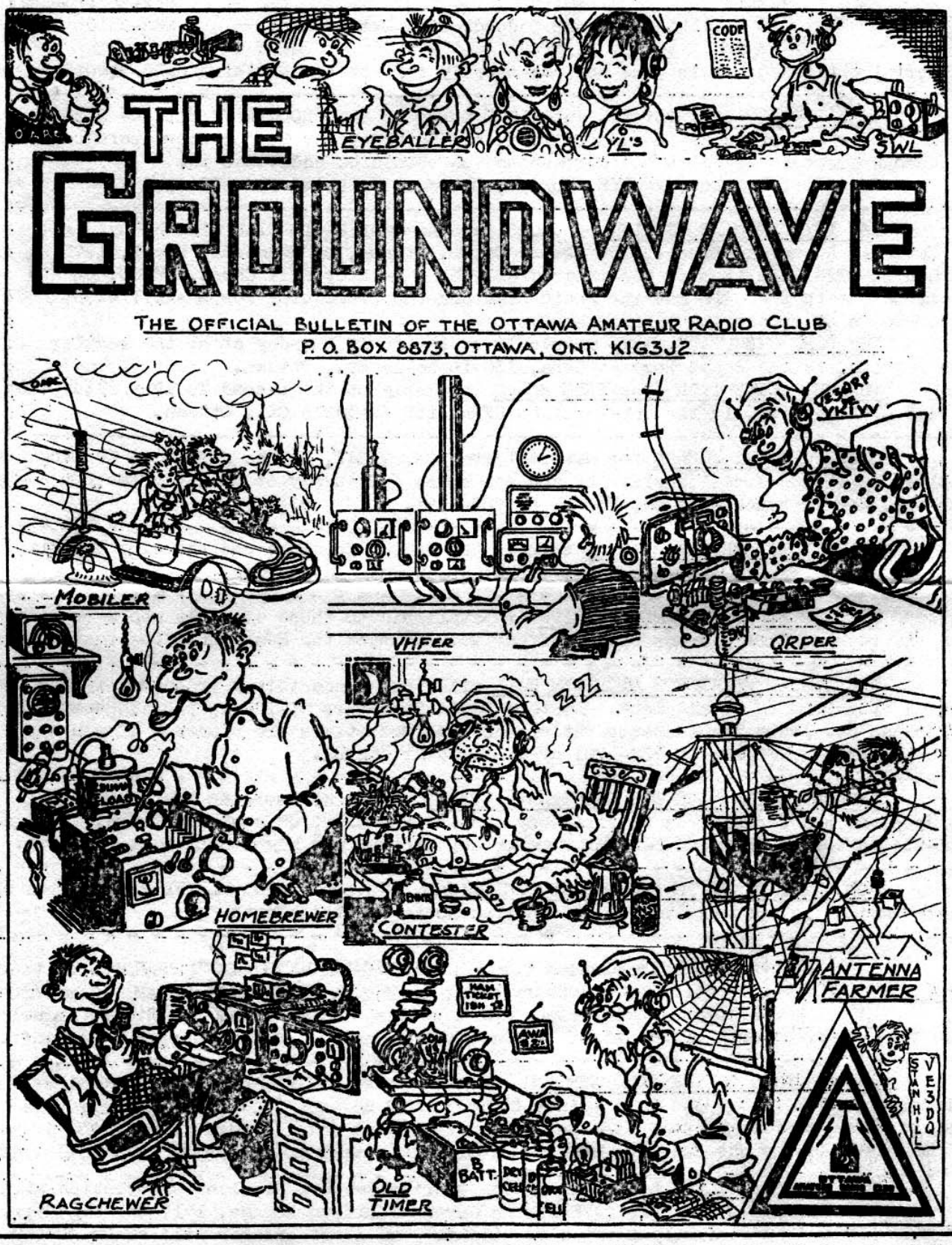
MAY 75



THE GROUNDWAVE

THE OFFICIAL BULLETIN OF THE OTTAWA AMATEUR RADIO CLUB
P. O. BOX 8873, OTTAWA, ONT. K1G3J2

1975 RSO CONVENTION - SKYLINE HOTEL, OTTAWA - OCT. 3 & 4, 1975

THE GROUNDWAVE - OFFICIAL BULLETIN OF THE OTTAWA AMATEUR RADIO CLUB / MAY 1975

Editor	Carl Everson	Box #4, Osgoode, Ontario	826-2426
	VE3BYX	K0A 2W0	822-2835X39
Publisher	Ian Hamilton	128 Osgoode St., Ottawa, Ont.	232-9110
	VE3AMK	K1N 6S4	

Material published herein does not necessarily reflect the official OARC viewpoint

DEADLINE FOR COPY for the June 1975 issue of the GROUNDWAVE will be Saturday May 17 for longer articles (a page or more) and Saturday May 24 for short paragraphs and announcements. Articles and correspondence should be addressed to: Carl Everson, VE3BYX, Box #4, Osgoode, Ontario, K0A 2W0

THE NEXT REGULAR MEETING of the Ottawa Amateur Radio Club will be held at the National Research Council, 100 Sussex Drive, Ottawa, on Wednesday May 7, 1975 at 2000hours. The main item on the program will be a talk by Bill Choat, VE3CO, on his involvement with the CNIB Amateur Radio Club and the procedure, responsibilities, and requirements of sponsoring Blind Amateurs.

THE OARC EXECUTIVE MEETS regularly on the first Tuesday after the regular club meeting, in the Board Room at CFRA, 150 Isabella St., Ottawa.

THE RSO CONVENTION COMMITTEE MEETS regularly on the second Tuesday after the regular club meeting, in the Cafeteria at CFRA, 150 Isabella St., Ottawa.

OPERATORS ARE NEEDED for memorial station, VE3JW, at the Museum of Science and Technology on an occasional basis. If you can spare a Saturday or Sunday afternoon every few months, get in touch with Ed, VE3GX, at 733-1721.

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

REFUNDS FOR FAMILY MEMBERSHIPS are available to those eligible who were paid up before the reduced family rates became effective. Contact the Membership Chairman, VE3DEP

THE ANNUAL MILES FOR MILLIONS WALK will take place this year on May 10 and is scheduled from 7:30 AM to midnight. Amateur Radio Operators will help provide communications for the St. Johns Ambulance operation and more volunteers are needed. If you can help, call Doreen, VE3CGO, at 733-1721 or on repeater VE2CRA.

MAUREEN NEILL (OUR NEW SECRETARY) VE3FZY spends her working day around the Civic Hospital and has offered to visit any Amateur who might be confined there. Call her at 233-9941 after 5:30 PM and let her know of any Amateur who might appreciate a visit.

CONGRATULATIONS TO THE ONTARIO TRILLIUMS, the provincial YL/XYL association who are celebrating the 10th anniversary of their association this month.

VHF REPORTS WANTED! - A launch is planned for a BALLOON-CARRIED WIDEBAND TRANSPONDER (active repeater) by a Sudbury group on May 3, 1975 at 10:00 AM. Communications are anticipated over a radius of 1000 miles and Ottawa is well within this area. Reports of reception or use would be appreciated. See page 8 for info.

ADVANCE INFO ON THE JUNE MEETING - Jack Belrose, VE2CV/VE3DRC will speak on "Vertical Antennas, Short and Tall (minus 20 to plus 9 dB_{dipole})" emphasing realizable gains and those claimed by some manufacturers. Keep this date in mind (June 4/75) if you use antennas and come out and hear how good your super-duper multi-eights ant. really is.

THE NATIONAL CAPITAL CHAPTER of the Quarter Century Wireless Association will hold a supper meeting on May 28, 1975 at the Carousel Dining Lounge, 1717 Carling Ave., 6:30 PM. Ladies are cordially invited to attend. The guest speaker will be Dr. Peter Millman, a prominent scientist and astronomer who will speak on "The Controversial Subject of UFO's". See Ken, VE3LJ, or Hank, VE3BR, for further information.

MINUTES OF THE LAST MEETING The regular meeting of the Ottawa Amateur Radio Club was held in the auditorium on the National Research Council on April 2nd, 1975. The meeting was called to order at 2010 hours by the President, VE3AUM.

The meeting opened with the welcoming of the following visitors: VE3DRG, Ted; VE3HRB, Ralph; VE3GCC, Ted; DE3DYJ, John; VE3HRH, Dina; VE3BED, Rick; VE3HAD, Arnold; VE3HRV, Chuck (ex VO1); VE3BKW, Bill; also Keith Bryan and Al King.

Membership - VE3DEP, Vic Cyr reported 181 members at present, at the same time in 1974 there were 280 members. Family membership will now be $7.00.

Treasurer - VE3CVK, Cy Chapman reported current cash equity of $1,646.66.

Membership Class - The first graduate of this years class is Al Hamilton, -- congratulations.

VE3GK, Gerry King sent word there is code practice for students from Algonquin College on Sundays at 1930 and Thursdays at 2000 local time around 14050kHz.

Editor - Carl, VE3BYX, is open for articles for the GROUNDWAVE anytime.

Don't forget the hidden transmitter hunt on April 20, 1975 on 146.94 MHz beginning at 1300 hours local time.

VE3CRX, Larry, chairman of the Public Service Committee for AREC needs volunteers around to help.

Miles for Millions will be held on May 10, 1975. Doreen and Ed Morgan are the contacts for anyone volunteering their services.

VE3AUM, Ron, was awarded the Purple Heart for injuries received in the line of duty on February 22, 1975.

Lesmith Ltd., Box 730, Oakville, Ont., has donated four sets of crystals for the two-meter emergency rig in the EMO van. It would be greatly appreciated if members would consider placing their orders for crystals from Lesmith Ltd.

VE3BNO, George Roach reported RSO Convention progress to date.

The guest speaker at the May meeting will be VE3CO, Bill Choat who will talk of his work with handicapped people. There is a local resident who is looking for a sponsor to help him obtain his Amateur Licence. Volunteers are needed and Bud, VE3UD, is the contact.

VE3CNJ, Gerry, is the new custodian of the club equipment and archives.

VE3HRJ, John, enquired about the possibility of a phone patch to Bolivia for an ill person.

VE3GFI has available a GR10 receiver manual.

Don't forget the Ottawa Valley Mobile Radio Club auction on April 26, 1975.

VE3UD, Bud Punchard, gave a very interesting talk on Amateur Radio in the olddays.

Meeting adjourned at 2210 hours. Maureen Neill, VE3FZY, Secretary

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LETTER TO THE EDITOR 73 MAGAZINE, Peterborough, NH,03458

Dear Carl:- May we have permission to reprint Neil Sipkes' "Gyrator Active Audio Filters", from the April, 1975 Groundwave (page 6)? We would of course pay him appropriately. - 73, Jack Burnett, Managing Editor.

