



**FEBRUARY 2017**

**Volume 6 Issue 2**

# 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



**ALWAYS PREPARED!**

See emergency preparedness article on page 4.



# THE PREZ SEZ!

This club is Radio-ACTIVE

This club is Radio-ACTIVE

President's Update for February 2017

A New View.....

## "Caveat Emptor"

Boy oh boy, was I shocked after reading a review of the Tytera TYT MD-380 DMR Portable Radio. The author of the review proffered that "The audio from this radio is full, with a good response to low frequencies, making it pleasing to listen to and it will get heard, even in the noisiest environments."

### "Pleasing to listen to..." Huh????

Everyone I have heard speaking on my recently purchased Tytera has had a slumbered croaking vocal that ranged between a baritone and bass and that individuals could not be distinguished from anyone else on the air. I am not even 100% sure that the groaning on digital is even originated from a human. For these reasons, the audio heard on digital radios is definitely **not** pleasing to me.

In comparison, the voices heard on our analogue nets are more personal and the voices are easily recognizable. An example of this is the very distinguishable "trill and pause" of Ted (VE3TRQ) when he begins a sentence with "Well..." Or, when Harry (VE3EIX) joins the net with his "Good morning to everyone on frequency." His greeting can absolutely warm the listeners down to their toes. That special, often used, good-humoured chuckle of Al, (VA3TET) always leaves smiles on those who hear it. I wonder what it would sound like, if he was on digital.

There are other things mentioned in the review that I agreed with. His "bad list" suggested that there is a number of oddities within the firmware and that there is no Bluetooth capability. He was also spot on about the charger being really **S - L - O - W** and, that the (very annoying) green "finished" LED indicator never turns off.

Had I known these things in advance of purchasing the Tytera, I probably would not have bought it. My "purchase remorse" was doubled because Judd (VE3WXU) had also bought one. Lesson learned; **"buyer beware"**

'73

Joycee VA3WXU

## On the Bands.... By Judd, VE3WXU

Local net activities and interest are steadily on the rise. If you're looking for that activity, you might tune to the following frequencies and join in:

<b>Mon</b>	8am	<b>Elmira Daily Net</b>	<b>147.390+</b>	(pl 123.0)
<b>Mon</b>	8pm	<b>Guelph FM Net</b>	<b>145.210-</b>	(pl 131.8)
<b>Mon</b>	9pm	<b>Guelph SSB Net</b>	<b>144.245</b>	USB
<b>Tues</b>	8am	<b>Elmira Daily Net</b>	<b>147.390+</b>	(pl 123.0)
<b>Tues</b>	9pm	<b>6 Meter SSB Net</b>	<b>50.170</b>	USB
<b>Wed</b>	8am	<b>Elmira Daily Net</b>	<b>147.390+</b>	(pl 123.0)
<b>Wed</b>	8pm	<b>Elmira Wkly Net</b>	<b>147.390+</b>	(pl 123.0)
<b>Wed</b>	8pm	<b>Cambridge FM Net</b>	<b>146.790-</b>	(pl 131.8)
<b>Wed</b>	9pm	<b>Guelph SSB Net</b>	<b>144.245</b>	USB
<b>Thurs</b>	8am	<b>Elmira Daily Net</b>	<b>147.390+</b>	(pl 123.0)
<b>Fri</b>	8am	<b>Elmira Daily Net</b>	<b>147.390+</b>	(pl 123.0)
<b>Fri</b>	9pm	<b>Guelph SSB Net</b>	<b>432.210</b>	USB
<b>Sat</b>	8am	<b>Elmira Daily Net</b>	<b>147.390+</b>	(pl 123.0)
<b>Sun</b>	8am	<b>Elmira Daily Net</b>	<b>147.390+</b>	(pl 123.0)
<b>Daily</b>	6:30 pm	<b>Sandbox Net</b>	<b>3.733</b>	LSB/CW
<b>Daily</b>	7am-6pm	<b>ONTARS</b>	<b>3.755</b>	LSB

**5<sup>th</sup> Wed of the Month      DIGITAL PRACTICE NET      TBA**

## Digital@VE3ERC...

**By Judd, VE3WXU**

March's 5th Wednesday will be the club's second round of Digital practice. Hopefully, those interested have advanced to a connected interface, and have honed their skills with the software. In our next session, we will move on to a simple practice of proper digital net check-in. We will build a list on the VHF FireHall repeater @ 5:05 pm, of those wishing to participate, following the weekly FM Net. Once the list is assembled those on the list will move to an FM Simplex frequency and digital check-ins will start with Net Control calling each of those on the list by call using FM voice. The proper response will be by digital,

