

The NEWSLETTER

JULY/AUGUST 2014 VOLUME 14, No. 7

Mercury Amateur Radio Association - MARA
North America - North East



CONTENTS

- 2** GRANDMA MARA'S RAMBLINGS
 - RAMBLINGS OF AN OLDER PERSON - WASN'T FIELD DAY FUN?
- 2** TECH and other STUFF
 - QRPKITS BLT+ Z-MATCH TUNER - NOT YOUR OLD HEATHKIT!
 - NEVER THROW STUFF OUT
 - FEMALE CHASSIS BNC INSTALLATION TOOL
- 5** SILENT KEY
 - VK4XH - REG HARDMAN
- 5** QUOTE OF THE MONTH
 - WOODROW WILSON
- 5** DI-DA-DI-DA-DIT
 - SOMETIMES LESS IS MORE

OTHER STUFF

Material contained in this newsletter is copyrighted © by the Mercury Amateur Radio Association North East, or by the individual author where so noted. Reproduction of material appearing in this publication is encouraged, as long as the source credit is shown. Permission to reproduce articles copyrighted by the author must be obtained from that individual.

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

Our little Field Day operation was a resounding success, according to everyone who participated. Wendy's brother, who has been keeping a spreadsheet for the time she and her family have been participating, said the total number of contacts per operator was up nearly ten percent over last year, while the total number of states and provinces in which those contacts were made was also up. And, in keeping with being a teenage male, he reported the Saturday evening meal was "awesome".

Fred, from the senior's home, indicated that his group hadn't had as much fun in years, as they had on F.D. Saturday. Their exuberance was such that several other residents of the retirement home expressed an interest in joining up. Their in-house newsletter is planning on doing a major piece on their group in a future issue. Fred said there hadn't been this much talk about something during the evening cribbage games since the activity committee chairman and the lady in charge of the pottery group eloped and got married in an Elvis theme wedding chapel in Vegas.

Walter and I had a blast too, just watching each of the seniors making their first contact. Amazing, how once the initial microphone fright was over, and they got the hang of the contact format, they handled things just like a seasoned operator.

Walter's group-effort qrp rig passed all of the on-air tests to his satisfaction. It produced a solid five watts from its re-chargeable battery pack through a good part of the hours he hung around the qrp CW calling frequencies. I managed to pry the paddles away from him for a few contacts. My speed isn't up to his but I can hold my own quite comfortably up to about 27-28 wpm. It used to be higher, but unless you practice on a regular basis, you slow down. Kind of like learning a second language in your younger years, and if you don't keep it up, you lose the fluency.

This time, instead of having all of the gear set up in our RV, we had a tent for the two main rigs. The outside air temperature wasn't too bad and a small space heater made up the difference for those of the group who were "thermally challenged". Walter had the qrp rig set up in the main room of the RV, along with various pieces of

Walter and I had a blast too, just watching each of the seniors making her or his first contact.

test gear to monitor the results. Having the main radio stuff in a tent meant we could catch a nap if we wanted without inconveniencing the efforts of the operators. Wendy and her family had a trailer of their own, this time.

There was the odd problem, but nothing serious. And nothing that detracted from the whole idea of having fun. Isn't the whole idea of Field Day - to have fun? Some of the groups have sort of forgotten that idea, and take it way too seriously. Someone told Grandma that in the last hours on Sunday there were some on the air practically crying, looking for that last one or so ARRL or RAC (Radio Amateurs of Canada) section for a clean sweep.

Not us!

On a more serious note - the fourth of July is nearly upon us. As you join with family and friends to celebrate, remember that our freedom isn't free; that it comes with a price. Take a moment to think about those who have given all they had on your behalf. Do what you can to keep that freedom safe from those at home and abroad who would curtail it or take it away. **AR**

Isn't the whole idea of Field Day - to have fun?

TECH AND OTHER STUFF by VE1VQ

The BLT+ Z-match tuner, from QRPKITS.com, comes sealed in a clear plastic bag. The first thing you notice, even before you cut open the packaging, is that this isn't a **HEATHKIT** with a ready-to-go pre-painted and printed metal case and a yellow manual with little boxes to check off as you complete each step.



The tuner kit is shown in the center with two of the N7VE SWR kits on the sides.

The nice-fitting case is aluminum with a brushed finish and with no paint and no lettering on its bare surface. Transfer style decals are supplied (remember the decals

for the plastic model car and airplane kits you assembled when you were a kid?).

Two Phillips head machine screws hold the top to the bottom. **PEM** nuts (or the equivalent) rather than tapped holes in the bottom piece are a nice touch.

