

THE DRIVEN ELEMENT

SEPTEMBER 2020

The Driven Element is the newsletter of the Guelph Amateur Radio Club.

President's email ve3sld@gmail.com
Website www.garc.ca
Newsletter rvwebb@rogers.com

Nets

FM Monday night net at 7:30 pm local time on VA3SLD 147.360 (+)(131.8)

President's Message

: (September Meeting)

Our first on line, MeetingToGo Club Meeting will take place on Monday September 21, 2020 @ 7 pm. I ask all members to attend. Please mark your calendars. Our Club Executive Team met on Monday, August 24, 2020. Our goal was to come up with the Plan for The GARC, to cover the remainder of this year, 2020. I will have a brief review in the Business portion of our first Club meeting of the year, on September 21, 2020 @ 7 pm. This will take place on line using MeetingToGo.. Our goal is to resume group meetings in January 2021, if Covid-19 Pandemic is under control and permits this type of a gathering. When we are able to congregate as a group, we will also be streaming the meeting, for any member that is not in attendance.

We now are back to running Monday night 2Mtr Information Nets again on our Club repeater Va3SLD. (147.360 + PI 131.8). Please join in, as any relevant updates can be passed to our members at this time. (Net Controllers Required)

As our members are aware, we were unable to run Hamfest this past June. Our Flea market is a major source of revenue for our Club. We are not broke by any measures, although we do have continuing operation costs, like any organization, and September is our month for collection of Yearly Dues. I ask everyone to forward your Payment to Wes VE3ML as soon as possible. I have included below a message from Wes, to make the money transfer as easy and simple as possible.

As I told our crew in my August letter, we now live in interesting time. I am confident our Club will emerge from this pandemic more cohesive and stronger. I am looking forward, after a long and boring summer to get the Gang back together. It will only be on line, although it still will be great.

President Guelph Amateur Radio Club
Barry Brousseau Ve3SLD

Upcoming Events and Meetings-MeetingToGo 7 p.m. local time

Presentation by Ted Rympe, VE3TRQ

Date: Monday, September 21, 2020

Subject: JS8 and JS8Call

Ted's presentation on JS8 and JS8Call will include some interesting developments in the JS8Call versions. Videoconferencing is the perfect venue for his presentation, and he will mix information live using his Flex transceiver in digital mode.

Ted is a late arrival to Amateur Radio. Although his interest was kindled more than 55 years ago in secondary school, life intervened and prevented him from getting the required 12 or 15 wpm CW skills (he made 10, but that wasn't enough). Finally, upon impending retirement he decided it was time and passed the test for Basic with Honours in 2014, and Advanced in 2020. CW is in his sights when time permits, and to that end has purchased a Vibroplex Square Racer iambic keyer.

Since high school, Ted has managed to teach elementary school, run the quality control department in a hospital biochemistry lab, and work for Hewlett-Packard for twenty years doing data communications / network design, database design, and network software programming. When HP closed their manufacturing facility here, he worked for several start-ups in Waterloo making video over IP and network control hardware and software.

Ted finally retired a couple of years ago after writing manufacturing test software for high-speed network appliances. He still enjoys all aspects of networking and operating systems, and writing and configuring software for them. His favourite operating system is any flavour of Unix (including MacOS, which is based on FreeBSD). Digital modes nicely involve amateur radio, networking, and computers, and allows him to use low power effectively. Being in a community that prohibits antennas means he needs to compromise!

Membership Dues

Membership dues for 2020 - 2021 are due! The amounts are:

RAC Members: \$45.00

Non-RAC Members: \$55.00

Family; RAC Member: \$50.00; Non-RAC Member: \$60.00

Options for paying membership dues:

1. Mail a cheque to GARC's Treasurer, Wes Snarr at the address below. Make the Cheque payable to "Guelph Amateur Radio Club" (a receipt will be sent by e-mail).

