

The NEWSLETTER

JUNE 2014 VOLUME 14, No. 6

Mercury Amateur Radio Association - MARA

North America - North East

You may be too old to attend school, but that doesn't mean you have to stop learning.

Read a book this month. Just for the fun of it!



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OTHER STUFF

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*Links that will take you to web locations referenced in this newsletter are shown in **BOLD blue text**.*

E-mail your comments, ideas, or submissions to marane@mara.net or to ve1vq@eastlink.ca

Grandma Mara's RAMBLINGS

The beginner's radio course Wendy and Walter host at the nearby senior's home is going well. For the most part, the "students" are grasping the simplified electronics and antenna theory, along with the rules and regulations, well enough to pass most of the Technician's test pool questions that are available on line. They all feel that there is no hurry to take the test; that they want to feel comfortable with the material before making an appointment to write. That and the fact that some of them have a **fear of writing tests!**

So far none of them has dropped out and they all seem to be keenly interested in what they are learning about the hobby.

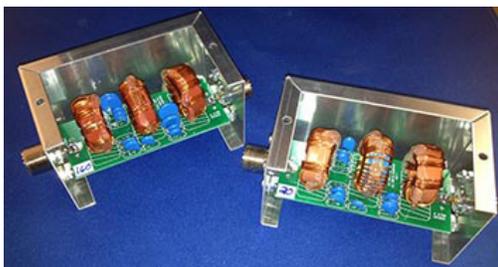
Plans are proceeding nicely for this year's Field Day operation. Wendy and her family, and Walter and I have our usual spot in the state park reserved (that was done as soon as the option

to make reservations became available early this year). We've had a few meetings to iron out the minor problems that showed up during last year's efforts, and to plan

for the food. Walter has the antennas and feedlines checked out. The rigs have been tested. Walter's ELE-CRAFT K3 and Wendy's Ten-Tec Jupiter are the rigs of choice again this year. With their built-in auto tuners, these make for easy operation and a lack of worry about forgetting to tune when moving around the chosen band. By limiting ourselves to the rig's nominal one hundred watts,

and as much physical separation of the antennas (as possible), we don't have to worry as much about getting into each other's receivers or damage to same. Just in case, Walter still insists on using **band pass filters** to protect receiver front ends.

Walter's ELE-CRAFT K3 and Wendy's Ten-Tec Jupiter are the rigs of choice again this year.



Single band filters from ICE Radio Products

Besides the two above mentioned rigs, Walter is bringing his latest version of the prototype of the collaborative effort qrp rig he and others have been working over the past year. This way, he will be able to kind of evaluate it in the presence of the RF emissions from other transmitters. He says it is looking real good on the bench but that there is nothing like a real world situation.

We've invited the class members to come and see us operate, and also to participate in the final Saturday evening meal. They all said they would be there and asked what could they bring for food and drink. Looks like we might have to add an extra radio position to next year's Field Day operation. AR

TECH AND OTHER STUFF

by VE1VQ

Last month, I mentioned that I had purchased a Ten-Tec 506 dual band QRP cw transceiver. I powered it up on the kitchen table with only a clip lead for an antenna. The noise level in the headphones rose whenever I touched the end of the clip lead, so I figured I would soon hear signals if I tuned around. Not a thing! When the noise skyrocketed any time I put my hand near the 12Vdc 1A wall-wart the light dawned. I had a switching type power supply and it was doing a fine job of radiating garbage into the receiver's front end. A search of my junk box revealed several conventional direct wall plug-in transformer style supplies. That's why you should never throw out any of these old supplies, even when whatever it powered goes to that place wherever busted electronics stuff goes.

I was scanning the weekly flyer from Staples office supplies and saw a set of ear buds on sale for about 50% off.

The forty meter band wasn't very good the morning I tried the rig. Even on my 500 foot horizontal loop there were not a whole lot of CW signals to be heard. I checked with my regular HF rig just to make sure the new receiver wasn't dead.

Another problem I had was with the audio control being very touchy with a high level of sound with it set at just above minimum. Turning to the manual, I found that one has to change the position of a jumper on the receiver pc board to use headphones. It places resistors in audio output lines to drop the level.

