JANUARY 2018   **Volume 7   Issue 1**

VE3ERC-LUB

President: Joycee VA3WXU

Vice-President: Brian VA3DXK

Secretary: Tom VE3DXQ

Treasurer: Paul VA3PDC

Trustee: John VE3JXX

QSL Manager: Judd VE3WXU

Repeater Manager & Maintenance: Carl VE3FEF

Website Admin: Ted VE3TRQ

Lighthouse: Bruce VE3QB

Maple Syrup Display: Judd VE3WXU
                               Joycee VA3WXU

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.

On January 20, Andy VE3CDF ran a half-marathon on the RADIO TRAIL in Belgium. See more on page 9.

THE PREZ SEZ!

This club is Radio-ACTIVE

President's Update for JANUARY 2018

A New View.....

A Time of Change

When January arrives and a new year starts, many people choose to change something in their life. They make a resolution to change their life for the better. For example, some people vow to bring an end to their bad habits like smoking, or eating unhealthy food, etc. It is very hard to change those kinds of habits. It takes a tenacious, determined effort to beat down bad habits and turn them into good ones. This kind of change is when you want to have change in your life.

Speaking just for me, (and many more others) I don't like having change in my life. Over many years I cling to what I have learned what works and what doesn't. These routines and patterns gets me through a day with very little problems or trouble. It is easier to follow what is true and what you know works.

The hiccough, in life though, is that it doesn't always work forever. And that is when the door opens to a huge change that takes over your whole life.

This is the worst kind of change when a person does not want to change their life but, for some reason, it was needed. These kinds of changes are almost always driven by some kind of a loss...a love, a job, a treasured pastime. Unfortunately, this is what has happened to me. My whole life since the new year is suddenly completely changed. And because of that, I have to stand down as the President of the Elmira Radio Club for a while.

I am sorry that I have to let you down. I want you to know that this has been a wonderful experience working with all of you. You were all kindhearted, considerate, and friendly. I will never, ever forget you.

In the mean time, Brian will take over my job. I will back him up and share with him with whatever I have. Please remember he is a working man. You can help him by doing a presentation at a meeting, or taking a job like QSL Manager... please do something that could help to lessen his work.

In the future, if you continue to stick together, everything will turn out just fine. I won't forget you and I will miss you all. I am sure that we will meet again at somewhere in the future. Until then, take care of you and your spouse .

My Gratitude and Love to you all,

Joycee   VA3WXU

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

2018 JANUARY 3 - AL VA3TET

JANUARY 10 - REG VE3RVH

JANUARY 17 - TOM VE3DXQ

JANUARY 24 - M E E T I N G

JANUARY 31 - PAUL VE3PVB

FEBRUARY 7 - TRACY VA3TGY

FEBRUARY 14 - BRIAN VA3DXK

FEBRUARY 21 - TONY VE3DWI

FEBRUARY 28 - M E E T I N G

MARCH 7 - BOB VE3IXX

MARCH 14 - TED VE3TRQ

"**Weather to be or not to be, that is the question, isn't it?"**

**Quote from an e-mail from Rob Kuhn, a meteorologist from Environment Canada.**

Back-of-the-Napkin Eyeball

QSO notes and stuff
by Rich, ve3DCC

January 2018

Do these look cute? Don't be fooled.
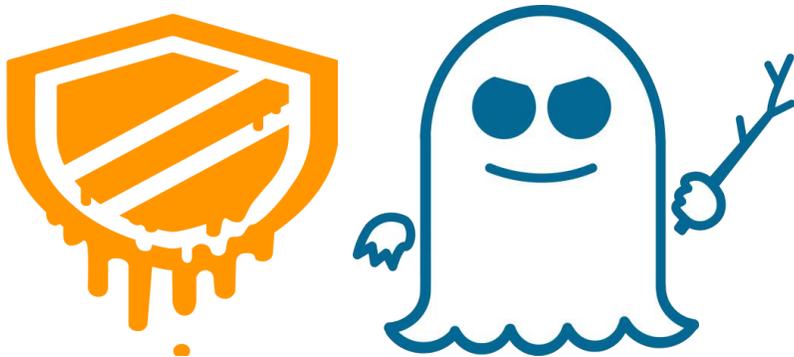
The logo on the left is the official, copyright-cleared logo for the Meltdown fault and the logo on the right is the official, copyright free logo for the Spectre Attack. You cannot help but be impressed when an unprecedented computer chip vulnerability is given its' own name and logo so quickly.

