



APRIL 2017

Volume 6 Issue 4

VE3ERC-LUB

President: Joyce VA3WXU
Vice-President: John VE3JXX
Secretary: Tom VE3DXQ
Treasurer: Reg VE3RVH
Trustee: Al VA3TET
QSL Manager: Judd VE3WXU
Repeater Manager & Maintenance:
Carl VE3FEF
Website Admin: Ted VE3TRQ
Lighthouse: Bruce VE3QB
Maple Syrup Display: Judd VE3WXU
Joyce 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

Emergency Reminder:
In the event of 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



Al, VA3TET, is shown with his PVA antenna for 80M which was tested out at the Elmira Maple Syrup Festival.



THE PREZ SEZ!

This club is Radio-ACTIVE

This club is Radio-ACTIVE

President's Update for April 2017

A New View.....

Reaching Out

Rich (VE3DCC) has recently been promoting amateur clubs to be more familiar with each other in order to build a larger and stronger community of amateur radio in this region. I completely agree with him. In as much that NARC, GARC, KWARC, CARC, BARC, LARC and ERC all share common attitudes, interests, goals, and expertise, it only makes common sense to reach out to each other and become comrades and colleagues.

I want to make this perfectly clear: reaching out to the other clubs, with or without membership, is not a merging, a mixing, or a blending. It is simply a collaboration and a partnership with people that share the same hobby.

With those thoughts in mind, Judd (VE3WXU) and I offered an invitation to the GARC members to come to our Maple Syrup Festival and work with us. On that Saturday morning, we hosted an eager Barry Brousseau (VE3SLD), the President of the Guelph Amateur Radio Club. He spent his time with us operating PSK 31 on Paul's (VE3PDC's) Go-Box. Barry was very impressed by our Maple Syrup display and our "program". He called it "slick and polished"..... **and it was!** When Barry was leaving that day, he let me know that he will be coming back again next year. And, he will be welcome once again.

In reciprocation to Barry, Judd, Brian (VA3DXK), and I offered our services to help GARC at the Rotary Tree Planting on Earth Day. Our job was communication when required. The event was very well run and executed by Bob Housser (VE3SFW). All of the people in this group were amiable, capable, and fun to work with. As the very cold day took its time warming up, many people came to plant the trees. I was deeply moved watching them. It awakened up the memories of when I took my students to plant trees on Earth Day. I asked Brian if he would plant a tree with me. And he did. At the end of the day, I left the event feeling we had done two memorable, extraordinary special things. Barry and Bob can absolutely count on me attending this event next year, no matter how cold and muddy it is.

This past year I have been reaching out to KWARC, GARC, and some members of CARC, and BARC and it has been a windfall for me. In some ways they sort of helped me find my way being the President of ERC. I want you to know that I am not mirroring those clubs but, I am learning from them and that is good for me and all of you in ERC.

In the near future, if possible, try reaching out to another club at least once. Work with them and foster a friend. In the end, this will help to build a larger and stronger community of Amateur Radio in our region. And, don't fret... GARC will always be GARC and ERC will always be ERC.

73 Cheers,
Joycee (VA3WXU) and recently (VA3WYY)

ELMIRA DIGITAL TRAINING ...

By JUDD VE3WXU

Next month's Digital Training net will be a bit different. Those wishing to participate will not be required to check-in or respond on air. It will be a simple listen and copy exercise, a little advance prep will be required of those interested. I have suggested those interested download, install and learn FLDIGI. In our next exercise, you'll need to download, install and configure FLMSG and FLWRAP. Configuration is VERY important as FLDIGI needs to know the location of FLMSG to allow FLWRAP to do its job.

The exercise will begin at approx 21:05 hrs local after the weekly FM Net. A call out and preamble will precede the transmission of a digital message using FLDIGI. The message will be created in FLMSG on a ICS-213 template. FLDIGI is required to receive the message, FLWRAP and FLMSG are required to display the completed filled message form. The message contained in the form is part your 'KEY' to completing the exercise successfully. The message will be transmitted at least twice, with timing space to allow operators to correct any receiving station difficulties.

