



# FEEDBACK

## The Official Newsletter of the Georgian Bay Amateur Radio Club

September 2020

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### 2020 Executive

President .....Tom VA3TVA  
Vice-President... Frank VA3GUF  
Treasurer.....Bobby VE3PAV  
Secretary.....Peter VE3BBN

## President's Message

Hi All.



**Tom VA3TVA**

What a strange and unusual spring and summer we've had. The whole year has been one for the record books. Seems like the Covid-19 has over shadowed every aspect of my life, and near every interaction I've had with someone since March or so. To my understanding, there has only been 2 ham fests this year. One in February, and one in August. I missed August due to work, and was happy for good weather for the one in Hanover in August. I meet up with a few of our club members, it was nice to cross paths with them.

In regards to a **club meeting location**, I have reserved "The Community Incubator" at 279 10<sup>th</sup> E. Parking is in back in the municipal parking lot. Please do not park on the gravel area close to the door, those spaces are for those paying rent in the apartments above. Both doors will be open, I will have the club sandwich boards set up to help folks find us. It is approximately the 3<sup>rd</sup> store front west of the stop light, across from the gas station and convenience store.

Even though the club has been quiet, the forums have been busy. Lots of talk about the club elections. It's great to see so many people excited about it. It's a great change from seeing every one looking at their own shoes hoping to avoid attention, lest they be nominated.

There has also been talk of a fox hunt. I don't remember the last time there was a fox hunt. I have not had the opportunity to take one in, but it does sound like fun.

I have not done any formal planning for our September meeting, aside of setting a space aside. At this point, there is not presentation organized. I was hoping that time could be used, in a "Back to School" spirit of "Show and Tell". Bring your fox hunt equipment, if you have any. Bring a fox hunt story, if you have one. Let's have a show and tell, question and answer. We could also, if there is enough interest expressed, use this time to organize a fox hunt for a coming weekend.



So, regular Monthly meeting, wear a mask if you like, trying to keep some space between us for safety (that was the reason for changing meeting spaces). As this is a new space for us, and I am not entirely sure of everything they have in there, please bring a lawn chair if you have one. Or two if you have a spare and a free hand.

I am looking forward to seeing everyone again, and getting started with a near normal life again, if that's possible. 73 Tom VA3TVA

## Paul VE3EFQ in Kazakhstan 2020

Given the quarantine associated with travel, I decided to remain in Kazakhstan for the summer. This is the first time I have done spent a summer here. So as to not be stuck in the house I bought a classic Russian Lada Niva and head out onto the steppe. Not many trees, but with the aid of giant fishing pole I can get a 20m vertical up without a problem, the dipole too, though not as high as I would like.

I can't hear anything on 80m. And 40, not so much either. 20m has lots of voice SSB from Russia, Ukraine, Belarus etc.. I am not hearing much else.



PSK31 is popular here and I routinely get contacts with this, especially to the north east up near Lake Baikal.

The soil here is very sandy and dry - so, I am not so sure if I am getting a good ground plane for transmitting.

At the last camp, along a big river 200km north of the capital, I found a camp and tried out some JS8 Call on 20m - that's where those photos are from, as well as this video:

<https://youtu.be/rsH5bUhr5hQ>





# Doug VE3DGY Field Day 2020



These are pics of me in my forest. I erected my homemade dipole for 20, 17, and 15m, and my jpole for 2m. Packed it all on my ATV and rode into the bush about 10 minutes. Had a mishap right away trying to get my rope in the tree with my drone, but got it there eventually. I set up my radios in a milk crate on my home made table and put a tarp over to protect the shack overnight (it rained). I started off with a battery fused for 10amps, that didn't last, replaced it with a car battery and all was good. Lots of fun. Next year: no drone - slingshot and fishing line, sturdier table, better battery, and 4:00pm libation.



And hopefully next year we can meet as a group. (I still wonder how 10-12 guys get all their HF dipoles up on one or two trees - tree lottery??)

