

SVARC Monthly Newsletter

May 2019

Seaway Valley Amateur Radio Club

Next Club Meeting: Wednesday 29 May, 2019

Where: *St. John Ambulance Head Quarters, 1001 Sydney St.—Unit #2 (Sydney St. between 10th and 11th St., across from Your Independent Grocer rear truck entrance on Sydney St. Use the front door marked “Training Entrance”. This is the north end of the Cornwall Electric office building.)*

Time: **NOTE NEW MEETING TIME—07:00 PM (coffee at 6:30pm)**

Guest Speaker: *Tentative, Leonard, VE3OLB will do a presentation on Wires X*

PRESIDENT’S MESSAGE - Ed Halliwell

I said last month there’d no more comments about the weather, but this is getting out of hand. We’ve had so much rain recently that we’ve had a hard time getting into and out of campsites. This past weekend while trying to back our trailer into a grassy site, I got the van stuck on wet grass. It was no better trying to pull the trailer out. Good job that the campground owner had a 4 wheel drive pickup

We were in the Clayton, N.Y. area and while travelling down to Watertown for a day trip, I saw a sign for an Amateur Radio Swap Meet. It was in Depauville and it was the Thousand Islands Amateur Radio Club that was having the event. There were a few tailgaters outside as it was one of the nice days of the weekend and several more inside the hall. They were also conducting exams for people to get their license. There was one Volunteer Examiner and 6 or 7 individuals taking the exam. We didn’t buy anything although there was quite a collection of bits and pieces, some 1920’s vintage Atwater Kent AM radios, right up to a couple of late model Icom HF rigs and a D-Star mobile 880. I was surprised to see a number of pieces of HeathKit equipment. It seems that a lot of this gear is showing up. There were a couple of HF transmitters, a VFO and monitor scope. Some of the vendors were trying to get donations to get the W2WLR (147.255) repeater back on the air. Apparently the antenna and/or feed line has failed and needs to be replaced. It is an 8 bay antenna on a 400’ commercial tower. This was a wide area VHF machine and over the years, I had used it to chat with my brother in Kanata to give you an idea as to its coverage.

In April, we also made a quick trip to Saskatchewan. While there, I managed a quick visit with my cousin Percy, VE5HH and VE5PAH. While he is not as active as he once was, he still manages to collect old radios and steam tractors. He is quite involved with an antique power museum in Prince Albert and is in the process of putting together a 50’s era ham shack. I have pictures and will get them posted to the website shortly. Percy was a weather officer for the Department of Communications in Coral Harbour for many years. More recently he has been radio technician for both Industry Canada and the RCMP.

Weekly SVARC VHF/UHF net:

Monday on VE3SVC (147.180+ MHz; CTCSS 110.9 Hz.) at 7:00 PM local time, followed by a 70CM net on VE3PGC (443.650+ MHz. CTCSS 110.9 Hz.)

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There was a good turnout of volunteers and paddlers for the Raisin River Canoe Race. You'll find a copy of Earle's report elsewhere in the Newsletter.

This coming weekend is the Children's Treatment Centre Bike-a-Thon Plus on Saturday May 25th. We have our usual compliment of volunteers lined up for this event. However it appears that the weather will not cooperate with this event. Rain is predicted for the day and expected to exceed 25mm. That's an inch for those still working in imperial measurements. This is unfortunate as many of the various activities of the event are held outdoors and this is the most important fund raiser for the Centre. We'll more information on the event at the next meeting on Wednesday May 29th.

Yes, at the next meeting, Art will do a presentation on his visit to the Texas Commemorative Air Museum while traveling in the south this past winter.

73—Ed

From the Editor - Steve Harvey (VE3EZB)

Well, May has been a busy month for us. It started with a quick trip to Halifax, Nova Scotia for my mom's 80th birthday. Mel (VE3OJN) had never been east of Montreal so he joined us on our weekend adventure. Of course, one can't simply go to Halifax and not visit Peggy's Cove. I was looking forward to showing Mel the power of the Atlantic Ocean but mother nature was not going to cooperate. It was the first time I visited Peggy's Cove where the waters were calm. Even the lady at the restaurant said it rare to see the water that calm. It was cold and damp the day we visited so we decided to enjoy a nice bowl of soup and a coffee at the "[Sou'wester](#)" restaurant. Good choice. I had (of course) the seafood chowder while my wife and Mel had the beef soup. We all agreed that it was delicious.