After obtaining the 'KEY' phrase, you are ask to send the content to Net Control using the email address 've3wxu@winlink.org', subject line, if not using WinLink, should contain the following: //WL2K, followed by you subject. The message section should only contain the 'KEY' message received. A bit reversed, but this will be your actual net check-in, check-ins will be accepted up to 23:59 hrs local 2 June 2017. Confirmation of your check-in will be sent via email upon receipt, with comments if necessary.

Digital Interfacing ...

By Judd-VE3WXU

Hopefully, everyone has pushed on to a hard wired interface to more efficiently capture weak signals with less externally induced noise. To assist in the move forward, I've gathered some ideas that might stir your thoughts. There's lots of old phone patch interfaces on the internet and at flea markets. The Kenwood PC-1A, Heathkit HD-15 and Icom IC-SP2 are great candidates to re-purpose. Audio ground loop isolators along with USB sound dongles and a homebrew PTT circuit are cheap and easy shack builds, as are pure homebrew scratch builds. Ideas and diagrams are all a google away.

Back-of-the-Napkin Eyeball

QSO notes and stuff

by Rich, ve3DCC

The ve3ERC (Inc.) radio club has successfully completed 2 “real-time” tests of the PSK31 net. Judd (ve3WXU) has, as net controller, organized and coordinated the exercise on the “fifth Wednesday” of the month, that is, when there is a fifth Wednesday. This article is intended for those who are further afield from Elmira and have wondered what this is all about.

The digital modes are akin to sending fast Morse code. The warbles and tone changes can be detected and decoded. You can hear sample “warbling” by tuning into 14.070 at night. As in Morse code, common letters (such as e, a, i..) are coded with minimum symbols for efficiency and speed. In the very early days of this in the 1970s, the cassette output and input of micro-computers such as the TRS80 model 1, could be used to transmit and receive. This was a very crude “packet” system. Simple acoustic coupling by holding the microphone over the computer speaker, for example, also worked, but crudely so.

With the advent of hardware TNC (terminal node controller) units such as the PK232, more elaborate coding systems could be used. “Hard” wiring into the radio rig was accomplished with various interface cables. This was the rage in the waning years of the last century (1979-1999) with various digital repeaters and packet systems still in use today. But, Hardware is, well, “hard” and “wired” so a software solution seemed more flexible. Enter, an EASIER and CHEAPER approach, with a simple entry level called PSK.

PSK is phase shift keying and, according to the The ARRL Handbook for Radio Communications 2012 (page 16.7):

“PSK31 is a family of modes that use differentially encoded varicode, envelope-shaped phase shift keying. BPSK31 operates at 31.25 baud (bits per second)...Characters that are typed into the keyboard are first encoded into variable-length varicode binary digits. With BPSK31, the varicode bits directly modulate the PSK31 modulator causing a 180 degree phase change if the varicode is a 0 and keeping a constant phase if the varicode bit is a 1.”

You might think of the 1 as a dit and the 0 as a dah. This is very similar to how the early teletypes transmitted serial “bit” information using BAUDOT and MURRAY coding. These coding systems used 5 bits with prefix and suffix bits appended as START and STOP signals. This allowed the rotating rotor to set the pins on the print head.

“PSK31 varicode characters always end with two bits of zeroes. A space character is sent as a one followed by two zeroes (100); a lower case e is sent as two ones, again terminated by the two bits of zero (1100). None of the code words contain two consecutive zero bits. Because of this, the PSK31 decoder can uniquely identify the boundary between characters. A special character in PSK31 is the idle code which consists of nothing but the two prefix bits. A long pause at the keyboard is encoded into a string of even numbers of zeroes. The start of a new character is signaled by the first non-zero bit received after at least two consecutive zeroes.”

Again, this is similar to how the old Model 19 and 75 teleprinters worked.

Since hearing and timing the audio is the key to decoding the message, using audio detection software on a home computer allows the hardware to take a back seat to a “softer” software solution to the problem.

Judd and the gang have recommended the use of FLDIGI, a simple and free product, that also allows the use of “forms” so messages could be sent using ARRL-style message formats. The key in an emergency is to Keep It Super Simple, because the more elaborate the plumbing, the more that can go wrong. This software seems to fit the bill.

