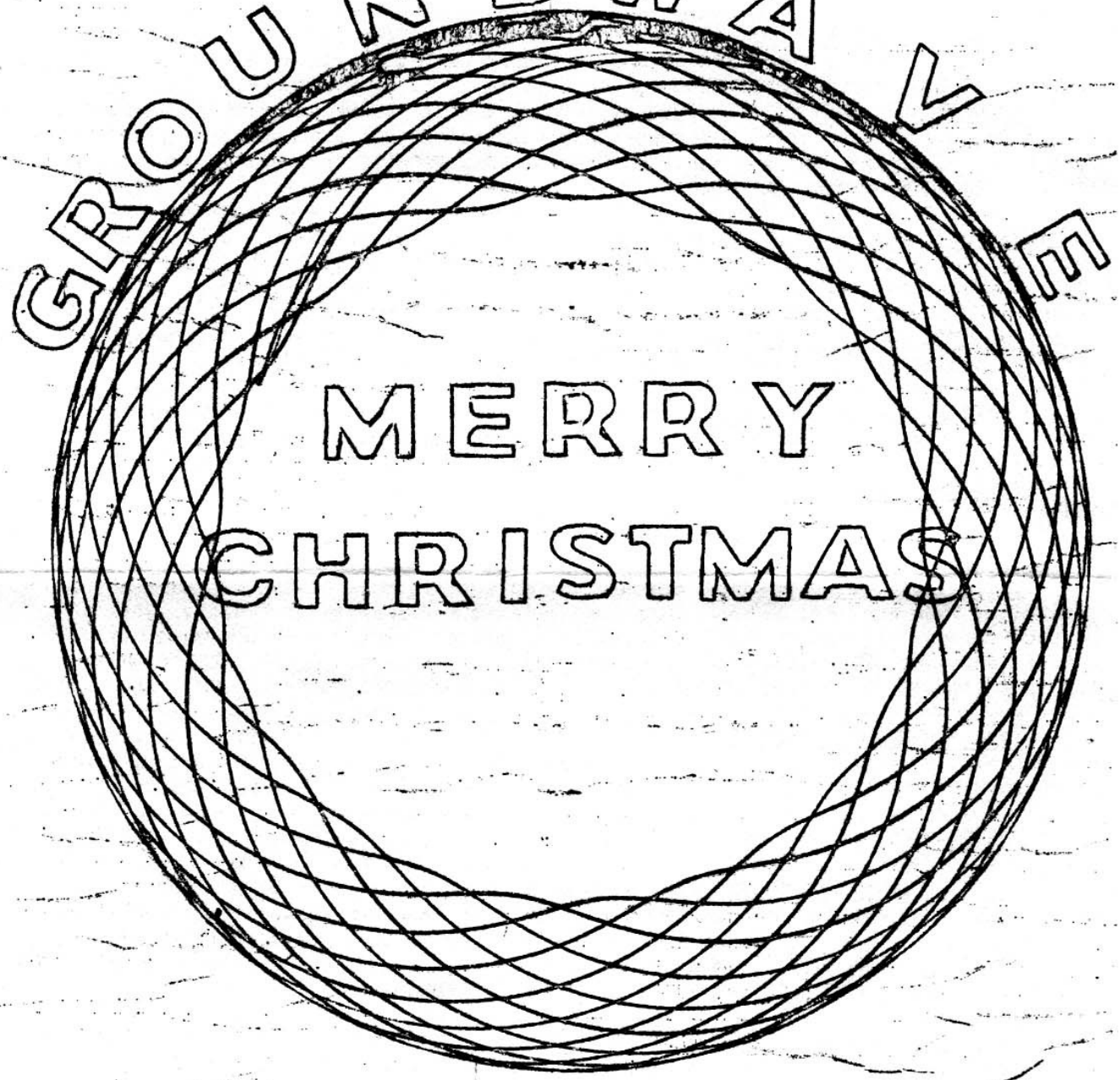
DEC '75

THE GROUNDWAVE

DECEMBER 1975

THE OFFICIAL BULLETIN OF
THE OTTAWA AMATEUR RADIO CLUB
BOX 8873, OTTAWA, ONT.
K1G 3J2



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THE GROUNDWAVE - OFFICIAL BULLETIN OF THE OTTAWA AMATEUR RADIO CLUB - DECEMBER 1975

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DEADLINE FOR COPY for the January 1976 issue will be December 20 for articles of length and December 27 for short paragraphs and announcements. Address all correspondence to: Carl Everson, VE3BYX, Box #4, Osgoode, Ontario, KOA 2WO (if the mail is running) or by landline to 826-2426 or via VE2CRA on 34/94.

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THE NEXT REGULAR MEETING of the Ottawa Amateur Radio Club will be held at the National Research Council, 100 Sussex Drive, Ottawa, on Wednesday, December 3, 1975 at 2000 hours. The guest speaker will be Mr. Sid Sheard, VE3BCL, who will speak on the NRC time standard station, CHU, and its new format and the information contained on its signal.