Doug VE3DGY



## The Port Elgin Amateur Radio Club

VE3RTE Tim, VE3WMR Bill, VE3JMD Jim

The Port Elgin Amateur Radio club is a small but enthusiastic group that is involved in community events in the area (such as the annual Shoreline Run hospital fundraiser) and in the upkeep and operation of VE3PER repeater and the emergency operating station in Port Elgin. We run a weekly net on PER Sunday evenings at 9. It is a very informal net and we discuss a lot of topics of interest to our members besides Ham Radio. In lieu of face to face meetings lately, we also have an informal get-together every Wednesday morning on PER around 10 o'clock. Feel welcome to join in. The new location of our repeater between Southampton and Port Elgin has increased the range of the repeater which is a bonus. VE3PER 146.820- no tone



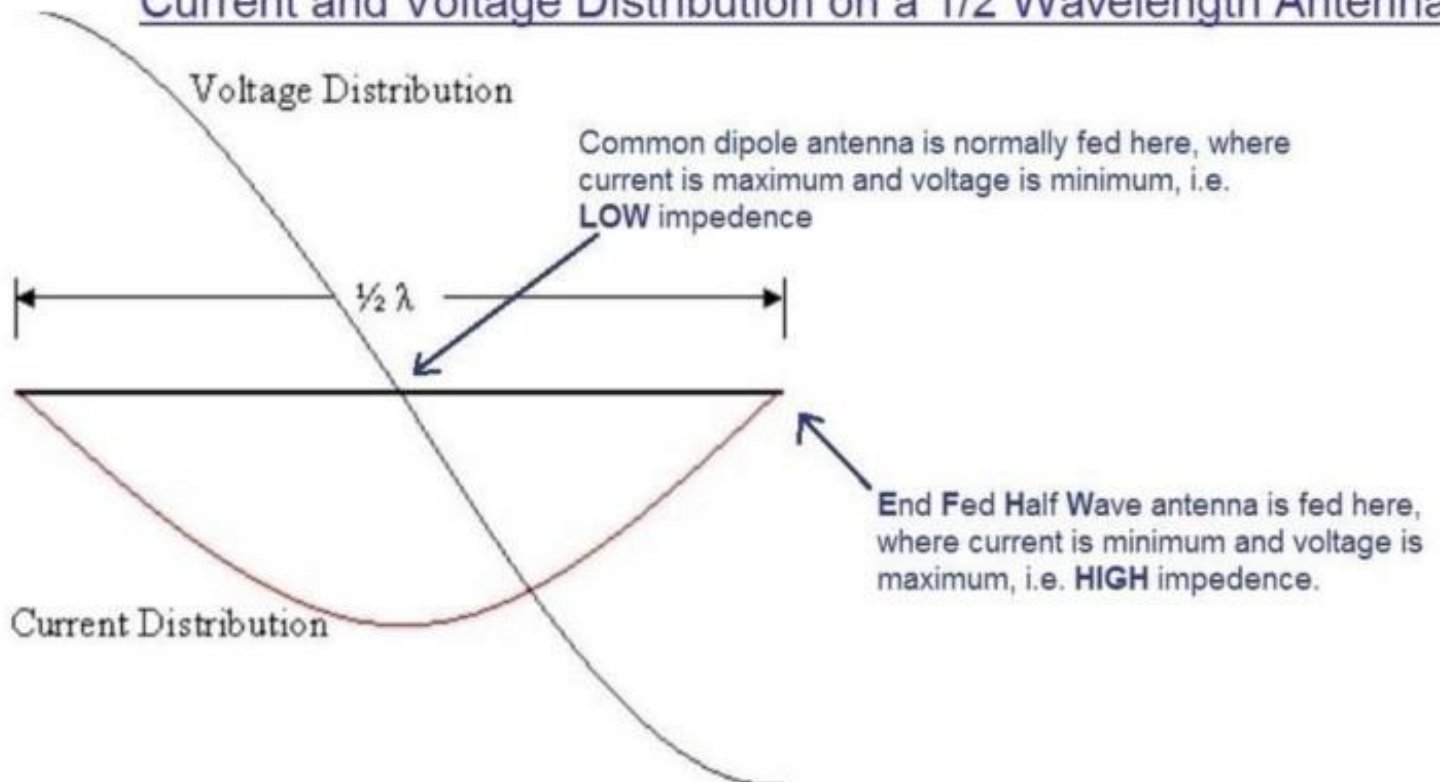
## The End Fed Half Wave Antenna Part 1

Thanks to Rick Reeve VE3ORY for his kind contribution to our newsletter. Over the next few months we will be including his antenna presentation.



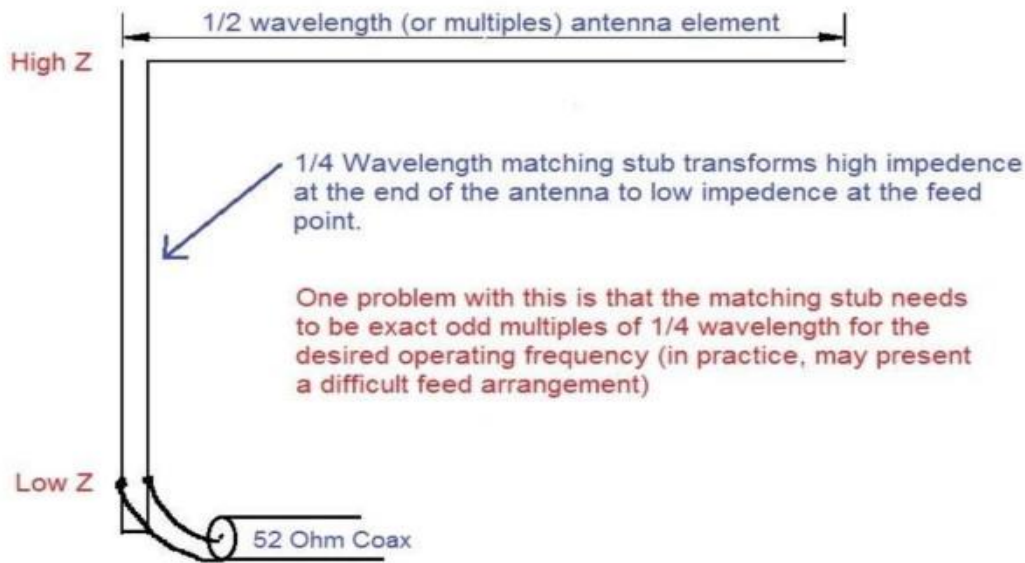
When considering the End Fed Half Wave antenna, it is beneficial to keep in mind this fundamental principle of a half wave radiator...

### Current and Voltage Distribution on a 1/2 Wavelength Antenna



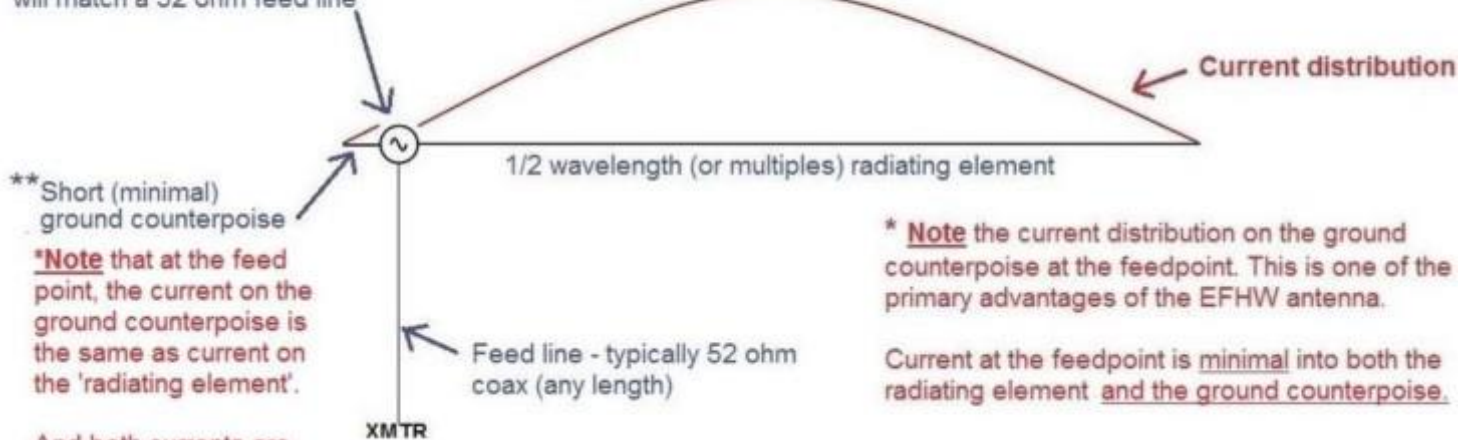


An End Fed Half Wave antenna is similar in principal to that of the End Fed Zepp Antenna



