJ—Was out gunning for dx on 75 meter phone one night.

6TK—Says he doesn't care for CW so his rig just covers all bands used for fone.

6HW—Is locating a residence in Calgary and will be moving his Qth soon. Well 73 Bert and lots of luck.

6YN—We hear on the air frequently with a very nice signal.

6DB—Pays a visit to Lethbridge and informs us that his new Qth is not so good, with a substation just over the fence and 13,000 volt lines all around. Guess he will have to use a remote receiver somewhere.

6JI—Is putting out a nice signal on 80 meter CW. How about some info for this report next month OM.

CANADIAN ARRL PROFICIENCY AWARDS

W1AW

Code Krums

March 17, 1947

	W1AW
Norman K. Law, Ve3AGP.....	20
Phillip Wharton, Ve3AWQ.....	25
Thomas C. Wylie, Ve3WY.....	35
Endorsements:	
Stanley M. Dane, Ve3PB.....	25
William Welch, Ve3BCS.....	20

April 18, 1947

Harry Doyle, Jr.....	30
John F. Pond, Ve3AWH.....	20
M. J. McMonagle, Ve3AWJ.....	20
G. H. Knight, Ve2OV.....	15
Endorsements:	
W. H. Near, Ve3ACB.....	25
Phillip Wharton, Ve3AWQ.....	30

May 14, 1947

E. G. Hammond, Ve3XI.....	15
W. J. Cameron, Ve5BB.....	20
J. M. Dalcourt, Ve2UU.....	15

June 19, 1947

J. A. Wetherly, Ve5JW.....	20
Gordon Lynn, Ve2GL.....	35
Endorsements:	
J. E. McDonald, Ve3YV.....	25
W. M. Guillot.....	35

July 14, 1947

Verne J. Read, Ve7EH.....	35
J. L. Weir, Ve3AIB.....	15

August 19, 1947

M. F. Benson, Ve3AQV.....	15
J. C. Hill, Ve3AJR.....	20
Art Morney, Ve4AM.....	15
H. P. Ristow.....	15

6MF—We hear calling CQ with a nice signal but he doesn't seem to get any replies. Maybe we will have to warm up the rig and give you a call when this report is finished.

6DR—Is heard on 75 fone and with a very good efficient operator. Nice going Audrey.

6KW—Is heard on 80 meter CW doing a nice job.

6MP—We hear you on 75 now and then. Don't worry because we will be on 75 one of these days for a QSO.

6SR—Has been very busy building a new ham shack, the boys are waiting for the official opening party. Hi!

6DN—Is busy painting his house and has not been on the air very much.

6EL—It seems is very partial to Glenwood cheese—so if you can't squeeze a QSL out of him just enclose a piece of cheese with yours, it really works fellows, it's been tried.

6AO—Works a VR5 on forty meters and gets a QSL card to prove it.

6NA—has some trouble on his speech. We wonder where all the Medicine Hat hams have been the last two months.

6LA—Is busy harvesting his rye and as soon as that is over he starts on wheat, but he gets his hamming in the winter.

6NF—Is either QSO-ing on 75 meters fone or he is working on 6 meters. He also has been changing his station around.

6MN—Gets his W.A.C.—and now has erected a rotary beam, he must intend to work more dx.

6BC—Is going to take the 813 out of his final and replace it with an 814.

QSY to page 14

AT LAST!

It's New . . .

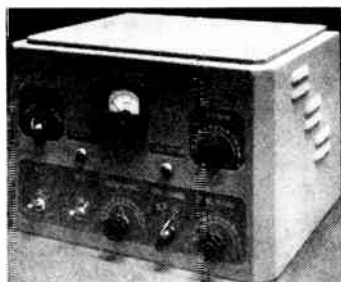
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NORTHERN PACIFIC

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Ve7YD

VHF—from page 9

decline in E layer skip dx on 6 meters. Two meter temperature inversion dx took a leap and a new International dx record for 144 was established. On August 27, Ve1QZ, Halifax, N.S., worked various W1's. Best was W10CQ, Milford, Conn., a distance of 500 miles. Ve1QZ was using a converted war surplus transmitter, running 30 watts to a vertical 16 element array.