THE NEXT REGULAR EXECUTIVE MEETING will be held on the Tuesday following the regular club meeting in the Board Room of CFRA, 150 Isabella Street, Ottawa

- -

RENEW YOUR ARRL MEMBERSHIP through the OARC. You save and the club benefits.
-----See Hank, VE3BR, at any of the club meetings-----

- -

MAUREEN NEILL, VE3FZY, spends her working day around the Civic Hospital and has offered to visit any Amateur confined there. Call her at 725-4581, or after 5:30 at 233-9941, if you hear of any Amateur who would appreciate a visit.

- -

THE ONTARIO TRILLIUMS have assumed the duties of the ARRL VE3 QSL Bureau formerly operated by Russ Buckley, VE3UW. Russ has resigned for reasons of health. Envelopes and postage already on hand at the Bureau will be used to forward your QSL cards promptly. All future self-addressed envelopes and stamps should be sent to the new VE3 QSL Bureau listing as follows: The Ontario Trilliums, Box #157, Downsview, Ontario, M3M 3A3. (SARC)

- -

1976 MEMBERSHIP FORMS appear inside the back cover of this issue. Current members renew on a continuing basis. New members join now and receive additional copies of THE GROUNDWAVE for the balance of 1975. Remember the family membership plan.

- -

PSSST - Subscribe to THE GROUNDWAVE for $5.00 a year and get a free OARC mbrship

- -

THE RSO CONVENTION COMMITTEE in conjunction with the OARC are holding a dinner and dance on Tuesday evening December 9 to celebrate the success of the recent RSO Convention. Admission is $3.50 per person and is open to Convention workers, members of the OARC, and members of the OVMRC, and their partners for the evening. For further information, contact George, VE3BNO; Larry, VE3CRX; or Penny, VE3ERO.

- -

IT'S SKI MARATHON TIME AGAIN! The OARC have been asked to again assist with communications for the annual Canadian Ski Marathon between Lachute and Hull Quebec on February 28/29 1976. This involves operating an administration net on Friday evening, February 27, and safety, administration, and data nets on Saturday and Sunday. Larry, VE3CRX is taking names of volunteers for this operation and will endeavour to place you at the place and time of your choice. Get your name in now before all the spots are taken.

- -

THE MORRISBURG REPEATER, VE3SVR, suffered a direct lightning strike during a recent electrical storm. Reports indicate that damage was quite extensive. We hope that this fine machine will be back on the air before too long.

- -

SOME GIRLS SHOW A LOT OF STYLE ---------------and vice versa!

MINUTES OF THE LAST MEETING - The regular meeting of the Ottawa Amateur Radio Club was held in the Auditorium of the National Research Council on November 5, 1975. The meeting was called to order at 2006 hours. The President, Ron, VE3AUM welcomed the following visitors: Vic, VE3AIA; Don Timplir, VE3DFG; S.B.Bellosillo, VE2DZF, Lorne Ingrey VE8AK; Steven D. Gribbon; and Ken Chahley.

The minutes of the last meeting were adopted as printed in THE GROUNDWAVE on a motion by Hank, VE3BR, seconded by John, VE3CPY.

The financial statement presented by the Treasurer, Cy, VE3CVK, showed a balance after the Auction receipts of $1120.05 in the Club account.

Membership Chairman, Vic, VE3DEP, reported 45 full members and 5 associate members paid up for next year to date.

GROUNDWAVE Editor, Carl, VE3BYX, is still looking for new articles to publish.

The Emergency Communications Chairman, Larry, VE3CRX, reported that the OARC has been asked to provide communications for the Ski Marathon that is to be held at the end of February, 1976. The first part will be based at Hawkesbury, the second part at Ottawa. He also reported that communications for the recent car rally were successful but that the rally itself was a disaster.

Auction Chairman, Jim, VE3CIJ, reported that the auction was the best ever in terms of financial gain for the OARC and praised the efforts of the auctioneers, Ron, VE3AUM; Gerry, VE3GK; and Bob, VE3CDG, as well as Edie, VE3HRH, and Maureen, VE3FZY, who handled the intake and output of cash so that everyone was paid on the spot. Gerry, VE3CNJ was in charge of the coffee and donuts. The financial balance statement is as follows:

10% commission on sales	$160.66	Coffee and Donuts	$32.52
Sale of Club equipment and donated items	215.60	EMO Staff (2 @ $25.00)	50.00
Sale of coffee and donuts	43.52		
TOTAL RECEIPTS	$419.78	TOTAL EXPENSES	$82.52

NET BALANCE TURNED IN TO THE OARC TREASURY-----$337.26

The Convention Chairman, George, VE3BNO, thanked the various committee chairmen and workers for the hard work done which made the PSO Convention such a big success. He indicated that the net profit will be in the neighbourhood of $2000.00 when all obligations are met.

Ian, VE3FKC, has a source to obtain K20 frequency counter PC boards at $12.00. He needs a minimum of 10 orders to get this price and needs cash with each order.

Murray, VE3GZY, reported that the QSL Bureau needs self-addressed, stamped envelopes. (See address inside front cover - Ed.)

George, VE3BNO, needs volunteers and ideas for a Dinner Dance around the middle of November. There will be a nominal fee charged.

It was suggested from the floor that emergency telephone numbers be published in THE GROUNDWAVE for the Search and Rescue Centre at Trenton (CFB).