### Basic End Fed Half Wave Antenna

\*\* Impedance matching transformer: to change High Z at end of antenna to a Low impedance that will match a 52 ohm feed line



**\*Note** that at the feed point, the current on the ground counterpoise is the same as current on the 'radiating element'.

And both currents are minimal at the half wave frequency

\* Note the current distribution on the ground counterpoise at the feedpoint. This is one of the primary advantages of the EFHW antenna.

Current at the feedpoint is minimal into both the radiating element and the ground counterpoise.

It is for this reason that only a minimal ground counterpoise is required for use with the EFHW

### Advantages

1. Conveniently fed from one end of the antenna (typically within a few feet of the ground), yet the high current point (max antenna radiation) is 1/4 wavelength up the antenna
2. Requires only a minimal ground counterpoise...either a short length of wire or a portion of the coax shield will suffice. (Cushcraft verticals are an example of 1/2 wave end fed antennas that operate efficiently with only minimal ground requirement)
3. Also resonant at frequencies that are multiples of 1/2 wavelength



## Matching Transformer for an EFHW Antenna

Practical impedance at the end of a 1/2 wavelength antenna is typically in the range of **2000 to 4000 ohms**

So for example, if the antenna impedance was **2450 ohms** you would need a **matching transformer with a transformation ratio of 49 to 1** in order to match to a 50 ohm feed line impedance.

Similarly an antenna with **3200 ohm** impedance would require an impedance transformation ratio of **64 to 1**

EFHW matching transformers are usually wound for one of the impedance transformation ratios noted above.

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**Note** that this is completely different from the case of the 9:1 matching transformer used with a random length end fed antenna, which is made so as to be purposely **not a 1/2 wavelength** on any frequency. Impedance at the end of a random length antenna is typically only ~450 ohms (hence the use of a 9:1 transformer).

## Calculating Matching Transformer Turns

$$\text{Transformation Ratio} = (\text{Turns Ratio})^2$$

e.g. Secondary = 14 Turns, Primary = 2 Turns

-> Turns Ratio = 7:1

-> Impedance Transformation Ratio = 49

This matching transformer would bring an antenna impedance of 2450 ohms down to an impedance of 50 ohms (  $2450 / 49 = 50$  )

Note that when winding toroids, each time the wire passes through the toroid counts as one turn.

Stay tuned for part 2..next month



## **New ‘QRT’ Amateur Radio Certification Coming** VE7NZ

*Canadian Amateur Radio operators will be excited to hear that a new class of license will be available starting September 1, 2020: the Quiet Radio Transmitter or “QRT” license. To qualify for this license you need to simply agree to never transmit.*

*A 2019 study found that 73% of hams never transmit. Most interestingly, the study found a third of those not only don’t want to transmit, but object to others transmitting, preferring to have silence for hours, if not days on end. As one survey respondent said, “We invested over \$1000 in equipment to setup our club’s repeater and yet people think they can just use it as if this were a hobby. It is really bothersome to hear someone looking for a QSO. It only encourages others to join in and, before you know it, everyone’s on the air disturbing the peace and quiet.”*

*Responding to the survey’s results, commercial interests proposed the QRT license be created. During the consultation period no-one from the ham community spoke up, confirming that the license was a perfect match to the needs of many hams. One exception was a special interest group who requested an endorsement be created allowing for frequent short transmissions, such as kerchunking of repeaters (provided you never say your call sign) or dialing DTMF to turn off a link.*

*A second endorsement was also agreed to after a letter was received from a meeting held at Tim Hortons requesting that some QRT licensees should be able to say, “That’s not real ham radio” whenever someone is talking about new technology.*