The last flurry in July brought us a new Canadian dx record for 50 Mc. On July 27, Ve7VY, Vancouver, B.C., worked W2PWP in Delanco, N.J., thereby topping the 2250 miles record by over 250 miles.

We have been asked on several occasions if there is an award available for the first Ve to work all Ve districts on frequencies above 50 Mcs. Since Ve1-Ve3 contacts have been made, we have made a beginning toward this end. CAROA has at present a W.A.V.E. (Worked All Ve) diploma which is quite a coveted award, and this could be suitably endorsed and inscribed to show VHF participation. However, we feel that due to the small number of active stations, this accomplishment when attained merits more than a diploma and we will see what can be done in the future. Also since Ve's have worked upwards of 23 states in the U.S., a Canadian W.A.S. award should be forthcoming. Next year there should be a possibility of this being accomplished.

6 meters has been open in the various sections of the country, since July 16, are as follows:

TORONTO AREA—

July 16th	1200-1230 hrs.	W9O (good)
" 18th	1730-1800 hrs.	WO (fair)
" 20th	1730-1900 hrs.	W4 (weak)
" 26th	2100-2130 hrs.	W4, 5, 9, O (weak)
" 27th	1700-2200 hrs.	W4, 5, 9, O (good)
" 28th	2300-2315 hrs.	WO (weak)
Aug. 11th	2000-2100 hrs.	W4, 5, O (good)
Sept. 3rd	2215-2230 hrs.	W4, 5 (weak)
" 9th	2230-2300 hrs.	W4, 4 (weak)

HALIFAX AREA—

July 18th	1120-1330 hrs.	W2, 3, 4 (good)
Aug. 14th	1300-1500 hrs.	W3, 4 (good)

WINNIPEG AREA—

July 12th	2000-2030 hrs.	W5, 9 (good)
Aug. 16th	2100-2200 hrs.	W8 (weak)

VANCOUVER AREA—

July 19, 21, 24, 25, 27, 28, 31	W6 (good to fair)
July 12th and 27	W9, O and W2 (good)

DX RECORDS

- 50-54 Mcs.
Ve7VY (Vancouver, B.C.)—W2PWP (Delanco, N.J.)
2500 miles—July 27th, 1947.
- 144-148 Mcs.
Ve1QZ (Halifax, N.S.)—W10SQ (Milford, Conn.)
500 miles—August 27th, 1947.
- 235-240 Mcs.
Ve3BNG (Waterdown, Ont.)—Ve3AEZ (Hamilton, Ont.)
15 miles—May 18th, 1947.
- 420-430 Mcs.
Ve3BFF (Hamilton, Ont.)—Ve3AND (Hamilton, Ont.)
1 4/5 miles—May 15th, 1947.



POWER WIRE WOUND RESISTORS



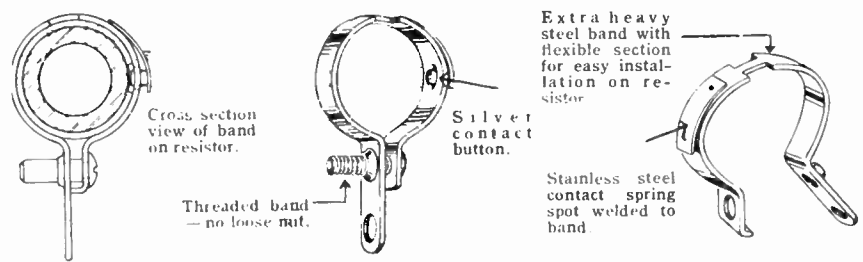
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XC-100
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Now you can easily convert your receiver into a heterodyne frequency meter equivalent to some selling at five times the price! Here's a small crystal oscillator with miniature tube and precision 100 Kc. crystal. Mounts inside any receiver with power derived from same supply. Only 6.3 volts at 175 ma. and 150 volts at 2 ma. are required.

Model RM-5 Rig Monitor

A field strength meter - - - absorption type frequency meter - - - Modulation meter - - - Phane monitor - - - and Carrier Shift Indicator all in one package! Complete with coils covering 80-40-20-15-10 meter bands.

