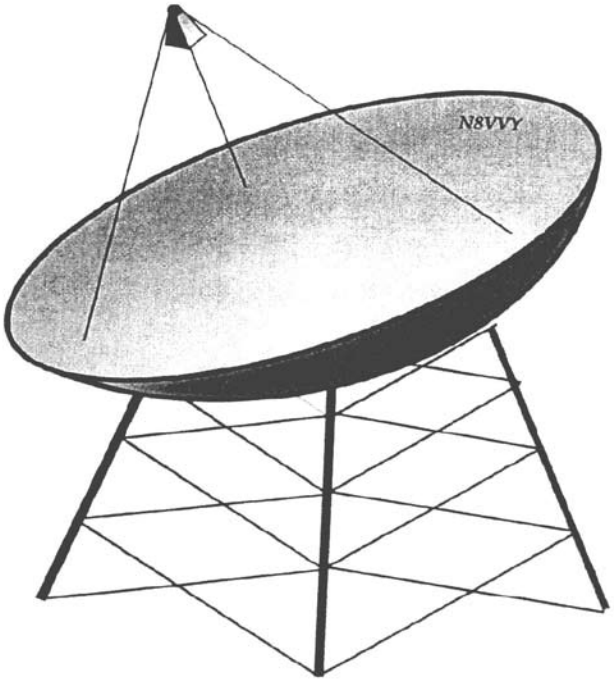
Next Mtg: Fri 6:30 January 24 at the MCL Cafeteria in Kettering December 2019.
Meeting is always the 4th Friday of the month.

ANOMALOUS PROPAGATION

Newsletter of the **Midwest VHF/UHF Society**

Editors: Open



Annual membership is $12.00 newsletter by Email or $16 if newsletter by USPS.
Make checks payable to Joe Muchnij, N8QOD and mail to:1214 Cottingwood Ct. Bellbrook OH 45305

Midwest VHF & UHF Society
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Tipp City, OH 45371

MIDWEST VHF-UHF SOCIETY

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Beacons: 1296.079 W8KSE EM79ur Dayton, OH---- 2W to Big Wheel at 800' AGL. MVUS Skimmer -. http://www.reversebeacon.net/dxsd1/dxsd1.php?f=0&c=w8kse&t=de

Contents

De N8ZM

I'll open this month with thanks to Mike, W8RKO, for a great job of filling in writing this column for the last two months while I was dealing with my wife Barb, N8EYW, who passed after her third bout with cancer in 15 years. The doctors and the folks at Hospice did their best, but, in the end, cancer is a lousy way to go. I'm sure some of you have been down this road as well.

Also, thanks to Jim. WB8VSU, for stepping up to keep Anom Prop alive as our new publisher and reluctant editor. Of course, Anom Prop is nothing without articles to publish, and that is where you come in. I'm sure that many of you have something to share that you have learned or accomplished or built. So why not share it? The whole point of the organization is to share knowledge and experience with the other members so that we can all benefit in some way. So get that keyboard warmed up and start typing. This isn't a peer reviewed academic journal; it's an opportunity to enlighten others and be enlightened. Ham radio is about Elmering, after all.

Having been out of the loop a bit, I'm not sure what to write about for the rest of this column, but a couple of things come to mind. First is the January contest on the weekend of the 18th. It will be interesting to see if FT8 continues to play a major role on 6 and 2, and expands into the higher bands even more.

Second, the December meeting is on the 27th, two days after Christmas. Unless family activities take me out of town, I plan to be there.

de N8ZM

Beverage On The Ground (BOG)

By Mike Suhar, W8RKO

For those lucky enough to live in the country with some property a beverage antenna makes a very good low noise receive antenna for low bands. For those of us in the suburbs we don't have the property to put one out. I ran across a discussion of putting a beverage on the ground. Normally these are 3 to 10 feet above ground and a few hundred feet long. Putting them on the ground changes the velocity factor of the wire so, in theory, the wire can be shorter. When on the ground the beverage becomes a "BOG". That stands for "beverage on the ground". Some have reported good results with wires around 200 feet. Just so happens if I run a wire from the back southwest corner of the back yard to the northeast ending at my driveway out front I have 200 feet. Now that the grass has stopped growing for the winter I decided to give it a try. My goal is to improve reception of Europe on 160 meters. For transmit I have an Inverted-L antenna going up my tower then out to a tree. It preforms very well on transmit. As reported on PSKreporter I am being heard in Europe. That antenna is very noisy on receive so I don't hear much out of Europe.

