MARCH 2019 Volume 8 Issue 3

VE3ERC-LUB

President: Brian VA3DXK
Vice-President: Ted VE3TRQ
Secretary: Tom VE3DXQ
Treasurer: Paul VA3PDC
Trustee: John VE3JXX
QSL Manager: Paul VA3PDC
Repeater Trustee: Wes VE3ML
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.

A new relatively unknown Swedish company, "L.O. Oflirpa" has developed a prototype of a new hand-held radio which will revolutionize the industry. By replacing the rubber ducky with a multi-element beam antenna with up to 20 dBi gain, it can turn your 5 watts into a powerhouse. See more on page 4.

THE PREZ SEZ!

This club is Radio-ACTIVE

President's Update for March 2019

As March draws to a close the Elmira Radio Club VE3ERC is looking forward to our participation in the annual Elmira Maple Syrup Festival. We'll be located in the back corner of the Toy Show building. As usual we will be 'On the Air' with HF and VHF, voice and digital, possibly a little CW. Bob VE3IXX will be hosting the Saturday morning ONTARS session from this location. If you're in the area drop by to experience all that the Maple Syrup festival has to offer! The Elmira Radio Club has a unique Maple Syrup QSL card to commemorate the event so check in with us for ONTARS, a friendly chat, a new grid square or digital contact, or an awesome QSL card if you collect them.

On behalf of the Elmira Radio Club VE3ERC, here's hoping you all have a 'sweet' spring, an enjoyable month and we're looking forward to seeing you at our next meeting on Wednesday, April 24th, 2019.

Brian VA3DXK

COMING SEPTEMBER 21
HAM TECH 2019
MARK YOUR CALENDARS
AND
CHECK OUR WEBSITE AT
www.ve3erc.ca

Back-of-the-Napkin Eyeball

QSO notes and stuff

by Rich, ve3DCC

MARCH 2019

I left a thread hanging in my last article. You may recall that I commented on Amateur Radio contact with orbiting satellites, specifically the ISS, International Space Station. It seems like a throw of the dice as to whether a contact occurs--scheduled contacts are reserved, it seems, for schools. I have not been successful in "working" ISS. Keep trying, though, as many Hams have made a QSO.

Now for that thread and how it relates to the ISS.
I suspect that very few Amateur Radio Operators, aka Hams, believe that the world is flat.

You might have been puzzled in my mention of the FLAT EARTH society convention as described in the article "FLAT EARTH 101*" in the Canadian Geographic January/ February 2019 edition (pages 48-52). Some of the arguments "for" are mentioned. A few years ago, a Math colleague of mine seriously argued that the world is as described in the article since the trigonometry and arithmetic seem to support a flat world.

I assured him that I had the greatest confidence that the world is sphere-like and presented the following personal observations. That was the last time we talked.

First, let me clarify a few items:
When a satellite orbits the earth, it has a "footprint" on the earth that represents where its' radio signal can be received. Think of this as a kind of shadow that the satellite casts on the surface of the earth. If the satellite were to orbit along the earth's equator, a FLAT map of the Earth, would show the footprints as a series of dots lined up horizontally along the equator. If the orbit of the satellite creates an acute angle, less than 90 degrees, with the equator as it crosses the equator, the ground track or map of the footprints or "shadows" would describe a lovely SINE curve—that is, the shadows would rise to the northernmost location that sees the shadow, then recede down to the southernmost location in a smooth, predictable and repeating fashion. If the earth did not rotate, then the curves would retrace over the exact same locations on the map, orbit after orbit.
However, the earth rotates "under" the satellite as it travels along its' orbit.
In the case of the ISS, if one orbit takes approximately 93 minutes, then in those 93 minutes between equator crossings, the earth has rotated 93/(24*60)th's of a full rotation eastward under the orbital path since the globe rotates west to east. This would be 93/(24*60) * 360 or approximately 23.25 degrees of a full rotation of the earth(where * represents multiplication and / is division). The ground track now appears to be passing over locations west of the previous sine curve by that number of degrees. Using information such as the orbital inclination, mean motion and other tidbits, computer software can be used to take these "Keplerian orbital elements" and produce an accurate ground track map of where the ISS is at any given time. The map would show a series of SINE curves shifting to the left, orbit after orbit. This would also be true of any satellite, HAM or otherwise, in orbit around the earth.
PS: Software for the IPad ("Track Sats") and Windows units are available on the web.

