

SOCORRO AMATEUR RADIO ASSOCIATION

SARA NEWS

WWW.SOCORROARA.ORG

MAY 2018



MEETINGS

The minutes for meetings are at www.socorroara.org/sara/minutes.

The agenda for meetings is located at:

www.socorroara.org/sara/agenda/agenda.pdf

The May meeting will be at the County Emergency Management Conference Room at 198 Neel Avenue on May 9, 2018.

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: James Boswell KA5SIW

Vice President: Brad Smith KD5JNI

Secretary: Bear Albrecht W5VZB

Treasurer: Luis Aguilar WB5JMD

Past President: Jim Lommen KC7QY

ARES DEC /Director: Al Braun AC5BX

Newsletter Editor: Anneliese Bowman AD6UY

Suggestions or submissions to ad6uy@powerc.net

COMING EVENTS

05/19/2018 | PECOS VALLEY ARC'S ANNUAL TAILGATE

Location: 2101 North Prairie Avenue Roswell, NM 88201

Type: ARRL Hamfest

Sponsor: Pecos Valley Amateur Radio Club

Website: <http://pecosvalleyarc.com>

ARRL FIELD DAY JUNE 23 AND 24 2018

VE SESSION REPORT

On Sunday April 29th Al Braun, AC5BX, and his team of VEs tested 5 candidates for licenses. Two earned new Technician licenses. Congratulations and best wishes to the new hams!

ARRL SUSPENDS REGISTRATION FOR EMERGENCY COMMUNICATIONS COURSE

The online course provider, Connecticut Distance Learning Consortium, will shut down and will cease to exist on July 1, 2018. If you have signed up and paid for "Introduction to Emergency Communications" (EC-001) you will receive a refund. The ARRL hopes to have a new platform and content for the course.

LIGHTNING!

Lightning amazed our ancestors. They had no idea what it really was and had to invent stories to explain it. It's powerful stuff and we do not want it invading our shacks. The ARRL has a list of links to safety information:

<http://www.arrl.org/lightning-protection>

Wikipedia has a nice discussion on what lightning is: <https://en.wikipedia.org/wiki/Lightning>

GROUNDING/EARTHING AND BONDING RAY CALKINS, NORBT

Severe drought has been officially predicted for Socorro and the rest of central New Mexico. This is based on a near record low snow-pack and increased demand. Dry lightning strikes and ESD are worsened in drought conditions. Additionally, resistance increases between the Earth and your ground rod as the soil dries up. Our soil, once under an inland sea, has plenty of ions once it is sufficiently wetted. Don't forget to water your ground rod this summer. A long, slow drip is better than a short blast from the garden hose; if you use a drip system on your garden, put an emitter on your ground rod. This minimizes soil erosion, evaporation and runoff while ensuring wetting to a sufficient soil depth to allow a

good contact with the ground rod. Additionally, this prolonged, deep moisture will spread through the surrounding soil to increase the amount of energy that can dissipate should it encounter a lightning strike.

While we're discussing ESD, we should also consider bonding. In this case, we provide a ground path from the metal chassis to an Earth ground. Equipment with a three prong plug should have this incorporated, but you might want to check your boat anchors and home-brew rigs. Also, the installed system can be improved with a single continuous hardline connected between all the chassis of all equipment to be grounded and directly to an earth ground. A good ground should be conveniently located at the nearest electrical outlet box, but with some of the older construction in the area, this may not always be the case.

Table 1:

SOIL RESISTIVITY

Loam	1 to 50 ohm/m
Shale	5 to 100 ohm/m
Slates	10 to 100 ohm/m
Clay	20 to 100 ohm/m
Sand & Gravel	50 to 1000 ohm/m
Sandstone	20 to 2000 ohm/m
Surface Limestone	100 to 10,000 ohm/m
Granites, Basalt	10,000 ohm/m

Source: <http://www.energyedcouncil.org/pdf/Event%20Presentations/Grounding%20and%20Bouding.pdf>

More about Grounding

Grounding (and Earthing) are terms used interchangeably for the same practice; grounding is the term used in North American standards (ANSI, IEEE, NEC, UL) while Earthing is used in Britain, Europe and most of the commonwealth standards (IEC, IS).

Grounding prevents high voltages from building up in equipment by providing a common reference voltage connected to a local Earth ground. This is typically a copper plated steel rod driven several feet into the soil. There are two types of currents to consider. The first is the circuit that is connected to

the electrical grid. In this case, current is returned back to the grid and not dumped into the Earth. The ground connection simply provides a common reference voltage. The second type of current is dumped into the Earth and includes transients such as lightning and electrostatic discharges (ESD).

WEATHER RESOURCES

The National Weather Service is probably the best known weather site:

<https://www.weather.gov/>

The Albuquerque Office is responsible for forecasting in most of the state:

<https://www.weather.gov/abq/>

Forecasts for Socorro are here:

<https://forecast.weather.gov/MapClick.php?lat=34.059865198628636&lon=-106.89880368299782&site=abq&unit=0&lg=en&FcstType=text>

The Weather Underground is a commercial weather service that has real-time updates on the Internet. There are several stations in Socorro; you can find them in the menu drop-down from the page for the airport:

<https://www.wunderground.com/weather/us/nm/konm>

For some interesting weather imagery check out National Center for Atmospheric Research and their Research Applications Laboratory:

<http://weather.rap.ucar.edu/satellite/>

This is a wind map and time sink:

<https://www.windy.com/>

If you fly, whether commercially or in your own plane, you need to know what to expect:

<https://www.aviationweather.gov/>

DIY INTEGRATED CIRCUIT

Hackaday is full of interesting projects, ideas and curiosities. They have two articles on

lithographically home-brewing an integrated circuit:
<https://hackaday.com/2018/04/24/first-lithographically-produced-home-made-ic-announced/>

And the follow-up:

<https://hackaday.com/2018/05/03/more-details-on-that-first-home-made-lithographically-produced-ic/>

NEW MEXICO QSO PARTY

The location of the SARA QSO Party was changed to above Gordy's Hill. The views were quite nice:

