



MAY 2018

Volume 7 Issue 5

VE3ERC-LUB

- President:** Brian VA3DXK
- Vice-President:**
- Secretary:** Tom VE3DXQ
- Treasurer:** Paul VA3PDC
- Trustee:** John VE3JXX
- QSL Manager:** Paul VA3PDC
- Repeater Manager & Maintenance:** Carl VE3FEF
- Website Admin:** Ted VE3TRQ
- Lighthouse:** Al VA3TET
- Maple Syrup Display:** Al VA3TET
- Newsletter:** Bob VE3IXX

ERC REPEATERS

- UHF 444.700 TONE: 131.8**
- UHF 444.700 TONE: 123.0**
- VHF 147.390 + TONE: 123.0**
- EMERGENCY SIMPLEX: 147.51**
- UHF- IRLP node 2404**
- VHF- IRLP node 2403, ECHOLINK node VE3ERC-R**



**In an emergency, tune
 Into our repeaters,
 UHF 444.700 or
 VHF 147.390 or
 HF 3.755 LSB or
 Simplex 147.510
 For coordination and
 assignments.**

**Dayton (Xenia), Ohio Hamfest.
 Photo by Mike VE3MKX.**



THE PREZ SEZ!

This club is Radio-ACTIVE
 This club is Radio-ACTIVE



President's Update for MAY 2018

Thanks to all who attended our AGM this past week. We had a good turnout for the meeting and witnessed the club electing the new Executive by acclamation. Your new Executive is: President – Brian VA3DXK, Vice President – Ted VE3TRQ, Treasurer – Paul VA3PDC, Secretary – Tom – VE3DXQ, Trustee – John VE3JXX.

Thanks to the effort of Paul VA3PDC we have brought the trusteeship of the club call sign and repeater licence back into our active membership with Wes VE3ML as the trustee. Our mini swap shop at the meeting was very successful with many of us scrambling over each other to snap up the treasures! The remaining goodies will be offered up from our tables at the Central Ontario Hamfest on June 3rd. Our new club 'Go-Box' is ready and we are looking forward to using it at our upcoming spring Field Day activities that will take place at Bob VE3IXX's QTH out in Belwood during the weekend of June 23rd.

As of this month we have an updated membership of 35 licenced amateur radio operators. All members are invited and encouraged to participate in the many fun and exciting activities of this active and evolving amateur radio club and we are always on the lookout for new and exciting ways to participate, and share out time and expertise – we truly are 'Radio Active'!

Back-of-the-Napkin Eyeball

QSO notes and stuff

by Rich, ve3DCC

MAY 2018

Quantum what?

A Waterloo Region RECORD (Friday, April 13, 2018, A1) announced "**UW Quantum physics work is behind new radar machine**" with the sub-heading "**One photon is here, the other is there, but yet the same.**"

Einstein called it spooky behaviour. He also had a problem with locality and the notion that two things could be interconnected without a link of some sort. In quantum physics this is related to a magical notion called Superposition. According to **Brian Clegg's "30-second Quantum Theory"**, Superposition "is a fundamental behaviour of quantum theory that has no equivalent in the macro world of objects we see around us. It says that where a quantum particle has a state that, say has two possible values—such as spin, which can be 'up' or 'down'—it will not have an actual value but simply have a probability of being in one state or the other, until it is measured when it collapses to a single, actual value. A tossed coin is a real world item with two states. Before we look at the coin, it could be heads or tails with 50 percent probability—but we know that it actually has one of these values. One side is face up. A quantum particle, though, has no value, just the probabilities while it is in superposition." This does sound strange, doesn't it?

And then he goes on to state: "Quantum entanglement is a fundamental aspect of quantum theory: two or more quantum particles can be linked together in such a way that a change made to the state of one particle is reflected instantly in the other, however far apart they are separated. Einstein believed that this was impossible as the particles communicate faster than the speed of light, but it **HAS BEEN REPEATEDLY DEMONSTRATED** in experiments." (Clegg:page 97). In 1935, Einstein joined two other physicists, Boris Podolsky and Nathan Rosen, to write an academic paper (called E P R, their initials) to prove that quantum theory was incorrect. He concluded that "one thing cannot influence another at a distance without something passing between them." He appears to be a wee bit wrong!

The implication is awesome ...if you can capture audio and digitize it—a common occurrence in digital music-- if there are "partner" particles in a receiver "somewhere" that shadow or mimic the behaviour of those "bits" of data that are digitized, the communication of that audio is **INSTANTANEOUS**, no matter where that receiver is. This is mind-boggling today, but certainly, no more so than the perceived magic of radio wave transmission in those early years of radio experimentation.

The notion of using this for radar follows rather nicely from this rather strange truth. Instead of relying on a reflected wave that bounces and returns to the transmitting site to detect a stealthy object, a stream of particles partnered with particles that remain "at home" in the transmitter, will betray the presence of an object by virtue of it "hitting" the object in such a way that a fundamental characteristic such as its spin is changed. The detection is instant and immune from interference or masking.

As radio experimenters, creating a Quantum transmitter and receiver pair is tantalizing but it is just financially out of reach today. Is it possible that "cheap" quantum "parts" might be assembled and hacked into crude transmit/receive pairs at some point in the future. This might be a whole new era in communications theory and, as always, this leading edge is where Hams typically aspire to be. Imagine the implications for controlling robot devices on the surface of

say, Mars or communicating with astronauts on their way away from earth or just chatting with Hams on this planet. This can stir the soul of radio amateurs.

I have no doubt that the quantum future will add a hefty number of pages into the ARRL handbook. What do you think?