Since we were close, we stopped to pay our respects at the [Swissair Flight 111 memorial](#). On 2 September 1998, Swissair Flight 111 crashed of the coast of Peggy's Cove. All 229 passengers and crew onboard were killed making it the deadliest McDonnell Douglas MD-11 accident in aviation history.

On our return trip, we decided to take a quick detour to PEI to visit my old stomping grounds. Since Mel hadn't seen the Confederation Bridge or been to Prince Edward Island, I couldn't simply drive past without taking a detour. We visited the former CFB Summerside and got a few pictures of the airplanes on display there and headed back for the mainland. Of course we had to stop for a bit to eat at the "Starlight Diner". The décor is from the 1950s/60s and the food was delicious. I was hungry and too busy eating so I forgot to get some pictures inside the restaurant. I've included some pictures of our trip in the "This 'n' That" section of this newsletter.

Final thoughts. Murray (VE3XLJ) asked recently if I would include a list of HF Nets. So, I've uploaded a PDF file to the SVARC.ca website and provide a link to it under the "Links" menu. I've also included a link [here](#).

Have you worked any stations for the CNPOTA? If not, why not? It can be a lot of fun "chasing" these Canadian National Parks and Historical Sites. If you do make contact with a CNPOTA station, do forget to upload your logs to the CNPOTA website. Thanks it for this month. See you at the meeting.

73, Steve (VE3EZB)



Meeting Agenda — General (Monthly) Meeting—Wednesday May 29, 2019

- 06:30 PM Soft drinks and socializing
07:00 PM Meeting starts / welcome – Ed VE3EAH, President

Business Arising:

- Minutes of last meeting (April 24, 2019) – Chris (VA3CRR)
Treasurers Report – Elizabeth (VE3EZH)
Net Controllers Report – Tom (VA3KD)
Newsletter Report – Steve (VE3EZB)
Miscellaneous Reports
 Repeater Report - Doug (VE3HTR)
 Web Report – Ed (VE3EAH)
 ARES Reports –

50/50 Draw

New Business:

Other

Presentation:

Art Horovitch (VE3AIH) on the Texas Commemorative Air Museum

Upcoming Events:

- ARRL Field Day Saturday and Sunday June 22nd & 23rd
MS Bike Tour, Ottawa Cornwall return Saturday and Sunday August 17th & 18th
Ottawa (Carp) 23rd Annual Hamfest Saturday September 7th
Montreal South Shore Hamfest Saturday October 19th

Adjournment:

Date, time and place of next meeting: Wednesday, June 26th, 2019 at 07:00 PM, St. John Ambulance HQ

Presentation: TBD

WHAT MODES /FREQUENCIES CAN WE OPERATE ON?

By Art Horovitch VE3AIH

I was recently looking through my log book where I keep a list of "official" frequencies and modes we are allowed to operate on in the amateur bands. I operate mostly 40 meter CW and occasionally SSB. At one time many years ago, CW was allowed anywhere in the band. In actual practice most CW contacts were relegated to the lower end of the band from 7.000 to 7.100 MhZ. Now, with the "band plan" developed by RAC in 2015, I see that CW is relegated to only 7.000 to 7.050 MhZ. Phone contacts can start at 7.050 and above. When I inquired at Industry Canada about this change, they said it is "voluntary". But in effect, we have lost 50 Khz of the CW portion. It seems to me that Industry Canada has relegated the rules to the hams themselves, by "gentleman's agreement".

Contrast this to the US FCC band plan where it is clearly stated" CW is permitted thought ALL amateur bands" and "CW only" is permitted for the lower 100 KhZ of the 40 meter band. I also believe there is no longer much enforcement regarding illegal operations, as witnessed by the recent call for action by RAQI in an interference case in Quebec after a petition was signed by many local amateurs concerning wilful interference on a repeater. They knew who it was and where it was coming from, but IC appeared to take no action.

