

SOCORRO AMATEUR RADIO ASSOCIATION

SARA NEWS

WWW.SOCORROARA.ORG

FEBRUARY 2018



MEETINGS

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

The February meeting will be at the County Emergency Management Conference Room at 198 Neel Avenue on Feb. 13, 2019.

PROGRAM FOR 2/13/2019

Prescott Grey will review some of the early years of adaptive optics and high energy lasers. From the swamps of Florida, to outer space, to right here in our own backyard.

CLUB OFFICERS

President: Prescott Grey W1PCG
Vice President: Brad Smith KD5JNI
Secretary: Ray Calkins, N0RBT
Treasurer: Bill Heller, KG5NGN
Past President: Jim Lommen KC7QY
ARES DEC /Director: Al Braun AC5BX
Newsletter Editor: Anneliese Bowman AD6UY
Suggestions or submissions: ad6uy@powerc.net

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

COMING EVENTS

2019 New Mexico TechFest
02/23/2019
Location: New Mexico Veterans' Memorial Event Center
1100 Louisiana Blvd. SE
Albuquerque, NM 87101
Website:
<https://www.rmham.org/wordpress/new-mexico-techfest/>

PRESIDENT'S CORNER, FEBRUARY 2019

Those who attended SARA's last Lab Night got to see an interesting presentation by Bill Heller, KG5NGN, as he introduced us to the Arduino family of open-source prototyping boards. I'm kind of keen on this for a number of reasons, not the least being the readily available and easily deployable IDE (integrated development environment). That the IDE uses the C language is, for me, icing on the cake.

I used to do a lot of programming, mostly hard-real-time client-server stuff, as well as lots of FPGA programming, and this has got my juices going. I'm motivated to swamp out my 'shack' so as to have space to get something working with the Galileo board.

I probably need to read up on C. While I prefer hard copy, I see the 2nd edition of Kernighan and Ritchie's "The C Programming Language" is available as a PDF, as well as for Kindle. Today there are likely better references available, but I remember 'back in the day,' as a youngster trying to grasp some early programming fundamentals, that I was astounded by the crisp, clear, concise presentations within this book (and its usual companion, "The UNIX Programming Environment" by Kernighan and Pike). Methinks I'll need to dig out some old books, and some old code, and try to remember if I can even spell 'C.'

Meanwhile keep your eyes and ears tuned to what is coming next. The floating notification bar on our website should alert you to upcoming presentations. I believe the next Lab Night will introduce us to the Arduino IDE and perhaps some of Bill's projects.

The strongest solar flare since the C4 class solar flare that took place in March 2018 erupted just an hour before I started writing this note. One wonders if courses on tube technology might be welcome at Lab Night?

No coronal mass ejection occurred, and it seems unlikely that major flares will result any time soon, but today's C5 class solar flare is a reminder that stuff happens. In my September 2008 'Corner' I mentioned the August 2008 Scientific American

article "Bracing for a Solar Superstorm", and suggest again that it is worth reading. Find it on the web at http://pages.erau.edu/~reynodb2/ep410/OdenwaldGreen_Superstorm.pdf

Also worth reading, perhaps, would be any 1940's-era ARRL Handbook, or an RCA Receiving Tube Manual of that vintage, 'cause that fancy SDR and your new HT might need be cast aside in favor of some old boat anchors. Wish I had one.

Leaving antiquity behind, my current project is getting a QNAP NAS (network attached storage) configured. All of my main computers have mirrored RAID. My laptop does not, and I lost a considerable amount of data that had not been synchronized with my office machine. The hope is that this NAS will live up to its hype and solve this problem. We shall see. The point I'm currently at is thinking it's a good thing I'm bald, or you'd be hearing the screeches as I yanked out my hair.

Be well until the next meeting.

73,

--Prescott, W1PCG

TIPS ON FERRITE CORES BY HENRY NEWTON, KC5WYA

Did you ever wonder about characteristics of one-piece cores and split-cores that you may see on cable ends? Are you experiencing noise on one of your devices? A ferrite core may assist.

Here are some quick and dirty facts taken from www.kgs-ind.com, Technical Considerations on Electromagnetic Capability (EMC) technical note. The explanation at the link is a long read with graphs but here is a quick "take away".

a. Relationship between the number of turns (windings) and impedance vs. frequency characteristic: More turns result in higher impedance for a given frequency. The influence of the number of turns effect tapers off as a function of frequency. See Figure 6 in the above link.

b. Common Mode Choke: See Figures 7 and 8. Using a choke in a common mode configuration where both the signal and signal ground are routed through the choke will result in no insertion loss being imparted to the signals as the magnetic fields produced by signal currents cancel each other. Since noise currents flow from the ground, magnetic fields with a specific direction are produced and thereby the method in Figure 8 is a convenient way to absorb noises only.

c. Difference in impedance vs. frequency characteristic between split cores and one-piece cores: For a given frequency, impedance is higher with a non-separated core. The increased impedance of a non-separated core tapers off above 2 MHz. See Figure 9 in the above link.

