

**JUNE 2023****Volume 12 Issue 6**

# VE3ERC-LUB

**President:** Ted VE3TRQ  
**Vice-President:** Frank VA3FJM  
**Secretary:** Kirk VA3KXS  
**Treasurer:** Paul VA3PDC  
**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.**



Radio Amateurs  
of Canada



Tom VE3DXQ, Hagen VA3QVY and Ted VE3TRQ setting up an antenna in preparation for Field Day. See more on page 3.

# THE PREZ SEZ!

This club is Radio-ACTIVE  
This club is Radio-ACTIVE

## President's Update for June 2023

**F**ield Day is over, the summer hiatus begins. For all who came out for FD, I think it was a great experience - good socialization, good food, and for some, even good propagation and contacts. We had two new members, Hagen VA3QVY, and John VA3JNW, come out and observe and help. Maybe next year they'll operate!

I have enjoyed the last two years as President of the Elmira Radio Club, and look forward to serving as Treasurer in the future. Paul receives a well-deserved respite from serving on the executive, and we welcome back Tom VA3DXQ as Secretary and Reg as our new President. Frank VA3FJM continues as Vice President, and Wes VE3ML continues as Trustee.

Don't forget to tune up those antennas and radios for the Lighthouse and Lightship event on the third weekend in August. This is the only summer event scheduled before we resume ERC meetings in September on the 27<sup>th</sup>.

**Ted VE3TRQ**



## 2023 RAC Canada Day Contest - July 1-2023

I would like to invite you all to participate with us in Canada's on the air celebration of the anniversary of Canadian Confederation. The Radio Amateurs of Canada (RAC) celebrates this event with the annual Canada Day radiosport contest.

Mark your calendars for July 1, 2023 at 00:00 UTC and enjoy making contacts across Canada 10 provinces and 3 territories. We hope to have a full slate of the RAC official stations from each area.

The contest rules are published here on the RAC web site: <https://www.rac.ca/contesting-results/>.

This will also be a great time to explore the special awards that RAC offers for making contacts with Canadian stations as well as those special RAC call signs. You can explore these awards on the awards page of the RAC web site: <https://www.rac.ca/operating/rac-operating-awards/>

**73, Bart - VE5CPU RAC Canada Day Contest Manager**

# FIELD DAY 2023

By Paul Curtin VA3PDC



Teresa VA3LTH helping Bill VA3QB at the back.

Paul VA3PDC and Gary VE3JGK setting up the generator

Well, another summer Field Day is behind us, what a great time we had. We had four stations: VA3QB, Bill, Ken VE3KCY, Ted VE3TRQ, and myself, Paul VA3PDC.

We decided to use our newly acquired call VA3TET this year in memory of our past president, Al MacDonald SK, who did so much for our club.

Things started Friday morning around 10:00 with the setup of the site. Gary VE3JGK, Teresa VA3LTH, Tom VE3DXQ, Bill VA3QB, Ken VE3KCY, Ted VE3TRQ, Tom VA3VRA, Bob VE3IXX, new member Hagen VE3QVY, and myself, Paul VA3PDC. We did a quick setup of Bill's sun shelter and my trailer, and Bill declared it was "time to eat".

Most of the group went to Betty Lou's in Floradale, everyone left quite full, and the camaraderie was excellent.

Back at the site, we finished setup of my trailer and Ken's newly acquired tent that attaches to the van.

Everyone pitched in setting up antennas, etc., and we were done in no time. Fortunately, the rain held off until we were completely set up.

For those still around at dinner time, we had a good feed of chili, made by my wife Debbie. It was very well received, along with some buns, beverages, and cookies and grapes for dessert. Again, we were full, is there a trend developing here between Field Day and food,

**I wonder???**



Saturday, things slowly came to life, Ken did his ONTARS hour from the site at 9:00 from the site.

We enjoyed a light lunch with turkey sandwiches, a few grapes and cookies again for desert.

At 2:00 local it started, Field Day was on. The bands were loaded, it was next to impossible to find an open frequency to call from, so we all just hunted and pecked for contacts, with good success, We had some scattered showers, that unfortunately kept Ted VE3TRQ from getting on the air. Every time he tried to complete his set-up, it would start raining.

We had numerous members stop by during the day, just to say hello and check things out, and some to help with making contacts. It was nice to see everyone.

Again, around 6:00 someone yelled "let's eat". We had a feast, barbecued burgers, some home made delicious salads compliments of Ken's YL Mary and other salads as well. Teresa brought veggie and fruit platters and Bill's YL made a chocolate cake for dessert. Thanks to everyone that pitched in and made it all possible. What a great meal we had, and a special thanks to Mother Nature for giving us exceptional weather. The pictures show everyone in attendance. It was nice to sit, eat and chat with old and new friends.

Sunday, the weather was exceptional and the bands were still busy. We broke about 12:30 for a great lunch of left overs and butter tarts, compliments of Reg, for desert, VE3RVA. Before we knew it Field Day 2023 was in the books. We all torn down our stations and shelters and headed for home, thinking about what a great time we had and what we will do different next year, hi hi....



