

Flying Pigs QRP Club – BBQ

Bacon Bits Quarterly

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FPQRP [membership](#) is open to all licensed QRP operators who reside within 12,000 nautical miles of Cincinnati, Ohio.



Ahhhh, yes. It is VERY nice to be back in the Bacon Bits business. I think you will be pleasantly surprised, and I hope pleased with the changes we have made around here. The Flying Pigs QRP Club International is now over 1000 members strong, and like all hobby organizations, we have a lot of inactive members but we are VERY fortunate to have a bunch of club members that are VERY active. This is the first issue of the new and improved Bacon Bits Newsletter. You'll note we have changed the layout a bit, and we have a new masthead. In QRP circles our publication will now be known as the Flying Pigs BBQ, or the Bacon Bits Quarterly. We're all pretty excited to be bringing this new format to the membership in this the new year. It is my intention to make these issues available in MP3 files sometime before the next issue is due out.

We are fortunate to have a couple of excellent readers in our midst, and who knows, maybe eventually we can convert all previous issues to MP3 files as well.

It is my intention to act as Co-Editor along with Dennis Ponsness WB0WAO for at least the year. We are intending to publish the FP-BBQ in January, April, July, and October of 2005. With the staff of contributing editors, and the flow of occasional articles, I see no ordinary reason that would prevent us from making those publication dates. Since we are an international club, I would like to see someone come forward and volunteer to be the Euro Bureau Correspondent, the Asian Bureau Correspondent, and the South American Bureau Correspondent. If you are interested in any of these positions, it pays nothing, just let me know.

This quarter we will be introducing an all new concept to the Bacon Bits Quarterly, I have asked for, and I have gotten, several fine hams to commit to the task becoming contributing editors for this very newsletter. You will be introduced to them in this issue and I am excited by the articles they have contributed this quarter. It is truly remarkable what we can do, when we all put our minds to it. My deep personal thanks to all of you that have contributed articles for the Bacon Bits in the past, present, and the future.

Congrats to Flying Pig #419 Bill Todd N7MFB, in 2004 Bill managed to work ALL PIGGIE STATES. That's incredible since he lives in Washington state. His QSL Card has a great depiction of he and his stuffed tiger doing a very wild "Happy Dance". Way to go Bill!

Anyway, here it is my fine fellow QRPing Piggies. Let us know how you like it.

Cool Link to info on Z-Match Tuners:

<http://www4.tpgi.com.au/users/ldbutler/SingleCoilZMatch.htm>

72 es OO de KB9BVN - Brian Murrey, Co-Editor Flying Pig #57

===== (Flying Pigs QRP Club International) =====



Welcome to the “Premier Edition” of the Bacon Bits Quarterly (BBQ)! Like Brian, I think you will all really enjoy the changes that have been made to make the BBQ a really great source of information about the FPQRP club and QRP. We have been really lucky in rounding up some contributing editors that will impart their knowledge to the rest of us.

The FPQRP Club is unique and I have never regretted joining this FB group of QRP operators. With over 1000 members and still growing, we have to be one of the fastest growing and most active QRP groups in the country – if not the world! We are lucky to have some of the finest minds in the QRP community not only as members, but as active members! Perhaps one of the best parts of FPQRP is our reflector. Ask a question, any question, and you will get an answer! Sometimes they are satirical answers, but an answer none the less <grin>.

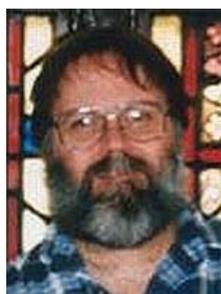
Seriously, if you ask a question chances are that an answer will be forthcoming very soon and unlike other “lists”, it won’t be a “RTFM” or “it’s in the handbook” type of answer. We have antenna gurus, homebrew gurus, computer gurus, DX gurus, you name it – we have a guru! Oh and another thing, you can mention eBay on the FPQRP list! Yep, we have fun on the list and we love to kid each other a lot! But it is all just good natured ribbing and all in good fun.

In closing, here are the “offishul” FPQRP 10 Commandments:

- I. Thou shalt not charge any dues.
- II. Thou shalt not have any rules.
- III. Thou shalt have fun.
- IV. Thou shalt fix what thou does not like.
- V. Thou shalt be an Elmer to fellow Pigs.
- VI. Thou shalt not flame another Pig.
- VII. Thy junque box is thy fellow Pigs junque box.
- VIII. Thou may ponder the existence of Mac.
- IX. Thoust may blame Paul.
- X. Thou may weareth Spandex.

72 es oo de WB0WAO – Dennis Ponsness, Co-Editor and Flying Pig #347

===== (Flying Pigs QRP Club International) =====



Milliwatting! Try it you’ll LIKE it! George Osier N2JNZ – Flying Pig #344

Hello All! My name is George Osier, N2JNZ and I’m a milliwatt addict (HIHI). I’ll be doing a quarterly column on the subject and I hope it turns out well! Any suggestions for topics would be great and you can send them to me at gosier@twcny.rr.com . Just a bit about myself, I’m 47, married to a wonderful XYL, Lisa and we have a son Alex, age 17. I have been a ham since 1989 and have always enjoyed QRP! Since I have worked QRP I have gotten a bit of wallpaper!

QRP-ARCI Awards :

- QRP DXCC MIXED MODE AND BAND #144
- WAC QRP SSB 10 METERS #552
- WAS QRP MIXED #430
- 1000 MILES PER WATT (1,027,310) 10M CW #284
- QRPp (UNDER 1 WATT) DXCC MIXED BAND , CW # 165 (700mw)
- QRPp (UNDER 1 WATT) WAC 10M CW # 559 (700mw)
- QRPp (UNDER 1 WATT) WAS MIXED BANDS CW #503 (700mw)

Right now I'm at 133 worked countries and 123 confirmed under 1 watt and still going.

With the popularity of QRP operation these days some hearty (or crazy) souls take the ball and go a bit further. These are the milliwatters. Using little more power than the common flashlight they seek to have fun in a whole new realm. DXCC, WAS and WAC are now possible with the advent of new rigs having the latest in filtering (DSP). ANYONE with the drive and determination to get these awards can do it!

I started on my chase in 1994 with my first mw station worked as KB2OGW, Carl in Ocean City, NJ. I used 500 mw with (believe it or not) a HW-7 as a transmitter and a DX-302 as a receiver!!! All mw contacts back then were on 40 meters novice which was a really wild place to learn! The QRM from BC stations is massive! But I progressed and made my first 1000 miles per watt with KE4OFN, Charlie in Richmond, VA with 250 mw on February 10, 1994 with the same PRIMITIVE setup. The next step was trading up to a Kenwood TS-520 and by turning down the drive under 1 watt, QSOs were a major reality! I had that wonderful rig till 1998 when I got my current rig, a Ten Tec Argo 509. The station here has evolved only slightly since the Argo arrived. I have a Ten Tec Model 290 step attenuator and a Oak Hills WM-1 QRP wattmeter that can measure down to 1mw easily, which simplifies the task of serious milliwattting. My antennas are a 51 ft G5RV up 20 ft for 40 - 15 meters and a Cushcraft AR-10 Ringo vertical up 25 ft for 10 meter operation.

HOW TO

The most important thing to learn first is how to turn down the power! I use the drive control on the Argo and for powers under 100 mw I also use the attenuator with the drive control. The attenuator allows you to not turn the drive TOO low which might cause problems. On some rigs turning down the drive will cause the receiver to be less sensitive but with a decent signal from the other station this will not be a problem! Some rigs require fooling with the ALC controls which I myself would not recommend.

