

THE OVMRC RAMBLER

Volume 39, Number 9 - April, 1995

Telephone Immunity

The January/February '95 issue of Compliance Engineering reports that at the request of the FCC in the United States, the TIA (Telecommunications Industry Association) has readied a new standard for immunity of telephone terminal equipment having an acoustic output. The standard, if approved, will be known as TIA/EIA-631. It is designed to protect acoustic telephones from the most common forms of RF coupling malfunction by imposing the requirements in the table below.

The standard had been brought forward rather quickly (after a large number of complaints) and the FCC hinting that it might make such regulations mandatory.

Canada can be proud of having Bell Northern Research bring forth their voluntary immunity standards to the TIA committee. BNR's immunity standards which are entirely voluntary at 5 volts/metre radiated and 3 volts conducted, were developed primarily from complaints received from consumers in the Ottawa suburb of Barrhaven. These complaints resulted from the continued urban growth around the broadcasting facilities of radio station CFGO. Proximity effects on neighbouring homes were ignored

by the city planners until a citizens' survey detailed some 600 complaints. As a result, BNR conducted their own RF survey and arrived at reasonable immunity levels which they subsequently applied to new telephone equipment and plant

Assuming TIA/EIA-613 becomes adopted by the major telephone companies in the NAFTA corridor, Canada's Northern Telecom telephones will have a preferred and desirable consumer feature for use in any areas near amateur radio stations. As amateurs, why not promote such products to your neighbours as they will considerably reduce, if not eliminate, complaints of telephone interference. This removed the onus for resolving such complaints by the amateur and the consumer (EMCAB-2) and places it where it should be (at the design stage).

It should be noted that North American immunity standards ignore the amateur HF spectrum (1.8 - 39 MHz). To the contrary, the foregoing TIA standard is exemplary by its practical application of technical criteria. It is great news to see the industry taking the initiative for which they are certainly to be congratulated!

<u>Immunity Standards</u>	<u>Frequency</u>	<u>Limit</u>	<u>Modulation</u>
E-Field Immunity	150 kHz to 150 MHz	3V/m, unmod.	1Khz, 80% depth
Conducted Immunity on signal leads	150 kHz to 30 MHz	3V/m, unmod.	1Khz, 80% depth
Conducted immunity on power leads	50 Khz to 30 MHz	3V/m, unmod.	1Khz, 80% depth

It's Coming May 13th, 1995
It's the OVMRC Flea Market
McNabb Arena, 180 Percy Street, Ottawa
FREE ADMISSION & PARKING* PRIZE DRAWS
DOORS OPEN AT 09:00* TALK-IN ON 147.300+

The Ottawa Valley Mobile Radio Club

RAMBLER

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The 1994-1995 OVMRC Executive

President: Ernie Jury, VE3EJJ, 728-3666

Vice-President: Steve Middleton, VE3RUU, 731-6749

Treasurer: Colin Finlayson, VE3UZU, 722-4452

Secretary: Roger Rose, VE3XRR, 741-9847

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Amateur Radio Exhibit: Jerry Wells, VE3CDS, 225-7374

Amateur Radio Training: Bob Shaw, VE3SUY, 737-9443

Field Day: Allan Barnes, VE2TYJ, 246-8924

Flea Market: Ken Barry, VE3KJB, 746-4823

Historical: Mike Beausoleil, VE3BGP, 739-8871

Membership: Gordon Beatty, VA3GRB, 722-4675

Newsletter: Dan Doctor, VE3XDD, 745-9214

Publicity & Programs: Larry Wilcox, VE3WEH, 747-5565

Radio Operations: Jacques Choquette, VE3TSC, 748-6597

Technical: Rick Furniss, VE3IHI, 224-2604

OVMRC Code Phone - 746-2065

We gratefully acknowledge the support of the Corel Corporation in producing the Rambler.

Mark Your Calendar !

Next general meeting:

Thursday, April 20th at 1930 hours in the main auditorium of the Museum of Science and Technology. Paul Cooper, VE3JLP, will be showing a video of the DXpedition, February, 1994, to Peter 1st Island, Antarctica. As well, Paul will be talking about his own DXpedition to Gambia.

Deadline for next Rambler:

Friday, April 28th, 1995.

