

# Extreme QRP(p)

By Mike Boatright, KO4WX

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*Imagine a friendly contest without blisteringly fast CW and where the score is calculated based on the number of contacts per pound that your station weighs. Sound like fun?*

There are fewer places on the planet, in my humble opinion, better than the state of Georgia for enjoying nature and the outdoors. We are very lucky to have a unique diversity of terrain, flora and fauna, ranging from the Appalachian Mountains in the north (where the southern terminus of the Appalachian Trail can be found) to the Okeefonokee Swamp in the south (home of Pogo) to the Marshes of Glynn (immortalized in poetry by Sydney Lanier).



Georgia has 48 state parks (rated number one in the country by *Camping Life* magazine), and *hundreds* of miles of hiking trails. So for many hams, the two pastimes of amateur radio and enjoying the outdoors go hand in hand. But, have you ever tried to strap an Ameritron onto your back and hit the trail?

Many Georgia hams are discovering how much fun--especially outdoors--you can have operating QRP (low power, 5 Watts and below). New rigs on the market, like the Yaesu 817 and the Elecraft K2 (and it's little brother, the K1), *beg* to be tossed in the backpack and operated under the stars off of a gel cell with a wire in a tree for an antenna.

Unlike the "big gun" contests like the ARRL Sweepstakes and the CQ WW (that *can* be operated QRP, but that also intimidate a lot of "non-contester" hams), QRP contests tend to be much friendlier and laid back. Instead of "KO4WX 599 DE KF1AST/35WPM," you are much more likely to hear "KO4WX DE NI4CE GE MIKE GUD TO HEAR U BT UR 529 529 GUD SIG BT TNX ES 72 BK."

And the biggest thrill of all, is working somebody on the other side of the continent (or even DX!) on a rig that you built at home.

Enter the Adventure Radio Society (<http://www.natworld.com/ars/>). The ARS has over 600 members throughout the US and abroad, and is one of the new breed of "virtual" amateur radio clubs popping up on the Internet (there are no formal meetings, dues, etc.). The purpose and philosophy of the ARS is to:

- Promote a sense of adventure by supporting radio operation from beautiful and remarkable places

- Sponsor events that encourage the use of human-powered travel, in its myriad forms, to reach outdoor operating sites
- Support the development of imaginative equipment and antennas.

Adventure Radio Society "events" (some call them contests) really do follow this philosophy. For example, the "Top of the World" event (called a "happening") is linked to the June and September [ARRL VHF QSO Parties](#). Only catch is, operations must be QRP (comply with the definition of "QRP" in the ARRL rules--CW, SSB or FM, 10 watts output or less) and all participants must reach their sites by "human power"--that is, they will walk, bike or boat to their sites. Really it's just a friendly competition among QRP operators who like to operate outdoors, when a lot of "big guns" are out begging for contacts!

In the annual "Flight of the Bumblebees," anyone can participate, however, many operators volunteer to be "Bumblebees." Bumblebees must "walk, bike or boat to their sites." Each contact with a bumblebee (signing his call followed by "/BB") is a 3X multiplier. In addition to scoring, bumblebees are commended for

- Most interesting equipment,
- Most outrageous venture, and
- Most beautiful site.

Perhaps the most interesting ARS "event" is the monthly Spartan Sprint (first Monday of every month, from 0200 UTC to 0400 UTC). In the true spirit of lightweight, portable operation, the scoring in the Spartan Sprint is based on *contacts per pound!* That is, you divide the total number of contacts that you make in the contest by the total weight (in pounds) of your station ("The weight of the station is defined as the combined weight of all transmitters, receivers, keys, keyers and batteries used during the Sprint").

Now *that's* an interesting contest!

The February, 2001, Spartan Sprint, was made even more interesting by offering a 3X multiplier for each 80M contact!

The Altoids tin is a very popular container for homebrew QRP gear. Measuring 3.75 inches long by 2.375 inches wide by .75 inches in height, this little box will hold an INCREDIBLE amount of QRP gear. But Altoids' manufacturer Callard and Browser-Suchard, Inc. really tossed down the gauntlet when they introduced the TINY Tin, measuring 2.375" by 1.5" by .675"! I just *HAD* to put a rig in that little box!



