



# FEEDBACK

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

December 2020

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### This Month

Presidents Message

[Tuned Counterpoise](#) VA3KOT

[Interesting Websites](#)

[Foxhunt 2020](#) VA3GUF

[Meeting Minutes](#)

[Letters to the Editor](#)

[Election Results 2021/22](#)

[Wire for HAM use](#) VA3TS

[The Last Word](#)

#### 2020 Executive

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

#### 2021 Executive

President ..... John VA3KOT  
Vice-President..... Tom VA3TVA  
Treasurer.....Bobby VE3PAV  
Secretary.....Rob VE3RWY

## President's Message



December 2020

Hi All.

Looks like we'll be in for a white Christmas. That's good for the kids, and those that like the pretty of a white Christmas. I'm just happy that the mud has stiffened up :)

This is my last Presidents message. And am sorry to say that I don't have much to report. I missed the last meeting. And I'll be missing this Saturdays as well. I'll be off on a whirl wind trip to Peterborough and back. Off to bring our last student home for the Christmas break.

The past two years has passed very quickly for me. And I've learned more serving as club president then I did as just a member. So, if anyone really wants to learn more, get involved. You'll be surprised at what you can absorb just by being active in the group.

I'm looking forward to the next two years, serving as Vice President. I'm sure that I'll learn even more as I assist John our new President in any way that I can. And, again, come on out members, get involved. You don't have to join the executive, just volunteer to help. Have something of particular interest to you, share it with the club. It may not be everyone's thing, but you might find 3 or 4 other people really interested in it, and turn a solo project in to a group active. Had a project

completed, make a presentation. Doesn't have to be fancy. Planning a project, put it to the membership. Let us help you plan, and execute it.

Wishing everyone a Merry Christmas, and a healthy and prosperous 2021

Tom



# A Tuned Counterpoise for Pedestrian Mobile Operation

John VA3KOT

Pedestrian Mobile operation is a niche part of ham radio that involves carrying a complete station in a backpack and operating from any point in the great outdoors. By its very nature, everything is a compromise.

The antenna must be completely portable and is usually some form of short vertical, or a shortened, low dipole such as the Buddipole. The power source, usually a battery, must also be carried and that limits both the power output of the transmitter and the length of the operating session.

So why would anyone want to accept such compromises, plus the exertion of carrying a heavy pack of equipment down a trail just for the pleasure of playing ham radio outdoors? I operated from a site in Georgian Bluffs a while ago that answered that question most convincingly.

Anybody who lives in this region will be familiar with the famous lookout on Skinner's Bluff. It is on a trail that tracks along the cliff edge overlooking Georgian Bay. Walking past the lookout takes you through dense tree cover until you reach a small clearing at the end of an ATV trail further west.

The clearing stands high above Cedar Hill Park and has a fantastic view out over White Cloud, Hay and Griffith Islands. But beware, the unprotected cliff edge at the north end of the clearing is a sheer drop of far more than I would care to travel in free fall.

A short vertical antenna – usually involving a loading coil at the base or centre point of the whip can be surprisingly effective. While up on Skinner's Bluff I QSO'd with a station in Washington State using just 5 watts CW into such an antenna.

Unfortunately, a counterpoise wire is needed and that is usually full length: approx 16 feet on 20m and 33ft on 40m. The counterpoise wire usually trails on the ground behind the operator and is called a "drag wire". Frankly, it's a nuisance.

There is an alternative. I have been experimenting with a tuned counterpoise. It is a series capacitor/inductor tuned circuit that is connected to the coax shield at the base of the antenna and



grounded at the far end. In essence it is a Ground Tuning Unit (such as I have written about in previous issues of this newsletter) but its tuning is set for one band.

Can it actually work? Well, the radio doesn't see an antenna and a counterpoise. It simply sees a value of R-L-C at each end of the antenna system. If the resonant frequency of the antenna's R-L-C and the counterpoise's R-L-C matches the operating frequency, energy is transferred.

But how to make a tuned counterpoise? I used a short length of RG-58 coax. The coax core is connected at one end and the braid is connected at the other end. My coax capacitor has a value of 79pF. It is connected to a coil with an inductance of about 6 microhenries and when checked on my NanoVNA the L-C combination has an SWR of 1.4:1 on 7MHz.

