

SOCORRO AMATEUR RADIO ASSOCIATION

SARA NEWS

WWW.SOCORROARA.ORG

AUGUST 2019



MEETINGS

The minutes for meetings are at
<https://www.socorroara.org/minutes/>

The August 2019 meeting will be at the County Emergency Management Conference Room at 198 Neel Avenue, Socorro NM, on August 14.

SARA REPEATER

SARA supports a VHF repeater located on Socorro Peak immediately west of Socorro. The repeater is “open”. The autopatch is currently inoperative.

146.68 (-)
100 or 123 Hz required
123 Hz on output

SARA also supports a UHF D-STAR module ‘B’ operating at 444.500 MHz + 5.000
Registration instructions are at
www.socorroara.org/sara/repeaters/D_STAR_Gateway.pdf

CLUB OFFICERS

President: Jim Lommen KC7QY
Vice President: Brad Smith KD5JN1
Secretary: Ray Calkins, N0RBT
Treasurer: Henry Newton, KC5WYA
Past President: Prescott Grey W1PCG
ARES DEC /Director: Al Braun AC5BX
Newsletter Editor: Anneliese Bowman AD6UY
Suggestions or submissions: ad6uy@inorbit.com

COMING EVENTS

35th Annual Hamfest Alamogordo, NM
Alamogordo Amateur Radio Club
<https://www.qsl.net/k5lrw/regform.htm>

New Mexico State Convention, Duke City
Hamfest
New Mexico Hamvention, Inc.
<https://www.dukecityhamfest.org/>

Socorro Amateur Radio Association Hamfest
Socorro ARA, Tech ARA, City of Socorro
Website: <http://www.socorroara.org/hamfest.html>

JOIN OUR EMAIL LISTS!

<https://groups.io/g/SocorroARA/>

General discussion forum for the Socorro Amateur Radio Association.

<https://www.freelists.org/list/sara-lab>

This is the discussion forum for the Socorro Amateur Radio Association lab group. We tinker with electronics, build and repair radios, create repeaters, explore SDR and generally have fun with electronics.

REPORT: CALIFORNIA EARTHQUAKES DISRUPTED HF PROPAGATION ON WEST COAST

[HTTP://WWW.ARRL.ORG/](http://www.arrl.org/)

From the article:

“British Columbia radio amateur Alex Schwarz, VE7DXW, said that an Independence Day magnitude 6.4 earthquake in California’s Mojave Desert and multiple aftershocks negatively affected HF propagation on the US west coast. Schwarz, who maintains the “RF Seismograph” and has drawn a correlation between earthquake activity and HF band conditions, said the radio disruption began at around 1600 UTC on July 4, and continued into July 5. He said that on July 4, the blackout was total except for 20 meters, where conditions were “severely attenuated,” Schwarz said. The RF Seismograph also detected the magnitude 7.1 earthquake on July 6 in the same vicinity, Schwarz reported. The distance between the monitoring station in Vancouver, British Columbia, and that quake’s epicenter is 1,240 miles.”

There is more information here:

<http://www.arrl.org/news/view/report-california-earthquakes-disrupted-hf-propagation-on-west-coast>

And there is more on the RF Seismograph here:

<http://www.arrl.org/news/ve7dxw-s-rf-seismograph-may-be-real-seismograph>

THE PHYSICS BEHIND ANTENNAS

AL WILLIAMS

[HTTPS://HACKADAY.COM/2019/07/11/THE-PHYSICS-BEHIND-ANTENNAS/](https://hackaday.com/2019/07/11/the-physics-behind-antennas/)

Hackaday is an amazing source for all sorts of technical and scientific information. And sometimes just weirdness and fun. From the antenna article:

“If you have done any sort of radio work you probably have a fair idea about what antennas do. It is pretty easy to have a cursory understanding of them, too. You probably know there’s something magic about antennas that are a quarter wave long or a half wave long and other multiples. But do you know why that matters? Do you understand the physics of why wire in a special configuration will cause signals to propagate through space? [Learn Engineering] does, and their new video is one of the best graphical explanations of what’s really going on in an antenna that we’ve seen. You can watch the video below.”

IS AMATEUR RADIO A HOBBY OR A UTILITY?

<https://spectrum.ieee.org/tech-talk/telecom/wireless/is-ham-radio-a-hobby-a-utility-or-both-a-battle-over-spectrum-heats-up>

From the article: “Some think automated radio emails are mucking up the spectrum reserved for amateur radio, while others say these new offerings provide a useful service.”

FIELD DAY!