**Bill VA3QB operating.**



**Paul VA3PDC at his station.**

Thanks to everyone that participated to make Field Day 2023 the success that it was and remember to put June 22<sup>nd</sup>, 2024 on your calendar for next year. **See you then!!!!**

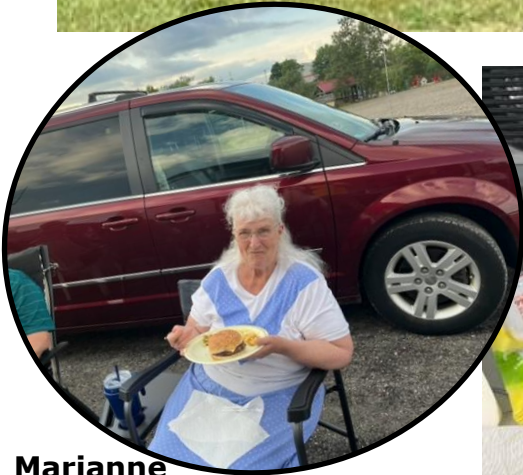


**Ted VE3TRQ running digital.**





**Ken VE3KCY operating his station at his site.**



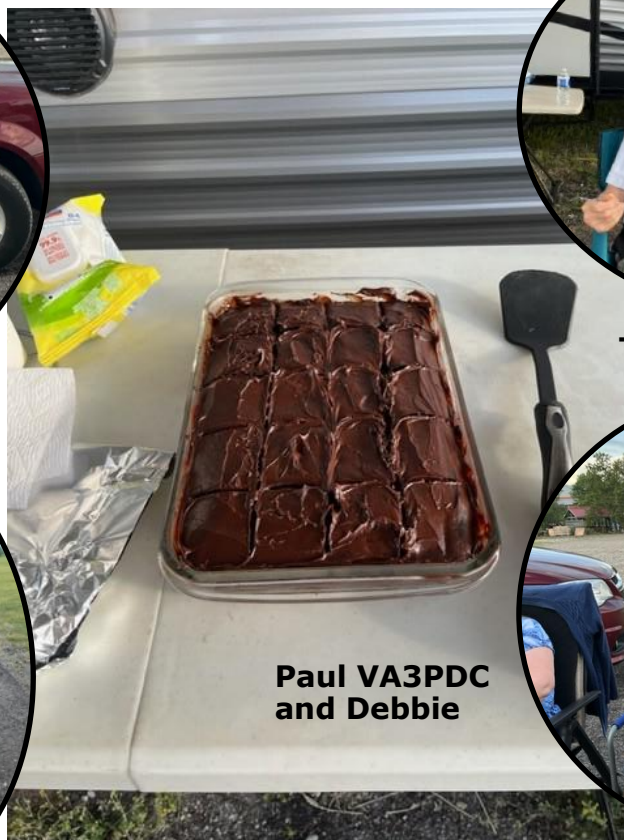
**Marianne  
VE3MXT**



**Tony VE3DWI**



**Ted  
VE3TRQ  
and  
Sandy**



**Paul VA3PDC  
and Debbie**







**Ken VE3KCY, Wes VE3ML and Bill VA3QB**

**The Two Debbie's**

A Special Thanks to Paul VA3PDC, Tom VE3DXQ, Ted VE3TRQ and Bill VA3QB for all the pictures.



**Teresa VA3LTH**

## ANOTHER TALE OF FIELD DAY

In ANOTHER FIELD FAR FAR AWAY was another parallel FIELD DAY.

On a bare 60 acre property, south of Flesherton, these intrepid explorers with nothing but a few tents, some water jugs, a propane stove, and three radios powered only by batteries shattered the RF airwaves with their Field Day call VA3BVB.

The call belongs to new Ham, Brendan Barrett along with his newly licenced sons John VE3JWU and Joshua VA3JWU. Joining them was Dan Galway, also newly licenced as VA3WPZ and John Stevers VA3DHI and myself (Bob) VE3IXX.

Operations continued into the late hours of Saturday night, and the air was electrified as these new hams experienced the thrill of making dozens of contacts. Dan and I had to leave because of commitments but Brendan, his crew and John VA3DHI camped over in their tents.

They even had another ham Dwayne VE3CQQ drop in and visit. The following pictures tell the story.





Brendan VA3BVB and Dan VA3WPZ took some measurements after making some adjustments on the 80/40 meter dipole.



Recouping their energy with some calories is John VA3DHI, Dan VA3WPZ and Brendan VA3BVB who doubled as chef.



Brendan VA3BVB and son Joshua VA3JWU occupied the 20 M band.



Dan VA3WPZ on the radio while John VE3JWU logged the calls using paper and pen. They occupied the 40 M band.

**CONTRIBUTIONS TO VE3ERC-CLUB  
NEWSLETTER**

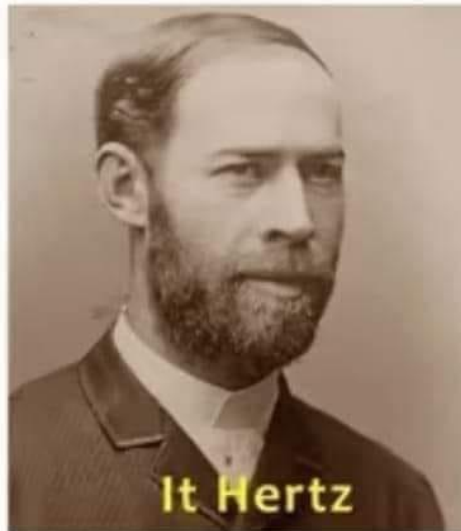
Do you have an article you'd like to submit? Or photos? Do you have any comments you'd like to make?