Also if you have to use a attenuator you can use the following formulas :

10 db attenuation = 10 X power decrease
 20 db = 100 X power decrease
 30 db = 1000 X power decrease

Example:

500 mw = 0.500 w
 Minus 10 db = 0.050 w

Minus 20 db = 0.005 w (or 5 mw)

Propagation:

Knowing how each band should behave at a given time is one of the most important facts to know! The old motto "You cant work what you cant hear" is a given with milliwattling! Knowing when the optimum opening for your area is paramount to get under 1 watt. I know that 8 AM EST is good for 10 meters to start to Europe and that 2 PM is when it drops off here. Later at 4 PM the West to Japan and Oceania is good till 8 PM here. For each band a optimum time is needed to get to the area you wish to work so for a while at least LISTEN, LISTEN then LISTEN some more! You will have to be well schooled in propagation to find your niche in the wild world of milliwattling! The numbers you seek are the solar flux and A and K indexes. There is much info written on these numbers by some great authors which is essential reading for the budding milliwatter! Also remember that conditions that seem great for people running QRO are NOT always the best time for QRPP! You must find the small time slot for you and anticipate the best conditions for the amount of power you are running.

Myths:

Most people that QRP think that HUGE pieces of aluminum in the air are the only way to go! This can't be further from the truth! While big antennas can make the less than 1 watt job easier it is not totally needed. I have worked all my awards with my dipole and vertical and have not needed 100 lb Yagis blocking out the Sun. Once again, propagation knowledge is the great equalizer when it comes to your signal being heard. Low loss coax, good fittings and taking care when installing antennas is most important. You will see results quickly when you can optimize what you use!

Contests:

People either love or hate contesting, but you will quickly find that contests are the BEST times for milli-wattling. When a contest team goes to Outer West Mongolia to run up a big score they bring ONLY the BEST rigs and best antennas and most importantly the VERY BEST OPS. Local stateside contesters also run super rigs and super aluminum farms and are looking for as many "Q"s as possible. With your tiny signal you are still a target and just as good a point as anyone else! When the pileups occur, and they will, you have to take a clever strategy, you can stand right on the CW frequency and pound away, which sometimes will get you through OR you can "slide" a bit plus or minus 1 KC. Sometimes the change in the CW tone will get the DX stations attention. Also listening to when the DX station picks up a call can tell you a lot. If he jumps to the first station that he hears or if he waits for the "buzzing" to calm then picks a call from that. Some DX stations prefer to "tail end" the pileup so they can get the whole call of the station calling them. Each station has its own rhythm and its best for you to go with what he's giving.

A great example of this is the D68C DXpedition. They went to the Comoros with one thing in mind, to work ALL stations of ALL sizes and powers and to give out the country to all who needed it. They were very successful to say the least! I worked them during the 2001 ARRL DX INTERNATIONAL with 500 mw by listening to the OP and determining when he was picking them off in the pileup. Don't be afraid to listen for 5 minutes or so to find his rhythm because odds are he isn't going to go far for a while. The OPs were fantastic and they stuck to their game plan as much as possible so the stations calling could count on their consistency.

A good tool to keep in mind for increased success at milliwattling is DX SPOTTING. I use DX SUMMIT to keep abreast of stations coming on and I team this up with internet DX bulletins like 425DX or others that will tell the beginning of a DXpedition and their schedule for their stay.

Sometimes sneaking in and working DX is possible when you can be near the front of the line by watching the spots. But beware of the many spots that may not be from your geographic area! The DX station "7B7BB" may have 25 people putting it in the list of spots but these 25 may all be from Europe and the propagation might not even be close for you to hear it!

Bands:

10 meters is the band to milliwatt when conditions are right, but with the higher bands on the decline in the next few years you will have to be a bit more creative. My favorites when the solar cycle is low are 30 and 40 meters. With the maximum power on 30 meters of 200 watts it makes a great stomping ground for milliwatters. Also 40 meters is quite good and a favorite place for QRPers. When I worked many of my states I used the Novice portion of 40 meters. During the day its quite free from broadcast QRM and all of New England and the Midwest is very possible. At night its a bit tougher but it gives you good training when the 500 KW monsters are on. Your hearing becomes VERY much more selective and with rigs with DSP filtering its gets even easier!

QSLing:

I find that many QRO or even QRP stations are VERY interested in receiving a QSL from a tiny milliwatt station !! Once you tell them what your power is they often ask YOU to QSL them, and I always QSL as a courtesy to the station that strained its ears to make the "Q". Sometimes I even make special cards for the DX station with the "QSLmaker" QSL card program and manipulate the info fields to put my power in bold letters for the DX station to display proudly!

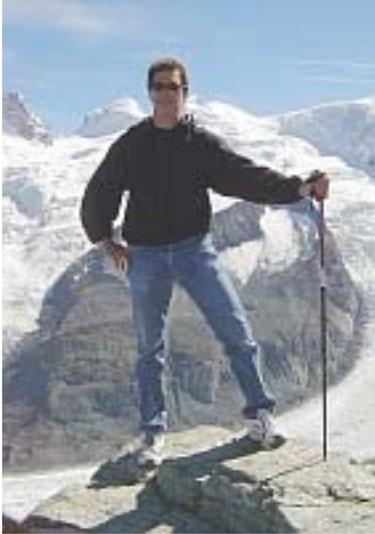
Surprises:

Most times before a major contest stations will be on a few days before flexing their muscles to see how things are working. On November 24 , 2000 a few days before the 2000 CQ WW CW I came across a VERY powerful station on 10 meter CW signing " OK / OM3BH " He was easily S9 + 40 db to my vertical antenna! So I thought I might try 10 mw, got me on the third call and gave me the usual "599" at 1401 UTC. His name was " Rasto" and was using the station of Jiri , OK2RZ at the Ham Heaven Radio Ranch in the Czech Republic. The antenna was "6 over 6 over 6" just for 10 meters! I then went for broke and at 1422 I called Rasto again with just 4 mw! It took the tricks I mentioned before but I got through. This was my BEST Miles per Watt ever at 1,027,310 mpw! You can always count on propagation knowledge and a ton of aluminum to get you through in this case! I cherish this card and the QRP-ARCI certificate hangs proudly on my wall. Having as much knowledge of conditions as possible will often yield MANY surprises! And Lady Luck cant hurt either!!

Conclusion:

If you are looking for a different challenge with a different set of rules you can go for the milliwatts contacts. If I can do it anyone can! Knowledge, determination to succeed and a true love for the journey will get you to your goals with least amount of frustration and pain! The fun is in the realization that people can REALLY hear a signal that low, and that you can be successful with little radios and little antennas. If we meet on the bands someday don't be surprised if I ask you to...**TURN IT DOWN!**

===== (Flying Pigs QRP Club International) =====



What's Morse Worth? John Ceccherelli, N2XE, Flying Pig #392

About 12 pounds, if you carry it on your back...

A blast of wind hits us as we crest the hill. The precipitation has now hardened a bit—changing from rain to sleet. Peeking out from the fog, a microwave tower announces our arrival at a high point on the trail. The rain has steadily increased from a light drizzle to a steady shower. I hadn't noticed my fleece jacket was soaked but my body temperature is plummeting with every cold gust whipping across the ridge. Tom, KC4YJU, drops his pack and digs out rain gear—we all follow suit.

The four of us discuss a change of plans for the afternoon. I need to be at camp and set-up for a JOTA schedule by 2:00 PM and we still have six miles to go. Tom and I think we can cover the distance in 90 minutes but Allen, AA2VY, and Gino are moving a little slower—we agree to split up. Fortunately, this trail, in the Laurel Highlands of Pennsylvania, is relatively flat. With 65 pounds on my back, the level sections are effortless. Even slight changes in elevation however, are torture—particularly going up.