The far end of my tuned counterpoise is clipped to the aluminum ski pole that supports the antenna – another inefficiency! Due to the harmonic relationship between the 20m and 40m bands, my counterpoise works adequately well on both. Now, as soon as the winter is over I'm off back to that cliff edge!

### 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.

## Websites of Interest

Copy/Paste the urls below into your browser

### Combined Active Attenuator, External S-meter, and Noise Meter,

<https://www.qsl.net/n2ki/HVDFA/Stuff/actvaten.htm>

### Radio Direction Finder RDF Projects Joe WB2HOL

<http://www.dhawke.com/kq1lweb/documents/rdf.pdf>

### RDF and Hidden Transmitter Hunting VE3RRD

<https://www.ve5nn.ca/images/FoxHunt/RDFing.pdf>

### The last Morse code maritime radio station in North America

<https://youtu.be/GzN-D0yIkGQ>

### Solar Ham

<https://www.solarham.net/>



# ***On This Date In Amateur Radio History***



**December 12, 1901**

**Guglielmo Marconi succeeds in sending the first radio transmission across the Atlantic Ocean, disproving detractors who told him that the curvature of the earth would limit transmission to 200 miles or less. The message—simply the Morse-code signal for the letter “s”—traveled more than 2,000 miles from Poldhu in Cornwall, England, to Newfoundland, Canada.**