De ve3DCC, Rich.

Ralph Brubacher VE3EUC-SK

June 5, 1925 - May 12, 2018



Ralph, VE3EUC was a long-time member of the Elmira Radio Club. Ralph was a great mentor. He was very knowledgeable in matters of radio, always willing to help and often loaned out equipment to help fellow members.

He joined the Royal Canadian Air Force during WWII at the young age of 17 and was promoted to an officer before he was 20. Several years back the ERC newsletter did a November article on Ralph and his very close friend Wally VE3LCR-SK about their flying exploits during the war.

Ted, VE3TRQ sent the following e-mail:

The May 27 Record had a really nice article on Ralph Brubacher

<https://www.therecord.com/living-story/8633367-lifetimes-war-veteran-business-leader-and-all-around-nice-guy-leaves-a-legacy-of-community-involvement/>

CAER 2018

By Paul Curtin VA3PDC

Friday May 11th , The Elmira Radio Club again participated in Woolwich Townships CAER (**Community Awareness and Emergency Response**) Group event at the arena in Elmira. After the regular Wednesday morning coffee , Al VA3TET and myself met at my place and loaded all our supplies.

Once at the arena we were greeted by the township staff and given access to the roof , where we assembled our antennas for the upcoming event on Friday. It took about two hours and we had successfully put together both HF and VHF/UHF antennas.

Friday morning we met about 9:00 and with the help of Tom VE3DXQ , we set up our display and the balance of the radio equipment.



There were more students this year than last , but they were in smaller groups and were more evenly spaced than before , making it a lot easier to do our presentations. Bruce VE3QB and Bill VA3QB were there and helped with our display for Emergency Preparedness Week.

We did a short talk on how amateur radio works when all other infrastructure is down and how we can get messages to emergency services and outlying communities .

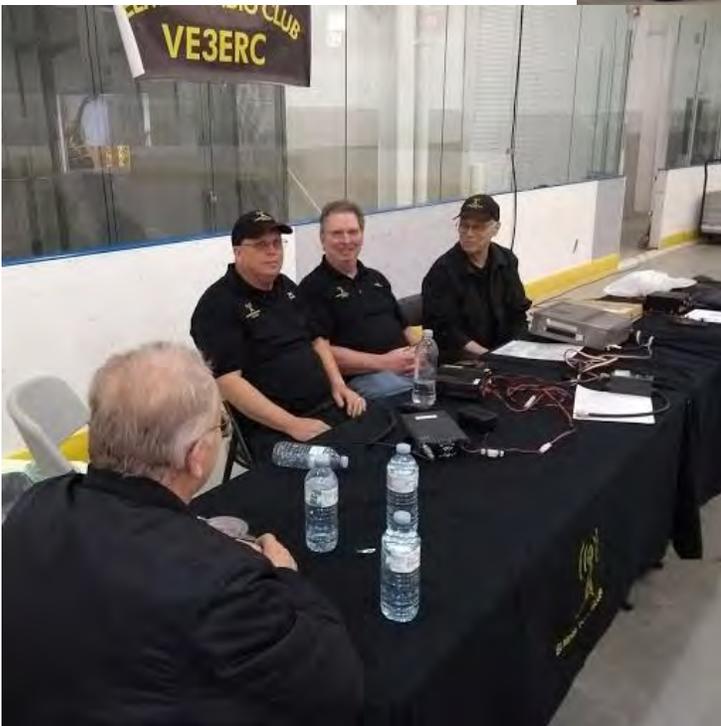
This year we had an interactive CW display that many of the students found very intriguing. Some proved to be naturals at the art of Morse code.

It all wrapped up shortly after two o'clock. Everyone pitched in and we were all headed home before three o'clock.



I believe our presence there helped to fortify our relationship with and prove our dedication to the village of Elmira and Woolwich Township emergency services. Thanks to all for their help and expertise, and again, many hands made light work.

Paul VA3PDC



Ted VE3TRQ passed along the following e-mail he received from Johan VA3JBO.

Hi Ted,

This might be of interest for the club. I found this comment in an article written by Bridgecom. <https://www.bridgecomsystems.com/blogs/bridgecom-tx-rx-blog/bridgecom-systems-guide-to-repeater-systems-with-an-emphasis-on-duplexers>

Best regards

Johan

Todd Schutter - April 27, 2018

May I suggest going into a little more detail on the importance of using the correct type of feed line for a repeater install? There are many good reasons for this. First, on many tower installs, if you or your club don't own the tower, most all commercial sites will require a bonded, professional crew to climb the tower for any work that needs to be done. This gets expensive very quickly. Using a poor quality or incorrect type of feed line WILL cause a failure of your system. Hiring a crew (any professional climb will require at least 2 people) to replace a faulty feed line will wipe out any savings you made with your coax. Add to that, you end up buying the more expensive, correct feed line anyway.