This was certainly a bizarre way to enter the new year: Security experts announced that a de-sign "feature" in all processors since 1995 (so, I assume that this means all Pentium type chips) were susceptible to a major vulnerability. To put this in perspective, EVERY device in-cluding cell phones, toys, televisions, tablets, personal computers and even out HAM RADIOS have a design flaw that can be used, and ,no doubt, has been used to access "secret" infor-mation. The fault is within AMD, ARM and INTEL chips as well as both Microsoft and Apple products.   This IS a big thing! In passing, I note that my three TRS-80 model 1 computers are immune—they have a Zilog Z80 chip that is way out-of-date (but, safe,eh!). Will only pre-pentium machines be equally safe?

There are several technical papers describing this problem with the best provided by Bruce Schneier ,a renowned cryptologist at

http://schneier.com

You can also google "Meltdown Spectre" for the latest breaking news and more technical speci-fications.
You can also find links to two seminal papers defining these vulnerabilities.

Let me take a moment to explain how this bug (it is you know!!) works with a metaphor, that does contain a few flaws. The flavour is what matters here:
Imagine that you and your friends decide to do a drive-thru takeout at a local fast-food res-taurant. Before driving thru the order window, you send your friends around to the back door of the restaurant. When your order is presented to you, packaged "to go", you refuse the or-der after delaying for a few minutes, and then you drive off. Your friends ,in the meantime, intercept your package as it is about to be thrown out and, while they are at it, they pick up other "goodies" that are also being thrown out. That, is Meltdown.

Technically, the memory isolation that is used by modern computers to keep important data like passwords etc. secure, breaks down because a program can pull this information out of memory. Usually, the processor/chip can catch these illegal peeks at the contents of memory. Modern computers though in an attempt to speed up the processing of instructions and data use "out of order" "speculative" execution of instructions- that is, when it encounters an in-struction in the program that will take more time to execute or involves a branch in execution sequence, it "looks ahead" to the following instructions and starts to execute them even as it is waiting for the slow step to complete. Instead of executing instructions in the sequential order that they are given in, processors attempt to execute lines as resources become availa-ble. Instructions can run in parallel. This is like your order being prepared and wrapped for take-out as you wait. Now, even though, those instructions can be ignored if the instructions are deemed to be unnecessary and not required to continue execution (and can be "garbaged") those speculative instructions can leave "secret" crumbs in memory that will al-low the intruder to "garbage pick" and then read all of the physical memory in the target computer. Our fast-food restaurant can end the problem by putting a fence around the gar-bage cans and computer software can try to put a virtual fence around the kernel or key memory to prevent incursions. This will slow down execution of programs, apparently by up to 30%, but it will work.

Spectre is a little more deadly, and may not be stoppable. Spectre ,according to Kocher et al [Spectre Attacks: Exploiting Speculative Execution 2017], "involves inducing a victim to spec-ulatively perform operations that would not occur during correct program execution and which leaks the victim's confidential information via a side channel to the adversary." This seems to suggest that error-checking is suspended during speculative operations.

The vulnerability occurs when the attacking program "trains" the cpu to execute certain parts of the program based on past decisions that have "set up" the speculative execution to reach ahead executing what it thinks will be the appropriate code. When the values are switched (for example the value of X being used in a memory calculation will now result in an illegal access), the parallel processor seems to miss the potential fault. It could take several hun-dred clock cycles for the processor to realize that this branch is bad if the cache or scratch-work space in memory does not have recent appropriate data to feed the program. It takes longer to process the code. It was assumed that the processor would revert or remove the results of the speculation. It would appear that this does not occur in time. According to Kocher, "the attacker needs the branch predictor to mis-predict the direction of the branching instructions , then the processor must speculatively execute code that would not be otherwise executed." PS: Did you notice the "branch" in the Spectre logo?
In our restaurant example, if you are a regular customer, the cook might start preparing your order when your car is seen coming into the parking lot. Surprise! When you arrive you ei-ther change your order or just not order—and now your friends are at the back door scooping up the "data" right out of the kitchen, itself.

Clearly, Spectre requires a redesign of the operating system and the microprocessor itself.

The best solution would be a total recall of all devices but this is clearly impossible.
Our only course of action is to be even more wary of what our devices are doing and of what
  data we entrust to our device's memory. As we see upgrades downloaded into our de-
  vices, we need to be very sure that we only install update patches from companies
  which are trusted—companies such as Microsoft, Apple or Intel. There are reports of
  fake updates that have been installing malware on computers.
On a personal note, I have had no end of difficulty in upgrading my Windows 10 operating
system on my brand new machine. I finally restored my original copy to get my internet con-
nection running again!

