

OCTOBER 2023

Volume 12 Issue 10

VE3ERC-LUB

President: Reg VE3RVH

Vice-President: Frank VA3FJM

Secretary: Tom VE3DXQ
Treasurer: Ted VE3TRQ
Trustee: Wes VE3ML

QSL Manager: Kirk VA3KXS Repeater Trustee: Wes VE3ML Website Admin: Ted VE3TRQ

Lighthouse:

Maple Syrup Display: Newsletter: Bob VE3IXX

ERC Website: https://ve3erc.ca

ERC REPEATERS

UHF 444.700 + TONE: 131.8 UHF 444.700 + TONE: 123.0 VHF 147.390 + TONE: 123.0 VHF 147.255 + TONE: 131.8 EMERGENCY SIMPLEX: 146.550

UHF-IRLP node 2404, ECHOLINK VE3ERC-L VHF- IRLP node 2403, ECHOLINK VE3ERC-R

In an emergency, tune
Into our repeaters,
UHF 444.700 or
VHF 147.390 or
HF 3.755 LSB or
Simplex 146.550
For coordination and
assignments.







From our old ERC file pictures. Anyone remember this portable operation?

THE PREZ SEZ!

This club is Radio-ACTIVE Luis club is Badio-ACTIVE

President's Update for October 2023

Our meeting was a very exciting evening of warm friendly conversations and a little background noise. The first noticeable thing was Ted,VE3TRQ.s new audio and microphones system. The zoom audio was great. The club passed the motion to pay Ted for his cost.

The main event was a presentation put on by Karen KD4DXX. It was on programing of all radios by computer.

Then followed Rod VE3MZD. He reported that Alma has now a Yaesu DR,2X connecting to wires,X.

In conclusion Ted still has many club hats which are free to all new club members.

Many hands make work go easy.

Thanks to all involved. Reg VE3RVH



Thanks to Graham VE3BYP for the news of the upcoming SSTV test transmission from the International Space Station..

Digipeater Activity Update

New Slow Scan Television (SSTV) transmission test upcoming. Window set for October 27 - November 01.

Test Notes:

- Testing is to verify performance of replacement SSTV gear
- There are 2 windows, separated by an EVA:
 Fri. 27-Oct. at 12:15 UTC | 8:15 AM ET Sun. 29-Oct. at 18:50 UTC | 2:50 PM ET
 Tue. 31-Oct. at 10:05 UTC | 6:05 AM ET Wed. 01-Nov at 18:10 UTC | 2:10 PM
- Transmissions on 145.800 MHz using the PD120 format
- Like the early October test, transmissions may not be active at all times during the entire window.
- ARISS SSTV gallery will be available to share images. https://www.spaceflightsoftware.com/ARISS_SSTV/
- Watch ARISS Social (@ariss_intl) for official updates







Doug Kuhn VE3CXU
Johan Bouwer VA3JBO
Al MacDonald VA3TET
Harry Eix VE3EIX
Wallace Caughell VE3LCR
Ralph Brubacher VE3EUC
Ken Moore ?
Syd Lennox VE3CQO





CONTRIBUTIONS TO VE3ERC-CLUB NEWSLETTER

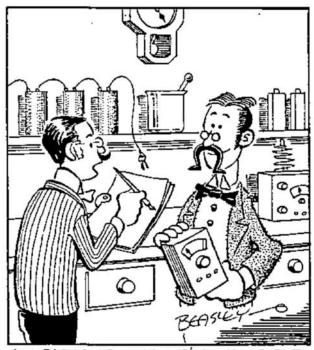
Do you have an article you'd like to submit? Or photos? Do you have any comments you'd like to make?

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)



ALLRIGHT, MR. OHM, WE'LL NAME THE UNIT OF ELECTRICAL RESISTANCE AFTER YOU --- NOW WHAT SHALL WE USE FOR A SYMBOL?

