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WAVELENGTH

Official bulletin of
Scarborough Amateur Radio Club, Inc.
www.ve3we.org

PARTICIPATE – LEARN – ENJOY

65th Anniversary

December 2011

Volume 5 Issue 10

President: Ralph Muecke VE3VXY
Vice-President: Arpad Vadasz VA3VAD

Secretary: Ray Chow VE3ZXC
Treasurer: Lambert Philadelphia VE3LYP
Membership: Antonio Tiongson VE3FDU
Communications: Stewart Russell VA3PID
Field Day: Asif Ahmed VA3SIF
Education: Nick Blacklock VE3EBC
Examiner: Nick Blacklock VE3EBC
Assistant Secretary: Rod Long VE3SOY
Archives: Gord Hogarth VE3CNA
Audrey Little VA3YD

Elmer: Rod Long VE3SOY
Nick Blacklock VE3EBC

Sunday

Tuesday

Thursday

Saturday

SARC Nets

28.730 MHz
CW 10:00 AM
SSB 10:30 AM
147.060 MHz (VE3RPT)
7:30 PM
Alternate frequency
146.520 MHz simplex
28.730 MHz
SSB 7:00 PM
3.740 MHz
SSB 7:30 PM

Everyone is invited to check in on CW before the nets start.

These are open nets. All licensed hams are welcome. Come and join us.

We also want to emphasize that 28.730 MHz is our calling frequency. Please monitor and/or call your friends. 7:00 PM is a good time.

SARC Annual General Meeting
Monday, January 9, 2012 starting at 7 PM.

SARC Elections

The club held elections for the 2012 Board of Directors and Executive Panel on December 12, 2011. Here are the results:

President	Ralph Muecke VE3VXY/VE3CIW
Vice-President	Luc Seguin VA3LMS
Secretary	Ray Chow VE3ZXC
Treasurer	Lambert Philadelphia VE3LYP
Membership Coordinator	Antonio Tiongson VE3FDU
Communications Coordinator	Stewart Russell VA3PID
Education Coordinator	Nick Blacklock VE3EBC
Field Day Coordinator	Rod Long VE3SOY

There were no candidates for the position of Assistant Secretary and Assistant Treasurer. The Past President is Bernadine Dinnard-Williams VE3YDB.

Equipment Survey

Please take a moment to fill in the equipment survey at <http://ve3we.org/archives/3109>.

This will help us design club nets for different bands and modes, and make better use of the equipment we already have.

Long-Delayed Echoes

Hello All SARC Members and Alumni:

Here are some scans from "Ham" publications of yesteryear. While some things change over time, some things are much the same.

The first image comes from "The Ontario Amateur" the newsletter of the Radio Society of Ontario and it shows the presentation of the Field Day trophy to SARC for the June 1977 Field Day. Yes, can you imagine it! SARC hosted the ARRL National Convention here in Toronto on June 3, 4 and 5, 1977 and then went out on Field Day later that month and won the trophy. The Keith Russell Memorial Trophy was awarded annually to the Canadian club with the highest score in the Ontario Section. That trophy is currently on display at the Hammond Museum of Radio in Guelph, Ontario. Have you visited that museum? It is simply great. See: www.hammondmuseumofradio.org/ for a virtual tour.

The second image comes from the front cover of the newsletter of the Ottawa Amateur Radio Club and shows some of the different activities that are available within Amateur Radio. Which one of these characters is you ??? HI. Thanks to the Ottawa Club for permission to use the image.

While de-cluttering the ham shack at the Tony Stacey Centre for Veteran's Care where "The Senators" meet, a small collection of old newsletters from various "Ham" organizations was found. They were all addressed to Thelma Woodhouse, VE3CLT, (Canada Loves Thelma) (sk May 2009) who was a long time member of SARC and was Secretary of SARC for many years. How this collection came to be at VE3TLV I don't know but it must be acknowledged that Thelma was a member of many YL "Ham" organizations. Both images this month came from her collection.