My first experience with tracking was in the late 1980s when building a satellite dish was the rage in Waterloo. My original dish was a surplus, slightly bent, $25 spun-aluminum dish that came from an auction. I later upgraded it to a 12 foot C band dish.

I paired the dish with a receiver, a prize at the Dayton Hamvention, and suddenly I could see and hear unencrypted signals beamed through a constellation of repeater satellites in geosynchronous orbit around the earth.

For example, the OSCAR awards were televised live but an audio sub-channel let you hear the banter among the technicians coordinating the telecast, real-time. Similarly, news feeds from the San Francisco earthquake and the invasion of Kuwait, were transmitted real-time. Since the news feeds were in the clear, the Iraqi's used the reports from a hotel roof to coordinate and aim their SCUD missile attacks during that first Iraqi war. The parade of reporters reading their reports was discontinued shortly before the end of the war when the glitch was discovered. There were many more fascinating news information feeds "up there".

Of more relevance to this story, in the early days of the Shuttle program, live and non-stop video was streamed from the storage bay of the Shuttle via the TRDS relay system in orbit. The shuttle orbited "upside-down" with its' "belly" covered with heat-resistant tiles to the sun and its' bay doors open towards the earth to dissipate heat. Since the cameras were live, this afforded an uninterrupted view of the earth below, orbit after orbit after orbit..... with a bonus of seeing other satellites off to the side, like so many cars on an invisible highway. Reading a paper or book by the fireplace with this running on the television was an enjoyable way to spend an afternoon.

How could there be ANY doubt in the mind that the Earth is roughly spherical and that what you are seeing is quite real—impossible to fake.

NASA TV is now carried on several cable systems, however, orbit views share the stage with documentaries. Fortunately, there are sites on the internet where you can see the ISS ground track and pass predictions for your location as well as live streaming video.

One such site is linked below. Of course, use any site at your own risk.
PS: You can see the ISS orbit ("draw orbit") and footprint, and on the right there is a "HD LIVE" button. You can also access maps for most satellites, including HAM satellites, that are currently "up". Look for other sites, too, as you explore off-world HAM communications opportunities. Here is the link:

https://www.n2yo.com

Did I mention that the world is round?

Regards,
de Rich, ve3DCC

Regarding the front page, if you haven't already guessed, spell

"L.O. Oflirpa"

backwards.

Visual Zero Beat Indicator:

(A simple to build CW station accessory that could net you more contacts.)

Allen Evenson, AE7TG

What is Zero Beat? According to the Merriam-Webster on line dictionary: 'Zero Beat' is " a condition in which two radio frequencies are adjusted to equality by first producing beats between them and then reducing the beat frequency to zero."
http://www.merriam-webster.com/dictionary/zero%20beat

It's making sure that the transmitted signal frequency is presented as close as possible to the desired listening frequency of the receiver on the other end. It can be important in crowded or poor conditions where the receiving station may be using a narrow filter. When transmitting low power (QRP), it may mean the difference between being heard and worked or being passed over for another signal.

Some transceivers provide a feature that can achieve zero beat automatically. Others have means of producing a non-transmitted tone that may be used with the received to signal zero beat by ear. Many ops probably just go completely by ear and/or peak the received signal. Methods differ by model and operator technique but all require time that may be better spent making the contact or could be more accurate. Enter the Visual Zero Beat indicator.

The circuit (figure 1) was recently referenced in the North American QRP CW Club **http://naqcc.info** newsletter by John, K3WWP.