(See what you're missing fellows! Write an article for GROUNDWAVE and get national recognition and paid to boot! Look for Neil's article in a future issue of 73 MAGAZINE but don't forget - you saw it first in GROUNDWAVE! - Ed)

A REPEATER USERS MEETING for all users of repeater VE2CRA will be held on Thurs. May 15, 1975 in Room 3039, National Research Council, 100 Sussex Drive, Ottawa at 8:00 PM. Past work and future plans will be discussed. Come to the meeting and give praise or criticism as you see fit. It is your repeater. Tell us what you want it doing for you.

George Roach, VE3BNO, Repeater Chairman

THE ART OF CIRCUIT BOARDING - Have you been reading it in the GROUNDWAVE? If any OARC member wants to do some, I would be pleased to make suitable negatives from suitable drawings or artwork free of charge at my convenience. I can enlarge or reduce by a factor of three. Of course the number of boards would have to be limited to some degree since I would be working it into my normal daily photographic work load. Call me, Larry Smith, VE3CGS, at 833-2669 (home) or 993-2183 (office). (Tnx for the kind offer Larry - Ed)

THE ARRL REPEATER DIRECTORY for 1974-75 yields some interesting statistics. Of the roughly 1053 US repeaters listed, 6 are in Hawaii, 4 are in Puerto Rico, and one is in Alaska. This leaves 1043 on the US mainland. Of these, 100 are 450 MHz repeaters, 41 are 6-meter, 34 are 220 MHz, and 2 are 1250 MHz repeaters, leaving roughly 866 2-meter repeaters listed on the US mainland. On the Canadian side, of the 84 repeaters listed, 1 is on 6 meters, 2 are on 220 MHz, 5 are on 450 MHz, and one is crossband 6&2 meters leaving 75 2-meter repeaters listed for Canada.

The most congested area appears to be Los Angeles with a total of 39 repeaters of which 1 is on 6 meters, 10 are on 220 MHz, 4 are on 450 MHz and 24 are on 2 meters.

Six meter activity appears to be centered in Ohio with 9 of the national total of 41 6-meter repeaters located in this state, 4 of these being in the city of Cleveland. Of the national total of 41, 5 are closed and 9 are on the "standard" pair of 52.76 MHz in and 52.525 MHz out.

220 MHz activity appears to be centered on the west coast with 10 of the national total of 34 220 MHz repeaters located in Los Angeles, one of which is an AM machine. However, Philadelphia lists 4 in this band. Two frequency pairs seem to predominate. Seven repeaters are on 222.34 in and 223.94 out while 5 are on 223.34 in and 224.94 out.

Activity on 450 MHz seems more general with 9 repeaters in Chicago, 5 in New York City, and 4 in Los Angeles being the major activity areas. No "standard" frequency pair seems to predominate. One 450 machine in Washington DC is listed for Fast-Scan TV.

Two repeaters are listed in the 1250 MHz band, one in Chicago and one in Milwaukee. By far the most repeater activity, of course, is in the 2-meter band, and is country-wide. The thought of 24 repeaters operating in this band in one area, as is the case in Los Angeles, makes one shudder to think of the intermod possibilities. QRM is taken for granted on the HF bands and is now fast becoming a fact of life on VHF. The above figures, of course, will be outdated by now but they serve to show where, and to what relative extent, activity occurs.

The popularity of the 2-meter band has stemmed from the ready availability of "taxi"-type surplus equipment. As the swing is now to commercially- built, specifically-amateur solid-state equipment, there is no reason that 220 cannot be utilized to share the load. It seems ironic that we stick to two meters because that's where everybody is and then complain because that's where everybody is. If we want QRM-free semi-private channels, then lets branch out into the other bands. Let's get those dormant 450 rigs operating, and what about all those 29B sets that came into the area some time ago for 220? What about a 220 AM repeater to augment their coverage? And lets get behind our representatives preparing for the World Administrative Radio Conference in 1979 and make sure we do all we can to hold onto these bands which we need for expansion. (VE3BYY)

WE REGRET THE PASSING of VE3MP, Fred Wale, a long-time amateur of the Smiths Falls area. Sincerest sympathy to his son, Des, a local amateur, and to other members of his family.

CURRENT OSCAR ORBIT INFORMATION:

OSCAR VI : May 1, 1975; Orbit #11613; Equator crossing (S-N) 76 deg.; Time 0141 GMT.
OSCAR VII: May 1, 1975; Orbit # 2084; Equator crossing (S-N) 61 deg.; Time 0046 GMT.
and may be updated as per the February issue of GROUNDWAVE.

AN ADVANCED AMATEUR COURSE conducted by Gerry King, VE3GK, and reported postponed in the last issue of GROUNDWAVE, is now underway. If you are interested, call Gerry at 225-3428. If there is insufficient room in this class, then you'll be listed for the next.

FIELD DAY 1975 CORRECTION - The date is June 28/29 and not as reported last month. Bud, VE3UD,(733-3990) is chairman and will be holding an organizational meeting soon.

AN ADDED ATTRACTION at the May meeting will be a short demonstration by VE3CAL of another of the exotic VHF transcievers showing up these days.

ANOTHER SUCCESSFUL OVMRC AUCTION took place April 26. Items ranged from empty boxes to kilowatt linears and prices from freebies to????? Largest crowd I've seen yet!

RSO CONVENTION COMMITTEE REPORT The recent meeting of the RSO Convention Committee resolved a number of things. The Technical Program is shaping up well. Bud, VE3UD, has a tentative program worked out, and will be making arrangements for the speakers, etc. soon. Penny, VE3ERO, has the Ladies' Program well in hand. It looks like there will be a couple of bus tours, one to the Kitten factory in Lanark, and also a tour of the National Capital, as well as exhibits, demonstrations, and talks.