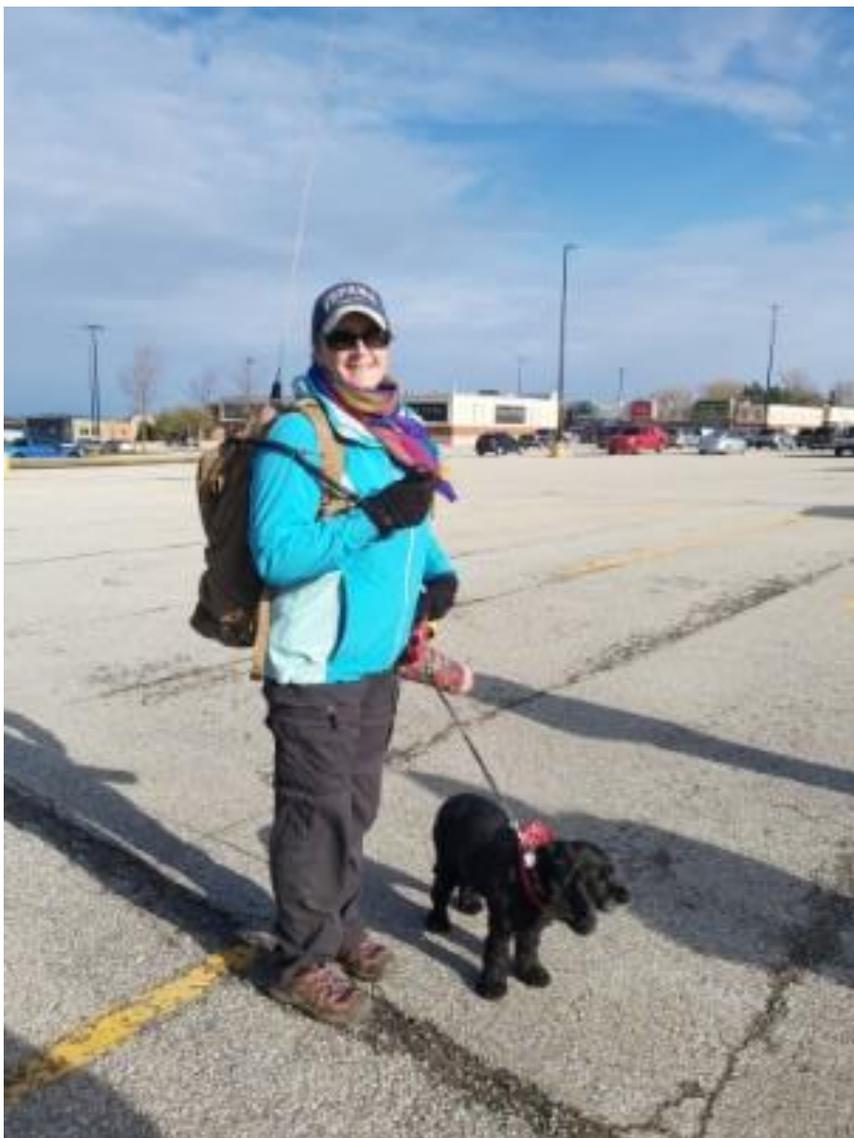
**KD2RKA**



# FOXHUNT 2020

by Frank VA3GUF

GBARC held a foxhunt on its scheduled rain day, Saturday November 28th that started out as a windy cold and fresh sunny morning at an East Side parking lot. The foxhunt was designed to be a bit challenging using the features the city limits of Owen Sound had to offer. Participants we advised at the start that this foxhunt would have many signal bounce/reflections with the cliffs around the city as well and the many multi-story buildings and houses. Hunters would need to come up with ways to determine where the signal was really coming from and ignore the signal bounce. Hunters had varied methods they would use from an aluminum foil envelope around an antenna to a small Yagi, to a handheld including antenna wrapped in aluminum foil. The idea in each case was to allow the handheld to be pointed towards the signal to determine its signal direction. All good and sound concepts to find the fox. Like a real fox, our fox was moving around town (more on the fox later). We will see later in this article how each hunters approach to the hunt worked.



The event was planned to start with handhelds that had build in scanners to locate the fox frequency. Those with these handhelds would be given the advantage of a head start with their radios able to zero in on the frequency. None this day had such a radio so the next step was to indicate the fox was operating on 146.460 MHz to all hunters as planned for non scanner handheld hunters. The fox was transmitting at 5 watts and could be heard once all tuned to the frequency. The fox was transmitting an open keyed mike with roughly a 25% transmission duty cycle. Transmission time was from 15 to 30 seconds. This also required hunters to ensure they were listening to the signal and not just noise. Once the hunters were all on frequency and confirmed they were hearing the fox, off they all went in their own directions to find the fox. From the results of the day, I can say that like a fox, the GBARC fox was sly that day.



One participant using the aluminum envelope started out downtown to cut the geography of the city into quarters. The fox had to be in one of the quarters. The signal bounce was challenging to say the least. Standing in the open and rotating with the aluminum envelope over the antenna would not indicate where the true signal was coming from as it was coming from everywhere. He had to go into a narrow alley way between 2 story buildings to figure out if the signal came from the east or west. The wind was making the holding of the envelope over the antenna challenging so that only a sliver opening would receive the signal. A direction was finally determined to be from the western side of the alley way. Using the multistory buildings along 2nd Avenue East to act as a north/south corridor, the fox was determined to be in the North quadrant of the search, south of 2nd Avenue East. Off to the North East corner of the bridge under construction to further locate the fox. Again the wind was challenging but with the multistory flat walled building next to the hunter, the fox signal was determined to be along the waterfront of 1st Avenue East.. On getting ready to move along the waterfront and as luck would have it, what does the hunter see but the fox walking towards him a 100 yards away. Staying out of site, the fox was found & caught at the bridge under construction on 10th Street and 1st Avenue East. The downtown core mostly flat walled multi-story buildings and corridors they created with the use of the antenna envelope seemed to work well for direction finding, with the exception of the wind interference. A shorter rubber ducky or stubby antenna would have been easier to handle but most likely still too sensitive. More on this later in the article.

Another Participant using the radio wrapped in aluminum foil determined the fox was somewhere downtown and proceeded to the City Hall. The handheld with short antenna once downtown ended up being too sensitive making direction finding near impossible. The 5 watt fox signal was too strong from all the bounce such that direction finding was ineffective. An alternate less effective/sensitive antenna would be needed and this one he came up with was worth 25 cents, literally a 25 cent coin. Using the aluminum wrapped handheld with the 25 cent coin touching the antenna lead and paper insulation against the ground, the fox signal was detectable when nearby. Zeroing in on the fox was easier then but the fox was moving about town quite a bit making it still challenging to find. Moving to the corner of 8th Street West and 2nd Avenue West, the fox was zeroed in as moving there. Sure enough, the fox showed up there and was found and caught by another hunter. The 25 cent solution was what made it happen. Without the less sensitive makeshift



coin antenna, finding the fox would have been difficult.

