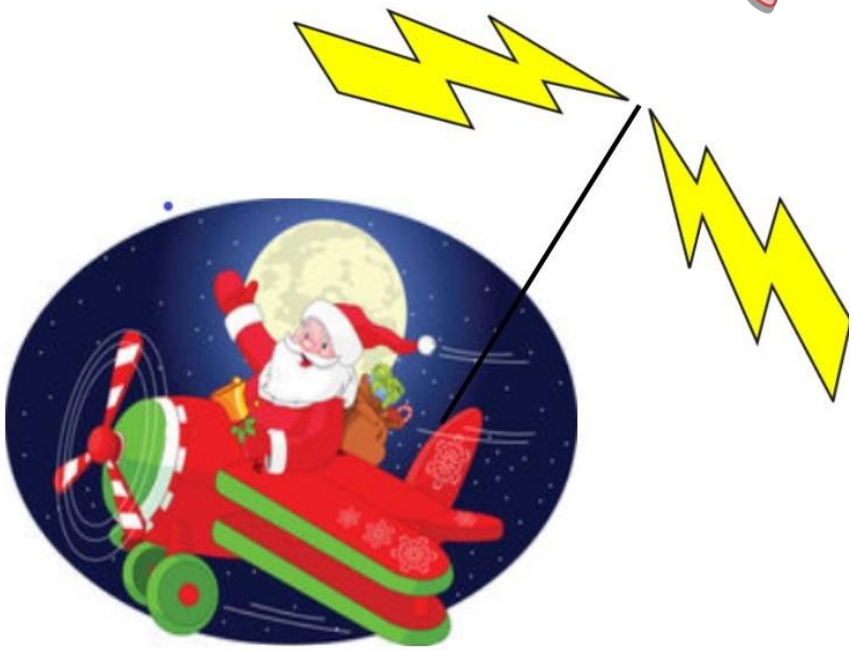
DECEMBER 2019 Volume 8 Issue 12

VE3ERC-LUB

CQ CQ CQ

MERRY CHRISTMAS



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

Radio Amateurs of Canada

THE PREZ SEZ!

This club is Radio-ACTIVE

President's Update for December 2019

As we approach the closing of the year, it is a good idea to look back and take stock of the ERC accomplishments for 2019. Reflection allows us to see how much we have actually accomplished but often forgotten.

When we run our morning nets on our vhf and uhf club repeaters, it seems like we've always had the two linked together. But in reality, it was only in January and February of 2019 that Ted VE3TRQ linked the two repeaters using Echolink. This also allowed members to access the nets using a computer as well as our radios.

In March we lost one of our members. Wilf Baker VE3HYV became a Silent Key.

April's participation in the Elmira Maple Syrup Festival brought us the promise of Spring.

May was a busy month. Our May meeting was very a long one, as we updated and revised the Elmira Radio Club's Constitution and By-Laws. It was also the month that members helped out with the KWARC Waterloo Marathon with Frank VA3FJM spear-heading communications at one of the locations. As well, a number of our members helped maintain a table at the CAER Emergency Preparedness Open House. Our club was out front-and-centre before students and local government officials.

June and July were no less busy. The beginning of June, once again brought on our participation with the Central Ontario Hamfest. The Elmira Club ran ONTARS from the site as well as maintaining two tables. Through the tireless efforts of our members, another club repeater in Alma (at Ken's VE3KYC home) was installed on 147.225 (131.8 tone). However, this was the first year in a very long time that ERC did not participate in Field Day. But this strengthened our resolve to do so in 2020 and we have already chosen a site at Hwy 86 and Northfield Drive for that occasion.

August saw our participation in activating the Point Clark Lighthouse for the annual Lightship and Lighthouse Weekend. The Elmira Club has been doing this for many years now.

September witnessed the second annual Ham Tech Seminar. This is an event that is unique to the ham community, promoting educational, informative and cutting-edge seminars.

In October, we had our Silent Key Dinner where we not only enjoyed a good company and a good meal, but remembered all of our former members who have become Silent keys.

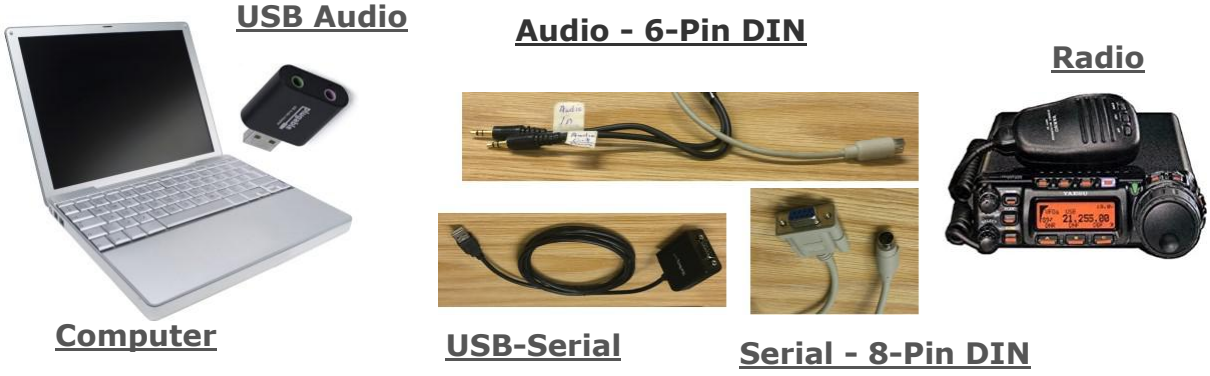
And then of course, December hosted our Annual Christmas Party.

All of this reminiscing is telling of a vibrant, and exciting club that we can all be proud of. Thank you to all for all your hard work and dedication. With that I would like to wish everyone a Very Merry Christmas and a Happy New Year and look forward to an exciting 2020.