**("NCS\_CALL) de (YOURCALL) (YOURNAME)"**

NCS will respond by digital,

**"CFM (YOURCALL) de (NCS\_CALL) (YOURNAME) THX for check-in."**

Part of this session will focus on forming a workable digital net process. If there is any questions or assistance needed, please contact:

**JUDD-VE3WXU, TED\_VE3TRQ or PAUL\_VE3PDC**

# Back-of-the-Napkin Eyeball

## QSO notes and stuff

by Rich, ve3DCC

**T**his article usually reflects the ramblings of our little breakfast and coffee group; hence, the title-- because usually calculations and notes are on the cleaner parts of those pieces of napkin.

Of late, the topic of emergency preparedness has come up. There is a common pool of operators who come out to support the various exercises in various local clubs. In the case of the Elmira Club these activities include Simulated Emergency Simulations (Oct.), Marathon Run communications (April), Field Day (June), Maple Syrup Day stations and demo (April), Point Clarke Lighthouse weekend (August) and Flea Market Station (June). All of these involve "ad hoc" stations and antennae that go up quickly. The club also runs a daily net each morning. The goal is to ensure that we are "ready" if we are called on to help and that we have a robust survival plan for our equipment (and ourselves, too!). In our last newsletter, Joyce, va3WXU, listed items that we each need in our "GO-box". Those items are usually within reach because these are things that Hams like to do; however, the "ad hoc" part is a bit of a concern.

### **Of course, the definition of a disaster includes the notion that infrastructure fails.**

The Elmira Radio Club is an official part of the township emergency plan and, in the assumption that the fire and police services communications do NOT fail, we are pleased to provide emergency citizen health and safety communications out of the evacuation centres. We are not CB types and we do not put ourselves in harm's way. The assumption that our participation would remove some stress on the "official" services, and that we would not get in the way, has facilitated our involvement with the township. Our written plan outlines how available mobile operators, on request, could report to evacuation centres and send messages out to base stations in "safer" locations so health and welfare messages can be delivered by any means, be it digital, email or telephone, anywhere. We have tested those evacuation centres, and we are currently negotiating with agencies to upgrade the antennae and feedlines at key locations.

An interesting suggestion (scrawled on my napkin) is that we participate in official ARES training courses to move our expertise up a notch.

For example, it is important for everyone to know that in case of emergency, there are well-defined places for us to electronically gather. These include our club repeaters (UHF and VHF) or simplex or HF (80 and 40 metres). These rendezvous points are outlined each month on page 1 of our ERC newsletter; however, beyond our readership there is still confusion. There is also the pesky issue of HOW messages are scripted and passed.

### **In an emergency, by its' very nature, there is chaos.**

Is it time to formalize affiliations to ensure that, indeed, on-site messages do get out to folks who can complete the path? Can we ensure that HAMS, who are able to, can render assistance?

Forming a multi-county affiliation for ham emergency coordination may not be as difficult as it sounds. We have a common pool of operators with both equipment and savvy. If we can

agree to a set of simple procedures, we can take a big step towards coordinating our response. There are many repeaters and frequencies at play. For example, in "ERC land" (Elmira and township), there are repeaters at the fire hall (2) and feed mill tower (1) with 2 in reserve. We have a low band antenna mounted at the fire hall and we have full access to the hall so a low band station could go up quickly. Neighbouring clubs have similar stories. But where is the communication "action" occurring. The glitch is, oddly, in the communication of how and where we communicate! This implicit chaos makes it very hard for reciprocity and quick response.

**Here are some key questions:**

Is county coordination worth pursuing?

Should we "group study" for ARES certification?

Should we build robust systems to pass messages via digital text and packet, MESH etc. with a driving focus on emergency communication.

**What do you think? Let us know.**

**de Rich, ve3DCC**

**WEDNESDAY NITE NET CONTROLLERS**

**MARCH 1 - BRIAN VA3DXK**

**MARCH 8 - BOB VE3IKX**

**MARCH 15 - JUDD VE3WXU**

**MARCH 22 - MEETING**

**MARCH 29 - TED VE3TRQ + DIGITAL GROUP**

**APRIL 5 - AL VA3TET**

**APRIL 12 - REG VE3RVH**

**APRIL 19 - TOM VE3DXQ**

**APRIL 26 - MEETING**

**MAY 3 - PAUL VE3PVB**

**MAY 10 - TRACY (VE3JVG)**

# NASTY NUISANCE NOISE

By Bob Koechl VE3IXX

**I**t seems no matter where you go on this earth, there is noise. I would challenge you to find any spot you can go where you wouldn't be inundated with some extraneous noise.