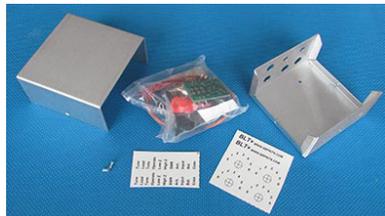
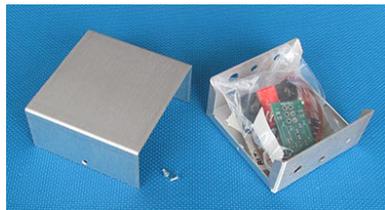
Not even any instructions included! Guess they figure if you found and ordered the kit on the web site, you must be smart enough to get the instructions on-line as well. There is a single page of case and decal directions. This tells you to wash and dry the aluminum to remove any contaminants before spraying the case with clear **KRYLON** so as to provide a smoother surface (than the bare aluminum) so those decals will bond better. Two sets of the soak-em-in-water transfers are conveniently provided, in case you mess one up.

Once the decals are in place and allowed to dry for twenty-four hours, spray several light coats of KRYLON¹ (rather than a single heavy one) to protect the lettering from scuffs and scrapes. When those have dried for at least another day, parts mounting and wiring can begin.

If you want to speed up the KRYLON drying time, one trick is (after waiting at least a half hour until it is dry to the touch) to turn your kitchen oven on at 150 - 170 degrees F and put the case halves on a clean cookie tray in the center of the space. Leave them there for a couple of hours and then turn the oven off, letting them cool down on their own. Don't handle them until they reach room temperature.

Download the twenty-something page construction manual. It is nicely done, with color close-up pictures to help you every step of the way. While there are no little boxes to tick off, the text does cover each step in the order of assembly. If you really want to better duplicate the HEATHKIT experience, you could check each instruction off as you complete it.

Once the labels have been satisfactorily fixed to the case, open the parts package and inventory the contents



against the list of material (Pg. 7) in the manual. Nothing quite like getting part way through a project only to find you are missing a crucial component that you don't have a replacement for, somewhere in your junk box.

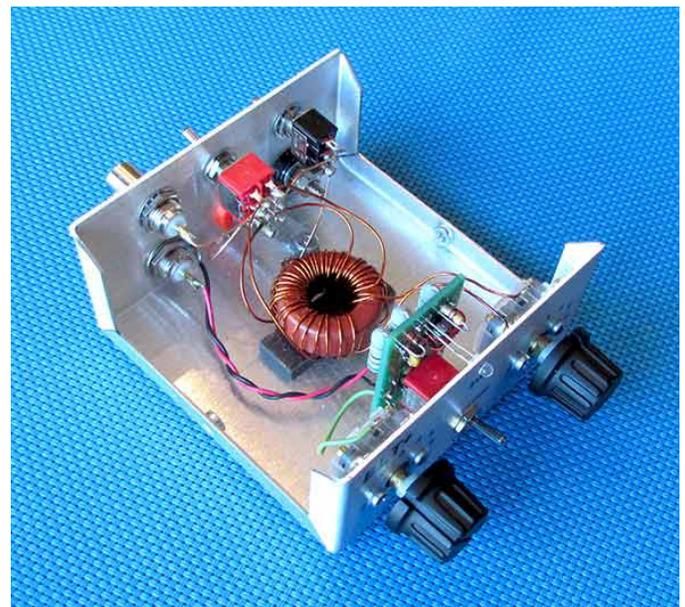
Unless you are really confident you know more than the kit supplier, follow the steps in the order shown. Usually, they have assembled a lot more of these than you, and have figured out the easiest way to build it. I know this because I tried to shortcut a few things and had to go back and do it according to the instructions.

Read the manual from start to finish, making sure you understand each step. Also make sure you have the correct tools needed.

Be careful when tightening any of the hardware on the front and rear panels. It is easy to damage the finish with a careless move or by the over tightening of hardware. There are two nuts for each of the toggle switches - one on the inside of the panel and one on the outside. Install the switch with one of the nuts and the lock washer through the panel on the inside. Thread the second one on the outside just far enough to be flush with the mounting threads, then tighten the inside nut - not the outside one. This way neither the outer nut nor the tool you might tighten it with will ruin the finish.

Construction details for the SWR Indicator Bridge can be downloaded at <http://www.qrpkits.com/files/LED%20SWR%20v3.pdf>. Use these to build the SWR bridge portion of the tuner.

There are only two toroids to wind - one for the tuner



and one for the bridge. I know hams moan and whine about having to wind these, but get over it - it's all part of the experience! The tuner one is a little tricky, what with its three windings. Remember that any time the wire goes through the center hole it counts as a turn.