A budget has been worked out and the registration fees determined as follows:-

RSO members -- $6.50 advance or $7.50 at the door
Non-members -- $7.50 advance or $8.50 at the door
Ladies ------ $4.25 advance or $5.25 at the door
Fri Night Dance and Buffet - $7.50 per person
Sat Night Banquet and Dance-$10.00 per person

The committee is going to need a lot of help as the convention draws near. Registration will require a lot of helpers, as will publicity. Jobs such as addressing and stuffing envelopes are not very exciting, but are necessary if the convention is to be a success. Remember, it is YOUR convention, hosted by YOUR club, in YOUR city. Its success depends on all of YOU supporting the committee before and during the convention. Don't let all the work fall on the shoulders of a few people. Pick up the phone now and offer to help. Committee members are listed in the March issue of GROUNDWAVE or any OARC executive member will gladly take your name (or call the boss himself, George Roach, VE3BNO, at 234-0885 or 233-6241 - Ed). Do it now. Tomorrow you may forget.

Larry Bradley, VE3CRX, OARC Vice-President

C O U N T D O W N T O T H E C O N V E N T I O N

As of today (April 28), 157 full days remain until convention time.....
Call 234-0885 NOW!

AN EDITOR is a person employed by a publication to separate the wheat from the chaff ----------and to see that the chaff gets printed----------

THE GUEST SPEAKER AT THE MAY MEETING of the OARC will be Bill Choat, VE3CO, the manager of the CNIB Amateur Radio Club. This club, conceived, organized, and financed by RSO, is the organization that arranges for, and supplies, Amateur Radio equipment to Blind Amateurs throughout Canada, working through their sponsors and the local clubs supporting them. With a total of over 260 Blind Amateurs, the distribution of Heathkit one-band transcievers, on loan for a nominal fee to these 'whitecaners', requires a tremendous amount of work and involvement. Bill Choat, VE3CO, a Past President of RSO, is the one who shoulders most of it. He orders and dispatches the rigs, antennas, and peripheral equipment. He provides advice and counsel to sponsors and distributes a wide assortment of instructional material as well as responding to the various requests for his assistance and time in other parts of the country. He is responding to just such a request on Wed. May 7, 1975, when he will speak to the OARC at the National Research Council, Ottawa. Everyone is welcome to attend this meeting and hear of the work and problems involved in sponsoring a Blind Amateur, the responsibilities of the sponsor, and also the satisfaction of having been involved in a worthwhile facet of our hobby.

(Tnx to the Montreal MARCOGRAM for most of this information - Ed)

FROM THE EXECUTIVE MEETING--all club equipment to be returned to club custodian-Licence Reform Committee, Earl Andrews and Bill Wilson, reported on their meetings to date, they will report to the OARC members at the next meeting if time permits - it was agreed to present first-time visitors to OARC meetings with a complimentary copy of the GROUNDWAVE

VE3AUM ON WITH FIVE KILOWATTS????? Yes but it's all nice and legal. He was being interviewed by Bill Kehoe on CBC Radio's This Is Radio Noon show. From 12:45 to 1'o'clock on April 17 they talked about Amateur Radio in general. Sorry we missed it.

THE ART OF CIRCUIT BOARDING (PART IV)

Once the basic parts layout is conceived, it remains only to transfer that layout to the circuit board itself, drill the proper holes, and proceed with the etching process. As noted in the first segment of this paper, several basic tools should be at hand that will greatly aid this process. First is a No. 60 size drill bit which is approximately the lead size of most components, and can be had for 25¢ each from America's Hobby Center, 146 West 22nd St., New York, NY 10011. Complete etching kits can be had from most mail order houses, or from the shelves of such outfits as Radio Shack and Layfayette Radio. The standard Kepro Etching Kit S101A, which includes several circuit boards, etching resist, and etchant, is available for $3.95, Stck #12A9610, from Burstein-Applebee, 3199 Mercier, Kansas City, MO 64111. A full list of sources for miniature parts is given in the first part of this paper (The Milliwatt, June 1971).(Groundwave Nov74 Ed)

After designing the parts layout on a sheet of actual size paper, the paper can be attached to the top of the circuit board with glue or scotch tape in preparation for the drilling of the mounting holes for components. Or, if only a general layout has been designen, the position of each part on the board itself may be attempted with the proper parts indicating space needed and the positions of mounting holes. These positions may be marked with a penknife tip, or a sharp stylus, and thus provide a "guide" for the drill bit. Once all parts have been positioned and mounting holes indicated, the next procedure is simply drilling all the holes. When using a #60 drill bit, a good degree of caution is warranted. If you use an electrical high speed drill, take care to hold it not by the handle, as with usual drilling, but by carefully grasping the body of the drill while supporting it by elbows placed firmly on a table or workbench upon which you work. This writer used one drill bit for over 400 holes without breakage, so care pays off.