There were two guest speakers, Bob Zieman, VE3ATN, spoke about the new frequencies and transmitters for CBC. Also, Jack Belrose, VE2CV, gave an interesting talk on two-meter auto-patch repeaters.

The last item at the meeting was an auction of the remaining gifts left from the convention. Adjournment of the meeting at 2155 hours, motioned by Gord, VE3EKS, seconded by Gerry, VE3GK. Maureen Neill, VE3FZY, Secretary

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CONGRATULATIONS to Dennis, VE3HRB, on passing his Advanced exam and a welcome to the Amateur fraternity to his wife, Anne, with the call VE3GDL.

NOMINATING COMMITTEE REPORT - The following are proposed (to date) as candidates for OARC elected offices. Nominations are still open and further names will be added before elections.

President: Larry Bradley, VE3CRX

Vice-President: Penny Robinson, VE3ERO

Secretary: Maureen Neill, VE3FZY

Treasurer: Cy Chapman, VE3CVK

Directors: Ron Belleville, VE3AUM; George Roach, VE3BNO; Bud Punchard, VE3UD; Glen Holt, VE3GWY; Hugh Lines, VE3DWL; Rick Van Gastel, VE3HVA

Further names may be added by contacting Larry O'Brien, VE3GRJ, at 820-4404, Chairman.

THE POLICY OF THE GROUNDWAVE is to print as many items of local happenings as is possible. But we must be made aware of these happenings in order to print them! Over the past several months there have been many activities in the National Capital Area which would have been worthy of mention in THE GROUNDWAVE if they had been brought to my attention. All Amateur Radio related activities in Eastern Ontario are worthy of mention. A prepared paragraph or two ready for typing is preferred, but if this is not possible, then the bare facts of Who, What, Where, When, and Why passed to me by mail (HI HI) (Box #4, Osgoode, Ont., KOA 2WO), landline (826-2426), or VE2CRA (34/94) will be sufficient. Articles by local Amateurs on any phase of Amateur Radio including construction, operating, hints & kinks, policy, or what-have-you, are also welcome. I would suggest that those be limited to about a thousand words or less unless the subject is such as would make this impossible.

After all items of local origination have been considered, it is the policy of THE GROUNDWAVE to peruse other club bulletins and to reprint such articles and information as we feel will be of interest to the majority of the OARC members in the belief that the majority do not have access to these bulletins. It is the policy of THE GROUNDWAVE not to reprint articles from The Ontario Amateur or The Canadian Amateur, unless they are of extraordinary and vital interest to OARC members, in the belief that the majority already have access to, or receive these publications. This, of course, does not include timely news releases or other information received from RSO or CARF, but only to items already published. It is the policy of THE GROUNDWAVE to print Letters to the Editor in full (I reserve the right to edit any articles received) provided that they are not too lengthy, that they are signed, that I can verify the authourship, and that they fall within our code of literary, legal, and moral ethics. The balance of the space available is filled with trivia as I like to get full value from every page.

Remember, if you don't report local happenings, then I can't publish them, and your GROUNDWAVE suffers; if you don't indicate to me what type of article you would like to see reprinted from other club bulletins, then I naturally pick out what appeals to me, and again your GROUNDWAVE is not doing the job it was meant to do; if you don't submit information of the latest gadget or hookup you have developed, or kink you have discovered for taking a desireable shortcut, then we'll have to print something developed by Joe Blo from Kokomo which probably isn't as good as yours anyhow, and again your GROUNDWAVE suffers.

In closing I wish to thank all those who have contributed to THE GROUNDWAVE in any way over the past several months. Keep up the good work, but above all, keep those articles, news items, and letters coming. Happy Holidays! Carl Everson, VE3BYX, Editor.

EDITORIAL (from the TFM Bulletin)-----Having just returned from the RSO convention in Ottawa, ye editor is still a little groggy...those ham conventions can be rather tiring. There's nothing like trying to find a hotel room at 3 A.M.!

The convention was a smashing success! Close to 900 registered and the Ottawa boys are to be congratulated for a great job. The YL's and XYL's were nice too. Oh yes, there was a lot to do with FM and lots of FM-type goodies on display.

It was refreshing to hear the efficient, snappy operation on VE3STP and VE2CRA, two of several repeaters serving the Ottawa area. Transmissions for the most part were short and to the point, fast breaking with no long-winded monologues and a minimum of call-signing. I wished some of the T.O. boys with their stuck mike buttons could have listened. A lot of us around here insist upon rambling on without saying too much that's intelligent or related so by the time we shut up the other guy has simply forgotten what we said and starts on his own speech! (Tnx Leon, glad you had a good time. It was good to eye-ball with you, if only for a few moments. - Ed.) Leon, VE3BUI

WORKSHOP HINT - Six-volt dry-cell batteries may be obtained from used Polaroid SX-70 film packs. Even after taking the ten pictures in the pack, these batteries are still good and may be easily removed. Two or more may be connected in series for higher voltages, or in parallel for longer life. So get your friends to start saving all their old used SX-70 film packs for you (they'll probably think you're kookier than ever and want to give you their old grapefruit skins as well) and cash in on this 'free' power.