See **http://home.windstream.net/johnshan/cw_ss_zerobeat.html**

or contact me (email: **ae7tg@arrl.net**) for complete circuit details. It is based on a readily available IC and has few components. Once adjusted for use via R2 and the radio's side-tone, the LED will blink brightly in time to received code when the frequency is close to or at zero beat.

Building it proved to be a pleasant learning experience. Most of the parts were obtained at Fry's, the LM567 IC and zener diode had to be found by NTE number (Google is good for cross-referencing.) The circuit was first built and tested on a breadboard and then hard-wired to a small piece of proto-board. After it passed the 'smoke-test', it was hooked up to the radio for calibration and promptly didn't work. Turns out there was a ground point that was not properly soldered. The builder (ahem) also forgot to put the IC chip in the socket, duh! A picture of the finished result is shown in figures 2 and 3.

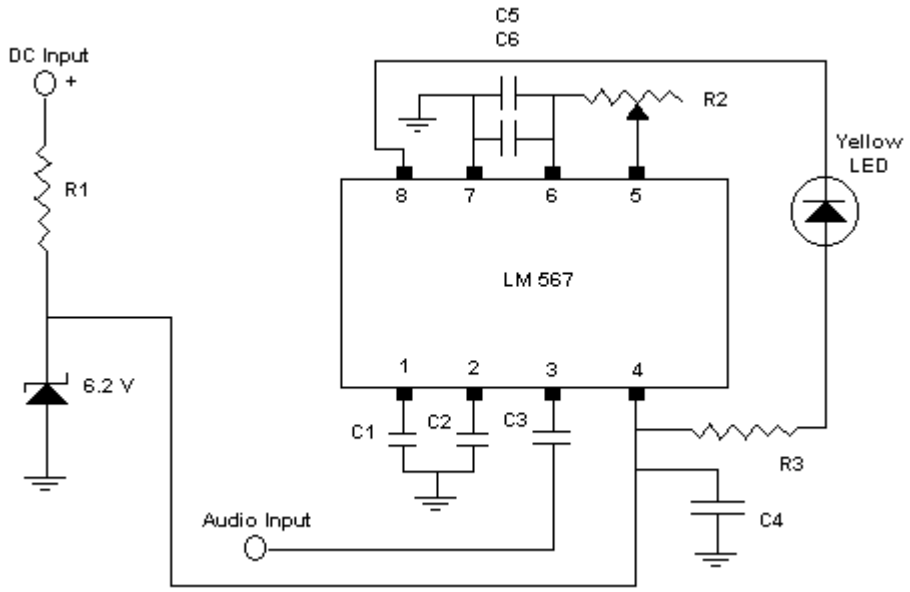
While the circuit works and is okay for use as-is, there remains the decision of what sort of enclosure to use. A simple power switch will be incorporated as well to conserve battery power. Some of the fun in building circuits, besides what is learned in the initial building and trouble-shooting, is modifying and customizing them.

On a final note, if a kit version of a more elaborate indicator is desired, one may be obtained at

http://wb9kzy.com/zerobeat.htm.

The author has not built the advertised device but there is a nice You-tube video of one in use. Hope to hear you in the center of my passband very soon.

73, AE7TG



(figure 1: circuit diagram)

R1 – value depends on DC voltage available. For 13.5V use a 470-ohm 1/4w, for 9V use a 180-ohm 1/4w.

