



January 2003

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The Hamilton Amateur Radio Club  
 PO Box 91215, Effort Square PO  
 Hamilton, ON L8N 4G4  
 Est. 1932 Inc. 1956

# The Hamilton Amateur

The Hamilton Amateur Radio Club Newsletter - 71 Years of Amateur Radio 1932-2003

## Welcome to 2003!

*David VE3STT – Editor*

Happy New Year! May you experience an even better year this year than last. May you be healthy and happy all year. May the propagation gods be with us right through the year, no matter what mode or band on which you choose to operate!

Sorry about being a bit late with the latest edition of The Hamilton Amateur, I happened to be out of the country over New Year and managed to only get this out Tuesday, January 7<sup>th</sup>. Hopefully you've already made plans to join us for the first club meeting of the New Year on Wednesday, January 15<sup>th</sup>.

Without a bunch of minutes to take up some of the space in this edition of the newsletter, I have asked permission of Denny VE3OKD to reprint an article that I happened to spot in the Burlington Club's newsletter. It's all about one of the newest modes PSK31 and details how you can build a very simple interface. Complete with a few pictures that I hope show well enough in our newsletter, to get in on the action!

Again, welcome to 2003!

## Easy PSK31

*Denny VE3OKD*

*(This article reprinted with permission of the author...ed)*

Here is a small project, which when completed, can bring you plenty of interesting time with your radio and the digital mode PSK31. I will not go into the details of explaining principles and

technical details of this digital mode. It can be found on numerous Internet web sites. For example:

<http://home.teleport.com/~nb6z/psk31.htm> or <http://www.psk31.com>

For those of you, who are not familiar with this mode I will explain, just briefly! PSK31 is a digital form of communication where an audio signal

## Next meeting's Speaker

January 15

*"Internet & e-mail with Mark Brophy from Mountain Cable"*

We start the year with another excellent presentation for the January meeting. Our speaker will be Mark Brophy from the Express Technical Services Department of Mountain Cablevision.

Mark Brophy will explain how the Internet and email service of the Mountain Cable system works and the various aspects of the system. This should be a great opportunity to learn what happens when you press the send button or the little voice says you got mail.

One aspect of his talk will be virus protection. Mark is one of those people who solve the problems of customers who call in with a problem or question and he does not mind a Q&A session at all.

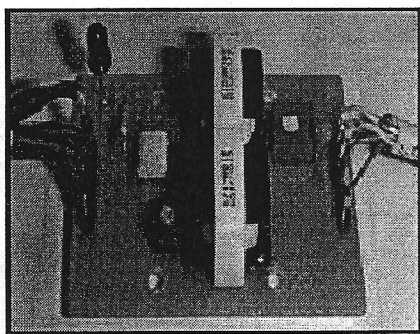
from the radio is interpreted by the computer, decoded and displayed on the screen. Because of the digital format of the signal, narrow bandwidth is needed and we can use low power from the transmitter. Generally 30 watts is sufficient. Every band has a frequency mutually agreed be used for this form of

**Club meetings – 3<sup>rd</sup> Wednesday each month (except July and August) - 8pm in the St. John's Ambulance Association building, 500 Upper Wellington Street (on the Mountain). Park behind the St. John's building, NOT the Police station. Complimentary refreshments!**

communication. My favourite frequency is 14,070.15 MHz.

The interface of the transceiver with a computer was described in different flavours in numerous articles. The principle stays the same. The receiver generates audio output, which is fed to the computer's audio card connector, LINE IN. It doesn't get much easier than this to go digital.

So much for the theory! The schematic shows all components for the project. (Because of space concerns, I have included the schematic diagram on the last page of this month's newsletter...ed)



In the true Amateur spirit, you will search your shack first and probably find most of the components in your junk box. If you are not successful, then you can visit Sayal on Harvester Rd. in Burlington and purchase all components for the price of one bottle of wine - \$15. I do not think you will encounter any problem to get the parts. There is only one item, which needs some explanation - the transformer. Use any ferrite core small transformer with impedance of 600 ohm and winding ratio 1:1. If you do not want to purchase it, an old computer modem is one source.

