



# Squelch Tales



Newsletter from the Merrymeeting Amateur Radio Association for June 2015

**The Pine State ARC  
Proudly announces the  
2015 Annual**

## 2015 Tour de Cure of the Kennebunks

## Bangor Hamfest!



**Saturday, June 6<sup>th</sup>**

**At the Herman High School  
2415 Route-2, Hermon, ME**

**8:00am to 1:00pm**

**Tailgaters at 6:30am**

**Talk-in on 146.94**

This year's American Diabetes Association bike event, the Tour de Cure, will be held on Sunday, June 14, 2015. The Start/Finish will be at the Wells Reserve at Laudholm in Wells, Maine.

This will be an all-day event. The event will include five different length courses 5K (3 mi), 25K (16 mi), 50K (32 mi), 100K (62 mi) and 100 mile. We are looking for many ham radio operators to man communications at Rest Stops and in SAG vehicles. Required equipment would be a 2 meter mobile or a good hand held with an external antenna (rubber duck antennas will not provide good communications in the terrain covered by these courses.

For more information or to volunteer please contact Barry Kray, KB1VX at [KB1VX@arrl.net](mailto:KB1VX@arrl.net).



## Fun with toroid's, Part 2

**By J. Bruce Randall, W1ZE**

In the last issue of Squelch Tales I showed how to build a 9:1 toroid UnUn for use with an end fed wire antenna for portable or fixed small lot location. This month in Part 2 I will describe another very useful project that uses a toroid as a key part in its construction.

### Planned events:

1. Balloon Launch
2. RC Aircraft Demo
3. VE Test Session
4. Tailgaters
5. Door prizes



I built a semi small L-Match antenna tuner and housed it in a 6"x 4"x 2" plastic project box I had picked up at the now extinct Radio Shack but can be purchased at HR Distributers in Portland or on line from various parts suppliers.



The tuner has a minimum of parts and I assembled it in an afternoon in my very small workshop here in Poway, CA. This tuner is capable of handling 100 watts and works well with random and long wire antennas but can be used with coax fed antennas also. Since it is small it makes a nice portable tuner for field activities.

matching of high and low antenna impedances by switching the 365pF broadcast variable tuning capacitor from the output to the input of the tuning circuit.

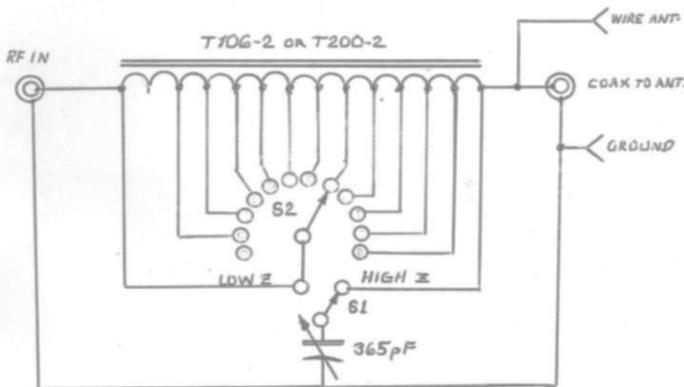
As I said earlier, the hart of this tuner is the toroid tuning coil. I selected a T200-2 toroid because it would handle up to 200 watts but a smaller T106-2 toroid would work fine for power levels around 100 watts or less.



In the above photo you can see the T200-2 toroid first wrapped with a layer of teflon plumbers joint tape. This will keep the toroid from rubbing off the enamel on the coil wire and provides some insulation if any arcing occurs. Next I space wound 45 turns on No.20 enamel magnet wire on the toroid.

I obtained S2, a nice small single pole-twelve position rotary switch from a local supplier (Willi's Electronics) but they are also available online. The T200-2 toroid fit snugly over the rotaty switch body.