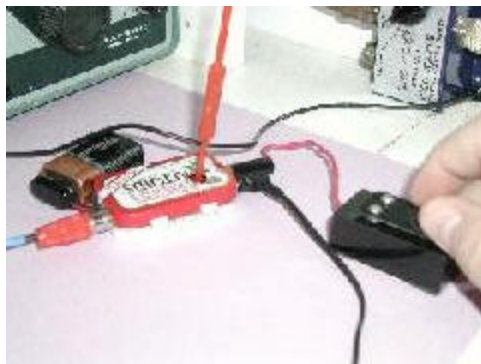
A couple of years ago, the KnightLites QRP Club (<http://www.knightlites.org/>) offered an 80M SMT (Surface Mount Technology) transceiver, called the SMiTe. The PC board for this kit measured approximately 1 inch x 2 inches--and it is a complete transceiver!

Operating off of a 9V battery, it can transmit about 150 mW of power (hey, what do you expect from a radio that weighs less than an ounce?! Although it is "rockbound" (uses a crystal) on 3686.4 KHz (a popular QRP frequency), it does have about 1 KHz of RIT (Receiver Incremental Tuning).

"Rockbound at 150mW in a contest, you say? You MUST be crazy!" Yes, but the entire station (radio, [Whiterook](#) straight key, 9V battery and bud earphones) only weighs 4.5 ounces!

Now I knew that this was going to be a challenge, especially since I had a meeting the night of the contest and would miss the first half-hour. The trick to operating QRPp (QRP, under 1 Watt) in a contest is to set your expectations up front, and to try to reach simple, achievable goals. In the case of the February Spartan Sprint, I considered just working one or two stations a reasonable goal.

When I got home, I plugged in the battery (rigs like this don't waste weight on power switches!) and immediately heard Paul, AA4XX calling CQ. Wow! His signal was only 229 (due in large measure to the fact that I live about 2-3 miles from WSB radio, clear channel, 50,000 Watt, and these little rigs have no selectivity on the front-end), but he was calling CQ with 150mW, so I figured I could bag him with the same!



**AA4XX DE KO4WX K  
AGN?  
AA4XX DE KO4WX KO4WX K  
KO4WX TU UR 339 33N NC NC  
150MW 150MW BK  
R R TU UR 229 229 GA GA 150MW  
150MW QSL? BK  
QSL TU 72 DE AA4XXX**

Chills and goosebumps! I had him! I had the legendary AA4XX 2XQRPp at 150mW! 2-way 2,300 miles per Watt! That's a thrill!

Paul Stroud, AA4XX, holds the 40M miles per Watt record for working KA3WTF on 12/26/95 using 220 uW—that's microWatts! The two stations were 452 miles apart, yielding a record 2,045,249 miles per Watt! Exciting as it was, our 2,300 isn't really much, compared to the 80M record of 851,549 MPW (AA2U 613 uW to CH9ASJ, 522 miles on 2/3/88). And the ultimate record, to date, is 218,333,333 MPW, achieved by K7IRK working WA6YPE at a distance of 1,310 miles on 6 uW on 10M!

Well, now I was on a roll! For the night, I worked 6 stations (AA4XX, W4QO, ND4D, WJ4P, K4TJD, and AE4IC), in 3 states (NC, SC, GA) far exceeding my goals for the evening! In fact, it was 3 times as many contacts as I had made the month before (dead band on 20M, Sadaam and the Ayatollah fighting each other on 40M) using a K1! And not only that, I got to listen to the entire Atlanta Hawks postgame show (they lost) as well!

In the end, AA4XX won the contest, with 600 contacts per pound! His rig weighed in at .04 pounds (I won't give away his secret, but it's truly amazing to be able to make eight contacts in two hours with a station weighing two-thirds or an ounce)! And my six contacts were good for fourth place (out of 57 participants). Where else can you have this kind of fun?

*That's **Extreme QRP!***

***Editor's note:** Mike Boatright, KO4WX is Assistant Section Manager for Information Technology for the Georgia Section. He works for the BBC (British Broadcasting Corporation) as a senior architect, helping media companies develop and implement their digital media strategies. He is a graduate of Georgia Institute of Technology and has been a licensed ham for 10 years.*

**Photo captions:**

**p4240009\_240.jpg** - KO4WX and dog Daphnne "playing radio" outdoors [Photo by Sam Billingsley, AE4GX].

**p2070011\_240.jpg** - KO4WX's SMiTe 80M Transceiver [Photo by the author].

**p2070011\_320.jpg** - KO4WX Working the Spartan Sprint at 150 mW [Photo by the author].