Besides the BOSE noise-cancelling headphones I use

when on a plane, all I had was an old set of Radio Shack cans that always seem to pinch my ears whenever I wear them. I was scanning the weekly flyer from Staples office supplies and saw a set of ear buds on sale for about 50% off. Don't you love it when a solution is on sale? So, for under \$8, I added a pair of JVC ear buds. These seem quite comfortable in my ears, although I haven't worn them for any extended time period. The volume control now works like it should with the rig's jumper in the right place and no additional amplification from the headset.

I've been investigating a better power source than the wall wart from the junk box. It is a little under the recommended voltage (12 vdc compared to the preferred 13.8 vdc - absolute maximum of 15) and a little lighter in current than I would like. I may pick up a small conventional (non-switching) supply circuit board from one of the alarm suppliers I use, and also a distribution board providing current limited outputs for other accessories. That way I can add a gel type battery for backup or operation on battery alone.

Now, if we can ever get some warmer weather and the time for further experimentation with the SQUID POLE vertical...

Continuing with the QRP theme...

Late one evening as I was mousing around looking at radio stuff, I came across a web site dealing with QRP items. QRPKITS.COM specializes in high quality, low cost items for the qrp crowd. Since I had just received the TEN-TEC Rebel 506, I was in the market for a low power tuner to go along with it. The BLT+ seemed a good candidate.

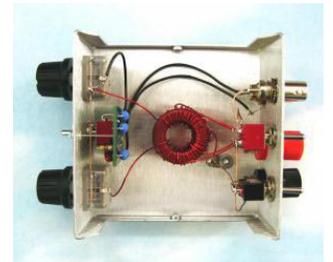
From the web site -

"The BLT is a simple Z-Match tuner that works from 10-40 meters, designed by Charlie Lofgren for NorCal. Charlie is probably the number one man in the world when it comes to Z-Match



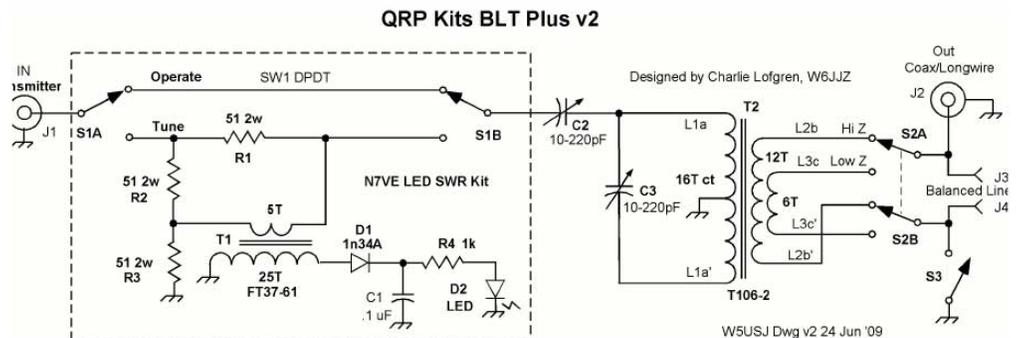
BLT+ photos and schematic courtesy of QRPKITS.COM

Tuners. The tuner tunes balanced feedlines, thus the name "BLT" for Balanced Line Tuner for the mnemonically-challenged among us. Charlie originally designed the tuner to go with the SMK-1 and the NorCal Doublet for 40 meters, but when he delivered his design we found it tuned other bands also. With the NorCal Doublet, it tunes 10 - 40 meters. We rate the tuner at 5 Watts, but it will probably be safe at 10 W. The BLTPlus comes with several modifications including the coax/balanced inputs, and the Dan Tayloe N7VE LED SWR indicator are built in, and is an absorptive bridge, so you won't fry the finals as you tune. Great design, by a great designer. All parts for the tuner are included, including the case. It uses polyvaricon caps.



We have upgraded the tuner to now include all of the connectors and switches needed to tune balanced lines, coax and long wires. There is no need to do the mod as on the older cases. This kit has had the mods incorporated into the kit."