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](mailto:bobve3ixx@gmail.com)  
**(519-787-2279)**

What happens if someone  
slaps you at **high frequency...**?

**WEDNESDAY NITE NET CONTROLLERS**

**JUNE 14 - BOB VE3IXX**

**JUNE 21 - REG VE3RVH**

**JUNE 28 - MEETING**

**JULY 5 - FRANK VA3FJM**

**JULY 12 - TOM VE3DXQ**

**JULY 19 - TONY VE3DWI**

**JULY 26 - BRIAN VA3DXX**

**AUGUST 2 - TED VE3TRQ**

**AUGUST 9 - BILL VA3QB**





## From the PAST

1957 - "Scientists of the National Bureau of Standards Boulder Laboratory listened to signals from Sputnik I." - LIFE magazine.



Thanks to Tony VE3DWI for this "Blast from the Past."

## CORRESPONDENCE

Thanks to Rich VE3DCC for sending "GROUNDING REQUIRED."



Couple this with Tony VE3DWI's grounding guide on the following page.....



# K2EZ's Ground Reference



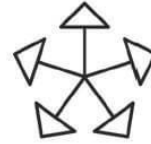
Signal Ground



Chassis Ground



Earth Ground



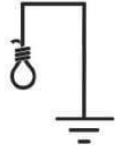
Star Ground



Solid Ground



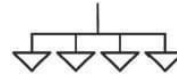
Coffee Grounds



Ground Loop



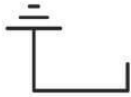
Safety Ground



Foreground



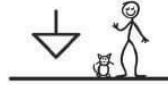
Background



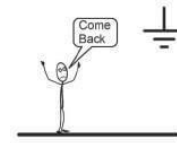
Ground Up



Well Grounded



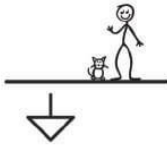
Above Ground



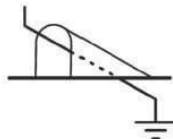
Floating Ground



High Ground



Below Ground



Underground



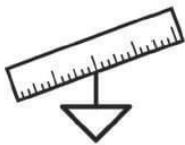
Ground Under



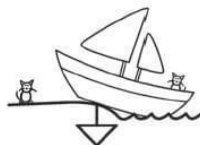
Ground Wave



Both Feet on the Ground



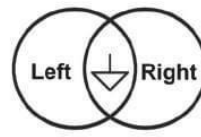
Ground Rule



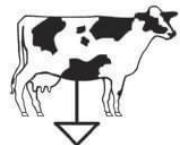
Aground



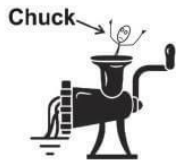
Groundhog



Common Ground



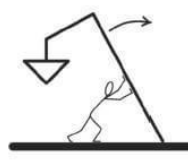
Ground Beef



Ground Chuck



Losing Ground



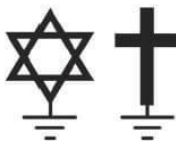
Stand Your Ground



Run to Ground



Hit the Ground Running



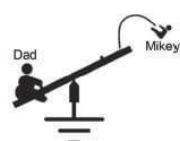
Religious Grounds



Stomping Grounds



Grounds for Divorce



Playground

The table below shows the top 100 countries by ham radio population.

Rank	Country	Amateur Radio Licenses
1	Japan	1296059
2	USA	679864
3	Thailand	141241
4	RO Korea	141000
5	Germany	79666
6	Chinese Taipei	68692
7	Spain	58700
8	UK	58426
9	Canada	44024
10	Russia	38000
11	Brazil	32053
12	Italy	30000
13	Indonesia	27815
14	France	18500
15	Ukraine	17265
16	Argentina	16889
17	Poland	16000
18	Australia	15328
19	Netherlands	14529
20	Sweden	10817
21	India	10679
22	Venezuela	10600
23	Denmark	10060
24	Hungary	9000
25	Czech Rep.	7086

Tony VE3DWI sent along stats of the first 25 of the top 100 countries showing the ham radio populations. Notice Canada is rated 9th. Considering our smaller relative population, we have a high percentage of hams.



# Starting with NanoVNA v2

by Daniel Romila VE7LCG

## VNA = Vector Network Analyzer

I bought NanoVNA v2 in the spring of 2021 for:

- Antenna measurements
- Crystal filter measurements (not described in this article)
- Use it as signal generator

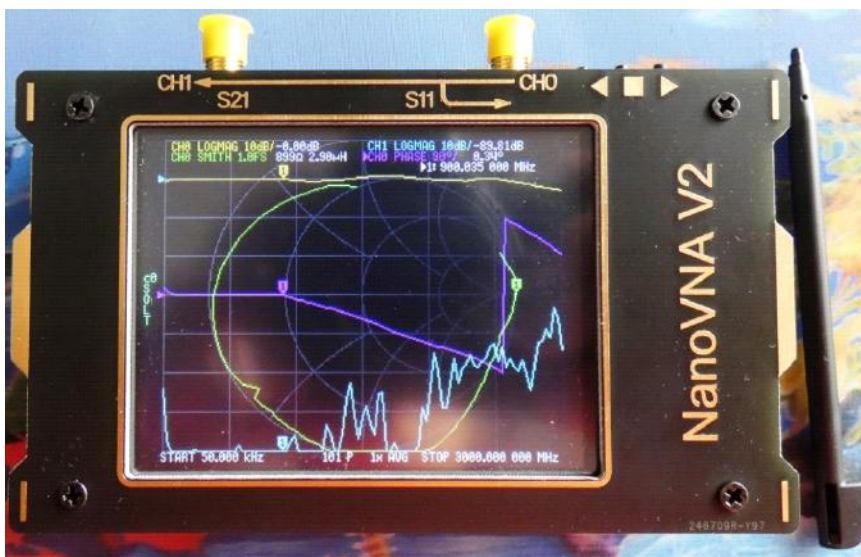
Everything I've written in this article was done using a NanoVNA v2 SAA2 with a 3.2 inch screen, not connected to a computer. Now, at the end of 2022, it is still in my opinion the best bang for the buck among the versions of NanoVNA that can be bought because it displays a maximum 201 sweep points as a standalone and 1024 points of measurement when tethered to a computer. The declared capacity of the battery is 1950 mAh which I could not drain during long sessions of experiments. The frequency range of my version is 50 KHz – 3 GHz.