So what is incorrect feed line? The following is from Mike Morris, WA6ILQ and repeater-builder.com :

"In duplex service you want to avoid any coax that has dissimilar metals rubbing against each other (such as Belden 9913) or any LMR-(any 3-digit or 4-digit number) cable since both use an aluminum foil shield rubbing against a copper braid (and they are not the only ones with that type of construction). In a coax cable any dissimilar metals in contact with each other are bad news. Aluminum oxide is formed when raw aluminum is in contact with oxygen, and the chemical reaction that converts the top few molecules of the exposed surface of aluminum into aluminum oxide is almost instantaneous. Aluminum oxide makes a dandy diode. All those millions of contact points between the copper braid and the aluminum oxide layer on the aluminum foil become millions of little tiny diodes. In the presence of high RF power levels all those little diodes cause RF noise. The amount of noise energy on any one frequency (such as on your repeater input frequency) is a low level, but when you have the noise source inside the same feedline that feeds a sensitive receiver it doesn't take much level to be audible. I repeat – any cable that has dissimilar metals pressed together, even inside a jacket, will sooner or later create wideband noise (sometimes called duplex grunge) when hit with RF power. Even something as simple as a 1-foot-long jumper between the feedline and the antenna at the top of the tower can cause major desense problems (and for a long time the major antenna manufacturers were shipping 9913 jumpers with their antennas). 9913 is usable in an indoor simplex environment, but you will find that 9913 or any dissimilar metals cable, especially LMR-(any 3-digit or 4-digit number), is a disaster just waiting to happen on a duplex system."

In that case, what is the correct type of feed line? Again, from WA6ILQ:
"First of all, despite what you read elsewhere, "hardline" is not Heliac™ and Heliac™ is not "hardline".

True hardline (sometimes called rigid feedline or rigid line) is most commonly used in broadcast (AM, FM and TV). It does not flex – it's based on concentric pipe with an insulator between the inner and outer conductor. From the outside it looks like flanged pipe. Common siz-

es range from 3/4 inch to over 8 inches in diameter. It is much lower loss than coax or even Heliax." "On the other hand, RG-214 has two silver-plated braids and a silver-plated inner conductor. RG-393 is similar but has a Teflon® outer jacket. Both are the larger diameter (i.e. RG-8 / 213) size coax and RG-142 / RG-400 is the smaller diameter (RG-6 / RG-58 / RG-59) size. Please save yourself some grief and use real Mil-Spec RG-214 or RG-393 as the jumper between the feedline and the antenna. And please be a very annoying and nagging perfectionist about the installation and waterproofing of all feedline and jumper connectors outside the building." "You will minimize your feedline problems if you stick to Superflex, RG-214, RG-393 or RG-400 on the radio side of the duplexer, and Superflex, Heliax and RG-214 or RG-393 on the antenna side of the duplexer. Use RG-214 or RG-393 as the jumper between the duplexer and the Heliax, and between the Heliax and the antenna. Note that RG-400 has more loss than the larger diameter cables – it's spec'd at 9.6 dB of loss per 100 feet at 400 MHz. It's short jumper material, not feedline material! You will want to use all silver plated connectors and absolutely minimal adapters (and those need to be silver plated) in your connections from the transmitter or receiver to the duplexer, from the duplexer to the feedline and from the feedline to the antenna. NO nickel plated or chrome plated anything in the RF path anywhere! Nickel and chromium are ferrous metals and as such both are an intermod creator anywhere around RF. It's detectable at 10 meters and 6 meters and has proven to be a real problem at 2 meters, 220, 440, 900 and 1200 MHz. Mark Abrams WA6DPB said it well when he said "One nickel or chrome plated anything can really ruin your whole day". Another rule is nothing but Teflon® insulated silver plated connectors and minimal adapters on anything above 30 MHz."

Before you plan out or purchase anything for your system, go to www.repeater-builder.com and read everything you can. It will save you a huge amount of frustration!

73, Todd, KY4TS

MORE FEEDBACK

Here is a note from Rob VE3PCP. Rob had earlier asked about how the ERC club obtained permission to set up for the Point Clark Lighthouse. Al VA3TET replied to his request and here is the result:

We met with the keepers of the Kincardine Lighthouse and they are happy to have us.

A bit of an update since our last contact. Our 14 year old son, Justin has written and passed with honors his Basic Qualification course and is now VA3AQZ. Also, my wife Alicia wrote the exam as well and passed. She is VA3KGZ. So we now have 3 hams in our house!

I registered the Kincardine Lighthouse with ILLW and we are designated as CA0063. Kincardine and Point Clark are the only 2 lights in Ontario so far.

Will keep you posted as it gets closer!

Take care!

Rob, VE3PCP

Rob, with the Inverhuron Ham Radio Club (VE3IHR) at the Kincardine Lighthouse will be operating practically next door to the ERC station at the Point Clark Lighthouse. Check them out. Congratulations to Justin VA3AQZ and Alicia VA3KGZ.

Mike VE3MKX sent the following fascinating links for a variety of ham topics :

A few links

- Measure the distance of your QSO's <http://tjpeiffer.com/crowflies.html>

Other neat stuff !

<http://qrznow.com/major-rove-by-satellite-ops-could-make-rare-grids-squares-available/>

<http://www.astrosurf.com/luxorion/qsl-download.htm>

-a free downloadable book of 70 different wire antennas to build:

<http://www.ce5ja.cl/wp-content/uploads/2014/07/70-wire-antennas-for-ham-radio.pdf>

-upcoming events:

<http://www.ontars.com/Special%20Events/special/index.html>

<https://secure.eton.ca/rac/events/upcoming.php>

73 Mike

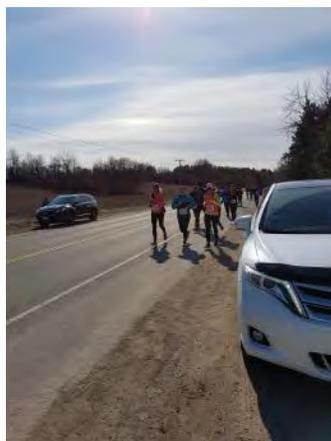
Mike also sent a number of pictures from Dayton, Ohio. Here are two of them:



Some pics from Dayton !!! The best part about Dayton is the rain, meeting up with friends and FDIM QRP ! The rain gets you the deals on gear !! Mike

Bill VA3QB sent the following e-mail and pictures from the Waterloo Marathon event.