The computer program - Digipan or WinPSK, converts the audio signal into written text on the screen. Conversely, when you type text on the keyboard, the computer will create the audio signal, which is then transferred from LINE OUT connector as an audio signal into the microphone input of the transmitter. To provide galvanic isolation and prevent any ground loop problems, IN and OUT signals are passed through audio transformers. The push to talk (PTT) signal is again produced by

## Important points

### Executive Meetings

HARC Executive committee meets each month, except July and August at Mohawk College in room E031A. All members are invited to attend and participate. The meetings are scheduled monthly to fit the schedules of the Executive members.

### VE3NCF [146.760- & 444.075+ MHz]

HARC operates VE3NCF repeater, located atop the Niagara escarpment. It's open for use by all Amateurs. Special features are a privilege of membership. VE3NCF is part of the VE3RPT link system.

### Check-In and Swap nets

HARC "net" is held every Tuesday evening, except July and August, at 7:30pm. HARC "swap net" follows at 8pm.

### Examinations

Amateur radio licence examinations are conducted the second Wednesday each month, except July and August. Contact the voluntary examiners to make an appointment. Each test \$3.

### Membership Information

Club membership, including all privileges, is \$25 per person, per year, Sept 1 to Aug 31. Additional membership, for immediate family living in the same home, is \$1 per person. One newsletter sent to each address.

### The Hamilton Amateur

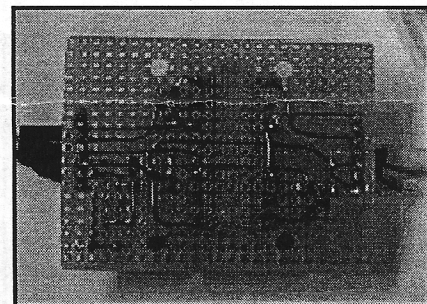
The Hamilton Amateur is published ten times each year (not in July or August). Deadline for article submission is the *last Saturday* of the month for the next month's issue. Preferred format is .txt file. Articles will be checked for spelling and grammar, but the author is responsible for the factual content. E-mail submissions to David VE3STT at [ve3stt@rac.ca](mailto:ve3stt@rac.ca)

computer and interfaced to the radio via RS232 output. Isolation of different voltage levels between the radio and computer for this switching signal is done through the opto-isolator,

connected into the circuit. As for the enclosure, the possibilities are limitless. During your midnight raid of kitchen fridge, check all plastic boxes for content and size. Or if you dare, take that plastic jewellery box from the diamond ring, you gave to your wife many years ago for Christmas. Keep in mind packaging sells the product!

Now, heat up the soldering iron. The interface is assembled on the perforated prototyping printed circuit board of approximate size 2.5" x 2.0". First, all components are soldered in and then connected with small gauge wire on solder side of the board.

Interconnecting cables are terminated on soldering post. Cables to computer's LINE IN and LINE OUT connection can be purchased already assembled, with 3.5mm connectors. Usually red and green connectors are attached to shielded cable. The parts list also shows individual components to make the complete cable.



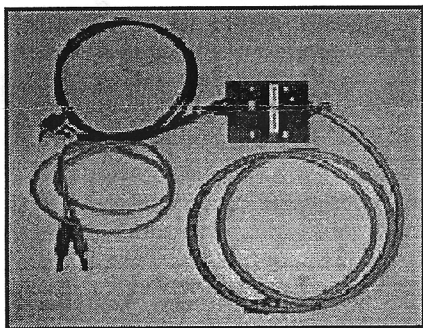
*It doesn't get much easier than this to go digital.*

Connection of your transmitter is a bit more complicated, because there is no standard connection. You will have to consult your manual and find out the correct connector pin-out. Here (in schematic) I am showing connection to an Icom IC-706 and Yaesu FT-1000. The Internet is also a good source of information where to find the connector layout.

Before you connect the complete interface to your transmitter, check the PC board for short connections or any bad solder points. If everything looks OK, connect the interface and load the software on your computer. Print and read all help files. It usually saves some aggravation later on. Some set-up of the program will be needed. Assign the proper COM port for activation of

transmit signal. Check Wave slide potentiometer for signal level. Set to mid range. Press button "Tune". When your computer sends transmit command (PTT), the LED on you interface will be lit. Use a dummy load instead of an antenna for the initial set-up. Set the Line Out trim-pot on your interface to the centre of its range. Later on, when you communicate with your friend, you can inquire about your signal quality and set the trim-pot for best signal. IMD (Intermodulation Distortion) should be -22 dB below the carrier. Now, tune your receiver to the 14,070.15 MHz.