Wes Snarr
86 Revell Dr.
Fergus, ON
N1M 3M7

2. Send an e-transfer to GARC's Treasurer, Wes Snarr at the e-mail address below (a receipt will be sent by e-mail). The bank account is set for autodeposit.

wsnarw@gmail.com

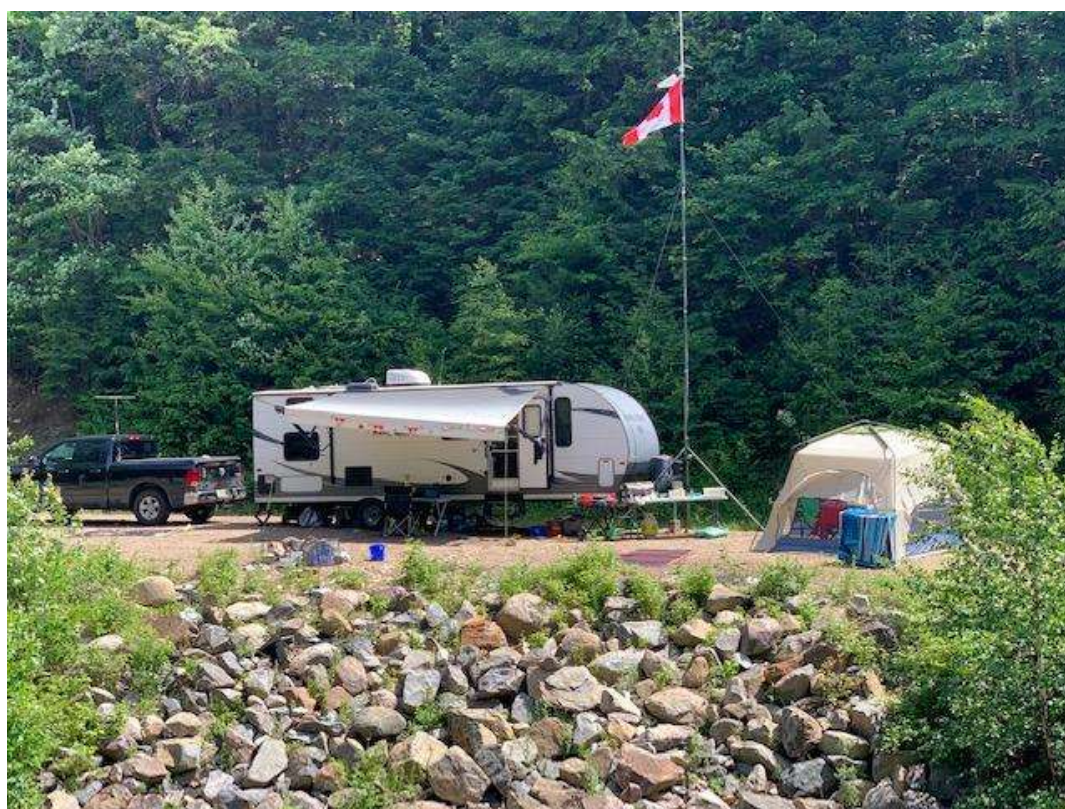
Radio Active

From the Pres:

I know that Ron has posted a few Field Day stories, and for that reason I am writing about Canada Day. The GARC had the opportunity this year to run a RAC Canada Day Station right here in Guelph. There was an opening, for a net Control on July 1st, from 2 to 4 pm. Phil Va3QR contacted myself about 90 min from this time slot, to ask if I could step in and file this gap. Of course, I jumped at this opportunity. I then contacted Steve Va3ZXN and Richard Ve3HTU and ask both them to meet me at the Man Cave, for about 1:30 pm. We set up an operator ZNX, a logger SLD as well as a spare HTU. We agreed to rotate jobs about every 20 min. We logged in to the private RAC Logging Page, shared by all operators, at 1:55 pm, and used our Club Call Ve3ZM, as station operator. At 2 pm, VA3RAC was up and running at the Cave. We had a great two hours, with multiple contacts, and all the team enjoyed this honour, as it was really a special thrill to operator this station. What can I say? That is my Canada Day Story, and it was fantastic.

I will not bore you with my lack of field day success. QRP radio-check, solar charged portable battery- check, end fed dipole at about 12 feet max-check, results- oh well. VE3WBE

In contrast, Phil McBride VA3QR had a great setup.



Mike, VE3MKY, and Linda, VE3ILJ, put their experience to use.

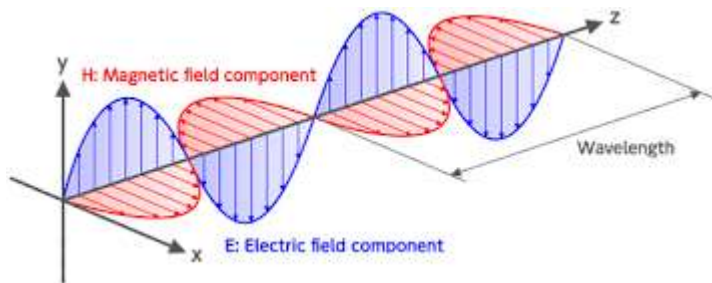


Radio Wanderings

Vertical Antennas

There are a lot of myths and apprehensions about vertical antennas and also a large, devoted group of followers. This article uses a piece in July 2020 QRP quarterly as an inspiration and a major resource. The piece is a reprint, *Verticals without Vertigo*, by L.B. Cebik W4RNL (SK) who had given a talk in Dayton at the 1999 Four Days in May meetings. He had written many articles that showed his deep understanding and at times quirky approach to amateur radio. Maybe his day job as a professor of philosophy had a side effect.