These pictures were taken at Water Station D on Sawmill Rd south of Northfield. This station was manned by Wes Snarr VE3ML and myself Bill Reid VA3QB.. This was Sunday April 29th.



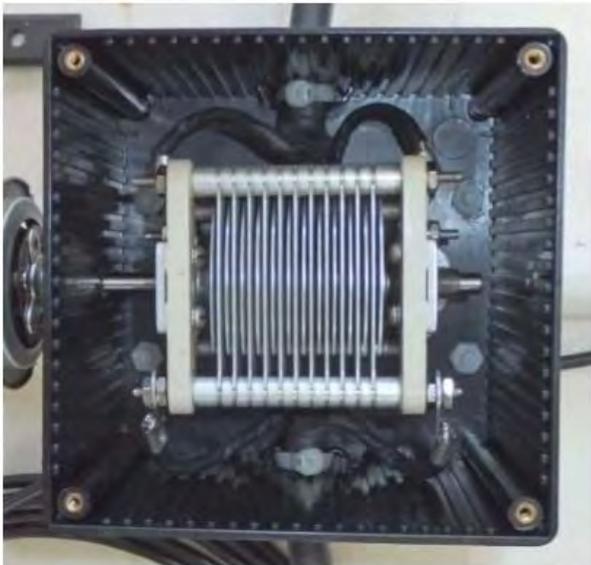
Making a Portable Magnetic Loop Antenna

by Al Duncan VE3RRD

PART 2

Construction Details for The AlvinLoop PortaHam Antenna

My loop ended up being just under 37" in diameter (36.8"). I cut two lengths of RG-11 (you could use a different coax such as RG-8) 119 inches long and removed 3-1/2" of the outer insulation from each end. I combed out the braid and stripped the centre conductor an equal length, combining the wires from the centre conductor with the braid wires and then dividing all the wires into two equal groups. After doing this to both ends of both pieces of RG-11, I used pieces of heatshrink at each end, at the top, at the sides and a couple more locations to secure the two lengths of coax together. I then twisted one of the pig tails from each coax together (repeating with the other pair) so that I ended up with two pig tails at each end of the loop which I trimmed to 3-1/2" and covered with heatshrink; crimped and soldered on a lug to each. I decided to use two connection points to the capacitor at each end of the loop, which is why I created two pig tails at each end. For my capacitor, I used a 4-3/4" by 4-3/4" by 3-3/4" plastic box (Hammond 1591VBK from Sayal) which I attached to the PVC pipe with two 3/4" grey plastic pipe clamps from Home Hardware.



The two wire pig tails at the top connect to the rotor, the two at the bottom to the stator.



The plastic clamps (and the capacitor) are attached with 1/2" x 3/16" nylon bolts.

You may need to add heat shrink to the PVC pipe to make the clamps grip it securely. I didn't have to because the two bolts securing the capacitor are on the centerline of the box, I had to drill two holes in the pipe for the bolt heads – this prevents the box from moving. I drilled two 3/8" holes beside each other about 3/8" apart and filed them out till I could pass the double RG-11 (covered in heatshrink) through them. A cable tie inside and outside secure the loop (white in the picture), while two more smaller (black) cable ties through a small hole about 1/4" to each side pass through both white ties and jam everything together so they can't shift on the RG-11 loop.

The mast is made from 3 sections of 3/4" PVC schedule 40 pipe. The bottom section I cut to 18" and mounted the box so the holes for the loop were 10" from the top of this section. This left about 5-1/2" below the box for a handle. There is no PVC coupling glued to either end of this bottom section.

The centre section ended up being 13-1/2" with the coupler glued to the bottom end). Because the flexible coax forming the loop needs additional support at each side, I needed two support rods passing through holes in the centre section. I added a coupler at this loop centre point for more strength/stability. This made the lower pipe half 8" long and the upper pipe 4-1/2"; each coupler adds about 1/8" so the total length (including coupler at bottom) was 13-1/2". I drilled two 11/32" holes through the centre coupler 1/2" apart for the 5/16" support rods to pass through. The two fiberglass support rods I cut with a hacksaw to 19-3/4" and then added a 2" piece of heatshrink which extends 1/8" or so past the cut ends to protect you from getting fiberglass splinters. A very small hose clamp works as a stop and let me adjust the length for the best round loop shape. Two garden hose type tees with the hose clamp portion cut off work to plug the support rod into.



Fiberglass support rods pass through holes drilled in the PVC coupler. Hose clamps work as adjustable stops.



A hose tee with shortened arms is used to secure the loop to the support arm.

The coupling loop I made from 6 gauge solid copper wire is about 7-1/4" in diameter and is permanently attached to the upper section of pipe with a 12 foot length of RG-58 attached. I measured a length of wire 22-1/2" and added an extra 3/8" to each end. After carefully straightening it of any bends (you can roll the wire between two boards to do this – standing on the upper board helps), I bent it around an approximately 6-1/2" diameter pot from the kitchen and when I let go of the ends, it sprung out to a perfect loop slightly larger than what I wanted. I drilled another hole on the back side of the pipe just above the bottom coupler for the RG-58 coax to pass through (round the edges of this hole). Place two pieces of heat shrink tubing onto the loop and remove 3/8" of insulation from each end of the coupling loop; bend sharply at right angles so that the two ends will pass through a 1/2" hole into the centre of the pipe. Run the RG-58 into the lower hole and out the 1/2" upper hole preparing it by stripping 1" and forming the braid into a pig tail. Solder the braid to one end of the loop and the centre conductor to the other end; cover the bare wires with the heat shrink. Carefully pull on the RG-58 and force the two ends of the loop into the hole, they can be secured there with a cable tie as shown in the following picture. The two soldered ends were separated about 1/8" when in the 1/2" hole.