Lowering the wire also changes the terminating resistor at the end from around 450 to 225 ohms. A 4:1 match is then used at the coax end. I elevated my wire with small wooden supports about 3" above the ground based on comments from others. The wire is #12 AWG stranded wire. I drove ground rods at both ends with the terminating resistor attached at the northeast end.

I setup two stations to test reception on FT8. One receiver was setup for FT8 connected to the Inverted-L. The other receiver was setup under my call with "/8" connected to the BOG. I let the systems run for 24 hours in receive mode only. Looking at the FT8 maps for what I reported the next day. I noticed that the antenna appeared to have some directivity to the northeast. It also appeared to pick up slightly more stations in the New England states. Not so much for Europe. Actually the Inverted-L did a better job. While the BOG may have been directive to the northeast it must have been with a high angle of attack.

Next test was to move up in frequency. The inverted-L also serves as my 30 meter antenna. I have a 10 MHz trap 58 feet up the vertical wire. That gives me a 5/8 wave vertical on 30 meters. Matching network at the bottom matches to 50 ohm coax. Ran the same test again on 30 meters. This time I noticed an increase in reception of stations out of Europe as well as directivity to the northeast. 200 feet appears to be more appropriate for 30 meters than 160. I have not done any testing on 80 or 40 meters.

I will continue to test over the winter before I have to take the wire down when the grass starts growing in the spring. I will decide next fall if I put it back up.

Picture BOG

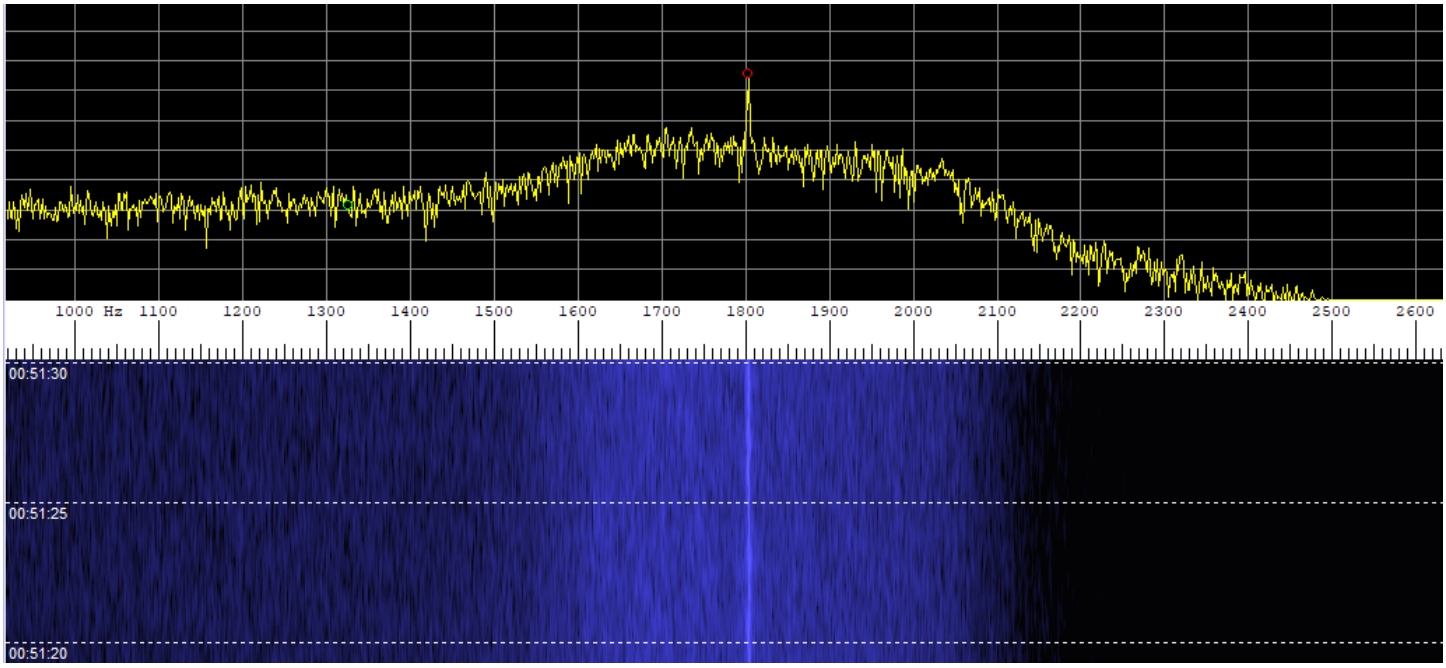
Transmission to Commemorate Fessenden's 1906 Christmas Eve Broadcast

