

THE DRIVEN ELEMENT

JANUARY 2020

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

President's email ve3sld@gmail.com
Website www.garc.ca
Newsletter rvwebb@rogers.com

Nets

FM Monday night net at 7:30 pm local time on 145.210 (negative offset)

70 cm. SSB sideband net, Friday at 9 pm local time on 432.210

6-meter net Tuesday 9 pm local time on 50.170

Upcoming Events and Meeting

Monday January 20- Club meeting with "Show and Tell" 7 pm

February 1- Niagara Hamfest

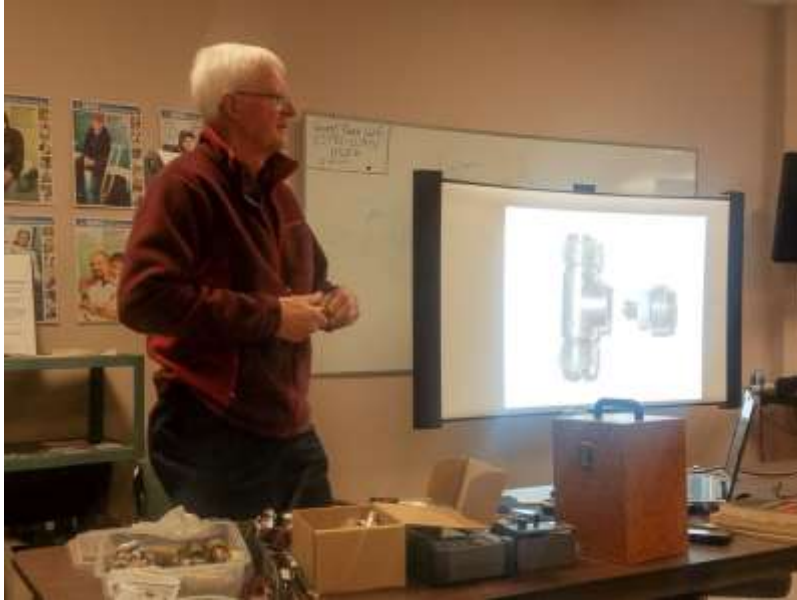
Saturday April 25 2020- Last year of Rotary Club tree planting

Radio Active

There is a good article in December 2019 CQ magazine about Phil McBride's, VA3QR, DXpedition.

The Christmas dinner at The Mandarin was enjoyed by all who attended. A small turnout but a great time.

The talk from Tony, VE3DWI, on connectors, their potential problems and real world solutions, was enjoyed by all. His sense of humour and knowledge was much appreciated.



Tony



GARC Christmas Dinner 2019

Minutes of November 2019 meeting

Guelph Amateur Radio Club – Regular/Annual General Meeting – 2019-11-18

Regular Meeting Convened: 6:52PM

Roll Call: VE3SLD, VE3HTU, VA3QR, VE3SFW, VE3QB, VA3PDC, VA3QB, VE3WBE, VE3JVC, VE3MKY, VE3ILJ, VE3ML, VE3DWI, VE3KCY.

Minutes – VA3QR displayed the minutes on the screen for the membership. VE3MKY moved, VE3QB seconded that they be accepted. Motion carried.

Treasurer's Report – VE3ML presented the report to the membership. As of 2019-10-31 \$9479.85 in the bank. VE3QB moved and VE3PDC accepted that the report be accepted as read. Motion carried.

Community Events – VE3ILJ spoke about the VA3IFF station operations. The station did a total of 234 QSOs over the course of the event (4 days, 4 hours per day).

QSL Manager – VE3WBE says that the requests are coming in.

Repair Committee – VE3JVC says everything is in working order.

Nets – No Report

Technical – No Report

Repeaters – VE3JVC reports that all the repeaters are working well.

RAC Report – VE3SLD reported that VA3QR was re-elected as Ontario South Director for 2020-2022. VA3QR also spoke about the closing of the consultation period on removing the time-limited nature of our operating exemption under 366/09 (Distracted Driving) in Ontario.

Field Day – VA3QB was in Fergus recently as was asked about Amateur Radio Equipment owned by the municipality (Chancellor Way, behind Best Buy). VA3QB will send pictures to VE3SLD. The Elmira ARC put a repeater in Alma, which will be linked to VE3ERC, and it is proposed that it be linked to VE3ZMG. We lost our Field Day site (in Kitchener), and VA3QB called conservation areas and had no success. VA3QB then pursued a site up Hwy. 86 – a runway. It is proposed that it be a joint Field Day with the Elmira ARC.

President's Report – VE3SLD spoke about VA3IFF. Jan. 20 is our Show and Tell Night / Mini-Flea Market. Jan. 9 is our next Executive Meeting. Finally, our Christmas Party will be on Dec. 2 at 7PM at the Mandarin on Woodlawn Ave. in Guelph.