OVMRC's Repeater:

VE3TWO , 147.300MHZ (+)

444.200MHZ (+)

Affiliated Clubs

The OVMRC exchanges newsletters with the following organizations:

Algoma ARC, Sault Ste Marie, ON
Augusta Amateur Radio Assoc. Augusta, ME
Border City Radio Club, Windsor, ON
Chatham-Kent ARC Inc. Chatham, ON
Calgary Amateur Radio Assoc. Calgary AB
Comox Valley ARC, Comox, B.C.
Halifax ARC, Halifax, N.S.
Heritage ARC, Cobourg, ON
Kingston ARC, Kingston, ON
Lambton County ARC, Sarnia, ON
London ARC, London, ON
Metroflex ACA, New York
Ottawa ARC, Ottawa, ON
Pioneer ARC, Nepean, ON
RAC, Kingston, ON
Scarborough ARC Inc. Scarborough, ON
Seaway Valley ARC, Cornwall, ON
Smiths Falls ARC, Smiths Falls, ON
Sudbury ARC, Sudbury, ON
Surey ARC, Surrey, B.C.
Saskatoon ARC, Saskatoon, SK
Thousand Island ARC, Brockville, ON
West Island ARC, Dorval, PQ
Winnipeg ARC, Winnipeg, MAN

Sponsors

The OVMRC provides newsletters to the following organizations for their past support of our activities:

Bytown Marine, Ottawa, ON
Kenwood Electronics Canada Inc. Mississauga, ON
Corel Corporation, Ottawa, ON

Ramblings

Wise words from our President,

Ernie Jury, VE3EJJ



I want to thank everyone for their cooperation at our recent "business" meeting. They are a bore but must be endured occasionally. During the meeting I was asked by Marcel Gervais, VA3MG, to mention that he is a source of very reasonably priced QSL cards. In the rush of the evening I forgot and apologize to Marcel for the oversight. He can be reached at (613) 830-5280.

My call for volunteers to form a Nominating Committee was graciously answered by Ed Strange, VA3CEJ. He is looking for a couple of people to assist him in establishing a slate of nominees for next year's executive and an auditor. This is a very important function as it will have a large bearing on the direction and success of the Club next year. If you are interested in helping out, or in serving on the executive next year, contact Ed.

Mike Beausoleil, VE3BGP, is continuing with his review of the Club's bylaws so as to be able to make recommendations for further changes to next year's executive. If you have any suggested changes please communicate with Mike.

At our recent executive meeting we received an extremely well written request from a young member of the Club requesting repeater time on Sunday evenings for a Young Amateurs of Canada Net (YAC Net). The request was the result of efforts by Steve, VE3RUU, and Gord, VA3GRB, and was wholeheartedly and unanimously supported by the executive. We hope that this will ultimately result in a new and much needed dimension to Club activities. To further encourage the participation of younger people in the Club, the executive voted to create a "Youth Chair" on the executive. Ed, VA3CEJ, will be looking at nominees for this office. They must be full members of the Club and should be a part of the younger

element of the Club so as to represent their ideas and concerns.

Larry, VE3WEH, our Program and Publicity chairperson, has an idea for an activity that would take the Club back to its roots of being a "mobile radio" organization. It is a day long/overnight (personal choice) leisurely drive up the valley by Club members and their family with their mobile rigs to visit interesting sites and to meet other Clubs both on the air and in person. Larry is looking for someone to organize and coordinate this project.

Al Barnes, VE2TYJ, the Field Day Chairperson, has been doing some thinking about field day and I'll turn things over to him .

Wow! We're well into 1995 - the snow is all gone- the weather is slowly getting warmer - and we've turned our clocks ahead one hour. Spring cleaning is currently number one on the agenda but it is time to remind you that the 1995 field day is fast approaching.

I would like to extend to all of you a personal invitation to join the Field Day Interest Group. I would particularly like to see our new amateurs and others who have not previously participated to get involved in this very major project. It is one of the best learning experiences available as we are involved in the planning of the event, acquisition of equipment, erection of towers, antennas and tents and then the installation of portable power supplies and radios. And when Field Day is over, everything must be dismantled and packed away.

Field Day needs the help of amateurs like you! Get involved in one of the best learning experiences the Club can offer and have fun doing it. Contact Al Barnes, VE2TYJ at 246-8924.

Minutes

OVMRC Regular Meeting, 16 March, 1995.

The silent auction of surplus Club equipment started at 1830 hours for viewing and bidding.

The President called the meeting to order at 1931 hours and welcomed a number guests present - Bob, VE1PQ, from Halifax, Fred, VE3FHL, Marcel, VA3NG, Joe VA3JJD and Charles, VE4AFQ from Winnipeg.

Ed, VA3CEJ, requested local amateurs to transmit spurious signals on April 3rd. This is in connection with a project at Algonquin College called "Experimental Finding Unit". Fred, VE3BAJ, made a short presentation on VLF listening. There are 5 non-directional beacons in the region and Fred encouraged amateurs to listen to them. He was thanked for a most interesting talk.

The President announced that there were flyers available concerning upcoming flea markets; Al was distributing field day notices and anyone interested in helping in this project, please contact Al at 246-8924; Jerry, VE3CDS, advised that VE3JW is now officially on the air and he is looking for volunteers to operate the station; Roger is looking for some help in amending erroneous club information on Freenet; the Osgoode Girl Guides sent the club a thank you note for providing a demonstration of amateur radio during this year's GOTA; the club's annual election of officers is quickly approaching and anyone interested in serving on the Nominating Committee is asked to contact the President by April 1st. The club's Treasurer, Colin, VE3UZU, presented an interim financial report and answered a few questions that were asked. The next report is due in June.