All the procedures described here are probably similar on older versions of Nano VNA, and on newer versions. These are easily accessible on youtube videos. I will give links for both versions (v1 and v2) after each operation.

At the end of 2022 NanoVNA v2 could be bought online for about \$95 CAD, shipping and taxes included. There might be differences between my screenshots and other versions of NanoVNA based on the difference of hardware, but also on the difference of firmware existing on the same hardware. At any rate, the differences are minimal and are more esthetical than functional, so everything written here, for such simple operations, remains in function.

## Charging the battery

Nano VNA, all versions come with a rechargeable battery. Before starting any experiments it is better to fully charge the battery through the provided USB cable. The charging can be done from a USB computer port.



**Warning:** If the NanoVNA v2 is switched ON while already connected to a working computer USB port the display will start to flicker and will show nothing. This is because the NanoVNA misinterprets the display and the commands will be on/from the computer, not from the tinny box itself. So switch OFF, unplug from the computer, switch ON and only then connect to the computer.

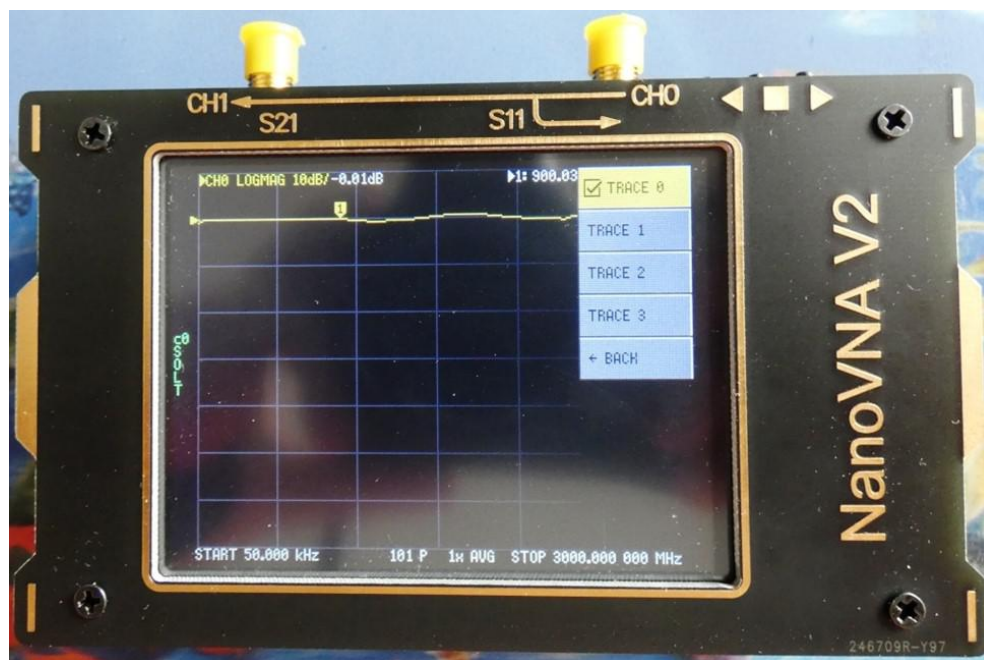
## Calibration

After switching ON the picture shows what will appear on the screen. There are four lines (traces) on the screen. Too much information. Taping with your finger or

with a stylus on the screen will show the menu. By again touching the display outside the menu will make the menu disappear and so on.

First, let's remove 3 traces from the screen and keep only one trace. Select DISPLAY and a submenu will appear.