As hams we experience this on our radios constantly. To counteract this manufacturers fashion all kinds of sophisticated noise blanking circuits on their models. There are noise reducing headphones. There are digital microprocessors to cut the background din. While all these work to some degree, we just can't entirely get away from noise and it is often you hear comments on the radio such as:

"I'm getting an S-5 noise level!"

"Every time I turn my beam east I get a loud hiss."

"The band is much noisier today than it was yesterday."

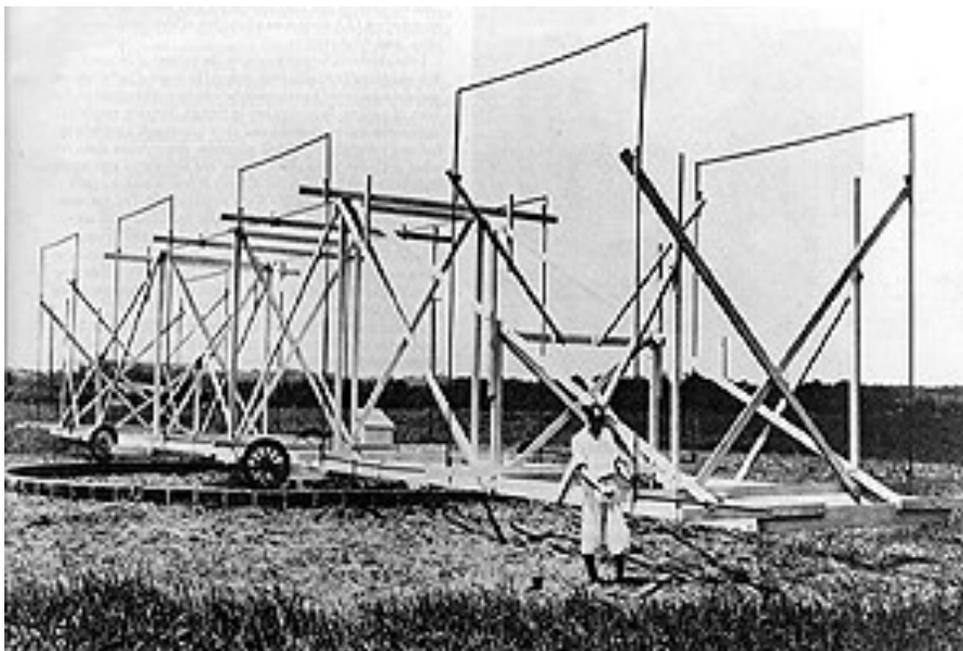
So where does all this noise come from? The answer is not always that simple because noises originate from a large number of different sources. In this series of articles, I will discuss a number of the common sources of the crackling, the hissing, the static or the squealing we hear on our speakers or headphones. We can broadly categorize noise as natural or manmade noise. Lets begin with the natural.

## COSMIC NOISE

While we as hams are trying hard to rid ourselves of the pesky noises on our speakers, there are other professions who actually search out and tune in noises. These are the radio astronomers who aim their beams out into the sky for this very reason. They study our universe by listening to the sounds the universe produces.

The particular noise these scientists are searching for from outer space is referred to as Cosmic Noise and actually covers the entire electro-magnetic spectrum from VLF to x-rays and gamma rays. Not all these waves reach the surface of the earth because of the ionized layers of atmosphere. As hams we are quite familiar with the D,E,F1 and F2 layers of the ionosphere which have profound effects on radio communications. The ionosphere and the atmosphere itself blocks a lot of electromagnetic radiation.

This Cosmic noise, surprisingly, was only first noticed on August of 1931, by Karl Jansky, an American physicist and radio engineer while working with Bell Telephone Laboratories studying practical objectives to improve radio-telephone service. His discoveries were made while monitoring the fre-



"About March, 1929, Karl Jansky began the design of a 14.6 meter rotatable, directional antenna system and the associated receiving apparatus. By the fall of 1930 (the system) was complete and in good working order."

quency of 20.5 MHz using equipment not much different than what amateur radio operators were utilizing.