Once the holes are drilled, the next step is inking on the copper strips on the foil side of the board. It is important to double-check this step in the process, to make sure the proper connecting strips are drawn between the proper compenents - once the board is etched, there is no way of covering up a mistake! Most etching kits contain an enamel etch-resist. It is quite difficult to draw thin lines with any accuracy using a small brush. This writer has found the best and simplest method is often the least used, especially with regard to etch-resist. All types of elaborate schemes have been devised to escape the resist brush. None is so simple and effective as the use of a common marking pen with permanent type ink. Marking pens of this type can be had with thin stiff felt tips (much like the Flair pen, which does not have permanent ink!) that make it an easy job to get thin lines of etch-resistant material on the foil, resulting in a neat, tidy job with no fuss or mess. The permanent type ink will leave a thick deposit of ink which entirely covers the copper surface, while washable ink fails to cover the foil. Before proceeding with the actual etching, it is wise to recheck all the strips to make sure that all the foil has been protected. Different individuals prefer different types of copper strips - some follow industrial standards and draw 1/16th inch lines, while others, more cognizant of the penchant of a thin copper strip to separate from the board under extensive soldering heat, prefer leaving most of the copper on the board in the form of connecting areas. See Figure 1 for examples. While there seems little difference electrically between these two extremes, it will be noted that the thick area method allows for the shortest routes between each connected point.

It was noted earlier that parts may be mounted horizontally or vertically, depending on the requirements of the physical layout of a board and the degree of miniaturization desired. Generally, the only parts effected by this option are resistors and toroid coils , both of which may be mounted flush or vertically. Two other items beg specific comment. One has the choice of soldering a transistor directly to the board by means of three holes properly positioned. In this event, the process is simply a matter of matching up holes with leads, as in Figure 1. It is often desireable, however, to use a transistor socket to allow experimentation with different transistors. In this case, a hole that accepts the base of a transistor socket (usually about 7/16th in.) can be drilled in the board, the socket inserted, and the three leads bent flush with the connecting copper strips, and soldered directly to them, as in Figure 1. And then, mounting the trimmer capacitors requires a rectangular hole, which can be made with a #45 drill sunk three times in a line, so as to overlap a bit. (Continued on the following page)

THE ART OF CIRCUIT BOARDING (PART IV) (Continued)

Also, two holes with a #45 bit will accept the lips found on each side of a trimmer capacitor , allowing mounting of the item flush with the top surface of the board. At times, it is desireable to use slug-tuned coils , in which case, the coil can be mounted vertically on a board by drilling a hole which accepts the mounting nut and bolt on the slug-tuned coil form. Strips can then be run to the base of this hole for the proper connections to the coils.

Once a final check has been made to insure that all inked connecting strips are correctly located and terminated, the etching process itself can be attempted. Contrary to most common rumours on the subject, the etching process is no more messier than frying an egg or mixing a bowl of cereal. Care is exercised to avoid spillage, for the ferric chloride will stain most things. The simple expedient is to do all the etching work on a piece of newspaper. A plastic dish or bowl, or for that matter, a plastic box in which many electrical parts are shipped or sold, will do an excellent job. Or again, the plastic box in which the above Kelpro kit is contained does perfectly well.

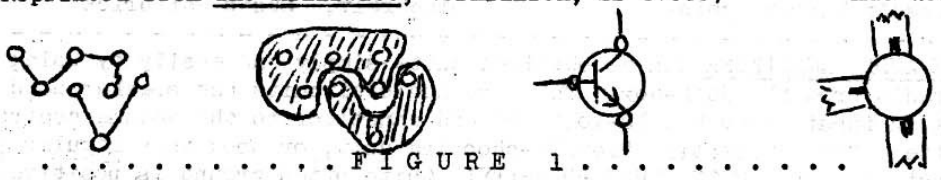
The time required for the etching process itself depends on several variables - concentration of the solution, the thickness of the foil on the board, etc. Normally, the Kelpro kit at room temperature (which results in about a 65 degree etchant solution) will handle a three inch square board in about 15-20 minutes. It is wise to use at least 3/4 in. depth of solution for a three inch square board. With the solution in the etching container, the board is immersed in the etchant, and agitated every minute or so in order to remove diluted etchant from the strips and move fresh etchant onto them. Periodic checks of the progress of the etching process will indicate when the board is completely cleared of unwanted foil. The etching process is then complete. A piece of steel wool or sandpaper will remove the ink from the remaining strips, and the board is ready for the final mounting of parts.

This is perhaps the most beautiful part of the whole process. After all the time expended in preparing the board, it literally falls together. Parts leads are inserted in proper holes and bent back a little to hold them in place, and when all parts are thus mounted, the soldering gun is heated up. The actual soldering of leads requires a bit of care for a really good job. I've found that the best procedure is to place the heated tip on the copper strip while touching thin size solder to the joint and allowing it to flow liberally on the joint. What results is a solid long-lasting connection.

Once all joints are soldered, the board is ready for mounting in the chassis or cabinet it will be used with. Standoff mounting "spacers" are commercially available, but I've found that the use of standard copper tubing about 1/4 in. in diameter works well. A foot length of such tubing will cost perhaps 25¢ but will provide high quality spacers for the foreseeable future. The copper tubing can be held in a vise while cut to proper lengths with a sharp hacksaw. A little filing will square off the edges of the spacer. In general, when mounting the circuit board in the cabinet, provision must be made for external connections to the circuit such as RF output, crystal sockets, switches, etc. Leads coming into the cabinet from outside , such as the B-plus, can be brought in by means of mounting posts fastened securely to the cabinet, from which posts a lead is connected to the proper hole on the board. The specific project will determine how many of these mounting posts or tie-points will be required. An extremely stable physical setup results, an advantage that pays off in touchy VFO circuits or similar.

In conclusion then, circuit boarding is a substantial aspect of the "state-of-the-art" technology, and one which Amateurs can use to great benefit. Give it a try!

(Reprinted from The Milliwatt, Vermillion, SD 57069) Ade Weiss, K8EEG/1



. . . . . FIGURE 1 . . . . . .