I don't know what kind of coating was on the wire supplied for winding the toroids. It used to be that a soldering iron and solder applied to a cut end would melt the coating on heat strip-able magnet wire after 10-20 seconds. I gave up after trying (and failing) with first, my soldering iron, and then my nearly fifty year old WELLER 8200 100/140 watt soldering gun, on the high heat! In the end, I used an **X-ACTO** knife to scrape the wire ends and then applied the soldering iron and solder to tin them.

I used a 1/4" thick foam spacer (sticky both sides) to keep the tuner toroid away from the aluminum. I tried hot glue to keep the windings in place but it wouldn't stick to either the wire or the toroid surface. The windings in the picture on the previous page need to be more evenly spaced, if only for neatness sake. Guess I need to whip up that batch of Q-DOPE.

When you reach the end of all the steps with the installation of the main toroid, check out your efforts by comparing the completed tuner with the schematic (Pg. 22) or the wiring pictorial (Pg. 23). Checks and tests for the SWR Bridge are found on page 10 of its own manual. They are not contained in the tuner manual. Once you are satisfied there are no mistakes, connect your antenna and rig to the appropriate connectors (Pg. 18) and adjust the tuner for a match (Pg. 19).

The tuner and SWR bridge worked on the first try, matching the TEN-TEC REBEL 506 to my 500 foot horizontal loop fed with homebrew open wire line without difficulty. The indicator LED dimmed and then went out like magic as I brought the two capacitors into a matched condition. The LED "out" point is fairly sharp but not so sharp as to be difficult.

Aesthetically, the finished tuner only looks as good as your eye and hand are able to place the decals on the front and rear panels. Trying to position them using one's eye may be frustrating to those perfectionists among us. The instructions say the decals will disappear once they have been sprayed. In my case, this did not completely happen. At some angles, and in the right light, the difference between metal and overlay is slightly apparent, however it's not enough to bother me. Certainly the kit cost is kept lower by having the builder do the work. I wonder how many kits from HEATHKIT would have been sold if not for those nice silk screened cases.

If you really want to spray paint the top cover **HEATH-**

KIT green you could do that. Use a light color for the lower part of the case (front and rear panels) so the black lettering will show up.

¹ Use a satin KRYLON finish if you don't like the idea of a shiny panel surface.

Why you should never throw stuff out...

While cleaning out some stuff the other day, I came across the APPLE ear buds originally supplied with my iPhone, and which I'd forgotten about. I had never used them, preferring instead a bluetooth ear piece. They have an extra ring on the connector for controlling volume on the phone but I tried them on the REBEL qrp rig and they worked just fine.

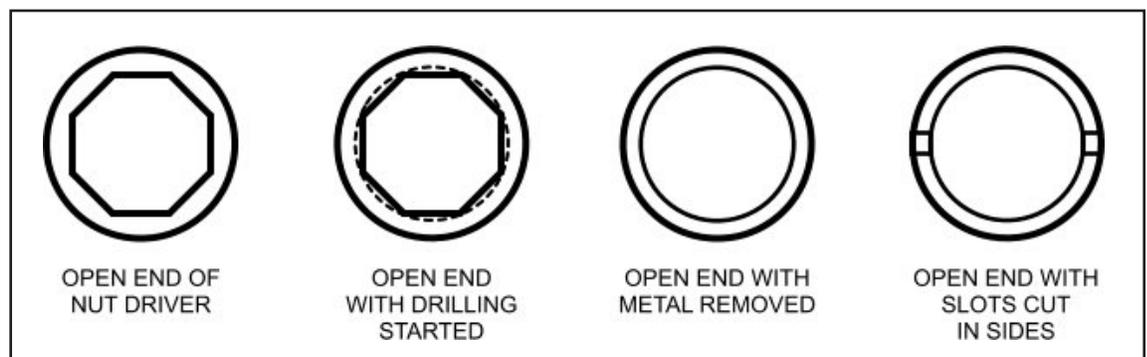
Just another example of why you should never throw out stuff you may be able to use later.

Special tool for female BNC connectors

Several years ago, I needed a tool to hold female BNC chassis connectors in position on a panel while I tightened the nuts on the inside. This way, all of the lugs line up nice and horizontal at the end.

I looked but could not find anything commercially produced at the suppliers I had available at the time.