Here is the official response from Industry Canada concerning the allocation of frequencies/modes.

Industry Canada does not assign, nor approve the use of specific radio frequencies within the Canadian Amateur Radio bands. All frequencies are allocated for use on a shared, no interference, and no protection basis. A station established and operated in accordance with the rules and regulations governing the Canadian Amateur Radio Service and within the privileges afforded by the operator's certificate, may utilize any frequency allocated for use within the Canadian Amateur Radio Service.

Due to the wide variety of communication modes and protocols used within the Amateur Radio Service, and in consideration of mandatory restrictions imposed by other administrations, the International Amateur Community has established voluntary band plans. While compliance with these plans remain voluntary, it is highly recommended.

In the event of a conflict, the first station to establish communications on the frequency is to be given priority. These plans provide an effective means of minimizing conflicts arising with the use of various radio transmission modes by multiple Amateur Radio stations, sharing the frequencies; and were devised through the experience of many operators.

In an effort to minimize conflicts arising due to the shared use of Amateur Radio frequencies, and by mutual agreement, transmissions employing the use of Morse Code are generally conducted within the lower portion of each frequency band. Compliance is voluntary, but strongly encouraged by the International Amateur Radio Community.

For further information you should consult the [RAC website](#) or your local Amateur Radio Community.

Regards,
Paul Michaud

Spectrum Management Officer, Eastern and Northern Ontario District, Spectrum Management Operations Branch

Innovation, Science and Economic Development Canada / Government of Canada

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The Great Ohio Key Fob Mystery, or “Honey, I Jammed the Neighborhood!”

By Dan Maloney

<https://hackaday.com/2019/05/15/the-great-ohio-key-fob-mystery-or-honey-i-jammed-the-neighborhood/>

Hack long enough and hard enough, and it’s a pretty safe bet that you’ll eventually cause unintentional RF emissions. Most of us will likely have our regulatory transgression go unnoticed. But for one unlucky hacker in Ohio, a simple project ended up with a knock at the door by local authorities and pointed questions to determine why key fobs and garage door remotes in his neighborhood and beyond had suddenly been rendered useless, and why his house seemed to be at the center of the disturbance.

Few of us want this level of scrutiny for our projects, so let’s take a more in-depth look at the Great Ohio Key Fob Mystery, along with a look at the Federal Communications Commission regulations that govern what you can and cannot do on the airwaves. As it turns out, it’s easy to break the law, and it’s easy to get caught.

Hobbled Fobs

According to [a report in the New York Times](#), the problems in North Olmstead, Ohio began in late April when people began to notice that key fobs and garage door remotes weren’t working. Fearing malicious activity in their suburban enclave – a justifiable fear, as we’ve seen with [Samy Kamkar’s keyfob replay attacks](#) – good citizens began calling the local authorities to report the issue.

Exactly which authorities have jurisdiction over key fob issues isn’t clear, but according to the report, everyone from the local utility companies to the city council got involved in the investigation. The cable and phone providers couldn’t locate any faults with their equipment in the affected area, and the electric utility even took the somewhat ham-fisted approach of selectively cutting power to various sections to see if the signal stopped. It didn’t.

Local amateur radio operators were in on the action as well, which is par for the course with a group that has a vested interest in a low noise floor and routinely self-polices the airwaves. It appears that a ham in the area volunteered his expertise and equipment and did a little war driving, eventually narrowing down the source of emissions to a single block, and then to a single house, which was pumping out a powerful signal at 315 MHz.

At that point, a City Councilman named Chris Glassburn paid a visit and discussed the problem with someone described as “an inventor” with “a fascination with electronics” – one of us, in other words. The problem seemed to lie with a device made by the gentleman to alert him when someone was upstairs while he was down in his basement shop. The device, details of which are not covered in the story, was battery powered, which explains why the electric company’s brute force attacks didn’t reveal the location. Once the battery was removed, the interference stopped, and life in North Olmstead, Ohio returned to normal.