THE EFFECTS OF LIGHTNING ON TWO-METER SIGNALS - During this past summer I became aware of a phenomenon which may be of interest to other Amateurs. On several occasions I was driving during electrical storms while listening to the two-meter mobile rig. Gradually I became aware that lightening was affecting the propagation of the two-meter signals. As I learned more about this effect, it began to follow my own ideas about VHF propagation and I developed my own guidelines for observing and studying "lightening scatter". Since my own views and theories may be subject to inaccuracies, I would be interested to hear from anyone else on the subject.

My experience leads me to believe that when a VHF signal strikes the highly ionized region near a lightening discharge, the incident energy is scattered and part of it is reflected back towards the earth. The reflection or scattering lasts only as long as the lightening exists and "openings" of a few seconds are normal. Usually the lightening is visible during this time.

Best results occur with "sheet" lightening, that is, lightening that jumps from cloud to cloud. With this form of lightening, the entire sky is often white for several seconds. Best results occur when the lightening is in between the transmitter and receiver and a few miles from the receiver on the transmitter side. This is an optimum point since the signal is scattered through a minimum angle. This follows the principles of optical reflection (angle of incidence equals angle of reflection). Most of the scattered signals I have heard had a path length of 100 to 200 miles although longer and shorter paths can occur. Usually the transmitter is just over the horizon from the receiver.

If you want to try listening for lightening scatter, pick a busy repeater frequency, where the repeater is just out of range under normal conditions. In the Ottawa area, a busy Montreal repeater might be suitable. If lightening of the right form occurs in the proper place, a few seconds of signal will be heard. Often this is long enough for a call sign or repeater identifier. The signal will come through at the same time as the lightening is visible. A good reflected signal is often strong enough to produce full receiver quieting and open the receiver squelch. Be patient though, not all lightening will reflect a useable signal and if there is no transmitter on that frequency, you won't hear anything except the static crashes. You might even listen to your local repeater and try to identify any unusual signals. No special equipment is required, all my observations have been made with either the Pre-Prog base station or the HW-202 in the car.

The first time that I noticed lightening scatter was last summer when stations in the southern U.S. came through on VE2CRA. Obviously there were other unusual propagation conditions involved, but during actual lightening strikes, at least one WB5 call sign, along with some southern drawl was copyable.

Returning to Ottawa one week-end, I drove through a severe storm with a great deal of lightening activity near Renfrew. I listened for a long time and heard nothing unusual. I had just about given up and was listening to VE3STP when a lightening flash occurred and a voice in French, likely from Montreal, took out the local station using the repeater. During a subsequent lightening flash I copied a WB2 station calling another WB2. Again the reflected signal was strong enough to take out the local station.

My most recent observations of lightening scatter were made during the Thanksgiving week-end. At a location west of Kitchener, I picked up scattered signals from VE3RPT (Toronto). During the first lightening strike I picked out two call signs and during a second strike I copied the CW identifier.

QST of September 1975 mentions a two-way contact made via lightening scatter on VHF CW. This type of operation would likely appeal more to the experimenter and DX'er rather than to the button-pusher but anyone who can pick up signals scattered by lightening and understand what is happening will learn something about VHF propagation.

A word to the wise - LIGHTENING CAN BE DANGEROUS - so don't take unnecessary risks!

Gordon Ball, VE3CSH

CURRENT OSCAR ORBIT INFORMATION

OSCAR VI : Dec. 1, 1975; Orbit #14292; Equator crossing (S-N) 54 deg.; Time 0012 GMT.
OSCAR VII:: Dec. 1, 1975; Orbit # 4765; Equator crossing (S-N) 63 deg.; Time 0053 GMT.
and may be updated as per the September issue of THE GROUNDWAVE.

A LOCAL GROUP OF VHF AFSK ENTHUSIASTS are becoming increasingly active on 147.570 MHz these days, and plans are in the offing for an RTTY repeater on 147.90/147.30 when the activity warrants it. The use of RTTY on any of the existing repeaters is discouraged and in most cases a strict NO-NO! Initial testing on simplex has been very encouraging with the main obstacle being the dearth of ".57" crystals due to the current mail strike.

Reasonably simple circuits using phase-locked loops and op-amps are being used to generate and demodulate the audio frequency shifts required. The use of 170 Hz shift, with tone frequencies of 2125 and 2295 Hz, is being stressed as it is now the almost universally accepted shift, although 850 Hz shift using frequencies of 2125 and 2975 Hz is still being used in some areas.

Further information may be obtained from Gary, VE3ARS, or Bob, VE3CSC. Larry, VE3CRX, and VE3DWL are also active in this group and there are probably others by the time you read this. A simple regulated power supply giving regulated positive and negative 12 volts suitable for both the tone generator and decoder is shown below. Further circuits and information may be published in future issues of THE GROUNDWAVE if there is sufficient interest shown.