THOUGHT FOR THE MONTH: Live within your income and you'll live without worry - -and without a lot of other things!!!

BORN NEAR BOLTON, QUEBEC, died and buried in Bermuda, recognized as a genius in the United States to the extant that he was awarded a 2½-million dollar settlement in 1928 for his radio patents, almost forgotten in his native Canada, such was Reginald Fessenden.

A year older than the Dominion of Canada, he was educated at Bishop's College, Lennoxville and attracted to Edison's Llewellyn Park Laboratories where he became chief chemist and developed an interest in wireless communication. However, Edison's bankruptcy and the uncertaincy of the business world lead him to teaching, first at Purdue University and then at the University of Pittsburg, after being rejected for a post in his homeland. It was at Pittsburg that he developed his liquid barreter, an advanced detection system for those elusive "wireless waves".

The turn of the century found him working with the U.S. Weather Bureau and in the fall of 1900, between stations about a mile apart on the Potomac River, he is credited with making the first electromagnetic transmission of speech. On December 24 of that year he is credited with making the first ever radio broadcast when he "...gave a short speech ...played a violin solo...read a Bible text...and wished a Merry Christmas" to ships of the United Fruit Company in the Caribbean which were equiped with his wireless receiving equipment.

Remaining a Canadian, he worked with the Ontario Power Commission on its project of getting Niagara power to Toronto and Southern Ontario. In 1905 he incorporated the Fessenden Wireless Telegraph Company of Canada and, at the outbreak of World War I, gave his services to Canada and worked on many submarine detection and signalling devices.

As did many inventors of his day, he became involved in costly, time-consuming litigations over patent rights but in his case justice prevailed and the reqards eventually came where they were deserved.

Fessenden spent the last years of his life in Bermuda, still experimenting, but now in the field of television. The New York Hearld-Tribune paid a fitting tribute on his death in 1932 - "It sometimes happens that one man can be right against the world...he... insisted against the stormy protests of every recognized authority, including Marconi, that...radio was worked by continuous waves...only a handful realize that the battle ever happened". His memorial reads "By his genius distant lands converse and men sail unafraid upon the deep".

A recently published book, Radio's First Voice by Ormond Raby, is the first step to right the wrong of neglect and document the achievements of this great radio pioneer.

Carl Everson, VE3BYX

AREC NOTES - Last month I mentioned the formation of a committee to handle public service and emergency communications. It has been renamed the Emergency Communications Committee. Dave Parks, VE3GSA,has volunteered to help and a couple more hams are needed.

We now have a rig for the EMO Communications Van. I have supplied a Pye Cambridge with 110-volt supply, and four sets of crystals (for VE2CRA, VE3STP, 146.52, and VE2CRA-reverse (94/34)) have been donated by LESMITH LTD, PO Box 703, OAKVILLE, ONT. Many thanks to Les. You are all urged to patronize this firm when you need crystals - $6.00 each plus tax.

Larry Bradley, VE3CRX, EC, Ottawa

LETTER TO THE EDITOR

73 Magazine, Peterborough, New Hampshire,
Subject: Hotline Article 4/3/75

Dear Carl,

We noted your comment on page 2 of The Groundwave regarding our failure to credit the Ski Marathon write-up. Sorry about that!, and we'll be sure it doesn't happen again.

Sincerely, Susan Philbrick

AN AUDIO AMPLIFIER can be obtained quite simply and easily by using a 'cheapie' transistor radio from the junk-box. Only the audio circuits and speaker need to be operating. Hook an input through a 15-volt, 50 mfd capacitor to the volume control, Use an internal battery for a versatile trouble-shooting unit, or hook to a regular supply for a permanent installation. WATCH THAT POLARITY! Quite often ground is positive. If this is the case, the common return of the input circuit will also need a 15-volt, 50 mfd isolating capacitor.

At the February meeting of the OARC, a committee was set up to study new classes of Amateur licence. Here is the report of that committee.

A PROPOSAL FOR THE REFORMATION OF THE AMATEUR RADIO SERVICE Those who think about the future of amateur radio in Canada today are concerned about a number of things. The growth of the amateur radio service is not keeping pace with the average growth of radio in Canada. It seems that potential amateurs are being turned off by the code barrier and obsolete requirements or being attracted to GRS. Encouragement is needed to whet the prospective beginners appetite for ham radio and enable him to get started. Amateur radio has competition from many other hobbies with practically no entrance barriers. Boating, photography, construction hobbies, GRS, and model control by radio are but a few.

The objective of my group was to try to produce some proposals which, if accepted, would give the amateur radio service a modern look not simply with a new definition, but with a new certificate and revised qualifications which would relate to today's interests, activities, and technology. These proposed changes would also recognize the benefits of amateur radio in training, public assistance, communicating, engendering a cooperative working relationship with other radio users, and providing a source of skilled communicators for industry and defence.

Accordingly we are proposing the following new definition: "A service in which radio stations are operated without monetary interest for purpose of experimenting with radio equipment, augmenting technical and operating training in radio, communicating with other stations in this service, and, on their own initiative, providing a voluntary public service." Within that framework we are proposing two changes: The first would create something for those whose interest is in equipment and communications and not in code; the second would make amateur radio a little more distinctive vis-a-vis other radio services, especially the GRS. We suggest the following:

1. Amateur Operating Technician

   Objective - to create a class for those who are interested in equipment and communications and not in using code.