The hunter using the small Yagi also determined that the fox was downtown. On getting downtown, the yagi ended up being too sensitive to direction find the fox. There was just too much signal bounce. Even disconnecting the antenna completely from the handheld, the 5 watt fox signal could be heard indicating that it was nearby. Then just as quickly, the fox disappeared when listening without an antenna. Unfortunately, this hunter did not have any aluminum foil to help with reducing the signal to the antenna, so struggled with trying to find the fox. The fox was finally found and caught with some assistance.

The hunter with the aluminum antenna envelope later on tried finding the fox a second time and had much difficulty when the fox was away from the downtown core and roaming in the housing streets. The small buildings created so much signal bounce that confirming where the signal was from was very difficult, even with a very narrow slot opening along the length of the antenna. The handhelds long and sensitive antenna was not ideal for this use. In the end the fox was found again with patience in rotating slowly looking for signal strength drops to help with direction finding.

What we observed during this 1.5 hour event was that a less efficient antenna is the best to use once getting closer to the fox in this type of city environment. While the downtown building corridors helped with identifying what quadrant the fox was in, once away from these multistory buildings, only a less sensitive antenna would ideally work. From my observation, the 25 cent antenna was the best solution that day in finding the 5 watt fox. Next time I would use a stubby antenna wrapped in aluminum foil with an aperture opening at the top of the antenna where the opening can be shrunk in size as one gets closer to the fox. This would be similar to an antenna in a tube. The longer the tube, the more accurate the direction finding and the less sensitive to signal bounce from the sides.

The Fox walked a large portion of the City of Owen Sound covering ground on both sides of the river from 8th St E & 5th Ave E to the Bayshore, along the waterfront to the 9th St. Bridge into and around the west side of town ending up on 2nd Ave E. between 10th St. E & 9th St. E. So lets see the fox radio and the fox. The Fox Radio was a backpack mounted with a 2 meter antenna and a Yaesu 8900 powered by a 7 amp hour AGM (Acid Glass Matt) motorcycle battery carried by Marie-Claude VE3-YNO.

The Hunters all had smiles from the days event. Experiences were shared on what worked and what did not. Comments for the day were that it was great fun and quite the adventure hunting the fox. Each said it was fun to be out and about with other Ham radio operators just doing an event. One like this is really a lot of fun. Even the participant without a radio that partnered with one of the hunters to get the Fox Hunt experience enjoyed himself. All found it to be a learning experience in these conditions. Suggestions for the next fox hunt was to make the fox stationary and outside of a city environment. The more diverse the setting the different are the challenges and adventure of finding the fox. We will see what we can come up with next for a fox hunt.

#### Hunters and Fox

Hunters:  
Bernie VE3-BQM  
Frank VA3-GUF  
John VA3-KOT

Participant:  
Peter VE3-BBN

The FOX:  
Marie-Claude VE3-YNO



# Minutes of Meeting

**GEORGIAN BAY AMATEUR RADIO CLUB**  
MINUTES OF NOVEMBER GENERAL MEETING  
DATE: 24 NOVEMBER 2020 @7pm



GBARC ZOOM Meeting

## **Attendees:**

Adam Karasinski VE3IZS, Bernie Monderie VE3BQM, Dan Mills VA3DNY, Dave Rosenfeld VE3BAK, David Newcombe VE3WI, Frank Gufler VA3GUF, Greg Laroque VE3RQY, Jim Reeves VE3JMD, John Corby VA3KOT, Maureen Nightingale VE3MIO, Peter Richards VE3BBN, Richard Osborne VE3OZW, Rob Walker VE3RWY, Tom St.Amand VA3TS

## **Opening Statement:**

Tom Van Aalst could not attend because he was at the emergency to have his hand looked at. Frank Gufler chaired the meeting as club VP.

Took Zoom meeting role call for those in attendance. Added names to attendees list as late comers joined. Frank may have missed or noted some in error of late joiner as he was also taking minutes.

No executive quorum at meeting. Member quorum yes

Minutes from last meeting, accept nominated by David VE3WI, seconded by Maureen VE3MIO.

Treasurer missing so no update. Club had no major expenses to there should be little change to the club account.

## **OLD BUSINESS:**

Treasurer still working on a method of facilitating club dues payment. No news yet on alternate methods discussed at last meeting. Should have news soon.

