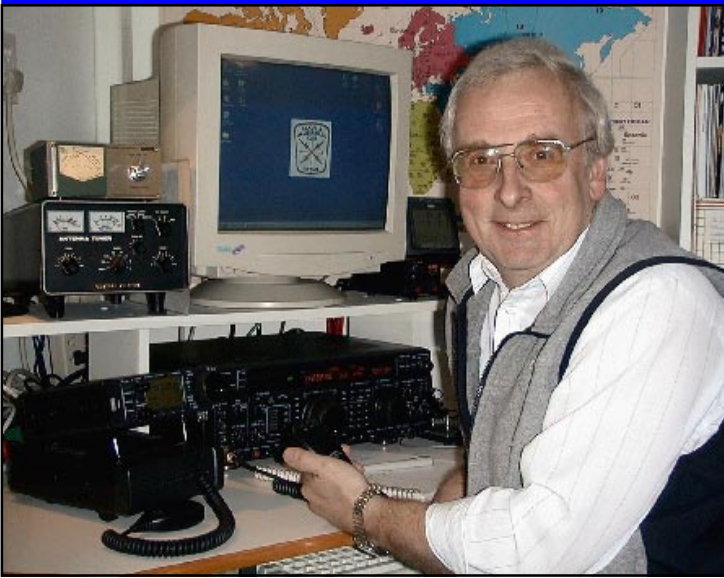


HOT BANANAS

Oakville Amateur Radio Club

February 2003

SHACK OF THE MONTH



VE3OKD

Denny, VE3OKD, has been licensed since October 2000. One of the Saturday morning regulars, Denny runs a Yaesu FT1000 and an IC706 MKIIG. Denny has expressed some interest in contesting and was the author of a very popular article on PSK-31 in HB.

Meeting this Thursday!

Here's your chance to learn about digital imaging as we join the Burlington club at 7:30 pm at the Canadian Legion, Branch 60, Legion Road In Burlington. Guest speaker is Paul Sparrow, education and training manager from Duncan & Wright.

Directions: QEW To Hamilton, Take Brant St. exit, Turn left onto Brant St...Go past three traffic lights, under the railway underpass, through next set of lights (Fairview St.) Turn right at next set of lights (Graham's Lane). Turn right at next street (Legion Road)...2nd driveway turn left into Legion parking lot. Park in back and go up-stairs upon entering building.

STS-17 lost

*Space shuttle burns up over Texas
Many in crew were ham radio ops*



From left to right: Mission Specialist David Brown, KC5ZTC; Commander Rick Husband; Mission Specialist Laurel Clark, KC5ZSU; Mission Specialist Kalpana Chawla, KD5ESI; Mission Specialist Michael Anderson, Pilot William McCool; and Payload Specialist Ilan Ramon.

Second shuttle disaster

The tragic loss of the Space Shuttle yesterday is of special interest to ham radio operators around the world. Some (and perhaps all) crew members were ham radio operators. A ham radio station is currently installed in the international space station now under construction. Hundreds of school children around the world have spoken to astronauts on the space station. For more information visit the ARISS web site at <http://www.rac.ca/ariss/>.

Hams will continue to venture into space. In the future, there will be good times and bad. We are blessed to be part of this marvellous hobby even as we mourn friends we never knew personally.

VE3HB

The Oakville Amateur Radio Club meets on the second Monday of the month at 7:30 p.m. from Sept. to June at the Red Cross, 167 Navy St. Guests are always welcome.

There is an informal gathering 7 a.m. most Saturdays at Angel's Diner at 369 Speers Rd. and a Friday 10:30 a.m. coffee session at Tim Horton's on Cross Road.

All are welcome.

VE3OAK - 147.015 +.600 (131.8Hz CTCSS)

VE3OAK - 444.325 +5 MHz

VE3OAK - APRS - 144.390 MHz

Net - Mondays at 7:30 p.m. (except meeting nights and holidays on 145.015.)

Web Site: www.oakvilleamateurs.net

Hot Bananas

Hot Bananas is published 10 times per year from September to June and is distributed to all members of the OARC. Articles may be reproduced without additional permission provided credit is given to *Hot Bananas* and the Oakville Amateur Radio Club.