I shot an e-mail off to Doug, KI6DS, the guy behind the whole thing. And waited. After a week or so of waiting, I

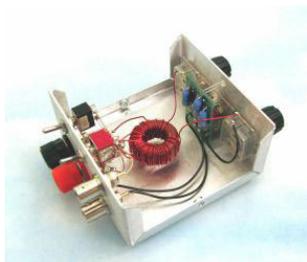


posted a message to the QRP-Canada reflector asking if anyone knew if Doug was still in business. I had a couple of responses indicating that he was but wasn't the greatest of e-mail responders. Jim, VA3KV, mentioned he was going to Dayton, would be seeing Doug at Hamvention and would be happy to bring back whatever kits I wanted. He even offered to e-mail Doug to ask him to reserve the items I wanted. With an offer like that, how could I refuse! I asked him to bring me back the tuner kit and a couple of the (stand-alone) Tayloe low power SWR indicator kits.

The tuner is shown in the schematic above to the right of switch S1B and is a modified Z-match design.

The extra output link allows for wider range impedance matching, while switch S3 and BNC output connector J2 give you the option of matching an unbalanced wire or coax fed antenna.

The SWR indicator (developed by Dan Tayloe, N7VE) is shown inside the dashed area. This is a bridge circuit with the tuner being one of the four legs. The 51 ohm resistors provide a resistive load when the tuner is mismatched, protecting the transmitter final. When the tuner is adjusted such that it provides a 50 ohm load, the bridge is balanced and the LED (D2) goes dim, or completely out. Switches S1A and S1B provide for operating and tune functions.



An earlier version had no low impedance link and no connector for an unbalanced output. Its case was made from soldered-together printed circuit board material rather than aluminum. This one is nicer looking and provides for better matching.

Next month, I'll unwrap the BLT+ and heat up the soldering iron.

QUOTE OF THE MONTH

"I remembered the first rule of debugging: when you are not sure what is going on, do nothing. Stop, think, collect the facts you have already observed, review their time line, and ask questions.."

*Bill Schweber,
ENGINEER, AUTHOR, EDITOR*

ARRL Field Day

June 28 and 29th, 2014

"ARRL Field Day is the single most popular on-the-air event held annually in the US and Canada. On the fourth weekend of June of each year, more than 35,000 radio amateurs gather with their clubs, groups or simply with friends to operate from remote locations."



Are **YOU** doing anything for Field Day this year? Perhaps you will be part of a well planned, multi-antenna, multi-kilowatt, multi-station, multi-etc. operation. Or perhaps, you will be the *only* part of a spontaneous QRP station with a random hunk of wire hurriedly thrown over a limb in a back-yard tree.

Whichever you choose to do, make sure you have fun, and enjoy yourself. And let us know what you do, by sending us a note and some pictures for the newsletter.



DI-DAH-DI-DAH

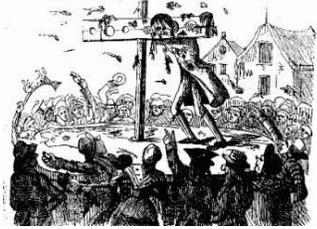
Last month, I wrote here about school boards cutting, among other things, cursive writing from curriculum in their jurisdictions. Since that time, I had the opportunity to talk with a recently retired school teacher in one of those board areas. He concluded his teaching career in a middle school. Even though it wasn't on the list of things to be taught, he took the time to introduce his students to cursive. He said when he first did so, the students were slightly confused by the difference between the printed and the written characters. However, after a few days and some practice, all of them were up to speed with the "new" idea. He said some of them have since specifically thanked him for teaching them this, and how much it has helped

them with speed in note taking.

So why do we mess with a good thing? Why do we continue to fix what “ain’t” broken? In this specific case, “education experts” are playing around with leaning and skills that will have a major impact on our children or grandchildren’s future.

And that seems to be what a lot of “experts” do! They trot out these ideas, throwing their degrees at anyone who will listen to them, creating the impression that they actually know what they are talking about. When, a few years down the road, it turns out that they were wrong, they shrug their shoulders, and ignore the fact that it wasn’t simply an academic exercise but that they were experimenting with real people. They never seem to get called to task, that they were messing with people’s lives. “Oh well, it didn’t work out. It wasn’t my fault. It must have been this or that...” And they typically get a generous severance package instead of being fired. Have you noticed how no one seems to have to be accountable any more? I’m not saying that these

idiot experts should be taken out at dawn and shot, but what I am advocating is that before these ideas that affect so many are begun, they are placed before other experts in that field for careful consideration and vetting.



Actually, perhaps the stocks and public shaming might not be such a bad idea. Anyone know any experts on this topic?

Until next month,

VEINQ