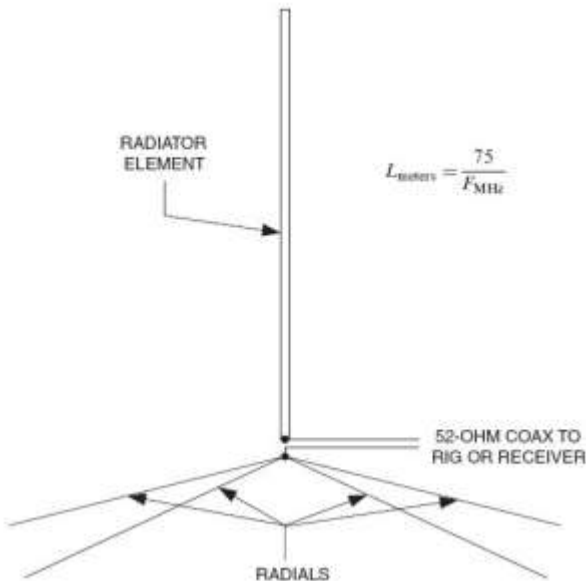
So, what is a vertical antenna? Antennas have planes of radiation – the E-plane, electrical field, and at right angles to it, the H-plane, magnetic field. The E-plane can not exist without the H-plane although traditionally the E-plane is taken as being primarily responsible for long distance communication. A vertical antenna has its E-field oriented at right angles to the earth and is called a vertically polarized or vertical antenna.



When are verticals useful? Initially they were used in Broadcast AM radio. Now they are commonly used where there are space limitations such as mobile HF. They are omnidirectional.

Why are they hard to understand compared to horizontal antennas? Verticals have more interactions with the layers of soil they are mounted on than horizontals so calculations and results may not agree.

What is a counterpoise and do I need it? Counterpoise is a term from the world of mechanics for a counter balance. It could be more helpful to not use the word and to think of it as part of an off centre tuned antenna.



Vertical with 4 radials

Ground planes and radials with their attached traditions can add confusion. When we say “a vertical” we commonly think of a $\frac{1}{4}$ wavelength antenna with 4 similar length radials laid out symmetrically on the ground like spokes on a wheel. It is helpful to think as the vertical as the upper half of a radiating dipole while the spokes are the lower half that do not radiate much. Common wisdom tells us the more radials the better but this is only true if the bottom of the antenna is near the ground. If the base of the antenna is even 10 feet off the ground it will do well with only 4 sloping radials sloping down 30 degrees from the horizontal. A ground plane is an array of radials that allows us to think of the monopole vertical as a dipole.

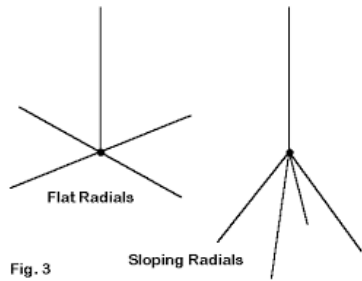


Fig. 3

Sloping Radials

Flat radials and elevated antenna with sloping radials

A vertical antenna on 160 meters would classically be 40 meters long which would be impractical. We can make the antenna appear electrically longer but the best method for radio results, top loading, is the most difficult mechanically. "Top hats" are used and are effective but more commonly loading coils near the base are used that are placed as high as practical. A base loaded monopole is only down 3 dB, $\frac{1}{2}$ S unit, from a full sized monopole.



Top Hat

Vertical antennas can be made directional by phasing the current or by using parasitic elements.

Horizontal wires can make a vertically polarized antenna as in loop and triangular or Delta antennas. Rectangular loop, magnetic slot, antennas are fed midway up one side at $\frac{1}{4}$ wavelength from top center in order to maximize vertically polarized signals.