WEDNESDAY NITE NET CONTROLLERS

SEPTEMBER 20 - TED VE3VE3TRQ

SEPTEMBER 27 - MEETING

OCTOBER 4 - TONY VE3DWI

OCTOBER 11 - BRIAN VA3DXK

OCTOBER 18 - TED VE3TRQ

OCTOBER 25 - MEETING

NOVEMBER 1 - BILL VA3QB

NOVEMBER 8 - BOB VE3IXX

NOVEMBER 15 - REG VE3RVH

NOVEMBER 22 - MEETING

NOVEMBER 29 - FRANK VA3FJM

DECEMBER 6 - TOM VE3DXQ

Love and the Telegraph

This is a short article "SPARK GAP 3" from MORSE MAGNIFICAT, the first issue in 1983 which is available on-line at

http://www.n7cfo.com/tgph/Dwnlds/mm/MMs/MM01.pdf for free.

How to Find a WIFE circa 1928

I was back home "between jobs" when I learned that there was a new lady manager at the Western Union. Being single, and about 20 years old, I decided to "look the situation over", so to speak.

Always the jokester, I introduced myself to the new manager and told her, that I would like very much to learn how to telegraph, and would she enroll me as a student-operator?

She was polite, but unenthusiastic and said something about having to get permission from HQ first.

About that time the relay office called her with a long day letter. I could tell she was struggling to copy it, so I walked through the swinging door and told her to get up and let me sit down at the operation position. Evidently my voice had a ring of authority to it, as she got up without protesting. Having had experience on duplex circuits, and in relay offices, I had no difficulty in copying the message.

She forgave me for deceiving her.....

and a few years later we were married.

Harvey B. Savage, Jr. D&D

CORRESPONDENCE

Rob VE3PCP sent the following Report on:

SIMULATED EMERGENCY TEST- October 7, 2023

Hello All:

We completed our Simulated Emergency Test on Saturday October 7, 2023 while set up at the annual Fall Fair in Tiverton.

Our usual monthly schedule is the second Saturday of the month but we pulled it ahead a week to coordinate with the fall fair as we did last year.

We purposely chose the time of day from 11 AM until noon and 1 PM until 2 PM as this time frame is typically when the most RF absorption happens this time of year on 80M and 40M which leads to generally less than optimum conditions on both bands for RF communications. We were not disappointed.

Even though we had cool and wet weather, the absorption was still very evident on both bands.

In our portable set up we used:

HF Transceiver - Kenwood TS-850, a high quality non SDR Transceiver. Running on Deep Cycle batteries. MC-80 Desk mic with a hand mic backup

<u>Amplifier</u> - Dentron GLA-1000B Sweep Tube desk top amplifier. Running on 120VAC from an Inverter generator. 300 to 400 watts power output.

VHF/UHF Transceiver - Kenwood TM-721 running on Deep Cycle battery, non SDR trans-

ceiver capable of cross band

HF Antenna - 20/40/80M Linked resonant dipole set up as an NVIS, Near Vertical Incident Skywave, configuration with the feed point at aprox 24', Slight inverted V. RG-8X X 25' Long. Sectional fiberglass pole.

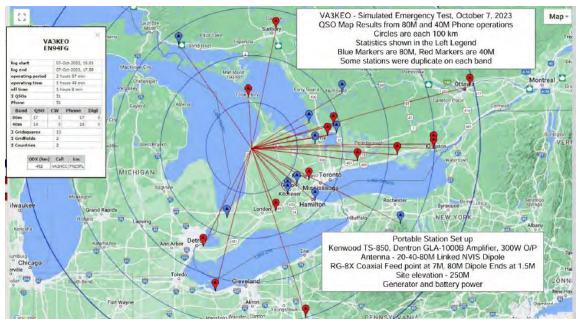
VHF/UHF Antenna - Ladder Line J Pole that tunes on both 2M and 70 CM hung from a 16' high pole. Fed with a combiner/duplexer at the rig, single coax to the antenna. RG-8X Coax. Sectional fiberglass pole.