<div align="center">It pays to be cautious.</div>

de Rich, ve3DCC

The PDF for the slide presentation at our club meeting by
ve3DCC is:
http://www.kw.igs.net/~raclausi/coding.pdf

the problem was the ~ symbol that was too small to see from
the back of the room.
<div align="right">Rich</div>

**E-mail from Bill Reid VA3QB in sunny (warm) Florida regarding last year's presenta-
tion by Pierre Fogal on the Arctic:**

Last year Dr. Pierre Fogal VE3KTB/VY0, did a presentation to the Elmira ARC on the Arctic.
He works at the University of Toronto Dept. of Physics. He travels to Eureka Nunavut on a
regular basis for his work.

He also operates HF from there.

Pierre is an avid contester and is part of the Contest Ontario Group.

I had originally asked Bruce VE3QB to video the presentation for myself as I was in Florida at
the time.

 Being so impressed with the presentation, talking with Pierre and getting his blessing, I decid-
ed to make it public.

Video: (**https://youtu.be/_RyIsI31p_4**)

Location Map of Eureka:
(**https://www.google.ca/maps/place/Eureka,+NU,+Canada/@79.9765212,-
86.0803367,11z/data=!4m5!3m4!1s0x4fd4f9f512bb9113:0x852181d701bd7e89!8m
2!3d79.9888759!4d-85.9408951?hl=en**)

Contest Club Ontario: (**http://www.va3cco.com/**)

Pierre Fogal : (**http://www.candac.ca/candacweb/content/staff**)

Enjoy

Bill Reid VA3QB/W4

NEW PRODUCTS by Paul VE3PVB

SDRplay Release the RSP1A: A $99 14-bit 1 kHz to 2 GHz Revision of the RSP1

SDRplay Limited has today announced the launch of a new Software Defined Radio product – the RSP1A.

The SDR-play RSP1A is a major upgrade to the popular RSP1 and is a powerful wideband full featured 14-bit SDR which covers the RF spectrum from 1 kHz to 2 GHz.

Due to its exceptional combination of performance and price, the RSP1 has proved to be a very popular choice as an "entry level" SDR receiver. Since launching the RSP1, we have learned a great deal about what people are looking for in SDR receivers, and where possible, we have incorporated these improvements and new features into the RSP1A.

The RSP1A therefore delivers a significant number of additional features which result in benefits to amateur radio enthusiasts as well as significant benefits for the scientific, educational and industrial SDR community.

Here are the main additional features of the RSP1A compared to the original RSP1:
• ADC resolution increased to 14-bit native for sample rates below 6 MHz, increasing to 16 bits with decimation.
• Enhanced RF pre-selection (greater filter selectivity plus 4 additional sub-bands compared to the original RSP1) for reduced levels of spurious responses
• Improved LNA architecture with variable gain. The RSP1 had just a single gain step.
• Improved intermodulation performance
• Performance extended to cover 1kHz to 2GHz with a single antenna port.
• Bias-T facility
• Improved frequency stability incorporating a 0.5ppm TCXO (software trimmable to 0.01ppm)
• Selectable broadcast AM/FM/DAB notch filters
RF shielding within the robust plastic casing

For a very thorough review by the Radio Society of Great Britain google:

RSP1A RadCom Review Jan 2018.pdf

The following e-mail came from Marc Koechl VE3VMK

So my son Simon and I watched a really cool documentary (on Youtube) on Amelia Earhart last night and her mysterious disappearance as she tried to fly around the world. What was most interesting, something I thought you'd love to see, was in the last segment. It turns out that a number of ham radio operators were actually involved in helping to crack the case. Here is the link. If you want to watch it all its pretty cool, but if you skip to minute 39 in the video you will find the part where the ham radio operators are introduced.

World of Mysteries - In Search of Amelia Earhart

The Website URL is: **https://youtu.be/KPrBgNXpV7w**

Hope you like it!

Marc VE3VMK

FOR LOADS OF INFORMATION
CHECK OUT THE ELMIRA CLUB WEBSITE

AT
www.ve3erc.ca

Andy Vanesch VE3CDF

Marathon Ham

I have been running since high school, but it wasn't until I retired that I started to take part in full and half marathons. In 2001, at the age of 59, I was scheduled to run my first full marathon in Antarctica, of all places. Unfortunately, we couldn't land on the continent because of the rough seas and the danger of flipping our landing craft. We cruised up and down the coast for seven days and they almost cancelled the marathon. It was suggested that since we had come that far, we should figure out a way to run the race. In the end, we decided to run on the deck and through the galley (422 laps) to cover 42.2 kilometres. The MS Lyubov Orlova became the host for about 100 runners for this unique and memorable event at a latitude of 64 degrees south.