Digital Radio Today - The Basics

By Ted VE3TRQ

When propagation is poor, when you can't run a lot of power, when your noise levels are through the roof, or when you just can't talk because it's too loud, the answer to keeping on playing radio may well be to switch to using digital radio modes. The signals can be pulled out of the noise seemingly with ease, and you don't need to hear anything other than the almost silent clicking of keys on the computer keyboard.



Radio Interface

All you need is your radio (almost *any* radio!), a computer, and a way to get the sound (and optional control) from the computer to the radio and back. All recent computers have USB (**U**niversal **S**erial **B**us) ports, which can provide both an audio path and a control path to the radio. An audio "dongle" (USB audio "card") can be had for less than $2, and a decent USB serial cable for transceiver control will be more like $20, although you *can* do without one if you are willing to do some manual control of your radio. Many radios have a built-in USB device that will do both audio and control (e.g. ICOM7300/7610, K3S). If you need to add a control interface, there are several commercial offerings, including the SignaLink USB, and a number of RigBlaster models, both of which come with optional cables for many transceivers. If you are adding your own USB to serial interface cable, look for one with an FTDI interface chip in it - they are much more reliable than may of the others.

The Computer

Almost any recent computer will do, including the Raspberry Pi. There are also many smaller *mini PC*s available, complete with operating system software, or *roll your own* versions (such as the Intel *NUC*) which require you to add your own memory, disk, and operating system software. You will need to add digital radio software for your chosen operating system - Windows / MacOS / Linux / Raspbian. Modt common and useful are Fldigi for most modes, WSJT-X for FT8/FT4/WSPR/MSK144, and JS8Call for JS8. More about these modes in a future article.

It is always nice to have a computer with enough power to handle logging and spotting programs in addition to digital radio software. The programs are really software modems (modulator / demodulator) with audio input / output for the radio. The output to the radio goes through the sound card (USB dongle), to the radio's input, preferably the line in, not

mic in (for that you'll need a pad of some kind to match level and impedance).the input from the radio comes preferably from a line output, and not a speaker (which will, again, need level and impedance matching), to the line input of the sound card (USB dongle).I'll have more on adjusting levels in a later article. CAT (**C**omputer Aided **T**ransceiver) control can be done with a real or emulated port (by USB-to-serial device, or internal to the radio). The digital program will think it is talking to a real COM or serial port. Of course you can just forgo CAT control and operate the radio manually.

The Radio

Look for the radio's line in / line out connectors, instead of using microphone or speaker connections - you can use them, but they will present difficulties. Many radios have multi-pin connectors (6- or 8-pin DIN), which means you will need to find the appropriate connectors. Old mice and keyboards can often supply the 6-pin connectors, and 8-pin connectors can be sourced from midi control cables used in the music industry. Of course you can always purchase the correct cable sets for your radio on-line. These cables provide audio and CAT control for ICOM and Yaesu radios. Many other radios will provide 1/8 inch phone connectors for audio, and 9-pin D-Sub connectors for serial, or better yet, they provide a USB connector for your computer connection.

In most cases, you will need to visit the menu system of your radio to set up the correct parameters for digital transmission - PKT (packet) or USB (Upper Side Band) or DIGU mode will almost always be required, plus you must turn off all audio processing and compression. In many radios, simply selecting PKT or DIGU mode will turn off audio processing, and will enable the line-in / line-out connections on the back of the radio.

Audio in / out is always required, but CAT control is optional. PTT can be done by turning on VOX control, and frequency selection can be done manually. PTT is normally provided either by serial / COM port control signals (DTR / RTS), or by CAT command. I use CAT control for everything, and find it works well.

To Come in Future Newsletters

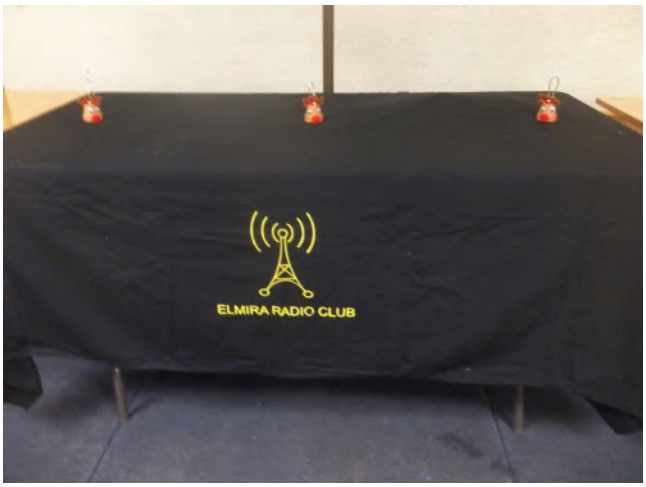
Enough for this introduction - I hope this has whetted your appetite and has shown you that digital is not magic, nor is it difficult and expensive. In future columns in this newsletter I will cover setup for specific modes and radios, plus some places where digital modes can contribute to our enjoyment of amateur radio.