Internet Connectivity

A permanently installed cell phone repeater with a log periodic external antenna aimed at the nearest cell tower as confirmed with an LTE tracker phone app. Provides typically 10db or

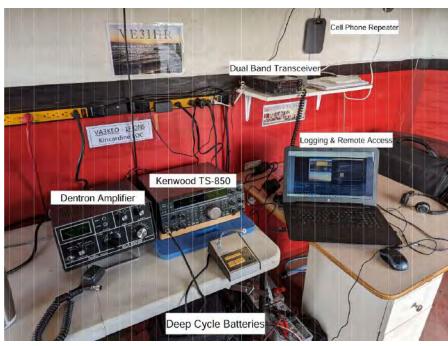
more gain for cell signal inside the trailer vs outside. A cell phone hot spot was then enabled for internet connection. A modern Windows 10 laptop for logging and connection to our home station shack computer to set up the livestream and for connectivity to the remote station

Attached is a summary in pictures with a QSO map showing the con-



tacts from our log and other information. Site pics with labels for inside and outside set up.

I was on my own for this operation and my son Justin VA3AQZ was quite sick and his mother Alicia, VA3KGZ was tied up late at work.



Operation Summary:

As seems to be typical for the Tiverton Fall Fair weekend, it was cool and rainy. Having to seek cover from the rain while setting up, we were still able to be set up and fully operational before we had to be on the air at 11 AM. The portable set up worked as expected as we have done many portable operations with our equipment and had very few hiccups. We lost connection on the laptop with the remote station a couple of times but the laptop was doing many things all at the same time. Usually if there is more than one of us, we would have 2 laptops going which minimizes that

issue.

The resonant NVIS antenna worked well and had been tested and tuned ahead of time so changing bands was quite simple by simply lowering the antenna feed point down with the lanyard and un coupling the links as required.

The time of day worked as expected to demonstrate less than ideal propagation on both HF bands. Earlier in the morning or later in the day and night time would show improvements.

Conclusions and My opinions:

If you want to be sure on establishing an over the air connection on 80M and 40M especially, leave the QRP rigs and compromise antennas at home.

Have at a minimum 50 to 75 watts, better 100W rig. A non SDR radio is preferred to eliminate any possible issues with software on the radio. When operating in harsh conditions and on emergency power, a robust radio is essential. Even some mobile rigs are less than ideal if

you need to be on the air for any length of time most especially if you are running a mode with a high duty cycle like many digital modes.

The Kenwood TS-850 can run 100% duty cycle all day long at full power output. An amplifier is a good addition if you have one but a solid state amplifier may not be ideal as it will kill your batteries more quickly. If you are running



from a generator, then a tube amp is a good choice to run from line power and not from a battery or extra power supply. It will also help to make the batteries running your rigs last longer as you can run the rig at a lower power setting as an exciter.

It may not always be possible to put up a full size antenna but the benefits make is worth while.

In comparing signals between the portable set up and my home station, there were slight differences. At my home station I have a full sized delta loop for 80M and a ground mount 8 band vertical. My QTH is in the middle of a white cedar bush and the trees do absorb some of the HF signal on both 80M and 40M. My Dual Band VHF/UHF antenna is on top of a 50' tower so even with the elevation being at lake level it still works.

With the ladder line J Pole antenna on a short mast, I was still able to connect to all local repeaters but there was very little activity on any of them. I would hope in the case of an actual emergency, there may be more monitoring going on at least. The lack of activity pretty much renders them nearly useless otherwise if you had any traffic to pass.

The cell phone repeater was a worth while investment to ensure reliable connectivity while inside a metal trailer.

Here is the link to the livestream. I took the time to add time tags in the description for each contact we had so you can click on the time tag and it takes you to the beginning of the contact.

I hope that I have covered all the points of the excersize but if you have any questions, please ask.

[']73, Rob, VE3PCP Inverhuron Ham Radio Club



From the

PAST



CIRCA 1947.

HOWARD HUGHES TEST-FLYING A RADIO-CONTROLLED SCALE MODEL OF THE SPRUCE GOOSE IN CALIFORNIA, USA.

Imagine packing up that equipment at the end of the day!!

Thanks to Tony VE3DWI for this one.