This experience was an excellent start to my goal of joining the Seven Continents Club, made up of individuals who have completed a full marathon on each continent. This goal has taken me to Greenland for the Polar Circle marathon, Easter Island (which had only 25 participants), the Outback in Australia and the Boston Marathon.

After finishing all seven continents, I ran the Route 66 half marathon in Tulsa Oklahoma in November 2012. I became inspired to chase a new goal and at the age of 71, I began the new challenge to join the 50 State Half Marathon Club.

At the beginning, needing to complete that many races seemed overwhelming, but when I got to race number 25 in Annapolis, Maryland only two years later, it started to look attainable. I started a countdown and completed my 50th half marathon in Sturges Falls, Iowa on June 26, 2016. Meeting people and racing in different places has been an amazing experience. The most memorable one was last year in Prince of Wales, Alaska.

I have been very fortunate to enjoy this hobby in good health. I have appreciated the support from my friends and family, as well as Rejean Paul and Cathy at the Waterloo Running Room. Now at the age of 75, my new goal is to finish my Canadian provinces (six more to go) and work towards 100 half marathons (I just finished number 69). This will keep me busy for the next few years.

Andy Vanesch for "Running Room Magazine" March and April 2017
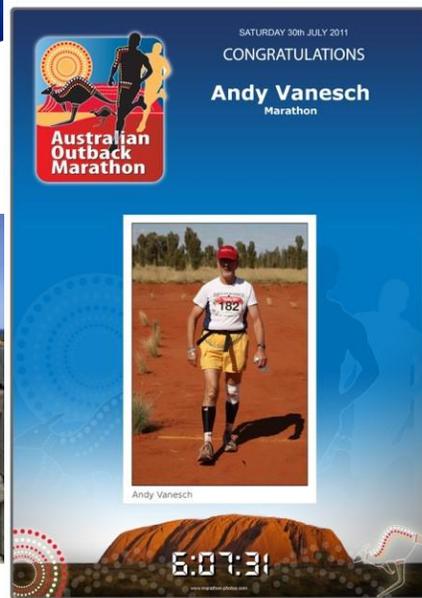
Martha's Vineyards

With son-in-law Travis in New Mexico.
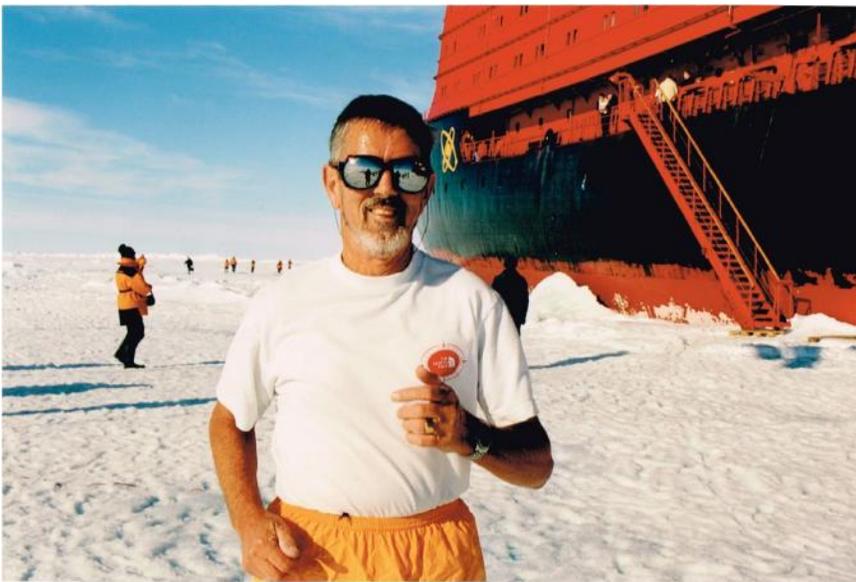
On January 20th, 2018, Andy went to Belgium to run a half marathon on, you guessed it, the Radio Trail. This property housed the radio transmission station Belradio. It was established between 1923 and 1926, and housed a beautiful transmission building in art-deco style. The first transmitter masts were 284 m high and had 1600 m long antennas. It was officially in use since October 3, 1927 and used to connect Belgium with America and the Belgian Congo as well as areas all over the world. Destroyed by the Germans in 1940, shortwave antennas were rebuilt after the war. Since 1977, the establishment has been part of the Ministry of Defense (Navy services) and by 1999 consisted of 51 radio towers.

Radio Antennas dot the landscape.