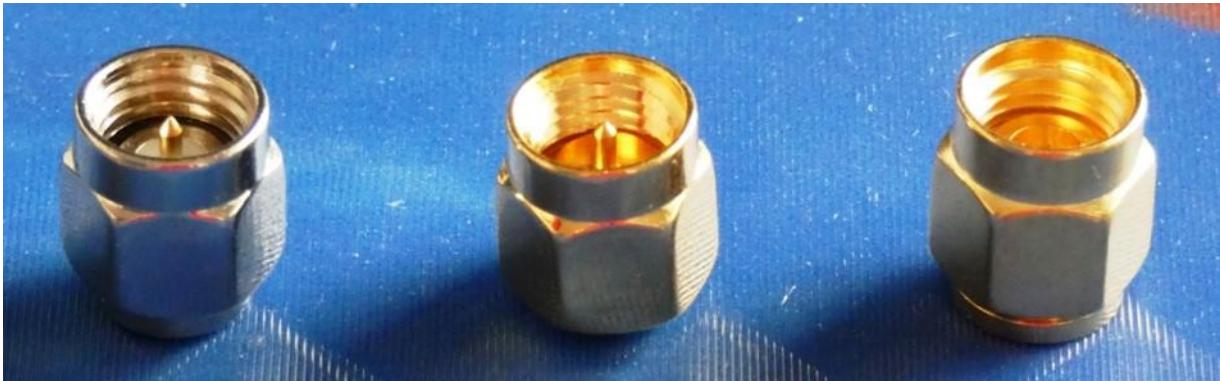
Select TRACE. In the new submenu there are four traces. Taping them once selects them. Another tap and they become active/shown. Another tap and they are grayed, meaning they are no longer shown on the screen. When only one trace (trace zero) is selected to be shown we can tap again in the middle of the screen or anywhere outside the menu/submenus and the screen will be clean and ready for next operations.



We are ready to do the calibration. We will use the 3



provided connectors. One is a the 50 Ohm load, and it is a silver connector, different than the other two. One is golden and has no pin in the middle – this is the open connector. The other gold one has a pin in the middle, and it is shortcut.

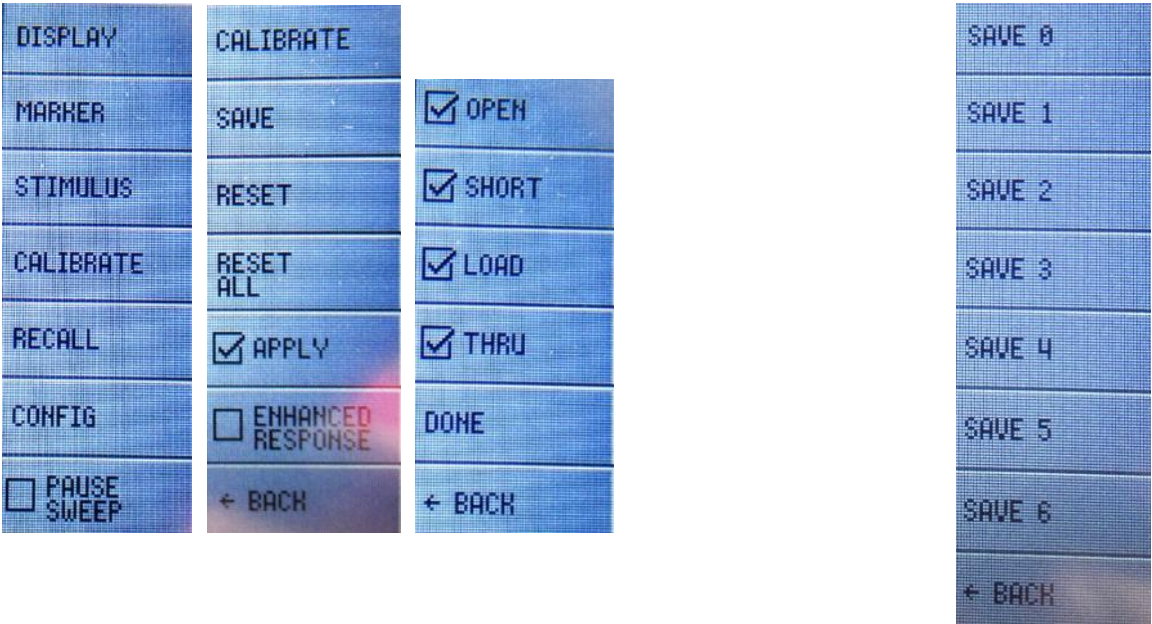


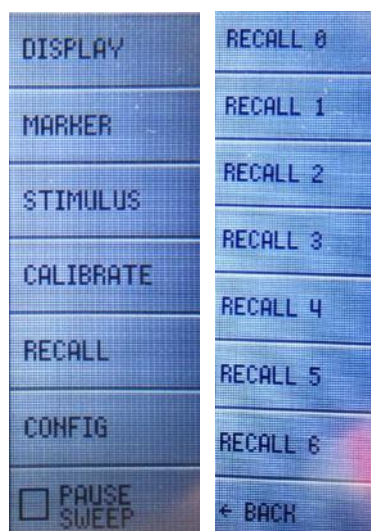
In order to start the calibration process we need to have the NanoVNA v2 switched ON and to have on the screen the main menu (left screenshot). We tap the screen for the menu to appear. Eventually, we will have to navigate through the pages touching the BACK box (the lowest choice box) to get at the main menu.

Next we will choose CALIBRATE. It is in the middle of the menu. From the new sub-menu we touch CALIBRATE, which is on top of the new sub-menu (see on the right of this page).

There are 4 calibrations we have to do: OPEN, LOAD, SHORT, THRU. We can do those calibrations by mounting the corresponding connector into CH0 and touching the selection. It will take several seconds and the image will be stabilized, with a sign in front. Repeat the same for all 3 calibration connectors. The last calibration is done by shortcutting CH0 and CH1 with the 2 cables, united through an adapter. The CH0 and CH1 plugs are on top for NanoVNA v2 and on the left side for NanoVna v1.

When we finish the calibration we touch DONE and it jumps into another sub-menu, where we can save the values into set 0, for example.





Next time when we start the NanoVNA v2 we can recall the calibration values we already stored in the set 0. We tap on the empty screen, and from the main menu we choose RECALL. From the next sub-menu we choose RECALL 0.