I had mentioned in an earlier article that I was able to just hold my Yaesu VX-6 microphone over the speaker of my TOSHIBA (old and slow) Netlap for transmit, and, similarly, I could hold the speaker of my radio over my laptop microphone to receive. Ah ha, Acoustic couple accomplished!

PS: This is also a simple and safe way to get your feet wet without putting your equipment at risk.

I also used a speaker attached to my laptop output, sitting in an old, round CD container with my KENWOOD TS-430S microphone, set on VOX, dangling next to it, to achieve an acoustic coupling for HF. The speaker out line fed directly into my laptop audio in. Again, safe and simple, so far..

The danger here is what can occur if you whistle as you work. I was entranced by my ability to generate letters on my laptop screen by whistling into the laptop microphone as I waited for my page from Judd to check in. When it was my turn to check into the net, my software had changed modes and generated strange tones on transmit. How embarrassing!!!! Maybe, I think, I need to remove the acoustic part of this equation.

I decided to try a hard-wired solution that, for my VX-6, required a "break-out" cable from my handheld that would allow me to isolate the audio from the grounding PTT. The capacitor and resistor is shown in the diagram. As you can see from the diagrams below, the isolation is necessary to protect your laptop and radio. Fortunately, I had such a cable (that I had picked up at the AES closeout sale in Orlando this past summer) and I had the required capacitor and resistor and mini-plugs handy. I elected to make the PTT a foot switch operated connection, "just-in-case"!

I have included a diagram from a PK232 interface as well as the diagram from my VX-6 manual. As with ALL radio work, read the instructions carefully before committing to solder. In my case, this wiring worked, nicely, the first time. **No Smoke!**

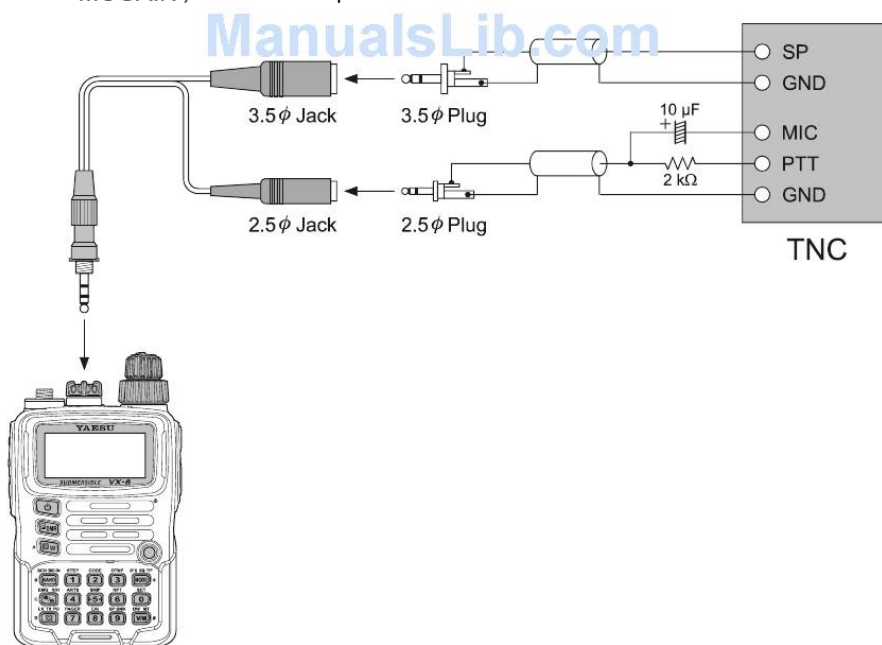
INTERFACE OF PACKET TNCs

The VX-6R/E may be used for Packet operation, using the optional CT-91 microphone adapter (available from your Yaesu dealer) for easy interconnection to commonly-available connectors wired to your TNC. You may also build your own cable, using a four-conductor miniature phone plug, per the diagram below.