Model RS-59 Broad Band Antenna Matching Preampifier

For accurate matching between antenna and receiver on 20-10-6-2 meter bands. Can improve efficiency from 30 to 60 db. Supplied with one set of coils for any band.

IMA-14 Impedance Matching Analyzer

Measures power output to antenna at any frequency to 30 Mcs. and any power from 20 watts to 1 Kw. Indicates standing wave ratio - - - correct antenna tuning - - - and correct match between buffer and final when link coupled. For any line having impedance between 70 and 300 ohms. (Lower impedances by simple conversion factor).

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Ve3AEC Ve3ASC Ve3ACL Ve3AVM

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KARL HAMFEST—from page 10

Kirkland Lake and hoped that they would enjoy themselves. Bert Knowles, 3QB, gave a short talk at the Technical Session on the QSL Bureau and at the banquet Bert read a letter from a British amateur telling of the rations they are allowed. Immediately Ted Barker asked the hat to be passed for contributions to British hams in the form of food parcels. A sum of \$21.43 was collected for this purpose. Everyone sat still for a picture and that ended the banquet. O yes, we did eat also.

The dancing party at the Lake Shore hall was the next feature and the most important from hams' views on the subject.

Prizes were displayed at the party and the orchestra had a difficult time trying to get going as all the hams would rather mill around the prize table. Tommy Carpenter, 2RK, old 3BD, shooed them all away and the dance started. Then the prize drawing started. By the way the prize for the ham that came the greatest distance and awarded by CJKL Kirkland Lake, was presented at the banquet by Brian Shellen to Hugh Wilson, Ve3BJI, of London, Ontario. The prize was a bug. Hugh Wilson hitch-hiked to the hamfest from London, a very fine effort on his part. Gordon Browne, 3PH, of Kirkland Lake, won a \$25.00 credit note on Northland Radio Supply. Jack Loader, 3EN, of Iroquois Falls, won \$15.00 note from Northland, and Tom Watson, of Kirkland Lake, won the \$10.00 note, also from Northland. Marconi sent up a 5BP1, won by the hitch-hiker, Hugh Wilson, 3BJI. Payette and Co., of Montreal, sent a box of oil-filled condensers and it seemed as though everyone was rebuilding and needed just those condensers, so they were a popular item. The 814 tube by Crawford Radio of Hamilton went to Gord. McKay—he has been running fifteen watts for a long time. A peanut tube was awarded Charlie Dunlop, 2SC, for he was running the legal maximum. General Electric, Northern Electric and Marconi sent tubes which everyone could use and the boys expressed their thanks to the companies mentioned. Canadian Marconi sent Tommy Thompson up here with a very nice display. They had three National receivers, a complete Temco transmitter and an Abbott transceiver. These items had a crowd around at all times and the boys heard some stuff they didn't know was on the air (plug). We would like to thank all other wholesalers for the nice prize donations: Canadian Electrical Supply, A. & A. Radio, and local business men who donated prizes for the yl's and xyl's. The dance happened during a lull in prize drawing they tell me. October 5 was visiting day and hams from out of town made calls around Kirkland and met the boys in their shacks.

NATIONAL—from page 11

6EV—Has been playing around with a rotary beam and is also replacing his 813 with an 814. I wonder if it will be an 815 next year?

6MA—Ex-TAD1 has found an apartment in Lethbridge and we expect to hear the new call on the air in about three weeks.

6JJ—Wonder what you are cooking up. Your absence on 75 meters just don't seem healthy. (Maybe building a KW rig.)

6IC—Just needs a ZS to make WAC his powerful little 30 watt 807.

6FO—Is very busy on the air trying to get his last nickle's worth of his Ve6 call—it won't be long before he will be signing Ve3??

6QE—Who works for C.P.R. has a pair of 809's in the final and runs 100 watts with a very nice signal on 75 meter fone.

6OG—Says he is going to neutralize his 813's.

6KZ—Thinks he should have his receiver tuned up so it will bring in signals better and more of them.

6WC—Now has 3 crystals on 75 fone. We wonder if he makes them out of the clay from Redcliff.