By: Mike Suhar, W8RKO

Brian Justin, WA1ZMS, using his experimental, Part 5, license WI2XLQ ran a 24 hour transmission on 486 KHz to commemorate Canadian inventor Reginald Fessenden's broadcast. Brian's transmission took place from Forest, Virginia. Brian's transmitter was more modern than Reginald used. He used a home brew master oscillator, power amplifier (MOPA) based on a design from the 1920's. It used a UV-201 oscillator tube driving a VT-25 tube. The AM modulator consisted of anther VT-25 using a large inductor in the RF amplifier's plate supply to serve as a Heising modulator. He could only get about 60% modulation from this scheme. The audio program came out of a lap top computer. For a final amplifier he used a 500 watt audio amplifier. After a multi-pole filter the carrier output was about 150 watts. The antenna consisted of a Marconi T built from a 160 meter dipole 60 feet above the ground with the open wire feed line shorted at the bottom. A homebrew variometer constructed on a 4" PVC pipe was used to resonate the antenna. The setup included an extensive ground system. By his calculations he should have around 15 watts ERP from the antenna.

The transmissions started at 20:00 UTC on December 24th. I used my HP 3586C frequency selective level meter as a receiver connected to my ground probe antenna. At 20:00 UTC it was still daylight here in Dayton so I did not expect to hear anything until after sunset. I left for dinner and when I returned later that night I could hear the 486 KHz AM carrier but no modulation. At 60% modulation and a weak signal I did not expect to hear anything. The HP 3586C receives USB and LSB so if you want to listen to AM you have to do so on one of the sidebands. I ran the audio into Spectrum Lab running on the PC. This is an audio analysis program and includes a waterfall display. I could see the carrier. The hump in the middle of the audio passband is from the 400 Hz filter I was running on the 3586C. The carrier can be seen in the middle. The level shown on the 3586C display indicated around -90 dBm at its peak that evening. I did not record any data over night so I don't know if there was any improvement during the night. I confirmed the reception with Brian via email.

Fessenden's 486 Graphic



Ed Fong's Tri-Band Antenna

By: Jim Bacher

In the March 2017 QST issue they had a article on a Triband base antenna designed by Ed Fong WB6IQN. I ordered one and received it in short order. I finally got it in the air with LMR400 into the shack. Its only attached to a 220 MHz radio at the moment, but it hears well.

I used a VNA to generate SWR plots that are on the next page for the three bands. Adjacent is a picture of the mounting. It does not have a mounting method, so you will need to figure out your own mounting.

His students at UC Santa Cruz – Silicon Valley will build the antenna fully enclosed in the 6ft of ¾ inch 200 psi pvc pipe with a SO-239 connector. The cost in 2017 was $60 plus $13 postage. They can ship the day after they receive your payment. The proceeds of these antennas go to support his group at UC Santa Cruz -Santa Clara Valley.

If you choose to pay by Paypal, just transfer this to my Paypal account which is linked to email address -

edsantennas@gmail.com

be sure to "family and friends" to avoid the 4% Paypal fee.