The President asked for the memberships' approval of an extra \$200 for the Technical Committee. Moved by Steve, VE3RUU, seconded by Jack, VE3TTX and carried to approve the extra funds.

The President advised that Jerry, VE3CDS, was out of pocket \$160 which he had loaned for field day two years ago. Documentation or receipts are not available. Bob, VE3SUY, moved that this debt be paid, second by Colin, VE3UZU, and was carried.

In the matter of the three proposed Bylaw amendments, 90 voting members were present, a minimum of 60 affirmative votes would be required to pass each amendment. Mike, VE3FFK, moved seconded by Marcel, VE3FNG, to amend Section 9.1 to read, "**The Executive Officers of the Club shall be elected for a term of one year by hand ballots of the full members present at the annual meeting.**" Sixty-six voted in favour, amendment approved.

Ed, VA3CEJ, moved, seconded by Jacques, VE3TSC, to amend Section 9.3 to read, "**No Director shall be eligible to serve more than two consecutive terms in the same executive office.**" Seventy voted in favour, amendment approved.

Chuck, VE3PDK, moved seconded by Mike, VE3BGP, to amend Section 10.2 to read, "**The executive shall be bound by the approved budget, in that they may not commit funds for other than budgeted items in excess of one hundred dollars per calendar month without prior approval of the membership. Such discretionary spending shall be restricted to those items or services that further the objects of the Club as defined in Article 1.**" Seventy-six voted in favour, amendment approved.

Larry, VE3WEH, introduced the homebrew portion of the program with Evelyn Brien, Tom, VA3OFD and Rick, VE3IHI as the judges. The winners were as follows: 1st category HF, Maurice Andre, VE3VIG, for his 40M for \$40 antenna, won a \$25 gift certificate. 1st category VHF, Peter, VE3EPB, for his 2m car mike and intermod filter, he won heavy duty wire stripper. 2nd category, Jake, VE2TQX, for his Radio Fingerprinting software, won "Help for New Ham" manual. and Baba, VE3KX, for his several innovative items, won a mini bag light. 3rd category, Andre, VE3CLW, won a "W1FB Notebook for his "No Sweat Track Ball", and finally, Mike VE3FFK, won a Deluxe De-Soldering Pump for his Long Tone Zero Gadget and a 1m HAM radio. The door prize of a "Radio Frequency Interference: How to Find It & Fix It" manual was won by Ted, VE3TGS.

Packet Racket

Written by Ken Asmus VA3KA

I have just returned home after spending the month of March in St John's, Newfoundland. I was on a business trip but I had my portable packet station with me so that I was able to keep in touch with the amateur radio world from my hotel room which was located a very short distance from Signal Hill where Marconi made his first transatlantic QSO! Using a 2 meter handheld, a laptop computer and a "Baycom" packet system I was able to check into local BBS's, meet some local ham's, get an invite to a radio club meeting as well as a local Saturday morning breakfast and send/receive messages from friends back home! As well, using an Internet connection to an amateur gateway, I was able to talk, keyboard to keyboard, to Anne VE3TSB nightly .

There are many books and articles available which discuss the theory of packet and describe the protocols etc. I will not get into these theoretical and technical issues, you can easily find the information in the literature. As well, if you are not familiar with packet, find a friend that is active to demonstrate how things work. If you do not know anyone on packet, stand up at a club meeting and ask for help. You will be surprised how many are on the digital mode! In these columns I will concentrate on the more "operational" issues.

Essentially there are four components to a packet station: a computer, a Terminal Node Controller (TNC) or modem, control software and the radio/antenna system. This month I will discuss the computer and RF requirements.