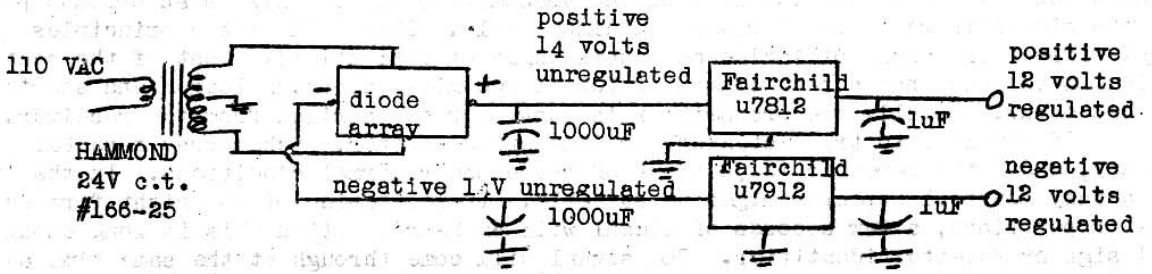


Figure I: Regulated 12 Volt Positive and Negative Power Supply

[redacted]

-----more on this subject next month - Ed.

THE CURRENT POSTAL SITUATION is causing changes in many aspects of life these days, from the distribution of THE GROUNDWAVE to the election of Amateur Radio representatives. Both CARF and ARRL(Cdn Div) are delaying the nominations of directors and have set a closing date of six weeks after the end of the strike. Let's hope it clears up soon.

THE LOCAL 70CM REPEATER has been overhauled and is back to its old self again. Input is on 443.3 MHz and output is on 448.3 MHz but activity is very sparse. Let's get more sets tuned up and operating here. Most everyone who is active on 450 would be more than pleased to run checks and give you a hand in tuning up.

VE2RM REPEATER ON MT. RIGAUD is now equiped with auto-patch which seems to be functioning very well. The control functions are restricted but the word is 'there is usually someone around who will bring up a dial tone for a visiting mobile and he can take it from there' - a very sensible way of doing it.

AUSTRALIAN NOVICES are a recent innovation. Like the U.S. Novices, they have a 5 WPM code test and a simple technical examination. Their privileges include 30 watts SSB on 50 kHz segments of 80 and 15 meters plus 11 meters. (Credit: St. Paul Groundwave)

ARE HAMS BECOMING PHONEY? I may as well be honest from the start. This article is written with the express intention of invoking an increase in the non-administrative mail sent to this publication. I hope it will find its supporters as well as its opponents and I hope that all criticism will be "healthy".

Firstly, let it be known that I am not a ham, for the simple reason that I have other interests and hobbies which with my service duties more than fully occupy my time. I am, however, a member of R.A.F. Signals and have taken more than a passing interest in Amateur Radio Clubs wherever I have been stationed, and I feel that my opinions for what they are worth are, therefore, the unbiased ones of a spectator.

The suggestion I make is that the average, and I stress--average--ham is no longer an amateur, because he no longer builds his rig from a box of components and a sheet of "ally", but in stead is content to take something someone else has made--either bought or aquired--and modify it to his own purpose---a far simpler task than building from scratch.

I grant you that a good receiver is most essential and my comments apply in the main to transmitters, but what credit to a man who can build his own multi-band superhet and get good results from it!

I have always looked upon hams as people who are not content to take things as they find them and who are proud of their individuality--what now of the thousands of "amateurs" who operate rigs consisting of unmodified AR88's or R1155's with almost "straight from the maker" T1154's, Collins 18Q's or rigs driven from a BC221 wavemeter used as the VFO! Before the war I belonged to the Model Aircraft Society at Cranwell and no member would have dreamed of building a kite from a commercial kit--we designed our own planes and were proud of them--and what's more, they really flew! I feel the same way about hams and their rigs.

It seems nowadays that the important thing is to get "contacts"--the more the merrier; is the idea to economize on wall-paper by using QSL cards instead? All very well but is this "Amateur Radio"?--I call it Amateur Operating. Perhaps all these contests you hams have are partly to blame, although the motive behind them is beyond reproach and I am sure that on the balance they have done more good than harm.

I feel that a ham operating a commercially made rig is like a grown man who is a model railway enthusiast going into a toy-shop and buying a Hornby trainset, it's not only cheating, it just isn't real.

We all know that with so much war surplus gear going for a song it's easy to get a rig together and go on the air, but you don't learn much that way. Anyone can teach themselves morse but it takes a good man to build his own station from components.

Well, what do you think? What it boils down to is whether Amateur Radio means building your own station and treating the operating side of it as a proof of the pudding, or whether it just means key-bashing first off, with the rig-building as an unfortunate necessity! As both have their supporters and both are good sport why not make a distinction between them, why not Amateur Radio (Constructors) and Amateur Radio (Operators) Societies, as sections of the main Society?