Ve7

Ernie Savage, Ve7FB, Vancouver, B.C.—Much is happening in B.C. but getting reports is like getting blood from a stone! Come on, fellows, how are we gonna put XTAL over without your support! Our Archie Ve7MQ is back from Edmonton again—been hamfesting. Ken Ve7SN pours out a good signal from a converted 19 set. Has anyone used the "B" set and what are results? Capt. Wheatley Ve7AEY has returned from the southland. Has the KiloBug bit the Cap! Anyway, the East is coming West for a look-see! Ve5AR or Moose Jaw, otherwise known as Les, is now hereabouts. Ve6DN to Glenwood and Ve6HN is now at High River. Wally Barker known to 20 meter bugs as G3NQ has even come to see our golden sunsets and sign Ve7AFM! Tip to

holidayers next year: Wear your call on your lapel. Tip from CAROA H.Q.: Wear a CAROA pin too! (Ernie always could go along with a gag!) K7PAL travelled miles by bus—on the same seat was 6HN, result: No QSO till end of trip becuz who didn't know who who was sitting by! Bill Ve7ADI and Roberta will be signing Ve6 very soon. Every Ve7 hates to see you leave kids, good luck! Jim at Ve7AHH finally gets to use 75 fone. Flash: Again ham radio scores for speed. Mrs. Muskett 7TH, was in hospital in South Africa. She was visited often by ZS5CU who shot a message to a Ve3 in Kingston, Ontario, who QSPed to Ve7OT who shoved it into Art Muskett's shack at Ve7DO at Port Alice in 12 hours! Hidden Transmitter Hunt by V.A.R.C. was copped in 49 minutes by Ve7AAN and party. Got a pair of 810's and sockets for FB work. Hot on Clyde's heels were the rest of the pack. The do got a swell plug from Vancouver newspapers—front page! After "the kill" everybody packed off to Spanish Banks for beach party. Lots of free ice cream. Local RI Jim Kitchen waved a cone about as he presented the prizes. Ve7WK is on 40 and 80 with a Rhombic no less. Ve7DJ has a new sky wire now, 134 feet in length. Sending a nice signal out on 40 meters. A swell construction job done by Ve7's ADV-BE and Doug, Gordon. Geo. Nuhn and Doug (Gordon Lane passed the hurdle at the RI's and will be sprouting just one new member (Pat Larkin) without his ticket.

Ve7UU is another to enter the ranks of VFO users. Alf has a nice job built up now in hopes of heating old man QRM on 20 meters fone. He's using cathode modulation and about 100 watts input in the RF end.

Ve7ADV is working on a new base for his beam. The tower Jimmy had was taken down due to the swaying of the wind. Jim figures a pole will be better, also safer.

Ve7VF—Hugh Cummings is on 80 CW. However, he is not on much as new Qth is more important at the moment.

Ve7BE—Hal Olson is on 40 CW with 150 watts and working just about everything on the continent. Is also on 10 meter fone when he gets tired of using his fist!

Ve7MH—G. Armstrong is still scooping in the DX on 200 watts into sky wire. Has been busy with messages and also doing carpenter work on his brother's new QTB. It's a puzzle to us how he finds time to work too.

Ve7OJ—Gordy Clarke working ZL's and Vk's by the dozens, also other DX, is going to build another rig soon, a little more power than the 50 watts he is using now. Gordy's sky wire is pretty long, it goes for about half a mile and disappears in a tree. He says that's where it ends. We'll take his word for it!

Ve7ABP—J. Summerby is still on 40 CW. Jim is going to work a few more W's before going for far away places.

Ve7AZ—J. Sweeton is still over at UU's place more than he is at home. It might be that Alf's transmitter is the one that works. Jack is on 10 meter fone.

Ve7LF—Cliff Steele working 40 CW steady is on most any time. He's on 6 meters too. Having some trouble getting the kinks out of a new rig at the present time.

Ve7WH—Bill Howard moved to a new Qth right across the lane from Ve7AFO—Bob Manning of the V.R.C. Hope they live happily ever after.

Ve7ZT—Geo. Scroton put up a scaffold to get up and tighten the slack in a 20 meter beam and says it doesn't work any better, but it improved the looks anyhow.

Ve7AKK—On 20 and 40 CW will be throwing up a 20 meter beam soon if finances permit, and rope OH into giving a helping hand with the construction.