If you pay by check. Please make a check payable to:

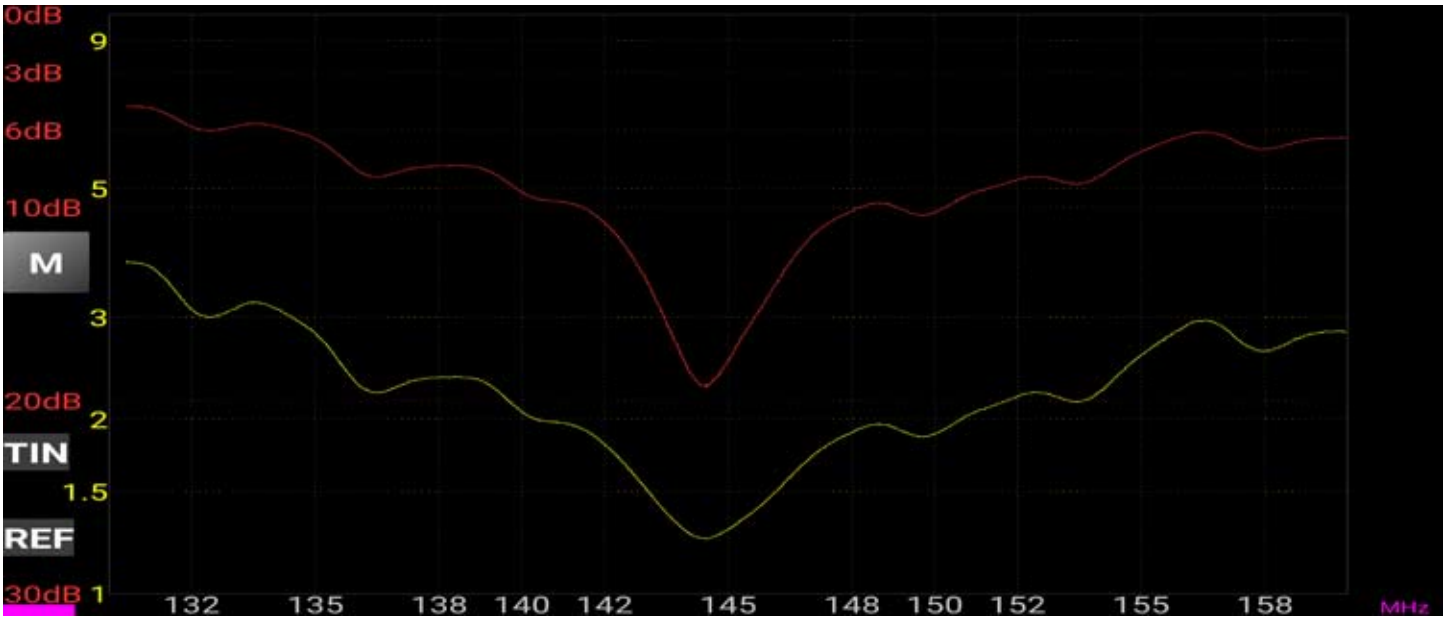
Ed Fong, WB6IQN

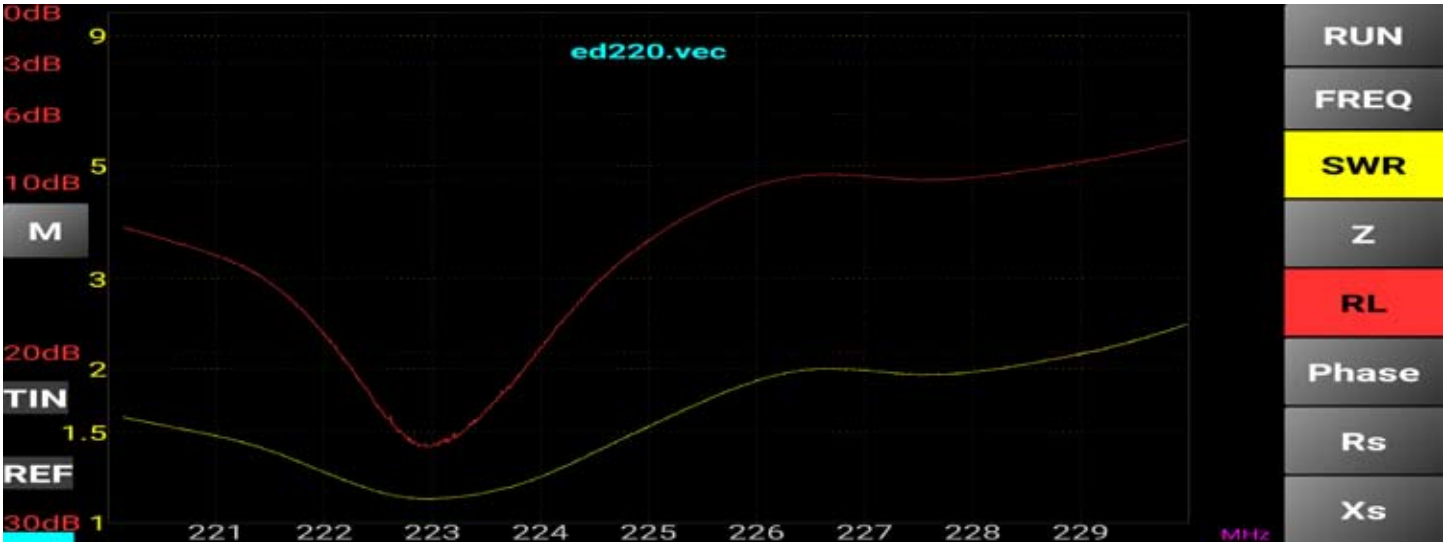
1163 Quince Ave.