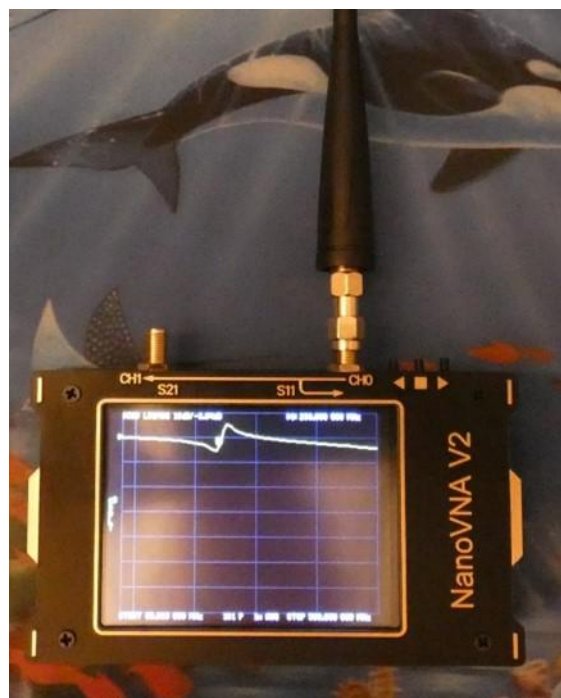
**Warning:** All calibrations we did are OK if we use the NanoVNA v2 independent, not tethered on a computer. When using a computer and software on the computer in order to give commands and show results to/from NanoVNA v2 we have to do another similar calibration, good for that software, with the calibration values stored on that software, not on the software from the NanoVNA box itself.

Others made good youtube videos showing how to calibrate:

<https://www.youtube.com/watch?v=4ti218ZUgaE> for v2

[https://www.youtube.com/watch?v=OH\\_UDHk-kpE](https://www.youtube.com/watch?v=OH_UDHk-kpE) for v1

### **Measuring the resonant frequency and the SWR of an antenna**



The antenna to be measured must be connected in the CH0 connector. You might need an adapter.

After switching the NanoVNA v2 ON recall the calibration values stored in the set 0, as in the previous chapter.

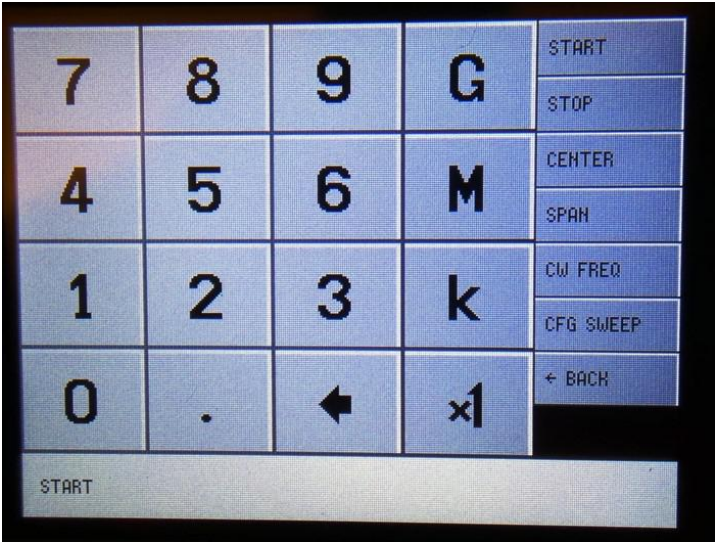
The trace to be followed is the trace 0, yellow color. If you do not obtain something like in my picture please verify you indeed have on the screen TRACE 0, yellow, and not something else. NanoVNA v2 might decide by itself to show something else – at least mine occasionally does it..

The resonant frequency is at the minimum of the line. There is a MARKER on the line which can be moved manually with the stylus into the valley. The corresponding frequency can be read on the upper right corner.

Most probably the range of frequencies in which the NanoVNA v2 looks for the resonant frequency is wider than what you want. We need to find STIMULUS in the sub-menus, and after selecting that to decide the START and STOP:



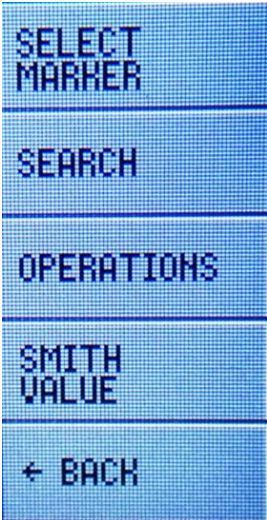
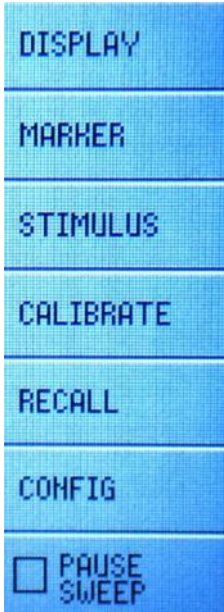
It is also possible to decide the CENTER frequency, and the SPAN.



When inputting frequencies, K stands for KHZ, M for MHZ and G for GHZ. So it is easy to establish the boundaries for measurement.