*A third endorsement, the “stuck microphone with road noise” was not adopted as this was agreed to be a form of lengthy transmission, something that was in opposition to the spirit of the new license.*

*Hearing the news, a local Amateur instructor and examiner said, “This really is a game changer. The QRT license can be earned in a single day, except for the kerchunking endorsement which can take an extra day to practice using a test repeater we have setup in the classroom. Mind you, some people think the extra day is worth it as you can earn a new ‘Kerchunked All Repeaters’ award in as little as 24 hours using just a simple handheld radio.”*

*Commercial interests across the country are welcoming the arrival of the QRT license. Speaking at a spectrum auction, an industry representative said, “This really speeds up the process of taking back our VHF and UHF spectrum from the Ham community. As people see the benefits of a QRT license such as no antennas, longer battery life, and no RFI, they will quickly see that it makes sense to hand over the spectrum to us so more kids can send emoticons to each other instead of wasting their time experimenting with electronics.”*

*Is your license a QRT license? Perhaps consider upgrading.*

*- Adrian VE7NZ*





**Websites of Interest** Copy/Paste the urls below into your browser

**Guide to Setting up a DIY NOAA Weather Satellite Ground Station**

<https://www.rtl-sdr.com/a-simple-guide-to-setting-up-a-diy-noaa-weather-satellite-ground-station/>

**The truth about ferrites**

<https://qrm.guru/the-truth-about-ferrites/>

**What are Tones? PL / CTCSS / DCS / CSQ**

<https://hamradiohawaii.wordpress.com/2019/02/04/what-are-tones-pl-ctcss-dcs-csq/>

**Minutes of Meeting**

Due to covid-19, the May meeting was cancelled

See the March newsletter for the last minutes

<https://gbarc.ca/archive/nl2020mar.pdf>

**Letters to the Editor**

The Manitoulin club pres. ve3ajb Alan Boyd will add any one from the GBARC club onto Zoom on Saturday. Next week the topic will be working with satellites if anyone would like to join in all you have to do is send a email, with your Name and call sign to [ve3ajb@vianet.ca](mailto:ve3ajb@vianet.ca) Please pass this on to any other member that would like to learn more about this. All this will happen on August 29th @ 10:00am or 1400utc 73 ve3mio Maureen [mnight@bell.net](mailto:mnight@bell.net) ps. every week there is a new topic .

Since we did so well convincing MTO to give us the distracted driver exemption, maybe we could get them to issue a plate something like this one 😊

73

Dave, VE3WI

**Join us for our weekly get together "On the Air"**

The club meets each Wednesday evening on VE3OSR 146.940 T97.4 hz at 7:30 pm local time, and on 3.783 Mhz +/- immediately following.





## Heathkit HD-1416 for sale

These have been donated to the club by Bill VA3WGO of Owen Sound. They were envisioned as an aid to help new radio enthusiasts learn morse code and have been sitting in a box for some time I'm told, so I checked them out and tested where I could. Heathkit produced the HD-1416 code practice oscillator from late 1974 to 1991.

This one has been tested and works fine, includes an original manual and a key. \$30



These 4, sold individually, are nearly completed, but not quite. The speaker, battery leads have to be soldered in and the batt holder mounted. Some hardware may be missing but the circuit boards look complete. No Manual is included but a key for each one is included. A bargain at \$20 each

**Email for a pdf of the manual and schematic**

This has 1 oscillator in unbuilt condition, it appears all parts are there, empty board, case, speaker, electronic components but to make sure you will get at least one, 2 others that are built but missing parts are included as well. In addition, an original manual and key are also included. \$25

Prices are firm



## The Last Word

A few words of appreciation to those that contribute to this newsletter by submitting news stories or interesting web links or ideas. If you have something then send it to <https://gbarc.ca/mailus.php> , any format, any size, anytime, but if you want it to appear in the current months newsletter, then send it by the 3<sup>rd</sup> Tuesday of the month.



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**Membership** for details regarding membership in the club go to:  
<https://www.gbarc.ca/gbarcmembers.php>

*The next newsletter will be in October.*

