

# The **MERCURY MicroVolt**

JULY 2018 VOLUME 18, No. 7

Mercury Amateur Radio Association - MARA  
North America - North East



**NEVER MIND OUR PERPETUALLY POSTURING POLITICIANS!  
WE NORMAL FOLK GET ALONG JUST FB\***

\*Fine Business

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# FROM THE DESK OF THE PRESIDENT

WD4HXG

## No profound thoughts this month!

Our Esteemed Leada has been away from his side of the continent for most of the month of June.

# Grandma Mara's RAMBLINGS...

**D**espite the fact we had let the formal planning fall by the proverbial "wayside", this year's Field Day went very well! As I mentioned last month, the seniors at the retirement home picked up the slack and did most of the planning and doing. They even conned some of the younger members of their families and some of the maintenance staff at the facility to help them with the antenna set-ups and the raising of the operating position tents. They wouldn't let Walter do any of the heavy lifting, but pressed those same younger people into service. Walter said it made him feel old! They did let him test out the antennas though.

Walter and I took the RV over on Friday afternoon, and Walter supervised the set-up of the various stations. That gave us a place to operate from and a place to lay our heads when we got tired. Walter also had some of his QRP gear set up inside to play with.

Conditions were only so-so but we had a good time anyway. As with every one of our Field Day happenings, it's the company and the food that in large part help make it memorable. We had a few "happenings" that will

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also make it more so for this year. The one for me was connecting with Wendy at her university club station. She had said she would try to get on and so I passed the word to the other ops on our end to keep an ear out for her club call. It was mid Saturday night when the op "manning" the twenty meter station let out a yell to me that she heard her talking to another station. When that call finished, there was pandemonium on the frequency. Seems like a YL's voice adds a few extra decibels to her signal and the males all want to make a contact with "that strong station". After a couple of tries on my part, and by finally throwing in the linear amplifier, we connected! She and I chatted for five to ten minutes, and then said our goodbyes. Pandemonium immediately struck with stations frantically calling both of us. To help each other out, we both moved a couple of kilohertz - she up and me down.

Walter had one of those moments when things seem to come together. Sometime late Saturday evening, when things were really slow, he heard a weak signal strength station tuning up in a clear spot on the lower ssb section of twenty. He never thought much about it until the operator id'ed himself as **8Q7DT**. Since no one came back to him Walter decided to answer. Turned out to be Daniel, SM0UDH, but active from the Maldives. He was just checking out his equipment and antenna and not really expecting a response. They talked for nearly a quarter of an hour before worsening conditions forced them to call it quits.

Along with Walter and I, Wendy's family, and lots of folks from the seniors' residence, Red and her mom were there. There were quite a few friends of the aforementioned, as well as random people who dropped by to see what all the excitement was about.



The weather threatened but turned out great - a mixture of sun and cloud but no rain and only a breeze to keep the flies away. The food was fantastic (that's what comes of having a professional chef in charge of the meal planning and preparation!). Walter said her chocolate cake was nearly as good as mine. Isn't he sweet!

The place was full of ham radio operators with all kinds of interests. What more could you ask of a weekend get-together?

# **FEATURE ARTICLE**

## **Power Over Signal Strength**

A self professed rant by Rob McMillan, VE6XMB, *reprinted with permission from the author from the Southern Alberta Amateur Radio Club web site.*

Over the years, the price of a linear amplifier has come down to the point where many can now afford one. I pose the question; do we need that much power?

With the FLL (Full Legal Limit) being in many countries 1500 Watts, (more than many commercial radio stations), are we making a problem for ourselves that can only get bigger as the power goes up.

As the power increases and more people have the FLL, we have to shout louder to be heard. My point, in a restaurant when we keep our voices down to talk to the people at our table all at our table can here without straining ears. When a noisy table comes in and starts to raise their voices, soon you have to raise the voices at your table to be able hear.

Soon there is so much noise that you have to shout to be able to hear the person next to you.

Not only does this add even more to the level of noise, but it detracts from the enjoyment of the meal. Soon you start ordering in and eating at home.