Previously, I arranged with Jim, WA2IAX, to participate in the Boy Scouts Jamboree on the Air (JOTA). Jim was blocking out time for SSB QSOs with his scouts. At the time, I didn't know I would be hiking the Laurel Highlands so I readily agreed. Remembering the annual "Hike with the Guys" was on JOTA weekend, I asked Jim if we could switch modes to CW. Already knowing the answer, I asked anyway. CW ranks right up there with curling and ice fishing for excitement to the non-initiated. To hold the scout's interest, the QSO would have to be in their native tongue.

Paying the Price

Committed to a sideband QSO, only one rig in my arsenal that will fill the bill—the SGC 2020. It weighs 4.5 pounds, puts out 20 watts and only sucks down 400mA on receive. By comparison, the IC703 weighs 4.4 pounds with 10 watts out and the FT817 is 2.5 pounds (nice) and 5 watts (not nice).

20 watts is about the bare minimum for an almost reliable sideband contact. You can play CQ roulette with 5 watts and usually find someone to talk with on sideband. But if you really need to hit someone specific and reliably, 20 watts is scraping bottom.

Hustling for the Sked

Tom and I are making good time toward the campsite. The rain and sleet have abated as we descend into a deep ravine. We cross a stream via a split-log bridge that's slick as snot. The moisture and thick black mold make a surface that puts Teflon to shame. 65 pounds of pack turns a routine bridge crossing into a high-wire balancing act. As the trail rises out of the ravine, the impact of SSB starts is obvious to my knees.

The rig may only weigh 4.5 pounds but the Pelican case protecting it adds another 1 ½. Heil hand-mic and container weigh about one-pound but the 8 amp-hour gel-cell is another hefty seven. The grand

total for rig, accessories and battery is 13 pounds. And that's not counting the Whiterook key but it's virtually weightless by comparison.

Arriving at the campsite about an hour before JOTA show time, there are five lean-tos and plenty of tent space. The lean-tos require reservations—yes, it's ridiculous and certainly not in keeping with the out-of-doors. In any event, reservations, we don't have. Nor do we think we need them. Surely the lousy weather would keep the fair weather campers indoors.

Pitching a tent in wet weather is not an enjoyable experience. Actually it's not the pitching but the packing up that's a miserable experience. Regardless, we felt there would be plenty of no-shows and we'd have our pick of lean-tos.

No Room at the Inn

Allen calls us on 2 meters—"Grab lean-to number one, two through five are taken. There's a group of six adults and twenty kids ahead of us and they have the other lean-tos." Unfortunately, two other hikers already staked their claim to lean-to number one (no reservation either). Tom scrambles to get a tarp up as the sky turns black. Our spirits plummet while we prepare for tenting in the cold and wet.

I scurry to erect the Fly Rod Vertical and get the SGC 2020 on the air for the scheduled QSO. The band is alive with Boy Scouts spaced out every 2.5 KHz. At the appointed time, I call WA2IAX... nothing. I call again... nothing. I listen for a while... nothing. In the mean time, the hour or so of physical inactivity catches up with me. I'm cold. My clothes are soaked, particularly my boots. Tom starts a fire as we huddle under the six by eight foot tarp.

Wetwood and Barkwill—the Burns Brothers

The previous day, while trying to start a campfire, Tom postulated that wet wood and bark, will, indeed, burn—given enough heat. Now the theorem gets put to the test. The wood in the Laurel Highlands is wet; very wet. Without exception, any piece of fallen wood is black with mold. It rains often here. After ten minutes or so, Tom had a 2-inch diameter pile of glowing embers. After 30 minutes of prodding, nursing and tender loving care, it had grown to 4 inches.

Having missed the QSO with WA2IAX, we listen to the scouts chatting and engaging them in an occasional QSO. Figuring one Boy Scout is as good as another, I get some satisfaction from lugging 12 more pounds than necessary.

The Stragglers Arrive

Gino and Allen arrived—both sporting a slight limp. Allen's excuse was obvious; his backpack is routinely 15 pounds heavier than mine. His wife is morbidly afraid he will starve in the woods so she loads him up with a month's worth of provisions for a two day trip. He doesn't want to hurt her feelings so he hauls it. Being a tad north of middle age, it's taking its toll on his hips and knees. On the plus side, Tom and I figured out long ago, it's not necessary to carry any food at all. We can mooch off of Allen's stash—which is nothing short of a Piggly Wiggly in a backpack.

Gino, on the other hand, slid off of the snot covered bridge which nearly took my life as well. Both were wet and tired. A roaring fire would be just thing to lift everyone's spirits. After an hour of constant attention, the fire had grown to eight inches in diameter and was almost capable of consuming wet twigs.

October Winds

The weather turned colder and more violent. Squalls were blowing over the ridge every 15 minutes or so, punctuated by bright sun and blue skies in between. Huddling under the small tarp offered no protection from the horizontal wind, rain and snow. It was, in a word, miserable.



Tom, KC4YJU and John, N2XE, enjoying another day in paradise.

What Goes Down Must Come Up

Misery accompanied us from the start—the burden of SSB was obvious. The first night on the trail, we hiked about a mile out of our way and 500 vertical feet down to camp for the evening. Every foot-strike downhill announced the extra 12 pounds in the pack. While going up requires effort, I detest going down. Especially if the elevation has to be regained.

Lightweight Morse

Given a choice, an Elecraft KX1 gets packed. It weighs about one pound with batteries, delivers a healthy 1.5 watts and runs forever (seemingly). CW, by its nature, concentrates much more power per Hertz than SSB. The KX1 packs those 1.5 watts into, maybe, 200 Hz or a whopping 7.5mW per Hertz. The SGC 2020 operating sideband spreads its 20 watts over 2400 Hz or 8.33mW per Hertz—hardly a noticeable difference. A sideband signal needs to be about 6dB above the noise to be intelligible. An average CW op can decipher a CW signal 3dB below the noise with little difficulty. Let that signal fall into the ears of a guy like Bill Tippett, W4ZV, he can hear it 10dB below the noise without breaking a sweat. That gives CW at least a 9dB advantage over SSB. Throw this windage into the equation and the KX1 7.5mW per Hz is equivalent to 71.5mW per Hz SSB under marginal conditions. Multiply times the needed 2400 Hz and be prepared to supply 172 watts to do what the KX1 can when conditions really suck.

You can debate whether or not Morse proficiency should be a licensing requirement. Notwithstanding, the next naïve, pro no-coder who pipes up about Morse being an old, arcane and useless communication mode is welcome to join us backpacking any time. They get to haul the radio gear. I doubt I'll hear that inane argument at the end of the trip.

Anyway, having descended 500 feet to camp, it had to be regained as we started off that morning. I shouldered my pack with a slight groan and trudged off. There was a mist in the air as we departed. Gradually and unnoticed, the mist turns to light rain. Moisture becomes an unwelcome hitchhiker. Insidiously, it adds pounds to the already heavy burden. Ahead lays a long and steady grade—up, as luck would have it. The physical effort warms the body enough to be oblivious to the plummeting temperature. A blast of wind hits us as we crest the long rise. Peeking out from the fog, a microwave tower announces our arrival at a high point on the trail.



"The Guys" on a previous adventure. Left to Right—Tom, KC4YJU; Todd, KC2MFR (who wisely bailed out on the Laurel Highlands trip); Allen, AA4VY and Gino, no call but we take him along for entertainment value.