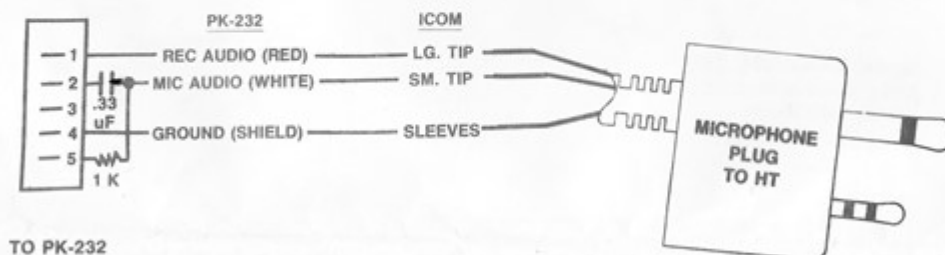
The audio level from the receiver to the TNC may be adjusted by using the VOL knob, as with voice operation. The input level to the VX-6R/E from the TNC may be adjusted via Set Mode Item 37: MCGAIN; see page 18 for details.

Be sure to turn the transceiver and TNC off before connecting the cables, so as to prevent voltage spikes from possibly damaging your transceiver.

When you are operating on Packet, switch the Receive Battery Saver OFF, as the "sleep" cycle may "collide" with the beginning of an incoming Packet transmission, causing your TNC not to receive the full data burst. See page 77 for details regarding Receive Battery Saver setup. Remember to readjust the default microphone input level to "LVL 5" (Set Mode Item 37: MCGAIN) when Packet operation is finished.



Model MFJ-5024X: for most Icom/Yaesu and Alinco 560 Hts and those radios that are pin compatible with them.



If you are within range of our ve3ERC VHF repeater on May 31st, the next fifth Wednesday, do tune in, even if you are "acoustic". In the meantime, Enjoy your coffee.

de rich, ve3DCC

WEDNESDAY NITE NET CONTROLLERS

APRIL 19 - TOM VE3DXQ

APRIL 26 - M E E T I N G

MAY 3 - PAUL VE3PVB

MAY 10 - TRACY (VE3JVG)

MAY 17 - BRIAN VA3DXK

MAY 24 - MEETING

MAY 31 - BOB VE3IXX + DIGITAL GROUP

JUNE 7 - JUDD VE3WXU

JUNE 14 - TED VE3TRQ

JUNE 21 - AL VA3TET

JUNE 28 - M E E T I N G

JULY 5 - REG VE3RVH

ELMIRA MAPLE SYRUP FESTIVAL



2017 Maple Syrup Festival Report By Joycee Hodge VA3WXU

Our third year at the Maple Syrup Festival was completely different than the two previous ones. For example, due to the subzero weather last year, we had many people dropping in at the Lion's Hall and we were very busy communing with the public as they walked by our tables. This year the lovely weather kept the crowds on the streets and we did not have large crowds walking by our station this year. Nevertheless, I do think we did very well this year.

For example, we had a larger participation of members than the first two years. Sixteen ERC members and a guest member, Barry Brousseau President of the GARC, that made up the largest group we have ever had at the festival. It included, John, Kathy, Jason, Tracey, Paul (VE3PDC), Jim, Ken, Frank, Bob, Rich, Al, Reg, Tom, Brian, Judd, and myself. We also had members supporting us on the air. They were Bruce, Harry, Paul (VE3PVB), Harold, Jim, John, and Ken. All together our member participation was absolutely stellar. Our presence in Lion's Hall was clearly noticed...partially because of so many handsome men and women walking around in our new ERC shirts and hats. We were a large, well dressed group that the crowd could not, not look at us.

Paul VE3PDC, Barry VE3SLD and Jason VE3JVG





Furthermore, I was not left all alone at the station on Friday night like I was last year. As a matter of fact, the first thing John said to me when he arrived, was that he was not going to leave me by myself. And in the end, he and lots of other people were there all through the night. That was very much appreciated.

Our performance this year was a mix bag of success and a few washouts including the failure of our T S 440 radio that in some ways, gave us the opportunity to practice with Go-Boxes for the club. John's and Paul's "Go-Boxes" ended up being used and proved that their equipment stayed on the air without problems. Several VHF/UHF, Digital, CW, and SSB contacts were made throughout the weekend via those Go boxes.

Once again our little friend Nate joined up with us...mainly attached to John who gave Nate unending patience and kindness throughout both days.