Part 15 Rules

Based on the sketchy accounts offered by the non-technical media, it’s a little hard to piece together exactly how this happened. Councilman Glassburn declined to identify the hapless hacker, for understandable privacy reasons and because there was nothing malicious about the emissions. So unless he happens to be a Hackaday reader and decides to share the technical details of what he built, we’ll just have to make a few guesses as to how this whole thing went down.

The signal that was tracked to the source was a 315 MHz signal, in the part of the UHF band dedicated to “Unlicensed Part 15 Devices” by the US Federal Communications Commission. FCC rules generally require devices that intentionally

radiate coherent signals, like ham and public service radios, microwave links, and television and radio stations, to be licensed. But licensing all the millions of devices that intentionally transmit signals would be prohibitive, and so Part 15 rules allow for low-power, unlicensed transmitters, to accommodate devices like WiFi, cordless phones, Bluetooth, and of course, key fobs and garage remotes.

Part 15 rules for unlicensed transmitters control unwanted emissions by having manufacturers submit a sample device for inspection. The device has to meet various requirements and pass a series of lab tests to earn certification and a label that shows the device is up to snuff. Each band has its own requirements with regard to radiated power and spurious emissions. Equipment operating in the 315 MHz band is covered by [§15.231](#).

Assuming the hacker in question was using commonly available transmitters for the 315 MHz band, like [these keyfobs from Adafruit](#), he appears to have violated a couple of parts of §15.231. Paragraph A stipulates that transmitters can only send intermittent control signals, and that the device automatically stops transmitting after five seconds. The reports make it clear that this was a continual problem over a period of weeks, so it seems like the transmitter was modified for continuous operation.

The hacker also seems to have run afoul of paragraph B, which limits the field strength of the device measured at a distance of 3 meters from the antenna to 12.5 mV/meter. Given that remotes for an entire neighborhood of North Olmstead were knocked out, and that there were reports of interference in the community of Fairview, my guess is that the signal was reaching out for a mile (1.6 kilometers) or more. To be able to propagate that far and still have enough power to swamp everyone's remotes, it seems like the transmitter was overpowered, to say the least.

Mea Culpa

The apparent inadvertent violations of §15.231 assume that the transmitter used was something commercially available and therefore subject to the FCC inspection process prior to being put on the market. The other possibility is that the unnamed hacker built a 315 MHz transmitter from scratch. If that's the case, then the provisions of §15.23, Home-built devices, would apply. There's not much in that section other than to say that homebrew devices operating the unlicensed bands must not be marketed or made in quantity, and must follow good engineering practices to adhere to the standards that a commercial device in that band would. So a homebrew device that radiated that much power would probably still run afoul of the rules, but it's in a much greyer zone.

None of this is to suggest that the Ohio hacker knowingly violated the rules, of course. Modification of stock devices comes naturally to people like us, after all, and we'll give him the benefit of the doubt that he didn't know that such modifications were illegal, assuming he did make modifications. I can't cast any stones, having inadvertently operated a pirate TV station for a few days in the 1980s when the RF modulator on my COSMAC 1802 got a wee bit overpowered and transmitted my blocky one-bit scatology to the neighborhood; thankfully the kindly amateur radio operator across the street paid me a visit before dropping a dime on me with the FCC.

All indications are that the Ohio hacker was eager to take the interfering device down when he was confronted and hasn't put it back up, which suggests he's a law-abiding fellow who just made a mistake. But his experience shows how easy it is to run afoul of the rules and have your little pet project get much more attention than you perhaps intended.

Thanks to [maxw] for calling our attention to this story.



Before Social Media: How Morse Code altered the way people communicate for 175 years

Posted by The Conversation | May 24, 2019 | Syndicated

By Eddie King, Ph.D. Student in Electrical Engineering, University of South Carolina

<http://www.milwaukeeindependent.com/syndicated/social-media-morse-code-altered-way-people-communicate-175-years/?sfns=mo>

The first message sent by Morse code's dots and dashes across a long distance traveled from Washington DC, to Baltimore on Friday, May 24, 1844 – 175 years ago.

It signalled the first time in human history that complex thoughts could be communicated at long distances almost instantaneously. Until then, people had to have face-to-face conversations; send coded messages through drums, smoke signals and semaphore systems; or read printed words.