===== (Flying Pigs QRP Club International) =====

The 1 Cent CW Key – By Tom Severt N2UHC

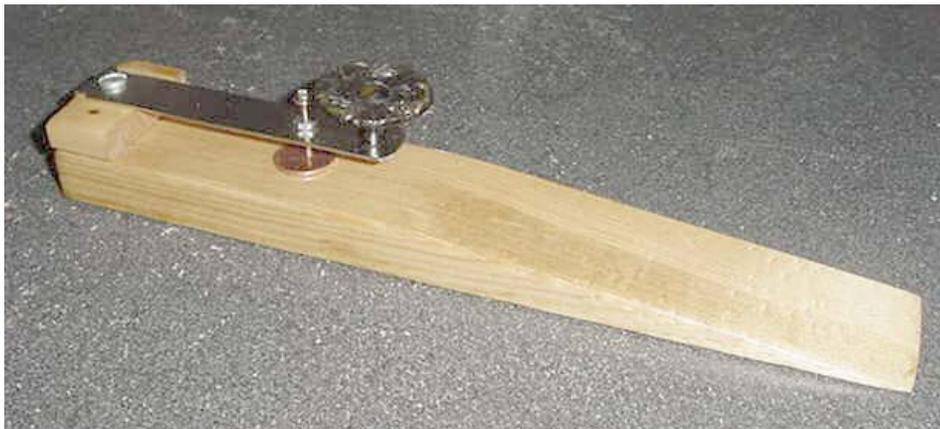


I guess the idea to build a homebrew CW key came to me after I had installed an under-counter dishwasher in our kitchen. Now a CW key and a dishwasher may seem to have nothing in common, but it was the fact that I had to take out a couple of our cabinets in order to put in the dishwasher. I took the old drawers & cabinet doors out to the wood pile in our back yard and began taking the hardware off them when I noticed the shape of the knobs on the drawers & doors looked remarkably like the knob from a CW key, though with a fancier design. I made sure to stick one of them in my pocket because I just knew I was going to use it on a CW key some day.

Now I don't do any metalworking so this key wouldn't be the brass work of art that some homebrew keys are. I decided to try to use whatever I had on hand. I can do a little woodworking so the base of the key would be fairly easy to make, but I just wasn't sure how I'd make the key itself. Eventually I came up with the idea to use a flat piece of metal as a key lever, relying on the springiness of the metal to raise the contact back up.

I wondered what to use for a lever and thought about all the scrap metal pieces I had in my junk box. Nothing I found seemed suitable. I thought about cutting some scrap PC board which would be flexible and rigid enough to act as a CW key, but I wondered if I could cut the edges straight. After looking around some more I found a PC slot blank, one of those flat pieces of metal you stick in the back of a computer to cover up empty PC slots. It would make an excellent key lever. It was flat and had a bend at one end with a notch cut out for a screw, which would hold it in place at the back end of the base. I drilled another hole in the blank which I would insert a screw and secure the lever to the top of a raised portion of the base. I then drilled another hole in the other end of the blank to attach the knob to, after first cutting the tab on that end off and smoothing the edge using my Dremel rotary tool. I drilled a smaller hole through which I ran a screw which is secured to the lever by two nuts. This would make up one of the contacts.

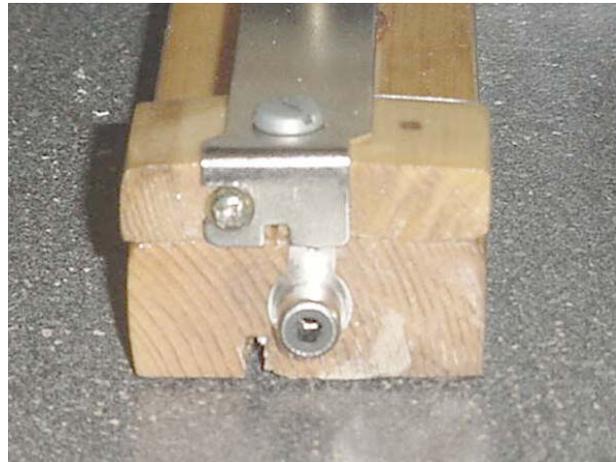
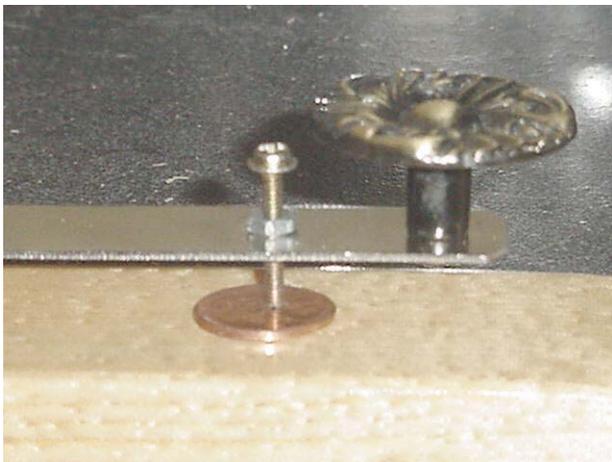
The board I used as the key's base was a 2" wide piece of pine scrap about a foot long which I beveled at one end like a doorstop. The beveled end makes it comfortable for your wrist & arm to lay on which holds the key down while operating. Once I had the general shape I was wanting, I smoothed out some rough bits with the Dremel and finished smoothing it with a sander. On the end opposite the bevel I attached a 1/2" thick piece of board to which I would attach the key lever. I did this by drilling two holes in the bottom of the base and countersinking the screws. I drilled a hole through the base of the key to pass the wire from the base contact to the rear of the key. I then routed a trough from that hole to the rear of the key which would contain the wire from the contact on the base. Once that was done I stained the base using a can of spray wood stain. I sprayed the entire base with clear spray paint to give it a glossy varnished look. I finished the base by adding four felt pads on bottom.



(Ed note – Tom..if that thing had wheels, it could be a Cub Scout Pinewood Derby car)

For the base contact, I decided to use a penny since they are made of copper and conduct electricity well. Plus the penny attached to the base would make the key look neat. I also wouldn't have to tediously make sure I lined up two screws to make contact, since the screw could make contact anywhere on the penny. I went through my change and selected a shiny, new 2004 penny and soldered a wire to the back of it. I ran the wire through the hole on the base and then glued the penny to the base with super glue. I ran the wire through the trough on the bottom of the board and glued it in.

I was nearly done but needed a way to connect the key to the radio. My commercial key has the standard posts with knurled nuts, so I thought a good way to attach the same cable would be to use a couple of plastic binding posts, the same type used on power supplies. However, I didn't have a matching set of the type I wanted to use. I looked around my spare parts and came across a panel mount RCA jack. It is basically an RCA jack with a thread on the back, which is held to a panel with a large nut. I decided to scrap the binding post idea (which would have worked well) and try the RCA jack since my homebrew CW keyer also uses an RCA jack. I could then use the same cable on either the keyer or straight key. I removed the nut & washer from the RCA jack, leaving the solder tab ring on it. I then drilled a hole in the rear of the key base which was slightly smaller than the diameter of the RCA jack's threads. I then drilled another hole in the bottom of the base through to the larger hole in the rear of the base. This was done in order to thread the wire from the penny to the center of the RCA jack. I soldered the wire to the center pin tab and then screwed the RCA jack directly into the hole I had drilled, letting it self-tap the hole which was easy to do since the board was soft pine. It was easy to screw in at first, with only the last few turns requiring a pair of pliers. I made sure the solder tab from the outer section of the RCA jack made contact with the key lever. I checked the key for continuity, and then I had a working key.