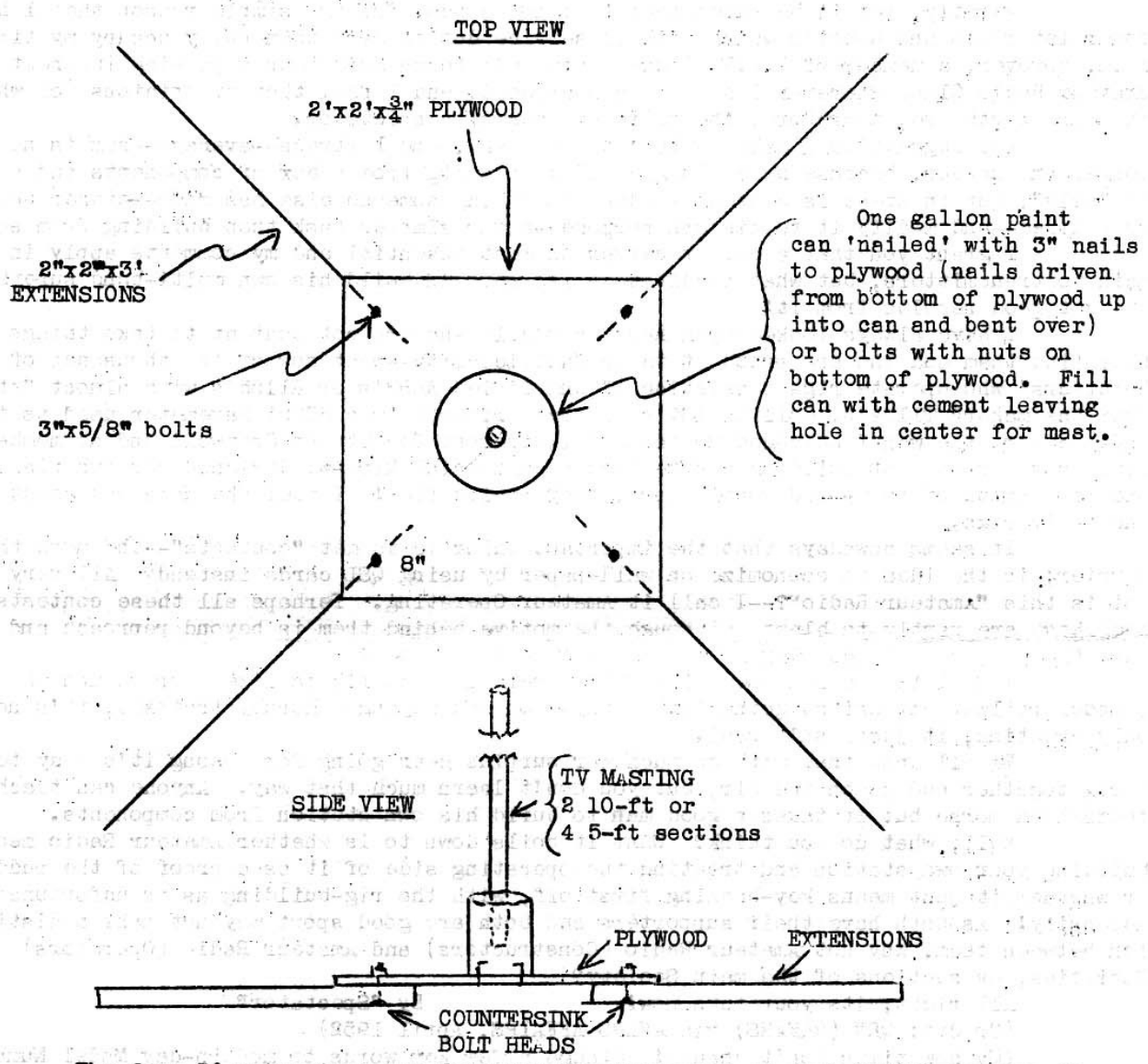
All right; its your turn now! By "Spectator"

(Credit: QRV (RAFARS) via AFARS AFFAIRS, April 1952)

(My how times don't change! Change a few key words to modern-day Model Numbers and lingo and it is as timely now as it was over 23 years ago. I suppose the correct term in Canada today is Amateur Radio Operator but the term Experimental is in there somewhere. Any comments? ? ? ? ?--------Ed.)

THE CURRENT EDITION OF CANADIAN AMATEUR REGULATIONS is now off the press but the distribution is being held up by the postal strike. Those from the Ottawa area who ordered copies from Doug Burrill, VE3CDC, may pick them up from him at 151 Fanshaw Ave., Ottawa. Those wishing to obtain copies and have not ordered them as yet may do so while the supply lasts by contacting Doug at 733-7108. This is an updated and streamlined edition of the very popular previous work and is a must for every serious Canadian Ham Shack, at a nominal fee - just another benefit from your Canadian Amateur Radio Federation. I understand that a Certificate/Licencing Handbook is in the development stage and will be available shortly as a companion volume and will be fully oriented to Canadian licencing requirements.

