XTAL

for the

radio amateur

SEPTEMBER
1948

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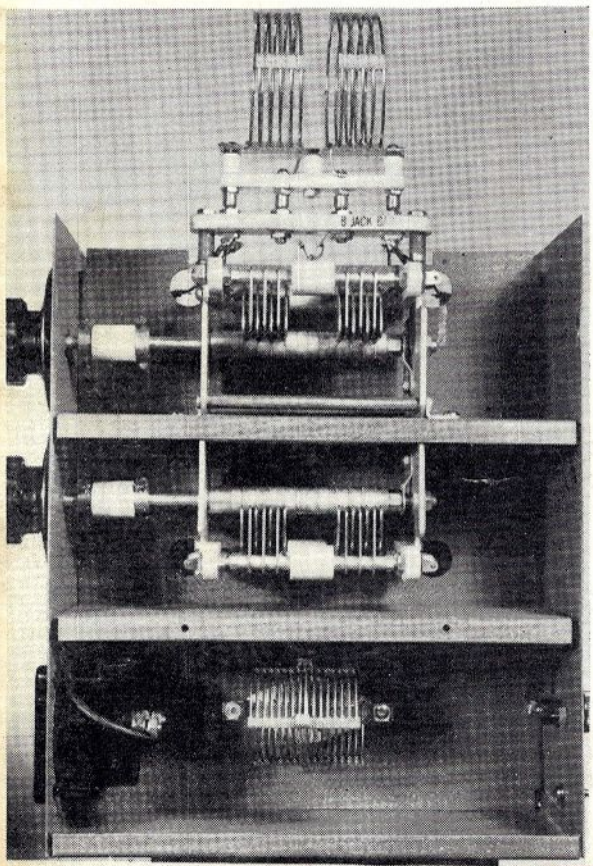

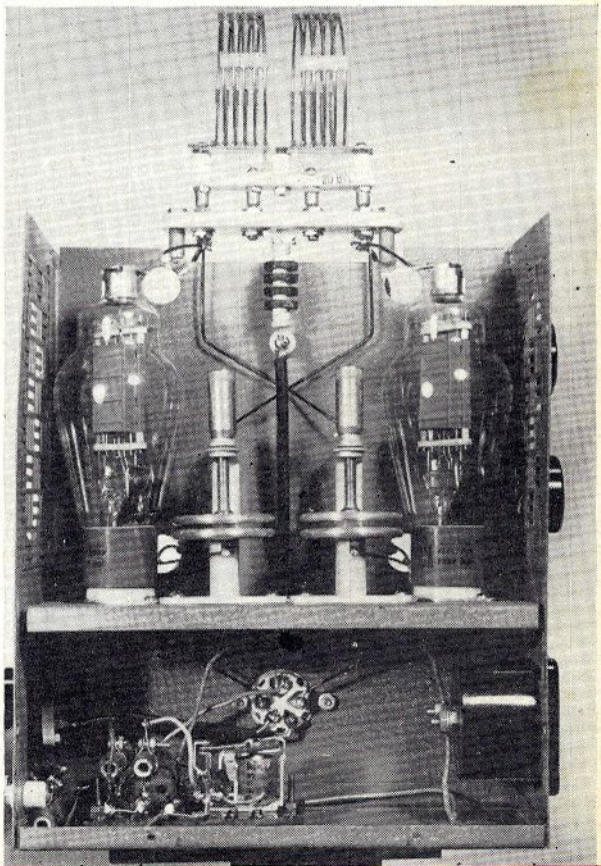

OFFICIAL JOURNAL
THE CANADIAN AMATEUR RADIO OPERATORS' ASSOCIATION
TORONTO, ONTARIO

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20	20HDA	20	8.70
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[C R Y S T A L]

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EDITORIAL

. . . Operating Habits

HOW are your operating habits? Good? Well, that is just fine. Unfortunately, however, there are many brethren of the hobby whose operating habits are notably bad —some are atrocious. There are still others of our numbers who are the possessors of faulty equipment which results in the same detrimental effect that accrues from bad operating habits.

Much has been written in periodicals imploring amateurs to develop good operating habits, but an occasional random listen on any of our bands makes it abundantly clear that much must yet be written.

We have never been able to quite understand the frailties of human beings — some humans, anyway. For instance, there is the man who is ordinarily polite, considerate and the very essence of courtesy. All those admirable qualities seem to be left behind immediately he sits behind the steering wheel of his car. He often becomes a pugnacious sort of person who has a number one and exclusive right to whatever portion of the road he happens to drive on, be it the left side or right half. There are people like that on the air, too.

In the interest of developing exemplary Canadian operating habits, XTAL will carry a few short paragraphs each month, one topic per issue. In a cumulative sense, the series will represent something in the nature of a common sense operating manual. We shall not do any preaching, but shall content ourselves with drawing attention to those practices that stamp you either as a good or poor operator.

We believe we can make a worthwhile contribution towards improved ham band habits because of our conviction that most people strive to achieve the utmost proficiency in anything to which they turn. That is true, be it baseball, tennis, swimming or playing bridge. We think it is true of amateur radio operating. We believe it is only necessary to repeatedly set forth good habits, or poor ones, and to encourage self-analysis.

For this month, we have just one observation which is in the nature of a preamble to the series. If you are told that you have key clicks, key thumps or perhaps something less than a T9 note, do not get peevish. On the contrary, you should be everlastingly thankful for the tip. Remember, you are not supposed to have those clicks and thumps. Neither are you supposed to have faulty equipment, so when you get the benefit of an indication, do something about it. Do not ignore the tip as being something which is your business, and yours only. Maybe you are doing things to your neighbor that he doesn't like, and that will be very much his business. Perhaps he will carry his business to the office of the RI, and silent hours do not hold anything of the thrill that is to be found in hours of good operating.

There are many faults which are a source of annoyance to your fellow hams. Of those we shall have something to say from time to time.

In the meantime, are you a good operator? Do you strive to display living-room manners and courtesy on the air? Do you abide by the rules — written and unwritten? How are your operating habits?

NEW REGS ON PORTABLE AND MOBILE OPERATION

We have received from D.O.T. a circular covering recent changes in regulations. We quote D.O.T.:

Effective immediately, portable and mobile operation is authorized on all frequency bands allocated for use at amateur experimental stations, subject to the following conditions:—

(1) Conditions (a), (b), (c), pertaining to portable privileges, as printed on the back of the station licence, shall continue to apply.

(2) Whenever portable or mobile operation is to extend beyond a period of forty-eight hours, a written notice must be forwarded to the office of the nearest radio inspector in the district in which the licensee's home station is located. The notice shall contain the station call sign, home address, dates and places of proposed operation and/or mobile station itinerary.

(3) If portable or mobile operation is to be conducted in a call sign district other than the one in which the home station is located and is to extend over a period of more than 48 hours, written notice must also be forwarded with full particulars to the district radio office of the district in which the operation is intended. When A1 or A2 emission is used the call sign must be followed by an oblique stroke and the number of the call sign district in which the operation is taking place, viz., "V E 3 D A A/1". In the case of radiotelephony, the station call sign must be followed by the word "portable" and district number, viz., "V E 3 D A A Portable Six".

(4) Portable or mobile operation must not extend beyond one month in any period without obtaining authority for continued operation from the district radio office and in no case shall it exceed more than four months in any fiscal year.

Canada's Radio Time Service*

By M. M. Thomson

By Order in Council P.C. 6784, Aug. 28, 1941, the Dominion Observatory time was declared the time to be used for official purposes in Canada. For many years previous to this the Observatory had unofficially served as a source of accurate time for a variety of purposes. The present Dominion Observatory, built in 1903 and 1904, was an outgrowth from a small government observatory in Ottawa. One purpose was to provide a base for the survey of Canada, which meant a program of star observations and the maintaining of correct time. Transmission of time impulses from the Dominion Observatory to the local telegraph offices was commenced in January, 1905, and was used to co-ordinate field work by direct telegraph communication, prior to the time that radio time-signals came into common use. Wireless transmission was first made over the local broadcasting station CNR in 1923. In that same year sidereal time impulses were broadcast directly from the Dominion Observatory to a nearby field seismological station to co-ordinate the field results with those obtained at the Observatory. Direct radio broadcasting of mean time from the Observatory commenced experimentally in 1927, using the short-wave bands of 20.4 metres, 40.8 metres, and 90 metres. These later became the more exact frequencies defined below. The early program included a daily 15 to 20 minute transmission on 40.8 metres at 10.00 p.m. A low-power signal on 90 metres was maintained as continuous as battery supply would allow. By 1933, the use of rectifiers made the continuous operation of transmitters more practical, eliminating both rotating converters and banks of Edison cells. Since then the 3330 kc. and 7335 kc. frequencies have had but minor interruptions and gradually increasing power. Now all three frequencies are operating under the call sign CHU and a power output of about 300 watts.

The arrangement by means of which radio time-signals are now broadcast from the Dominion Observatory is an interesting commentary on inter-departmental co-operation. The three transmitters in use are each of type AT3, designed by R.C.A. during the war for use in the R.C.A.F., and on request were made available on indefinite loan from the R.C.A.F. to the Observatory as surplus equipment in the spring of 1947. This was mutually advantageous. The Department of National Defence is desirous of obtaining time signals in connection with research projects, and the time-service is pleased to have a six-fold increase in signal strength. The problem of housing the transmitters was cared for by the Radio Branch of the Department of Transport. Close co-operation between the time-service and the Radio Branch has been maintained for a number of years. From their quartz-crystal frequency standard a 1,000-cycle frequency is delivered to the Observatory and controls a clock which is used to assist in precise time-keeping. Also one of their transmitters (VAA) has been used since July, 1938, for a 5-minute period of time transmission daily. Since 1942, continuous all-night transmissions of time signals have been made available for the benefit of scientific field parties during the summer months. This latter service was discontinued this year since the new CHU transmitters were installed by June.

A summary of signals controlled by the time-signal machine is as follows:

(a) The Noon C.B.C. Broadcast. At present the C.B.C. network of over 50 broadcast stations transmits time signals at 1300 hours eastern time. Eastern time refers to standard or daylight saving, whichever prevails at Ottawa. Second beats with a musical pitch of 800-cycles per second commence about 12 hr. 59 min. 20 sec. and carry through to the hour, omitting the 29th and also the 51st to 59th seconds. A gap of 9 seconds always precedes the long dash on the hour.

(b) Continuous Short-Wave Signals. The three Observatory transmitters are on the air continuously 24 hours a day with the call sign CHU transmitting second-beats on frequencies of 3330 kc., 7335 kc. and 14760 kc. for the benefit of surveyors, navigators, scientific institutions and others who require this type of service. The musical pitch of 1,000-cycles per second, which is characteristic of these signals, is derived from a precise crystal source.

(c) Other Radio Transmissions. Short-period transmissions of second-beats for the benefit of mariners and for people at northern outposts are sent daily from the following stations which have direct wire connection with the Observatory:

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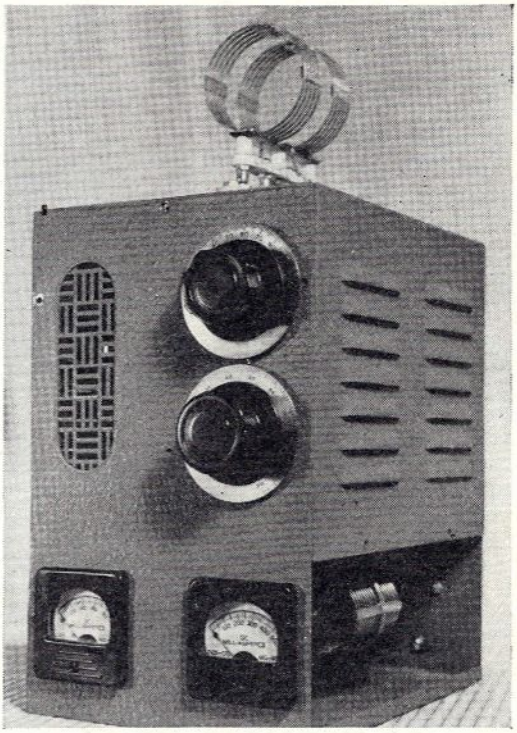
*Vol. 2, No. 2, Contributions from the Dominion Observatory. Published by permission of the Director, Mines, Forests, and Scientific Services Branch, Department of Mines and Resources.

Our Cover Picture . . .

Shows two shots of the "Packed Final Amplifier" described on page 8 of this issue.

A Packed Final Amplifier

By "Victor Easy"



THE circuit of the amplifier is in no way extraordinary except for the fact that a cathode bias resistor is inserted to save the tube when the drive fails. This would normally be looked upon as telephone technique, but a year's operation has shown that the relay will "follow" up to about twenty words a minute. Those who bat fast bugs will need to use fixed bias.

The physical layout is extremely compact. Tubes which may be used are 809, 811, 812, 8005, T20, TZ40, 25G, 35G and GT, HK54, as well as a number of other types having the plate connection on top of the envelope.

The filament transformer is not built in—firstly, because of the wide range of filament voltages needed for the various tube types; secondly, because our QTH is "blessed" with 25 cycle mains resulting in a very bulky transformer.

The amplifier is compact. The cabinet is 11" high by 7" wide by 9" deep—a little more than .4 cubic feet. The metal work is done in sheet steel spot welded together. Sheet aluminum would be an equally suitable material, and assembly could be done with rivets, or machine screws.

The plate coil is exposed and is "hot." For those who prefer not to be faced with this somewhat undesirable hazard it is a simple matter to increase the height of the front and back panels, and to provide a removable cover over the coil.

The frame is divided by a central, vertical panel running front to back. As can be clearly seen in the photographs, the horizontal panels in the frame assembly subdivide the unit into a number of screened compartments.

There are three compartments on the right hand side of the vertical panel. The top one contains the plate condenser, the middle one the grid condenser and the bottom one the grid coil and plate meter.

On the left hand side of the vertical panel there are only two compartments. The larger one on the top houses the tubes and the neutralizing condensers. The lower one houses the relay and associated resistors, the grid meter, the pin side of the tube socket for the grid coil, and the link feeding the grid coil.

Further study of the photographs will show that each circuit element is individually screened. The various components (plate coil, grid coil, plate condenser, etc.) will be seen to be disposed perfectly symmetrically in respect to the ground. This care in the avoidance of interlocking stray fields and rigorous "tying down" to ground produces results in stability and perfect neutralization.

This final was designed for use in the 14 and 24 Mc bands (and maybe some day on 21), but it is not suitable for 3.5 mcs. due to the low capacity of the plate condenser. There is, however, ample back-to-front space for larger variable condensers. It will be clear that the dimensions of this amplifier were dictated by the size of the Canadian-made variables which were available.

The top edge of the vertical panel is recessed to permit connection to the jacks on the ceramic bar supporting the plate coil, and to clear them from the grounded frame. Machine screws are welded to the top edge of the

vertical panel. They are spaced to meet the mounting holes on the B & W jack bar. Small cylindrical standoff insulators are placed between the machine screws and the jack bar to provide added insulation. The BVL coils specified are on the small side for the power which could be applied to this amplifier. It would be better to use a size larger. There is space to accommodate the "T" series.

Three quarter-inch holes are drilled in the vertical panel centred opposite the stator terminals on the grid condenser. Holes of the same size are drilled through the horizontal panel next to the tubes sockets and in line. The connections taken from the grid condenser are heavy gauge wire. They are spaced to centre in the two holes, thus the wires pass through the vertical panel, and then are bent through 90 degrees in an easy curve to pass through the hole in the horizontal panel, and on to the grid pins of the tube sockets.

Where tubes having side grid connection (35GT, HK54, etc.) are used the conections are terminated on the grid coil socket. Flexible jumpers are soldered to the exposed curve in the grid lead and terminated on the grids of the tubes.

The neutralizing condensers are spaced evenly about centre and between tubes. A glance at the photographs will show the manner in which the neutralizing connections are made.

A removable cover slides down over the frame. An aperture is cut out of the top surface to pass the plate coil jack bar. The right hand side panel of the cover is cut off at the top of the gril coil compartment to permit easy access for coil changing. The left hand side of the cover is full length. Both sides are pierced with large louvres. Both the front and the back panels have large grilles opposite the tubes. These permit inspection of the plates and added ventilation. The top surface of the cover has a large circular grille above each tube. It may seem that the question of ventilation has been labored. The fact is that in such a compact unit it is essential that there shall be more than ample free air circulation. The life of transmitting tubes (and rectifiers) is greatly reduced if they are allowed to run over a rated temperature for long periods.

The back panel of the frame carries terminals for HT and filament and a two-pin jack for the link.

While this amplifier is in many ways a departure from standard amateur technique and demands rather more metal working than than is usual—yet it seems to us worthwhile to take the added trouble in order to obtain stability and reliability of operation over long periods.

This particular amplifier uses 812's and values shown are for this type. With other types suitable changes must be made in the grid leak values in order to meet the tube specifications. In the case of the HK54, 35GT, etc., the horizontal deck carrying the tube sockets will need to be raised in order to keep the plate leads short.

Resistance R1 is shunted across the filaments and is centre tapped. A biasing resistor R2 is connected between the centre point of R1 and ground. The contacts of the relay are connected across the cathode resistor R2. The relay winding is actuated by the rectified grid current which comes up when drive is on the amplifier. Thus when the drive reaches a safe value the cathode bias resistor is taken out of circuit. Should the drive fail the relay immediately opens and throws the cathode

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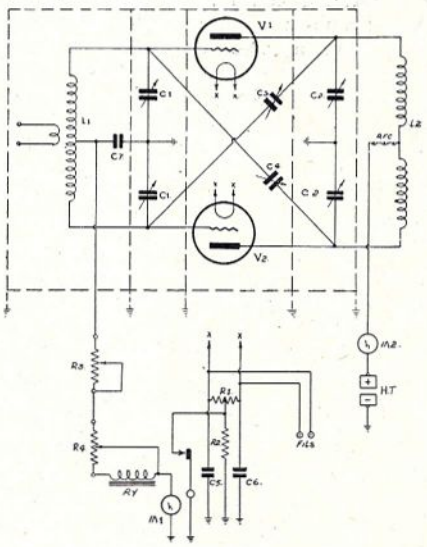
PARTS LIST

RFC—Hammond 1510.
C1, C2—Hammond 8805.
C3, C4—National NC800.
C5, C6—.01 paper.
C7—.001 mica.
R1—50 ohms 10 watts.
R2—500 ohms 20 watts.
R3—1000 ohms 10 watts.
R4—2000 ohms 10 watts.
L1—B. & W. JCL, 10 and 20.
L2—B. & W. BVL, 10 and 20
Ry—SPDT, winding 9000 ohms.
M1—100 ma.
M2—500 ma.



CAROA
CLUB ACTIVITIES

The Calgary A.R.A. sponsored the Alberta Amateur Radio Convention on July 31 and Aug. 1. On Saturday afternoon an A.R.R.L. section meeting was held, presided over by Ve6MU, S.C.M. A talk and demonstration by W. K. Allen, 6KQ, was a highlight of the convention. His subject was transmission lines, and his equipment was a transmitter emitting pulse signals to a beam antenna continuously rotated. The signals were picked up on a receiver and imposed on a 12-inch CR tube, whose controls were connected by selsyns to the beam. The dinner was attended by about 200. Two retired radio inspectors, Bob Ainslie and Bill Stunden, were presented with pewter mugs. Among those present were 6MJ, S.C.M.; 6EO, CAROA D.R., and Ve3, 5, 6, 7, 8, W7, 9. ø. Local hams held open house after the evening program concluded. On Sunday there was a tour of points of interest in Calgary, followed by a buffet supper and the prize draw. Next year's show will be at Edmonton, and will have to be good to better the Calgary A.R.A. affair.

The **South Okanagan Radio Club** held a picnic at the Dominion Experimental Farm at Summerland. Thirty-four licensed hams and 23 guests, and their children, participated in a program including some unusual contests, among which were those for biggest feet, newest married couple, newest and youngest hams, and a potato race with tubes substituting for spuds. At the meeting of this international club, officers were elected as follows: President, Ray Brott, Oroville, Wash.; vice-president, Russ Upsdell, Penticton, B.C.; secretary-treasurer, Marge Frazier, Oroville.

The second annual Goderich picnic was held on Aug. 8 on the shore of Lake Huron, when A1U and AW1 played host to more than 55 hams, SWL's and radio servicemen who, with their families, made up a gathering of 125. Down from Sudbury came BEK and BUS by plane, and from forty-eleven other places came the rest of the gang, accompanied by picnic baskets and swim suits. KM, complete with fish tales (and scales) detoured from Peterboro to Hamilton via The Prettiest Town. The Detroit SWL, Wendell Strawway (and secretary) donated a lazy-man's Q5-er as a gate prize. DU took it home. Thru the kindness of the Clinton RCAF Training School (looking for recruits, of course) BTQ's mobile rig was present and QSO's were had with other stations. The rig was **fixed**-mobile for a while when BTQ drove it—up to the axles—in the sand. It took eight wheels, half a lumber-yard and 20 hams to make it operational. AHP and KM repeated their performance of last year at horseshoes. Those lads can pitch a wicked iron! Radio greetings and good wishes were received from W6UHA and ZL1FB as well as other stations. The main event, of course, was the luscious supper with chocolate milk, coffee and ice cream supplied by AIU. If you're interested, the following also were present, not to mention their xyl's, yl's, second harmonics and friends: 1PF, Sydney, N.S.; 2YD, Quebec City; ABZ, XR, Galt; ADX, BME, Stratford, BNP, ex-AEB, Goderich; AFK, AYM, XI, Port Elgin; AG, Penetang; AHQ, BIS, CY, Kitchener; AKY, Ingersoll; RG, ALF, Toronto; AQB, Chatham; ATR, Kincardine; AX, Brantford; AZH, Dundalk; BAI, BHJ, SY, VU, Clinton; BOD, Trenton; BQI, DE, Niagara Falls; BRF, Midland; BVJ, BVO, FQ, HI, YJ, London; EI, Forest; HC, NS, SM, Guelph; MU, Delhi; NI, St. Thomas; PE, St. Marys; WF, Owen Sound; YI, Collingwood. Yep, it was a swell picnic. Hope to see you there next Aug. 7.

The **London Amateur Radio Club**, with the **Ontario Phone Club** as their guests, gathered at Cedar Bay Beach, near Forest, for their annual picnic on Sunday, July 25, 1948. The weather was perfect, and the program very full for all those who attended. Hams came from all over Western Ontario, including Oshawa, Trenton, Toronto, Niagara, Hamilton, Chatham, St. Thomas, Windsor, London, St. Marys, Stratford, Guelph, Galt, Kitchener, Waterloo, Goderich, Clinton and Dundalk. The junior operators and harmonics were kept busy with games and races under the control of George Foster, 3YJ, while the xyl's played darts and took part in a ball game. The main feature for the hams was meeting old friends and rag-chewing. Several of the boys had portable rigs there and worked locally on two meters. The Clinton boys brought with them a truck from the Clinton Radar School equipped with a transmitter and receiver. Prizes were given to the ham from the farthest point, Trenton, and to Fred Williams, 3HK, and Jim MacArthur, 3NI, as the oldest hams present. The Ontario Phone Net held their annual election of officers during the afternoon. The offices for the coming year

will be held by Earle Kimble 3FQ, president; Art Stevens, 3YS, vice-president; Stan Moir, 3AQB, secretary; Jim MacArthur, 3NI, net control, and Jim Musselman, 3AZH, swap manager. Everyone then enjoyed a picnic lunch, after which most of those present received prizes through a lucky draw.

Tom Hunter, 3CP, SCM, was present.

Trail A.R.C., which was instituted in 1937, was revived after the war and is holding meetings nearly every six weeks except for the summer months. "Most of our meetings are usually taken up with discussions followed by supper, but we have also had some very interesting lectures, notably one by Dr. F. L. Wilson, x-ray specialist, on x-ray circuits and x-ray therapy, and another by Mr. Gordon Fairweather on the operation of the local broadcasting station, CJAT. We have some twenty members who occasionally get together in twos and threes at each other's rigs. We have also made contact with Nelson and other districts adjacent and we hope to have some hams from these localities at our fall meeting. hams from these localities at our fall meetings. Our executive officers are as follows: Charles Bradshaw, 7YT, president; Leo Letcher, 7ABB, vice-president, and E. R. Humphries, Ve7AOI, secretary-treasurer."

The **Truro Amateur Radio Club** reports that the officers for 1948 are: President, T. Weldon Mills, Ve1NZ; vice-president, Les Hamilton, 1CB; secretary-treasurer, Richard Rector, IKN. We quote Dick's letter:

"Here is something which might be of interest to the ham fraternity:

"The Truro Club had a chance to buy a kilowatt gas-driven 110 AC generator. However, the club funds were too low, so a committee was appointed to approach the town council advising them of the assistance the amateurs could give the town in case of emergency and power failure, providing we had the generator. We, the amateurs, were willing to devote our time and equipment, without thought of remuneration, and thought those who would benefit most, should pay for the generator.

"The Truro town council voted unanimously to purchase the generator as town equipment, putting it in care of the club to use as they see fit.

"How is this for a club of 13. Don't you think we live in the best town in Canada?" (And we heartily agree.—Ed.).

The July meeting of the **Calgary Amateur Radio Association** was held in the Palace Bakery Auditorium on July 29. Visitors W7DSS and Ve6OA were welcomed to the meeting. Those knowing of anyone interested in taking the code classes in the fall were asked to have them enroll at the September meeting. A brief discussion on the Glacier Park Hamfest followed. The hamfest plans were outlined, and all those who could possibly help on Saturday morning were asked to show up at the Sky Room. Mr. Ray Fretz from Great Falls donated four 3C24 tubes as hamfest prizes. The winner of the C2 frequency meter was Bob Peters.

The **Stratford Amateur Radio Club** was formed in October, 1947, with the following officers elected: J. O. Camden, Ve3GZ, president; F. Glasser, 3BME, vice-president; E. C. Skowby, 3PE, secretary-treasurer. Membership is around 20, embracing both licensed and unlicensed amateurs. Meetings are held in the Stratford Y.M.C.A. monthly, but were suspended for the summer months. The club participated in the recent field day, with very good results considering it was a first attempt. Correspondence should be addressed to the Secretary at either 32 Erie Street, Stratford, or Box 219, St. Mary's (3PE QTH).

The North Shore Radio Club hamfest was held at Lakeview Park, Oshawa, on Aug. 28 and 28. About 400 attended, 240 adults (too many nippers to count) with nearly 200 licensed hams registering from VE2, 3 and 4 and W2, 3 and 8. CAROA was represented by 3ZE, president, and 3APS, vice-president, and A.R.R.L. by 3KM, S.E.C. Portable stations brought in and set up by amateurs all operated under the club call, 3AVU. Operating prize winners were: Dx, 3AZT, with a KP4 on ten phone; 75 phone, ATT; 6 meters, ATB; 2 meters, KM. Other contest winners were: Left-foot keying, BKX's xyl; eating crackers and whistling CQ, BMI; throwing rolling pin, KM's xyl. The tug-of-war with a team from Toronto against "the rest" was won by Toronto. The club with the largest delegation was the Bay of Quinte club, Belleville. In the prize draw, 145 prizes were distributed. The North Shore committee under Bill Kirby was more than pleased with the turnout, and promise a bigger and better hamfest in 1949. See you in Oshawa in '49.

The Niagara Peninsula A.R.C. has been formed, with provisional officers acting until the first election at the September meeting. The club has representatives from St. Catharines, Niagara-on-the-Lake, Port Weller, Jordan, Chippewa, Thorold, Welland, Humberstone, Niagara Falls, Beamsville and Grimsby. It is expected that CAROA will pay an official visit on Oct. 8. Acting secretary is Elton Culp, 3AUQ, 67 Sherwood Ave., St. Catharines.

Beginning on Friday, Sept. 17, at 8 o'clock p.m., and every first and third Friday of the month thereafter, the **Nortown A.R.C.** of Toronto will hold meetings at St. Clair YMCA, 15 Robina Ave., Toronto. The newly formed club and its executive sincerely hope that all "hams" in the district will support this club. It will become affiliated with the A.R.R.L. and other amateur radio organizations. The aim of the N.A.R.C. is to serve all amateur radio operators in and around the district. If you are a "ham" or a would-be "ham", you will find a warm and cordial welcome awaiting you when you attend the Nortown Amateur Radio Club this coming season. Come and bring your interested friends. Executives of the newly-formed amateur radio club are: A. J. Bickerton, 3RU, president; W. A. Wragg, 3BQP, vice-president; R. Roberts, secretary; J. Sherman, 3BWK, treasurer; K. Leslie, 3BSW, QSL, manager; M. Caston and O. Anderson, 3AEJ, club engineers.

DX News of The Month

R. D. Carter Ve3QD

I suppose by now you have all received your copies of "CQ" with the rules and regulations of their fall DX contest, and if not we would suggest you write CAROA HQ for a reprint. Study these and plan on having a week-end of fun dxing and seeing how well you can do in a short time with countries and zones. "CQ" will be pleased to send you log forms for the contest which can be used in duplicate to avoid doing all this writing a second time after the contest is over. It will really pay to use 40 and 80 meters for the added multipliers. I firmly believe the fall dx as far as Ve is concerned is more consistent than the spring, and that some mighty big scores will be run up. Let's see what we can do, and don't forget to advise me of the highlights after it's over for the benefit of all concerned.

July and August to date still continue poor, and while some dx comes through, it usually is of short duration and you have to be right on deck at the time to get it. It should pick up from now until December and soon, I hope, you'll all be swamping me with lists of choice ones worked. A couple of examples of the weird conditions here lately follow:

Last week I was listening in on a dead band and all at once EA9AA popped in about S7. I called and worked him, and two minutes later the band was again absolutely flat. The other is somewhat similar, but in this case faint European signals were breaking through. All at once, with good strength, ST2GH appeared working an LA. When he finished I called and worked him, and within a minute after the QSO he had faded right out. This will show what I mean when I say openings are of short duration. Strangely enough, Europe has been quite consistent, and 20 meters at times has sounded more like ten, the way these stations have rocked through. Wish I could report the same for other continents, but results have been poor elsewhere.

Had an interesting letter from 7HC, who is spending the summer at Slate Creek Gold Mining. Gord has a portable rig with him, 12 watts input, and using suitable beams has been putting in S8 signals all down the Pacific coast. These beams are designed for close contacts and not dx, and with what he learns from his experiments he should be able to go to town this fall. Also he has all his cards for WAZ, and as soon as A.R.R.L. return these (and his DXCC certificate) they will be sent forward to "CQ" for the second Ve WAZ. Congratulations, Gord, and lots more dx to you. Ve8AS chased YS3PL last year for months. After getting back on 20 fone, just recently, he worked him first call. It's annoying, eh, Jack? 3BLY finds it easier to work dx with an antenna, and since hooking it on the rig has been doing O.K. Probably the big event of the month was a QSO between 3QD and 4RO. After all these years we finally QSO'd. George was really busy firing first one hazy H then another at me. Then the old zepp got into use and it resulted in a fb chat. Won't tell you what time we both were up, else you'll think we're both nuts. (Maybe we are at that, says my xyl). 3AGX has been QRL adding to his house but finally got back on again to QSO ZB1Q, VP6AT, Y12AM, DA1FB, FM8AD and PY7WS, all on 40. On 20 VS9AN, LX1AS and others were worked. Keep it up, Frank. Had a nice visit from 3AGC and his wife, and Cam is full of enthusiasm and plans for a 20-meter beam. He's been doing all right with a fixed triplex so far, but finds it very annoying when the stuff off the ends is coming through. New countries for him are ZD1LQ, YN1EP, PX2AB, ZA2AA, ZD2GHK, ZB1AL, ZC1CL, EK1GW, OE3WX, and CT3AA. Ve5QZ sends in a nice report with his lists of countries worked, and considering Cliff still sticks to 25 watts input, his results are truly remarkable. Worked this month are J51BE, J6DKV, J9ACS, ZK1AS, KA1VVS, KA1USA, W6RET/KG6 as well as a number of Europeans. He also informs us that W6ODD/F18, Saigon, was heard July 23, and that he will be portable in D1U Island, Portuguese India, around Sept. 1 for a week. So there's another chance at Zone 23 for all. 3BNL hooked ZA2AA and aTU, who said he was in Turkey, to boost his total to 52 countries. 3IJ has added a few new ones and heard a couple of other good ones. Also, Harry is very anxiously watching for mail these days, as he only needs one more card for his DXCC. 30H (O'Henry) is building a 3-element for 20 and hopes to soon again set in the running. Phone or CW, Jack? I was talking to 2WW the other evening and he's still knocking them off and has a Mims dual 3-element 10-20 beam going up. That and those long, long V's should do the trick, Don. In self-defence I put up a 4-element close-spaced beam on 20 and after I finally got it tuned, it's been all I hoped for. By the way, hear a CR1O is operating from Timor around 14020 Kc if any of you need

that country—I could use him myself. Another one heard was PO5AA who says he's in Borneo. It checked O.K. on the beam, but don't know why he would use that prefix. Ve1NE works TA1AA, UR2AA, CR6AL, EL8A, OA4CU, UG6WD, VQ5GHE and AP2N for a busy month. Ve3LJ has finally forsaken the 8JK beam and changed it over to a 2-element job. Now he's sorry he didn't do it long ago, as he knocked off 30 countries this month, including FT4AN, HA5EX, HA1KK, EA5BE, ET3AH, UR2KAA, W3KLF/VQ3, all on CW too, so who said phone men couldn't work CW?

QTH's—Courtesy of 3LJ, 3AGC, 5QZ.

ET3AH—Box 858, Addis Ababa.

W3K1F/VQ3—Dar es Salaam, Tanganyika.

YN1EP—153 A.A.C.S. Sqdn., APO 3024, c/o P.M., New Orleans.

PX2AB—Box 31, Andorra.

YS1AE—Academy Edison, San Salvador, El Salvador.

EK1GW—Via Mackay Radio, Tangier Zone, Morocco.

ZK1AS—Rorotanga, Cook Island.

KA1USA—Signal Section, Shilry Com, A.P.O. 707 c/o PM S.F.

PZ1L—Box 530, Paramaribo, Surinam.

Station	P.W. Total	Zones	1948 Total	Zones
4RO	161	40	100	
7HC	151	40		
3QD	171	38	123	36
31J	127	37		
2WW	122	37	117	35
1PQ	110	36	59	
3ACS	103	35	49	22
3AVA	103	32	66	23
3AGC	113	31		
1NE	172	31		
8AS	54	25		
5QZ	52	25	48	25
3BHX	54	24	51	23

1EA 120, 3AAX 102, VO6EP 100, 6FK 93, 1AQ 84, 7EH 77, 3BNQ 76, 3TB 75, 3BBZ 72, 5JV 72, 3BBN 70, 3BWY 67, 3AGX 66, 3QB 61, 4RP 55, 3BNL 52.

How about dropping me a card and giving me up-to-date figures under the above four headings so we can give you all full credit? Thanks, and can still use more news from you all.

Please send contributions to—Roy Carter, 304 Brookdale Ave., Toronto 12.

● Conventional pulleys used for hoisting antennas are a constant source of trouble due to rust, rope or wire jumping pulley wheel, etc. These difficulties can be eliminated by using a gadget that is in common use by linemen and is known under various names such as "Screw-in service insulator," "porcelain screw bracket," etc. These come in a variety of shapes and sizes and allow free movement of lanyards.

—Ve3ATR.

TIME SERVICE—from page 7

CFH Halifax—111 kc. 0955-1000 hrs. and 2155-2200 hrs. EST.

VAA Ottawa—11990 kc. 1055-1100 hrs. EST.

VAP Churchill—500 kc. 1058-1100 hrs. EST (using C.N. coded signals)

The method employed by the U.S. Naval Observatory for identifying continuous signals was adopted by the Dominion Observatory in 1934. At first a tape was used to provide the omissions at the right time. But since 1938 this has been done by the time-signal machine. Identification is accomplished by a series of omissions at the end of each minute, the series repeating itself each five minutes as follows:

1st minute—29, 51, 56 - 59
2nd minute—29, 52, 56 - 59
3rd minute—29, 53, 56 - 59
4th minute—29, 54, 56 - 59
5th minute—29, 51 - 59

Alternatively this may be shown as follows, remembering that the 29th second is omitted from every minute.

	Seconds	50	51	52	53	54	55	56	57	58	59	60
1st	min.	—		—	—	—	—					—
2nd	min.	—	—		—	—	—					—
3rd	min.	—	—	—		—	—					—
4th	min.	—	—	—	—		—					—
5th	min.	—										—

Hence, when the 51st second is omitted and 4 more beats are sent, it indicates that there will be 4 more minutes to a 5-minute interval. At the end of the 2nd minute, 52 is omitted and 3 more beats are sent, indicating that there are 3 more minutes to the 5-minute interval, etc. The end of the 5th minute has the long gap from the 51st to 59th beats. During the first minute of each hour, the call sign C-H-U is sent slowly in morse code twice. The 2nd and subsequent minutes of the hour correspond to the 2nd and subsequent minutes of a 5-minute group.

If a time-piece is in error by not more than a minute or two it is possible to identify the radio signal immediately and to adjust the time-piece precisely. In the case of a larger error, it may be necessary to wait for the hour identification. The beginning of each second beat marks the exact time.

● Can anyone equal this? Ve2XR, after 17 years in ham radio, now runs his highest power—25 watts to a 6L6 final amplifier! This is his fourth rig in all that time and the first CW rig using crystal control. (Before the war he had a two-watt crystal job on 160 meter phone for local QSOs). He's never operated on any bands higher than 7 Mc! He claims to have the smallest, completely self-contained, AC operated, every-day-use transmitter on the air! It's in a metal box 8" x 9" x 10"! Any challengers, gang?

CAROA NATIONAL REPORT

Ve1

Ronald J. Hesler, Ve1KS, D.R., Maritimes, Sackville, N.B.—The Truro town council recently decided to equip the Truro Radio Club with a KW 110 AC gas-driven generator. The club recently received the call Ve1CW. XK is the call of Gordon Purdy and XL that of Allan Doane. TP, MT and QE are new members of the T.A.R.C. FV and LR were recent visitors at the shack of KS and VZ. JO moved the family and the rig to a summer home at Martinon. IZ is the new treasurer of the L.C.A.R.C. due to IL being transferred to Charlottetown. MW did very well in the recent Ve-W contest. XD is the call of Russ Delong in Saint John. IW spends all of his waking hours on the Saint John River in his Micmac class yacht. EW contacted over 40 countries and some 23 zones using 20 meters during July. He was also successful in raising VQ3HGE, the Hallicrafter-Gatti Expedition. VY is QRT for the summer months and is spending most of his free time in Shediac. Ex-SY (now Ve5NB) is recovering after a siege of pneumonia. I understand that Vic will soon be transferred from Watrous to Winnipeg.

Well, fellows, that is all the news which came in this month—not good, is it? I guess though that one cannot expect too much in the way of activity during the summer months. Another month or so should see the band conditions coming back into their own once more with a consequent increase in activity (and activity reports, I hope). STOP PRESS NEWS . . . As I sit here finishing this month's report, VZ (the xyl) just brought in to me the evening mail, and I note that there is a letter from the R.C.A.F. in Halifax. They advise that it is planned to reactivate the AFARS in a new role. It looks good (complete with equipment) and I only hope that they plan to take an active interest this time, because it is the writer's opinion that much good could come from a system such as is planned—if they don't let us down as they did the last time. Personally, I think it is really worth giving another chance. What about it, fellows?—73—Ron.

Ve2

Floyd G. Gribben, Ve2XR, D.R., Quebec, 5120 Westbury Ave., Montreal, Que., Phone EL. 5387—Well gang, holidays are over for most of us and we are once again back in the old rut. No doubt many of you are planning a new rig, antenna, etc., to start off the fall and winter operating season. Before you take on the big job, let's look at the Ve2 scene and see what the others have been up to. LY of Montreal is back in town and on 10 fone after long layoff. IM of Vale Perkins rattles the brass on 80. LF of Vercheres should be on about now with a new VFO. AEG of Montreal has taken to 2 meters using a 6V6 to modulate a 2C22 osc. Sid hears the boys on a super-regen job. Sid says he heard W1HOM in an aircraft over Burlington, Vt., about S8-9. Sid also says that AEL, known as John M. Hemmings of 2176 St. Catherine St. W., in Montreal, a new ham, does his 2 meter stuff with a 19 set. KG in Longueuil is also on 2. GN in Mt. Royal does his 2 meter work with an SCR-522 with added 829. RD of Montreal also has SCR-522 on 2 and feeds it to a 6L beam. FU and FF also are heard on 2. GP in Hull does his phoning on 80. WY planning VFO as described in June issue of XTAL. From Quebec we hear from GF, who has this to say about the boys down that way. HL is recovering after operation at Jeffery Hale's Hospital. Drop Henry a line and wish him well gang. AGV is a new ham on 80 CW with a good fist (how about your full name and address Ross?) ADF sent GF a postcard from Phila. where he was holidaying. HD, after long absence, is back banging the brass from Montmagny. Gerard, HD that is, is PM's brother. Welcome back with us OM. ZU is heard nightly chewing with IP or AO in Montreal. AFO trying new antenna. Good luck with it, Luc. PM is off due to B plus going dead while QSO GF. Probably a bug. Why don't you use DDT like I (GF) suggested before, Phil? GF reports two Quebec hams given important assignment but has been asked to hold the details until next month's issue. He says he's afraid he can't hold his tongue longer than that! (Watch next month's column for the startling announcement!) Son of Ve3BIF, Ian Montagnes, is studying in Quebec and has skeds with his OM via RM. Nice going, Rene (Thanks for the news, Rosaire OM). The Montreal Amateur Radio Club held their Annual Family Picnic at the usual spot again this year on Saturday, July 10. Under sunny skies, at the C.N.R. Recreation Grounds in Lachine, were seen a great collection of OMs, xyls, yls, self-excited offsprings, loaded picnic baskets and miscellaneous portable ham rigs, all gathered together—just for fun! A great many tubes, condensers, etc., were given away as prizes for the various events. Alex Reid, BE, our A.R.R.L. C.G.M., took the main prize, a 19 set. XP, Herm Eberts, hooked on to the next most prominent award, a 34-ft. telescoping mast. Visitors 7HD, 3OA, 3WG and our own BE, were the judges of the portable gear contest, with SA and KG taking the honors. The annual ball game—battle of phone men vs. CW men brought the CW men out on top as the phone men talk too much anyway! The gals got purchase vouchers as prizes and the jr. ops. were suppressed for a time with boxes of surprise-package popcorn. All in all, a grand time was had by everyone. and many thanks for a job well done go to the chief host, Fred Looker, TY, and all his fellow aides, known as TH, SA, MG, VV, BE and UC, for putting on such a swell program. CAROA extends congratulations and best wishes for success of the Montreal Amateur Radio Club's magazine "Skywire". With the July issue, gold with black cover, and printed in magazine style, it looked decidedly souped-up over past issues. An fb job, gentlemen. ACF of Verdun is on 10 with 40 watts to his 807 mod. with 7C5's. A 2L beam shoots the stuff out and a National FBXA sucks the stuff in. GM of Longueuil should be on again as the golf season is slackening off. Bert and xyl spent many summer week-ends at the links. (Guess the game suits 'em to a tee!) Our old stalwart, LO, John Holland of Drummondville, sends in his regular report. He says July and August seemed like the doldrums to him when it came to traffic, so he had to content himself with rag-chewing. He says there's a new ham in Drummondville by the name of John Cook who signs himself AGG (what's your address OM?) AGG was 3 years in the radio branch of the R.C.A.F. and is keeping a 40 meter ear open for any of his old air force friends. Welcome to the mob, John, OM. TD of Drummondville is too busy with his work to get on the air much, but watch him when the cool wx comes around. JI of same town was reported closed down for the summer. John, LO, says he is batching it these days as his xyl sailed to England for a 3-month visit. Says he's interested in the VFO in August QST and no doubt will build same while the yf is away, to say nothing of the uninterrupted hours he can spend on the air! WW now has 122 countries postwar and worked five districts in J land just for luck. Nice going, Don. UO of Sherbrooke does his phoning on 80. So does SN of Montreal, who screen modulates his 807, connects it to a half-wave dipole fed with 72-ohm Amphenol and hears the guys on his S41W. JJ made himself an FM adaptor for his AR-77 receiver. AFV in Westmount worked AEL in Montreal as his first 2 meter contact but was so shy of fone that he hooked the other lad on CW first!! FO of Montreal uses an Abbott TR-4 job on 2 and also uses it in his car. Other addicts on 2 are AAV Dorval, AX Montreal, FF, AEJ and AEO all of Verdun. The new VL (call formerly held by Montrealer Bud Fockler who moved to Toronto in July) is on 2 from his hideout over Murray's Restaurant (guess he uses knives and forks for feders, hi) not far from the Forum in Montreal. AEG of Montreal changed his rig and now has a 6C4 driving an 807 on 40 and a new half wave antenna with single wire feed. BEEF DEPT. . . . Are you satisfied with XTAL? Have you any ideas to improve it? Are there any things you dislike about it? Gotta beef? If the answer is

"yes", then do something about it, will you? Drop a line to the Editor and tell him about it! XTAL is for us amateurs. It's our medium whereby we convey news and views to others in the fraternity. Our XTAL can be improved, we know, and you fellows are the only ones who can make it better! Remember, it's the contributions by readers that make any magazine a success and XTAL is no exception! For a cost of only 15 cents per copy, supported by a membership of around 2500, we've done a fb job on our little "mag". But amateurs are always wanting to progress and improve. Looking back at our first issues of XTAL proxes we have succeeded immeasurably, but let's not stop now! Let's keep going ahead! But let's not leave the big task of XTAL'S growth to so few—those fellows behind the scenes; those fourteen, voluntary, unpaid officers of CAROA at HQ and their eight representatives in the field. Remember, they plug away continually giving most of their spare time to help make XTAL and Canadian ham radio that much better for you. They attend endless meetings, write numerous articles, edit mounds of material for publication, dig hard for news, answer stacks of correspondence, send your XTAL each month, keep the books, pay the bills and many, many other jobs associated with the workings of CAROA. They give up, to a large extent, operating or building rigs. They neglect many of their family duties and other little things too numerous to mention. They do this because they feel that in so doing they are making ham radio that much better for us all. What drives them to this task? It's the force that tells them that there is far more to ham radio than just building and operating. They feel, that if ham radio can be made better, and it most certainly can, they (and we) must do their part to improve it. However, they can't be expected to do this big job alone. They need your help! You can give it in any way you feel inclined. Be it articles, ideas or suggestive criticisms. Remember that XTAL is yours! Yours to use and improve! If you don't contribute to its betterment, you have no cause to complain! If you haven't done something to help, why not look into it now? See you on the pages of XTAL! Well, it won't be long now! Just a few weeks and we'll be right smack in the middle of the biggest hamfest ever held in Canada. Those of you who have attended hamfests before need not be reminded of the swell times you had. For those of you who have never been to a convention . . . well, all I can say here, to save space, is that you'll be very sorry if you don't plan right now to be at the Mount Royal Hotel in Montreal on the week-end of October 8 and 9. See you there with bells on OM and we'll see you here again next month.—73—Floyd.

Ve3

W. Bert Knowles, Ve3QB, D.R., Lanark—The first bit of news this month comes from Ve3ANP, which was received too late for last month. News for this column should reach Ve3QB by the first of the month. 3FW works his son-in-law, 3ARB, at Aldershot. 3HU is watching new QTH in construction; bet he has a good radio room included. 3UA is on 20 and 80. 3RA has left Fort William for Winnipeg. 3AMN has worked good dx on 40. 3CH is getting ready for 10 phone. 3BMN is sailing on Lake Superior for summer rather than ham radio. Now with portable privileges for Ve's he should be able to have some real ham radio at the same time. 3ASL is new on 40, as is also 3BXS. 3BVT is a xyl and is looking for xyl contacts—beware of the wolves. 3BIL is also on 10. ARN doing fb on 10 and coming on to 80 and 20. How about collecting some QSL's at the bureau? 3AWV, BRO, and AIT are working to get 10 phone going this winter—what QRM on 10 this winter! BGC has been transferred to Winnipeg. Lakehead hams please contact Ve3ANP with your news on time. 3RG visited 3AYO and Sudbury gang. The 16 hams in Sudbury are planning a picnic in August. 3AWA put a crystal calibrator in his receiver. 3EK, xyl, and junior operator visited 3KE and KG. The Kingston club are planning a club station in their new quarters. 3AOU and AWA exchanged visits. 3QB has received QSL from W7CTK in Nevada to complete WAS. 3AOK is moving to London. 3ABC is fishing at Clearwater cabins on the Mississippi. 3JE visited 3AOU. 3IN ex-3BDR is still active at Deep River on 75. Ve3PA ex-3BHK is leaving on an extended trip to Ve6 and 7. Ve3AGT visited 3YI, AHP and HC, and is now going to Belleville to work. Visitors at your D.R.'s in July Ve5KJ and W1DQX. 3QL has moved to W6 and 3AAN to Ve2. 3KM was portable at Young's Point, Clear Lake, while on a fishing trip, and also visited the Peterborough gang. 3KE would like the B.E.R.U. score published in XTAL. 3JW visited 2AK. Has 3UO not recovered from the ordeal of the hamfest that he has not been on the air? 3ADJ at Belleville sends in a nice VHF report. During July he worked 14 States with 10 dx contacts and total contacts 21. 3BC, Pat Pagwa, reports traffic total of 8, 3ATR at Kincardine 59, and 3APS at Toronto 47. If the powers that be are willing, watch for an announcement of a contest "Know the Ve3's", for Ve3's only. It should take place early in December. All for July and look for us on 75, 40, 20, and 10.—73—Bert.

Ve5

Bill Gordon, Ve5MJ, D.R., Oxbow, Sask.—The Saskatchewan gang had a good field day. Taking gear and two tents and a small bunk house across the river to the vicinity of the ski jump, about twelve hams joined in, 5RC being on the graveyard shift. One transmitter was an HT9 powered by a 750-watt gas generator, and two others were battery-powered rigs of 25 watts. Over a hundred contacts were made, mostly with the HT9, which put out a good signal. It was a lot of fun and the boys put in a lot of work on getting the gear together and erecting antennas. 5DR had an accident to his hand which has kept him off key for a while. 5KQ says he needs new antenna. 5RC is getting on 6 with 100 watts to 4L beam. 5RJ is in summer slump and blew a choke, but got new choke and was heard on 75 phone. 5FL is on CW occasionally on all bands. 5DO is struggling with 144 Mc, also garden and household chores. 5GB still working on transmitter for 144Mc. 5BF, after cussing 10-meter beam all winter, found he had been working on ten coupled to his 15-meter beam. 144 Mc next job with BC625A. 5JF building separate rig for 50 Mc. 5UC antenna and outhouse blew down all in one disaster. 5EW 350 watts on 40-meter CW. 5FY on 75 phone but rebuilding for higher power with 813. 5YF on 40 CW—3 msgs. 5UZ not much activity—rebuilding for higher power. 5EE channels AF early morning coast emergency 6 msgs. 5AJ 10-20-40-80 with pair 813's skeds ZL3AL. Getting 10-over-20 Hammond beam. 5LG on 40 and 80 CW. 5MX on 20 and 40 CW. 5 DQ QRT and gone to Winnipeg. 5QP Elstow on 80 CW. 5FD still mostly on 20 phone, but gardening takes more time, also plans for building house. A few of the gang met at a picnic at Kenossel Lake on Sunday, July 18. Not as many turned up as were expected. Those present were RB, AU, QU, QB, DT and MW. C.G.M. Alex Reid was in Moose Jaw recently and after a nice lunch with some of the boys, a meeting was held at the home of 5OM. Reports say it was the most interesting meeting of the year. 5EK had a bad accident—fell from a pole while at work as a linesman on the C.P.R. and broke his back. 5LV paid a dollar for a pole and it cost him eight dollars to get it home! New ham in Moose Jaw is MK—also a few younger fellows there are getting the "bug". 5JV received a card from China. A bad storm brought the beams of 5OM and 5OP to the ground.—73 for now—Bill.

Ve6

W. R. Savage, Ve6EO, D.R., 329 15th St. N., Lethbridge, Alta.—HM gave us a thrill the other night we heard him on 75 phone. Also LQ was on, and he has not been on for a long while. DN says his strawberries are coming along fine. OD has rigged his scope up on his

It Won't Be Long Now!

YOU'D BETTER GET READY FOR

EASTERN CANADA A.R.R.L. CONVENTION

The Greatest QSO Party and Hamfest in Canadian Amateur Radio History!

Your Hosts, The Montreal Amateur Radio Club, Are Waiting to Welcome You at the

Mount Royal Hotel on October 8th and 9th

For the OMs It's $5.50 — For the YLs and XYLs It's $3.50

WHAT FUN! ***WHAT PRIZES!*** ***WHAT SAY?***

SEE YOU ALL IN MONTREAL!

We can mail your ticket requirements now. Just send us a certified cheque, including exchange (where necessary), or any kind of money order, making them payable to the Montreal Amateur Radio Club. We can be reached at Post Office Box #1, Postal Station "D". So write! Right now!

PROGRAM

Friday, October 8th

12.00 noon to 3.00 p.m.—Registration and getting acquainted.

3.30 p.m.—Address of welcome by H. B. Elliott, Ve2KS, President, Montreal Amateur Radio Club, in Convention Hall.

3.35 p.m.—Address, "Inductive Interference," by H. O. Merriman, Dept. of Transport.

4.15 p.m.—Discussion period on BCI and QRM.

7.30 p.m.—Smoker, movies, songs, entertainment, etc., conducted by Sidney Chapman, Ve2LV.

11.45 p.m.—Traditional A.R.R.L. Wouff Hong Initiation Ceremony conducted by W. H. Oke, Ve2XM.

Also on the program, you will be able to view an interesting display of amateur radio equipment exhibited by prominent manufacturers and dealers. This exhibition will be on the 9th floor of the hotel and will be open for your inspection from 12.00 noon on Friday until 7.00 p.m. on Saturday. A dandy spot for you fellows to discuss the new "ham" products.

Saturday, October 9th

9.00 a.m.—DX Clinic conducted by H. B. Elliott, Ve2KS.
VHF Clinic conducted by John Pavey, Ve2KH.

10.00 a.m.—Address, "Mobile Telephone Equipment," by Bell Telephone Co.

11.00 a.m.—Address, "International Communications," by Paul Segal of Hartford, who struggled through the Atlantic City Conference with A.R.R.L.

2.00 p.m.—Address, "Antennae Matching and Certain Wave Ratios," by J. E. Hayes of the C.B.C.

3.00 p.m.—Address, "Communications," by Gordon Lynn, Ve2GL, S.C.M. for Quebec.

4.00 p.m.—Code speed contests, etc., conducted by W. G. Stygall, Ve2KG and J. W. Ewart, Ve2JE.

7.00 p.m.—The Big Banquet! Guest speakers: Col. A. Wrinch, R.C.C.S.; K. B. Warner, WIEH, Secretary A.R.R.L.; Alex Reid, Ve2BE, C.G.M. of A.R.R.L.; Dr. E. Mignault, Ve2ZL. Then, to officially top things off, and put everyone on the edge of his chair . . . the drawing for prizes!

receiver so he can check modulation of other stations. WZ is getting quite worried because there are no 75 phone stations on air. Well, what say, fellows? Shall we get going and show him? We hear LZ on 75 phone. CR is busy cutting hay now. AA put a new speaker on his receiver. EB has to QRX to bend a contact on his relay to stop it from humming. We hear the tiny kilowatt TK doing fb for himself on 75 phone, and I think WB must run a tiny kw the way he pounds into the south. Nice going, Wally. US is on 80-meter CW with an antenna that is near a 66-000-volt power line, also telephone and 220-volt line. He says reception is really poor. DB has been busy studying for exams. Hope you make an R9 on it, Bob. EE is doing some nice dx work and has a very nice signal. HW, who has been operating on 40 CW in Calgary, is now being transferred back to Lethbridge. OF is back again after buying a new war surplus transmitter. MN is busy working on his house. On passing by I noticed he had his chimney off. Maybe he is installing a wave trap in it (hi). MA is busy these days playing baseball. We hear that BC, EV, VN, MP, FS, HZ, AO, TM and HQ attended the Glacier hamfest. DN is going to be busy now that the C.P.R. is running a gas-electric passenger to Glenwood. IP is taking his vacation before he has to start harvesting his crop of wheat. MJ got a large donation of radio equipment for the emergency net. Nice going, Sid. JP is heard testing on 75 phone and is preparing a beam for 10 meters. DM says he will make the Calgary hamfest or bust. Ex-G5PL paid us a visit while attending the Fire Chiefs' Convention. EO also had his fill of the convention. Well, boys, come out of your shell and give with some news for next issue.—73—Bill.

Ve7

Ernie Savage, Ve7FB, D.R., 4553 12th Ave. W., Vancouver, B.C.—Things in this part of Canada's domain have been active, flood, picnics and holidays, yet the reports to this date is nil on the flood, and I won't say a word till official report has been released. I went to Albernie and the Port to see for myself, the Dag Wood of B.C., may be for Canada, could put up his name for nomination. 7CX Stan will be on the 5 o'clock net putting in his allotted five minutes. Betty already has his dinner pail in the front porch, horn honks, truck moves past. No Vampire jet ever moved that fast and our Stanley is off to work, and house settles back to routine. Harry and I spent several days up at 7HE, Ted's home, on Sproat Lake, we did ham one evening but spent all the time trying to catch that big one. 7PY, Dave, was busy at his desk with papers all over the place. A young man came up to apply for a job. Dave never looked up —too busy, he says. What's your name? What do you want to do? All this he received and wrote it down. What's your number? Young man: "Ve7PO". Dave: "What the . . ." The rest was spent in talking! Victoria had a picnic again this year and we tried to find it but no luck, and no report on it in the mail. The V.S.W.C. did have a very busy time at the fair and passed quite a pile of traffic. 7SW Allan was active on the flood as the station finder and contacter. 7FB would want a station to pass traffic and would call Allan, tell him who they wanted, and carry on with the flood net. Allan would check in, give frequency, and call of the station. That sure helped to get stuff cleared from here during the early part of the flood. Then the B.C.A.R.A. appointed 7BJ Ed as flood co-ordinator. He smoothed out the rough spots. 7CB, Chris, is still building up gadgets to give you all the story on what is happening to the rig and soon he may find the one that does what he wants it to do. Then we will ask for the dope and get it in XTAL. 7XX, Steve, is still building the power house. 7AM Bill is running a 6-watt signal plus nine into Vancouver and is sounding quite active for the winter months to come. 7AAZ Knobby, the man of the roar, is now reported roaring around in a Buick, age and model unknown to date. 7ALJ Hal and Biddy holidaying in Everett, Wash. 7SL Dud still running his high power and is heard saying "going fishing" quite often. 7TT Bill, who was 7ADF, moved to the hills of North Vancouver and, doing so, I guess he burnt all bridges by changing his calls. 7AFN Mickey has good idea on changing his 19 set to do a better job and do away with the IC and B set. 7AFC Bill has let the bands go unused and using his time now with a second-hand Hudson coupe with rumble seat and all. 7TC Tom is now deep into the business of low-power mobile rig for the car. Guess 7FB will move his BC456 from near truck to the front seat and go mobile. Word from Prince Rupert Radio Association that there will be much news for us when they start their winter season. The second Annual Vernon Okanagan Exposition called for another spurt of activity on the part of the Vernon Amateur Radio Club. Under the able chairmanship of 7FT Laurie, members of the club went to town putting on a display of ham gear to bring before the public the scope of amateur radio. The exposition was held in former military buildings and the radio shack was located in the R.E.M.E. electric shop. Club members papered and redecorated the walls and erected signs, railings and display tables. A three-element 20-meter beam complete with tower was constructed. This was a major project, and many Sundays and evenings were spent to be ready for the opening day. Two rigs were used—75 meters 810 in final, 20 meters pair 809's, VFO controlled on all bands. Receivers National 46 with pre-selector. Jim Smalley's Gyp Joint loaned for display National 173, National scope, micro-match and a gon-set converter. Estimated that over 10,000 people saw the display. It was certain that the people learned more than BCI. We want to thank the amateur stations that handled traffic for us. 7ZT Tommy, whom we should congratulate on getting his ticket, is using 6F6-807 15 watts into a zepp end fed. 7DB Bill, flooded out, moved to 7ZT QTH to operate. Then moved to 7MC Milts for QRR(R) traffic. 7MC has a new junior operator. 7BY Ronnie, is playing with scope and VFO and doing fine job. From Collingwood Radio Club comes again another nice report. It would put many to shame to see the amount of nice letters they send us. The NBFM fever has thoroughly saturated 7AZ, who carries a pocketful of circuits to force on any unfortunate ham who crosses his path. He can be heard on almost nightly on the teatime net doing the same. The usual circus that revolves around 7UU's shack goes on as usual —one night a yl's tones were heard over his station. Like a flash his shack was swamped by 7ADV, 7AZ, 7ABP, 7LF to see nymph of the ether. 7AME and 7VF both talking 10-meter phone this fall. 7HF last heard as residing in Nanaimo, through with amateur radio (?) and living the life of nature boy. 7AJR and 70J did a bang-up job of painting Spud's house, we hear. 7LF has beautiful 35-foot all-dural tower, sturdy as a rock. Neighbours think that it is an oil well and oil so short. 7AIH building VFO. 7BE switched jobs and working for airlines. 7AKK speaks of using NBFM on a 809 P.P.; now he is modulating an 807 doubler. The Fraser Valley Net (7ACV, AEY, AHQ, ER, ADZ, W7JNU and W7LZZ) carries on consistently on 10-meter ground wave, frequency 28,585 Kc. 7CV is really getting beam experience and apparently to good effect. Eavesdropping on some of his QSO's we hear some very flattering reports. At the risk of getting shot for punning we will say 7DQ is getting dream experience. The dream is beginning to take a more tangible form with 6V6-6L6 combination, but a little co-operation from the local fire department will be required to get the sky wire up. Of 7AFB it has been heard that he is building to the limits (why?) 7ADZ has a new 10-meter beam at buck per meter. Has gone plate modulation and gets R9 signal from the church organ as the receiver! 7WI Wally and Betty are doing nicely and if you buy the book "Nature's Fury" you will see our Betty. 7AEY Capt. Wheatley gets congratulation on his retirement from the C.N. police force. Now Langley will be heard in all corners of the world. Woodfibre Radio Club has transmitter and receiver and Ve7ANW is the call. 7BQ John has NBFM all tucked in the roof of his car. All you need is TU53 and May QST and a little thought. Totem Radio Club are prepared to give CW classes on six meters if enough let them know that they will be there to copy. 7QI Harvey heard on 40 CW. Better see Reg. 7AC, and ask him what's in the air for 1949. W7JFB Marion, Hank and junior skipper been seen in Victoria and Vancouver last two months. W7BQS Sher paid Vancouver a visit; he was chief operator and passenger on a power launch in the race from Seattle to Vancouver. Alex Reid paid Vancouver and Victoria a visit and told us all the news. Please write me all the news and 73.—Ernie.

Ve8

Jack Spall, Ve8AS, D.D., Box 268, Whitehorse, Y.T.—8AI reports from Watson Lake that ham activity is at a low ebb due to poor conditions but hoping for better things soon. BC, Bear Lake, sends in swell dope on rig, etc., uses PP 809's final, class B 807's modulators, works all bands with folded dipole and a 3 element beam plus a plug for XTAL. GC, late of Whitehorse, now in Dawson City, sends in dope on the gang up there. George has his PP 813's going again and uses half wave vertical for 20 CW. Says dx is better there than Whitehorse. CE uses parallel 807's with 75 watts on 20 and 40 but complains of having no luck working the Europeans. AH has 19 set on 80 and 40, S38 receiver and doublets for both bands. CG also uses 19 set and S38 but not on the air yet because of lack of power for the 19 set. AW is back on 20 CW after a spell of 20 phone.

BV figuring on increasing power by installing PP 813's. AS back on 20 phone and for first contact connects with YS3PL. NX, Yellowknife, will leave shortly for Ve3 land. Again MV has new junior operator to keep him busy. NG, Aklavik, has departed for the bright lights. Reports are still lacking from N.W.T., so how about some news for next month, gang?—Jack.

DX CARDS FOR VE2'S

The A.R.R.L. QSL Manager for Ve2, A. A. W. Smith, 2VW, 6164 Jeanne Mance, Montreal 8, Que., has dx cards on hand for the Ve2's listed below. Please send him a stamped, self-addressed envelope and help clear his files.

AAD, AAV, AAZ, ABK, ABN, ABO, ABQ, ABT, ABV, ABY, ABZ. ACC, ACD, ACH, ACT, ACM, ACS, ACU, ACV, ACW, ACZ, ADB, ADE, ADG, AEF, AEG, AEH, AEL, AEQ, AER, AES, AFG, AFI, AFQ, AFY, AGA, AGC, AGD, AGS, AHN, AID, AJN, AQB, AUN, AVK, AJO, AJV, AKY, ALR, ANK, AQE, AXN, AXW, AD, AE, AG, AM, AN, AQ, AR, AS, AY, AW.

BBR, BBY, BBZ, BDB, BDN, BJF, BNQ, BNG, BA, BE, BF, BH, BL, BP, BQ, BR, BT, BU, BW, BY.

CCV, CC, CE, CI, CK, CL, CN, CP, CR, CS, CU, CY, CV.

DA, DB, DG, DK, DL, DM, DO, DU, DX.

EA, EE, EF, EH, EI, EJ, EL, EN, EO, EP, EV.

FG, FI, FK, FM, FN, FP, FQ, FT, FW, FX, FY.

GB, GC, GE, GF, GG, GH, GI, GJ, GK, GL, GN, GO, GQ, GS, GT, GU, GX, GY.

HE, HN, HO, HQ, HS, HY.

IA, IF, IJ, IL, IN, IS, IW.

JC, JE, JF, JG, JH, JI, JJ, JU, JV, JU, JZ.

KA, KB, KC, KF, KH, KI, KJ, KQ, KR, KT, KU, KV, KX, KZ.

LC, LD, LG, LJ, LM, LT, LU, LV, LW, LY.

MB, MC, MI, MJ, MK, MO, MP, MQ, MR, MT, MV, MW.

NB, ND, NE, NF, NI, NL, NM, NP, NT, NU, NZ.

OA, OE, OG, OH, OI, OM, OR, OU, OW.

PA, PB, PD, PG, PJ, PK, PP, PR, PT, PV, PX, PY, PZ.

QB, QD, QF, QH, QI, QJ, QL, QO, QQ, QR, QT, QV, QW, QX.

RD, RE, RF, RL, RM, RN, RQ, RR, RS, RT, RY.

SA, SB, SC, SE, SH, SI, SJ, SL, SO, SP, SR, ST.

TB, TC, TE, TI, TL, TO, TQ, TS, TU, TV.

UA, UD, UG, UF, UJ, UL, UR, US, UU, UX.

VB, VE, VF, VG, VH, VI, VK, VL, VR, VT, VV.

WD, WF, WG, WH, WI, WJ, WP, WR, WV, WX.

XA, XC, XD, XJ, XK, XL, XQ, XT.

YA, YM. YN, YP, YQ, YS, YW, YZ.

ZA, ZD, ZG, ZJ, ZM, ZT, ZU, ZY.

● When you move to a new address, remember to notify the milkman, the baker, CAROA, the R.I. and the Call Book. It's the only way you will continue to eat, run radio and get XTAL and your QSL's.

C.&U.S.R.S. COLUMN

By Sid Prior

With August issue of XTAL in your hands and my article read with gusto, I hope, we shall attempt to go on with our next SWL column.

A letter has come from Dick Roberts of 112 Earlsdale Ave., Toronto. An SWL since 1928, he use an S40 receiver with a home-grown S-meter and an R9er, and 4-tube blooper for 6 and 2. On the roof: a 28 Mc 2-element rotary beam, motor driven and selsyn indicators; a 20-meter doublet and a long wire on 40.

Since the war QSL's from 29 countries, all on 28 Mc phone. Dx on 6 is Orlando, Florida. Member of A.R.R.L., R.S.G.B. and B.E.R.S. 712.

Also word from an SWL old-timer in Delhi, Ont., Bill Hoskins. Send us more dope on your set-up, Bill.

And last, but she should have been first, an SWL card from yl, Denise Bullough of 63 Robins' Lane, Elm Estate, From, Somerset, who would to QSL by letter. So you SWL wolves, what say?

In the October issue I will have all the dope on the SWL DX Contest and the prize list. The contest will be for about three or four months' duration, so it will give you a chance to get as many dx cards as possible to win a prize. Suply houses look out, I will be around to see you for prizes (hi).

Seriously fellows, as SWL's we hope to obtain our tickets, so we can talk back to the chaps we listen to, but to some of us our pleasure is to try various ways and means of improving our receiving with new antennas, new converters or other new ideas we see from time to time in radio periodicals, but eventually we decide to really buckle down and get that 15 words per, smarten up on theory and diagrams, and then wend our way down to the R.I. with butterflies in our stomachs and come out with a big smile.

If anyone knows of a better hobby, a finer bunch of chaps and a better time to be had than at hamfests or at a club meeting, I am willing to listen.

So for now and with a brighter tomorrow for this old world, don't forget the coming SWL dx contest and send me your letter describing your set-up at home or at the club so that I can include it in a future SWL column.

Oh yes, before I forget, thanks to all you Ve's and W's for reading this column. We, the SWL's, appreciate your interest. The next SWL card you get, drop him one of your QSL cards and our thanks to you.—73.

DX EMERGENCY TRAFFIC

From the Ottawa Citizen

THANKS to a relative newcomer to the ranks of Ottawa's amateur radio operators, Mrs. Stanley Lewis and her daughter, Mrs. Allan Harrington, now living in the Panama Canal Zone, have kept in constant touch during Mayor Lewis' serious illness.

It was on June 25 at 5.25 p.m. that Bill Bott, Ve3BAP, put out a CQ and heard KZ5RS answer saying that a Lt. Harrington was calling a Mrs. Lewis in Ottawa, whose husband was very ill, and asking if a message could be delivered to her.

He immediately called Mrs. Lewis at the Civic Hospital and she gave him a message to relay. At the same time it was arranged that she and her daughter would exchange messages regularly on Tuesdays and Saturdays.

The next day was Saturday but they could not establish contact. On the following Tuesday, Bott called the Civic to say the Canal Zone was coming through clearly and how soon could Mrs. Lewis get to his home.

"I nearly flew," explained Mrs. Lewis, "but of all things, there was a freight train parked right across Carling avenue." However, she managed to get a few words of encouragement throught to her daughter and son-in-law. The Canal Zone amateur station is operated by a brother officer of Lt. Harrington, Capt. Bob Stewart, and to get to it Mrs. Harrington had to walk a mile across France Air Field where her husband is stationed with the U.S. Army Air Corps and climb an old abandoned control tower.

"It just meant everything to Elda to be able to hear first-hand how her father was," commented Mrs. Lewis. "I was so surprised when Bill Bott called me at the hospital. In all the worry I had never thought about the radio though Allan told me, the last time they were here, not to be surprised if they called us on the short wave."

Quite a few amateur operators were keeping tab on the Lewis-Harrington messages. Last Tuesday when Ottawa and the Canal Zone could not establish contact, Bill Wright, W2JWK, in Howarth, N.J., broke in to say that he was getting Bill Bott's Ve3BAP clearly, as well as the Panama station, and would be glad to relay messages "if you don't mind me butting in." They didn't and he did.

Mr. Bott praised the co-operation he received from other Ottawa amateur operators. For example, Don Dashney, Ve3RM, loaned him equipment to improve his reception, while Bob Whittie, VeALJ, "stood by." Others were careful to clear the frequencies for him to operate.

COUPON

Please enroll me as a member of the Canadian Amateur Radio Operators Association. I am enclosing a cheque ( ), money order ( ), postal note ( ) to the amount of two dollars which entitles me to all rights and privileges therein, and a year's subscription to XTAL magazine.

Name .....

Call Letters .....

Address .....

City ..... Prov. .....

Licence Number .....

State your interest in radio if not licenced .....

.....

.....

REMIT TO: The Canadian Amateur Radio Operators Association, 46 St. George Street, Toronto, Canada.

PACKED FINAL—from page 9

resistor R2 into the circuit thus preventing the plate current from running away.

The relay used in this amplifier has a coil resistance of 9,000 ohms and pulls in at about 3 milliamperes. The winding is connected to grid leak R4 at a point established by the variable tap and selected to close the relay at whatever grid current is required. In our case the figure is 40 milliamperes. Where a low resistance relay demanding a higher current is available it should be connected between the bottom of R4 and the grid meter. Care should be taken to see the relay winding is capable of continuous operation at the rated grid current. In the case of 812's, the figure is 50 milliamperes.

The grid leak resistance is made up of R3 and R4 in series. The variable tap on R3 permits the total grid leak resistance to be set at the correct value to place the rated bias voltage on the 812's. The point is easily established with a DC voltmeter having high internal resistance.

● The official news release on emergency work done by VE7's in the floods has just come to hand. A full report will be in next issue.

QVE

CAROA Official Bulletins 75 Meters Each Thursday 9 p.m. Local Time

The undersigned stations have been appointed as CAROA Official Bulletin Stations. Be sure to listen for your district OBS for latest messages and bulletins of interest to all Canadian amateurs.

Ve1GD—3835 Kc—H. A. Garland
Ve2HL—380 Kc—J. W. Labelle
Ve2DL—3827 Kc—R. Frenette
Ve2TM—3815 Kc—Leon Baldwin.
Ve3QB—3835 Kc—W. B. Knowles
Ve3CP—3775 Kc—T. Hunter
Ve4KK—3820 Kc—B. Fowler
Ve5FA—3848 Kc—W. A. G. Simpson
*Ve5GA—3847 Kc—W. T. Rogers
Ve6OD—3801 Kc—E. A. Anderson
Ve7FB—3825 Kc—H. E. Savage
Ve8AS—3820 Kc—J. Spall

*—10:00 p.m.

Dear OM . . .

Kincardine, Ont.

XTAL:

Operators who listen to traffic scores going to the S.C.M. at the end of the month can observe a definite misunderstanding and confusion regarding our reporting set-up, which reads as follows: Originated; Delivered; Relayed; Extra Delivery Credit; Total.

It is apparent that the word "delivered" is the cause of the confusion, since many operators do not understand just which traffic points should list under this heading, and quite frequently the component parts of traffic reports do not balance with totals.

It is felt that if the word "delivered" were changed to read "received," and if operators bear in mind that each time a message moves it will count as one point under one of the several headings, there should be no confusion in making up traffic reports.

Ve3ATR

● We have had an experience, one of those pleasant experiences that we enjoy, so we must tell you about it.

Recently, a picnic was held up Goderich way. Fearing that the report of the event might not beat the dead-line for September XTAL, a radiogram was dispatched.

A sincere SWL in the person of Wendell Strawway of Detroit, Michigan, heard the transmission. It turns out that Wendell and his yl were at the picnic, and were identified with the registration of the picnic guests.

Wendell, realizing that the deadline was not far away, promptly sent us a list of licencees present and jotted down some of the highlights.

And so to you, Wendell Strawway, CAROA and XTAL extend thanks, and present you with the symbolic orchid for your display of the genuine amateur radio tradition of sincere service and co-operation.

● From time to time we receive inquiries on special problems (for which we do not have answers) and also technical articles which are excellent but do not seem to have a sufficiently general interest to warrant publication. It has occurred to us that a department in XTAL where these inquiries and answers, or inquirers and informants, could be brought together would be of service to Canadian hams. Next month's issue will start it off, and we ask your suggestions for a title. Something suggestive of a meeting place is required. We do not propose to publish answers, but merely to encourage correspondence between amateurs on special subjects, after requests have been made known.

TRAFFIC NET NOTES

With the traffic season opening after the summer vacation, we make the following suggestions to net operators:

1. Do not CQ on net frequency prior to net time. CQ's bring QRM to net frequency.
2. Listen carefully before breaking in and do not tune unecessarily or swish VFO across net frequency.
3. Work through NCS (Net Control Station) always. Individual station working independent of NCS hinders and delays efficient traffic handling.
4. Don't leave net without advising NCS and if you QSY be sure to move far enough to avoid QNM.
5. Clear ALL traffic. Don't let any die on your hook.
6. There is no such thing as too much traffic. If you are unable to clear all traffic to and from your vicinity get alternate local stations to join nets. Larger Ham populated centers fail badly in this respect and should be able to have at least one station QNI for EVERY net session.
7. QRS if necessary and do not hesitate in requesting QRS.
8. Accuracy is first essential. Speed is desirable but not at expense of accuracy.
9. Traffic nets are not Rag Chew Nets. Clear traffic speedily and efficiently so that net can be QNF. Proper use of Q code and net Q signals will facilitate speedy traffic handling. Do your Rag Chewing after QNF.

Adherence to the above simple rules will greatly improve the quality and efficiency of nets.

Reproduced below is Official Bulletin No. 50 from Ve3CAR:

Checking of cross-indexed membership lists and mailing list has taken longer than anticipated, but is now almost complete. More than 3,000 cards have been checked, and the mailing list corrected to conform to available records. Effective with July issue, XTAL will be mailed to members in good standing only to VE1, VE2 and VE3, with other districts to be corrected with August issue. It is possible, in spite of care, that incomplete records have been the cause of omission of some members in good standing. Should you hear any member complain of not receiving XTAL, please ask him to notify HQ—Send a letter, postcard or radiogram. Effective dates given above, address stencils will show date of expiry according to our records. If any dates are in error, please advise HQ.

WAR SURPLUS EQUIPMENT

Two interesting letters from Ve4RB advise us that he has converted the American Navy RAX - 1 No. 3 receiver to a very useful ham tuner covering the 40, 20, 15, 11-meter bands and part of the 10-meter band.

The receiver is a five-band switched job covering 7 to 10 Mc, 10 to 13, 13 to 17.5, 17.5 to 22.5, 22.5 to 27 Mc. It was orginally powered by a 24-volt dynamotor for the eight tubes.

Ve4RB rewired the filaments for 6.3 volt, changed the audio tube from a 12A6 to a 6V6, and put in a Hammond transformer giving 240-0-240 volts at 95 Ma, and 6.3 volts at 3 amps. and 5 volts at 2 amps.

The band-setting padders allow raising the frequency to above 28 Mc. to cover the lower end of 10 meters.

He asks for comments from any other possessors of the receiver and would also like to obtain the orginal wiring diagram. He mentions that he has done considerable work on the BC654, particularly in connection with the receiver section. This receiver covers from about 3.7 to 5.8 Mc and when used with 90 volts "B" supply, 6 volts negative bias, and 1.5 volts on the filaments makes a very sensitive receiver for 75-meter phone work.

Ve4RB will be pleased to provide additional information on this piece of equipment.

CRYSTAL CONTROL OF THE NO. 19 SET

We learn from Edwards Supply House in Toronto that a simple method of converting the No. 19 for crystal control is as follows:

(1) Mount a midget type crystal socket on the front panel beside the wave change switch where the panel is marked 2 to 4 and 4 to 8.

(2) Open the EF50 oscillator plate lead at the wave change switch. Feed the lead through a small RF choke to B plus at the base of the RF coils, which lie horizontally near the wave change switch.

(3) Connect one side of the crystal to the plate of the EF50.

(4) Remove the cover from the small square box directly in front of the wave change switch, and short out the ½-watt resistor at the end of the left hand coil.

(5) Open the right hand lead of the mica condenser which is with the second coil in the same box, and connect this end of the condenser to the remaining crystal terminal.

A newsy clipping from the Vancouver Sun has been received. We note that ham radio made a three-column heading for a write-up of flood communications work and the election of R. O. Norman, Ve7ID, as S.C.M. for B.C.

Bach-Simpson Appointment

MR. F. P. KEHOE, Ve3VU

Mr. F. P. Kehoe, until recently a flight lieutenant in the R.C.A.F., radar and communications branch, has joined the staff of Bach-Simpson Limited, where he will be employed in the engineering department of that Company.

Besides his connections with the Ontario Hydro Electric Power Commission and R.C.A.F., Mr. Kehoe is very well known as an enthusiastic radio amateur, his call letters, Ve3VU, having been heard in all parts of the world.

In obtaining Mr. Kehoe's services, Messrs. Bach-Simpson Limited are fully confident that his wide experience and background in radio and power system engineering will be of very special assistance to their customers, generally

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● Many of you will no doubt recognize some of these famous names in radio. Millie Ampere, Elsie Ratio, the two Irishmen Mike O'Henry and Mike O'Farad, Parry Sitic, Stan Doff, R. F. Burns, Hy. Q. Coyls, D. C. Field, A. C. Current, the two sisters Dina and Jenny Motor, I. F. Gane, Solly Noyd, Permia Bility, A. C. Leeds, Aunt Enna (someone sent her a wire), Millie Henry, Anna Lyzer, D. C. Supply, P. M. Speeker, V. F. Owe, Dessy Bell, Eddy Currents, Fil. Voltz, Galvin Ommeter, Guy Wyre, Horace Power, I. R. Dropp, Leyden Jarr, Mag. Ohm, Miss Match (her first name may be Multie), Molly Kewel, Maxie Mumm, Q. Factor, R. F. Cable, Stan Bye, Vi Brator and P. P. Hartley . . . . Ve2XR.

WELCOME OM!

C.A.R.O.A. and all its members welcomes the following new operators to the ranks of amateur radio.

Ve2AAB—K. Luty, Port Harrison, Hudson Bay.

Ve2AAC—J. G. Sutherland, 197 Cool Breeze Ave., Lakeside.

Ve2AAD—G. R. Jean, 98 Columbia Ave., Westmount.

Ve2AAE—G. O. Lefebvre, 626 St. Christophe, Three Rivers.

Ve2AAF—W. L. Murphy, 4477 La Salle Blvd., Verdun.

Ve2AGG—T. G. Cotton, 9025 Lajeunesse Blvd., Montreal.

Ve2AHH—J. F. Tatlock, 1193 Foch Ave., Verdun.

Ve2AAI—A. W. Chalk, St. Alexis des Monts.

Ve2AAJ—A. Fournier, 696 St. Albert St., Quebec.

Ve2AAK—H. Inouye, 6955-B Garnier St., Montreal.

Ve2AAM—M. Vallee, Radio Station CJBR, Rimouski

Ve2AAO—R. Hebert, 6928 Drolet St., Montreal.

Ve3BXR—Sgt. Joseph William Morgan, RCAF Station, Centralia.

Ve3BXS—Bruce Douglas Gellatly, 425 Catherine St., Fort William.

Ve3BXT—John Edward Turner, on behalf of the Scarboro Amateur Club, 2482 Kingston Rd., Toronto.

Ve3BXU—William Mason Bewley, 147 Glendale Ave., Hamilton.

Ve3BXV—George Edward Ryckman, 61 Sterling St., Hamilton.

Ve3BXW—Leslie Totman, 83 Cascade St., Parry Sound.

Ve3BXX—William Henry Willis, Box 304, Schreiber.

Ve3BXY—Kenneth Henry Beavis, 604 Clinton St., Toronto.

Ve3BXZ—Oscar Charles Sonstenes, P.O. Box 281, Larder Lake.

Ve3BYA—Reubin Levitt, 609 Bayview Ave., Leaside.

Ve3BYB—W. R. J. Newstead, 55B Hillside Ave., Box 420, Minnow Lake P.O., Sudbury.

Ve3BYC—James Clark Rowe, 257 Broadway N., Tillsonburg.

Ve3BYD—Patrick Leahy, 21 Grosvenor St., Toronto.

Ve3BYE—Elmer Melvin Lionel Kennedy, 79 Murphy St., Trenton.

Ve3BYF—Herbert James Simpson, 473 Scarborough Rd., Toronto.

If you have just been licensed please send us your full name, address and call so that we can intorduce you here to the gang.

HAM-ADS

Copy for Ham-Ads must be received before the tenth of the month preceding issue. Rate is 25 cents per line.

QSL Cards Printed—1,000 1 colour, $6.00; 1,000 2 colour, $8.00. W. J. Wiskin and Co., 105 Princess St., Kingston, Ont.

QSLS for discriminating hams. Distinctive! Colorful. Highest quality! $1.50 per 100. Samples 10 cents. Ve3QS Print, 344 Pape Ave., Toronto.

FOR SALE—Hallicrafters SX16 with Hammarlund Crystal Filter instead of original Filter; best offer takes. Wanted—D.B. 20, 22 or any similar Preselector. Arthur F. Shortell, VE5AS, P.O. Box 24, Lloydminster, Sask.

FOR SALE—Complete power supply, Hammond 720 and Copper Wire 7743 Transformers, 5z3 83 chokes condensers bleeders switches feed thrus and what else makes a good job. WHAT OFFERS as new. Ernie Savage, Ve7FB, 4553 West 12 Avenue, Vancouver, B.C.

DO YOU need a 60 cycle power house? Have a Hammond 775 60 cycle transformer with 2500-2000-0-2500 secondary rated at 200 MA CCS. Primary 105-115-125. It is in new condition and price is $25.00 f.o.b. Toronto or will trade for Hammond 767 60 cycle in A-1 condition. R. L. Cowan, Ve3ABM, 220 Rosethorn, Toronto.

Technical Information on War Surplus Equipment

Frank Ford, 3AKO, has kindly sent us a catalog of U.S. Government manuals covering some of the surplus equipment available. It is too lengthy to publish (about three pages on radio alone), and we suggest anyone requiring manuals write to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., asking for "List of Field Manuals and Technical Manuals (War Dept.)."

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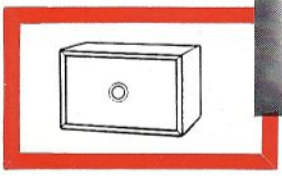
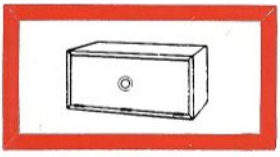


Small Utility Cabinet for tuners, amplifiers, record changers, etc.



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