To make adding jumper wires from the switch terminals to the toroid coil, I sanded the enamel off the wire turns on one side of the toroid coil. This allowed soldering short



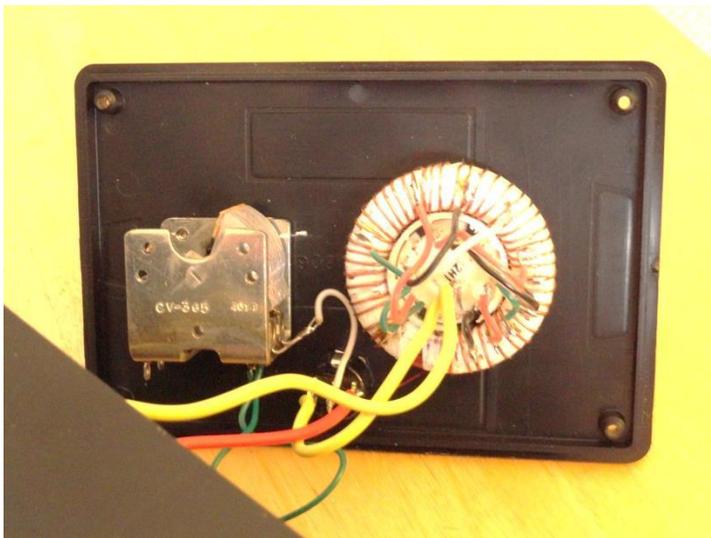
My L-Match employee's a standard configuration that allows broadband

jumpers from the switch terminals and attach them to the coil turns.

I tapped the coil on the following turns 1-3-5-7-9-12-15-19-23-28-34 and that seemed to work OK for me. I was able to tune the tuner from 1.8 to 30 MHz:

. If you use the smaller T106-2 toroid I recommend space winding it with 36 turns of No.22 enamel magnet wire with the following taps on turns:

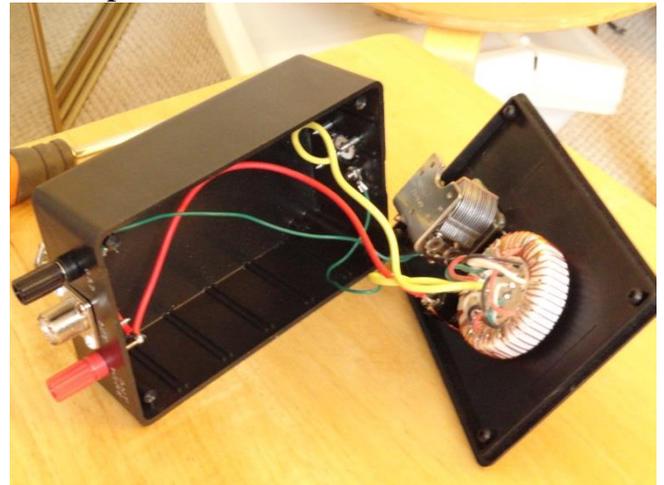
1-3-5-7-11-13-16-19-21-24-26-36



The 365pF tuning capacitor was found on line through Amazon.com. It is a small BC variable designed for receivers but it seems to work with power levels up to and including 100 watts. If you find a larger 300 to 365pF BC vari-cap you should be able to handle a bit more power.

After I built this tuner I tried it out on my 80-foot long end fed wire and used the station/house ground as the counterpoise and I was able to tune the antenna on every band from 160 to 10 meters. 160 meters was not great and the best SWR I could get with only 80 feet of antenna was 2:1 but I expect

if I had over 110 feet of wire I would get a lower SWR. On the rest of the bands I was able to get a 1.1:1 or very close to it. On a few bands I had to switch to the low-Z switch position to obtain a low SWR.



Stay tuned for “*More Fun With Toroids.*”

73, Bruce, W1ZE



## What Would You Do?

By Dan Romanchik, KB6NU

For the past three or four years, I’ve been threatening to buy a new radio to replace my ICOM IC-746PRO. The IC-746PRO is a great rig, though, and I’ve had trouble pulling the trigger on a \$3k to \$5k or more purchase. The radio that I’ve had my eye on is the Elecraft K3. Without a doubt the K3 is a better rig than the 746PRO, and it’s certainly worth the price that Elecraft is asking. The question I keep asking myself, though, is, Am I going to have \$5,000 more fun with K3? •

To put it another way, the question is, assuming that I have a \$5,000 budget to

spend on amateur radio gear over the next year or two or three, what's the best way to spend it? How can I maximize my purchases so that I have the most fun?

At this point, I think that I have decided not to buy that new rig and instead buy equipment that will help me make my own rigs. Some of the items that I have my eye on include:

- \* Aoyue 968A+ SMD Digital Hot Air Rework Station (I have actually already purchased this unit.)
- \* Rigol DS1102E 100MHz, Dual Channel, 1 GSa/s Digital Oscilloscope
- \* Rigol DSA815-TG Spectrum Analyzer
- \* A more professional workbench to replace the folding table that I'm currently using.
- \* Peaberry SDR V2 Kit
- \* More keys! I would love to get a fancy Begali or N3ZN paddle, and the other day someone told me about the UR5CDX keys, which look like great deals.