Moved by VE3SFW and seconded by VE3ML to adjourn the meeting. Motion carried and meeting adjourned at 7:18PM

Presentation – Tony, VE3DWI was introduced by VE3ML and spoke about Coax and Connectors.

President's Message

From the Pres:

Monday, January 20, 2020 is our first meeting of the New Year. It is great to welcome every back, to another fantastic year for Our Radio Club. This meeting will be our annual show and tell, and mini flea market. We will have a short Radio Related movie as a filler. Please bring some home brew projects to show the members. We will have some Club business, including upcoming Executive Elections, Hamfest, Field Day and Rotary Tree Day (April 25). Your executive will get you caught up on everything, including our financial status, our new Club Examiner, our repeaters, and mesh network project.

Looking forward to see everyone.

Barry D. Brousseau Ve3SLD

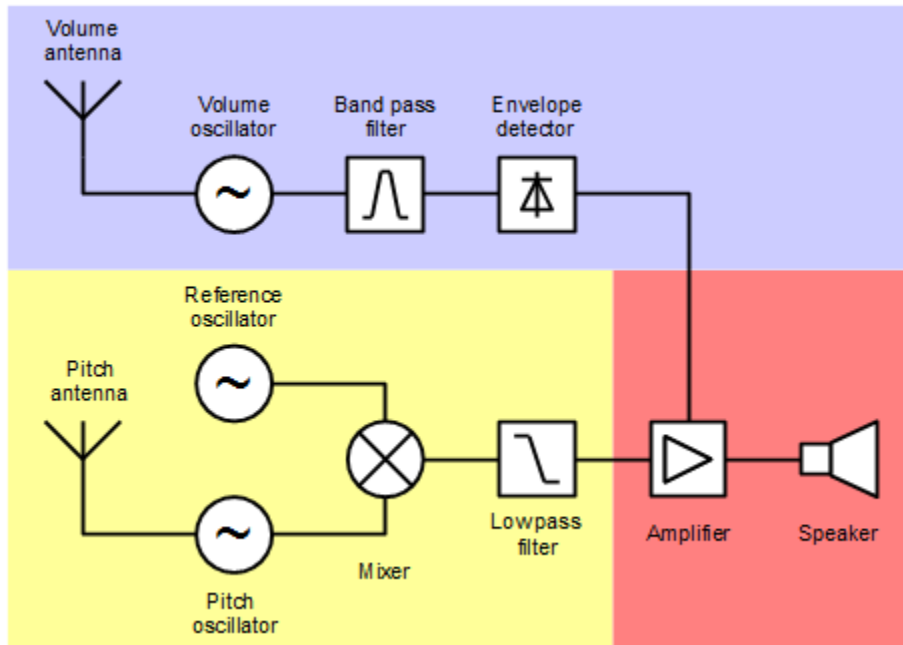
President GARC

Radio Wanderings

The Theremin

The aethervox, etherphone, or it as it was later known, the theremin after its inventor, is said to have the voice of the angels but was invented by a Russian physicist who was most likely a soviet agent.

The machine is a musical instrument that is played without touching it. The modern version has a digital sound generator with traditional analog electronics. There are two metal "antennae" - actually rods acting as capacitor plates. The relative position of the hand to the antenna controls oscillators for audio frequency, right hand, and volume, left hand. It is easy to get a sound out of it but hard to play well. Theremins are used for eerie background effects in science fiction movies such as The Lost Weekend and The Day the Earth Stood Still as well as TV productions such as Midsomer Murders. Led Zeppelin used a theremin and the Beach Boys used a variation of the instrument in Good Vibrations.



Block Diagram

Leo Termen was a Russian physicist working on proximity sensors for the Soviets in 1919. He was trying to measure the density of gas in a chamber and have the device yield a sound that would indicate the density. While working on this device he noticed moving his hand near the device changed the sound.

This observation led to the development of his musical instrument which was originally called the aethervox or voice of the ether. His name was changed to sound more European, Leo Theremin, and the machine became the Theremin. He played concerts in Europe before moving to the United States. His device was patented there and sold to RCA in 1928 who marketed it as an easy to play instrument. Although some people, such as Clara Rockmore, became virtuosos the combination of the steep learning curve and onset of the depression resulted in poor sales.



Clara Rockmore



RCA theremin

His status and genius as an inventor gave him access to laboratories, researchers and patent offices in Europe and the United States. He appeared to be quite Americanized and married Lavinia Williams, a dancer with the American Negro Ballet. On Sept 15 1938 Soviet agents appeared at their apartment and hustled him away. He told his wife not to follow. His possessions had already been packed and placed on the soviet ship Stary Boshlevik where he was listed as a captain's assistant. Was he kidnapped, as some thought, due to his debts or hustled out of the country before he was caught for sending scientific information back to Russia?