THOUGHTS FOR NEXT YEAR: Running ONTARS is a good start of the morning but, we must take into account that 80 metres is not a very good daytime band. We need to give more attention to the bands that are more favourable to good propagation during the daytime and to the most populated portions of the bands. This would serve us best in spreading out the word of the Elmira Maple Syrup Festival.



FURTHER THOUGHTS: Due to the age and the use of our club's radios they need some repairing and restoring. I believe that some of the wear and tear to our equipment would be avoided if we were keeping our equipment in protective cases similar to the kind that Paul uses. It really would be worth spending the money to protect our equipment when not being used. All in all, it was a great festival for us this year.

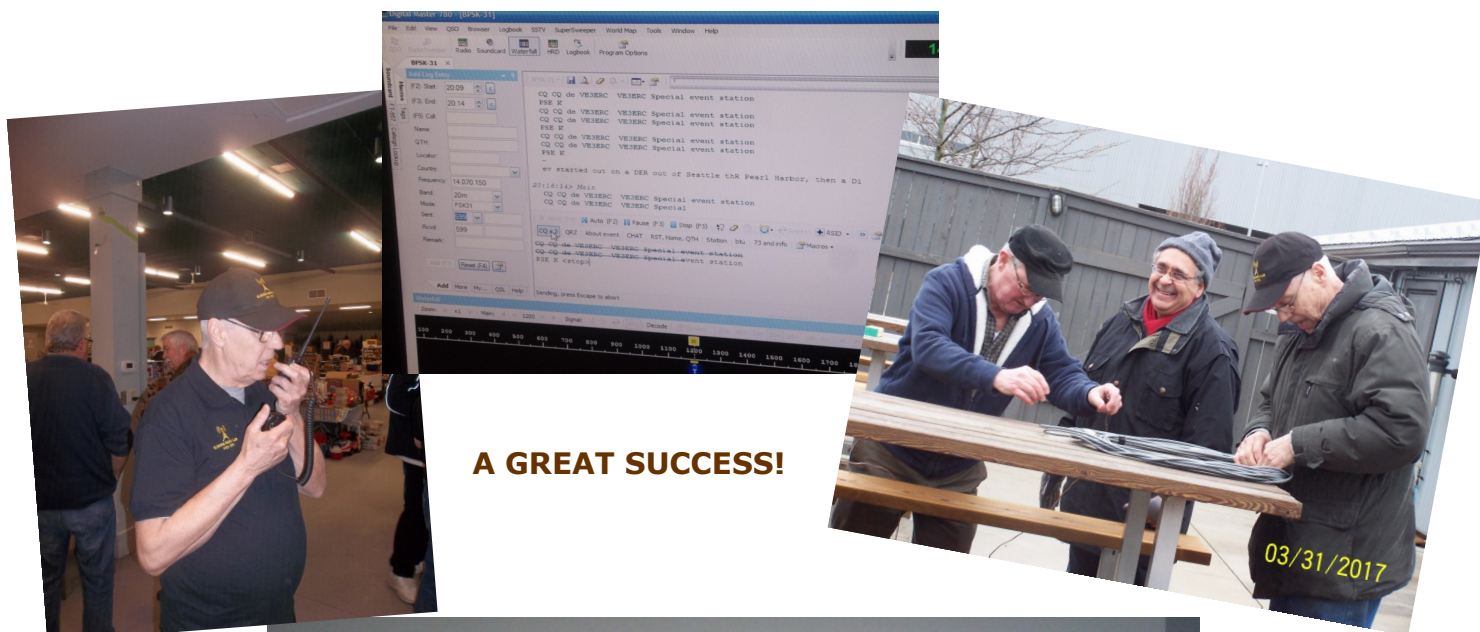
J.E.Hodge



Nate adopted John VE3JXX and now wants to get his Amateur Radio ticket!



Visitors to the booth took a REAL interest.



A GREAT SUCCESS!



REMINDER FOR CANWARN TRAINING WORKSHOP

From Geoff Coulson

The first public CANWARN session of the year is now history and was history-making. On the evening of Wednesday, April 5th, over 270 attended a training session in Owen Sound. This is a new personal record for me and is a testament to the interest in the program that existed in Grey, Bruce and surrounding counties. ...