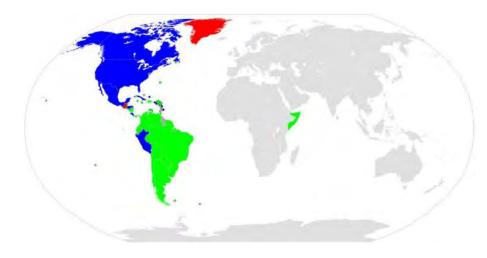
The 1.25 meters band

by Daniel Romila VE7LCG

n the United States and Canada, the band is available on a primary basis from 222 to 225 MHz, with the addition of 219 to 220 MHz on a limited, secondary basis. Bellow is the recommended band plan, according to https://www.rac.ca/220-mhz-135-cm-page/

222.00 – 222.30	CW, SSB
222.00 - 222.05	EME Exclusive
222.05 – 222.10	CW
222.1	National CW Calling Frequency
222.10 - 222.275	SSB
222.2	National SSB Calling Frequency
222.275 – 222.30	Propagation Beacons
222.31 – 223.37	Repeater Inputs
223.390 - 223.490	High Speed Data (Local option cross-band duplexed to 430 MHz, or 1300 MHz.)
223.490 – 223.590	FM Voice Simplex
223.59 - 223.89	Data
223.592 - 223.69	High Speed Data Local Option one 100 kHz channel, or three 30 kHz Channels: 223.605, 223.635 and
223.685 – 223.805	Narrow Band Packet 4 channels, Max BW of 30 kHz each centered at 223.7, 223.73, 223.76 and 223.79
223.790 - 223.890	High Speed Data local option as 223.39 – 223.49
223.91 – 225	Repeater Outputs

So, we (in Americas) are pretty lonely in having this right of using the 220 MHz band, which makes more difficult buying transceivers for this band.



There are limited areas in the world where the 220 MHz band is available for radio amateurs. I found a map on Wikipedia that gives a clear image of the radio amateur band allocation in the world.

Green areas allocate the whole band. Blue areas allocate a portion of the band. Red areas are in ITU Region 2, but do not allocate the band.

A Baofeng UV5R, having only the 144 MHz and 432 MHz band costs around \$24 CAD as of October 2023 (shipping and taxes included, from aliexpress.com). Many of those cheap Baofeng can be rigged to work on 220MHz (it seems they were actually designed to work in the 220 MHz band, too) with the programming software that can be found in many places on the Internet, such as:

https://mega.nz/file/qAAllRjI#kRQlINNBUfNdg4R1ZC5I_E7rARlbKOl6ckv65pZS39A

There is a video on youtube describing in just several minutes how to do it:



https://www.youtube.com/watch?v=x4bVrM5TeEM



Maybe not all Baofeng UV5R handhelds can be unlocked; I did not try it.

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However, the model that officially supports the 220 MHz is Baofeng UV5R III.

It looks exactly the same as the base model, but it costs \$40 CAD as of October 2023 (shipping and taxes included).

In the same range of price is the model Baofeng BF-A58S (on the left).

Baofeng UV18h (on the right) is a more expensive model, \$75 CAD (shipping and taxes included).

There are many walkie-talkies out there which have the 1.25 meters band. When buying such handheld one should:

- Verify the 1.25 meters band contains the range of frequencies used in Canada
- If the transceiver can be programmed with CHIRP software (easy to obtain information about) and it can retrieve data directly from the repeater book about local repeaters, or at least if there is any other programing software for it.

More power can be obtained with a mobile transceiver. The cheapest one I found online in October 2023 is QYT KT-8900R, 25 Watts, around 100 CAD together with the programming cable (shipping and taxes included).

A dedicated transceiver only for 220 MHz, with a power of 50 Watts, would cost some \$200 CAD as of October 2023 (shipping and taxes included) for a TYT TH9000D transceiver.

I personally started with a 220 MHz radio when I bought my first walkietalkie in 2017. I bought a Yaesu knockoff, an MML UV-8DR. It is also known as Zastone UV-8DR, and under many other various names. In 7 years I made only one QSO in the 220 MHz band, but I verify periodically what repeaters stillexist in the 220 MHz band



For those residing in the VE3ERC area I have included here the repeaters for a 70 km radius (which I found in the repeater book). Not so many of them!

in a radius of some 200 kilometers and check if I can reach those repeaters.