**Which matters more, readability or signal strength?**

The same thing is happening on all of our Amateur bands. No matter what we do or think there will always be the money rich egotistical lid that has to run at least FLL no matter what the band conditions, I am not talking about him (I am a firm believer in Karma, sooner or later that amp will blow up in his face) no, I am talking about the use of amplifiers solely because you have an amplifier. We only need (and that is relative) to use an amplifier when conditions are poor and we have to get a message through.

Which matters more, readability or signal strength? If you are R5 what does the "S" meter reading matter. Another name for the "S" meter should perhaps be the "ego" meter. An example today - 10 meters - no QRN or QRM - Readability of 5, Signal Strength 0.

The "ego LID" on the other end was running at least 1500 Watts and boasting he was S9+60db, why!!!

It is a licensing requirement that we run only the minimum power required for communication. I don't remember seeing anywhere in the regulations that it was a requirement to be able to make toast at the receiving end of your signal.

**All too often it is thought that "might is right".**

All too often it is thought that "might is right". I say to the Linear LID, that every empire that the world has ever seen has eventually fallen. Be careful, very careful, in many palaces the practice of Ham Radio has been made very difficult because some Lawyer toting, frustrated nit picking yahoo has taken exception to a Ham antenna, and forced it into oblivion.

Let's keep Ham Radio friendly, it is not a competition of egos, the one with the greatest "S" meter reading does not win. Courtesy is not a thing of the past, it may be suffering from RF burns but it is out there, it is just running lower power than the "Ego LID". Come join that majority and turn down the power. You don't have to shout to be heard.



## GASOLINE WITH ETHANOL RIDES AGAIN

Back some months ago, we had an article here in the newsletter about [unleaded gasoline and generators](#)<sup>1</sup>. I recently had a problem with my relatively new (a year old/11 hours running time) John Deere ride-on lawn mower.

The first time I used it this spring, it started and worked normally. The second time, I managed to mow the front lawn but only got a single pass around the back portion before it

**The first time I used it this spring, it started and worked normally.**

sputtered and coughed and only made it back to the garage by having the choke lever hard up (choke full on). I did the simple attempt at a fix by changing the fuel filter but to no avail. Again, it worked for five to ten minutes before going all faint and sluggish. Since it was still well within warranty, I loaded into the back of my son's pickup and carted it off to the local John Deere dealer.

Their guess was that it was a stuck/plugged jet in the carburetor and if so, it wouldn't be covered by warranty. The service tech didn't find anything wrong with the carburetor when he started but did find that the manifold was warped. That didn't fix the initial problem so he looked further and eventually found some offending debris in the carb.

Since the manifold problem was covered by warranty they decided I wouldn't have to pay anything at all (for which I was very thankful). My guess was that whatever was messing with the jet had been there from the build at the engine factory (and perhaps they thought the same).

**When I went in to pick up the mower I asked the service manager if we had ethanol in our gas here in Alberta.**

When I went in to pick up the mower I asked the service manager if we had ethanol in our gas here

in Alberta. He informed me that we did, and that some gas stations had their pumps labelled and others didn't. He said John Deere recommended using only premium grade unleaded in any small gas engine (if you couldn't find any ethanol free product), that it started better, burned better and cleaner, and provided more power. When I asked him if it burned hotter than regular grade he said it did not. He said he never drained his stuff in the winter, sometimes adding gas stabilizer and sometimes not, depending if he remembered, but that they all started reliably in the spring. He said the shop foreman at the dealership only used premium fuel, always drained his in the fall, and had the same results.



I'm convinced! My next and future fill-ups will be from the premium pump at Costco. If anyone has the highest turnover of fuel and the freshest gas around, it should be them.

## QRPkits 40/20 TRAP ANTENNA

The last time I did any work on the 40/20 meter trap antenna kit by [Pacific Antennas/QRPkits](#) was back in [April](#)<sup>2</sup> of this year. At that time I had reached page 5 where you trimmed and connected the now slightly shortened 17 foot wire sections to the center insulator. Now, as I write this in the latter part of June the weather is sometimes nice enough to work outside. June being the rainy season in southern Alberta. Like most places, you can never be sure



Figure 1 - Trap 40/20 antenna assembled but not trimmed to resonance. Shrink tubing has not been placed over traps.