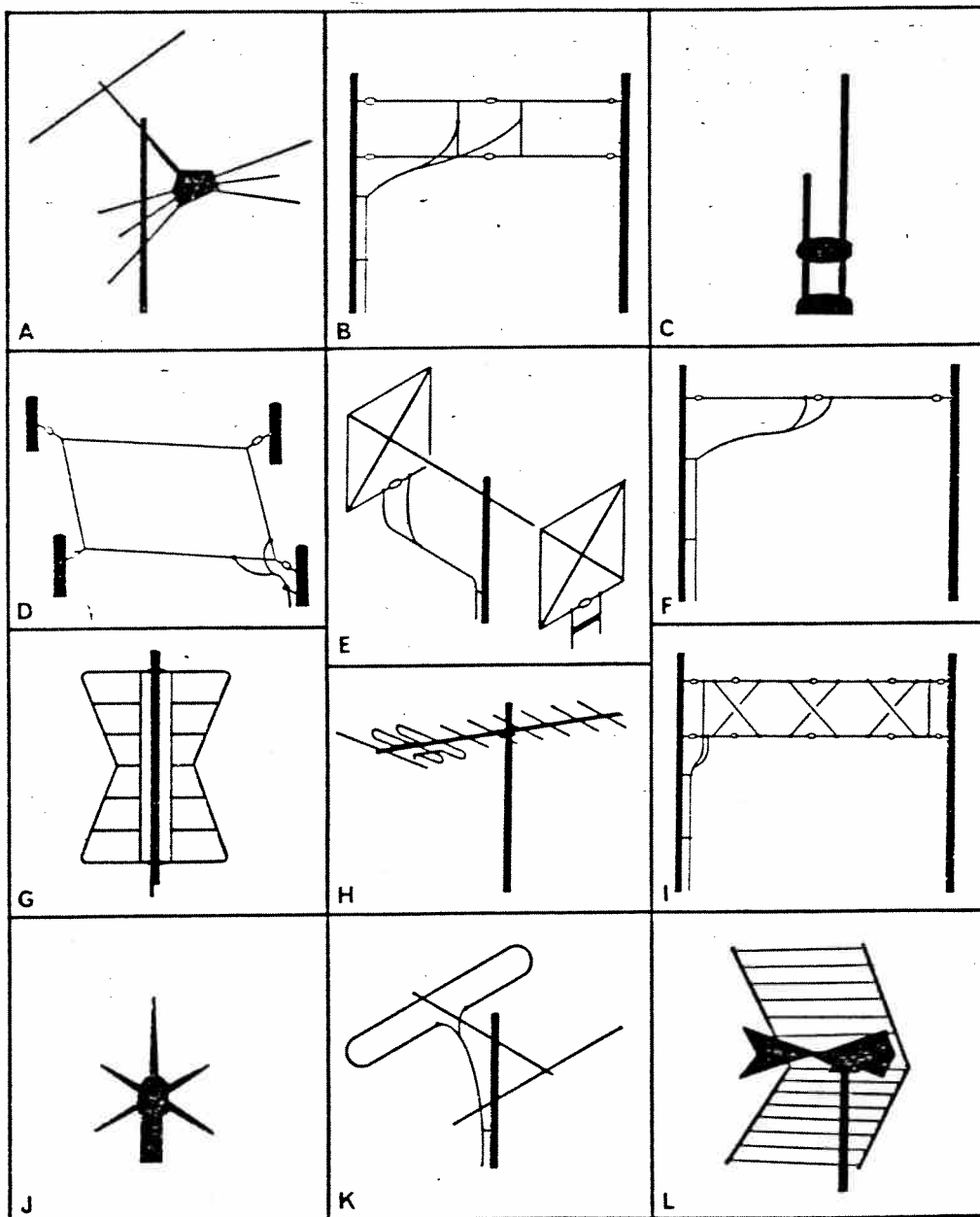
COMPUTER: I would recommend that the minimum computer for satisfactory packet operation would be some flavour of PC (i.e. XT, 286, 386, Macintosh etc) with a hard drive (20 mb or more). You will need at least one available COM (RS-232) port and, to make use of some of the nice features of available software packages, a colour monitor (although a mono monitor will work just

fine). You could get by without a hard drive, but performance is degraded. Some are using a "dumb" terminal but I would not recommend this method as you will tire quickly of packet due to severe limitations on functionality. Although, depending on your computer system, you can share packet radio with other computer applications, the optimum situation would be to have a dedicated system for packet, perhaps a low cost basic computer separate from other activities (more on this later). This is not a requirement, just "nice to have".

RF EQUIPMENT: If you own any type of 2 meter VHF radio (i.e. handheld, mobile, converted commercial etc) you have the necessary equipment for packet radio. In the Ottawa area nearly all packet operation is conducted on the 2 meter band. Take a listen on the main packet frequencies in the Ottawa area: 145.01 144.91 146.85 145.03 for the bbbrrraaapppp of packet radio. There are also some frequencies in use on the 220 Mhz and 440 Mhz band and I will discuss these systems in future columns. For initial packet radio operations at 1200 Baud (the traditional VHF packet speed - more on this at a later date) the interface between your radio and Terminal Node Controller (TNC) is quite simple. Audio input can come from your speaker/earphone jack and audio output can be fed directly into your mic connector. Another connection (usually via the mic jack) for the PTT line and ground and you are on the air! In actuality there are a few more concerns e.g. audio levels etc to look after, but essentially if you have all the components you could be on the air in only a short while! A very important consideration is to have the strongest signal you can into the packet system. A handheld with a rubber duck sitting on your desk top may give you problems but put the same handheld (or a mobile/base station) on an outside antenna and you will be guaranteed success! As with the computer system, it is ideal to have a dedicated radio for packet.

Antenna Quiz

Reprinted from the May, 1965, edition of Popular Electronics magazine. See how many of these commonly used antenna types you can identify by matching the drawings (A to L) with their names (1 to 12).