The furthest away repeater I can reach nowadays in 220 MHz is W7ECG, from Bellingham, Lookout Mountain, at 70.8 km South of my location (Vancouver, BC, Canada, the suburb of Coquitlam). There used to be other repeaters, further away, but either they are no longer in function, have changed their location or I cannot reach them anymore.

17.5 km South FM VE3IXY / Kitchener 224.34000 -1.6 MHz

52 km South East FM AllStar VE3WIK / Hamilton

224.52000 -1.6 MHz 131.8 Hz

62.9 km East FM

VE3WSA / Brampton

224.24000 -1.6 MHz

67.8 km South East FM VE3RSB / Burlington

224.74000 -1.6 MHz 131.8 Hz

CORRESPONDENCE

Ted VE3TRQ sent the following update:

Opportunity to participate in the Burlington ARC Wires-X Net Mondays at 8PM

Message from Chris, VE3RWJ, Ancaster. Chris is responsible for us having the Burlington repeater connected for our morning nets. I will be connecting the Alma repeater, VA3TET, to the Wires-X room for VE3RSB at 7:45

Mondays.

Ted VE3TRQ

Looking for a weekly Fusion/Wires-X net in Southern Ontario?

The Burlington Amateur Radio Club (BARC) holds a weekly Fusion net, Mondays at 8:00 PM. And, like the Elmira morning net, we usually have a question or topic to guide the discussion.

We would love to have you join us.

Please connect via Wires-x to VE3RSB-Room 61272).

Or, if you have a great base station, you may be able to reach us using RF, by tuning to 442.0375 +5 mHz, digital narrow (DN) mode.

73, Chris <u>VE3RWJ on qrz.com</u>

Thanks to VE3MKX, Mike for sending the following article:

Using a Municipal Flagpole for an Antenna - Fine Business! By John VA3KOT



Quite recently our local municipality replaced the weather beaten cedar flagpole at one of our local waterfront parks with a brand new one made of steel. During numerous visits to the park to enjoy the beautiful views of the big islands in Georgian Bay (Griffith Is, White Cloud Is and Hay Is), I have often wondered whether the new flagpole would make a good antenna. The flagpole is mounted on a concrete base so it is insulated from the ground. It might make a good vertical element, so I decided to give it a try. But a couple of potential issues had to be addressed before I did that.

First, what is the height of the flagpole? If it is not a half wavelength on any of the bands I usually use I could treat it as a fat random wire antenna. On the other hand, if it is a half wavelength I would need my 49:1 transformer. An eyeball analysis said it might just be a candidate for a half wavelength on 20m so I had to find out.

Second, how could I connect to the flagpole without marking or damaging it? I wanted to be a responsible amateur radio operator and besides, as a municipal taxpayer I figured I had a tiny bit of equity in that municipal asset. Before making the 30-minute drive up the Georgian Bay side of the lower Bruce Peninsula to get to the park, I had to make sure I had the right gear

available. Job One was to devise a means of connecting to the flagpole. Rummaging through my box of bits and pieces revealed a 3-foot length of webbing with a very secure military buckle on one end. The webbing had a grommet installed to secure the buckle. This would be perfect!

Using a quarter-inch nut and bolt and an oversized steel washer for a contact, a short wire was attached with which to connect my 4:1 unun to the flagpole. A 3-foot length of webbing would be sufficient to wrap around a flagpole up to nearly a foot in diameter. I knew from examining the base of the flagpole on a previous visit that its diameter was only maybe 6-inches or so. This bit of kit would do the job nicely.

When I arrived on site there was only one other vehicle in the park and a parking space near the flagpole was free, so on to Job Two - determining the height of the flagpole to see whether it is a half wavelength or random height.