R2 – 10K-ohm potentiometer

R3 – 470-ohm 1/4w resistor

C1 – 1.0 Mfd tantalum

C2,C4,C5,C6 – 0.1 Mfd tantalum

C3 – 0.47 Mfd tantalum

1 6.2V zener diode

1 8-pin IC socket

1 Yellow LED

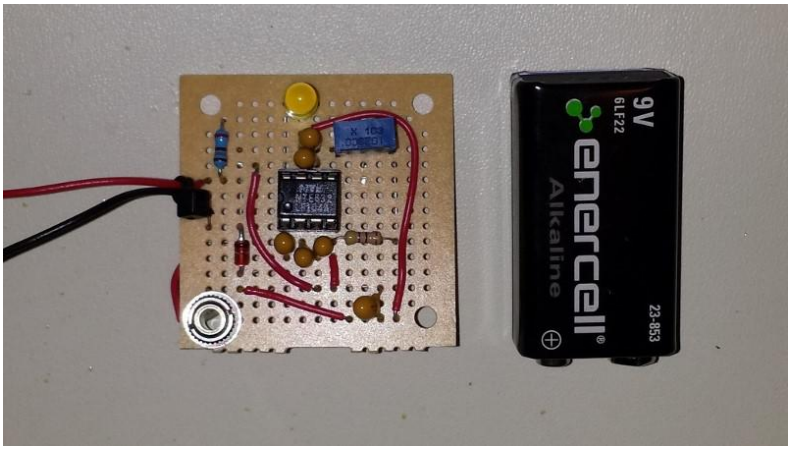


Figure 2 Component Side.

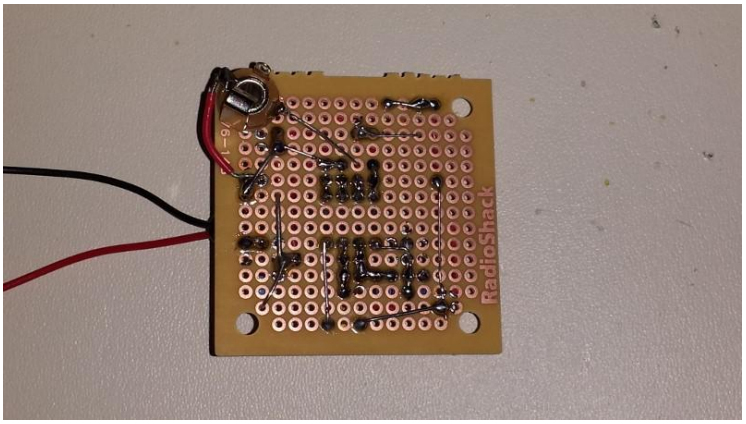


Figure 3 Solder Side

Thanks to Mike VE3MKX for sending this article.

CONTRIBUTIONS TO VE3ERC-CLUB NEWSLETTER

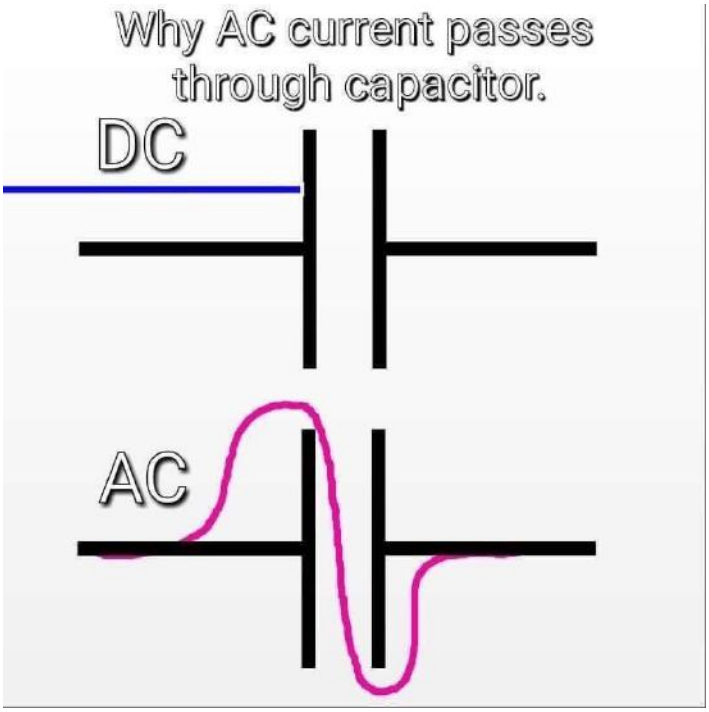
Do you have an article you'd like to submit? Or photos? Do you have any comments you'd like to make?