Shortly after the marathon was completed,
Andy sent the following e-mail with more pic-
tures.

**Yes Bob, a very tough mud run.
I took a shortcut. The fields were total mud!! No choice but to go thru it.
A real adventure!!
We found Radios in the Radio Pub.**
Regards Andy

ELMIRA RADIO CLUB INC

Minutes of ERC meeting for Jan 24, 2018

Joycee VA3CXU opened the meeting at 7:30 pm

Roll Call: VA3WXU Joycee, VE3DCC Rich, VA3TET Al, VE3DXQ Tom, VA3PDC Paul, VE3ML Wes, VE3QB Bruce, VA3GWM Gord, VA3FJM Frank, VA3DXK Brian, VE3KXX Kathy, VE3TRQ Ted, VE3JMU Jim, VE3DWI Tony, VE3RVG Reg, VE3CXU Doug, VA3AHP Rob, VE3IXX Bob.

Reports and Announcements: Executive, Committee Chairs and members.

Minutes from previous meeting: Tom VE3DXQ advised that VE3AUS Al had the wrong call sign in the November 2017 minutes. It showed as VA3AUS. Tom asked for minutes to be accepted. Brian VA3DXK motioned to accept minutes seconded by VE3TRQ Ted. All in favour.

Treasurer's Report: Paul VA3PDC handed out the treasurer's report to members present. The report showed expenses for the Christmas Party, as well as for RAC and our November presenter Geoff Coulson. Also Paul said that Al VE3AUS paid for full membership although there was only 6 months remaining. He will be refunded $20.00. Paul VA3PDC gave us the current balance. Brian VA3DXK made a motion to accept the minutes as read. This was seconded by Joycee VA3WXU. The Treasurer's report was accepted.

QSL Manager/Maple Syrup Festival: Joycee VA3WXU said that the club is looking for someone to fill the position of QSL manager, and Maple Syrup Festival as she is not sure if Judd VE3WXU will be back for that.

Christmas 2017 Report: Joycee VA3WXU advised that having the Christmas party at the Elmira Legion turned out very well. Ted VE3TRQ made a comment that parking was busy as there was a Turkey dinner event at the same time. Joycee VA3WXU said that this should not be a problem for Christmas 2018 as we will have an earlier date of December 14, 2018.

Township Funding: John VE3JXX said that the township turned down the funding for the equipment at the Arena and the township building. John said he applied for funding back in the fall. This involved a lot of paper work such as providing ERC books and statements. On Jan 9, 2018 the township had their meeting regarding funding for various groups. The township said they had higher priorities for emergency services, such as better warnings for floods and new radios for fire trucks. John did however talk to the director at the Arena, explaining how we would install equipment and antennas without any changes to the building. So the people at the Arena are supportive of the plan provided by John, and they have sent it off to an engineering firm to make sure it is sound. John said he will be sending a letter to the township expressing our disappointment about lack of funding. Reg VE3RVH thanked John for his efforts and there was a round of applause by those present.

Speakers/Program/Discussions

Rich VE3DCC "Codes keeping up with your Grandchildren Survival Guide"

Rich had power point up on the Flat screen TV. He showed us two icons representing two security threats built in to CPUs since 1995. They are called meltdown and the other is specter.

These are not flaws but are built in and can be exploited. He mentioned the recent security threats to Metrolinx, and Bell.

Rich talked about coding and how it relates to Mathematics. He also talked about recursion, modularity and multitasking. He also showed us software that could produce geometric patterns that if repeated many times over could resemble patterns found in nature such as a snowflake. There will be more detailed information on this in the January newsletter.

Business Arising:

Christmas Party for 2018 - Joycee advised the date will be December 14, 2018.

Fund Raising Ideas - Nothing new to report. Joycee said to keep thinking about Ideas.

RAC Canada 150 Celebrations: Brian VA3DXK advised he participated in the RAC Canada 150 Celebration by making contacts in all provinces and territories of Canada. He achieved this and printed a certificate from RAC showing this. Well done Brian.

Emergency Communications ECO Net: Brian VA3DXK brought up the question of whether we should continue the emergency net as we have been doing. There was much discussion and the consensus seemed to be that we do it only on the Wednesday nights that Brian is the net controller. John VE3JXX advised we should be getting more active with digital modes and Canwarn as well.

Joycee VA3WXU mentioned that we should all be looking for people to do presentations, also the idea of a movie night. She also mentioned that she will be stepping down as president for the time being due to personal reasons. Brian VA3DXK will be taking over for Joycee.

Meeting ended at 9:50 pm.