At first I was afraid the PC slot blank wouldn't be springy enough to suit my needs. However, after using the key I don't have any problem with it. In fact, after a few days it felt very comfortable, and going back to my other, more stiff straight key caused me to have a sloppy fist. I set the screw contact where I wanted it and tightened the two nuts to hold it in place. Ideally I probably should have used a brass nut on the bottom of the lever and soldered it in place, but I don't think the metal used in the PC slot blank allows for easy soldering. However, it could have been glued or epoxied into place, but I probably won't ever adjust the contact spacing.

Overall this was an easy project and shows how easy it can be to build a CW key. The key didn't cost anything to build since I had all the parts on hand. Well, I guess it did cost me a penny, but for most of us that won't break the bank.

The End

===== (Flying Pigs QRP Club International) =====



A Wild Night on CW - 11 July 2004 - by Paul Signorelli W0RW

Last night there was a 20 Meter contest on, with lots of strong EU stations coming in. So I took my Elecraft KX1 out in the backyard to try for a few new countries. I was outside walking around just after midnight and I worked YL2KO (Latvia) on 14.060. This was my first EU contact on 20 whilst being /pm (peripatetic mobile). I had my 8 foot whip in my rear pocket and a 13 foot drag wire trailing behind me. As I was calling another EU station I saw a big black hulk in my drive way. I almost dropped the KX1 as I dashed for the door, it slammed shut, locking me outside with a big Black Bear, 10 feet away. I had to wake my XYL, so she could let me back in the house.

He was scared away by the clanking noise of the capacity hat (a pie pan) I had on my antenna and ran the other way...whoosh! The adrenaline of working Latvia while being pedestrian mobile with a KX1 is nothing compared to having a big black bear walk up on you while you are working DX in the dark. I think I will leave the midnight (Zombie) operation for winter time when the bears are hibernating. Just life in the city...See attached picture.



===== (Flying Pigs QRP Club International) =====



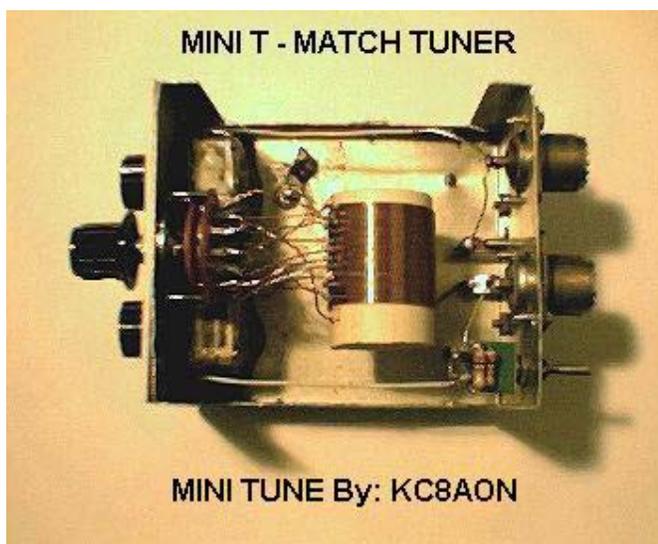
The Mini-Tune T match Tuner By: Rick McKee KC8AON – Flying Pig #33

Recently after building my SW-30+ from Small Wonder Labs, I found out the little BLT tuner I had been using for my QRP operations would not tune my 40 meter Extended Double Zepp (178' centered with 450 ohm balanced line) on 30 meters. Not to fault the BLT, as it is a fine little work of art to say the least, my antenna just happened to be out of limits for it

So what could I do to put the new 30 meter rig on the air? Well, for that evening, I managed to get on the air using my old MFJ-901B, which has no meter, but does have a resistive bridge and LED indicator that I added for SWR indication. With this setup, I easily managed to get a match on 30 meters and was making contacts within minutes. I already had the SW-40, and the SW-20, and the

little BLT worked just fine on those 2 bands, but I thought that it would be nice to have a very small, wide range tuner for working several bands. I looked over several designs, and then thought I had better look in my junk box to see what I had on hand before I decided on what to build. Well, I managed to find 2 identical poly variable capacitors that checked out to range from 15 to 300 pf, and they even had 1/4" shafts for mounting knobs. Don't ask where I got these, as I've had them for a long time but had forgotten about them even being here! Then I thought they would be perfect in a simple T match circuit. The T match isn't the best or most efficient tuner circuit around, but it will tune darn near anything you connect it with!

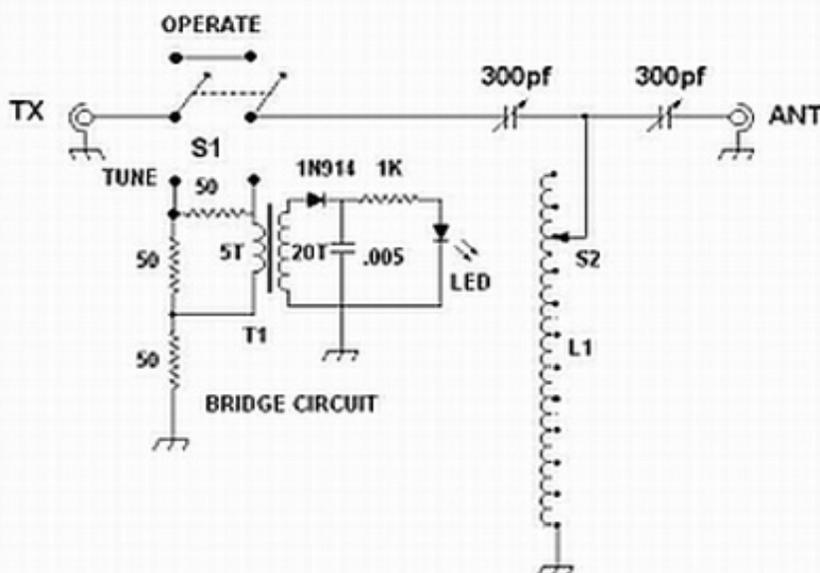
With that range of capacitance, I figured I should be able to build a tuner that would at least cover 10 through 80 meters. So I started looking around for inductor ideas, and first thought about toroid inductors, but didn't have one on hand to wind the amount of inductance I was looking for. So I decided to wind the inductor on an insulating coil form, and in this case I used some thin wall 3/4" PVC pipe, which is slightly larger than 1" outside diameter. Then I figured to cover down to 80 meters I would need somewhere around 25 uH of inductance. So my Hamcalc program (thanks Murph!) made an easy job of designing the coil. It told me to wind 36 turns of #20 enamel wire on a form of 1.09" to achieve 25 uH. So I wound the coil, and placed a tap every 3 turns and wired it to a 12 position rotary switch I picked up at Radio Shack. I then mounted the caps, and prewired switch/inductor combo into a little enclosure I had sitting around that wasn't a lot bigger than the BLT tuner. For SWR indication, I duplicated the bridge circuit in the BLT tuner and used a super bright red/water clear LED as the indicator. The case had no mounts of any kind built in, so I mounted them with double sided tape long enough to hold them in place and then anchored them with hot melt glue. After mounting 2 surplus SO-239 chassis connectors, I finished wiring the thing up, and the labeled the front and rear panels with my electronic label maker and clear label tape.



Now for a test drive. I dug out my trusty old MFJ-207 antenna analyzer and connected it to the input of the tuner, and connected my 40 meter zepp to the output. I tried various frequencies, and was able to get a good match on basically every one I tried from 80 meters on up to 10! So, I then tried it with my SW-30+, and right away got a good match with the LED going completely out, and was on the air making contacts within minutes. I now have a functional tuner that will tune almost anything, and it will fit in my coat pocket with room to spare! I know that my BLT is a more efficient design, and will tune in the field with the right antenna, but with it and my little homebrew Mini-Tune in my bag, I will be able to match just about anything I decide to use! I have even used it with my Yaesu FT-7 on 80 meters with up to 10 watts and no apparent problems so far. If I use that radio in the field, I use the

MFJ-901B simply because it matches the size of the radio better. My Mini-Tune just fills the niche for my smaller equipment needs.