With his discovery, he began more intensive research and in 1932 wrote a paper entitled "Directional Studies of Atmospherics at High Frequencies." He had noticed three distinct groups of noise, the first two of which he was easily able to identify. The first was static of local thunderstorms, the second, static from thunderstorms some distance away but the third, a very steady hiss static was of unknown origin. He was later able to confirm that it was of extra-terrestrial origin and that it's orientation correlated with the location of the Milky Way in the sky, the strongest signal being in the direction of Sagittarius ("The Archer") which is in a direct line from the earth to the centre of the Milky Way galaxy. A later paper, entitled "Electrical Disturbances Apparently of Extraterrestrial Origin" is considered by some as a classic. It tied the science of Astronomy to the science of radio and electrical engineering. For this reason Jansky is considered one of the founding figures of radio astronomy.

### The Jansky

The unit used by radio astronomers for the strength (or flux density) of radio sources is the *jansky* (symbolic form, *Jy*). The jansky is equal to one-hundredth of one-trillionth of a trillionth of a watt per square meter per hertz. In scientific symbolic notation, this is expressed

$$1 \text{ Jy} = 10^{(-26)} \text{ W m}^{(-2)} \text{ Hz}^{(-1)}$$

*[This equation, expressed in English: one Jansky is equal to ten to the minus twenty-six watts per square meter per hertz.]*

Note that in accordance with the SI (System International) notation, the unit jansky is not capitalized when written out but it is capitalized when in its symbol form (Jy). This convention is followed whenever a unit is named after a person. Thus, we have the *watt* (symbol W), the *hertz* symbol (Hz), both named after persons, but the *meter* (symbol m) because the meter is not named after a person. Typical strong radio sources have strengths of 10 to 100 janskys (10 Jy to 100 Jy) while weaker ones are measured in thousandths of a jansky or millijanskys (symbol mJy).

<http://www.bigear.org/vol1no4/jansky.htm>

As an aside, in 1965, Arno Penzias and Robert Wilson who also were working for Bell Laboratories, picked up an unusual cosmic noise. It seemed to be coming from everywhere. They could not determine the source of this mystery noise. Today many radio astronomers believe the noise originated from the "fiery birth of our universe" somehow delayed by billions of years. If this is true we are in effect hearing a re-echo of Creation.

Next month we will look at Solar Noise and Atmospheric noise. Stay tuned...

#### SOURCES:

Making Everyday Electronics Work by Stan Gibilisco pp. 206-214

My Brother Karl Jansky and His Discovery of Radio Waves From Beyond the Earth by C.M. Jansky, Jr. at <http://www.bigear.org/vol1no4/jansky.htm>

# VE3ERC Elmira Radio Club Inc.

*Minutes from Feb 22, 2017*

## 1. Open and roll call.

The meeting was opened 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, VE3KCY Ken, VA3SQD Dan, VE3AHP Rob, VE3EIX Harry, VE3JXX John, VA3KXX Kathy, Rich VE3DCC, VE3PDC Paul, VE3JVG Jason, VE3UTN Dennis, Mike (Guest), Tracy VE3X-YL, VE3IXX Bob, VE3PVB Paul, VE3RVH Reg.

**Announcement:** Joycee VA3WXU advised that Doug VE3CXU had an announcement for us, and Doug advised that a fellow in Conestogo has a radio for sale, and it is national NC300 receiver with 6 meter, and 2 meter modules. Please contact Doug if you are interested.

**Minutes from previous meeting:** Joycee VA3WXU asked if there were any errors or omissions from the January 2017 minutes. Tom VE3DXQ mentioned that he had Harold's call sign incorrect. It should be VE3CD. This has been corrected. Bruce VE3QB made a motion to accept, the January minutes, this was seconded by Judd VA3WXU. The minutes were accepted.

**Treasurer's Report:** Reg VE3RVH gave the current balance. Tomorrow he said he will be going to Guelph to meet with Ted Smith to do our income tax.

**Digital Report:** Judd VE3WXU advised that on the 5<sup>th</sup> Wednesday of March the club will be running a digital net. Judd gave out a hand out explaining how this net will run. This will also be in this month's newsletter. This net will follow the regular Wednesday night net approx 9:05 pm. Judd VE3WXU also advised that there are some tips regarding an email service that is over the radio on the back of the hand out.