PAUL HARDEN NA5N

Soapbox:

Al AC5BX and Sandy KB5YIX operated CW early Saturday evening.

Paul NA5N and Jim KC7QY took turns operating CW from about 2100 throughout the night until relieved by Al AC5BX about 0700 Sunday morning.

The 40M antenna would not load properly. Finally, in the pitch of night, Brad Smith KD5JNI, with flashlight in mouth, erected a makeshift 40M dipole

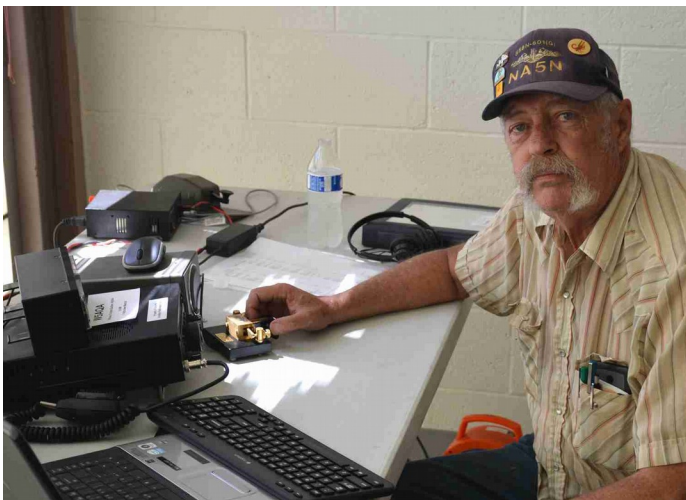
stretched between the Firehouse building and one of the antenna mast guy wires about 1 am. Worked great. Kudos to Brad. About 100 CW contacts were worked on 40M as a result.

By early Sunday morning, the filtering and audio on the station rig made copying CW very difficult. Paul NA5N connected his self contained Elecraft KX2 rig for the better CW filtering and audio and worked the rest of the CW stations Sunday morning at the 5 watt QRP level with no problem.

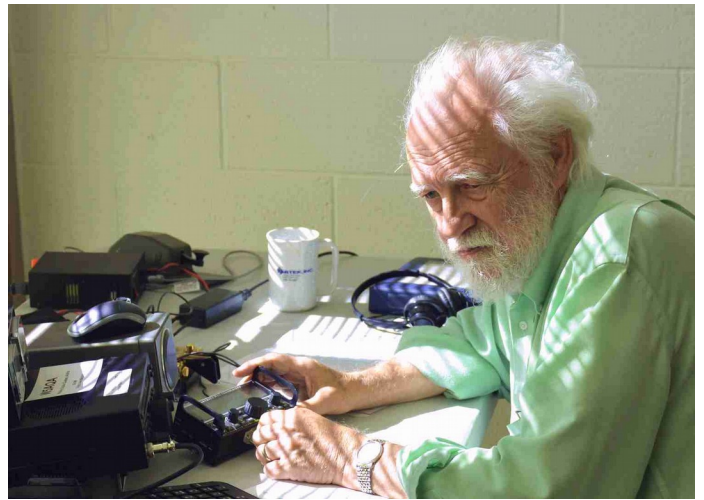
SARA President Jim Lommen KC7QY working the CW station



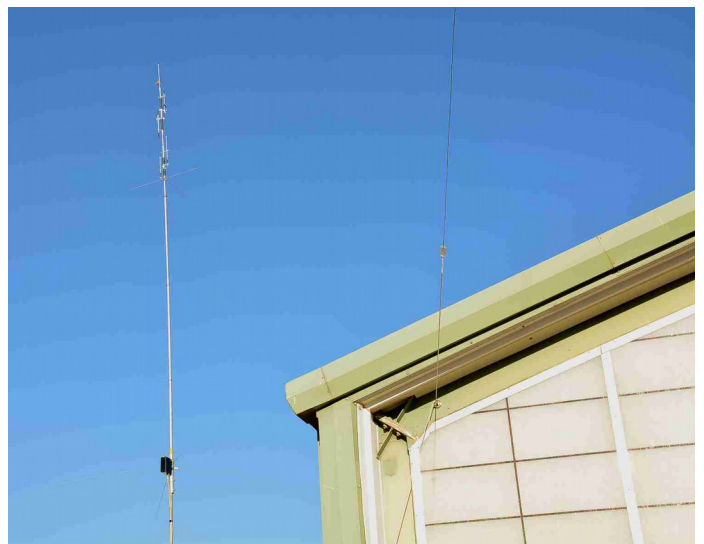
Paul Harden NA5N working 40M CW with the make shift 40M dipole.