MINI - TUNE T MATCH CIRCUIT By: Rick McKee, KC8AON



S1 - DPDT

T1 - 20 TURN PRIMARY, 5 TURN SECONDARY #24 MAGNET WIRE ON T50.2 TOROID

L1 - 35 TURNS #20 MAGNET WIRE CLOSE WOUND ON 1" FORM, TAP EVENLY IN 12 PLACES

S2 - 12 POSITION ROTARY SWITCH

To use, first set both TX and ANT caps in center position. Select inductor setting with S2 that gives a peak in receiver noise or signal. Then place S1 in tune position, apply transmit power, then tune TX and ANT caps until LED goes out. If LED doesn't go out, try selecting an inductor setting of one higher or lower and then retuning. You may not be able to get the LED all the way out, in that case, tune until it is as dim as you can possibly get it. Once tuned to this condition, place S1 back in the operate position and you are ready to transmit. This circuit will work 10 thru 80 meters in most cases.

===== (Flying Pigs QRP Club International) =====



Junk Box Special: HV Power Supply – Keith Ford KF4TAP – Flying Pig #933

This may be different from the normal projects. Coming back home from my most recent deployment, I wanted to explore building some vacuum tube rigs. First thing needed was a power supply to give me about a 100 volts. Digging around in my boxes of junk, I found almost everything I needed. T1 is a 1-1 transformer 120 in 120 out with a 6.3 volt heater tap. The chassis was salvaged from a homebrew project that was bought at a local flea market for a buck. Tie strips came from a discarded BCB receiver along with the octal socket that is being used as a output power plug.

This power supply, being intended for a receiver, needed regulation. Searching through my collection of tubes I found an OB3WA. A trip to the nearest Radio Shack got the 1N4007 diodes, and these were the only purchased items in the power supply. Other parts are S1 taken from the BCB receiver, a 7 pin socket, F1 from a box of junk, and two 40 mFD 150v electrolytic caps.

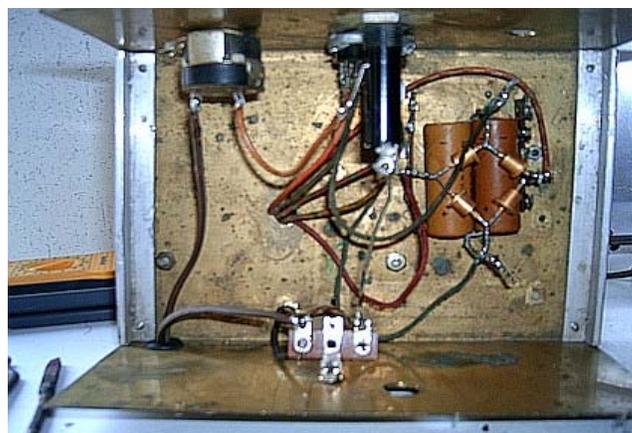


Power cord from a defunct soldering gun brings line voltage in to S1, then to F1 (4 amp glass fuse), then to T1. Output of T1 to the bridge rectifier goes through the filter caps R1 and R2. The voltage after the rectifier was 180vdc. After calculating that I needed 1800 ohms of resistance to my regulator tube, I used two 1000 ohm 1/2w resistors in series. The regulated voltage then goes to the octal socket pins 1&8 with 2&3 being the filament voltage.

I even salvaged the wire used in the hook ups.

So far my little junk box special has run about 50 hrs with no problems. I have decided 1w resistors would probably have been better.

The coolest thing about this power supply is the OB3WA glows purple. Had I known this in the beginning I would have put the tube on top of the chassis instead of the bottom. It's not show in the pictures as it had not been installed at that time. The power cord to the uncooperative Regen is a base from a broken octal tube. I cleaned the pins with a # 50 drill bit and solder my wires in.



Total monetary cost was about \$3.00 USD for the diodes. To finished I will use a piece of pine stained for the base and polish the brass chassis. Later, if I can find one, I plan on putting a voltmeter to the right of the octal socket. If anyone is interested in a schematic I can send one snail mail via CBA. Just send a buck or two for copying and postage.

===== (Flying Pigs QRP Club International) =====



Adventure Radio By Rich Patrick- KR7W – FP#577 – Tacoma WA

The first Monday of the month is the Adventure Radio Society's Spartan Sprint contest. This contest is for the QRP-type operators of ham radio. The Adventure Radio Society's credo or goal is to get hams outside with their QRP radios. Yah, its CW only, but it is lots of fun.

So, where do you go outside with your QRP radio? Sometimes I take my little FT-817 out in our backyard and set up on the picnic table. I set up my doublet [a dipole fed with balanced line] antenna with the 23 foot long fiberglass push-up pole. The station power is a 7 amp/hour gel cell. It's just like backpacking somewhere in the woods. I have fun making as many short QSOs as I can within the two hour time period. The information exchanged in the QSO is my state and my transmitter power output.

Sometimes I get replies from the ham at the far end, “FB on 1 W”, or the time I copied on 40 meters from the ham in Hawaii, “point 5W FB”. I am always amazed that ½ watt or 1 watt can get into Pennsylvania or Georgia.

For the May Spartan Sprint, YL Pat (KD7TRC) and I grabbed a picnic dinner and headed off to the 5 Mile Drive at Point Defiance Park. I brought along my Elecraft KX1 transceiver that I recently built from a kit. This will be my new little radio’s maiden voyage. The radio only weighs 14 ounces-including the batteries (six AA lithium cells), the iambic paddle, and the antenna. Of course, this is a “compromise radio”... where I have to give up some things to have a radio that weighs 14 oz.

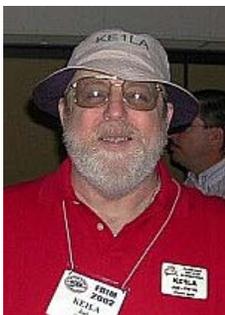
So, we found a nice picnic area along the 5 Mile Drive in the park... that has some pretty big trees directly under a picnic table. I shot my fish line up in the tree for the 29 foot long long-wire antenna. The 25 feet long counterpoise wire is strung out on the ground. I switch to 20 meters and there are many QRP ops on and around 14.060 MHz. I make quite a few contacts until the band goes dead about 6:30 PM.

Now I switch to 40 meters... on and around 7.040 MHz. I hear lots of hams calling “CQ SS, CQ SS de ____”. Since I am a “Search ‘n Pouncer” I attempt to answer the CQs. No luck... Nobody seems to be able to hear me. I hear them, but not visa versa. I recheck the little radio’s built in antenna tuner. Yup, SWR is 1.1, and PWR is 2.9 W. What’s going on? I am getting pretty frustrated on 40 meters because I was making contacts on 20 meters. Now, towards the end of the sprint, at 7:45 PM, I make two contacts. One signal report is 2-3-9 and the other is 3-3-9. Normally the end of the contest is the best time to make contacts. My guess is that the hams on the east coast have gone to bed or the band has faded out for them... or many hams are desperate to make contacts and they are listening harder. Anyway... their signal reports are not what I usually get. Later, after the sprint, Nick- WA7IVO a local ham, told me he was participating in the Sprint from his house... and he could barely hear me.