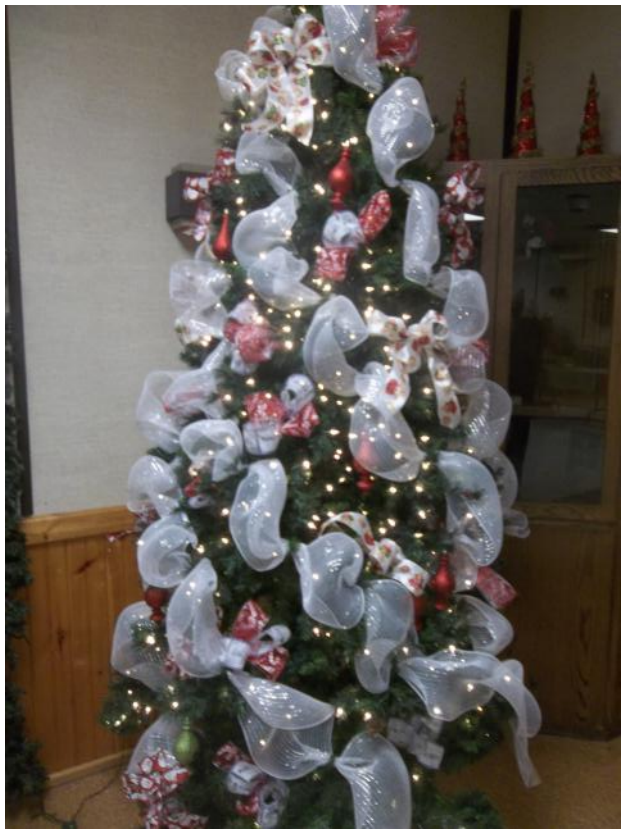
Ted VE3TRQ

SPECIAL THANK YOU

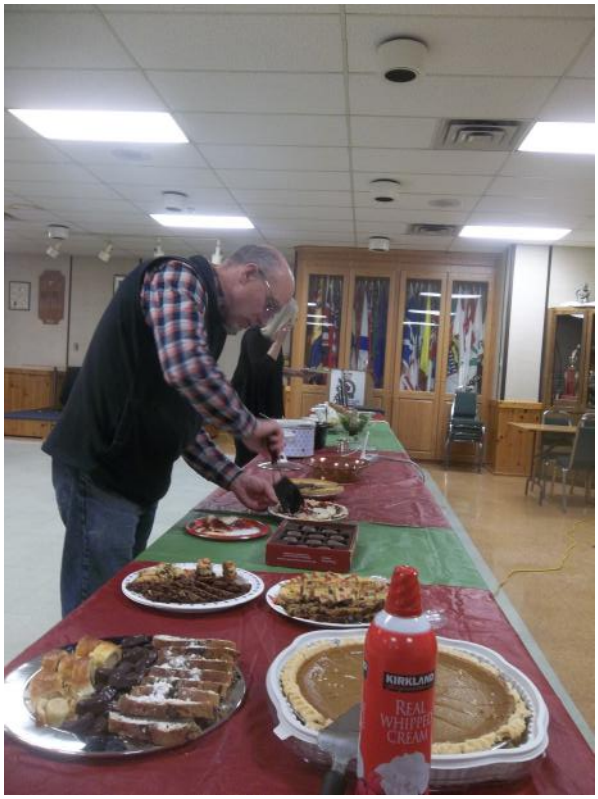
A very special thank-you to Rich Clausi VE3DCC who has been a regular contributor with his articles entitled "Back-of-the-Napkin Eyeball QSO Notes and Stuff" over a period of three years. Rich began writing the monthly by-line immediately after he ended his term as president in 2016 right up to this year 2019. Thank you Rich for all your excellent and hard work.

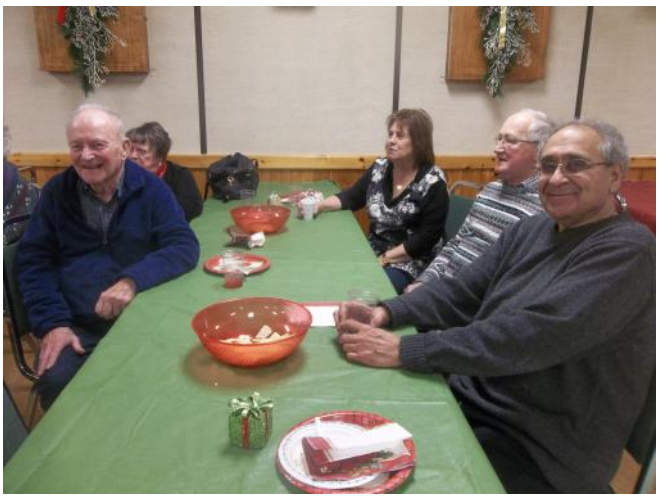
The ERC Christmas Party



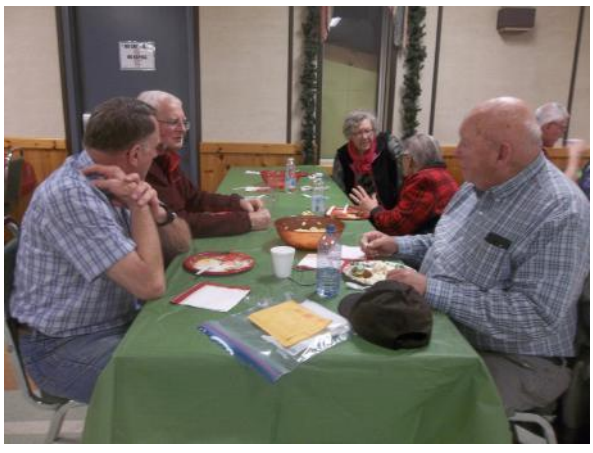


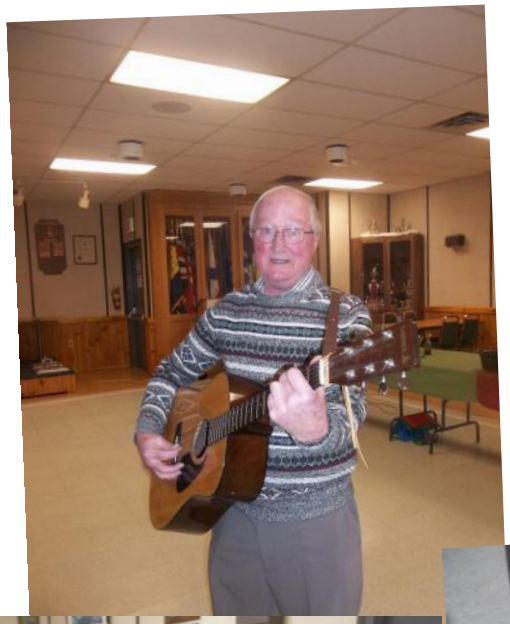
The three Christmas Tree decorations on the table were a family gift to Reg VE3RVH and were dubbed "the three hams."