PORTABLE VHF ANTENNA MAST



The four 3' extensions are detached for transport or just folded underneath. If you use 5' mast sections, the whole thing fits easily into the trunk of a car. This is just the thing for SKI MARATHON and other exercises. Larry Bradley, VE3CRX

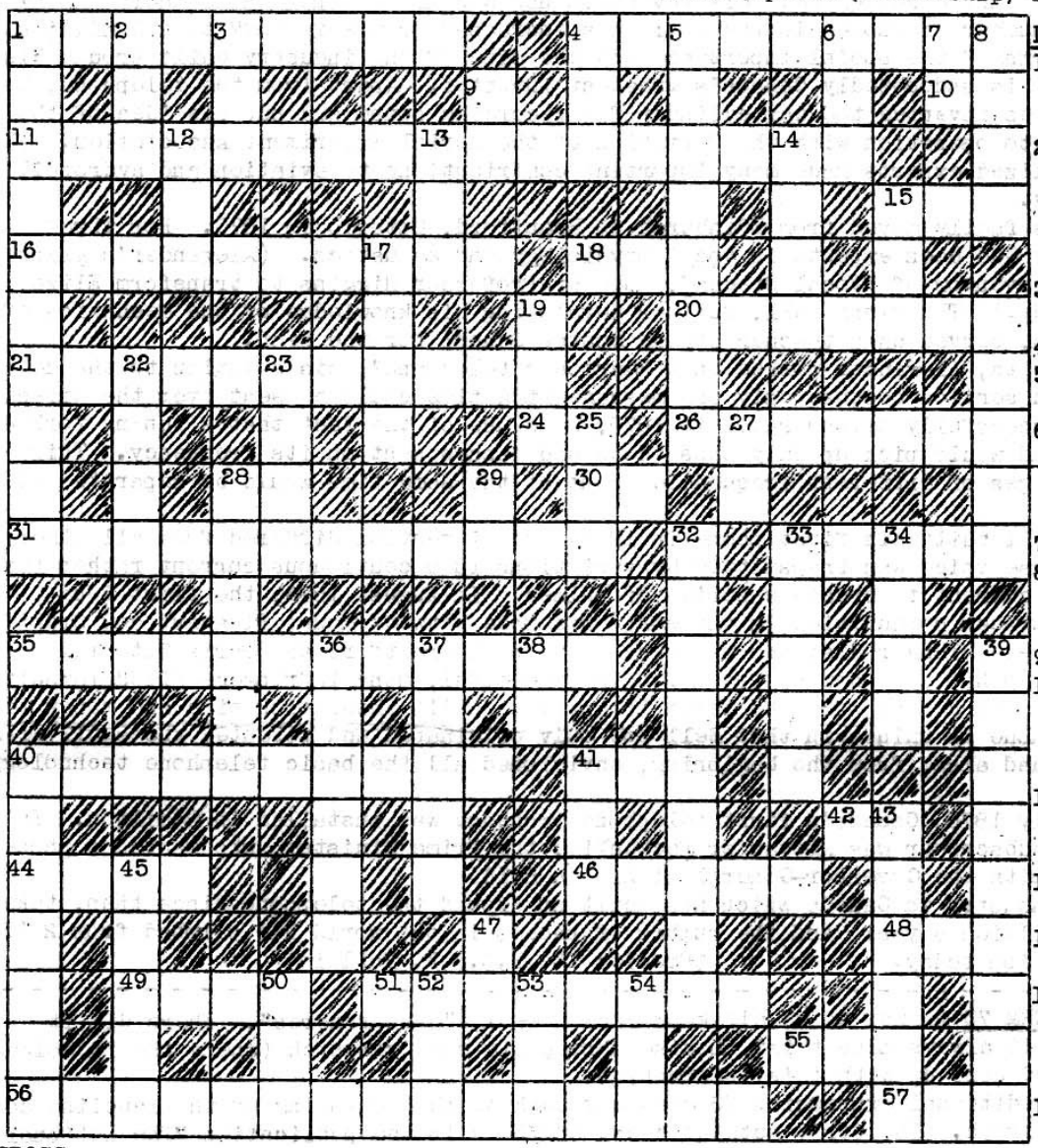
SUPER/DUPER CROSSWORD CLUES CONTINUED From page 7

DOWN (cont)

28. K/W-land divisions
29. (-... -)
32. An asset to VHF propagation
33. Final measurement
34. Largest organization of its kind (Abbr.)
36. Like in 35 and 40 across
37. Cycles per second
38. Antenna pickup
39. Natural flow of electrons
40. This type of noise has high amplitude and short duration
41. 25 above
43. Type of inductive coil coupling
45. One hertz-second
47. (--. .-)
50. 4 above
52. Publication of 49 across (Abbr.)
53. Solder component
54. VE3-land (Abbr.)

SUPER/DUPER AMATEUR CROSSWORD

(Answer next month - don't let your subscription (membership) run out!)



ACROSS

1. Can be inductive or capacitive
4. Rate
10. City in W6-land (Abbr.)
11. Quenched regeneration
15. Your tone is
16. Grid inserted to overcome effects of secondary emission
18. The time is
20. About which electrons 'orbit'
21. Reduction
24. It sure helps to have a high one
26. Comes after the IF and before the discriminator
30. City in VE3-land (Colloq.)
31. Type of electron storage device
33. Amateur Radio needs a good one
35. Upper layers of the atmosphere
40. Region about 60 miles up which bends HF waves back to earth
41. 18 above
42. Young girl opposite (Abbr.)
44. Battery _____
46. Aggravation on CW
48 Metric multiplier
49. Dominion Ham Wireless Association (Abbr.)
51. Net components
55. Signal strength is
56. Type of radiation required for radio contact
57. Current will do this with respect to voltage in an inductive circuit.