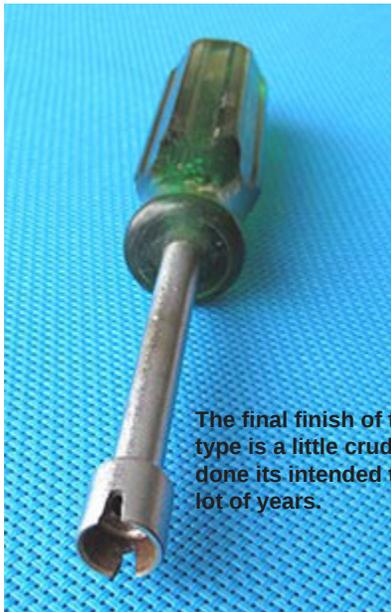
In the end, I took an XCELITE HS-11 (11/32") nut driver, clamped it in a lathe chuck and drilled out the driver portion using a 25/64" bit. Next, I marked the rim in two opposing places. Then, using a hacksaw with a



new blade, I slowly and carefully cut slots in both sides. These slots were the right size to engage the lugs on the female BNC. I suppose I could have neatened it up with a thin file but I just never got around to it, and it has worked fine just the way it is.

If you don't have a lathe, a bench vice and a hand held drill will work if you take it slow. In place of a hacksaw,

a DREMEL rotary tool with a narrow cutting wheel will also do the job.



The final finish of the prototype is a little crude but it has done its intended task for a lot of years.

SILENT KEY

VK4XH

HARDMAN, Edward Reginald Fuller ("Reg") 74 of Brisbane Australia, passed away 22 May 2014, at the Logan Arcare Nursing Home, with his family by his side. His Funeral Service will be held at The Church of Jesus Christ of Latter-day Saints, 370 Underwood Road, Eight Mile Plains, Brisbane at 10 a. m. on Friday, 30th May 2014. Reg was a beloved Father, Grandfather, Professor at QUT, Bishop of the LDS Church and a graduate at Brigham Young University, University of Utah and Industrial High School, Brisbane. Reg is survived by his wife, Shirley and his children Sonja Strathearn, Marsha Fish, Curtis Hardman, Nathan Hardman, Kristen Mathers and Amber Stephens. Reg will be remembered as a leader in his community, talented writer and a Ham radio enthusiast.

VK4XH and I corresponded by e-mail for several years

during which time he contributed a couple of articles to this newsletter. One evening my phone rang, and there was Reg on the other end, using his U.S. numbered **MAGIC JACK**, all the way from Australia.

We talked about MARA and the international side, in which Reg had played a major part, and the direction in which the organization seemed to be heading. As hams are wont, we talked about the gear we owned (or had owned) and the modes we used.

Some time after that, I didn't receive any response from e-mails sent. That made me wonder if something had happened to Reg. I managed to contact one of the other hams listed on the **MARA Australia web site**, who informed me then that Reg was not well.

73 Reg.

VE1VQ

QUOTE OF THE MONTH

"Liberty has never come from Government. Liberty has always come from the subjects of it... The history of liberty is a history of limitations of governmental power, not the increase of it."

Woodrow T. Wilson

DI-DAH-DI-DAH ^D_T

Listening to the radio in the car on the way to somewhere last week, I heard a couple of people talking about the latest study dealing with the health effects of drinking red wine. If you've been following this over the last number of years, you might remember that studies in the past had shown how a moderate consumption of red wine was good for you. Seems now that those studies were flawed in some way and the stuff actually has no beneficial effects at all. At least, that's what a new study (assuming no flaws in this one!) is showing. Bet that's a kick in the pants for the red wine industry!

If your passion for healthy stuff included dark chocolate, the same new study indicates that the sweet stuff doesn't have any extra health benefits either. It's getting so you can't trust any study these days. First your hopes are raised (or dashed), and then they're dashed (or raised). Hard to keep track of what's going on!

It's getting so you can't trust any study these days.

As far as I know, there has never been any new study indicating that prolonged exposure to RF was good for you. You can safely assume building a loop antenna surrounding your house and then running a kilowatt or two is not conducive to your continued good health.

A good reason to consider QRP operation! Five watts of raw unadulterated CW power (ten watts if running SSB) isn't going to cause you any grief or burn your brain cells. There's a lot of fun to be had running low power instead of automatically cranking up the linear. Doesn't it say, somewhere in the rules, something about using only enough power to communicate reliability?



The sunspot cycle has gotten to the point where I can barely (if at all) hear the MARA NE net on 80 meters on a Saturday morning. Used to be that I could hear it fine but the folks on the net couldn't hear me. So, I bought a *pre-owned, gently used* linear amp. Things were good for a few years, even taking over the duties as net control station every now and then. Now it's back in the dumpster again.

Sometimes you need more power to communicate reliably, other times you can get by with a lot less. Such is the "fun" of working HF. Guess maybe I'll quit trying to communicate and heat up the soldering iron for a while, until conditions change back again.

Until next month,
VE1VQ