<sup>1</sup>[http://ne.mara.net/pdf/newsletters/2013\\_news\\_sep.pdf](http://ne.mara.net/pdf/newsletters/2013_news_sep.pdf)

<sup>2</sup>[http://ne.mara.net/pdf/newsletters/2018\\_news\\_apr.pdf](http://ne.mara.net/pdf/newsletters/2018_news_apr.pdf)

from listening to the weather forecast just how the day will actually turn out.

I wasn't exactly sure from the written instructions about shortening the seventeen foot sections so I decided to leave them at that length and adjust it in place outdoors.

Using *the bucket and pipe vertical antenna holder* last mentioned in *the October 2017 Newsletter* and *the collapsible kite pole* used for the squid pole antenna (*December 2012 Newsletter*) for

the center support, I mounted the trap dipole away from the house, and its possibly interfering wiring and rain guttering, in an inverted-V.



Figure 2 - Weighted bucket with pipe and cap originally used to support the squid pole vertical antenna is being re-purposed for the center support of the trap 40/20 meter dipole/inverted-V.

The center insulator was mounted not at the tippy-top of the extendible pole, but one section down, making it about 30 feet off the ground.

Using a sixty-three foot section of RG-58 coax as a feed line and taping it every few feet down the pole, I connected the antenna analyzer and did a frequency test, walking around the antenna with analyzer to see if where I stood made any difference. There was no noticeable change in the reading. Next, I did a frequency scan for the twenty meter

frequency of 14.2 MHz. The SWR reading was uniformly high across the range. I widened the frequency range and found the dip indicating resonance down lower around 13.650 MHz.

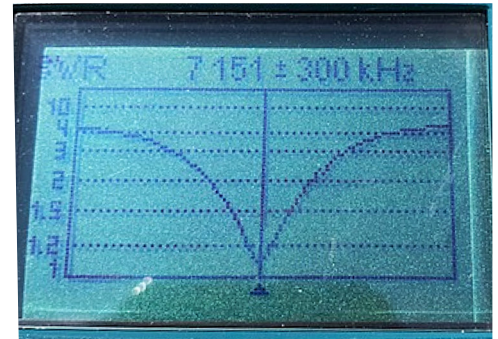


Figure 4 - Analyzer screen of the 40 meter scan. Taken with my cell phone camera.



Arrows (2 places) point out the two traps.

Figure 3 - Bucket, holder and mast supporting trap inverted-V antenna. I tried it with just the bucket but there was a breeze blowing and it kept tipping over. I enlisted the lawn tractor as a support but the wind defeated that. My grand daughter volunteered to provide additional support for the test. In return, she got to drive the John Deere around the lawn.

Out of curiosity, I did an SWR run at 7.150 MHz and the dip was right at that frequency!

The first frequency scan of the twenty meter part of the antenna shows the inner wire sections to be too long and will require shortening. Most likely the outer sections will have to be lengthened.

Trimming an HF antenna is nowhere near as touchy as trimming a quarter wave two meter vertical whip but still you can't go cutting off major length pieces. Start with an inch and see where it takes you. As you get closer, go smaller if you want. Don't worry about precision as the area of low SWR is not a narrow dip.



Trim the inner portions first, cutting the same length on each side.

Realize you may not reach a reflected

reading of zero. Once your SWR reading flattens out then stop. Anything below 1.5 to 1 is fine. If you cut too far, you will have to solder a piece back on (each side) until you reach the lowest value. If you do this, coat the solder junction with Liquid Tape to seal it.

Once happy with the reading, permanently secure the inner wire ends to the center insulator. Next run a measurement on forty meters and adjust the lengths of the outer wires as necessary.

This all will have to wait for a cooler day as the day had gotten progressively hotter until it was uncomfortable to stay outside.

## **CORRECTION**

Looking back at the issues with pieces about the 40/20 meter trapped antenna, I found that on *the contents page of the January 2018 issue* I had mistakenly credited the antenna as coming from *QRPguys*. This is not the case. The antenna comes from *QRPkits*. All other references in the actual article are correct.