- 1 Batwing _____
- 2 Conical _____
- 3 Corner Reflector _____
- 4 Cubical Quad _____

- 5 Doublet _____
- 6 Folded Dipole _____
- 7 Ground Plane _____
- 8 J Pole _____

- 9 Lazy H _____
- 10 Rhombic _____
- 11 Sterba Curtain _____
- 12 Yagi _____

(Answers on page 11)

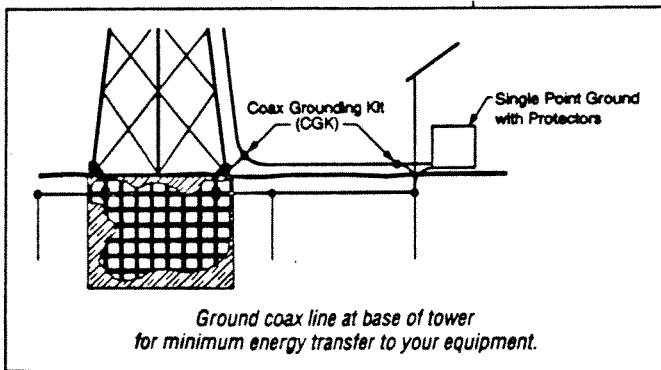
Part Three

Ham Radio Station Lightning Protection

This is the third in a series of articles which appeared, starting on the February, 1994, issue of the "Striking News" from PolyPhaser on lightning protection information for ham radio stations.

COAX GROUNDING

Since the tower is a conductor and is well grounded, all of the coax lines should be grounded (using a grounding kit) at the top of the tower close to the antenna and at the base of the tower before they come towards your equipment. For taller towers, grounding should occur at 150 foot intervals from the top, plus at the bottom.



During the strike event, the tower and the coax lines will mutually share the strike energy. If the coax lines are not grounded as they leave the tower or they are completely isolated from the tower, more energy could traverse the coax towards your equipment than is conducted to the ground system by the tower. Such a large inductive voltage drop may cause arcing between the coax lines and the tower which in turn could cause deterioration (pin holes in the coax for moisture to enter) or destruction of the coax lines.

Notice the word "bottom" in this section. Since all towers have some inductance, leaving the tower at a point above ground will allow some of the strike current to continue on the coax line (both the centre conductor and shield) towards your equipment. Once at

the equipment, the current will follow the chassis to the safety ground. This will elevate the equipment cabinets to deadly voltages. Deadly for both people and components.

Even though inductive properties of the coax cable appear to be beneficial, and some extra inductance can be created by adding a few turns to the coax, DO NOT DO IT! The added turns can also act like an air wound transformer which can couple more energy into the line. This is just the opposite of the desired effect. Instead make sure that coax lines leaving the tower remain at right angles to the magnetic field surrounding the tower.

CONTROL AND COAX LINE PROTECTION

Rotar control lines should be protected using a suitable protector at both the top of the tower where the lines go to the control motor and inside the shack at the single point ground panel.

If it is not practical to protect the lines at the single point ground panel, they may be protected at the bottom of the tower. The protected lines should then be placed within EMT (metal) conduit that is grounded only at the tower-base end. The EMT will act as a faraday shield from the tower's magnetic fields and will minimize the amount of induced energy.

Coax lines can also be protected from induced energy by using EMT conduit grounded only at the tower-base end.

SINGLE POINT GROUND

The next step in a good protection scheme is to provide a single point ground, a plate where all of your equipment I/O protectors can be located. The panel is best located near the ground to keep the inductance of the ground conductor low. However, if this

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Bits and Bytes

Written by Ed Strange, VA3CEJ

This month I am going to talk about input output operations. There are two generally accepted methods of performing input and output operations: Polling and Interrupt Driven I/O.

Polling is a method used when there are only a few devices on the system. In essence this requires a program which runs at all times to check each device in sequence to see if it has any information for the system. This can be very slow and also lead to some devices (those at the end of the line) never getting any service due to the fact that the sequence must start over each time a device is serviced. (The act of servicing a device is to read or write data as requested by the device). Some people may argue that you do not necessarily have to start the sequence over but it would require an extensive management system to keep track of where you were in the sequence each time you left to service a device. This method of I/O is generally used for small sense process and control environments.

Interrupt driven I/O requires additional hardware to work but it allows a system to do a number of tasks in the background while waiting for an interrupt to occur. An interrupt is defined as any exception to the linear execution of a program. There are many methods of using interrupts but the main system used today is called Vectored Interrupts. This method involves the processor receiving an interrupt on some input lines and responding with an interrupt acknowledge signal. The device which interrupted then gives the CPU its device number which is multiplied by the processor to provide an address in a table where the CPU will find the address of the service routine for the specific device. In the IBM PC these service routines are the DEVICE DRIVERS which are software programs used to provide service to the many cards one would find in a system today. To clarify one issue a DEVICE DRIVER does not provide

the support for the usage or application of the card but simply the method of communicating with the CPU and thus the System. Most cards require both a DEVICE DRIVER and an APPLICATIONS PROGRAM in order to run. This is particularly true of the MultiMedia products such as Sound Cards and CD-ROMs.