DOWN

1. Obstruction to electron movement
2. Unit of measurement for volts over resistance (Abbr.)
3. Waterproof substance
4. DX
5. Not contained within
6. Time between writing exam and receipt of ticket
7. (-.-. .-..)
8. Has directors but none are elected
9. (-.- -.)
12. More meaningful than input to final (Abbr.)
13. Their van has Ham equipment (Abbr.)
14. A good club (Abbr.)
15. Home of RAQI (Abbr.)
17. Leisurely traversed viewed device(Abbr.)
19. Report into net
22. Valve
23. U-land (Abbr.)
25. I have messages for you
27. Comes after mixer and before detector(Abbr.)

(Continued on page 6)

ALEXANDER GRAHAM BELL of Brantford, Ontario, inventor of the telephone, envisioned all the telephone technology that we have in use to-day - central exchanges, long-distance telephone and automatic switching. His invention has become an important Canadian and world business. The number of phones in the world has increased from 2 in 1877 to 200 million.

In terms of the social importance and the size of the industry built around his inventions, Bell is undoubtedly Canada's greatest inventor. Apart from the telephone, he and his associates invented the wax cylinder for recording sound and put his idea of the research team into operation with the formation of the Aerial Experiment Association. This group of specialized experts made many important contributions to aviation and hydrofoil craft technology.

Bell's family moved from Edinburgh to Brantford, Ontario in 1870. For three generations they had been experts in vocal physiology and acoustics. (Alexander's grandfather was the inventor of "Vocal Speech", used by Professor Higgins to transform Eliza into My Fair Lady.) The young Bell, further developing his knowledge of the mechanics of voice production, served as a teacher at the Boston School for the Deaf.

At nights, Alexander worked on a "harmonic telegraph", his solution to the delays in the telegraph service because only one message at a time could be sent over the wires. This device, successfully demonstrated in 1875, made use of the fact that a tuning fork at the receiving end would pick up only those dots and dashes sent on its frequency. This meant that messages of different frequencies sent at the same time would be separated at the other end.

A.E.Bell built his first phone in 1876. His invention differed from all other approaches because voice was transmitted by variations in a continuous current rather than by stopping the current to create a series of pulses. In August 1876, the first long-distance call between communities in the world was made between Mount Pleasant and Brantford. A week later an even longer distance was covered between Brantford and Paris Ontario.

As often happens when an invention is successful, many infringers filed lawsuits against Bell, claiming they were the first inventors. While these took time and money to beat, the telephone is unique in that Bell not only originated and patented the small bits and pieces but had also, from the beginning, envisioned all the basic telephone technology in use today.

In July 1878, Canada's first telephone exchange was installed in Hamilton. The first Canadian subscriber was Alexander Mackenzie, the Prime Minister, who wanted a phone to communicate with the Governor-General at Rideau Hall.

The industry in Canada which has built up around the telephone since then, takes in about $600 million a year, and the number of phones in the world has climbed from 2 in 1877 to 200 million today. (Credit: The I.O.O.F. Tabloid)

THE TERM 73 means, as we all know (or do we?), "best regards". Where did it originate? Did it always mean this? Louise Moreau did some research (she's the YL columnist for QST) and came up with this information.

the traditional expression 73 goes way back to the beginning of the landline days of the wire telegraph. The first authentic use of 73 is in the publication "The National Telegraph Review and Operators Guide", published in April 1857. At that time 73 meant "my love to you". But within a short time the use began to change. In 1859, the Western Union Company set up the standard "92" code and 73s meaning was changed to a very flowery "accept my compliments", which was in keeping with the very flowery language of the time. Over the subsequent years the meaning was changed somewhat, but in 1908, it was shown as "best regards". Today Radio Amateurs use it more in the manner that James Reid had intended it to be used------"a friendly word between Amateurs".

(Credit: News Fuse, Hall of Science ARC via St. Paul Groundwave)

IN THESE DAYS OF ELECTRONIC CHECKING of passengers boarding aircraft to detect potential hijackers, it is interesting to recall that the Moon Gate of the Imperial Palace near Peiping, China, built 2300 years ago, was made of solid lodestone, a magnetic iron ore. This was done to prevent assassins from entering the Imperial Residence carrying weapons concealed in their clothing.

MEMBERSHIP FORM (1976)

Please enclose a cheque- five (5) dollars payable to-
OTTAWA AMATEUR RADIO CLUB
P.O. BOX 8873
OTTAWA ONT. K1G 3J2
Att. Membership Chairman

NAME:-_____ CALL:_____
(first) (last)

ADDRESS:_____

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Class of license: Amateur_____ Advance Amateur_____

Activities: SSB_____ BANDS:
AM _____
VHF-FM _____
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RTTY_____
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I am a:	MEMBER	APPOINTEE	OFFICIAL
ARRL	_____	_____	_____
RSO	_____	_____	_____
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I have a gas/diesel generator YES____ NO____

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What are your main interest in AMATEUR RADIO: HF_____
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What would you like to see the club do different next year?

THE OTTAWA AMATEUR RADIO CLUB
BOX 8873, OTTAWA, ONTARIO,
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FIRST CLASS MAIL

THE OTTAWA AMATEUR RADIO CLUB		P.O. BOX 8873 OTTAWA, ONT., CAN., K1G 3J2	
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