Thanks to Samuel F.B. Morse, communication changed rapidly, and has been changing ever faster since. He invented the electric telegraph in 1832. It took six more years for him to standardize a code for communicating over telegraph wires. In 1843, Congress gave him US\$30,000 to string wires between the nation's capital and nearby Baltimore. When the line was completed, he conducted a public demonstration of long-distance communication.

Morse wasn't the only one working to develop a means of communicating over the telegraph, but his is the one that has survived. The wires, magnets and keys used in the initial demonstration have given way to smartphones' on-screen keyboards, but Morse code has remained fundamentally the same, and is still – perhaps surprisingly – relevant in the 21st century. Although I have learned, and relearned, it many times as a Boy Scout, an amateur radio operator and a pilot, I continue to admire it and strive to master it.

Easy sending

Morse's key insight in constructing the code was considering how frequently each letter is used in English. The most commonly used letters have shorter symbols: "E," which appears most often, is signified by a single "dot." By contrast, "Z," the least used letter in English, was signified by the much longer and more complex "dot-dot-dot (pause) dot."

In 1865, the International Telecommunications Union changed the code to account for different character frequencies in other languages. There have been other tweaks since, but "E" is still "dot," though "Z" is now "dash-dash-dot-dot." The reference to letter frequency makes for extremely efficient communications: Simple words with common letters can be transmitted very quickly. Longer words can still be sent, but they take more time.

Going wireless

The communications system that Morse code was designed for – analogue connections over metal wires that carried a lot of interference and needed a clear on-off type signal to be heard – has evolved significantly.

The first big change came just a few decades after Morse's demonstration. In the late 19th century, Guglielmo Marconi invented radio-telegraph equipment, which could send Morse code over radio waves, rather than wires. The shipping industry loved this new way to communicate with ships at sea, either from ship to ship or to shore-based stations. By 1910, U.S. law required many passenger ships in U.S. waters to carry wireless sets for sending and receiving messages.

After the Titanic sank in 1912, an international agreement required some ships to assign a person to listen for radio distress signals at all times. That same agreement designated "SOS" – "dot-dot-dot dash-dash-dash dot-dot-dot" – as the international distress signal, not as an abbreviation for anything but because it was a simple pattern that was easy to remember and transmit. The Coast Guard discontinued monitoring in 1995. The requirement that ships monitor for distress signals was removed in 1999, though the U.S. Navy still teaches at least some sailors to read, send and receive

Morse code.

Aviators also use Morse code to identify automated navigational aids. These are radio beacons that help pilots follow routes, traveling from one transmitter to the next on aeronautical charts. They transmit their identifiers – such as “BAL” for Baltimore – in Morse code. Pilots often learn to recognize familiar-sounding patterns of beacons in areas they fly frequently.

There is a thriving community of amateur radio operators who treasure Morse code, too. Among amateur radio operators, Morse code is a cherished tradition tracing back to the earliest days of radio. Some of them may have begun in the Boy Scouts, which has made learning Morse variably optional or required over the years. The Federal Communications Commission used to require all licensed amateur radio operators to demonstrate proficiency in Morse code, but that ended in 2007. The FCC does still issue commercial licenses that require Morse proficiency, but no jobs require it anymore.

Blinking Morse

Because its signals are so simple – on or off, long or short – Morse code can also be used by flashing lights. Many navies around the world use blinker lights to communicate from ship to ship when they don’t want to use radios or when radio equipment breaks down. The U.S. Navy is actually testing a system that would let a user type words and convert it to blinker light. A receiver would read the flashes and convert it back to text. Skills learned in the military helped an injured man communicate with his wife across a rocky beach using only his flashlight in 2017.

Other Morse messages

Perhaps the most notable modern use of Morse code was by Navy pilot Jeremiah Denton, while he was a prisoner of war in Vietnam. In 1966, about one year into a nearly eight-year imprisonment, Denton was forced by his North Vietnamese captors to participate in a video interview about his treatment. While the camera focused on his face, he blinked the Morse code symbols for “torture,” confirming for the first time U.S. fears about the treatment of service members held captive in North Vietnam.