Interrupt driven I/O is much faster than Polling but it also has disadvantages. The major one for PC users is the limit of IRQ's (Interrupt Request Levels) available on the PC. In addition DOS places some limitations on the usage of these IRQ's.

For High Speed I/O there are two current methods of accomplishing large and fast data transfers. The first is Direct Memory Access or DMA. This requires an additional chip in order to work. Basically DMA replaces the CPU as an address funnel and skips the execution of instructions in order to accomplish Input Output operations. This allows high speed devices to transfer data directly to/from memory at the speed of the device instead of the speed of executing instructions (which depends on the CPU speed), generally a slow operation even with today's very fast processors. An extension to the DMA approach has been High Speed I/O porting which involves transferring data in blocks to memory then to the device and allowing the CPU to continue working because the I/O operation is accomplished on the interface board and not through the system.

Next month I will be looking at system components (the chips other than the CPU). I will also talk about Chip Sets.

Join us on Wednesday evenings for the Hacker Net if you have any questions pertaining to computers we will attempt to answer them for you. The net meets on VE3TWO at 20:30 hours.

Youth To Have Their Say

As a result of the growing interest among youth to acquire an amateur radio licence, enrolment in and graduates from radio courses by this group has risen sharply.

An analysis of the OVMRC's membership roster shows that more and more youths are joining our Club. In recognition of this fact, the executive has decided to establish a NOVICE COMMITTEE and extend an invitation to the youth of the Club to nominate, from its midst, its Chairperson. A committee of three, Ed, VA3CEJ, Gord, VA3GRB and Jacques, VE3TSC, are coordinating the nomination process. The Novice Committee Chairperson will be an executive officer and act as the youths spokesperson on the executive thus giving youth a forum in which to express their concerns and make a useful and constructive contribution to our mutual hobby

Young Amateur of Canada Net

The OVMRC executive has endorsed an articulate proposal received from 15 year old Terry Jadayel, VA3TMJ, to establish a net for teen aged amateurs on Sunday evenings from 1900 to 1930 hours on the Club's repeater, VE3TWO. Terry proposes to call it the "YAC Net" (Young Amateurs of Canada Net) and to afford young amateurs the opportunity to ragchew with their peers about such topics as school, sports, entertainment, etc.

Once successfully established and operating efficiently, Terry envisions expanding the concept and the net to other major cities across Canada. What with the development of the new satellite system it could even be a cross the country 2 meter net !

Good luck Terry, this type of net is long overdue and the OVMRC is pleased to provide you the use of its repeater for it !

Nominating Committee

Its that time of year again when we start thinking about who we want to guide the affairs of the OVMRC for the next year. And to survey the Club's membership to find suitable candidates for these important positions - we require a Nominating Committee. Ed Strange, VA3CEJ, has agreed to act as Chair of the Nominating Committee but he would certainly appreciate some assistance in this work.

If you would like to serve on one of the most important committees in the Club, volunteer for the Nominating Committee by contacting Ed Strange, VA3CEJ as soon as possible as a tentative slate of candidates must be developed within the next several weeks.

If any member would like to seek election to any of the Directors' office or Chairpersons' office, please contact Ed Strange and make your wishes known

Bylaws Revision

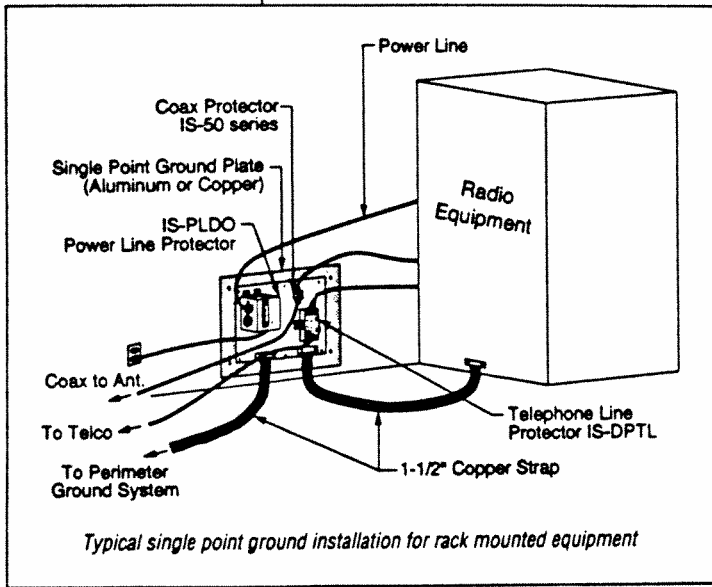
A reminder to all members - Mike Beausoleil, VE3BGP, is in the process of reviewing the Club's Bylaws with the aim of correcting typographical errors and recommending amendments which will update and streamline the Club's operation. If you have any new bylaws or recommended deletions, or amendment you feel would be beneficial to the Club, please prepare them in written form and pass them along to Mike for consideration.