Hmmmm.... What to do? On a wacky whim I release the fish line that is pulling up the 29 foot long-wire in the tree. I take the wire and lay it on the ground opposite the counterpoise wire. Now I sort of have a dipole lying on the ground with my radio in the middle. I can still hear SSers calling CQ as loud as before. I tune in the hams that I had just contacted. I call them using YL Pat’s call, with her permission- of course. Guess what? I make contacts with the same hams as before. 2-3-9 and 3-3-9 signal reports.

What does this mean? I can easily conclude that my 29 foot long-wire antenna that was up in the tree works just as well as an antenna lying on the ground. This seems pretty poor to me. Why the heck did I make lots of contacts on 20 meters but 40 meters did not work very well? Stay tuned next time for my conclusions. BTW, the Adventure Radio Society’s web site is: www.arsqrp.com.

===== (Flying Pigs QRP Club International) =====



Antenna Theory - Cajun Style – Joel Denison KE1LA Flying Pig #190

Now lets me have ur attention. ah may bees all wet heah but then maybe ah gots sumthin... For our antenna we is gonna consider a pipe with a round cap on the top and 5 pounds of water pressure on the water going into that pipe.

Iffin we got that cap on good and tight and got no holes in it, we ain'ta gonna see any water come outta it. We done made us a dummy load antenna... Hee hee...

Now ah go gots mah dad's drill and a small bit, and a level and a ruler and I drills 360 holes evenly spaced and the same height and angle from the ground.. Wow man ah be tired yea...

Now with that 5 pounds of water pressure pushing water through them 360 holes ah gots water going avery whare...so I gets my marks a lot and geaux mark whare the water land,360 marks. Now I got me some little screws and I put them in say, ten of them holes and put the 5 pounds of pressure to the pipe and I measure once meaux where that water hit... This time a little farther for avery hole what ain't been plugged.

I soon see that it depends on what holes I close up, and how many, to determine what kind of water pattern I get and how far the water shoots out... All with the same 5 pound water pressure.. Of course when I get only one hole open and adjust it for best flow I gots lots of water going a long ways with that same 5 pounds of water pressure.. Now imagine that water pipe being ur antenna... And the elements or lengths of wire being the adjustment for the "holes" to make ur 5 watts work better in one or meaux directions...No power gain just meaux efficiency in a given direction at 5 watts of power...Another more math way to figure this out is to look see how many degrees u be radiating.. Divide the degrees radiating into power out (5 watts) and now look at how much power per degree u gots working for u...The Less Degrees u Use the Meaux Power Per Degree u got yourself..up to your xmitter power 5 watts...now ain't that sumthin...efficient power usage is what it be, not power multiplication...

I hope this helps the antenna theory impaired out thair and iff'n u got meaux question just send them to hamjoel@juno.com and I gonna try and got u a cajun answer..yes sir, yes m'am..

===== (Flying Pigs QRP Club International) =====



Hanging five on a half wave – Nelson Winter NE4LS Flying Pig #909

It is a great pleasure to be given the opportunity to write a series of articles on operating in the field. In my 30 years of amateur radio I have found that this aspect of operating is my very favorite.

I'd like to start off by giving you a little background on myself. I was first licensed at age 12 as WN6DWD (doo-wah-ditty) in Santa Monica, California in 1974. The principal of my elementary school was a ham and offered a radio class after school for extra credit. I jumped on the opportunity. My first rig was an

HW-16 which I built with my dad. Just before my Novice ticket expired, I upgraded to General and received WB6DWD from the FCC – and upgraded my shack to a Yaesu FTdx-560 (Barefoot .5kw).

Over the years I have participated in 2m “T” hunts, VHF FM, HF CW & SSB, Red Cross emergency operations, ARES, a variety of charity operations and of course my new love, QRP CW. I have had active and inactive periods, but always kept my ticket renewed. In late 2003, I moved to Florida, passed the Extra ticket and changed my call to NE4LS. Now I operate a little 2m FM (ARES) and a whole lot of HF QRP CW.

Operating in the field, or even from my back yard seemed like a natural progression for me. Granted, summertime here can be brutal, but the majority of the time the weather here is very accommodating. I'm not the backpacking sort so traveling ‘ultra light’ is not of great importance to me. Most of the spots I go are pretty close to wherever my car is parked. So if I have to make a few trips back and forth, it's of no consequence to me.

My station will typically include my AT-Sprint II, 7ah gel type battery, headphones, BLT, K8RA P-2 paddles, Norcal keyer, MFJ 1910 fiberglass telescoping pole, enough wire to make a ½ wave vertical on 20 meters, log book, scratch pad & pen, a MFJ dual time zone digital clock and all of the

interconnecting cables and coax etc. With the exception of the parts that make up the antenna, all the stuff fits into a plastic hanging file folder box I bought at one of the local office supply super-stores.

Florida has pretty poor soil (silica) as far as desirable ground goes. On the soil conductivity scale, most of Florida is an 8 (See the ARRL Antenna Handbook, chapter 3, for a map of US ground conductivity). I needed to come up with an antenna that I could put up without a lot of hassle, didn't need elevation, would radiate effectively and didn't consume a lot of space. I scoured the ARRL's Antenna Handbook and I didn't come away with a clear or clever answer – just more questions. I happened upon a webpage which described a voltage fed $\frac{1}{2}$ wave vertical that seemed to be the answer to what it was that I was looking for, an antenna that has the low angle of radiation of a vertical without the dependency of a good ground system or conductive soil, fits into a small space, doesn't need to be high off the ground to radiate effectively and would possibly conform to my HOA rules and CC&Rs. Similar antennas were often used on Zeppelins specifically because of their lack of need for a ground plane. These antennas were a $\frac{1}{2}$ wavelength long and were fed with a $\frac{1}{4}$ wave of open wire feed line. This same design is also employed in the common J-pole.

So for grins I decided to try the antenna for QRP TTF in 2004 from a park in Boca Raton next to the beach. I used a slingshot to hang 34' of Wireman.com stranded copper wire from an overhanging Australian pine and connected the base of it directly to my modified BLT. The antenna loaded up perfectly and I made loads of contacts throughout the six hours of the contest. Later that year I found out that I won QRP TTF 2004 in my class.

Shortly after the contest, I purchased a MFJ 1910 fiberglass telescoping mast from K4THL (pig #999). The MFJ 1910 can be purchased from a variety of suppliers from \$70-\$80 just by doing a quick Google search. This mast/pole is 33' when new and fully extended. The topmost section was removed and an eyelet was installed at the end of the remaining topmost section (see pic) which reduced the overall height to just over 30'. A 4' piece of closet dowel with the end sharpened to a point makes up the base of the pole. I use a 4 lb hand sledge to drive about 1.5' of the dowel into the ground and then I just slide the extended MFJ pole over the top of the dowel. With wire attached to the eyelet at the top I use a small piece of string to hold it to the mast near its base (about 10' from the ground) to make an L. The wire then runs horizontally over to the back of the BLT sitting on a chair or park bench.



I experimented with a variety of ground configurations, with/without counterpoise & with/without ground rod. Through a series of totally unscientific tests my empirical results showed that I received the best DX signal reports with a single counterpoise that was a little longer than a $\frac{1}{4}$ wave whose end was attached to a 4' ground rod driven 75% into the ground. Using this configuration I have worked QRP CW all over Europe, Russia, Ukraine, South & Central America, and of course all over North America.