Typical PSK warbling signal will be heard and the text will appear on the screen. Adjust the input signal with potentiometer on your interface board, so the "waterfall" screen will not show too much noise. When you click the button TX on the screen, the transmitter will be activated and the fun can start. One word of caution! Use low power to transmit signal.



*The finished product.*

I definitely recommend getting familiar with the software prior to first QSO. The program allows preparing number of "macros", so you don't have to type all details about yourself and your station. If you experience too much noise, activate the CW narrow filter on your receiver. I have also successfully tried this interface for receiving of SSTV signal. Well, the world of digital communication is wide open. Enjoy this device and work some PSK31.

*(In case the schematic doesn't print very well, I would be happy to pass along the file containing the schematic to anyone interested. Send me an e-mail! I will also copy any e-mails to Denny to show the response to his article!...ed)*

## HARC 2002-2003 Executive

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of RAC TCA magazine, VE3DC was again prominent.

The actual listing placed VE3DC second overall in the country behind VX6JY (VE6JY) among Multi-Operator stations. Not bad, but after Ted VE3SS pointed out the fact the M/M and M/S entries were not designated, things looked even better for our group. Because VX6JY entered in the new Multi-Op/Single Transmitter category (M/S), it would appear that VE3DC actually came in first overall in the country!



### Nutech Electronics

<b>166 Parkdale Av N</b> <b>Hamilton, ON</b> <b>Tel: (905) 547-8420</b> <b>Fax: (905) 547-8422</b> <b>Toll Free:</b> <b>1-800-263-8620</b>	<b>11E Neilson Street</b> <b>St. Catharines, ON</b> <b>Tel: (905) 682-9200</b> <b>Fax: (905) 682-8922</b> <b>Toll Free:</b> <b>1-866-6NU-TECH</b>
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### Marconi Centenary Contest

Concurrently, VE3DC was accumulating points for the Marconi Centenary Contest, commemorating the reception of the first radio singles across the Atlantic Ocean in 1901. I'm also happy to report that VE3DC scored the most Marconi contacts with 230 during the RAC Winter Contest. The contacts were awarded based on working stations in England.

The actual winning entry was awarded to the single operator with the most contacts, that being Wayne Smith VO1WET (now VO1TA), who was operating VO1RAC in the contest, and appropriately was operating from Newfoundland, only kilometres away from where the Marconi receiving

## Contesting

*David VE3STT - Editor*

Once again, over the past few weeks, the VE3DC team has been front and centre in several contests and contest results, not the least of which was the annual RAC Winter Contest 2001 which saw results published just weeks ago, and basically days before the 2002 contest. What a great way to start the New Year!

### 2001 RAC Winter Contest

First off, according to another flurry of results just released in the latest edition

station had originally been set-up 100 years ago!

Etc...

By the time you read this, the 2002 edition of the annual RAC Winter Contest will have come and gone. VE3DC, as always, mounted another Multi/Multi effort from the contest site. I'll have a report in a future edition of The Hamilton Amateur.

Along with that, I also plan to report on the recent CQWW CW contest, in which yours truly, along with Steve VE3OZO and Tony VE3RZ tackled a Multi-Op/Two-Transmitter entry. If you've ever wanted to improve your code speed, just sit in front of CW for the better part of 48 hours and I guarantee you're speed and accuracy will improve dramatically!

## Canadian call sign database

*The following note was submitted as e-mail to [ve3dc@rac.ca](mailto:ve3dc@rac.ca)*

It has become apparent, through examination of records maintained by Industry Canada and by Radio Amateurs of Canada, that the Canadian call sign database is becoming corrupted by inaccurate information. One of the prime reasons for this is the failure of some Radio Amateurs to advise IC of address changes.

Amateurs are reminded of Section 14 of Radicommunication Information Circular 2 (RIC-2), which states: "The holder of an Amateur Radio Operator Certificate shall notify the Department within thirty (30) days with respect to a change of mailing address."

Please note that this refers to a MAILING address and that it is not an option but a requirement.