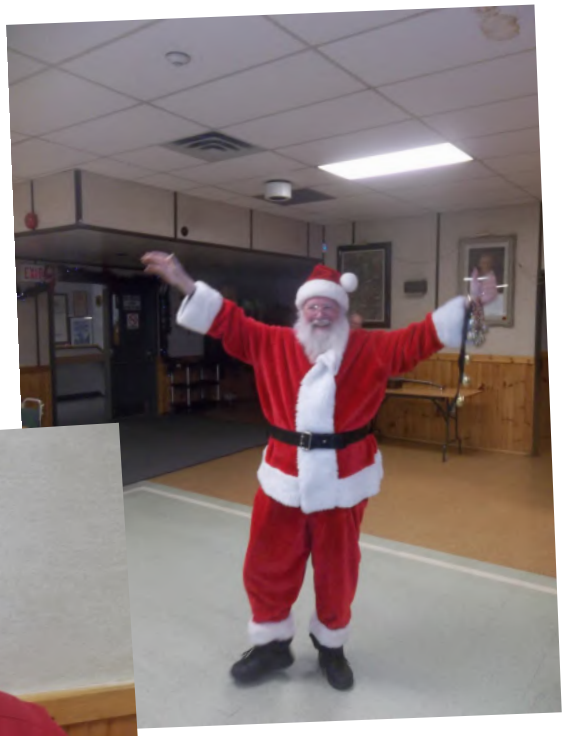


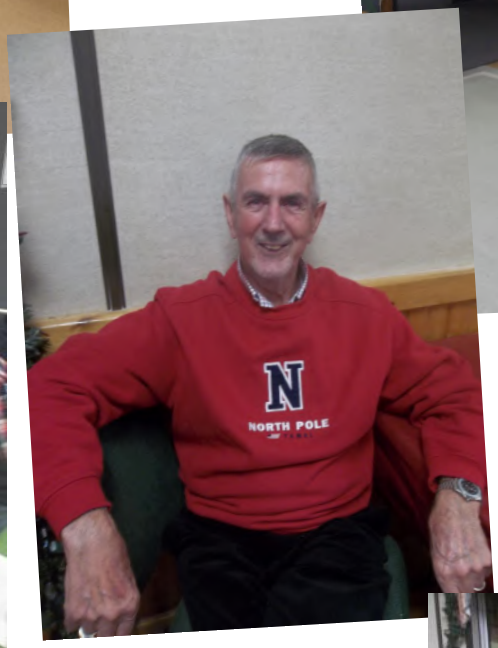
The food was good and the company even better.

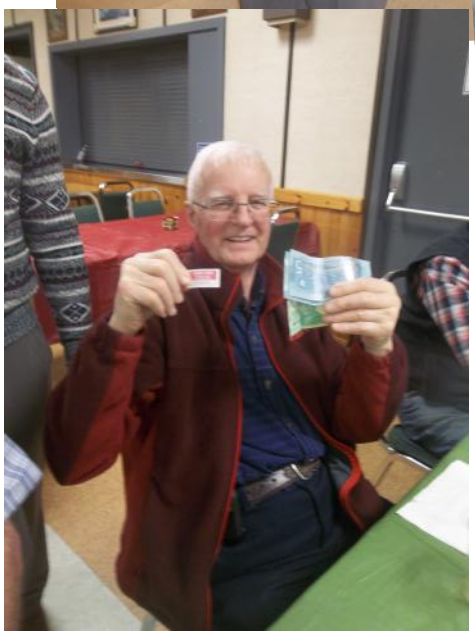




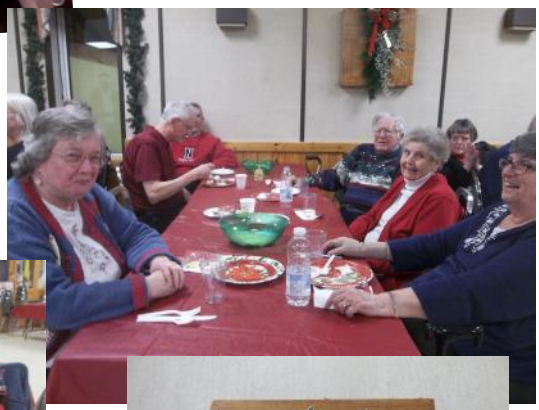
Reg VE3RVH led the group in a rousing chorus of "Jingle Bells" to bring on Santa (VA3FJM).



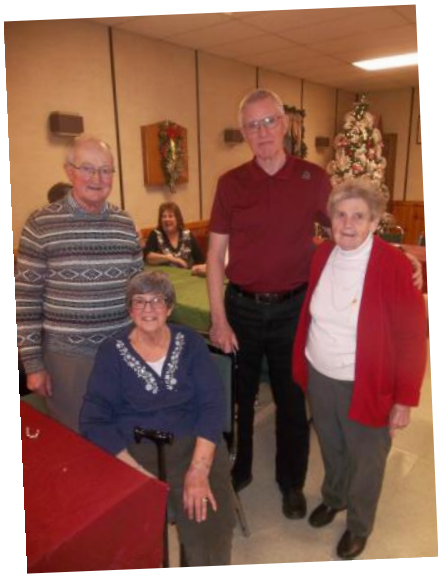


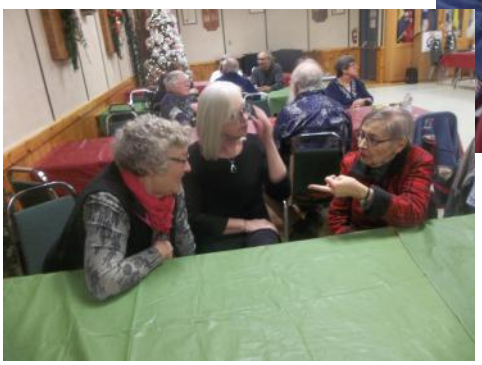


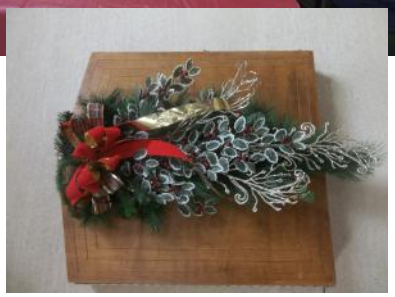
Andy VE3CDF literally ran to the North Pole in order to personally book Santa for the ERC Christmas party.