**Emergency Committee:** Rich VE3DCC presented an overhead called Emergency Planning Co-ordination.

Rich VE3DCC advised it is quite often the same people that are involved in emergency services. He also mentioned the various clubs that are involved with Emergency communications support services. They include Guelph, Simcoe, Cambridge, and Kitchener. Rich said Cambridge is thinking of re-activating their ARES club. They had put a report out on doing this, but three issues came up.

1. Massive technological change. CFD (Cambridge fire department) has many government services they can call upon.
2. How would we be accepted by local, regional, and provincial government? They might not understand enough about what Amateur Radio is capable of doing.
3. Ares groups are disbanding in many areas. Rich advised that less than 50% of clubs have a functioning ARES team.
4. Another issue is the support of ARES by RAC.

Visit Us at  
[www.ve3erc.ca](http://www.ve3erc.ca)

ARES is the Amateur Radio Emergency Service. Rich VE3DCC advised that there is an online course for ARES training. There are 3 volumes. We are part of the Woolwich Township Emergency planning. We are communications support services only. We do not get in the way of Emergency professionals, such as police and fire department.

We have been involved with demonstrations at Woolwich town hall. We were observers at a simulated emergency, such as the one in Breslau that was a simulation of a plane crashing into the refinery in Breslau.

In the event of some disaster the ideal would be that we report to the evacuation center, and send messages out to base stations that are somewhere else. Health and welfare messages could be sent out by any means possible. We have done testing at the evacuation centers and are negotiating to upgrade antennas at those centers.

Rich VE3DCC asked the question could we form a multi county affiliation for emergency response. He said he thinks it is possible, but will we do it? Will we take ARES training?

John VE3JXX spoke regarding funding for antennas, and radio rooms at the evacuation center and town hall. John also made up a proposal for funds for this to give to the township. He said it would include 2 HF stations, 2 VHF/UHF stations, coax, antenna stands, astron power supplies, 2 comet HF antennas, antenna tuners, coax connectors, and a scanner. Total cost approx \$8,000.00.

There was also some discussion regarding, other possible items, such as Baluns, towers, and portable generators.

Tracy VE3XYL is getting a proposal together for emergency response tying Kitchener, Guelph, and Elmira together.

**Elmira Maple Syrup Festival:** Joyce VA3WXU showed a preparedness poster that will be on display at the ERC table. Judd VE3WXU said he has already passed around the sign-up for set up and tear down at the Lyons Hall. We got a crew for operators. Bob VE3IXX for ONTARS. Dennis VE3UTN will be running digital mode PSK31. We have one more meeting before the maple Syrup Festival. Judd VE3WXU asked Ted VE3TRQ if there would be IRLP available at the Maple Syrup Festival, Ted said there was a good possibility it will be available.

**Antenna committee:** John VE3JXX advised that he had an on air meeting on Jan 31, 2017 and talked about issues at the feed mill antenna. Those on were VE3WXU, VA3TET, VE3KCY, VE3CXU, VE3JMU, VE3QB, and VE3PVB. After much discussions that at this point in time we should just change the coax and antenna and possible add a piece of pipe to get the antenna up higher and away from other antennas. The new antenna would be a dual band one. The repeater will stay where it is for now. There was also discussion on what type of coax to use. Al VA3TET suggested that the coax should be 7/8 hard-line.

**Nomination Committee:** Paul VE3PVB and Rich VE3DCC submitted their names to Joyce VA3WXU for nomination committee. The present positions are as follows Joyce VA3WXU president, John VE3JXX john vice president, VE3RVH Reg Treasurer, VE3DXQ Tom secretary, VA3TET Al Trustee.

Paul VE3PVB advised that anyone interested in any of these positions see him or Rich VE3DCC.

This is in the constitution so we have a good rotation of leadership and transparency.

**Unfinished Business:** Joyce let the members present know she has club rosters available for those who want them. Al VA3TET mentioned that we could raise funds by build log periodic antennas and sell them. Reg VE3RVH mentioned that we should each donate \$100.00 to the club. John VE3JXX mention there are opportunities to raise funds by volunteering at the legion serving breakfast, which is once a month. Sixteen people would be required.

Meeting closed at 9:00 pm

## Introduction to WinLink Express...

By Judd, VE3WXU

These days, most everyone has at least one email address, but do you have an address that works even when the internet is down? If you have a computer and a radio you could have an email address that can endure an internet failure. I won't go into detail here, but will provide the simple guidance, to direct you to google

**" WinLink Express"...**

While you're at it, google **"HOW Club"...**

I'm always looking at furthering my digital abilities, I keep finding that there's always more and more to be explored and experienced.