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)



WEDNESDAY NITE NET CONTROLLERS

FEBRUARY 20 - PAUL VE3PVB

FEBRUARY 27 - M E E T I N G

MARCH 6 - BRIAN VA3DXK

MARCH 13 - BOB VE3IXX

MARCH 20 - TED VE3TRQ

MARCH 27 - M E E T I N G

APRIL 3 - AL VA3TET

APRIL 10 - REG VE3RVH

APRIL 17 - FRANK VA3FJM

APRIL 24 - M E E T I N G

MAY 1 - BILL VA3QB

MAY 8 - TOM VE3DXQ

VE3ERC Elmira Radio Club Inc.

Minutes from March. 27 , 2019

Brian VA3DKX Doug VE3CXU Kirk VA3KXS Jim VE3JLC Ken VE3KCY
Paul VE3PDC Jim VE3JMU Frank VA3FJM Rich VE3DCC
Reg VE3RVH Ted VE3TRQ Tony VE3DWI Al VA3TET Brian VE3YBM
Bill VA3QB Bruce VE3QB Phil VA3QR Bob VE3IXX

At 7:30 pm Brain VA3DKX called the meeting to order.

The agenda was accepted.

Phil McBride VA3QR, the guest speaker was introduced. Phil is the RAC ARES EC serving our area. Phil gave an engaging talk on "Amateur Radio in Canada and Radio Amateurs of Canada (RAC). The number of amateurs across Canada is growing at a rate of about 2 per cent per year, double the population growth. Per capita, that means there is one radio amateur for approximately every 536 people. The highest growth rate was in British Columbia where frequent "Search and Rescue" operations have drawn many new members anxious to help.

Phil also spoke about installing towers. Document CPC-2-0-03 came out in July 2014 before Industry Canada had a name change to Innovation, Science and Economic Development **Canada** (ISED) and gave amateur radio operators a wonderful present. The document stipulates that if your antenna and tower is under 15 metres no permission is required. In fact Phil was adamant, "**DO NOT ASK FOR PERMISSION!"** Asking permission to install the tower from anyone could cause a complication.

Among many other items of which Phil spoke, he did include the fact that the Ontario Distracted Driving Exemption for Amateurs has been extended until 2021. However, he did specify that to qualify the radio must be permanently attached to the vehicle and must have a microphone. Handhelds do not qualify.

Phil's presentation ended with an appreciative round of applause.

Approval of last month's minutes was postponed until the next meeting as Tom (the Secretary) VE3DXQ was away.

The **Treasurer's Report** was given by Paul, VE3PDC. He made a motion that the report be approved. It was seconded by Frank VA3FJM.

For the **President's Report**, Brian VA3DXK reminded everyone to renew their memberships and encouraged all to join RAC.

Committee Reports: Frank reported that the **Ham Tech** date of September 21 and the Legion Hall have been confirmed. Also to date, three speakers have agreed to give talks. The target is to have five speakers. Further discussion about other potential speakers ensued.

The Maple Syrup Festival is April 6. Setup will take place Friday at 2 pm. Ontars will be run on Saturday morning and tear-down will take place at 4 pm on Saturday.

Unfinished Business: Brian VA3DXK noted that the event with the Cubs will have to be postponed for April 29 as the annual Marathon takes place on April 28. As well, the Woolwich Township Emergency Preparedness will also be around this time.

New Business: Reg VE3RVH reported that the Central Ontario Hamfest will be June 2 once again in Roseville. He has booked 3 tables and suggested that anyone with something to sell bring it out. Also an antenna will be set up to run ONTARS.