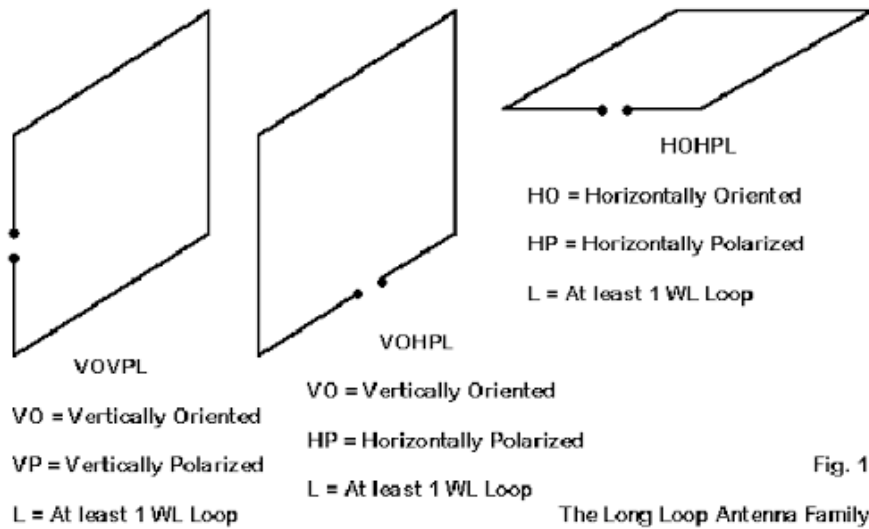


Fig. 1

The Long Loop Antenna Family

Loop Antennas

Vertical antennas are worth the effort as their low angle of radiation can be good for DX. They give better contacts for long distance but have less power for nearer stations. A good location is helpful with no obstacles such as trees, shrubs, or buildings for at least 1 wavelength but hopefully more. If mounted on the ground they require at least 30 radials. Elevating the bottom of the vertical by a pole or to a rooftop and using just 4 sloping radials will have a great benefit.

If you have not played with them, verticals are well worth a look and some experimentation. Many thanks to L.B. Cebnik W4RNL (SK) for his article which is the background and basis for the majority of this piece.

Ron Webb VE3WBE

In Memoriam

Derby Harris VE3CEJ SK

As most of you know by now, Guelph has lost another long-time member of the amateur radio community. Derby Harris, VE3CEJ, passed away on Monday August 10, 2020. He was in his seventy-seventh year. Derby was battling cancer for the last couple of years and the dreaded disease finally claimed him on that date.

Derby was a keen participant in Field Days going back to the early days on "Mount Puss" and was a charter member of the 40 meter SSB team. Our mutual good buddy Paul VE3WN was our station captain and our inspirational leader for many years. Derby and I were the self-appointed "go-fers" on the team and we enjoyed it thoroughly. Derby solved several problems which we would encounter every year with setting up our station in the old EMMCOMM trailer. Derby and I also very much enjoyed the "planning sessions" at Paul's place leading up to Field Days!!

For many years, Derby provided "wheels" for Doug VE3OVU and Wally VE3KWI and regularly would pick them up and drive them to coffee sessions at the coffee shop located in the small shopping center at the corner of Eramosa and Metcalf. I would join the guys whenever I was visiting Guelph for Field Days or family visits.

It is interesting (to me anyway!!) that Derby and I grew up only a short distance from each other. Derby's family lived on Water Street to the west of Edinburgh, very close to where Emerick Mitro lives still (anyone heard from Em lately?). I was born and raised at 216 Edinburgh Road just south of the intersection with Water Street. We both attended John McCrae Public School on Water Street but because Derby was a couple of grades ahead of me we never hung out. In those days it was rare to even know anyone who was not in your same grade, let alone socialise with

them! But we made up for it years later when we both became Hams and joined the Guelph Amateur Radio Club.

Talking here about experiences with Derby in days gone by has forced other great memories to the surface and it is making very sad as I type this in. Derby's departure leaves a big hole in my life and I will miss him very much. As with Paul, Derby was a major connection for me to my old home town of Guelph. My life has changed significantly because Derby is not here with us anymore. Rest in peace good friend.

AI VE3DMR ve3dmr@rac.ca

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This has truly been a year that fits the old curse- "May you live in interesting times". There is fear and confusion as knowledgeable and well qualified people draw vastly different conclusions from the same set of facts. There is noise that is increased by the opinions of unqualified people. There is gallows humour- "Don't open 2020, it has a virus". There is tragedy as people and families deal with death and other sequelae of COVID.

There is also bravery as very ordinary people with extraordinary courage carry on with their lives and their jobs.

We have survived other epidemics and plagues and will survive this. Thankfully we have our hobby to keep us interested and active. Hopefully we will be able to use our skills if others need us.

VE3WBE Ron Webb