It is good to know that the call VE3CLT is still part of SARC. Welcome Chris. (*Editor's note: Chris has moved to Montreal and is now [VE2UCT](http://www.ve2uct.com/)*)

A reminder that the Club Motto is: "Participate, Learn, Enjoy". And no truer words were ever said.

Merry Christmas and Happy, Healthy and Prosperous New Year to everyone and see you on the nets if not on the HF bands and pileups.

73 de Gord, VE3CNA

Operating NEWS

DECEMBER

1977

HAMS IN ACTION



TOP FIELD DAY SCORE GOES TO SARC... AGAIN!

The Scarborough Amateur Radio Club is once again winner of the Keith Russell Memorial Trophy. RSO President Mary Nash VE3FON made the presentation at a recent club meeting. Shown above (lr): Mike Blake VE3HFP, John Polmark VE3FLG, Ray Pellow VE3YD, Mary Nash VE3FON, Gord Steane VE3BMG, and Santo Lombardo VE3IFJ.



SCOUTS TALK TO THE WORLD

Bruce Draycott VE3GVN of Sutton, Ontario opened his shack to the Scouts during the World Scout Jamboree-On-The-Air in October. At the mike is Derek Depiero of the 1st Sutton West Troup, who made contact with other Scouts around the world.

(photo: Uxbridge Printing)

CHICKEN JUNCTION NET 12 YEARS OLD

On November 1 the C.J. net celebrated its twelfth birthday. The brainchild of Joe Kirby VE3ST (what was his call away back then!) and aided by Sandy Sanderson VE3AHW and Herb Nelson VE3BFG, the net went on the air in November 1965. Since that time it has been manned by volunteer controllers seven days a week, 52 weeks of the year at 3.790 MHz, 1830 hours.

Six editions of the C.J. Directory have been published, starting with a listing of those who frequently checked into the net and culminating in a computerized listing of all hams in Ontario as of July 1, 1977. Joe, VE3ST and Ed Charlesworth, VE3PFI can be justly proud of this latest edition.

The Chicken Junction banquet has been an annual event for many years. Held in Toronto in April of each year, it has also become the venue for the semi-annual meeting of the Radio Society of Ontario.



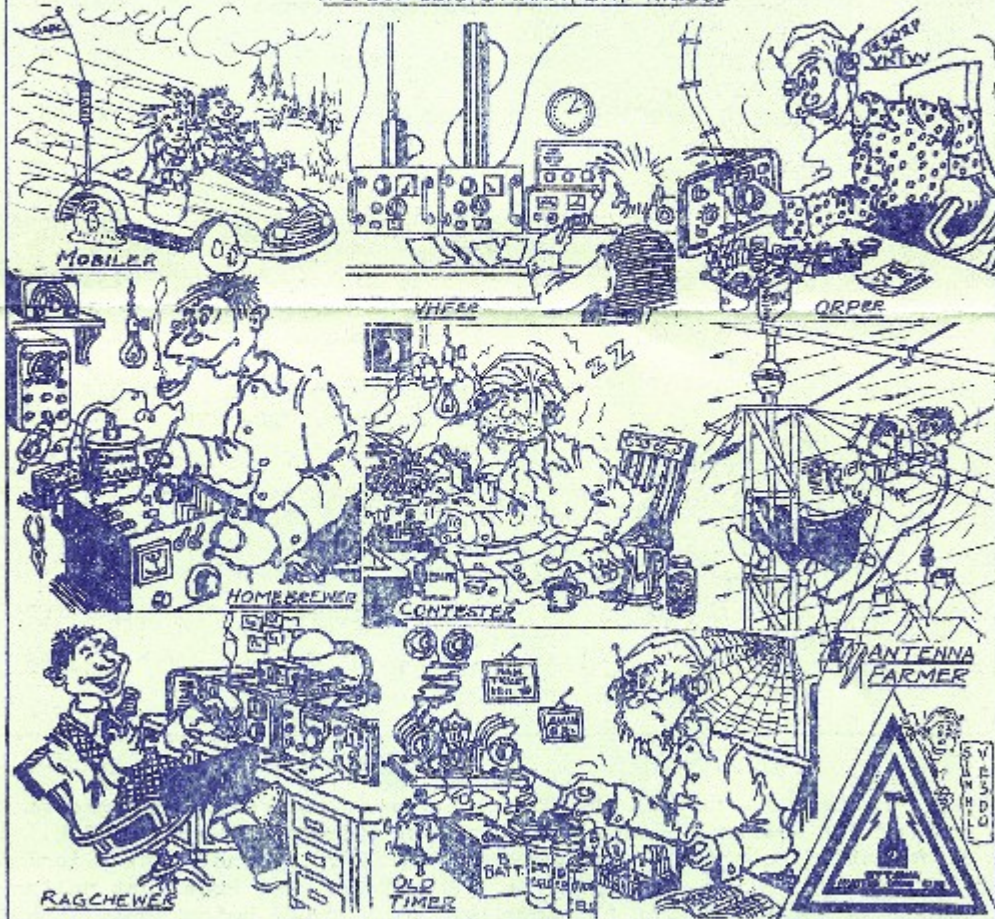
Halton MP Dr. Frank Philbrook tries out ham radio equipment built by members of Extensicare's senior citizens group with the help of the Oakville ham radio club. Operator Al Lucas (left) and Bill Gouthro of radio club display their certificate of achievement presented by Philbrook on behalf of the federal government. The ham radio was built with funds from a New Horizons grant.

