

THE DRIVEN ELEMENT

NOVEMBER 2020

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

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President's Message

From the Pres:

Our next General On-Line meeting of The GARC is quickly approaching, November 16th, 2020 @ 7pm sharp. Phill will post on our Club Web Page the Agenda and link to MeetingToGo. This meeting will cover our AGM, which is necessary to maintain our Incorporation Status. Wes had spent a ton of time preparing all the required documentation and income tax filling. I would like to take just a minute to thank Wes on behalf of the Club for his dedication. Lynda (Ve3ILJ) will present an update on our Remembrance Day Station Va3IFF. I am personally pleased we were able to continue this 35 year old tradition. Both Lynda and Mike provide great support to our members, and special mention and thanks is required. We will not be having our annual December meal together this year due to Covid-19. Our Club has many high-risk members including myself, and we need to continue a path of extreme caution and follow our Provincial Guidelines. January 18, 2021 is Elections of Club Officers and Board of our Incorporation. I am asking all members to consider standing for one of these positions. A number of Executive Members have decided not to continue in their current rolls, and this will leave a rather large GAP in our Executive Team. For our Organization to flourish, we need a strong leadership team. Please consider putting you name forward to fill one of these offices.

Stay Safe, Play Radio and look to our future, of a NEW Normal, things will get better, soon.

Barry D. Brousseau C.E.T.

President GARC

Nets

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

Upcoming events and meetings

November 11- VA3IFF on the air from the Hammond Radio Museum for Remembrance Day.

MeetingToGo Monday November 16 at 7 p.m. for our club meeting and Annual General Meeting. The AGM is a brief but important requirement that must be met so our club can function as an incorporated entity. More importantly, it will include short reports from the officers of the club as well as an opportunity for club members to raise questions and bring forward motions.

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 Please let us know what you are doing in the world of radio. Operating, building, planning or just plain dreaming- it is all good.

Steve (Va3ZXN) is picking up, NEW in the box 4 bay dipole, for our Club Repeater Ve3ZMG. Thomas Lees (VE3XTL), in photo, has donated this to the GARC to improve our VHF coverage in the city for our Main Club Repeater.

Barry, VE3SLD, would like to thank both Steve and Thomas for their support for our Club. The rest of us say thanks as well.



Many thanks to Paul Birke, VE3PVB, for this article. It has been interesting to follow the development and progress of these antennas.

"Super Vector" Signal Report July-October 2020

The "Super Vector" antenna is the product of two years intensive research and testing by engineers Paul Birke in Ontario and Ted Hart in Georgia. (The formal name is the "SuperGain Magnetic Beam Array Poynting Vector Antenna"). It has gain, directivity and a front-to-back ratio. The antenna efficiency is greater than 90%. The antenna was used operationally on the 80m band between July to October 2020 to investigate how it performed. The antenna was used in NVIS configuration and elevated 40 degrees off of horizontal and pointed eastward in azimuth. Important to the obtained results given below is that the time period corresponds to the Solar Minimum of Solar Cycle 24. Solar Cycle 25 has now just started in October.

RF photon radiation emanating from the "Super Vector" begins at the surface of the antenna. Here, the radiation $S = E \times H$ is formed as the vector cross-product of the local electric E and magnetic H fields. This can be contrasted to that of a Hertz 1/2-wave dipole or 1/4-wave vertical antenna wherein the local E and H fields are in "a reactive state" for a distance of a quarter of a wavelength. Fully-developed radiating photons are available only at a dimension far away from the Hertz antenna of one wavelength. RF photons radiating from the "Super Vector" are in a tight beam orthogonal to the small antenna's surface area. The antenna possesses a length dimension of less than 1% of a wavelength. The "Super" moniker derives from the fact the antenna function is in a SuperGain or SuperDirectivity Mode possessing a nominal gain of greater than 7 dBi and a nominal Beam-Width less of than 45 degrees.

The following chart clearly shows that this miniature antenna employs a totally new technology of radiation whose properties should prove valuable for Amateur Radio Operators worldwide and especially those whom have limited antenna space for a dipole/vertical yet still want to enjoy the hobby.

The "Super Vector" is patented by Paul Birke and Ted Hart in Washington D.C. as the "Birke-Hart Antenna". Our book "The Poynting Vector Antenna" by Ted Hart and Paul Birke was published in 2016 and is available on Amazon or Book Baby.