As can be seen in the following pictures, the top of the loop is attached with a cable tie through a hole $\frac{1}{4}$ " from the end of the pipe; the $\frac{1}{2}$ " hole ended up being 7- $\frac{3}{8}$ " from the top of the pipe.



In the above two pictures, you can see how I modified a $\frac{3}{4}$ " Tee by sawing off the upper half (or enough so the cable ties can grip the coax). I then plugged a scrap piece of pipe into it and hand sawed down the side (making sure I was aligned with the T) until reaching the "stop" (ridge inside the pipe). I filed into this stop so that the black cable tie wouldn't keep the pipe from fully seating.

I glued a coupler to the bottom end of the top section, and to the bottom end of the middle section, there is no coupler glued to either end of the bottom section. The two mast sections I use with the table clamp have a coupler glued to the top of each one. I used PVC-40 solvent cement.

Final Thoughts

The white $\frac{3}{4}$ " PVC couplers and Tee connector were found at Home Hardware, as were the two small stainless hose clamps, the two grey plastic $\frac{1}{2}$ " insert hose Tee connectors and the two grey plastic $\frac{3}{4}$ " pipe clamps. The nylon bolts and nuts were found at Canadian Tire. Since this is a portable antenna that would not remain set up outside for long periods of time, I didn't worry about using UV stable cable ties (or painting the PVC to protect it from UV).

A couple of ways to reduce the weight of this loop antenna would be to use RG-8 foam dielectric coax which is lighter than the solid plastic dielectric type. Also using some form of light weight table clamp would get rid of the heavy metal one I have. If you could find a 1" O.D. PVC pipe with a thinner wall thickness than the schedule 40 which I used, that would also reduce the weight (as in the AlexLoop).

I used a BNC connector at the end of the 12 foot length of RG-58. This will let me connect directly to my QRP radio, or to a regular UHF connector by using a PL259 adapter. The 6 gauge solid insulated copper wire may be a little hard to find, try asking a Bell installer – they use this wire for grounding some types of equipment.

The biggest expense in building a magnetic loop antenna is the capacitor. A vacuum variable (the ultimate capacitor for a magloop) can cost \$200 to \$300 or more. The next best choice may be a "butterfly" capacitor which is available from at least two sources in Canada:

Monarch Capacitors in Ontario: <http://www.monarchcapacitors.com/> VA6POP in Calgary: <http://forums.qrz.com/showthread.php?411955-BUTTERFLY-CAPACITORKITS-VA6POP-253pF-15KV-3-quot-OD-rotor-1-2-quot-spacers> Butterfly capacitors can also end up costing quite a bit and may not have the minimum capacitance needed for your loop to cover 10m. But like vacuum variable capacitors, they are available in high voltage versions which will handle 100W or more.

The capacitor I used is available from Cardwell Condenser (Johnson Capacitor Division) as their type "E" single section part number 154-1-1, see:

<http://cardwellcondenser.com/johnson-capacitor-division/type-e-154-series/type-e-154-series-single/> In an email received from them they state that all capacitors are manufactured to order with the following prices (in U.S. dollars) for the 154-1-1 (they estimated shipping to Canada as another \$60): P/N: 154-1-1 Qty: 1 to 9 units, \$90.10 each plus a \$150.00 setup charge Qty: 10 to 24 units, \$90.10 each no setup charge required Qty: 25 units and above, \$83.18 each

A better choice may be a split rotor design which has many of the advantages of the butterfly capacitor. In both, no RF current is passing through moving parts (such as the rotor bearings), and the maximum voltage is increased due to the effect of doubling the plate spacing. These may be found at a hamfest or as part of a high power manual antenna tuner. The maximum capacitance with both sections wired in series may be a limiting factor since you need 80 or 90 pf to cover 10m through 20m and more capacitance if you want to cover 30m or 40m. Some hams are using a high voltage fixed capacitor in parallel with the variable to extend coverage (it could be plugged in using "banana plugs"). Thus for example your 8pf through 80pf capacitor becomes a 58pf through 130pf with a 50pf fixed capacitor in parallel. A second 50pf in parallel would make it a 108pf to 180pf.

For QRP operation (such as what the AlexLoop Walkham is designed for), you may find cheap two section capacitors with close plate spacing will work fine. I recently picked up one for \$5 at a hamfest which measures 7pf to 233pf with both sections in series; it should be good for 5 or 10W. I may use it in a light weight QRP version of my AlvinLoop.

There is an online magnetic loop calculator that lets you try different sizes/frequencies, I am not sure how accurate it is but it is found at:

http://www.66pacific.com/calculators/small_tx_loop_calc.aspx

A gear reduction unit attached to the capacitor is a must to let you tune it properly. You may find one at a hamfest or you can buy a 6:1 planetary reduction drive from The Xtal Set Society at: <https://www.midnightscience.com/catalog5.html#part4B> A 6:1 will result in 3 turns of the tuning knob to go from minimum to maximum capacitance (180 degrees of rotation).

When tuning the magloop, adjust the capacitor for maximum noise in the receiver. This will place you very near the minimum VSWR point. Applying a low TX tuning power while monitoring SWR will let you fine tune to as close to 1:1 as possible. Due to the narrow bandwidth of a magloop, you will need to readjust the capacitor often as you tune across the band.