   Privileges - all modes on 144 MHz and up,
   - 1Kw (ie no change from present limit)

   Qualifications - shall have passed an advanced exam on:
   a) the theory of electricity and radio, advanced theory and operation of amateur transmitters, receivers, satellite communications, antennas (inc. beam ants), repeaters, mobile stations, AM, FM, SSB, filters, interference, incl schematics
   b) International and Canadian Radio Regulations, and
   c) Amateur Ethics and Communication Procedures.

2. Amateur Radio Operator

   Objective - to whet the appetite of the amateur by giving him some insight into the varied and interesting areas of amateur radio and to give him the necessary grounding to get started.

   Privileges - phone 28 MHz and up, CW all bands and 1 Kw, etc., ie no change from the present. The time barrier is to be removed.

   Qualifications - shall have passed an exam on:
   a) Code @ 10 WPM 90%
   b) the fundamental theory of electricity and radio; theory and operation of amateur transmitters, receivers, antennas, propagation, AM, FM, SSB, filters, interference, power supplies, (including block diagrams and simplified schematics as appropriate),
   c) Canadian Regulations, and
   d) Amateur Ethics and Operating Procedures; or on the Code at 10 WPM 90%, only if the applicant is a holder of an Amateur Operating Technician Certificate.

3. Advanced Amateur Radio Operator

   Privileges - as at present

   Qualifications - shall have passed an advanced exam on:
   a) Morse Code @ 15 WPM 90%,
   b) The theory of electricity and radio; advanced theory and operation of amateur transmitters, receivers, beam antennas, AM, FM, SSB, RTTY, filters, interference, power supplies, including schematics.

...con't on page 8

A PROPOSAL FOR THE REFORMATION OF THE AMATEUR RADIO SERVICE (con't from page 7)

c) Canadian and International Radio Regulations, and
d) Amateur Ethics and Communication Procedures, (including network procedures); or on the Code @ 15 WPM 90%, only if the applicant is the holder of an Amateur Operating Technician Certificate.

The idea of including amateur ethics and communication procedures in the exam is to give formal recognition to two of the major characteristics which set amateur radio a notch or two above some other radio services and which should be continued on a more formal basis.

We hope that the OARC will approve this proposal and forward it to CARF with the request that it be given serious consideration and passed on to DOC for implentation. Participants who helped in the development of these proposals included Bill VE3NR, Bud VE3UD, Tom VE3EWK, Martin VE3EFL, and Dave VE3GSA. Earl Andrews, VE3ECJ
(It is planned to present this proposal to the OARC membership at the May meeting for discussion and, time permitting, disposition - Ed.)

THE HIDDEN TRANSMITTER HUNT took place as scheduled (April 20) and from all reports was a success. Taking part were VE2AEJ/3, VE3's CUA, GUW, DWU, GRJ, EEW, EKA, AUM (he was robbed!), BNO, HKG, DY, BBM, GVI, ECJ, and GFI. The first to find the hidden transmitter were VE3DWU and VE3GUW working as a team. Second place went to the team of VE3CUA and VE2AEJ/3 and third place to VE3GRJ who missed out on second place because of foot-power as opposed to horse-power (Larry scaled the hill on foot!). The hidden location was the Carlington water resevoir (on top of Carlington ski slope). The winners were using a dipole system and found the transmitter at 1425 hours EST, the second place team arrived at 1451 and third at 1451.05! (the hunt began at 1300). At about 1530, we all went to a local coffee house for coffee and debriefing. We think a good time was had by all and we'll probably get another going in the not-too-distant future. The success of this hunt is credited to those people taking part, so 'Many Thanks!'. We hope all participants enjoyed themselves as we did. Ken, VE3LJ, and Vic, VE3DEP.

A BALLOON-CARRIED WIDEBAND TRANSPONDER launch is planned by a Sudbury group for May 3, 1975 at 10:00 AM - weather permitting, and it will take about ½-hour to reach the projected height of 80-100 thousand feet. Signals in the input passband of 144.03-144.13 MHz will be translated to an output passband of 145.85-145.95 MHz. As all stages are linear, translated signals will remain in the original mode except SSB where the sidebands will be inverted. The unit weighs 3.8 lbs and has an output of 2 watts.

A main beacon will operate on 145.97 MHz and will carry FM voice (of the control station) and telemetry data. A secondary beacon will operate on 145.47 MHz but will not be very active. A tracking beacon will operate continuously on 146.94 MHz for location purposes (because almost everyone has this frequency). This beacon will transmit a 10-second dash, FM modulated at 1 kHz, every minute with an RF output of ¼-milliwatt. The antenna is a 2-element halo spaced 20 meters.

If the launch is delayed for any reason, it will go as soon as possible later in the day or on the following day, May 4. Barring mishaps, a second launch of this transponder is planned for May 10/11 with similar frequencies and launch parameters.

A third launch is planned for May 17/18 of either this transponder or a second one which inputs on 432.0-432.3 MHz and outputs on 145.7-146.0 MHz. Usage, enthusiasm, results, damage, etc. will all figure in the decision of which one will go on this weekend. In any event, a launch of the second one (432-145) is planned for May 24/25. All amateurs are invited to use these transponders and reports of all contacts and reception would be appreciated by: Helmut Frauscher, VE3FKU, c/o CKSO, Box 400, Sudbury, Ontario.
(Tnx to Scarborough ARC Bulletin, Toronto FM Bulletin, and VE3BNO for the above info - Ed)

EXPERIMENTAL REPEATER, VE3DVQ, is now operational near Lavant Station, about 60 miles west of Ottawa. Operated by the Greater Goulbourn VHF Society, VE3DVQ inputs on 146.61 MHz and outputs on 52.525 MHz. Initial reports indicate coverage from Toronto to Montreal and to south of Rochester, NY. Future plans include an input on 52.76 MHz, which should provide 2-way working over this area (now limited by the range of the 2-meter input).