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The Scarboro Amateur Radio Club

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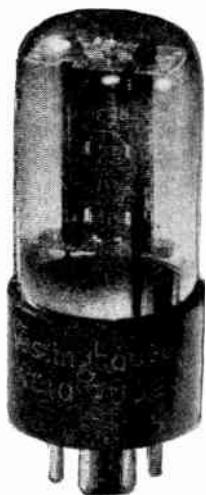
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- Q V E -

A great number of reports have come direct to HQ from hams in the various districts. Where such reports concern activities, club doings, and general gossip, much time can be saved by the staff if such were sent to the District Representative for the district concerned. Following is a list of all correspondents who write district reports for CAROA NATIONAL REPORT each month. Remember that he must have them by the 7th of the month to meet his deadline of the 15th. Tnx.

Ve1

R. J. HESLER, Ve1KS, Box 160,
Sackville, N.B.

Ve2

F. G. GRIBBEN, Ve2XR, 5120 West-
bury Ave., Montreal, P.Q.

Ve3

R. C. HUNT, Ve3WX, 103 Garfield
Ave., London, Ont.

Ve4

C. E. JOHNSON, Ve4XO, 30 Atholl
Apts., Winnipeg, Man.

Ve5

BILL GORDON, Ve5MW,
Oxbow, Sask.

Ve6

W. R. SAVAGE, Ve6EO, 329 15th St.
N., Lethbridge, Alta.

Ve7

ERNIE SAVAGE, Ve7FB, 4553 12th
Ave. West, Vancouver, B.C.

Ve8

JACK SPALL, Ve8AS, Box 268,
Whitehorse, Y.T.

ADDRESS UNKNOWN



A man without an address is like a man without a country. Even his best friends never know where to find him! He misses all the beautiful, worthwhile things in life. Your radio "address" is the frequency on which you operate. Although you may share it with others your "spot" in the band becomes a treasured and personal thing... the key to your amateur enjoyment. PR Precision CRYSTALS give you the finest, most stable, frequency control the art has developed. With a PR CRYSTAL in your rig you KNOW where you are... you know you will STAY THERE! Every

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STEW HEFFERNAN, Ve3AVH
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Bud Radio Inc., of Cleveland, Ohio announces the appointment of Hefco Agencies of Toronto, Canada.

C. S. "Stew" Heffernan, Ve3AVH, has been a well-known member of the ham aggregation since 1928, and is a member of CAROA.

Formerly associated with Canadian General Electric, Canadian Westinghouse and with J. R. Longstaffe Ltd. in sales and engineering capacities, commenced operations in early 1946 on Yonge Street in Toronto. Recently moved to larger offices and showroom at 1382 Queen Street East, Toronto, and now maintains a branch office in Montreal.

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A-100-C-S.P.D.T.—60 cycle	\$4.25
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A-100-C-S.P.D.T.—25 cycle	4.65
A-100 D.P.D.T.—25 cycle	8.40

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811 \$1.90	814 \$4.00
801A 1.60	813 11.00
810 5.00	VR10535
815 3.00	VR15035
837 3.00	6AG540
826 7.65	RK6090
1616 2.60	RK3965
872 3.00	2x240

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Type	For	Your Cost
210	866 etc.	\$.99
211	810, 872 etc.	1.44
213	304TH etc.	1.80
216B	303, RK28 etc.	2.48
237	913	.99
247	829B, 826 etc.	1.13
265	Acorn Tubes	.99
267	Ceramic Wafer for 6AG5, 6AK5 etc.	.45
277B	Miniature with Shield Base	.68
278A	1 3/8" Shield for 277B Socket	.18
278B	1 3/4" Shield for 277B Socket	.18

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WINNIPEG AMATEUR RADIO CLUB HAMFEST

FROM as far east as Ontario, as far south as San Antonio, Texas, with a smattering of representation from Minnesota and Wisconsin, came over two score out-of-town hams to add their numbers to 300 others from all parts of Western Canada. It was the Winnipeg Amateur Radio Club's annual Hamfest at St. Vital Fair Grounds, August 31.

Under the able direction of Mr. A. C. Webb, Ve4TJ, a full and interesting programme kept the visitors entertained from registration hour at 11.30 A.M. until the end.

Amongst the exhibits was the latest equipment including VHF, all of which afforded highly interesting demonstrations. Mr. D. R. P. Coates displayed his collection of ancient ham gear, all in working order. A novel wrinkle in hamfest annals was the 500 watt R.C.A.F. transmitter which was used as a means of conducting a dx contest. Ve4TJ managed to QSO a Ve1 in Halifax to take the laurels. Second prize went to Mr. W. Burton, Ve4JE, president of the WARC, and third to Mr. Fred Baker. Code Speed Contest trophy was taken to Moorhead, North Dakota by a W. In the competition for special equipment, Mr. Harold Rasmussen's display and demonstration of a 10 centimeter rig was first and for gear design of transmitters Ve4TJ was victor. Mike Kudlac took honours in the receiver section.

During the afternoon, races and other sports events taxed charley horses and long dormant muscles. An archery demonstration was a highlight of the outdoor events.

The president expressed keen appreciation of the fine staff work of the following committees: Publicity—F. Griffen, Ve4KF, and H. Dollard, Ve4MC. . . Ticket Sales—Art Morley, Ve4AM (Art is ARRL SCM for Manitoba Section ARRL). . . . Equipment—R. Peters, Chairman, Ve4RP. . . . Installation—B. Tylko, Chairman, Ve4SH. . . . DX—Geo. Behrends, Chairman, Ve4RO. . . . Transportation—R. Peters, Chairman, Ve4RP. . . . Catering—D. Taylor, Chairman, Ve4QV. . . . Reception—W. Sutton, Chairman, Ve4NI. . . . Archery—J. Davidson, Chairman, Ve4EK. . . . In charge of VHF was Ve4DG and group and in the dx booth the inimitable Ve4RO with Ve4BQ, Ve4NI, and Chuck Johnson, Ve4RO, district representative of the Canadian Amateur Radio Operators' Association. Claude Dulmage, who so kindly supplied this story, was boss of cathode ray operations.

As is the usual custom this highly successful Hamfest came to a close in the wee early hours of the morning in various shacks throughout the city.

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DX'ers of THE MONTH

Ve4RO
80
Countries!

Call	Sept.	PW Total
Ve4RO	80	142
Ve1OK	46	104
Ve7EH	32	70
Ve6AO	30	59
Ve1EA	29	104
Ve5JV	26	32
Ve3BBZ	16	47
Ve3AJS	16	44



Ve4RO is at it again for the second month in a row! George says that it's just a case of who's wife is going to stand for it the longest! . . . 7EH climbs from fifth to third as newcomer 1OK slips into second slot. . . . 3AV just phoned to say that some louse is using his call. . . . he hasn't been on the air for over a year and gets recent cards from F9BV and W1NCY! . . . CAROA HQ would appreciate information should anyone happen to work this lowest type of humanity. . . . Ve1OK thinks OY3G is a phoney . . . any dope on him, anybody? . . . Ve1EA hauls off and works VO2R, GM4MF, G4QK, and G3AKY on 3.5 mc! . . .



September Prefixes

Where space permits we shall list prefixes . . . incidentally, check July XATL again for the new dx'ers of the month regulations. . . . Here goes . . . Ve4RO—VK, ZL, ON, G, GI, OZ, D4, OA, UA1, UA9, VO, ZE1, ZS6, PA, CN8, YN, OX, XE, KH, CM, KA1, OK, KL, ZM6, PZ, VP4, OH, SM, FA8, CE, KZ5, ZC6, TF, EI, LU, UI8, GM, UH8, UB5, UN1, GW, PY, KP4, YI, VQ3, CX, FT4, HB, VS4, ET, VP9, HC, VP8, KV4, HK, TI, UC, HH, J2, UG6, HP, CR9, C9, YO, I1, LA, CT1, UQ, UR, VR5, KG6, NY4, TG, CR7, VR2, VP5, EK, VS6, PK1, F8. . . . Ve1OK—FM8, CM, KZ5, VK, GI, PAO, GM, G, UA6, F, ON4, OK, HB9, E1, UH8, VQ2, D4, ZL, LF, LU, CN8, ZS, J2, CR4, FA8, VP3, KP4, GW, NY4, VP4, ND5, OX, VP2, TF, VS7, I, SM, HA, GC, UR2, UC2, OZ, UA9,