Submit story ideas, feedback, comments, articles or artwork to ve3hg@cogeco.ca or mail to:

Hot Bananas

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(The following article was published in the Jan-Feb 2003 issue of Skyhook from the Skywide ARC)

HAM CALLSIGN DATABASE UNRELIABLE

Submitted by Gary Westhouse VE3NIT

Since April 2000, Canadian hams no longer have to pay an annual fee to renew their Amateur Radio license. However, with the elimination of this annual spring ritual, the yearly confirmation of the validity of a ham's address (or even of some call signs) has been lost. This casts doubt on many of the addresses and call signs shown in Industry Canada's ham database.

Presently, Industry Canada informs the Radio Amateurs of Canada of all changes made to their ham database. R.A.C., in turn, makes a form of this database available on their website <www.rac.ca>. The VE3 QSL Bureau relies on the accuracy of the information in this database when mailing incoming QSL cards to hams in Ontario. Therefore, it is imperative that individual hams inform Industry Canada when they change their address.

With regard to hams who have become Silent Keys, Industry Canada will accept this information only from the next-of-kin of those hams. However, in many cases, the next-of-kin may have had no involvement in the Silent Key's hobby and therefore do not know that they should inform Industry Canada of the ham's demise. Even if a ham's passing is published in the "Silent Keys" column of *The Canadian Amateur*, such notification will not be accepted by Industry Canada as proof of the ham's passing; the information must come to them directly from the next-of-kin.

CQ CQ CQ

Executives & Coordinators

Club Executive 2002-2003

President	Jack Livingstone	VE3ITM
Vice President	Denny Zidek	VE3OKD
Secretary	Greg Foster	VA3GGF
Treasurer	Carvell Pelkey	VE3CPQ
Director	Russ Schwandt	VE3JUJZ

Club Coordinators

Membership	Russ Schwandt	VE3JUJZ
Program	Denny Zidek	VE3OKD
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Emerg. Coordinator	Rick Harrison,	VE3YRH
Assistant E. C.	Jack Livingstone	VE3ITM
	Russ Schwandt	VE3JUJZ
Help Committee	Harry Kosterman	VA3EC
VHF net activities	Denny Zidek	VE3OKD
Repeater	Greg Foster	VA3GGF
	Gary Hetherington	VE3TGH
	Harry Kosterman	VA3EC
Web site	Michael Willems	VA3MVW
Training-Basic & Advanced	Jack Livingstone	VE3ITM
Examiner	Jack Livingstone	VE3ITM
Public Relations	Doug Smith	VE3RG
Equipment/Shack	Mike Brown	VA3GRL
	Jack Livingstone	VE3ITM
DX Interest Group	Ron O'Reilly	VE3FII
Club Bulletin	Peter West	VE3HG

In a somewhat similar vein, at a recent amateur radio flea market, one ham was overheard telling another that he was not able to get personalized plates for his car.

This was because a Silent Key's next-of-kin had not surrendered the old plates bearing the ham call sign to the Ministry of Transportation.

Next-of-kin may not know that they should inform Industry Canada

To assure the validity of the ham database, all hams should ensure that their current address is properly registered with Industry Canada.

They should also urge fellow hams to do likewise. In fact, it is a requirement that appeared on the reverse side of all of the license renewal forms when they were issued each year.

Also, if a ham knows of any next-of-kin who have not informed Industry Canada of a ham's passing, they should ask those persons to send such notification to that government department using one of the following methods:

By mail: Industry Canada
P. O. Box 9654
Postal Station "T"
Ottawa, ON, K1G 6K9

By fax: 1-613-991-5575
By phone (toll free): 1-888-780-3333
By email: spectrum.amateur@ic.gc.ca

Every ham should make a concerted effort to ensure that the Amateur Radio Call sign Database does not completely lose its credibility.

Basic Station Design

Antennas, Accessories

by Peter West, VE3HQ

Last Month we looked at basic station design. This month, as promised, let's have a look at antennas and accessories for the average ham radio station located on a typical suburban lot.

For the most part, I'm referring to antennas for high frequency operation but much of the following applies to antennas for any band. First, there's a big difference between antennas that are used for transmitting and antennas that are used for receiving.

Any piece of metal or wire can receive signals. In general, it's better if the piece of wire is longer rather than shorter and higher as opposed to lower. There are exceptions but for now let's go with these ideas.