-ADDITIONS TO MEMBERSHIP LIST-

VE3FMW R. Adams
527 Prince Albert St.
Ottawa Ont. K1K 1Y7

VE3BDO L. Droppo
268 Bell St.
Arnprior, Ont. K7S 2R6
623-5847 623-3161

VE3BED R. Droppo
268 Bell St.
Arnprior, Ont. K7S 2R6
623-5847 623-3161

VE3DKP D. Kopas
Winchester Springs
Ontario

VE3HST E. Linard
104 Woodridge Cresc. #4
Ottawa, Ont K2B 7S9
820-0014 998-9210

VE3HRB D. Millar
29 Kingsland Ave.
Ottawa, Ont. K1V 8R6
737-0444

VE3HJX E. Mitchell
460 Wilbrod St.
Ottawa, Ont. K1N 6M8
233-4498 232-8394

VE3DYJ J. Mitchell
42 Stillwater Dr.
Ottawa, Ont. K2H 5K2
829-1272 592-3520

VE3FZY M. Neill
148 Fentiman Ave.
Ottawa, Ont. K1S 0T8
233-9941

VE3aZE G. Eden
185 Devonshire Pl.
Ottawa, Ont. K1G 7G6
729-5916 233-8441

VE3QO W. Stacy
2145 Hubbard Cresc.
Ottawa, Ont. K1J 6L3

VE3HRV C. Perren
1822 Applegrove Court
Ottawa, Ont. K1J 6S5
745-3813 231-5817

VE3GXU D. Schuthe
235 Daniel Ave.
Ottawa, Ont. K1Y 0C7
728-8828

VE3HHD A. Spencer
16 Aberfeldy St.
Ottawa, Ont. K2H 6H5
829-1431 239-2484

VE2BSH L. Bissen
PO Box 190
Aylmer, Que.
684-5725

VE3OCU Carleton University ARC
Carleton U. Uni-Center
Ottawa, Ont. K1S 5B6

VE3GLJ G. Henderson
St. Andrews W.
Ontario K0C 2A0
933-6341 932-6571

VE3CSI H. Stock
Box 682
Kemptville, Ont. K0J 1J0
258-5567

Assoc. H. Browne
PO Box 42
Russel, Ont.
445-5588

VE3VI J. A. McIntosh
Box 193, RR #2
Ottawa, Ont. K2C 3H1
825-2102

Membership to date: Regular, 195; Associate, 30; Total, 225

NOTES FROM CARLETON UNIVERSITY ARC - VE3OCR, the Carleton U. repeater is off the air indefinitely. Future plans are unclear but there is some possibility of moving it to the east end of town - Carleton U. ARC is now on RTTY on the DC bands - plans are in the making for an antenna party the latter part of May. Volunteers are always welcome - the club will maintain irregular hours during the summer. Those wishing to use the station should contact some member with a key - if you cannot reach the club by phone, don't feel left out. The club no longer has a phone. A. Taylor - President

THE OTTAWA AMATEUR RADIO CLUB
BOX 8873, OTTAWA, ONTARIO,
CANADA, K1G 3J2

Canada 8

FIRST CLASS MAIL

[redacted]

THE OTTAWA AMATEUR RADIO CLUB,		P.O. BOX 8873, OTTAWA, ONT., CAN. K1G 3J2	
President	Ron Belleville	1405 Maxime Street, Ottawa, Ontario.	746-2484
	VE3AUM	K1B 3L2	
Vice-President	Larry Bradley	9 Chartrand Avenue, Orleans, Ontario.	824-3753
	VE3CRX	K0A 2V0	993-3238
Secretary	Maureen Neill	148 Fentiman Avenue, Ottawa, Ontario.	233-9941
	VE3FZY	K1S 0T8	
Treasurer	Cy Chapman	2244 Kipling Street, Ottawa, Ontario.	731-6172
	VE3CVK	K1H 6T5	
Directors	Larry O'Brien	Box 11072, Station H, Ottawa, Ontario	225-9760
	VE3GRJ	K2H 7T8	
	Bud Punchard	3193 Riverside Dr., Ottawa, Ontario.	733-3990
	VE3UD	K1V 8N8	
	George Roach	104 Strathcona Ave., Ottawa, Ontario.	234-0885
	VE3BNO	K1S 1X6	233-6241
Membership	Vic Cyr	1969 Belcourt Blvd., Orleans, Ontario	824-1204
	VE3DEP	K0A 2V0	993-2559
Beginners Class	Bob Clayton	1174 Tawney Road, Ottawa, Ontario.	731-2691
	VE3HBQ	K1G 1B7	737-0007
RSO Convention	George Roach	104 Strathcona Ave., Ottawa, Ontario.	234-0885
	VE3BNO	K1S 1X6	233-6241
Net Manager and	Larry Bradley	9 Chartrand Avenue, Orleans, Ontario.	824-3753
Emergency Comm.	VE3CRX	K0A 2V0	993-3238
Custodian and	Gerry Martin	1771 Hutton Avenue, Ottawa, Ontario.	731-3220
Archivist	VE3CNJ	K1G 1M1	
Coffee	Ernst Meier	RR#1, Bourget, Quebec, Box #77.	487-2922