So how does it work?

A magnetic loop antenna, like a mobile HF antenna, is a compromise antenna on HF. Due to its small size (small fraction of a wavelength), efficiency can be low if you are using it at lower frequencies. Following are some efficiency numbers – on the left are values from experiments by AB2EW, and on the right are values calculated by the online magnetic loop calculator:

15m 61%	15m 82%
17m 43%	17m 73%
20m 25%	20m 53%
30m 11%	30m 26%
40m 4% - 5%	40m 9%

I don't know which are correct, but they give a rough idea of small magloop efficiency.

My first two-way contact with my AlvinLoop PortaHam was with W1AW/1 in New Hampshire on 40m using my KX3 at 10W SSB. He was S9 and although he said I was a little light he could copy OK (he gave me a 59 naturally). This wasn't too bad considering the loop was clamped to a wooden chair about 2 feet above a concrete floor inside of a workshop with lots of tools etc. around it. I had turned off the internal ATU in the KX3 and after peaking the noise on RX, was able to fine tune the loop capacitor (in the 3W tune mode) for a 1.1:1 SWR quite easily (although I did notice some change when I took my hand away from the tuning knob due to body capacitance).

The "figure-8" pattern off the ends of a magloop with a null off the sides means that you only have to swing the loop through 90 degrees to cover all directions. The side nulls can be used to reduce the strength of another station causing QRM (if he isn't in the main lobes). It is best to position yourself off the side of the magloop to reduce RF exposure, and getting it up 6 feet will also help (in addition to helping to keep people from walking into it).

I try to keep the RG-58 feedline in the side-null as it drops down towards the ground; pulling it out at a slight angle would be even better. Maybe another short support rod as a standoff would be the answer.

Some magloop users have reported improved performance by mounting the loop about 2 times the loop diameter (6+ feet) above the ground, and then placing an X made from 18 or 20 gauge wire on the ground under it. The 4 legs of the X are each 2 loop diameters (6+ feet) long and are electrically connected at the centre (but not connected to the magnetic loop antenna).

VISIT THE ERC WEBSITE AT

www.ve3erc.ca

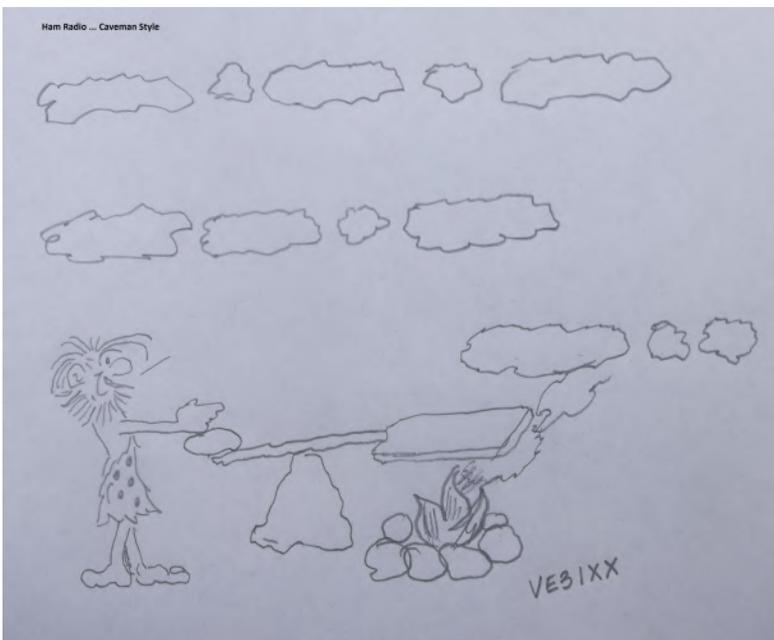
**CONTRIBUTIONS TO
VE3ERC-CLUB NEWSLETTER**

**Do you have an article you'd like to submit? Or photos?
Do you have any comments you'd like to make?**

Perhaps you'd like to share a photo of your shack, a special project you are working on or a special interest!

SEND THEM TO:

**Bob bobve3ixx@gmail.com
(519-787-2279)**



Ham Radio... Caveman Style

(He's obviously a beginner! Can you spot his mistake?ed.)

WEDNESDAY NITE NET CONTROLLERS

APRIL 18 - PAUL VE3PVB

APRIL 25 - MEETING

MAY 2 - TRACY VA3TGY

MAY 9 - BRIAN VA3DXK

MAY 16 - BOB VE3IXX

MAY 23 - MEETING

MAY 30 - TED VE3TRQ

JUNE 6 - AL VA3TET

JUNE 13 - REG VE3RVH

JUNE 20 - TOM VE3DXQ

JUNE 27 - MEETING

Join us for the 2018 - 44th Annual Central Ontario Hamfest!

The Date: SUNDAY June 3rd, 2018

Time: Indoor vendors 7 am, Tailgaters 8 am, Public 9 am to 12 noon

Location: Just west of Cambridge at the Waterloo Regional Police Association Recreation Park located just off the 401 between Exit 275 (Homer Watson Dr) and Exit 268 (Cedar Creek Rd)

We recommend you enter via Exit 268 (County Road 97, Cedar Creek Rd)

GPS Details: 1199 Rife Rd., North Dumfries, ON

Admission: \$8.00, Youths 12 & under are free. \$8.00, Youths 12 & under are free.

Vendors: Inside 8' tables \$23.00 (Includes 1 admission)

Vendors: Tailgater spaces \$18.00 (Includes 1 admission)

Skipper... Shouldn't you be calling for HELP?

...QSL, 59 from an uncharted desert island. Good Luck in the contest!