Even if I purchased everything on this list, I'll have spent less than \$5,000.

One consequence of going this route is that I'll have less time for operating. I'm betting (hoping?) that the extra time spent on tinkering will be just as much fun, or even more fun than I'm having now.

It also means that I'll be going to Dayton with a much different mindset than I have the past couple of years. Instead of spending my time configuring the perfect K3 in my head, I'll be looking for kits and scouring the flea market looking for parts.

I may be overthinking this, but like most amateurs, I have a limited budget to spend

on amateur radio. That being the case, making conscious decisions about how to spend that money should help me have more fun with ham radio, and that's the goal, isn't it?

What do you think? Is this the right way to go, or am I going to regret this decision? If you've made a similar decision, I'd love to hear from you.

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*When not making crucial decisions about his amateur radio career, you'll find KB6NU working on updates to his "No Nonsense" study guides, teaching one-day Tech classes, or blogging about amateur radio at [www.kb6nu.com](http://www.kb6nu.com).*



## **MARA looking for a Publicity Chair Person**

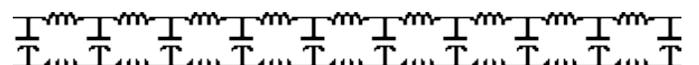
By Dan Lindsley, N5AGG (MARA Prez)

Marjorie Turner, KX1I has indicated that come next week, she will no longer be the club Publicity Chair person. She has done an excellent job, and will be hard to replace.

With this turn of events the MARA is looking for a volunteer to replace Marjorie as Publicity Chairperson. If you are interested, please contact me at:

[lindsleydaniel@yahoo.com](mailto:lindsleydaniel@yahoo.com)

73, Dan, N5AGG



## **MARA VEs administer exam for twenty candidates in May**

The first Monday evening in May VE coordinator, Don Wakeman, KA4WAL and his team of volunteer VEs administered ham radio license exams to 20 candidates. After the session was finished seven Technician exams were given with five passing and two failing. Five General Class exams were given with two passing and three failed. Of the two successful General Class test takers, one passed his Technician and General exam in the same sitting. Eight Extra Class exams were given with four passing and four failing. VEC Don, KA1WAL advised that a young fellow taking an exam missed passing by only one question, but upon review by the ARRLs ham license department they noted a miscalculation in the young fellows exam answer sheet and changed the result from fail to pass. Don notified the young fellows mother and she was delighted for her son success.

. Kudo's go out to the successful candidates and a special thanks to VE's N5AGG (Dan), KX1I (Marjorie), N1WY (Ed), KA1WAL (Don), and first timers KC1AFU (Scott) and W1RSO (Bob) for their volunteer service. Thank you all for your service to Amateur Radio.

## **Snowbird Newsletter Editor back in good old Maine**

**By Bruce Randall, W1ZE**

On Saturday May 16th in the late afternoon yours truly with XYL Donna pulled into the driveway at our Phippsburg QTH, the end of our 3300 mile trip across country pulling a twenty four foot fifth-wheel trailer. We had a very good time with mostly smooth sailing. We departed San Diego on May the 4<sup>th</sup> and headed northeast on US-15 to Las Vegas then on to Utah.

Our first week was spent in Utah going to all the wonderful National Parks. We went to Zion, Bryce Canyon, Canyon Lands and Arches National Parks. The last two days in Utah were spent in Moab at the Dead Horse Point State Park that allowed a central location to visit the last two Parks.

Early morning on the May 11<sup>th</sup> we departed Moab and headed east on I-70 into Colorado. We did not set any speed records going over the Rockies but we made it OK. At 11,000 feet going over Loveland Pass the old V6 F150 never got out of second gear but we made it over and downhill all the way to Denver. The next night was spent in a Walmart parking lot in Hays, Kansas (WallyWorld is nice to RVers). Leaving Utah we checked the weather often and noted a big weather front was 500 miles behind us. At this juncture we changed our travel plans and did not want to be in tornado alley so we headed directly back to Maine.

Along the way I didn't do much hamming while pulling a 5<sup>th</sup>-wheel but in the RV parks I made several QSOs, several 17-meter CW contacts but mostly phone QSOs on 10 and 15 meters. I did listen to the 2-meter FM repeaters along the way but activity was light during the work week.

**Good to be home. 73, W1ZE**