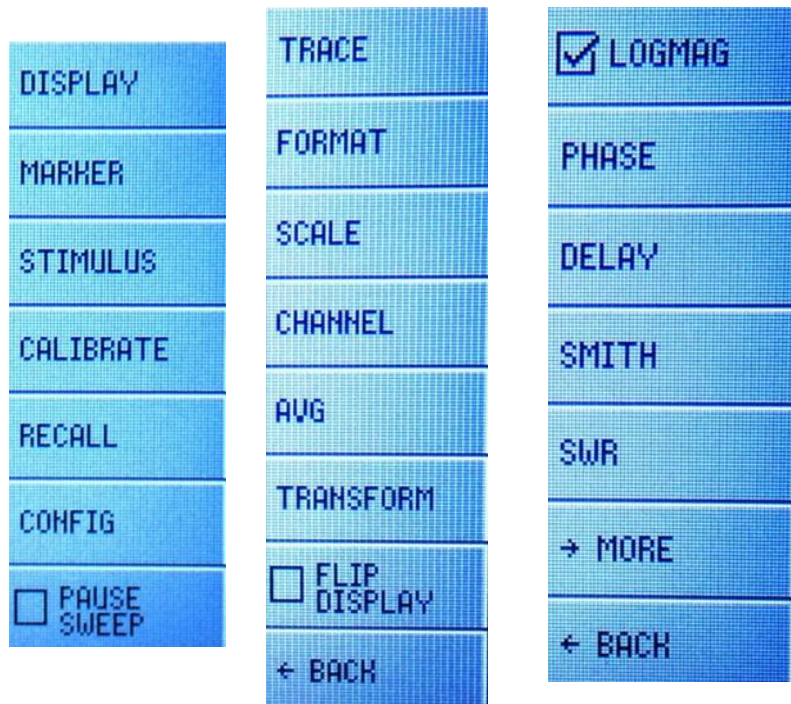
In order to automatically find the resonance frequency we need to find the MINIMUM on the yellow line. Tap the screen to get into the menu. Select MARKER. Most probably you will just have the marker 1 on the screen, but if necessary use SELECT MARKER from the next submenu.

Come back into this submenu shown in the second picture bellow. Select SEARCH. From the next sub-menu select MINIMUM. The resonance value will be written in the upper right corner, also mentioning it is for the marker 1.





It is also possible to choose to show the SWR on the line (trace 0, yellow) instead of the log scale. Just tap the screen to get into the main menu. Select DISPLAY. In the next sub-menu select FORMAT. In the next sub-menu select SWR.

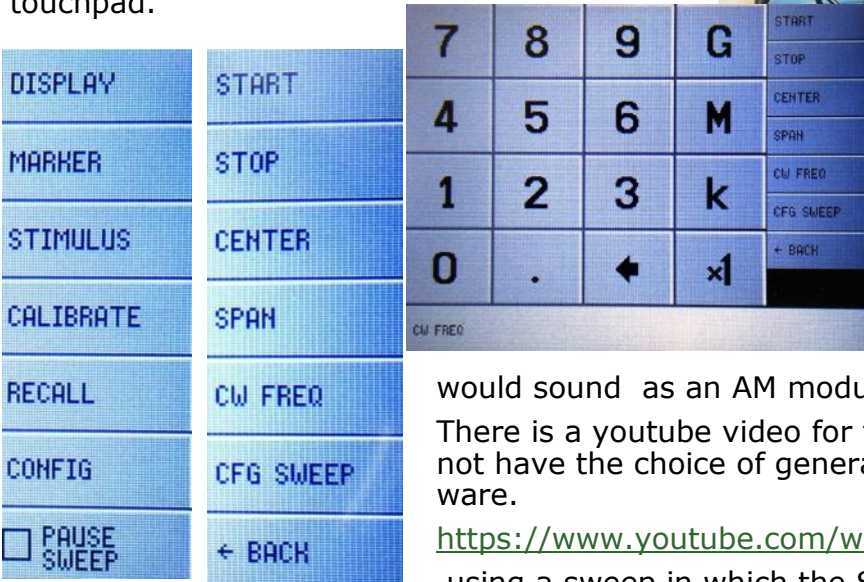


A youtube video showing some of the operations (for v2) can be seen at:

[https://www.youtube.com/watch?v=b88f\\_DEm5rq](https://www.youtube.com/watch?v=b88f_DEm5rq)

**NanoVNA v2 as signal generator**

The signal is taken out from CH0 connector. In order to decide one single unmodulated out frequency we have to get into the main menu first. Tap on the screen, and eventually use the BACK boxes (lowest choice) to get into the main menu. Select STIMULUS. From the new sub-menu select CW FREQ. Next sub-menu allows the input of the desired frequency on a touchpad.



It is also possible to use the generator signal as a small SWEEP, for example with a difference of 1 KHz between the START and STOP frequency. This

would sound as an AM modulated signal on a receiver. There is a youtube video for the older NanoVNA version, which did not have the choice of generating one single CW FREQ in the firm-ware.

<https://www.youtube.com/watch?v=ZMIObxVuEy0> for v1, using a sweep in which the START frequency is the same with the STOP frequency.