Tony VE3DWI was the proud winner of the 50/50 draw.







To the left are the planning team who, year after year, make the ERC Christmas party happen. A big thank-you to Reg VE3RVH, Jim VE3JMU and Mary and also Regina.

CONTRIBUTIONS TO VE3ERC-CLUB NEWSLETTER

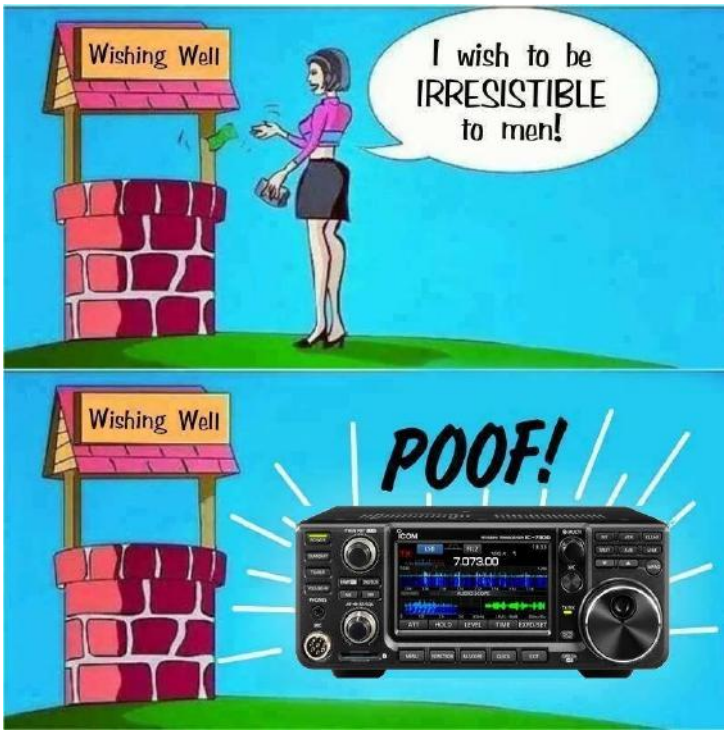
Do you have an article you'd like to submit? Or photos? Do you have any comments you'd like to make?

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

DECEMBER 4 - AL VA3TET

DECEMBER 11 - REG VE3RVH

DECEMBER 18 - FRANK VA3FJM

DECEMBER 25 - TOM VE3DXQ

JANUARY 1 - BILL VA3QB

JANUARY 8 - WES VE3ML

JANUARY 15 - PAUL VE3PVB

JANUARY 22 - M E E T I N G

JANUARY 29 - BRIAN VA3DXK

FEBRUARY 5 - BOB VE3IXX

FEBRUARY 12 - TED VE3TRQ

100+ Things to do in Ham Radio

Don't say the hobby is boring -

Have fun with Ham Radio by doing some of these And Beat the Winter Blahs.

Action or Activity	Comment
2M, 70cm SSB or CW	Working the "weak signal" bands can be fun!
6M - what a great band!	Operate the "magic" band on SSB or FM (watch for the many Es openings)
10M - This band can really jump	Join 10-10 international and KEEP THE BAND OPEN!
75 Meter Roundtables	Sometime called the groan and moan nets! Check in on the 3755 Ontario Phone Net
160M	The Gentleman's Band
AM - Operate this "old time" mode	Join one of the AM nets on 80 or 40m
AMSAT - Join and work outer space	Operate one of the amateur satellites like AO-51
APRS - find yourself	And let others know where you are! http://aprs.fi/
ARES	Be more active in your local ARES group.
ARES - Help your local group	Find your local ARES group and start having fun with them. Also strongly consider passing the various courses required to be a valuable asset and officially participate.
ARES nets	Check into ARES nets in your surrounding area
Aeronautical Mobile	Work from an airborne station
ALE – Automatic Link Establishment	Global HF network. http://hflink.com/
Antenna Party – you need a good one to work them	Friends don't let friends build and install HF antennas by themselves!
Antennas - Build'em and use'em	Wire antennas, Yagis, quads, hex beams, - then talk about'em
Astronomy - Radio version	Is E.T. at home. Surf the space waves.
Audio - make it better	Heil, Berringer, audio filters, all things audio. Make your AM signal sound like a broadcasting station.
Badge - tell everyone your callsign and club you belong to	Lots of places make these, some are really fancy
Balloon-atics – launch them, track them	Hams who put expensive equipment (transmitters, APRS, cameras etc.) in balloons and watch them fly away!
Bicycle Mobile	Talk while riding - look ma - no hands; look ma – no teeth!
Boat-anchors	Collect, fix and operate old radios (old broadcast receivers too)
Books - read one - write one	Hundreds of books - new – old - used – collectable. Write a ham radio adventure story to attract the kids to our hobby.
CW - Learn it! Use it!	You only know half the fun of ham radio without CW
CW - get your speed up to 20 wpm	The Farnsworth method works. Use one of the computer CW training programs like the Koch Trainer from G4FON.
CW club	Join a CW club such as FISTS. http://www.fists.org/
CISA	Canadian Islands Award program. http://www.qsl.net/ve3tpz/cisa/
Class - as in Ham Radio	Teach a ham class and help others enjoy the fun
Club – join/renew membership	Join a ham club, or join two!
Club – local	Attend club meetings, help run club functions
Club apparel – caps, shirts, jackets	Show your support for your club, advertise ham radio
Computer	Get a "new" computer for your shack, or upgrade your old one. Windows XP is needed as a minimum these days.
Computer Control	Computer control one or more rigs in your shack – Ham Radio Deluxe