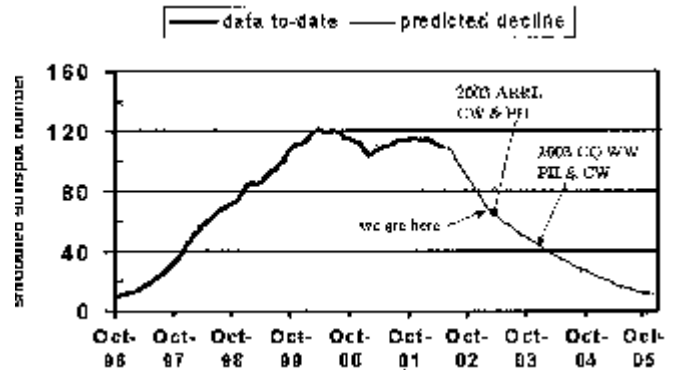
Not every piece of wire or metal can be used to transmit a signal. To be useful as a transmitting antenna, the wire must be capable of radiating a signal. I didn't say it must be resonant (usually a very desirable feature). I've got a couple of antennas that are anything but resonant by do radiate (just ask my neighbours. HI).

Antennas that are used for both receiving and transmitting often do only one job well and are a compromise on the other. In the case of compact HF beams, the advantages of height, some gain (over a dipole), small turning radius, and directionality, outweigh the disadvantages of reduced bandwidth and less gain than a full size beam.

For the most part, anyone with a 100-watt rig (with an external or built-in autotuner) can load up just about any piece of wire longer than 8 feet. It will receive and it will radiate. This is what alot of hams use for HF mobile. What they lose in antenna size, they make up in ability to gain altitude by changing location.

Given a peak in the 11-year sun spot cycle, the 8-foot antenna on 10 meters is all you need to work the world. Unfortunately, we are on the downward slide into the valley of no propagation.

To get a sense of what to expect have a look at the scan of a propagation chart I took out of the National Contest Journal. Ten is on its way out. Fifteen will follow and even 20 will deteriorate. On the other hand, 40, 80 and 160 will yield excellent results as the background noise from the sun's radiation dies down.



So much for the 8-foot whip antenna. For the next few years, the focus is going to be on the low bands and here you need antennas that can both receive and transmit well.

For 40 meters, the most practical antenna is the 1/4-wave dipole (66 feet in total length) up at least 33 feet in the air. If you've never worked (or heard) Europe on 40, it's likely your dipole is too low. The challenge grows on 80 where your quarter-wave dipole (133' 9") needs to be up at least 66 feet. For 160, you need 260 feet of real estate and tree tops at 130 feet. Anything less than this and you're going to get a distorted radiation pattern.

So how do ordinary guys like VA3EC and myself get out on 160 and 80? One way is to use a shortened dipole. These compromise antennas load up and radiate. With careful placement, they can be good at receiving. Harry and I both use Alpha Delta single-wire slopers. Fed with coax at the 35-foot level of the tower, the single wire slopes down at a 60 degree angle to a point 8 feet off the ground. It works.

What about verticals? No-radial verticals (like the R-series) burn-up a lot of energy in the matching box at the base of the antenna but they do work. Ground-mounted verticals (like Butternuts) installed with a good radial grounding system (60 radials out to at least 33 feet) work too. Verticals tend to pick up more QRN but do have a low angle of radiation. Tony, VE3RZ ran a vertical for years and always beat us guys with our beams and amplifiers. So is trap vertical a bad antenna? No but like everything else, it is a compromise.

Let's get serious

How do you get out if your using compromise antennas? One way is to run power. Remember, you can't work him if you can't hear him but there's nothing that makes a bigger difference in contests than being louder than the other guy.

Yes, it's brute force vs skill but brute force works everytime. At my QTH I don't run the 2KW amplifier all the time. In fact, it only gets used a couple of weekends a year. But when there's a pile up to work Wales on 40 meters during the CQ WW DX contest, it helps to be 40db over S9.

Power has some pretty big disadvantages. First, you're likely to have TVI, RFI and other forms of interference complaints from neighbours and spouses. Good grounding is a must. So is good public relations skills. You can eliminate the problems but it will take a couple of handfuls of torrid coils and more grounding! Power also costs money. Even a cheap used amp runs five bills. That buys a lot of wire.

An amplifier brings with it another level of complexity that can change what was a pleasant weekend experience into untold hours of frustration. Also, amplifiers require RG-8 or better coax. RG-58 won't cut it. Nor will most antenna tuners because they're rated at 150 watts. Most TVI filters are good for a couple of hundred watts at best. Amplifiers amplify everything including your RF problems. What wasn't noticeable at 100 watts becomes intolerable at a KW. My favourite was watching characters magically appear in my software logging program as I transmitted. Another favourite under power is to have your CW keyer go byserik.