Connecting the base of the flagpole to the 4:1 unun (black box)

I had learned a simple trick for finding the height of an object using nothing more than a stick and a tape measure. It relies on same very basic math, but no calculations are actually required. Find a stick that is the same length as your arm. I used a trekking pole adjusted to the correct length (yes, yet another cunning use for a trekking pole). Hold the stick vertically at the bottom end and hold it up - at arm's length - in front of the flagpole. Now adjust your

D=H

position on the ground until the stick appears to be the same height as the flagpole. Now measure the distance between where you are standing and the base of the flagpole.

The distance is equal to the height of the flagpole (give or take a few parsecs). Alright, it's not very accurate but the technique does give a very good approximation of the height and that is all that was required for my experiment. My measurement in

the park that day showed the flagpole is about 30 feet high. Hmmm, that is close to a half-wave on 20m. I had another trick to try that would confirm my measurement. Feeling fairly confident, I hooked up my coax and laid out a single 28.5 ft ground radial - the same one I often use with my Rybakov antenna. The Rybakov uses a 28.5ft radiating element supported on a fiberglass pole. The flagpole antenna was very similar to my Rybakov and my LDG Z11 Pro automatic antenna tuner had the correct settings for the Rybakov stored in memory. If the two antennas were significantly different, the tuner would do a complete tuning cycle lasting several seconds. But, if the two antennas were very similar, the tuning cycle would last only a fraction of a second.

This was the "rubber hits the road" moment that would determine whether the day's experiment would be successful. I set the radio to 20 watts CW on the 20m band and keyed up. Bingo, the tuner performed an almost instantaneous tuning cycle and gave me an SWR of 1.1:1. That was a relief. But, always keeping in mind that a dummy load gives a good SWR too, I needed to make a QSO to confirm the successful experiment.

I tuned in to a POTA activator calling CQ. He had a very strong signal and the noise floor out in the Big Blue Sky Shack was very low, making him a good candidate for a test QSO. I jumped in as he signed with a hunter and he heard me. I sent him a 599 report and he gave me a 579. My municipal flagpole antenna was doing fine business!

The park in which I was operating is not a Parks On The Air entity, but it is a very narrow park alongside a county road that forms part of the Great Lakes Waterfront Trail (VE-6003). Here was an opportunity to do an unplanned activation - a real test of whether my municipal flagpole was a practical antenna.

I posted a self-spot on <u>pota.app</u> from my phone and started calling CQ on 20m. Responses were slow in coming and by the time I had 8 QSOs in the log my battery voltage was showing some low numbers. I knew I had to do something to validate the activation with at least two more QSOs, so I switched to 40m. The flagpole again tuned up super fast and easy with a 1.3:1 SWR. Fortunately I was able to add another 10 QSOs to the log before deciding my battery may not survive much longer, so I called QRT.

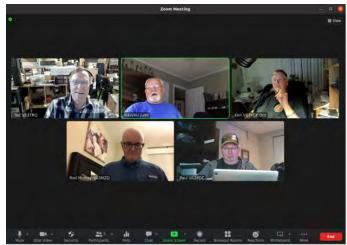
And so it was a successful experiment. In all I made 19 QSOs with my municipal flagpole antenna and was very pleased. Now I have my eye on the much taller floodlight towers at the local baseball diamond. Will they tune up on 80m?

Rod VA3MZD wrote the following:

The ARRL has just released their latest publication: The Parks on the Air Book. Everything you need to know!

https://home.arrl.org/action/Store/Product-Details/productId/2013464221

And Rod and Ted VE3TRQ announced a successful Inaugural WiresX Test Net on Wednesday, October 26. Participants were Ted, Judd N4WXU and Ken VE3KCY (top row) and Rod VA3MZD and Paul VA3PDC in bottom row.



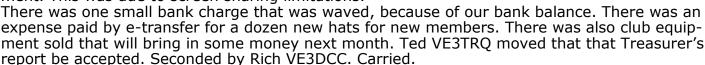
VE3ERC Elmira Radio Club Inc.