QRPguys do have trapped antennas for sale. Check out their web site at <https://qrpguys.com/>

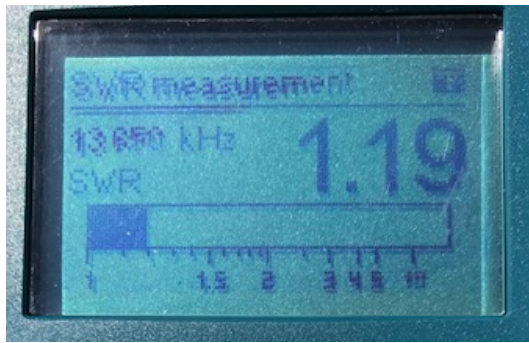


Figure 5 - Analyzer screen for the 20 meter scan. A bit blurry as it was taken with my cell phone camera. The frequency (above the letters SWR) is 13,650 KHz or 13.650 MHz.

**The Mercury Microvolt Newsletter is always looking for articles or pictures of interest to LDS Hams.**

If you have a radio related project, or simply something you think might be of interest to the readers, please contact Dave at [VE1VQ@eastlink.ca](mailto:VE1VQ@eastlink.ca)

Perhaps it's an antenna you made or a new station you assembled, a two meter mobile installation, a new handheld or an HF rig you bought, a field day operation or a mini DX-pedition to the field behind your house that you could write about. Whatever it is, we would sure like to hear about it.

## **QUOTE OF THE MONTH**

"True independence and freedom can only exist in doing what's right."

*Brigham Young*

**CQ-CQ-CQ-CQ-CQ-CQ**

**LATTER-DAY SAINT**

**AMATEUR RADIO OPERATORS**

**If you are an amateur radio (ham radio) operator and a member of The Church of Jesus Christ of Latter-Day Saints, we would like to hear from you!**

We are the Mercury Amateur Radio Association (or MARA), formerly the emergency communication arm of the Church. With the changes in policy over the years, we are no longer associated with the Church in that capacity. Instead, we are a social group made up of members of the Church and their friends who are amateur radio operators.

If you have an interest in finding out more about MARA or if you are simply interested in learning about amateur radio, please contact us.

By e-mail - [ve1vq@eastlink.ca](mailto:ve1vq@eastlink.ca)

By HF radio - Saturday mornings - informal round table starts at 0630 Eastern with formal net beginning at 0715 Eastern on 3.8725 MHz SSB. No time shift for Standard or Daylight Savings.

If you choose to join us, there are no dues - and we will never ever send missionaries to your ham shack!

**CQ-CQ-CQ-CQ-CQ-CQ**

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**Here is the MARA notice you can print out and pin to your ward or branch chapel notice board.**

**Use the one that best suits the space available to you, or you may enlarge or reduce the size to suit.**

**Unless you are the Bishop, the Branch President, or the building representative, it is always best to ask for permission to post it. Doing this keeps toes from feeling like they have been stepped upon.**

# DI-DAH-DI-DAH

**F**ield Day is gone for another year. I hope you had a great couple of days, that the weather was fine, and your antenna or antennas all stayed up where they were supposed to and no one tripped over the guy lines or the power cables from the generators. And I hope no one got sick from the cooking.

Interesting how Field Day operations vary so much from one person or group to another. Yours may be a one person spur-of-the-moment operation from your rear deck or lawn or inside a pup tent at a nearby camp ground, while someone else's may involve dozens of hams with multiple planning and operation committees. Yours might involve detailed planning that starts in July immediately following Field Day while any thoughts for mine might not happen until the week before next year's event.

**“Interesting how Field Day operations vary so much from one person or group to another.”**

If you want to participate with a club in next year's Field Day ask around for the ham radio clubs in your area. Inquire if they have a FD operation. Ask for details on what it is. Do you want a large extravaganza or a small event? Does the group "do" CW or SSB or digital or a mixture of various modes? Are they seriously out for the big score or are they informal and laid back - more interested in having fun? Is this an excuse for a big drunk or is it an alcohol free event (or at least kept to the background)? Once you have the information, you can make your decision. Join the club, attend the meetings both in person and on the air, and volunteer to help out in whatever capacity you are able. Then when the next FD rolls around you will know club members and they will know you. You'll fit right in!

Until next month,  
**VE1VQ**