



# River City ARCS

River City Amateur Radio Communications Society



May 2013

<http://www.n6na.org/>

Vol. 33 no. 5



Carol Demonstrates Van De Graf Generator

April Meet

We had a demonstration of a Van De Graf generator and some Tesla coils. See video at:

<http://www.youtube.com/watch?v=iWVAhUgV26M>

## FROM THE PRESIDENT:

Our April 2 meeting treated us to John KJ6JD's presentation on Nikola Tesla and hands-on electricity demonstration, John KI6ZWW on Sacramento ARES, and Mike NM3S' Tri-band HF trap vertical antenna.

Our April 27 Spring Family Picnic Lew Howard Park, Folsom was an unqualified success! Thanks to Kevin KI6KIU who set up the barbecue, and all who attended and brought side dishes! Earl K6GPB, Kevin KI6KIU and myself KP4MD activated the N6NA club call with a 5 watt station and a 3 foot magnetic loop antenna in the QRP To The Field contest. We contacted Summits on the Air Station NSØTA atop Mount Herman, Colorado! Watch video clips of this and our April meeting on [www.youtube.com/RiverCityARCS](http://www.youtube.com/RiverCityARCS)

Join us at our meeting on Tuesday, May 7, 7:30 pm at the Sacramento County Corp. Yard at 5026 Don Julio Blvd as KSPX Chief Engineer Brent Bradley KJ6PEH takes us on a virtual inside tour of the Channel 29 television broadcast facility, and Ed Siegner WA6QYO discusses using Analog meters to measure voltage and current. Great company, programs and refreshments! See you there!

73, Dr. Carol Milazzo, KP4MD/6  
President, River City ARCS



**CLUB INFORMATION**

DUES: \$20.00 Per year

ADDRESS: P.O. Box 417718,  
Sacramento CA 95841

MEETINGS: Membership meetings are generally held on the first Tuesday of each month, 7:30 P.M., at the Sacramento County Corporation Yard, corner of Don Julio and Elkhorn Blvd.'s.

Board of Directors meetings are held the fourth Tuesday at 7:00 pm. All members are welcome.

**2013 OFFICERS AND COMMITTEES****Board of Directors**

President Dr. Carol Milazzo, KP4MD

Vice President Paul McIntyre KC5JAX

Secretary NEEDED

Treasurer Kevin Laybourn KI6KIU

Membership Tony Lenesis N6DXX

**Board Members:**

2 year Term Jason Lager KF6QXX

2 year Term Chuck Freas W6FT

2 year Term Bob Woodward N6PGQ

2 year Term Ralph Stocki KJ6PIK

**Appointments:**

N6NA Trustee Steven Bird KM6YU

VE Liaison Need volunteer

Training Ed Seigner, WA6QYO

Editor Ken Martin, KE6RMN

Sales Mary Ann, KE6EST

Field Day Need volunteer

Picnic Chair Need volunteer

Happy   
Mother's Day

Web Site: [www.n6na.org](http://www.n6na.org)E-mail: [n6na@arrrl.net](mailto:n6na@arrrl.net)Contact club through the web page at:  
<http://www.n6na.org/about>**N6NA Repeaters****145.250 MHz (-162.2)****442.600 MHz (+100)****Low Level (Orangevale)****2M Club Net - Members and Guests****Check In on 145.250 MHz****Wednesday at 8 PM****10M Club Net - Members and Guests****Check in on 28.420 MHz****following 2M net****SSTV Club net - Members and Guests****Check in on 145.51 MHz FM Simplex****Following 10M net.**<http://www.n6na.org/nets>**OTHER NETS**Noon Time Net is on the W6AK/R at  
146.910 (-) 100 PL.**2013 SCHEDULE OF EVENTS**

For 2013 all membership meetings will be held on the 1st Tuesday of each month. Board meetings are on the fourth Tuesday of each month.

Membership meeting	May 7
Mothers Day	May 12
Memorial Day	May 27
Board Meeting	May 28
Membership meeting	June 4
Board Meeting	June 25
Field Day	June 29

## Vertical Trap Tri-band Antenna

This antenna covers 10/15/20 meters. It's a simple, inexpensive and portable antenna, great for Field Day or EMCOMM use. The vertical element is Radio Shack 16 gauge indoor/outdoor speaker wire, although any suitable wire can be used. The radials consist of twelve (12) 25 foot tape measures in sets of four per band. Each tape measure has a wire lead soldered to the metal "hook" on the tape; the other end of the lead is attached to a heavy-duty alligator clip from Radio Shack. The tape measures are opened out to  $\frac{1}{4}$  wavelength for each band. Allowing 4" for each lead, the tape settings I used were 7' 11  $\frac{1}{2}$ ", 10' 8.4" and 17'  $\frac{1}{2}$ " .

I used a non-metallic support to hold up the antenna. I used a combination of PVC pipe and a non-metallic tree trimmer shaft. At the top there is an elbow, a piece of pipe about a foot long and a "T" connector used as a pulley. Just put the rope through the "T" and set it up, pull the rope to raise the antenna.

The traps were designed using the CoaxTrap program by VE6YP, which can be downloaded from the Internet for free. Traps were detuned approximately 600 KHz below the band. Many web sites state that coax traps are inefficient, but a properly made and detuned trap should have a loss around .1 db. There are several web sites that discuss how to build traps. Here are some I used:

<http://home.euphony.net.be/on7eq/projects/coaxtraps.htm>

<http://www.seed-solutions.com/gregordy/Amateur%20RadioExperimentation/CoaxTrap.htm>

<http://vk1od.net/antenna/coaxtrap/index.htm>

My construction technique is most like the first web site, except instead of soldering wires to washers, I put eye terminals on the wires inside the trap and put the bolts through the eye terminal and a washer inside the trap. This makes for a neater setup. I then secured the bolt on the outside of the trap with a washer, lock washer and regular nut. I attached the antenna wires to each end of the trap with eye terminals on the antenna wires and a butterfly nut to hold the antenna wires on to the bolts.

The feed of the antenna is just a loop of heavy copper wire with an SO-239 attached to it such that the ground of the SO-239 is attached to the loop. The antenna wire goes to the center of the SO-239. The alligator clips on the tape measure radials are attached to the loop as the radials are laid out, 4 per band for all three bands. If you know you won't be using at least one band, you have more than 4 radials on one band.

Put the antenna together and test it with an analyzer and trim it. Start with 10 meters and work down. You should be able to get the antenna SWR below 2:1 for at least 28.000-28.500 on 10 meters and the full bands on 15 and 20. The traps do affect element length, so you'll probably end up trimming it more than you think.

A PowerPoint presentation of this antenna is available as a PDF at [sacsharp.org/triband-antenna](http://sacsharp.org/triband-antenna).

Michael Abernathy  
NM3S

A video of Mike's presentation can be seen at:  
<http://www.youtube.com/watch?v=ZndwPZiAbzQ>

Editor