I fix it... But I never get to talk.

MUSEUM SHIPS WEEKEND
JUNE 2-3, 2018

0000Z June 2 to 2359Z June 3, 2018 97 ships participating!

<http://www.nj2bb.org/museum/>

JOIN US FOR THE 2018 FIELD DAY

JUNE 23-24

LOCATION: This year Field day will be held at the farm of Bob Koechl VE3IXX
6463 Sixth Line,
Centre Wellington

DRIVING DIRECTIONS: Take Hwy 6 north from Guelph
At the light of Hwy 6 and Belsyde Ave. (County Rd. 18) turn right (toward Orangeville). Keep going to the Sixth Line and turn left. At the green fire number 6463 (2nd driveway on the right side) turn right onto the driveway.

FIELD DAY: Runs from 2 pm, Saturday afternoon of the 23rd to 2 pm Sunday the 24th

VE3ERC Elmira Radio Club Inc.

Minutes from May 23, 2018

1. Call to Order & Welcome

The meeting was open at 7:30 pm by our Club president Brian VA3DXK .

2. Roll Call: VA3TET Al, VE3DXQ Tom, VA3GWM Gord, VE3JMU Jim, VA3PDC Paul, VE3DCC Rich, VE3QB Bruce, VE3DWI Tony, VE3IXX Bob, VE3YBM Brian, VE3EIX Harry, VA3QB Bill, VE3CD Harold, VA3DXK Brian, VE3DWI Tony, VE3AUS Al, VE3YBM Brian, VE3ML Wes, VE3NUL Rich, VA3JBO Johan, VE3CDF Andy, VE3JXX John, VE3RVH Reg, VE3TRQ Ted.

3. Adopt Agenda : Agenda was approved.

4. Secretary's Report: Tom VE3DXQ asked if there were any errors or omissions from the April 2018 minutes. None were mentioned. Tom made a motion to have the April minutes accepted. This was seconded by Johan VA3JBO Motion carried.

5. Treasurer's Report: Paul VA3PDC showed us the financials to date and current balance. Paul VA3PDC made a motion to have report accepted, and this was seconded by John VE3JXX Motion carried.

6. Vice President's Report : Brian VA3DXK reminded us that this was our annual AGM & Officer Elections. There were enough present for a quorum. There are 35 club members and there are 24 present.

7. Committee Reports:

Health & Safety : Tom VE3DXQ no incidents to report.

Field Day: June 23-24 (Bob VE3IXX/Brian VA3DXK/Frank VA3FJM). Brian VA3DXK advised that the field day boiled down to 2 locations either the fire hall or VE3IXX Bob's Place in Belwood. Those present were in favour of having field day at Bob's Place. Bob VE3IXX is ok with that.

Fall Conference/Workshop Sept 22, 2018: AL VA3TET said that so far he has not heard from any Universities which is disappointing. He said they are working on a couple of angles, but getting frustrated.

CANWARN May 9th update/review: Bill VA3QB said he was in attendance and he won first prize, a weather radio. Bill advised the Geoff Coulson will retire in August and this was his last Canwarn training session.

Dayton Hamvention update: There were 6 club members who went to this event and the weather was not the best due to rain and thunder storm warnings. Al VA3TET said there are

other things to see and do in Dayton. There is an aircraft museum, as well as a huge Mendalson's surplus store. Bill VA3QB showed us some pictures of the venue for the hamvention.

8. Unfinished Business: CAER Emergency Preparation Open house was Fri May 11. Brian VA3DXK thanked all who came out to support this event. There was VA3PDC Paul, VA3TET, VE3DXQ Tom, VA3QB Bill, and VA3QB Bruce. Al VA3TET said that the people in charge of this event said they were glad to see us, but were disappointed that other groups that were supposed to show up did not. Al said he was also happy that the kids came in waves instead all at the same time. Al VA3TET set up a keyer with sound and kids tried keying S.O.S. with the morse code Alphabet sheet that Brian VA3DXK gave us.

Trusteeship of the Club Call sign & Repeater Licence: Paul VA3PDC said that both Wes VE3ML & Carl VE3FEF have signed a document to transfer the club call sign & repeater Licence to Wes VE3ML. Paul VA3PDC said he sent this off in an email to Industry Canada.

June Hamfest: Reg VE3RVH said that he has already paid for 4 tables. Reg VE3RVH, Jim VE3JMU, and Tom VE3DXQ will be handling 3 tables and Tony VE3DWI will handle one table.

The Central Ontario Hamfest is on Sunday June 3, 2018. This is just west of Cambridge at the Waterloo Regional Police Association Recreation Park, located just off the 401 between Exit 275 (Homer Watson Dr) and Exit 268 (Cedar Creek Rd). See <http://www.hamfest.on.ca/> Al VA3TET says we hope to run ONTARS again this year and will need help putting up the antenna. Paul VA3PDC made a go-box for the Club Radios from a suit case that includes the power supply. Thanks Paul.

9 New Business

Officer Elections

Brian VA3DXK said that due to a conflict of interest he would not be involved with the nominations and that those nominated would have a one year term starting in September of this year. Brian asked Rich VE3DCC to open the nominations. Rich asked three times for any nominations for president. None were forthcoming so

Brian Filbey VA3DXK is our new president. Rich called three times for nominations for vice president none forthcoming so

Ted Rypma VE3TRQ will be our vice president. Rich called three times for nomination for Treasurer and none were forthcoming so

Paul Curtin VA3PDC will be our treasurer. Rich called three times for nominations for Secretary none were forthcoming so

Tom Mahony VE3DXQ will be our Secretary. Rich called three times for nominations for Trustee none were forthcoming so

John Scheeringa will be our Trustee. Brian VA3DXK asked for a motion to dissolve the nomination committee.