Ham of the year vote to be done online and announced at December meeting. Nomination method set up by Tom VA3TS and will be turned on tonight after meeting. Procedure to nominate will be the same as method used for executive so should be familiar to members. Vote over the next couple of weeks.

Club Foxhunt scheduled for Saturday Nov 28 @ 9:30 at the Owen Sound Walmart parking lot near the Tesla chargers. There is a silver fox on the loose in Owen Sound and we are going to look for it.



## NEW BUSINESS:

December Christmas meeting will be a ZOOM meeting instead of a dinner gathering. Due to COVID restrictions, the dinner gathering cannot be held so we will do it as a ZOOM meeting instead. We can hold this meeting on Dec 19<sup>th</sup> either in the Morning at 9am like we used to do breakfasts or in the afternoon at 13:30 like we would do for a Christmas dinner. Attendees suggested afternoon meeting would work best. John VA3KOT will arrange ZOOM meeting time.

ZOOM meeting; Bernie suggested going forward to try to have participants able to talk to each other when logging on before the host logs on. This will give participants early logged in before the host to chat with each other instead of blank screen. John will look into this. Also there was a suggestion to try to setup to have participants automatically unmute when entering the meeting. This would lead to less log-on confusion for new ZOOM users. John to see if this is possible.

Maureen VE3MIO suggested we have presentations like regular meetings. The Manitoulin group have been doing this and it has worked well. Al Boyd up there could be contacted to see how this might be done. He is a RAC section manager so his contact info can be found at the RAC web site. Frank concurred that the idea is to get presentations into these ZOOM meetings after this first one got members familiar with it. Also suggested to announce presentations from other sites that would be useful and of interest to GBARC members.

Adam announced that Winter Field Day Jan 30/31 info is out and that it will be run like the summer field day as individuals. Individuals can submit to the club for club submission using **Georgian Bay ARC** as the unique club identifier. More info will be provided at the December meeting.

Richard proposed GBARC take advantage of the YEASU promo for a fusion repeater C4FM and install it in the Paisley site. There are a number of digital users in that area. YEASU is making the repeater available at \$700 US (not linked to internet) and a bit more for the linked one. Promo applies to returning the old repeater for replacement. Richard will add to the forum a discussion on what digital formats are currently being used in the region to see interest and possible deployment. The promo is available to end of December and may come up again as it has in the past a number of times. Tom VA3TS mentioned that there will likely be additional equipment needed that we are not aware of right now with linking repeaters to each other or to the internet. Paisley site operator did not allow internet link for the current repeater. The club Motorola 2000 could take a digital card to become a digital unit. There was a comment on making one central repeater with repeater site link technology that are currently in use. Richard and Frank to review options off line to make a requirement list so that we can make an informed decision.

Peter VE3BBN motioned to adjourn the meeting and was seconded by Maureen VE3MIO.

Minutes by Frank VA3GUF



# Letters to the Editor

No correspondence this month

## Elections 2021/22

The new Executive will assume office on 1st Jan 2022



John VA3KOT

president@gbarc.ca



Tom VA3TVA

vice-pres@gbarc.ca



Bobby VE3PAV

treasurer@gbarc.ca



Rob VE3RWY

secretary@gbarc.ca

## Wire for “Ham” use...VA3TS Tom

Every ham sooner or later has a need for some sort of multiconductor hookup cable, for that FT8 interface or something for a microphone or connect an amp. There is an easy to find, multi use, and good to work with, this is the plain old VGA cable used to connect your monitor. Except that now, many use HDMI or dvi monitors and the vga cables get thrown in a box. Here is a dissection of such a cable.

I cut off a short piece and took off the insulation. The next bit is a braided shield.

Be careful when using any cutter.





From left to right below, below the braid, is solid copper wire, this runs alongside of the braid. Then another shield, this one is foil.

Below that, 3 separately shielded conductors, each with it's own return wire. These are multistrand so more flexible, plus 3 more solid conductors. All in all, 9 conductors, with 3 shielded, not bad, just the ticket for microphones. I have used these as connection wires in repeaters. Fire up the soldering iron and play around. As a bonus, some cable have integral ferrites to reduce rf even further.



This is an 8 pin mic cable with a male connector on one end and the female on the other. So I can extend any mic by 6 feet.



## 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 January 2021.*