Blinking Morse code is slow, but has also helped people with medical conditions that prevent them from speaking or communicating in other ways. A number of devices – including iPhones and Android smartphones – can be set up to accept Morse code input from people with limited motor skills.

There are still many ways people can learn Morse code, and practice using it, even online. In emergency situations, it can be the only mode of communications that will get through. Beyond that, there is an art to Morse code, a rhythmic, musical fluidity to the sound. Sending and receiving it can have a soothing or meditative feeling, too, as the person focuses on the flow of individual characters, words and sentences. Overall, sometimes the simplest tool is all that’s needed to accomplish the task.

Contest Corner (June/July 2019)

Welcome to the Contest Corner. Each month, I will include a few of the many upcoming amateur radio contests. There are too many contests on the air these days to be able to include them all so for a comprehensive list of contests, visit

<https://www.contestcalendar.com/contestcal.html>

ARRL Field Day— 1800Z, Jun 22 to 2100Z, Jun 23, 2019 [<http://www.arrl.org/field-day>]

RAC Canada Day Contest—0000Z-2359Z, Jul 1, 2019 [<https://wp.rac.ca/rac-canada-day-contest-rules/>]

This 'n' That



Mel (VE3OJN) at the famous Harvey's Big Potato is a well-known stop in Maugerville, New Brunswick.



Mel (VE3OJN) and Steve (VE3EZB) standing in a full-sized section of the Confederation Bridge in Borden-Carlton, Prince Edward Island.



Mel (VE3OJN) standing at the famous Peggy's Cove Lighthouse, Peggy's Cove, Nova Scotia.



Mel (VE3OJN) standing in front of the CF-101 Voodoo fighter-jet at the former CFB Summerside, Prince Edward Island.



Fred (aka VE3EZB) and Barney (aka VE3OJN) out for a rip. Didn't get to far though. Mastodon Ridge, Stewiacke, Nova Scotia.



Mel (VE3OJN) - He made it into another province.



Seaway Valley Amateur Radio Club

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The Seaway Valley Amateur Radio Club operates a number of repeaters in Cornwall and Area. VE3SVC is a VHF Yaesu Fusion digital repeater operating on both analog and C4FM modes at 147.180 + and a tone of 110.9 Hz. On UHF, VE3PGC (previously VE3MTA), also a Yaesu Fusion repeater with wide area coverage, is located at Bonville. It operates at 443.650 + and a tone of 110.9 Hz. For other repeaters see the Repeater Page.

SVARC Executive 2018—2020

- **President:** Ed Halliwell (VE3FHI)
- **Vice President:** Doug Pearson (VE3HTR)
- **Secretary:** Dean Brush (VA3BS)
- **Treasurer:** Elizabeth Halliwell (VE3EZH)
- **Technical Consultant:** Doug Pearson
- **Club Membership:** Elizabeth Halliwell
- **Net Manager:** Tom Todd (VA3KD)
- **ARES Coordinator:** Earle DePass (VE3IMP)
- **Editor/Publisher:** Steve Harvey (VE3EZB)



Amateur Radio Emergency Service (ARES)

The Amateur Radio Emergency Service (ARES) is composed of certified Radio Amateurs who have voluntarily registered their qualifications and equipment for communications duty in the public service when disaster strikes.

Upcoming Events

- VE2DX has been granted authorization to use the special call sign VX2A11 for a Special Event Station Commemoration of the 50th Anniversary of Apollo 11. The station will be on the air at various times from 20 July to 19 Aug 2019.
- 35th Annual Smiths Falls Fleamarket Saturday May 11th
- ARRL Field Day Saturday and Sunday June 22nd & 23rd
- MS Bike Tour, Ottawa Cornwall return Saturday and Sunday August 17th & 18th
- Ottawa (Carp) 23rd Annual Hamfest Saturday September 7th
- Montreal South Shore Hamfest Saturday October 19th



The Seaway Valley Amateur Radio Club is a proud Radio Amateurs of Canada Affiliated Club.



The SVARC Repeater reports are now available on the club website under "Area Repeater List"