Paul VA3PDC made a motion to dissolve nomination committee, this was seconded by Bob VE3IXX. Carried.

Club Sanctioned Events: Brian VA3DXK asked for a motion from the floor that all club events automatically be sanctioned. Al VA3TET made the motion that all club events be sanctioned from AGM to AGM. This was seconded by Brian VE3YBM. Carried.

Club Equipment and Resources Inventory: Brian VA3DXK & Reg VE3RVH have been working on getting an inventory on the clubs equipment and resources for the last month. Reg has compiled a list. He has been keeping track of this since 1998. Reg has passed this list along to Tom VE3DXQ, Ted VE3TRQ, and Paul VA3PDC. The Club will send an email out to the membership of the club listing all equipment & resources to find out where they have been stored.

Meeting ended at 8:20 pm

Is the internet, millennials or FT-8 killing ham radio?

By Dan Romanchik, KB6NU

Amateur radio bloggers love to write about the demise of amateur radio. To wit, we have:

K0NR's Is the Internet destroying amateur radio? (<http://www.k0nr.com/wordpress/2017/11/internet-destroying-amateur-radio/>)

N0SSC's Millennials are killing ham radio (<http://n0ssc.com/posts/583-millennials-are-killing-ham-radio>)

PE4BAS' Is FT-8 damaging amateur radio? (<https://pe4bas.blogspot.com/2018/04/is-ft8-damaging-hamradio.html>)

NZ0T's Did Joe Taylor K1JT Destroy Amateur Radio? (<http://www.ei5di.com/jt.html>)

Of course, none of these posts are really saying that the internet, millennials, or FT-8 has killed amateur radio. What they are saying is that all of these are changing amateur radio as we know it. Well, duh, the way we live our lives changes every day. Why should amateur radio be any different?

For example, Bob, K0NR, discusses how the operation of remote stations is changing the game of DX. Can you really claim that you worked a DX station if you rented time on a super station? I've written about that topic, too (<https://www.kb6nu.com/dx-advisory-committee-wants-to-put-the-screws-to-remote-operation/>).

There has also been much written about how FT8 is changing the amateur radio game. One blog post (<https://ve7sl.blogspot.com/2017/10/160m-ft8-end-of-era.html>), talking about the effect of FT8 on 160m operation, even goes so far to say that this is the "end of an era." On DX World, the results of the poll, "FT8 - Damaging to Amateur Radio?" (<https://dx-world.net/yes-or-no-a-poll-on-ft8/>) show more than half of the respondents think that FT8 is damaging amateur radio.

I specifically used the word "game" in the previous two paragraphs because that's exactly what's changing. The physics of amateur radio certainly isn't changing. Our transmitters are still generating electromagnetic waves like they have been for decades, and on the HF bands, anyway, those radio waves are bouncing off the ionosphere just as they have been for more than the past 100 years.

What's changing is the human component. By that I mean what's changing is how we think people should participate in the hobby. The hams that are complaining that the internet or millennials or FT8 is killing amateur radio are really just complaining that people aren't participating in amateur radio the way they want them to participate.

Here's where we talk about millennials. In his blog post, Sterling, N0SSC, suggests that setting up remote stations is one way to engage young people. He writes, "I believe that remote operating, and other internet-assisted means of ham radio operation, are critical to youth engagement."

He's also big on an idea he calls "ham radio hackathons." He writes,

"A hackathon isn't a coding competition. It's explained well in this Medium article (<https://medium.com/hackathons-anonymous/wtf-is-a-hackathon-92668579601>). It goes even further than that, not limited to coders and engineers, but open to thinkers, doers, phi-

losophers, system engineers, math people, teachers, students, artists, stakeholders...anyone with an interest in **solving a problem with technology.**"

I support both of these ideas, but I think that millennials (and, to be fair, it isn't just millennials we're talking about here, but any newcomers to the hobby) need to step up and get these things going. I don't think it's my job to try to get kids interested in amateur radio. I don't even know if that's really possible. What I can do, however, is be there to encourage and support kids (and anyone else that expresses a sincere interest in amateur radio).

For example, I'm not sure how fruitful it would be to set up my station to be remotely operable and then saying to some kids, "Hey, come and operate my station." What I think would be more fruitful is to say to a kid, "Hey, come help me set up my remote control station, so that we both can use it." Then, it turns into a learning situation, and we both gain from the exercise.

The same kind of thing has to happen with ham radio hackathons. The motivation has to come from the ground up, not the top down. I do hope that this idea gets off the ground, though, and I'm standing by, ready to support this effort however I can.

I think that millennials (I'm really getting tired of that term, by the way) need to grab the bull by the horns and take amateur radio in the direction they want it to go. Feel free to kill amateur radio as we know it. Make it better!

When he's not trying to figure out how to save amateur radio, Dan builds stuff, blogs about amateur radio at KB6NU.Com, teaches amateur radio classes, and operates CW on the HF bands. Look for him on 30m, 40m, and 80m. You can email him about what you think is killing amateur radio at cwgeek@kb6nu.com.

Paul VE3PVB sent the following website for DIY (Do It Yourself) battery pack kits using Lithium Batteries.

The caps slide together using a slick dovetail design that both aligns and locks the cells together. It takes a little bit more dexterity than children's Lego bricks, but it's pretty easy. You can snap them together in any size or shape. No soldering is required.

The website is:

<https://vruzend.com/shop/>