Contesting	Make a lot of contacts and work on your operating skills too. http://www.hornucopia.com/contestcal/weeklycont.php
CANWARN	Canadian Weather Amateur Radio Network – attend the free training and help Environment Canada warn Canadians in time.
Contesting with CW	Try one of the CW-only contests – they're fun
County Hunting	Work 500, 1000 or all of them
County Hunting	Operate from some of the rare ones so others can hunt you
Crystal Radio - build one	Show others (maybe kids) how simple a radio can be
Call Sign plate for your car	Show your ham call on your mobile, less than $35 in Ontario
DSTAR	Get on the digital bandwagon! It's everywhere!
DSTAR via laptop – Dongle world!	Use a laptop to access the Dstar network while you're traveling or anytime.
DX - Work other countries	DX The Ultimate Contact Sport - this can be tough if you already have 337 countries!
DXpedition	Be at the other end of the station pile-up! Operate from some rare country or Island.
Dayton Hamvention	Attend this once in your lifetime. Bet you can't just go once"!
Digital modes	Work one or many of the various digital modes using free software. There are so many to try!
Echolink - computers and ham radio	Work repeaters/other hams via your computer
EmComm- go-kit	Have a "grab-and-go" station ready to go
EmComm-ANTENNA	You never know when you'll need to go PORTABLE so build a portable antenna. J-pole from ladder line is a good one.
EmComm courses	Consider taking some courses, you can learn a lot.
Electronics	Brush up on your understanding of how circuit components work
Field Day	Operate this fun event with your friends
Field Day	Try alternative power – solar or wind or ?
Fox Hunting	Get outdoors in the fresh air – find the hidden transmitter
Friends	Lots of opportunity to meet interesting people and make new friends
GORC	The Great Outdoors Radio Club – enjoy ham radio in the great outdoors. http://www.wa3wsj.org/GORC.html
Grounding	Build a good station ground, find a water pipe, install a ground rod, lay some radials
Hamfest	Attend a hamfest - sell that old junk, buy more!
Handi- HAMS	Help a challenged person get their license
HF – get on it	Don't just listen! If everyone just listens then the band is "dead". Funny how some HF bands are only open when there is a contest.
IOTA	Islands on the Air - every group of islands has an ID number - work'em all! http://www.rsgbiota.org/
IOTA	Vacation on an island with an IOTA number – be the one worked
IRLP	Link your local repeater to another part of the world
JOTA	Scout Jamboree on the air. Show off ham radio to young boys and girls, and the Scout leaders.
Keys - Collect them	What a great way to enjoy ham radio - telegraph keys
Kit - Build some	At least an $8 crystal oscillator or a QRP transceiver
Kites – go fly one!	Use it to support one end of your antenna. Balloons will work too
Learn to read	Schematic circuit diagrams that is! Learn to understand what the diagram is showing you.
Linear Amps	Don't need em, but if YOU do – build one!
Linux - another computer world	Download a Linux operating system like Ubuntu and start playing with all the FREE software out there. Lots of stuff for hams too!

Lighthouses	Work someone operating at a lighthouse, lightship or navigational beacon - or travel to one and work others: http://wlol.arlhs.com/
Logging Software	Get one or more. I like N3FJP. N1MM logger and GenLog contest logger are FREE
Magazines - subscribe	Read, collect, give'em away – get on CDs; keep as reference
Marine Mobile	Work from a Marine station, boating, waterways nets
Meteor Scatter	World's shortest and longest QSOs at the same time
Mobile - radio in motion	Set up a mobile station - VHF or HF
Moonbounce	“EME” might be a bit ambitious for many
Motorcycle Mobile	Shoot the bull while ridin' the HOG!
Nets	Check in before you check out!!
Oscilloscope - Learn to use	Oscilloscopes are a blast. Watch that green trace go!
PSK-31 - Digital mode for all!	An easy digital mode, lots of free software, buy or build an interface. http://www.tigertronics.com/slusbmain.htm
Pedestrian mobile	Put your HF rig and antenna on your back! Make QSO’s while you walk (no boat-anchors though). http://hfpack.com/
Parks – demonstrate ham radio	Get some friends together and set up in a city park for fun
POTA	Parks on the Air – activate a Provincial, State or Federal park on your next vacation. http://www.hamparks.org/
Public service activities	Work a public service event (I believe every ham should work at least one each year!)
Propagation of radio waves	Learn about it!
QRP - Try it!	Start trying QRP by turning down power to 5 w (10w SSB)
QRP – build it!	Build a QRP rig, many kits available. http://www.qrpkits.com/ or http://www.smallwonderlabs.com/ or http://www.qrpme.com/
QRP – join a club	Many QRP clubs like: NAQCC (North America QRP CW Club) or QRPARCI (QRP Amateur Radio Club International) or Flying Pigs QRP Club
QRP - Contesting	Lots of contests: http://www.amqrp.org/contesting/contesting.html
QRPp – even lower power	Keep your power under 1W, a few milliwatts can go a long way.
QSL cards	Collect'em, get some printed or make your own, mail out some.
QSL cards – electronic version	Try eQSL and LotW (Logbook of the World), cheaper than mail
RTTY	An ancient form of digital communications
Radio Control Planes	Fly away to your heart's content
RAC – Radio Amateurs of Canada	Join today! Your hobbies’ official national voice.
Ragchew	Be much more active on a repeater; regularly check in to nets.
Remote Control your station	Operate your station over the internet from somewhere else. Or let a friend operate your HF station from a nursing home etc.
Repair Radio Equipment	Help out other hams, fix their radios and yours too
Repeaters	Build'em, use'em, fix'em, control'em
Restore old radios	This is very gratifying. Tubes still work!
UHF/SHF	Work a contact on CW, SSB or digital above 450 MHz
SSTV	Operate Slow Scan TV. Check out 14230 on 20m.
Satellite-Antennas	Build a couple of antennas and put radio gear together so you can work one of the many ham satellites (FM, SSB or data).
Scanning	OK, it's only listening but hams do it so it must be fun!
Schools - do a demo	Go to your kid's school and tell'em all about this stuff
Scouting or Guides (and ham radio)	Go hand in hand
SOTA	Summits on the Air – climb a mountain and take along your ham gear (QRP works here): http://www.sota.org.uk/
Shack – build or improve	Make your ham shack more comfortable