As mentioned earlier, if you are interested in attending a session and you haven't contacted me already, please RSVP to me at geoff.coulson@canada.ca

May 9 – Dufferin County – 7 PM Dufferin County Courthouse, 55 Zina St., Orangeville
May 10 – Waterloo – 7 PM RIM Park 2001 University Ave East, Waterloo

NASTY NUISANCE NOISES

Part 3

By Bob Koechl VE3IXX

ATMOSPHERIC NOISE

Atmospheric noise, sometimes referred to as sferics is broadband (from a few KHz to several tens of KHz) electromagnetic impulses. In a radio, sferics can cause faint background hiss with bursts of static sounds.

A very large voltage constantly exists between the surface of the earth and the ionosphere. Thus the earth's surface and the ionosphere act like a gigantic capacitor with the troposphere and the stratosphere being the dielectric separating the charges. At times the dielectric material develops imperfections or holes where a discharge can occur. This is usually associated with thunderstorms, but sandstorms, dust storms or volcanic eruptions can also produce lightning. At any given time 700 to 800 such storms can occur and be received on radios at thousands of kilometers from the source. Making matters worse, sferics on other planets such as Jupiter, Mars, Venus or others have also been picked up by radio telescopes.

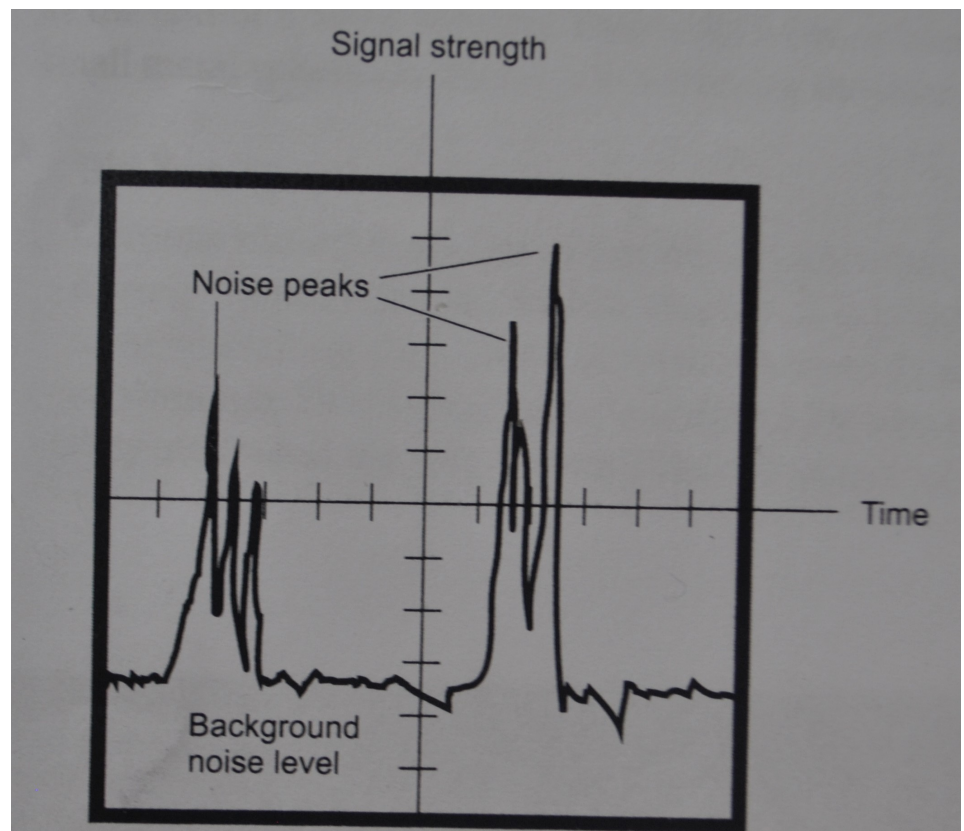
Using an AM general coverage receiver, you can hear a storm approaching. As it comes closer, you can hear the static bursts at progressively higher frequencies. For example, when you hear the static crashes at 30 MHz the storm is probably less than 160 km from your location.