# VE3ERC Elmira Radio Club Inc.

*Minutes from June 28<sup>th</sup> 2023*

## 1. Call to Order & Welcome

The meeting was open at 7:30 pm by our Club president Ted VE3TRQ

**2. Roll Call:** VE3TRQ Ted, VE3RVH Reg, VE3IXX Bob, VA3PDC Paul, VA3QB Bill, VA3AOR Steve, VA3FJM Frank, N4WXU Judd, VE3FE Mike, VE3RKS Roger, VA3YBM Brian, VE3DCC Rich, VE3CZ Linda, VA3MZD Rod, VA3DAS Dave, VE3DXQ Tom, VA3JGK Gary

**3. Adopt Agenda :** Ted VE3TRQ showed the Agenda on the flat screen tv and Agenda was accepted.

## 4. Presentations/Speakers/ Workshop: None

**5. Secretary's Report:** Tom VE3DXQ asked if there were any errors or omissions from the May 2023 minutes none were mentioned. Tony VE3DWI mentioned there was an error in the May minutes that said the clubs new radio a Yaesu 897 came from Doug's VE3CXU Estate, but was actually from Johan's VE3JBO Estate. Tony VE3DWI said Kirk VA3KXS would make the correction to the May 2023 minutes. Tom made a motion to have the minutes accepted with correction. Seconded by Tony VE3DWI. All were in favour. Carried

**6. Treasurer's Report:** Paul VA3PDC posted the Treasurer's report on the Flat screen TV and asked if there were any questions. Tom VE3DXQ asked about a \$100.00 donation to ONTARS. Paul said this was a yearly donation to support ONTARS. Paul VA3PDC made a motion to have the Treasurer's report accepted. Seconded by Roger VE3RKS. All in favour. Carried. Paul VA3PDC motioned that Bills be paid for field day and for parts on the Alma repeater, and the club hat order, seconded by Reg VE3RVH. All in favour. Carried.

Reg VE3RVH gave a report on Hamfest sales which went well and brought items that did not sell to the club this evening to let club members take what was left over. All remaining parts will be donated to Restore (Habitat for Humanity store on Northfield Dr Waterloo). He also thanked all involved with help at the Hamfest.

**7. President's Report:** Ted VE3TRQ said that on the whole field day turned out well. There was good food, good socializing and good propagation on some bands. Ted said his windows computer gave him some problems and when did CQ got no response. We got 2 new members showed up at field day. Hagen VA3QBY, John VA3JNW and they helped with set up, and may come out and operate next year.

Ted said he enjoyed serving as president for the last 2 years and is looking to his new position as Treasurer in the September. Ted thanked Paul VA3PCD for his service as Treasurer. He also welcomed Tom VE3DXQ back as Secretary after a few years away from that position. He and all present thanked Reg VE3RVH for stepping up as President. He said Reg will have support of the club to find interesting presentations. Also he thanked Frank VA3FJM for staying on as Vice president, and Wes VE3ML for staying on as Trustee.

Ted VE3TRQ mentioned the Lighthouse & Lightship Weekend Aug 19-21 2023. Tom said that Rod agrees to take over as Secretary when Tom Is away in Jan, Feb, and March.

**8. Committee Reports: Field day-** Bill VA3QB said field day went well they could have use more people there though. The rain did not have a big impact. After set up on Friday the group went to Bonnie Lou's for Lunch which as good food and social. Bill said we had 3 station set up. 4 if you included Richards, but he was not there most of the time.

The BBQ was great and Paul VA3PDC and his wife put a lot of effort into that going to Costco and cooking. She also made Chili that was a big hit with everyone. Ken VA3KCY and his wife Mary brought Potato salad and Macaroni salad.

VA3QB Bill said he made about 40 contacts and Paul VA3PDC said he made about 73. He said he did not make as many contacts as last year. Propagation was good but it was so busy it was hard to get in.

International Lighthouse & Lightship Weekend Aug 19-21, 2023 Paul VA3PDC:

Paul VA3PDC said we are registered for the light house and it is BYOE-(bring your own everything).

Frank VA3FJM said they had no power there either. You will have to provide your own power or you may be able to attach to someone's generator.

### **9. Unfinished Business:** Repeater Technical Committee (Bill VA3QB, Tony VE3DWI)

The Alma repeater has now been replaced with the Yaesu Fusion repeater. Tony provided and installed a new Duplexer. Ted did all the interfacing and programming. The repeater is now a full wires-x repeater connected to the internet. You can now get to the repeater by going to the VA3TET-N or VA3TET-room.

There was around of applause for Tony VE3DWI and Ted VE3TRQ for getting the repeater up and running. Tony said future plans are to make use of an amplifier and cabinet that are there and also to get a taller tower.

Dave VA3DAS has mentioned about have a repeater at his place near Listowel. Eventually it will link with ERC repeater.

Ted says KWARC has a net on VE3RCK repeater on Tuesdays nights from 7:30 pm to 8:30 pm. Jim VE3JLC misses the nets as he is in Freeport right now. Ted said he can set this up on a VHF link on the radio used for echolink. He could also set this up for VE3KSR as well.

Frank VA3FJM said Jim VE3JLC has his Baefang and Digital radio but can not get anything on them. Jim is on the 3<sup>rd</sup> floor of the pioneer building and would like visitors. Frank said he is doing a lot better physically and mentally' He does have a cell phone and prefers texts

**10. New Business:** Ideas for presentations- Karen RT systems, Mike Walker Flex, Yaesu John Crook

**11.ANNOUNCEMENTS:**Next Meeting: Sept 27, 2023

**12. Adjournment** – Tom VE3DXQ made a seconded motion to adjourn. Meeting adjourned at 8:25 pm.

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**First ever photograph of a newly hatched  
electrician (with the eggshell still on  
top of its head)**