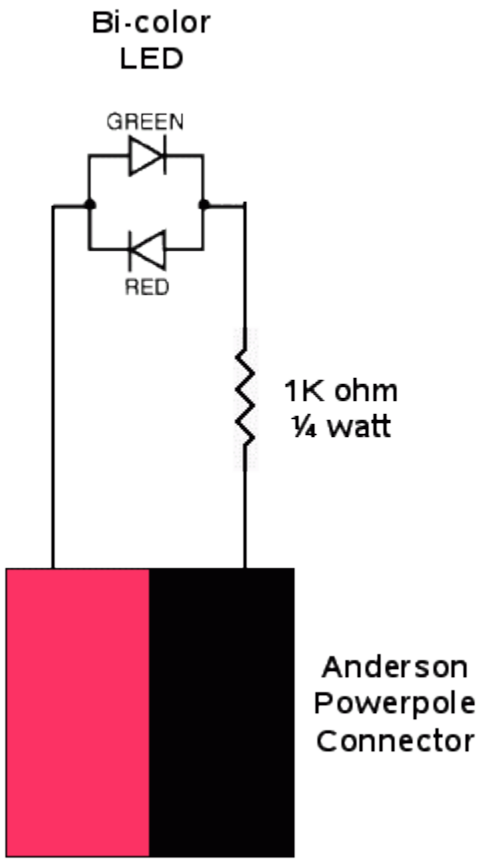
Al VA3TET made a motion that a $100.00 yearly donation be given to Barry VE3ISX to defray his personal expenses in running ONTARS. Rich VE3DCC seconded and it was unanimously passed. A presentation will be made at this year's Lighthouse event in Point Clark.

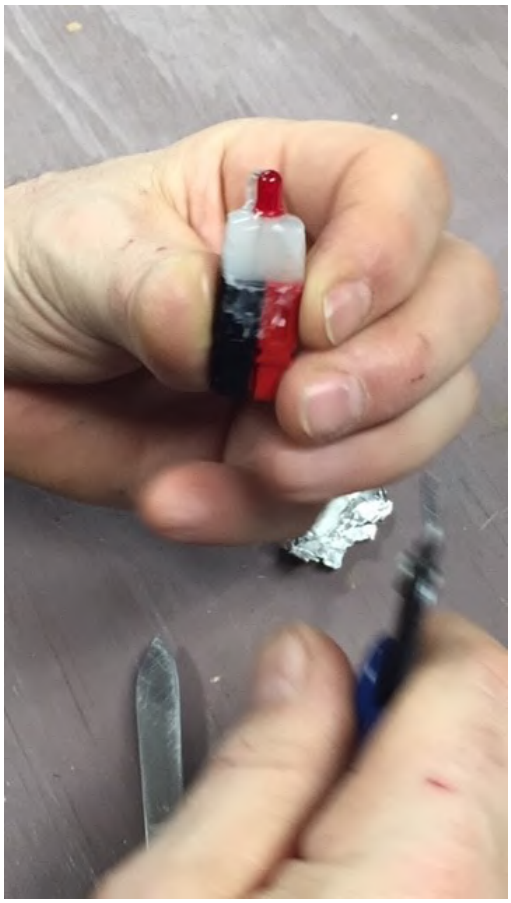
Reg VE3RVH told the story (in TCA Magazine) of an American 84 year old life long tower climber who just recently had a tragic fall.

Bill VA3QB made a motion to adjourn and Bruce VE3QB seconded.

QUICK AND EASY POWER POLE PROJECTS
POLARITY AND VOLTAGE CHECKER

SUBMITTED BY MIKE VE3MKX





Polarity checker - With Power pole connectors, some hams actually wire them backwards! To ensure your rig is safe, plug the checker into the outlet. If it lights up Green you are good. If it's Red - do not connect—the polarity is backwards!