Photo by Jim McKeivie



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

HAM TECH

Originally published in the South Jersey Radio Association newsletter Harmonics. Thanks to SJRA editor Ted W2TAG. Visit <http://www.k2aa.org/> for more information about SJRA.

Vol 2 No 7

By: JOHN - WY2J wy2j@arrl.net

A Portable Vacation Station with High Sensitivity Modes

Part 1 of 2

Each summer in mid August our family spends 2 to 3 weeks in Ocean City, NJ. For the last 5 years I have taken my Yaesu FT-7800 50 watt 2 M + 70 cm FM rig, a 10 amp switcher PS, a 2 M ground plane with an integrated 70 cm J pole, 5 ft of mast and two brackets that I made to clamp the antenna on to the front porch railing. The house is on the first floor but elevated on pilings so my antenna is about 15 ft. above ground level. This station has done well in reaching 15 to 20 repeaters out to about 30 miles. But like most VHF/UHF machines they are very light on activity most of the time. Without the Bears (W3BXW) 16 repeater linked UHF network and access via their machine in Vineland I would have dead air most of the day. So I decided to do something different for the 2011 season vacation, add HF to my vacation station.

This two part article is a description of the strategies, performance predictions and problems I encountered in designing a small HF/VHF/UHF station that would let me make a more diversified and greater number of QSO's from a highly constrained environment. As a minimum I wanted HF to include 20, 17 and 15 with a goal of adding 40 and 30 meters if I could solve the severe antenna limitations at this site.

I had learned from previous years of operation that 5 watts on 2 meters and 70 cm FM was adequate if the transmission line to the antenna was kept short and the loss low. My first thought on the HF antenna was to use a ground mounted vertical. This meant easy access for young children dripping wet in salt water and standing in their bare feet on the ground next to a ground mounted vertical, a definite RF hazard with anything above QRP power levels. So I decided last winter that the 2011 vacation station would be QRP, 5 watts maximum on all bands.

Rig selection was easy because there is not much out there in QRP rigs that cover 5 HF bands plus 2 meters and 70 cm. After reviewing the modes that I may want to use, the Yaesu FT 817ND was the only candidate. I put it on my Christmas list in 2010 and my wife saw to it that it was under the tree. Of course I made sure that a new Apple iPad was there with her name on it. I also bought a 2 ¾ pound Dell Inspiron model 1012 Net Book computer because I got it new for \$275 and it was loaded with Windows XP SP-3. I wasn't ready to dive into the problems of Windows 7 with a lot of old Ham Radio SW designed for XP and earlier.

