

Operating on 160M for CQWW - a brave idiot's guide

How I managed to make 160M contacts and other shenanigans
Jan 2023 - revision 2



Standard Disclaimer

- Safety first! Do not put others or yourself at risk!
- Use caution when working near power lines! Electricity kills!
- Be aware of who might be able to get close to antennas; keep antennas away from people, animals, or vehicles!
- Be aware of dangerous RF exposure!
- Make you ask permission if you need to!
- I am not an expert, just an amateur, certain things presented here may not be appropriate for your situation; if you experiment, bad things can happen! I am not responsible for your actions.
- Some of the information or links in this presentation may change over time.



What I am going to cover and not cover

- How I managed to get on 160M for a weekend contest
- How experimentation and willingness to try worked out for me
- Don't take no for an answer

What this is not

- This is not a reliable way to build a permanent or optimized 160M antenna (for that check out <https://topbandham.com/tech-page>)



CQ Worldwide SSB contest

- CQ Magazine sponsored event - “the largest Amateur Radio competition in the world”
- 35,000 participants
- CW, RTTY, and SSB contests at different times - SSB contest “always last full weekend of October”
- More information: www.cqww.com



Previous experimenting with 160M

- 2021: Used aluminium gutters around house as antenna with 9:1 and long counterpoise to get $<1.5:1$ VSWR. Worked, but was terrible. Made things go crazy inside house
- 2021-2022 winter: Erected inverted V with end of antenna wire going zigzag through entire backyard, with last few meters coiled up on water bottle. About 150' of counterpoise, using 9:1. Very ugly, less terrible performer. The LIDS on 1.930 told me I needed to get a tower and inverted L and 5 acres of property to get a better antenna.



Motivation

During a contest....

- A lot of activity on all bands, including 160M
- People more tolerant of poor signals in order to make QSO contacts and points
- It was the weekend and it seemed crazy enough to work

Most importantly.... This was done as a joke and out of curiosity.

Would this stupid setup actually work?



The challenge and design

- Limited support structures, nothing really to piggyback on.
- Not enough room in backyard, so would go from front of house to across the street, and to school front yard across the street.
- Need something long - random wire ? with a 9:1?
- Wire needs to be high enough in case cars/truck pass on street and not “string line” them.
- Had to be relatively easy to deploy and take down in same night.
- Use materials at hand.



Expectations

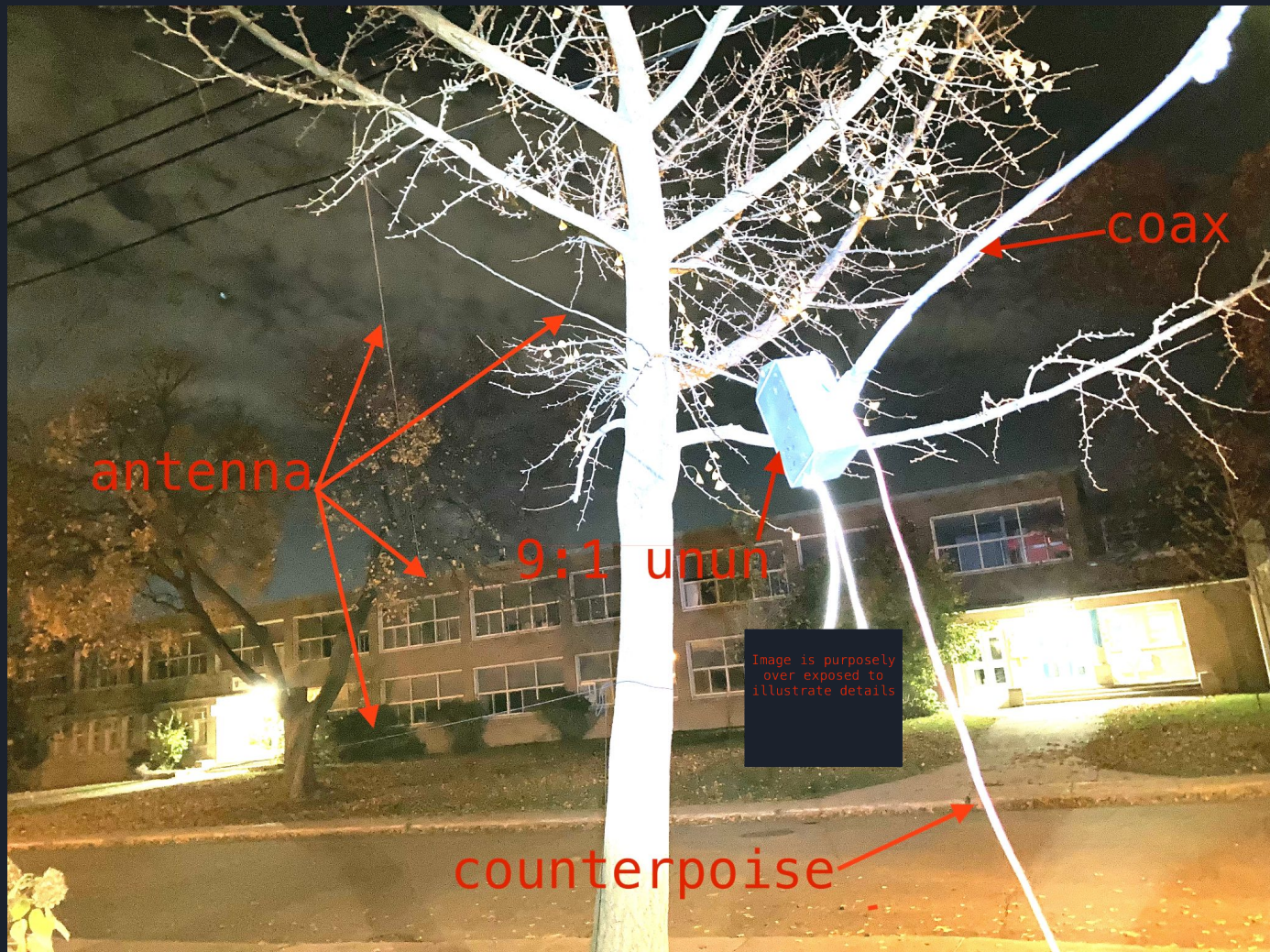
Expected the worst, hoped for the best.