His return to his homeland did not go well. He was placed in a Siberian prison camp and then a prison like Siberian lab before rehabilitation in 1947. From that point he volunteered to work for the KGB. The theremin also did not fare well. After WW2 there were other electronic musical devices related to already existing instruments appearing on the market. Some interest did persist as in a high school student, Robert Moog. He read and wrote articles about the theremin and went on to build and sell finished instruments and kits for the home builder. He would later claim his famous Moog synthesizer was based on the work he did on the theremin.



Modern Moog theremin

Long thought dead by Westerners, Leo Theremin was found at the Moscow Conservatory of Music by Harold Schonberg, music critic for the N.Y. Times. He made his way back to the United States in 1991 for a concert with Clara Rockmore. He would die in Moscow in 1993.

His other scientific work is varied and range from devising a weapon detector that was used at Alcatraz to a drum machine. He should be famous for developing interlaced scanning for television. This doubles the perceived frame rate without increasing the bandwidth and he demonstrated moving, if blurred, TV images in 1927. He developed the Buran eavesdropping system where an infrared beam is used to pick up the sound vibrations in a glass window. We now use a laser beam in place of infrared but the basic principle is the same.

He should be infamous for a carved American eagle given to Averell Harriman, the American ambassador to Moscow. It was presented by the head of the soviet version of the boy scouts. The beak of the eagle contained a resonant cavity and a passive bug that consumed no power and was invisible to electronic sweeps of the era. It was discovered by accident after 7 years.

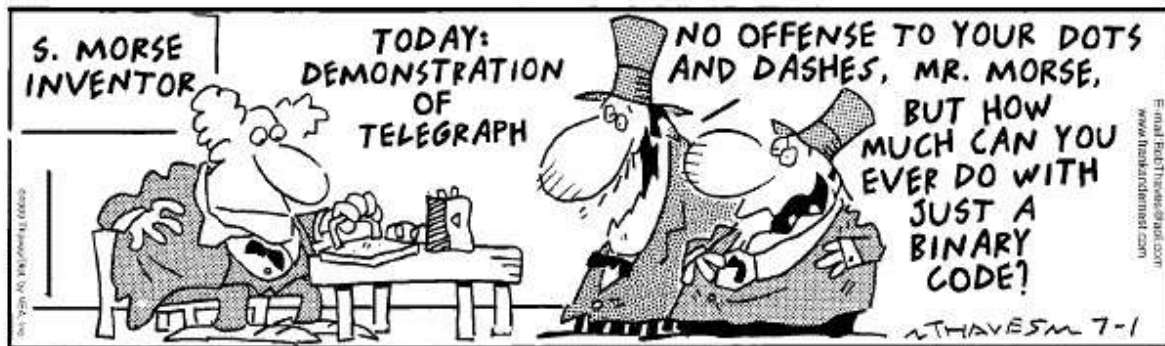
Once it has been heard the sound of the theremin is unforgettable. It did not reach common usage but provided the background for advances in electronic music such as the synthesizer. There is no easy way to sum up any person in a few words but Theremin takes that concept to the extreme. Maybe just listen to a piece played on his machine.

<https://www.youtube.com/watch?v=K6KbEnGnymk>

For further reading: Theremin, Ether Music and Espionage by Albert Glinsky

If you want to build one: <https://www.gaudi.ch/OpenTheremin/>

Spurious Emissions



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I hope we are all in for a good year in 2020, both in life and our hobby of amateur radio. Despite the difficulties with sunspots and DX, there is a lot going on to keep us interested. Thanks to Terry, Linda and Wes for their contributions to the newsletter.

Ron VE3WBE



Niagara Peninsula Amateur Radio Club, Inc.

'42nd' BIG EVENT!

**Hamfest & Electronics Flea Market
February 1st, 2020**

For more information
Web: <http://www.nparc.ca>
E-mail: bigevent@nparc.ca
Phone: 289.273.4571

Coordinates
43.142141
79.208879

Talk-in Frequency
147.300 MHz+ Tone 107.2 Hz
Callsign: VE3VM

**Merritton Community Centre
7 Park Avenue, St. Catharines, L2P 1P9**

Doors Open
Vendors 7:00am *** Public 9:00am
Approximate end at 2:00pm

General Admission \$8.00
Children 12 and under FREE

Vendor Tables \$20.00 + \$5.00 Admission
Table Discounts at 4+ tables

Snack Bar w/ Coffee and Soft Drinks

50/50 Draw, Door Prizes, and Raffles

ALL tables are six (6) feet long,
sold in advance and are non-refundable.
Table selection not guaranteed, book early!

Accepting Cheque, Credit, Debit, and Cash
Make cheque or money order payable to:
Niagara Peninsula Amateur Radio Club, Inc.

Send to:
NPARC, Inc. c/o Table Co-ordinator
P.O. Box 20036, Grantham Postal Outlet,
St. Catharines ON L2M 7W7

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