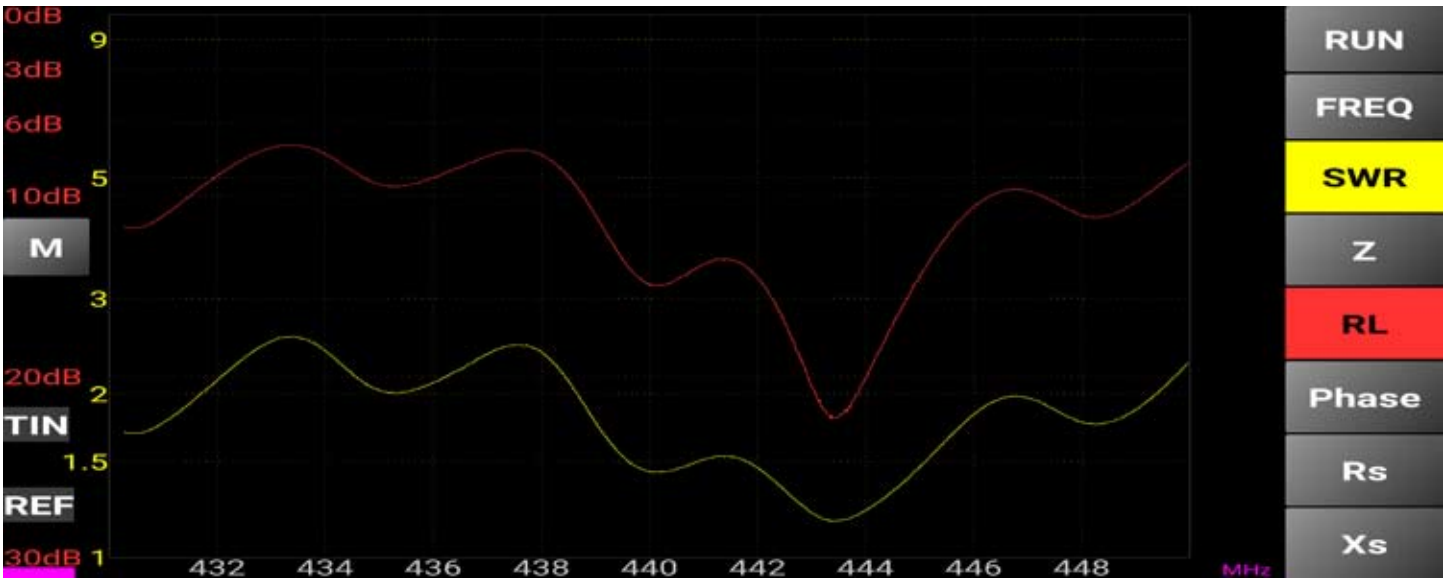
Sunnyvale CA 94087

Info at: https://edsantennas.weebly.com/

SWR Plots of Ed's Antenna







This and That

Gerd is on Holiday

We hope all have had a great Holiday season and have a Happy New Year

Need articles for the January Newsletter by January 17.

The ARRL January VHF Contest is January 18 and 19.