UQ2, VP5, VS2. . . . Ve7EH—CE, CM, D, F, G, GI, GM, UA3, GW, HB, I, J, KG6, KH6, KL7, OA, OH, OK, ON, OZ, PA, SM, TF, TG, UC2, VO, XE, ZL, ZS, KZ5, LA, VK. . . . Ve6AO—HB9, G, KG, KL, J9, VK, J2, OX, SM, OH, KZ, YN, CM, ZL, HP, OZ, F, ON, PAo, PK4, XE, VP8, KH6, OA, CE, KV4, UA3, GW, CN, VR5. . . . Ve1EA—G, ZD4, VS2, CX, F, PY, UI8, OH, UA9, ZS3, VO, KP4, LU, CT1, HZ, J4, 5, KA, ON4, PAo, I, HA, OX, UA6, D4, YR, KZ5, W, SM, C9 (Manchuria). . . . Ve5JV—XE, ZL, HC, G, EI, CM, TF, VK, KH, GM, UA, C9, PA, CE, HK, GI, F, ON, ZS, LU, KL KP, TI, HB, GW, W. . . . Ve3BBZ—ZS, G, GW, CE, LU, ZL, PY, KP, KZ, HC, CX, VP, XE, VP4, VP5, NY. . . . Ve3AJS—OX, VK, G6, VO, D4, GM, VP, UA, HK, CE, PZ, HC, CO, KP, LU, GI.


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AMATEUR MARINE AND POLICE

Battery - Powered Wrinkle

SINCE the war, the rig here has been that ubiquitous 6V6-807 powered by a 32-volt generator with an output of 350 volts at 80 Ma. This gives an input of 23 watts. It managed to work 6 provinces and 23 states on 80 CW last winter. More power would have been desirable. Recently an aircraft receiver dynamotor was obtained marked "input 26.5 volts, output 285 volts at 75 Ma". This little machine had both the negative leads grounded to frame. I isolated the negative high voltage from frame and brought the lead out through a hole in the end cap. The positive high voltage goes to the 807 plate meter, the negative high voltage goes to the plus end of the voltage divided across the 350 volt dynamotor output. The input of the little dynamotor is in parallel with the

input of the big one, but with a 5-ohm 50 watt resistor to drop the 32 volts to 26.5. The combined output gives 625 volts with 70 Ma on the 807 plate, or an extra 20 watts!

There are 45 volts negative battery bias on the 807 grid in series with the grid leak bias to keep the plate drain within the rating of the dynamotors. There is cathode bias on the 6V6 oscillator as well as grid leak bias, so that plate current runs around 20 Ma maximum and the loaded current is less. Grid current on the 807 runs around 2.5 Ma.

I hope this wrinkle will be of some use to hams who must use battery-powered rigs.—
J. S. Houston, Ve5KJ.



IDEAL MIDGET COILS FOR HIGH-FREQUENCY USES

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WAVE Awards

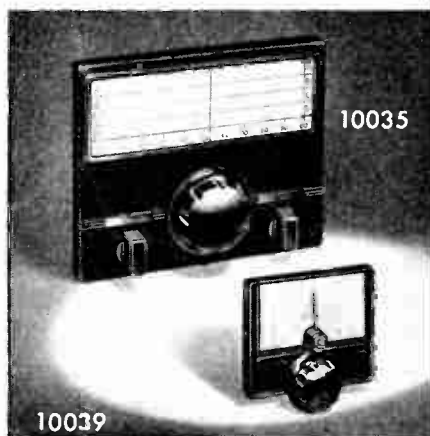
(WORKED ALL VE)

In 1939 CAROA sponsored a competition for all radio amateurs known as "Worked All Ve Districts." Certificates are available and have been awarded to only FOUR amateurs since the beginning. Three of them are W's! Hats off to Reuben Lautenslager, Ve3ATR, of Kincardine, Ontario, who was the first Ve! Earning a WAVE Certificate is no easy accomplishment. Try it! Here's what you must do: Submit proof of contact with two different stations in each province, contacts being on two different bands. (A total of 18 confirmations — Yukon and Northwest Territories shall be considered a part of British Columbia). All contacts must be made on or after January 1, 1939. Applicants residing in territory designated by the prefix Ve or W shall make all contacts from within one province or state. A handsome certificate awaits those who qualify.