Late winter was spent learning what my new rig and computer had and more significantly what was lacking. First was the lack of a CW bandwidth filter in the 817. Now QRP = CW like apple pie and ice cream. I found a 3rd party 300 Hz Collins mechanical filter mounted on a plug in daughter board at W4RT Electronics for \$120 that works like a charm. The AC adapter for the 817 will only slow charge the included battery but not allow rig operation at the same time. MFJ to the rescue with a \$50 nifty miniature 3 amp switcher PS made to solve this 817 problem. Now of course everyone knows that the 817 is designed to work into 50 ohm antennas. It's just that most HF antennas aren't 50 ohms. No fear LDG Electronics has taken care of that for only \$140 with their Z817 battery powered automatic antenna tuner and it works great. But wait the tuner has no balun for balanced

line fed antennas. MFJ has a great one for \$40 that allows switching between balanced 50 ohm and 200 ohm output. I am still pleased with the 817 even after the \$600 rig morphed into a \$950 rig. It is easy as pie to connect it to the computer sound card using a West Mountain Radio \$100 plug and play interface that connects to the 817 AFSK data port, the computer audio jacks and a USB port used for control and power. By the way the \$275 Dell Mini only took \$415 of upgrades to make it useful bringing it to \$690. Total station investment is \$1,740 and I still need an antenna. Thank goodness I had a good set of CW paddles.

Part of this station is shown in Figure 1 running 5 watts to a dipole in PSK-31 mode with everything on battery power.



Fig. 1 QRP Vacation Station in Test on 20 M.

HF modes that I plan to run on this station are all being selected based on sensitivity and wide HAM usage. If you compare this station to the classic 100 watt SSB station with a 40 ft. high tri-bander on 20 15 and 10 M and an inverted VEE on 40 M, there are a lot of dB that are lost and must be made up. The QRP power is 13 dB down from 100 watts. There is at least 6 dB and probably closer to 10 dB loss in antenna gain at desirable DX launch angles due to the use of simple reduced height temporary antennas at a portable site. This 19 to 23 dB loss has to be made up in the sensitivity of the selected modes relative to SSB voice to achieve equivalent QSO performance. CW and PSK-31 are definitely included in the mode library, SSB is out and if I can solve a few software problems, JT65-HF will be included. I would like one more, possibly DominoEx.

JT-65HF is a new mode extending the work of Joe Taylor's (K1JT) JT65-A EME mode. Joe is not doing the work on this mode but his JT65-A is the core engine of a totally new mode by John Large W6CQZ that is designed to deliver extreme sensitivity on HF. There is a summary description with Web links on page 45 of the April 2011 QST. JT65-HF is not a conversational mode like PSK-31 rather it transmits the bare minimum of information to qualify as a valid QSO. Call sign, grid square & signal strength are sent using 72 data bits encoding just 13 to 18 characters plus 306 error correction bits in a 47 second transmission modulating 65 frequencies each minute. This makes it real time software, something that Windows doesn't always do well. I have it running well on my Dell XPS-210 base station computer but not yet on the Dell Mini Net Book.

Fig. 2 is a photo shot of the main operator screen taken on 2 July 2011 at 17 hrs, 17 min, 10 sec UTC with 12 stations received over the previous 4 minute period on 20 meters. Included are: UT4UF in Kiev, Ukraine, UA1ZGI in Parkovaya, Russia, CX4CR in Montevideo, Uruguay and IK5UIM in Pontassieve, Italy. UA1ZGI and CX4CR have signals that are 20 and 21 dB respectively below the noise in a 2 KHz SSB bandwidth.



Fig 2. JT65-HF Operator Screen on 20 Meters

Next month I will cover a couple of practical antennas for a portable station, complete the mode work and report on the anticipated performance for each mode. After I return from Ocean City you will find out how well this station worked in the real world in a future HAM TECH column.