Short Wave Radio	Listen to SW Radio from your favorite country. Maybe follow New Years around the globe for 24 hours?
Simulated Emergency Test	Take part in the annual S.E.T.
Software - Ham Radio	There are thousands of programs out there for Windows and Linux and they are fun to play with.
Software - program a chip	Try your hand at programming a PIC chip.
SDR – Software Defined Radio	Build or buy something cutting edge in ham radio.
Space Station	Talk to the ISS - chat up an astronaut
Speak at a club meeting	Share your experiences with others
Television - FSTV	Fast Scan TV - on UHF - set up your station and show off!
Test Equipment	Make a list and buy or make yours. Lots of kits available.
Traffic NETS	Try handling messages via SSB (75M) or CW(80M)
Upgrade your ham radio qualification	If you only have Basic, upgrade to Basic +; if you have Basic + then upgrade to Advanced.
VUCC - Award	Get this award for working 100 grid squares on 6M and above
Volunteer to be an Industry Canada	Help grow the hobby by qualifying more hams!
Accredited Examiner	
Website - amateur radio	Set up your own webpage and tell everyone what you do
Winlink2000	Email over amateur radio http://www.winlink.org/
Workbench - Set yours up	A place to do all that "fiddling around", kit construction and a place for your test equipment
Worked All States - W.A.S.	Obtain this and other awards
Worked all Provinces	And many other Canadian awards: http://www.rac.ca/en/rac/services/awards/cdn-awards.php
Write - articles about ham radio	Submit them to TCA – “The Canadian Amateur” magazine
WSPR (Whisper)	Communicate below the HF noise floor
YLs - Young Ladies in ham radio	Promote YL activity, recruit YLs, encourage YLs.
Youth - be one - help one	Help your neighbor or his kid become a ham. Loan him/her a radio to listen and learn
Try to think of something I missed	**And do it! Ham Radio can be exciting!**

Original list by Steven Donellan N5SMD

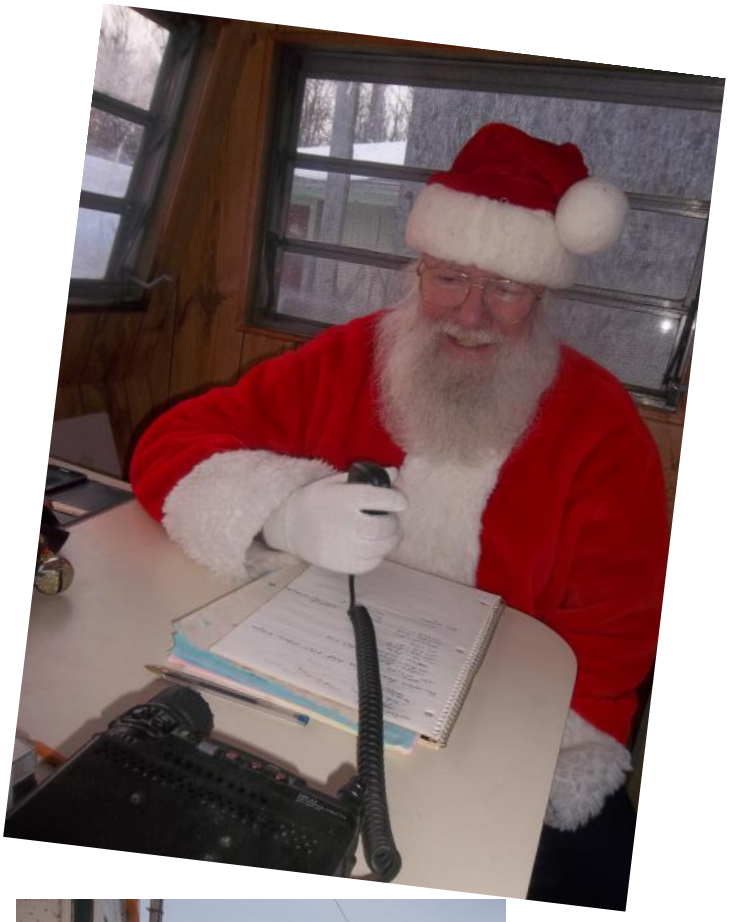
Updated, expanded and modified for Canada by Al Duncan VE3RRD

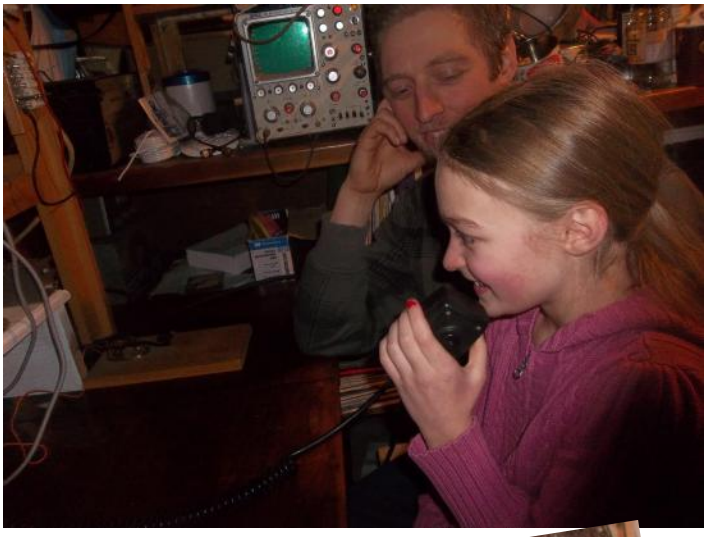
Used with permission.