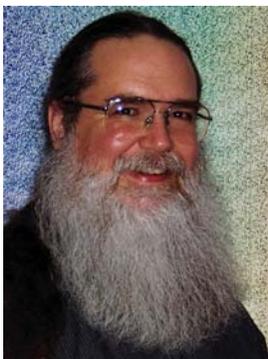
I had read on a couple of web pages that a loading effect has been experienced when allowing the wire to run directly along the surface for the length of the pole. Some have suggested that the DK9SQ and the MFJ-1910 poles have different electrical characteristics. I employed the use of a VNA to measure both the MFJ-1910 and the DK9SQ poles for conductivity and capacitance. Both tests, while not entirely scientific, showed that neither pole exhibited characteristics that would impair the operation of the attached radiator. Perhaps running the wire right along the length of the pole adds some capacity to the antenna system thus causing a detuning effect. I will be performing more experiments in the coming year to sort this question out more definitively. I would love to hear about results you have obtained in this area. In my implementations I have never taken steps to keep the wire away from the pole and have never experienced any noticeable loading or detuning effects.

I use a modified BLT to match this antenna (See NorcalQRP.org). However, this antenna can also be matched by building a simple L matching network or the circuit from Steve Yate's web page (see below). The matching network should be able to match just over 1k of (high) impedance to a 50 ohm feed point. That puts the inductor at about 3.72 uH and a variable cap at 27 pf with a +- 5pf range. The inductance of your antenna installation may vary so the values you use for your tuner may vary correspondingly. This will get you a very nice tuner that will probably not need retuning across the entire 20 meter CW band. If you have a burning desire to understand more of the science behind half wave antennas, I suggest you take a look at ON4UN's remarkable book, "Low Band Dxing". Another great resource is some web pages that Steve Yates (AA5TB) has put together on half wave end fed antennas at:

<http://www.qsl.net/aa5tb/antennas.html>

For 20 meters this ½ wave vertical antenna system is easily transportable to your back yard or park and is a great performer without needing an extensive (and possibly hazardous) radial ground system. Plus, my HOA can't complain because it's not a permanent antenna, when I'm not using it, I take it down. I get great DX reports consistently during evening greyline. I hope you give this antenna a try and enjoy the same results I do.

===== (Flying Pigs QRP Club International) =====



Having fun with Radio – Jim Glover WB5UDE Flying Pig #1036

I may be new to the Flying Pigs, but one thing I know for sure is that Flying Pigs like to have fun! And I knew when Brian accepted my offer to start a new column for Bacon Bits that I'd soon be enjoying yet another new way to have fun with my favorite hobby, radio!

I've been having fun with radio since I was about 10 years old, when I began listening to and playing around with AM broadcast radio. At age 11, I was enjoying a pair of walkie-talkies I received for Christmas. I was 12 when I began staying up half the night to listen to radio stations from all over North America, and 13 when a Zenith Transoceanic portable from a yard sale opened my eyes (and ears!) to the fun of SWL. I was 17 when I became a ham. A busy life and a wife (now ex-) who hated ham radio kept me from having much to do with radio in my early adulthood, but that just means more fun catching up now! I've been busy doing just that for about the last eight years.

Speaking of SWL, have you heard DXers Unlimited, the program for radio hobbyists on Cuban Radio Habana, hosted by Arnie Coro, CO2KK? This will be my first tip about having fun with radio: Check <http://www.radiohc.cu/> for times and frequencies to catch Arnie's show. Arnie believes in

having fun, too, and is constantly looking for items to add to his growing list of ways to enjoy the radio hobby. I think the last time I noticed; he had over 70 items on his list. I've never heard Arnie's full list, but I'd sure agree there are a lot of ways to have fun with radio!

If you've been a radio hobbyist for years now, you may fondly remember those early days when it all seemed like so much fun. If you do, try to resist the urge to wonder what went wrong, and who's to blame! The reason it was so much fun then is because it was all new. The key to having fun is to be a beginner. Try a new aspect of the hobby, or explore an aspect you're familiar with from a new angle. We are fortunate in that there is so much that can be done with radio that few of us will be able to do it all in a lifetime.

Getting more out of the radio hobby doesn't have to mean making it more expensive or more difficult (although a challenge can be fun too!). Many of the best ideas involve new things to do with the things we already have, or can easily get. We might try taking our equipment for an outing, and enjoying a few QSO's in the great outdoors. We could talk about fun things to build--I'm a fan of minimalism, and would love to share my thrill at getting real results out of lash-ups so simple they're only a notch or two above dirt! Trying out unique antenna ideas can be a lot of fun, so you can bet we'll talk about that. I'll pass along tips about books and corners of the Internet where inspiration for radio fun can be found.

When it comes to having fun, the more the merrier! I'll be hoping to hear from you about your ideas for having fun with radio, and it will be my pleasure to pass them along to everyone. Please e-mail me at wb5ude@qsl.net with your ideas, comments, criticisms, or whatnot. I look forward to hearing from you, and seeing you in future editions of Bacon Bits Quarterly!

===== (Flying Pigs QRP Club International) =====



Flying Pig Spotlight!

This Quarter we meet Larry Makoski W2LJ commonly known as Flying Pig #612

Larry was originally licensed in December of 1978 as KA2DOH and he first got on the air as a Novice in January of 1979. He then upgraded to General in June of 1979, changing his callsign to N2ELW in 1983 and upgraded to Advanced the same year. Larry upgraded to Amateur Extra in 1992 and received W2LJ via the Vanity Call Sign Program in 2000. His favorite aspects of Amateur Radio are QRP, Morse Code, homebrewing and kit building (surprise - surprise!). Larry has earned WAS, WAC, DXCC and DXCC Millennium and is busy redoing WAS but this time QRP/CW. Larry has been an officer in a few local radio clubs and is active in the usual QRP organizations. Larry gives his time as VE with the ARRL VEC and back in 1998 he received "Elmer of the Year" award from the local QCWA chapter for his efforts in running the local VE sessions.

Larry is married to the beautiful Marianne who is a registered nurse. They have a son Joey and a daughter Cara. They also have a dog (Brittany) named Jesse and a cat named Sadie. Larry currently works as the service manager for a firm that imports professional photographic equipment from Switzerland; so his daily life is full of electronics and precision mechanical work.

Larry is a ARRL Life Member and operates an Elecraft K2 and a Elecraft K1. To learn more about Larry W2LJ, visit his website: <http://www.qsl.net/w2lj>

===== (Flying Pigs QRP Club International) =====



Sent by: Nigel G8IFF/KC8NHF – Looks like Diz got a new car!

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===== (Flying Pigs QRP Club International) =====

OUR MISSION:

- 1: Have Fun.
- 2: No rules.
- 3: Have a group of Friendly Hams who enjoy Amateur Radio, and sharing their skills with their fellow Hams.

CLUB EMAIL POLICY:

These are not rules, just common sense.

Club email is not moderated, as we are not a stuffy group. You can send off topic messages about most subjects, but please keep it clean and in good taste. We do like good-natured ribbing and joking with each other, but we will not tolerate flaming other members or spamming the group.

We will remove offenders who abuse our open policy. The word eBay is allowed.

CLUB WEB PAGE:

The club web page is our forum for sharing projects, and information about us. You are encouraged to submit your ideas and projects to be added to the web page.

<http://www.fpqrp.com>

OUR MONTHLY CONTEST – RUN FOR THE BACON SPRINT:

This event is held on the 3rd Sunday Night (EST) of the month. For full details on how to participate, see the website address of: <http://www.fpqrp.com/fqrprun.html>

PROBLEM REPORTING:

If you are having problems with email, the web pages, or a fellow club member, please report this to either:

Diz, W8DIZ at w8diz@cinci.rr.com

Jim, W0EB at W0EB@cox.net

Rick, WB6JBM at ripowell@mpna.com

Dan, N8IE at n8ie@who.rr.com

We welcome all to join the Flying Pigs QRP Club, and we hope you have fun!