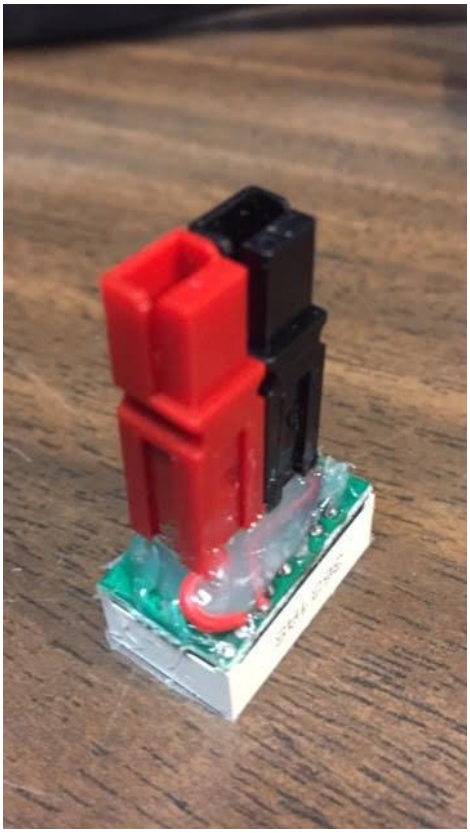
Then there is the Voltage Checker:

Mini Voltage checker -A great device for checking battery or power supply voltages before or during use. This project uses a cheap Ebay digital display (see the website below), which is soldered to power pole connectors then hot glued to the back of the display, to be later heat shrinked..

(see next page.)

https://www.ebay.com/itm/Black-2-wire-Mini-DC-5-30V-Voltmeter-LED-Panel-3-Digital-Display-Voltage-Meter/273119061505?hash=item3f972a2601:m:m8T8X0y-WVrAmTjUPHWu4XQ

Voltage Checker



Polarity checker and Voltage checker - Picture above shows both items plugged into a 3d printed distribution box - available for printing from

Thingiverse.com

https://www.thingiverse.com/search?q=powerpole&dwh=215c96d14c8e4e4

RAC BULLETIN

For immediate release:

https://wp.rac.ca/ised-canada-responds-to-petition-about-interference/

On June 6, 2018, Martin Bérubé of Louiseville, Quebec initiated a petition involving a radio station that was "generating interference on purpose". The petition attracted 1,135 signatures and was presented to the House of Commons on January 30, 2019.

The Government of Canada tabled the following response on March 18, 2019.

"Innovation, Science and Economic Development Canada (ISED) was informed of the individual's conduct in December 2015 by a group of Amateur Radio operators from Quebec. The individual was operating an Amateur Radio station without proper authorization and was known to insult, threaten and impersonate other Amateur operators.

As the individual disregarded ISED's written and verbal warnings, the department took action to enforce the *Act*. Due to repeated offences, ISED carried out three searches of the individual's residences and issued seven notices of violation totalling $2,500 plus fees.

On October 17, 2018, the individual was found guilty of these seven violations of subsection 4(1) of the *Radiocommunication Act*, pursuant to subsection 10(1) of the *Act*, by Justice of the Peace Annie Vanasse at the Trois-Rivières Courthouse.

ISED also called upon a federal prosecutor to obtain an injunction against the individual. This injunction is currently at the interlocutory stage. ISED understands that the individual has not been heard on Amateur Radio since August 8, 2018. ISED is closely following this case."

The text of the petition and the Government Response can be found at the following link:

https://petitions.ourcommons.ca/en/Petition/Details?Petition=e-1631

Alan Griffin
RAC MarCom Director

Radio Amateurs of Canada / Radio Amateurs du Canada

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IN MEMORIAM

Wilfred Melvin Baker VE3HYV-SK

May 12, 1930 - March 16, 2019

Wilf VE3HYV-SK was born in Nova Scotia. While still in their late teens, Wilf and his brother moved to Ontario to find work. After he got married, Wilf stayed in the province, living and working in the Toronto area right up to his retirement. Once retired, he moved his family to Fergus.

Wilf had obtained his amateur radio licence as VE3HYV and became active with the Fergus Amateur Radio Club. Club members helped him install his wind-up tower in his back yard.

When the Fergus Club disbanded, Wilf joined the other members in amalgamating with the Elmira Radio Club. He would often be heard on the regular morning nets and attended the monthly meetings, hitching a ride with Bruce VE3QB.

Eventually health problems compelled Wilf to move into Highland Manor and give up his active involvement with amateur radio. Wilf will be fondly remembered by the Elmira Club members who knew him.