And Special Thanks to Mike VE3MKX

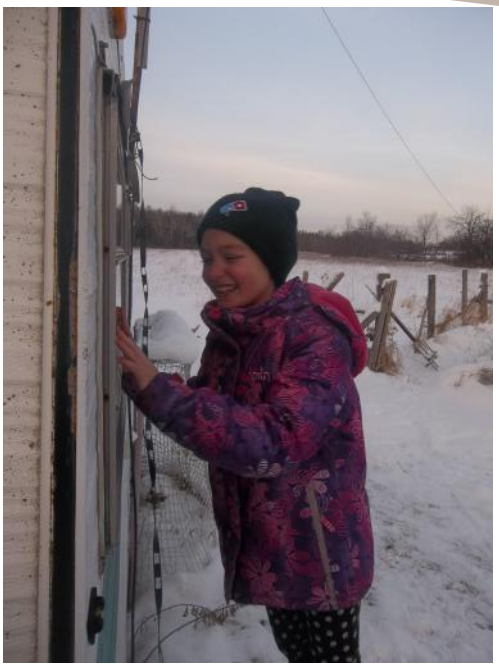
ONTARS

SANTA NET

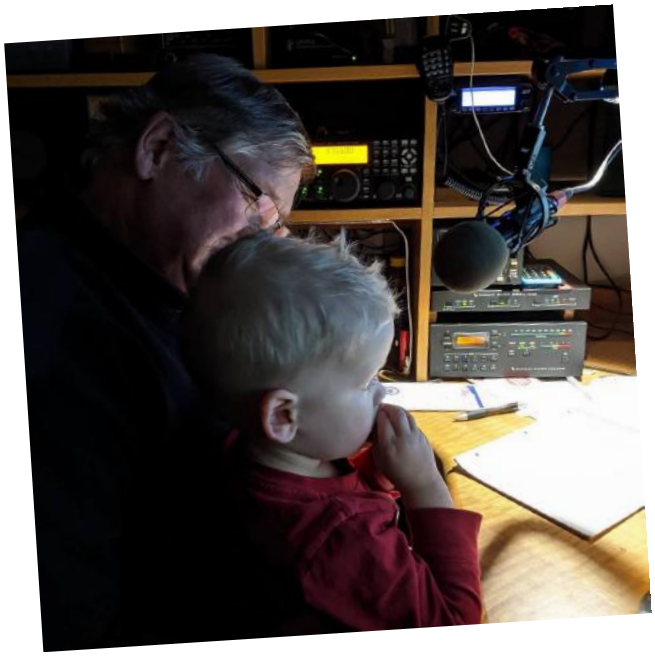




Madison (above) and Ryan (below) talk with Santa on the air to find out that Santa is 700 years old, while their dad, Tim VA3TIK looks on.



IS THAT REALLY SANTA IN THE SHACK???



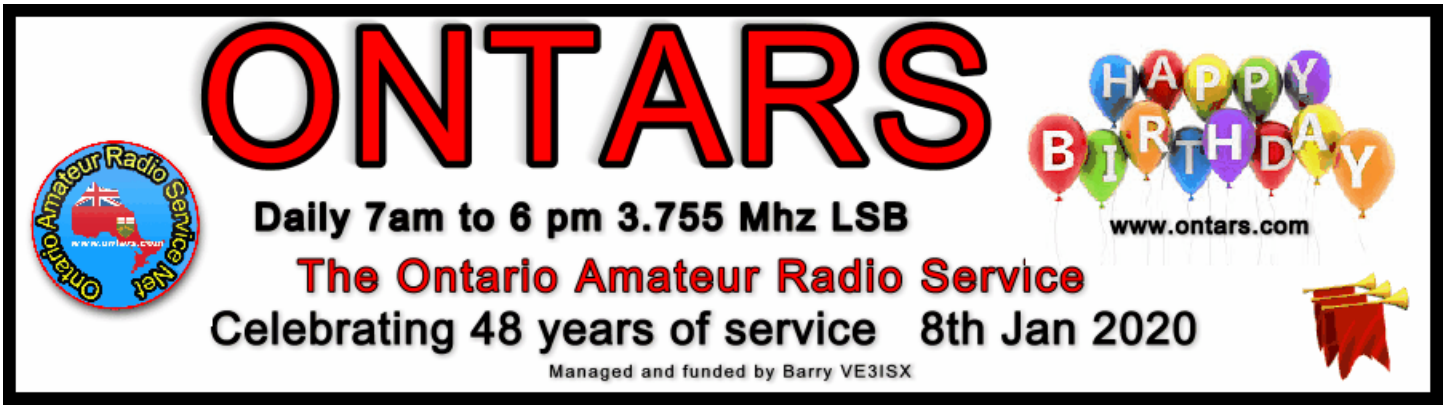
Ken VE3KCY introducing his grandkids to Santa on the air.

A special thanks goes out to our ONTARS Santa Claus VA3FJM and also to John Henry VE3CAK who has more than earned his title of Number ONE Elf. Thank you for all your efforts.

And also special thanks to ONTARS for allowing the Santa Net to happen. Visit Ontars at:

www.ontars.com

And don't' forget ONTARS Birthday Celebrations all day on January 8, 2020



ARISS SSTV Transmissions

ARISS will be supporting SSTV transmissions worldwide in memory of cosmonauts Alexei Leonov, Valery Bykovsky and Sigmund Jaehn.

The transmissions are scheduled from December 28, 2019, starting at 11:00 UTC, until January 1, 2020 at 18:20 UTC when the system is scheduled for shutdown.

Transmissions will be on the standard frequency of 145.800 MHz and in the PD 120 format.

The Polish ARISS Team prepared an award for participants to this SSTV experiment. Please see https://ariss.pzk.org.pl/sstv/

Many thanks to ARISS Russia for setting up this worldwide SSTV event.

Season's Greetings !

73,

Gaston Bertels ON4WF

Thanks to Tony VE3DWI for sending the above news release regarding the transmission of an SSTV signal from the International Space Station (ISS) starting on December 28.