SOURCES:

https://en.wikipedia.org/wiki/Radio_atmospheric

Making Everyday Electronics Work by Stan Gibilisco

If you connect an oscilloscope into an AM radio receiver to hear sferics the screen would show something like this.



VE3ERC Elmira Radio Club Inc.

Minutes from April 26, 2017

1. Open and roll call.

The meeting was open by our President VA3WXU Joycee at 7:30 pm.

Roll Call: VA3TET Al, VE3DXQ Tom, VE3WXU Jud, VA3WXU Joyce, VE3DCC Rich, VE3QB Bruce, VA3DXK Brian, VE3TRQ Ted, VE3EIX Harry, VA3GWM Gord, VE3CXU Doug, VE3JMU Jim, VE3AHP Rob, VE3EIX Harry, VE3JXX John, VA3KXX Kathy, Rich VE3DCC, VE3PDC Paul, VE3JVG Jason, VE3PVB Paul, VE3RVH Reg, VA3FJM Frank, VE3JVG Jason, VA3GSM Greg, VE3DWI Tony, VE3IXX Bob, Tracy, VA3SQD Dan, VA3QB Bill.

Announcements:

KUDOS: Joycee VA3WXU thanked the following people for their efforts getting a new dual band antenna up and running at the feed mill. Bruce VE3QB for picking out the comet antenna and connectors, Al VA3TET for picking up the antenna, Jim VE3JMU and John VE3JXX for installing it, also Ted VE3TRQ for getting IRLP up and running. Well done thanks to All (Applause).

Central Ontario Ham Fest: Jason VE3JVG said to contact him if you are interested in volunteering at the Central Ontario Ham Fest. This is put on every year at the Waterloo Regional police recreation center, by the Guelph and Kitchener Amateur Radio Clubs. See <http://www.hamfest.on.ca/>. They have volunteers and could use a few more. ERC will have a couple of tables there. Tracy advised that she promoted the Ham Fest on the Web.

Minutes from previous ERC meeting- Tom VE3DXQ asked if there were any errors or omissions. None were forthcoming. Tom VE3DXQ made a motion to have the minutes of previous meeting accepted 2nd by Judd VE3WXU. All were in favor motion carried.

Maple Syrup Festival Report- VA3WXU Joycee said that this year as different to past ones, in that the weather was very nice and this kept people from coming in the Lions Hall. However we did do something very well. We had 16 ERC members coming and going and they had their ERC hats and shirts. Also Barry VE3SLD president of the Guelph came to pitch in for a while. There were mixed results as far as equipment. The TS 440 radio failed. We still did well however as we proved we could carry on with John VE3JXX and Paul VA3PDC go boxes. Many contacts were made on VHF, UHF, HF, CW and PSK31, SSB contacts were made.

Joycee VA3WXU advised we need to pay more attention to what bands are best at what times. For example ONTARS is better earlier in the day. Joycee mention it would also be a good Idea to have protective cases for the clubs radios so as to keep them in better shape longer.

Joycee also mentioned John's patience and kindness to Nate. Nate is the youngster who comes to our table and is very interested in Ham Radio. Applause followed.

Next Joycee gave us a very nice slide show of the ERC display at the Maple Syrup Festival. Also she advised that Barry VE3SLD President from the Guelph Amateur Radio Club was impressed with the set up at our ERC table at the maple syrup festival.

Treasures report: Reg VE3RVH said dues for membership can be paid in April and May, \$40.00 for RAC members, and \$50.00 for non RAC members. Reg gave our current balance and asked for a motion to have the report accepted. This was 2nd by VE3QB Bruce. The report was accepted.



Club Communities: Joyce VA3WXU spoke about the importance of Amateur radio clubs interacting and supporting each other. This makes us stronger as a community.

Members from our club and the Guelph club came together to support the rotary tree planting event for earth day. Joyce also made a slide show of this event which was shown at our meeting.

Emergency Preparedness: Rich VE3DCC reminded us that there is an upcoming CAER exercise coming up on Friday May 12, 2017. The set up would be similar to the set up at the maple syrup festival. This will be at the community center. This would be a good opportunity to see how we can operate at that location. This will be between 10:00 am and 2:00 pm. Rich VE3DCC advised he has sent off a request to the Davis for equipment, but has so far heard nothing back. This will be at the Woolwich Memorial Center in Elmira. There will be students there as well.