Mike will be presenting his report of recommended changes to the Executive at its May meeting. Inasmuch as there will be little time left in which to pursue this matter with the Club's membership, the Executive will be making its recommendation of what it considers are required Bylaw amendments to the new Executive officers for 1995-1996. It will be the new Executive's responsibility to bring accepted recommendations before the Club's membership.

Lightning Protection

Continued from page 7

requires the plate to be too far from your equipment (more than 10 feet or so) and if the magnetic fields of a nearby tower can easily couple into the interconnecting wires and cables, then the panel should be located close to your equipment.



An alternative to the single point ground plate is to use a rack panel. This is recommended **only** if all the I/O protectors are mounted on the panel and the ground connection is directly to the panel and not to any other piece of equipment.

The grounding of the plate or panel is very important. A low impedance path to ground is a necessity and only copper strap should be considered. Since the strap is flat, its susceptibility to magnetic fields is only towards its edges. To prevent coupling, the strap should be oriented with the flat side parallel to the tower (the most likely strike point and magnetic field source). The single point ground plate should also be oriented with its flat side parallel to the tower for the same reason.

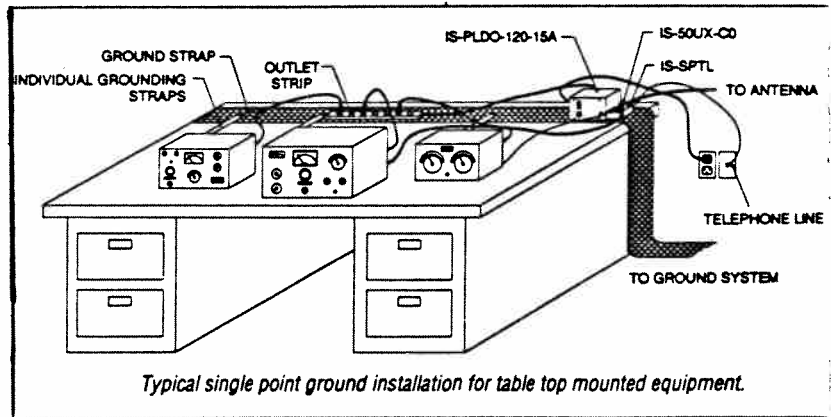
In the equipment room, each piece of equipment must be bonded to the single point ground panel with a low inductance strap. This will maintain all chassis at the same potential during the strike event and minimize chassis-to-chassis current flow.

The power, telephone and coax line protectors on each of the I/O's must be mounted on the single point plate. This will minimize I/O-to-I/O current flow.

Additional protectors may be used to protect the opposite side entrance locations for the power and telephone lines. These will provide added protection for jointly used equipment such as answering machines, appliances, etc. Ideally, these should also be grounded and connected by a buried bare conductor to the ground system.

Remember that surge energy can enter your shack in either of two ways: from a strike down the road coming in on the power/telephone lines or from a strike on your tower. In either case, high quality protectors will fire and dump the energy into the ground system. If the protectors are electrically spread out from each other, they cannot work in unison to keep the voltage levels between the equipment I/O's within a tolerable range for equipment survival.

Route all ground straps and grounding conductors so they have a gentle bending radius. Bends sharper than 8-inch radius will add unwanted inductance to the desired ground path. Even for conductors buried in the ground, try to prevent strap bends.



Look for part four in this series of articles in next month's edition of the Rambler.

Why Are We Called "Hams" ?

Reprinted from the Florida Skip

Have you ever wondered why we radio amateurs are called "Hams" ? The word Ham was applied in 1908 and was the call letters of one of the first amateur wireless stations operated by some members of the Harvard Radio Club. They were Albert S. Hyman, Bob Almy and Peggie Murray. At first, they called their station Hyman-Almy-Murray. Tapping out such a long name in code soon called for a revision and they changed it to HY-AL-MU, using the first two letters of each name.

Early in 1909, some confusion resulted between signals from amateur wireless HYALMU and a Mexican ship named HYALMO, so they decided to use only the first letter of each name and their call became HAM.

In the early pioneer unregulated days of radio, amateur operators picked their own frequency and call letters. Then, as now, some amateurs had better signals than some commercial stations. The resulting interference finally came to the attention of congressional committees in Washington and they gave much time to propose legislation designed to critically limit amateur activity. In 1911, Albert Hyman chose the controversial Wireless Regulation Bill as the topic for his thesis at Harvard. His instructor was so impressed with the paper that he insisted a copy be sent to Senator David I Walsh, a member of one of the committees hearing the bill. The Senator was so impressed that he sent for Hyman to appear before the committee. He was put on the stand and described how the little amateur station was built. He almost cried when he told the crowded committee room that if the bill went through, they would have to close down the station because they could not afford the licence fees and all the other requirements which were set up in the bill.