*(By the way, speaking of call signs and applying for them, I have a great story about the procedure that must be followed, based on the outline set forth by Industry Canada, which I will fully summarize, in the next edition of The Hamilton Amateur...ed)*

## Hamfests

### Hamilton Amateur Radio Club Hamfest 2002

*Thanks again to all our club volunteers!  
And, THANK YOU TO EVERYONE  
THAT ATTENDED our annual  
Hamfest!*

*See you in 2003*

### NPARC Big Event 25

*Niagara Peninsula Amateur Radio Club  
CAW Hall, 125 Bunting Rd.,  
St. Catharines  
SATURDAY, FEB 1<sup>st</sup>/2003!  
Admission: \$6  
Talk in: 147.240 MHz*

### Burlington Spring Flea Market

*Burlington Amateur Radio Club  
Royal Canadian Legion Hall, 828  
Legion Rd., Burlington  
SATURDAY, MAR 1<sup>st</sup>/2003!  
Admission: \$6  
Talk in: 147.210 MHz*

**For the latest information, about these and other hamfests, visit the RAC website (linked off the HARC website (URL on the front page)!**

## Tower climbing safety follow-up

David VE3STT

If you recall, last month I relayed some information that I spied about operating safely when climbing your tower. Safety takes various forms. Sire the correct equipment is the major part of the battle in remaining safe and alive when doing tower work, but the grey stuff between your ears also plays a major role in how well you do on the tower, no matter the height at which you happen to be climbing.

Very important equipment that is professionally used is called "fall arrest" gear. Usually it takes the form of a long lanyard that has a portion coiled in an almost bungee-cord type of way. One end is secured to a D-ring on the back of

your full-body harness and the other end hooked in at a secure point well above where you're working. If you happen to fall, the bungee-type cord will halt you. It's attached on your back D-ring so that you don't snap your neck in the fall, as you might if it were attached on the chest D-ring.

This can work in Amateur situations too, if you hook in on a rung above where you're working, then use a second belt attached to the tower to position yourself at your work level.

Having said all that, let's get back to the grey stuff between your ears. The following is a letter from Chuck N4NM that I found on the "Towertalk" archive about the perils of climbing when you're mind might not be on the job, for whatever reason. Read carefully and imagine the feeling:

*I was recently replacing the large vertical on our local DX cluster node antenna (110'), and doing a little maintenance on some other stuff while I was up there. I use a fall arrest harness with both positioning and fall arrest lanyards. The fall arrest lanyard is the 'extendible type, which has about five feet of stretch before snugging up. One end attaches to the chest D ring, and one end to the tower. It was brand new and I was enjoying the feeling of added security as I climbed past the guy attach points (reach up, attach FAR, disconnect positioning lanyard, swing it around tower above guys, reattach to waist ring, climb six feet, reach down, grab FAR hook, reposition on tower overhead and continue, always having one lanyard between me and the tower).*

*This was working great, but eventually, because of a snagged halyard, I wound up oscillating up and down a couple times, always around a guy attachment. But worse, when climbing down, I kept forgetting to release the upper FAR hook until it snugged up (out-of-reach of course, being extendible) and I had to climb back up a few feet to reach it.*

*Anyway, after a series of these irritating dumb-\*ss reversed direction episodes, I looked down at the FAR attached to the tower and looked up at the FAR also ATTACHED TO THE TOWER! The*

tower was really safe, but MY safety redundancy was zero! Clearly, I had grabbed the hook from the chest D ring and firmly planted it on the tower at my feet prior to one of the downward oscillations. Yes, it was a long climbing session; yes, I was TIRE D; yes, I was COMPLACENT with the added security; yes, I was IRRITATED at myself for mental errors; yes, there were dark clouds moving in and I was in a HURRY. Tired, Complacent, Irritated, and Hurried are all the ingredients for a bad day.

This led to a suggestion by one of the ground crew to simply tape one of the FAR hooks around its gate to prevent (or at least as a reminder) removal from the chest D ring. I will do that from now on. But the real message here has more to do with the "tired, complacent, hurried, irritated (y'all can add a few others of your own)" components of the equation. Student pilots get this message fed to them over and over, along with the notion that disasters are seldom the result of single events...but from a series of mistakes by which we dig ourselves deeper and deeper into a hole. We can learn a lot from that philosophy.

As you can see in the article, it's quite easy to screw up. But, somewhere up a 110' tower is not the best place to have an incident with your safety gear.