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1155A—Brand New condition - converted to Amateur use with built-in power supply - best offer near ONE HUNDRED takes it.—G. Ford, Ve3AEZ, 385 Catherine St., North - Hamilton, Ont.

HAMS—Bargains in Receivers, Transmitters, Test Gear, War Surplus. Send for list.—W. A. Campbell, Ve3BRM, Appin, Ont.

FOR SALE—HQ129X Receiver. Perfect Condition. Used four months. Reason selling, have two! Paid \$270.00, sell \$200.00 complete with Speaker.—H. L. Winter, Ve3AOK, Gore Bay, Ont.

DR-12 LOUDSPEAKER, made by ATLAS. 15 watts, 16 ohms impedance; absolutely waterproof, universal mounting bracket, lightweight aluminum, 8" diam., 7½" length. New, \$24.00 each, in lots of six - \$21.00 each. SC-999 Vibrator Power Unit, used with No. 58 set. Brand new, original case; delivers 180 volts at 20 ma on transmit and 90 volts at 6 ma on receive. Has 2 Willard clear plastic storage batteries, synchronous vibrator. Also included are set of spare tubes for 58 set: 2-1T4, 1-1R5, 3-1S5, 2-1299A, 3-10 amp fuses, 2-1/32 amp fuses, 1 spare vibrator, 1-21 volt 'C' battery . . . \$15.00 each.—J. Green, 5715 Northmount, Mntreal.

OWNER GONE TO U.S.—Brand New rig for sale for less than parts cost. 6L6 xtal osc. 6L6 buffer 807 final. Coils for 10 and 80. Power supply 60 cycle. Built on two 17x10 chassis to fit rack. Best quality parts. Complete \$45.00. VE3ALG, 509½ Yonge Street, Toronto.

HAVE RL 55 Receiver complete 25 - 60 cycle power supply and Audio Stage with speaker receiver mounted 19 inch rack panel. Sell for \$70.00 or trade for HRO Coils ABCD. Mr. R. E. Hadfield, VE3AOF, 14 Sunny Lea Ave., East, Toronto 9, Ontario.

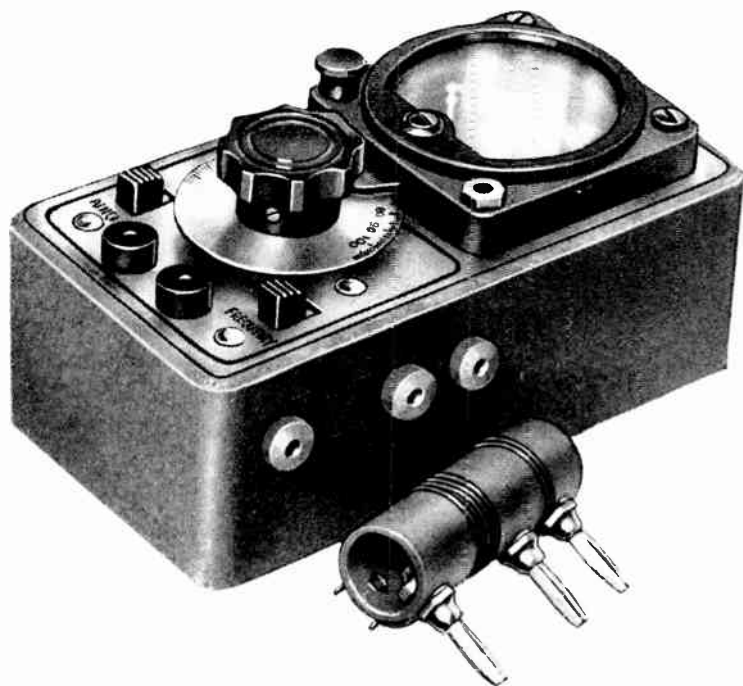
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