The debate started and the little station HAM became a symbol of all the little amateur stations in the United States crying out to be saved from the menace and greed of the big commercial stations who didn't want them around. Finally, the bill got to the floor of the Congress and every speaker talked about the poor little station "HAM".

That is how it all started ! You can find the whole story recorded in detail in the Congressional Record in the Congressional Library in Washington. Nationwide publicity of the committees' discussions of the bill and its Congressional debate associated station HAM with amateurs. From that day to this and probably to the end of time, in radio, an amateur is a HAM.

Flea Market Update

We are into the flea market season and to help keep everyone on track where "all the action is" , listed below is an updated list of where you'll find the best bargains in electronic and sundry equipment

April

- 22 West Island ARC Auction/Flea Mkt.
Transfiguration of our Lord Church,
Dudemaine St., St. Laurent, Que.
- 28-30 Dayton , Ohio Hamvention
Dayton Hara Arena

May

- 7 Smiths Falls Flea Mkt (starting at
1:00 pm)
Lombard Fair Grounds, Smiths Falls
- 13 OVMRC Flea Mkt
McNabb Arena, 180 Percy Street,
Ottawa
- 13 Quinte Region Flea Mkt
Belleville, Ont.
- 13 Parry Sound Flea Mkt
Parry Sound, Ont.
- 19-21 Rochester Flea Mkt
Monroe County Fair Grounds
Route 15A, Rochester , N.Y.

Answers to the "Antenna Quiz" on page 6

- | | | |
|--------------------------|-----------------------|-------------------------|
| 1. Batwing is A | 5. Doublet is F | 9. Lazy H is B |
| 2. Conical is G | 6. Folded Dipole is K | 10. Rhombic is D |
| 3. Corner Reflector is L | 7. Ground Plane is J | 11. Sterba Curtain is I |
| 4. Cubical Quad is E | 8. J Pole is C | 12. Yagi is H |

Potpouri

*A sampling of news and comments
from newsletters and newspapers
from across the country - written
by Jacques Choquette, VE3TSC*



Monitoring Times (Feb 95) - Cosmonauts on MIR space station were ordered to conserve power due to an unexpected power drain. Activation of some electrical gear discharged 4 of the 6 solar batteries forcing a partial shutdown of the station. Apparently replacement batteries could not be delivered before mid-year, resulting in that amateur contacts with MIR were reduced.

Aberdeen, Maryland - Soldiers at Aberdeen Proving Grounds, Maryland were caught using the base repeater phone patch to call 1-900 sex numbers. Some listeners had taped the illicit conversations of users giving their names and credit card info over the air. All this was not with command approval!

Halifax - The club here made a motion for the purchase of 2 UHF radios to be used with the local IPARN system link. (Any chance something similar could be done here? - VE3TSC)

Scarborough - Are you tired of DX, and are you looking for a new challenge? Try for an Islands On The Air (IOTA) award. The info on islands, awards, rules, etc can be found in the 1995 IOTA Directory. This can be had for \$10 US postpaid from Dewitt Jones W4BAA, PO Box 379, Glen Arbor, MI, USA, 49636.

ARRL (USA) - New 144 Mhz record!! On Nov 5/94, Rene Shaw WB4MJE of Pine Key, Florida and Serge Szpilfogel VE1KG of Halifax, NS worked each other for a new continental distance record of 1087 miles (1739 km).

Sudbury - Permission was given to establish a packet <-> Internet gateway station at the

Laurentian University office of Bob VE3IFQ. They are in need of either donated funds or equipment. Required are a 386 CPU, network interface card, multiport serial card, VHF/UHF radios, power supplies, antennas and TNC's. For more info contact John Rumbull at VA3BUS@VA3BUS or by phone 705-524-3251.

Monitoring Times Mar 95) - The Navy's Extra Low Frequency (ELF) antennas (used to chat to submarines) apparently are stimulating faster tree growth on Detroit's Upper Peninsula. Data has been collected over a 10 year period before and after installation. It shows that aspen have had a 50% increase in diameter and red pine up to 10%. Scientists are stumped on how ELF waves stimulate tree growth and also unsure as to their effect on humans. (Look out. Here comes ENCAB-2! - VE3TSC)

Heritage (Trenton-Kingston area) - Emphasis was again placed on how to use toroids and beads to reduce RFI into stereos, TV's, burglar alarms, phones and medical equipment. To keep the peace at home and with our neighbours we must always be aware of the possible circumstances of our transmissions.

Internet - The jaws of life were in the process of prying apart an overturned car to free a mother and her child trapped inside when she shouted to the rescuers, "Stop, stop!" She wanted to answer her cellular phone which was ringing with her husband wondering about her whereabouts. Her reply to him, "I'm a little tied up right now, and oh, by the way, dinner might be a bit late." !!!!!!!!!