Prescott Gray was kind to place an ECM document from Wurth Elektronik “EMC Seminar 2012” PowerPoint PDF on the SARA website: www.socorroara.org/floobydust/. It is the first document under “Useful Technical Information”.

There is a good treatment of “Common mode” vs. “differential mode” on pages 34-40 of the Wurth Elektronik PDF. The slide on page 38 indicates “How can we find out what interference we have?” Answer: take a snap-on ferrite and place on both lines of the power source (Vcc and Gnd). If the noise is reduced, you have common mode interference. If not, then you have differential mode interference.

There is a lot of reading in the above links if you want a more “in-depth” answer on ferrite core usage.

HAM RADIO PODCASTS

A. BOWMAN, AD6UY

Last month I listed some neat apps for Android phones and tablets; one of those apps was a ham radio podcast collector. You can find it here if you’re interested and missed it last month: <https://play.google.com/store/apps/details?id=com.andromo.dev5592.app509392>

For those who prefer to get their podcasts directly there are many apps for Android and iPhone

available. And there are a lot of podcasts that hams will find interesting.

The ICQ Podcast describes itself: “The ICQ Amateur / Ham Radio Podcast is a free fortnightly radio talk style podcast for amateur / ham radio operators by amateur / ham radio operators.

“Each episode we review the current news, discuss a technical feature and the hobby in general, and hear from our many listeners from around the world.”

You’ll find the downloads here:

<https://www.icqpodcast.com/download-the-show/> and the RSS feed is here: <http://icqpodcast.libsyn.com/rss>

ARRL has a podcast of news and information relating to amateur radio. It’s available for Apple Podcasts and Android here:

<https://www.blubrry.com/arrlaudionews/>

Amateur Radio Newline is available on Stitcher:

<https://www.stitcher.com/podcast/amateur-radio-newsline-podcast?refid=stpr>

And on iTunes:

<https://itunes.apple.com/us/podcast/amateur-radio-newsline-podcast/id546373540?mt=2>

In the Solder Smoke podcast “Two amateur radio experimenters discuss workbench radio projects.”

You can follow them on their website:

<https://soldersmoke.blogspot.com/> and get the podcast here on Stitcher:

<https://www.stitcher.com/podcast/soldersmoke?refid=stpr>

Linux and ham radio certainly go well together. And there’s a podcast called Linux in the Hamshack. You will find links to their feeds here:

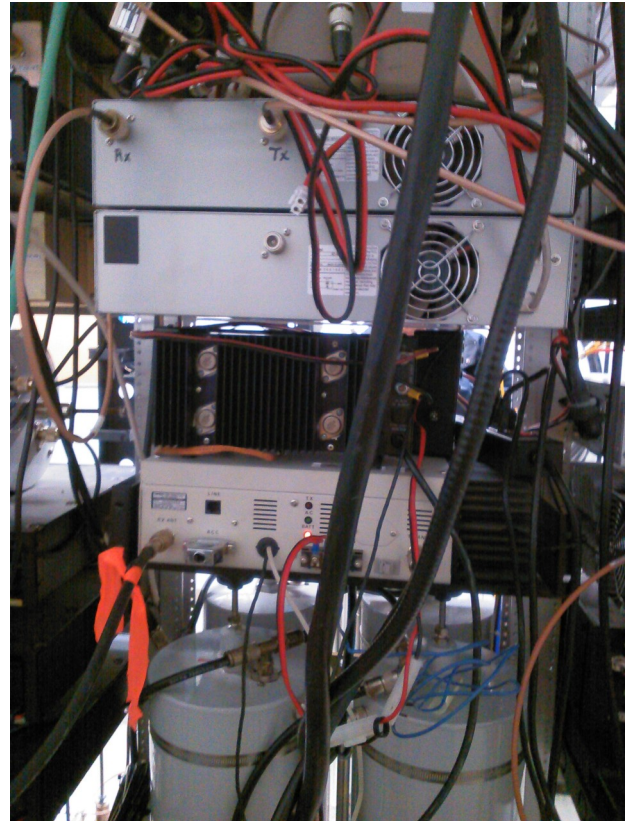
<http://lhspodcast.info/>

The Phasing Line Podcast: “The podcast where Marty, KC1CWF, and Sterling, N0SSC talk about ham radio. Usually.”

<http://phasinglinepodcast.com/22-the-other-ham-radio-podcast/>

REPEATER UPDATE

Ray, N0RBT and Jim, KC7QY, went up M Mountain to work on the repeater. It is in its rack with the cavities mounted below it.



SARA COOKBOOK

Please support our efforts to assemble and publish a cookbook! Send recipes, they do not have to be original ones, to Anne, AD6UY, at ad6uy@powerc.net.

SOCORRO LIONS CLUB FUNDRAISER

On April 6, 2019, the Culpepper and Merriweather Circus will be in town at the Socorro County Fairgrounds for two performances – 5:00 and 7:00 pm – to raise funds for the Socorro Lions Club. For ticket information please call Vern Leavitt at 575 418 8614.