Joyce VA3WXU made a request for the space, power, WIFI and other items we require to run our equipment at this event. She asked for 2 tables and at least 5 chairs and a space 20 x 20 ft. She also requested that we have the space near loading doors so we can run coax outside. John VE3JXX mentioned, we will have a long wire on the roof and we should be able to drop the coax off the roof to where we need it.

Digital Report: Judd VE3WXU advised that we will have another digital net on May 29, 2017. This will be after our regular ERC net on Wednesday at 9:05 Pm. We will be using FLDIGI, and will also need to install FLMSG and FLWRAP. There will be no voice check in. We will be sending messages created in FLMSG on an ICS213 form. This information will be in this month's news letter.

Bill VA3QB asked if there was any interest in operating HF remotely. We would have to install our own equipment at the remote site which we would have free access to. Places like Eagle Lake and Algonquin Park where there would be a very low noise floor. The only equipment we have to supply is an antenna, coax, radio, and a computer. Joycee asked those present if there was an interest, and there was some, but it was agreed to think about it until the next meeting. Bill VA3QB also asked if there was any interest for an extra room he had available for anyone wishing to go to Dayton Flea Market. No takers. He said he will unload it next week.

QSL Manager: Judd VE3WXU said that QSL is up to date, and also no QSL came in for maple Syrup day. He also said the he does the EQSL for ERC manually so people do not get the wrong EQSL card. This did happen in one case. Someone got the Light house QSL instead of the Maple Syrup QSL.

Antenna Committee: Jim VE3JMU, John VE3JXX, Al VA3TET. All ok for now.

Nomination Committee: Rich VE3DCC explained the election procedures according to section 5 of our constitution. "Officer Elections will be held annually at the regular May meeting. Officers will assume their elected office on Sept 1st of the same year .The president will appoint a nomination committee six months prior to elections. The committee will be charged with finding qualified candidates to run for office. The committee will present a ballot to the president at the regular meeting one month prior to elections at which time the President will entertain a motion for nominations and to accept the ballot. "

The nomination committee is comprised of Rich VE3DCC and Paul VE3PVB. Paul VE3PVB read out the nomination ballot which is as follows. President Joycee VA3WXU, Vice president Brian VA3DXK, Treasurer Paul VA3PDC, Secretary Tom VE3DXQ, Trustee AL VA3TET.

Paul VE3PVB read out the nominations on the ballot as above. Paul VA3PDC nominated Tom VE3DXQ for Trustee, but Tom declined as he cannot hold 2 offices. Judd VE3WXU nominated John VE3JXX for Trustee. All are in by acclimation with the exception of Trustee position. This position will be voted on at the next meeting.

Business Arising:

Civic minded events: Joycee mentioned it would be good for our club to get involved in more civic events like the tree planting, Maple Syrup Festival, and maybe in future Christmas parade.

Future Ham Convention: Rich VE3DCC mentioned he was discussing Al VA3TET that it would be good to have something where hams could learn new stuff and indulge in the hobby. The Idea would be to have a convention where we could have seminars. Al said we have a lot of resources in the community such as the university and the perimeter institute.

This would give us a revenue stream as there would be a nominal charge to attend. There was some back and forth discussion on whether to have it here or in Toronto. Al VA3TET mentioned since we are known around the world as a major tech center we should have it here.

Moving the Fusion Repeaters: John VE3JXX updated us with the situation about getting the equipment we need to get a permanent station at the Arena. This is still in the works with a quote from us and commercial vendor. Their quote was lower, but it did not include any equipment. John VE3JXX mentioned how Nate the young fellow at our table at the Maple syrup festival is really interested in ham radio and it is actually helping him improve his communication skills.

Judd VE3WXU made a motion that the club purchase the receiver Radio from Bill VE3ETK and donate it to Nate. This was seconded by John VE3JXX all in favor. The Radio cost to the club \$50.00.

Meeting closed at 9:15 PM

Visit Us at

www.ve3erc.ca