80m "Super Vector" Antenna SSB Contacts 2020

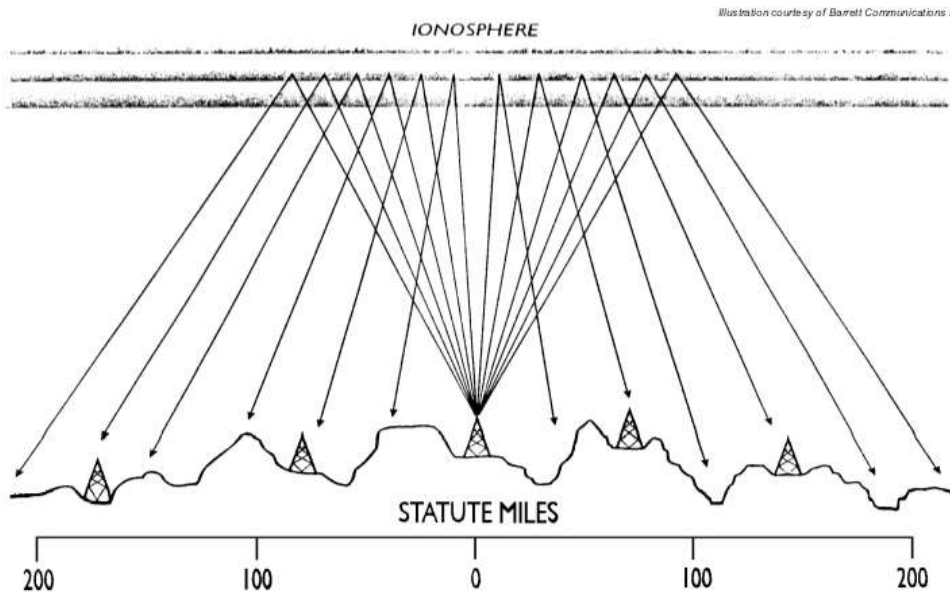
<u>#</u>	<u>Date</u>	<u>Call Sign</u>	<u>Location</u>	<u>Pr/St</u>	<u>Miles</u>	<u>SNR</u>
1	27 Jul	VE3GPM	Manitoulin	ON	220	5-9+10
2	19 Aug	VA3OR	GrandBend	ON	79	5-9
3	20 Aug	W*RMV	Dexter	MI	201	5-7
4	22 Aug	WZ8P	Zanesville	OH	259	5-9
5	24 Aug	VE3KY	Kemptville	ON	254	5-9+10
6	29 Aug	KG8YA	Columbiana	OH	184	5-7
7	3 Sep	VE3CAK	Eglinburg	ON	192	5-9
8	6 Sep	VA3CMI	Listowel	ON	39	5-7
9	6 Sep	VA3CAF	Frankford	ON	137	5-7
10	11 Sep	VE3CAK	Eglinburg	ON	192	5-7

11	11 Sep	KC1XX	Mason	NH	432	5-7
12	12 Sep	VE2IM	Sept. Isle	QC	799	5-9
13	16 Sep	VE3CAK	Eglinburg	ON	192	5-9
14	16 Sep	VE3ARD	Pickering	ON	62	5-9+15
15	16 Sep	VA3CAF	Frankford	ON	137	5-9+10
16	17 Sep	VA3BF	Griffith	ON	194	5-5
17	17 Sep	VA3BF	Griffith	ON	194	5-5
18	18 Sep	VE3CAK	Eglinburg	ON	192	5-9
19	18-Sep	VA3CAF	Frankford	ON	137	5-9+5
20	19 Sep	VA3CAF	Frankford	ON	137	5-9+5
21	19 Sep	VA3UP	Brighton	ON	127	5-9+5
22	19 Sep	VE3SG	Norwich	ON	42	5-9+15
23	19 Sep	VA3YJC	Nepean	ON	253	5-7
24	19 Sep	WA1OXT	Worcester	MA	435	5-2
25	20 Sep	VA3CAF	Frankford	ON	137	5-9+5
26	21 Sep	VA3CAF	Frankford	ON	137	5-9+10
27	24 Sep	VA3CAF	Frankford	ON	137	5-9+10
28	24 Sep	VA3BF	Griffith	ON	194	5-5
29	25 Sep	VA3UP	Brighton	ON	127	5-9
30	25 Sep	VE3CAK	Eglinburg	ON	192	5-8
31	26 Sep	VA3UP	Brighton	ON	127	5-9+10
32	26 Sep	VA3CAF	Frankford	ON	137	5-9+5
33	26 Sep	VE3YDH	PortSydney	ON	127	5-9

34	1 Oct	WA3FET	PortMatilda	PA	220	5-9
35	1 Oct	VA3VMD	Unionville	ON	52	5-9
36	4 Oct	VA3CAF	Frankford	ON	137	5-9+15
37	4 Oct	VA3UP	Brighton	ON	127	5-9+10
38	4 Oct	VA3UP	Brighton	ON	127	5-9+10
39	9 Oct	VO2AUR	Churchill F.	NL	1011	5-2
40	11 Oct	VE3OMA	Picton	ON	156	5-9+10
41	14 Oct	WB3JIA	Benton	PA	253	5-9
42	15 Oct	VE3RR	Picton	ON	157	5-9+40
43	17 Oct	VE3OMA	Picton	ON	156	5-9+10
44	17 Oct	VA3JWO	Madoc	ON	150	5-9



NVIS Propagation



73 I feel a special vote of thanks should go to the members of our club who have served on the executive. A lot of behind the scenes work and planning has been put into making the club and our projects run smoothly. This is true in normal times and doubly true with the challenges of COVID. Please let them know that their work is appreciated.

Ron Webb VE3WBE