What about better antennas ?

There's lots of antennas we haven't discussed. A Field Day favourite is the horizontal loop antenna. The delta loop has gain (about one DB over a dipole) and, by virtue of being a closed loop, is less susceptible to the effects of the ground. The big problem with a horizontal loop is you need four supports.

There are other kinds of loops. Full-wave delta loops can be configured in a triangle pattern and feed in a number of different ways. If you've got a couple of high trees or a tower and tree combination, it might be possible to hang a delta loop from them.

Heys says that at a height above the ground of a half-wavelength the main radiation lobes are about four degrees lower than those of a half-wave dipole at the same height. At 3/8-wavelength the radiation angle is almost 10 degrees lower. At 1/4-wavelength above ground where a dipole radiates most of its energy upwards, the loop still has its main radiation lobes 40 degrees above the horizon. "This represents a first skip distance of about 400 miles." Another advantage of loops is they tend to pickup less noise than a vertical or dipole.

One antenna I've been looking at buying is the Butternut 40/80 vertical. This ground-mounted vertical is 33 feet high. It's a big antenna. If you add a capacitance top hat, it needs to be guyed. Plus it needs a really good ground radial system.

I think it's just going to be too much antenna for me to setup in the backyard without pushing the neighbours over the edge.

Receiving antennas

Joe Carr's *Receiving Antenna Handbook* is another antenna book I can highly recommend. While Joe is designing antennas for shortwave receiving, everything he says is applicable to ham radio. He talks about single wire antennas, vee beams, rhombics and Beverages (as in the antenna, not the other). He goes on at length about the advantages of Beverages (again the antenna) and also talks about G5RV doublets, Windoms, Zepps, loops, verticals, beams, and one of my favourites the Bobtail curtain.

A Bobtail curtain might not be practical for most of us but anyone living in the country could erect an antenna with a low angle of radiation, 5 DB of gain (which is getting near what a beam delivers) in a figure 8 pattern for peanuts. The Bobtail curtain consists of 3 quarter-wavelength vertical radiators spaced a half-wavelength apart.

By the way, if all you want to do is listen to AM DX or frequencies up to about 5 megs, Joe has a couple of indoor receiving loops you could build in an afternoon.

Accessories

Enough on antennas. Let's look at accessories. Number one in my opinion is a good external antenna tuner. The autotuner in most modern rigs can hide antenna problems that should be fixed. For example, most autotuners can tune an antenna with an SWR larger than 3 to 1. Yikes: 3 to 1! My sloper has an SWR that's greater than 3 to 1 and always need an external tuner to make it work.

If your antenna isn't working properly, the autotuner in the rig will reduce the rig's output while trying to reduce the SWR. It's possible to show an SWR of 1 to 1 and have virtually no output.

Next is a good external watt meter and I'd get one that also does SWR. I put mine at the end of my equipment chain just before the antenna switch. It gives me my real SWR and my real power out. The little SWR/watt meter in my rig doesn't give me this information.

If you're rig doesn't have a CW memory keyer, I highly recommend the Idiom Press Logic Keyer. For software, it depends. If you're thinking of contesting, then no question its WriteLog. For general DX logging, a lot of folks like DX4WIN but I haven't tried it.

73 for now. Peter. VE3HG



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Fax: 613-244-4369 Tel: 613-244-4367 E-mail: rachg@rac.ca Website: www.rac.ca*



QRT by VA3EC

Multi-op at VA3EC

December 14, 2002 represented the first multi-operator contest held at Harry's place VA3EC (VE3HKC). After all the dust settled from the renovations over the last year we had loads of fun in the new shack. Greg VA3GGF and Peter VE3HG worked the lion's share of station time, while Harry took operational notes on improvements needed for future contests.

The 10 Meter ARRL contest gave the beam a good work out. We had very good reports and worked over 100 countries. Over 1200 QSO's were logged however; the absence of Tony VE3RZ was felt on the CW portion. Our QSO count was consistent with last year but without Tony's fist the score was halved!

If you would like to experience contesting and want to check out the station, give me (Harry) a call and would be happy to share with you what I have learned. However, the others mentioned in this report are definitely far more serious and I have learned a great deal from them.

Harry VA3EC