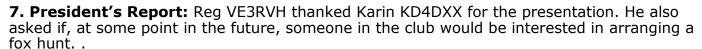
Minutes from Oct, 25 2023

1. Call to Order & Welcome

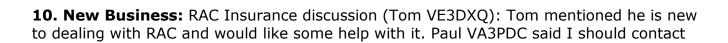
The meeting was open at 7:30 pm by our Club president Reg VE3RVH

- **2. Roll Call**: VE3TRQ Ted, VE3RVH Reg, VE3IXX Bob, VA3PDC Paul, VA3QB Bill, VE3BVS Steve, VA3FJM Frank, N4WXU Judd, , VE3DCC Rich, VA3MZD Rod, VE3DXQ Tom, VA3JGK Gary, VE3KCY Ken, VA3VRA Tom, VE3DWI Tony, VE3RKT Roger, VE3FE Mike, VE3JXX John, VA3DAS Dave, VE3CZ Linda, KD4DXX Karin.
- 3. Adopt Agenda: This step of adopt agenda was somehow missed. OOPS!
- **4. Presentations/Speakers/ Workshop:** We had a presentation from Karin KD4DXX via Zoom of RT Systems in Georgia. Very interesting presentation on radio programming software which was feature rich. For example you can use it to program repeaters in your area by connecting it with repeater book. Well Done Karin KD4DXX and thanks Ted VE3TRQ for setting this up.
- **5. Secretary's Report:** Tom VE3DXQ asked if there were any errors or omissions from the Sept 27 2023 minutes—none were mentioned. Tom VE3DXQ motioned to accept minutes. Seconded by Paul VA3PDC. Carried.
- **6. Treasurer's Report:** Ted VE3TRQ gave a verbal report to those present at the fire hall, and members on the zoom call could see the statement. This was due to screen sharing limitations.





- **8. Committee Reports**: Repeater Technical Committee (Bill VA3QB, Tony VE3DWI): Tony VE3DWI said that he has a plan to get the UHF working again at the feed mill. He advised that problems are likely caused by having a dual band antenna and VHF interfering with UHF. To solve this issue Tony VE3DWI is preposing that we install a Diplexer, and change all connectors to N type connectors, as well as the cabling. Tony will donate the cabling and connectors, and made a motion to have the club purchase the Diplexer. Tony advised the Diplexer will cost \$81.00, and made a motion for the club to purchase one. Paul VA3PDC seconded the motion. Carried. Thankyou Tony VE3DWI.
- . **9. Unfinished Business:** Reg VE3RVH mention the ideas for presentations suggested by Paul VA3PDC at a previous meeting which were Mike Walker on Flex, and John Kruk on Yaesu. Ted VE3TRQ advised that we need more people in the club to come up with Ideas for presentations, and get involved..





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RAC and request the forms for Insurance. Ted VE3TRQ said we will need to update our records on how many RAC members there are and what equipment we have.

Tom advised he would contact RAC.

- WIRES-X Digital Net (Rod VA3MZD): Rod said they had great response last month both from the meeting and on line. He advised he put up a post on Groups.io. He said about 50% had a radio that they could get in on Wires-X. He will try tomorrow (Oct 26,2023) to get a group going and he and Judd N4WXU will host this. VE3TRQ said the Alma repeater was busy with Wires-X on Monday. Rod advised future Wires X meetings will be on the second Thursday of each month.
- Paul VA3PDC made a motion to reimburse TED VE3TRQ for a wireless Mic set up for the club. Rich VE3DCC seconded it. Carried. This system really helped with those present as well as people on the Zoom call..
- Ted said he also received some boxes from Kirk VA3KXS and they are in his Garage.
 There is some radio equipment and safety gear.
- Rich VE3DCC spoke about the silent key dinner which we missed this month. Reg VE3RVH said that we could combine this with our Christmas dinner. Ted VE3TRQ said it is getting harder to find a venue for this. Ted said we will have to send out an email regarding this before our next meeting as time is running short.
- · .Dave VA3DAS said he might be able to arrange a tour of a Data center in Guelph in the spring. Reg VE3RVH said sounds like a good Idea. Everyone seemed interested.
- Tom VE3DXQ made a motion to Adjourn the meeting. Seconded by Reg VE3RVH.

Next meeting: Wed. Nov 22, 2023