Further to this article, another posting questioned the use of the "FAR" on the chest D-ring, as I mentioned earlier, and clearly stated that the rear D-ring is the place to attach your "FAR." That alone might have prevented the whole scenario, as it would be some trick to reach behind you and detach the other end of your lanyard.

Remember, safety first when climbing!

## Order of the Gavel

David VE3STT – Editor

Hard to believe we are into the New Year once again, meaning that it's again time to tally your year worth of CW contacts to compete for the HARC

### HARC 2002-2003 Chairs

#### Awards/Volunteer Examiner

Lorraine MacPherson VA3NZ  
905-389-7653 va3nz@rac.ca

#### Contesting/Property Manager

Rick Danby VE3BK  
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#### Education/Membership

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#### Emergency Services ARES

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#### Volunteer Examiner

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#### Field Day

David Bruton VE3DWJ  
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#### Flea Market

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#### Health/Welfare

Mary Urbanski VE3OGQ  
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#### Hospitality

##### Monthly Volunteers

#### Newsletter/Web

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#### Public Liaison Co-Chair

Stanley Bolibruch VE3GFE  
905-528-4002

#### Public Liaison Co-Chair

Neil Galloway VE3VNG  
905-383-6986

#### Repeater

John Vandenberg VE3DVV  
905-692-3802 ve3dvv@rac.ca

#### Swap Net Control

Frank Love VA3FWL  
905-679-4524

Order of the Gavel! On the back page you will find an entry form that you can use to submit an entry.

Here are the rules (and please, no matter how many contacts you have made in the past year, submit an entry...you never know).

**PURPOSE:** To promote the use of CW and to stimulate an interest among the newer Hams to operate in the HF bands.

#### **RULES:**

1. The event is open to all members of the HARC.
2. The award may not be won two years in a row.
3. The contest will be an annual event.
4. Only the previous 12 months will be considered, from January 1st to December 31st. In case of a Ham of less than 12 months, the score will be prorated by dividing 365 by the number of days licensed, times the score of points attained.
5. The following point system will be used to decide the winner:  
200w or more input @ 1 point per QSO.  
Under 200w input @ 2 points per QSO.  
Under 10w input @ 5 points per QSO.
6. The total points from above will be adjusted by a DX multiplier of 1, 2 or 5 points per DX country in relation to the power levels listed above. DX will be the current ARRL DX country list. There will be no DX multiplier for USA.
7. A valid QSO will be QTH, RST, and name.

Please submit the form included later in this newsletter to Lorraine VA3NZ, no later than the February meeting. The judges may want to see your logs before making their final decision.

*(You will get to keep the "Award of the Gavel" trophy for the next year!*

*And, again I stress that no matter how many CW contacts you made during this past year, please feel free to submit an entry. It shows both participation in that mode of the hobby and also might just net you a nice reward and the recognition of your peers...ed)*

Order of the Gavel – CW Operating Award.

The February meeting is traditionally the meeting we award the prestigious

**HARC Order of the Gavel**  
**CW Operating Award – Entry Form**

Qso's MUST have been made between Jan. 1 and Dec. 31 of eligible year to qualify!

Name: \_\_\_\_\_ Call: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ Phone: \_\_\_\_\_

**Qso's made with UNDER 10 Watts (Qrp):**

Qso's \_\_\_\_\_ x5 = \_\_\_\_\_  
 Dx Cty \_\_\_\_\_ x5 = \_\_\_\_\_ Multiply boxes to left together to give Qrp Pts

+

**Qso's made with 10 to 200 Watts (Low Power):**

Qso's \_\_\_\_\_ x2 = \_\_\_\_\_  
 Dx Cty \_\_\_\_\_ x2 = \_\_\_\_\_ Multiply boxes to left together for Low Pwr Pts

+

**Qso's made with over 200 Watts (High Power):**

Qso's = \_\_\_\_\_  
 Dx Cty = \_\_\_\_\_ Multiply boxes to left together for High Pwr Pts

=

The TOTAL of the THREE boxes on the right will determine your SCORE for the HARC Order of the Gavel award. Please submit on/before the date of the February HARC meeting. Your logs MAY be required for official verification. Good Luck!

NOTE: Any Amateur licensed less than one year MUST multiply their score with the following formula to obtain a "pro-rated final score" - (Score x days licensed/365).