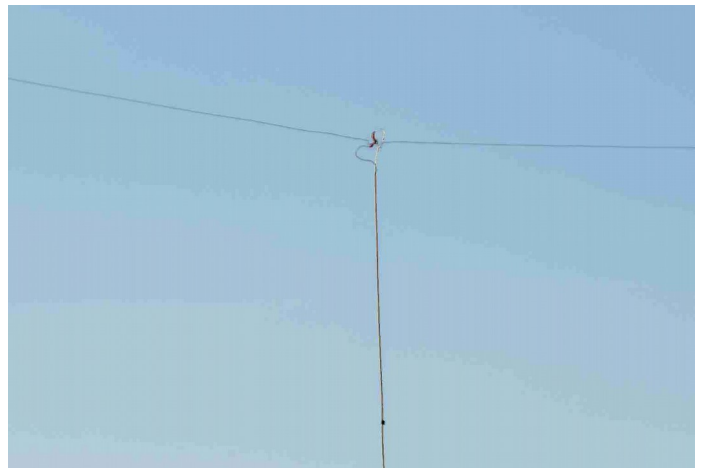
Al Braun AC5BX working CW stations with Paul's KX2 QRP rig.



The R5 vertical antenna used for both SSB and CW on 20M



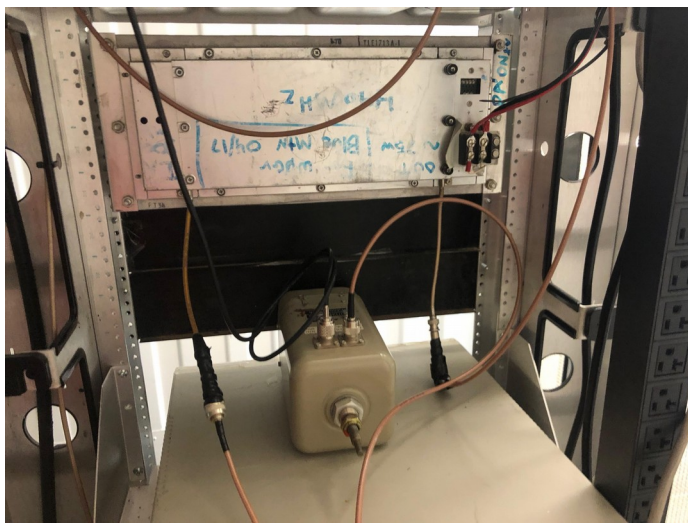
The makeshift dipole erected at midnight for 40M.



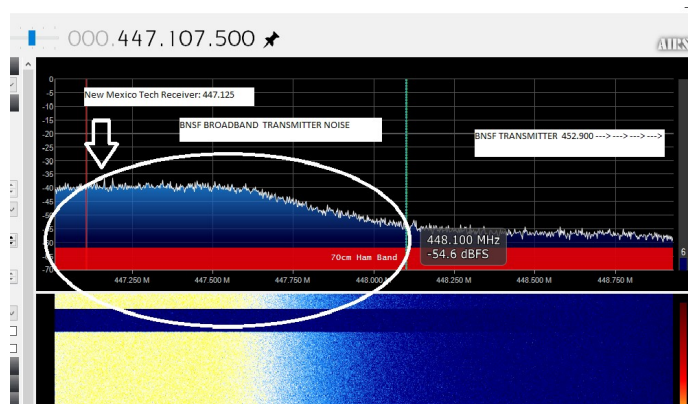
FROM THE MOUNTAINTOP SKYLER FENNELL WOSKY



The Notch Filter we originally tried with no luck



The interference on BNSF with SDR (This is even through notch)



Skyler diagnosing interference



TARA Repeater Rack, Skyler Diagnosing Interference

BNSF filter installed



BNSF filter label



BNSF filter



Since its installation in the West Peak facility, the TARA repeater has had weak signals swamped when the co-located BNSF repeater transmitted. Skyler and I made several trips up the mountain in an attempt to come up with a solution and are now reporting the problem has been solved.

We tried moving the antenna further from the BNSF antenna, but that produced no discernible improvement. Looking at the signal on an SDR showed a significant jump in the noise floor around the TARA frequency any time the BNSF repeater transmitted. A couple of different filters to reject the BNSF signal were applied to the input of the TARA repeater, but this didn't fix the problem. A small filter applied to the BNSF output did not work, but after a larger filter was tried, the interference problem ceased. BNSF was notified of the solution. Thanks to Paul Choc for providing the filters.