- Expected something physical to break, stretch.
- Expected the noise floor level to be horrendous and band hard to operate on
- Expected RFI/QRM getting into shack and making things act weird in house.
- Expected to make 3 to 5 QSOs, max.
- Expected to get a knock at the door from Public Security (they are aware of my shenanigans)



The Setup - the early onset insanity begins


- Earlier in day, placed paracord with pulley onto high branch of ginko tree in front yard.
- End fed, long “random wire” configuration to 9:1 transformer able to handle 100W, with “long” counterpoises going opposite direction. Antenna is 16AWG speaker wire. Counterpoise was 20AWG speaker wire.
- Coax: RG8X, about 30’ going to external antenna switch system (from there, another ~40’ of RG213 going through bowels of the garage and into shack)
- Matched to external LDG Z-100 Plus antenna tuner on Kenwood TS-430s with cheap headphones (night #2 on Yaesu FTdx10 with better Heil-mic headset).
- Coax going over garage, to front yard, sitting on top of recycling bin.
- Rope and pulley thrown into huge maple tree in school front yard, across house/street (25’?) - this is to pull up the wire going to the other side of the street.





Operating the station

- Antenna tunes. Noise relative to 80M. VSWR is very minimal.
- At time, only 1 station heard on 1.876Mhz. Make QSO. Strong signal
- Strategy: move 10khz up from this station, and those hunting for QSOs will find me. Go to 1.886 and start calling CQ.
- The rest as they say, is history...



“You miss 100% of the shots you don’t take” – Wayne Gretzky

- Calling CQ Contest...stations start coming in...one every few minutes.
- Was using TS-430s and cheap headphones and hand me down MIC for calls. No memory caller.
- Because this was being done as a joke, I didn’t really set up for it.
- Took down antenna, and then spoke to some contesting friend about it - “you know you can apply for the one band category only when you submit the logs”....hmmmmmm.

Preliminary results

- 65 contacts made. Submitted logs.
- Results are not that impressive (out of 21!), but at least wasn't last!

SSB / VE2LRZ / Single-Op Low 160 Meters

World: #15 of 21

Continent (North America): #2 of 3

Country/Area (VE2): #1 of 1

10 YU1P.....4,680

11 GM4JYB.....1,863

12 VA3AC.....1,736

13 YO8RZJ....(C).....1,508

14 DM2BPG.....616

15 VE2LRZ.....496

16 DL1HSI.....330

17 SQ9PPT....(C).....315

18 JE1SPY....(C).....228

19 TA2DM.....225

20 Z66BCC....(C).....100 (D02XX)

1 VA3AC.....1,736

2 VE2LRZ.....496

3 W1HIS.....18

[all scores]

1 VE2LRZ.....496

[all scores]

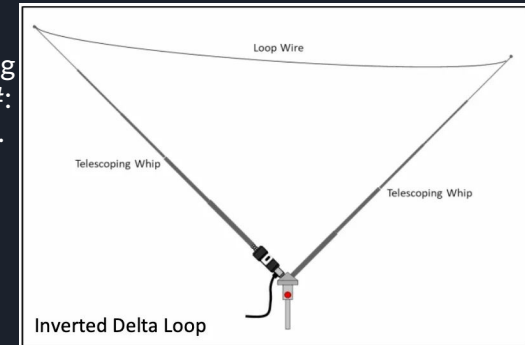


Lessons learned

- Sounds like that crazy antenna design may work? Give it a try!
- Call CQ! (Yes - it helps that this was a contest, but still!)
- Don't take things too seriously - have fun.

Current and Future projects

- Experimenting with portable, cheap to build, high band loops - for portable and ideas for those with restricted QTH
 - See MFJ-9234 "QRP Mini Loop tuner" clone built and choice of wire elements.
 - SM0VPO 20 frame antenna (<http://sm0vpo.altervista.org/>)
 - Portable, Cheap, quick deploy QRP Delta loop for 20M+high bands for POTA
 - Inspired from USD\$400 Chameleon CHA Tactical Delta Loop
 - Design: ABS plastic tubes and elbow joint (Reno-Depot), 2x 5m fishing rods (\$12 @ Decathlon), 2:1 unun (using 2 x FT82-43, \$1.30/ea- Mfr#: 5933000601+magnet wire), using light 24-26AWG wire for antenna.
- Tested "Rybakov" 7.6m Vert with 4:1 unun, modest radials
- Aliexpress 13m long carbon fishing pole, PVC pipe support
 - Promising results, more to test. Seems slightly better than 9:1.





Thanks

Hope to see you on the bands

73 de VE2LRZ

Contact info: <https://www.qrz.com/db/VE2LRZ>