



The

Propagator

The Monthly Newsletter of the South Orange Amateur Radio Association

June 2007

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Meeting:

June 18

7:00 PM

**N. P. Murray
Center
Mission Viejo**

Field Day Is Here, Join Us



It is June, we are approaching the weekend of Field Day. Everything is ready —

Well, not everything is ready, but the upcoming SOARA meeting will be devoted to ensuring that all of the last minute details are taken care of.

At Monday's regular meeting we will practice some of the skills for field day activities. We will have an operating PSK-31 station. PSK-31 contacts give us two points each, just like CW, at Field day. If you have a lap top computer that can be used on Field Day, bring it to the meeting.

We will have NTS (National Traffic System) forms to collect messages to friends out of the area. We will send

ten messages from the Field Day site.

Field Day meals are arranged except for Sunday breakfast. It doesn't have to be elaborate, but we will have several members who will stay up all night operating. Many of the points we score for contacts are made in the middle of the night.

One of the areas we will stress this

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QST, QST, de AE6H



Ray has been in Maine working on his property there. He will be back for Monday's meeting and for Field Day.

Upcoming Activities



Events:

June 23-24
Field Day
Gilleran Park
In Mission
Viejo

August 2 & 3
O C Fair
SOARA at
the Ham
Radio booth

August 5
SOARA
Picnic

Sept. 7-9
HamCon

October 24
SONGS test
Volunteers
needed

Field Day is about one week away. Come to the regular meeting on Monday and help with the preparations. Friday evening (22nd) at 6:30 PM we will have an opportunity to review the layout for the antennas (and to enjoy some hot dogs & soda). Saturday morning we will start setting up the antennas and stations. There will be plenty of tasks so that all can get involved. The contest starts at 11:00 AM and runs 24 hours. Teardown will start at 11:00 AM Sunday. See you!

August will bring two events of interest. First is the **Orange County Fair**. SOARA will take responsibility for manning the Ham Radio booth at the Fair on August 2 and 3. Volunteer to take a shift at the booth explaining amateur radio to visitors, and take the opportunity to enjoy the fair.

On Sunday, August 5, the club will

hold its annual picnic. Keep that date open. More details next month.

In September SOARA will participate in **HamCon** activities. We will have a table and will conduct the Wouff Hong ceremony. Anyone wishing to volunteer to help will be welcome. Visit <http://www.hamcon.org/> to get more details about what the convention offers.

On October 24, there will be a **SONGS siren test**.

Volunteers are still needed to help in

evaluating the performance of the alert siren system. Dave, KG6QCI, is organizing SOARA's participation in the test. kq6qci@soara.org



Raffle Report

As you know there was no raffle in May due to the bi-annual auction that was held last month. This month's \$5 raffle prize is a Yaesu FT-60 dual band, 5 Watt, handi-talkie that was graciously donated by one of our members. This HT features wide receive from 108-520 and 700-999.990 MHz, 1000 memory channels, and alpha-numeric display. A number of our club members own this model of radio and I've heard excellent reports from them. The \$1 raffle will have some really great prizes as well. I hope to see all of you at the meeting.

73, de NJ6N



Field Day



Schedule

Friday, June 22
6:30 PM Pre-Field Day fun & antenna planning.

Saturday, 23
7:00 AM Start setting up.

11:00 AM On the Air.

Sunday, 24
10:59AM Last contact

11:00 AM Clean up, pack up, put away.

Go home and rest!

(Continued from page 1)

year is the GOTA station. We need people to work as control operators and to assist visitors who are willing to get on the air. If you don't have HF privileges you are encouraged to try your hand (voice?) at the GOTA station. We need people to greet visitors at the "welcome" table. No visitor should go unnoticed!

We will have three HF stations in operation as well as one UHF/VHF station. Each station will have an operator and a person doing the logging. Demonstration modes of operation will include Satellite, SSTV, APRS, ATV, Digital voice/data, and QRP on solar power.

We have invited as broad a range of the public as we could reach. We expect representatives from city government, Police and Fire (don't be surprised to see a fire-truck roll up), Boy Scouts, and, of course, the general public. Lets make them all feel welcome and leave informed.

As usual we will have a testing session on Saturday. For SOARA this will be the last testing session with the current question pool for the General exam. The new questions will be used starting on July 1.

Lets make this Field Day the best in SOARA's history. See you there.

Memorial Day Half Marathon and 5K Run

Monday, May 28th started early. With the help of Brian, Lee, Jon, Richard, and assorted others, we had the headquarters station at the Community Center in Laguna Hills set up. Our primary frequency was 2 Meter simplex with a 7 element beam and a mobile radio with which we were able to cover the whole race course.

The Headquarters crew consisted of Brian NJ6N, Mike KI6IRA, Jon W6UFS (Hospital Group), and myself AD6OI

Communicator on the course for the 1/2 marathon were: Lou KG6FCT, Bill KI6FB, Kriss KR6ISS, Lee KD6QAX, Jon AC7GK and Corky KG6YWY, Dave W7KTS, Ken W6KOS, Joe W6BGR, Tom KI6DDB, Bill K6WIL. On the 5K course we had Lou KA6BJO, Muriel KA6BJP, Art K7TX. Patti AD6OH rode her bike with two handhelds and a 2M, 1/2 wave whip antenna and covered both courses. She used APRS to let us track her. Horst KD7JHR and Marie KD7JHS showed up a little later and joined us for lunch. Lunch was attended by Horst, Marie, Brian, Tom, Bill (K6WIL), Patti and myself.



My thanks to all of the volunteers who helped with the event and my apologies if I have forgotten anyone.

Heiko, AD6OI

| Year 2007 | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sept. | Oct. | Nov. | Dec. |
|----------------------------|-------------------------------------|----------------------------|------------------------------------|-------------------------|-------------------|-----------|------|------|-------|------|-----------------|------------|
| General Meeting 7:00 PM | 22 | 26 | 19 | 16 | 21 | 18 | 16 | 20 | 17 | 15 | 19 | No meeting |
| Program | KI6BLP Sat. trk ant & APRS | K6LCS Clint Bradford | W6OM Ron Operatin g DX | Program on D-Star | Spring Auction | F.D. Prep | | | | | Fall Auction | — |
| VEC Testing | 22 | 26 | 19 | 16 | 21 | 23 | 16 | 20 | 17 | 15 | 19 | — |
| SOARA T-Hunt | 7 | 4 | 4 | 1 | 6 | 3 | 1 | 5 | 2 | 7 | 4 | 2 |
| Board Meeting | 29 | 3/5 | 26 | 23 | 29 | 23 | 23 | 27 | 24 | 22 | 26 | |
| Special Events | | | 24 | 25 | 19 | | | | | | | |
| ARRL Field Day | | | | | | 23/24 | | | | | | |
| SOARA picnic | | | | | | | | 5 | | | | |
| SOARA Holiday Party | | | | | | | | | | | | 9 |

☛ **SOARA** meets at the Mission Viejo Community Center, 26932 Veterans Way, Mission Viejo, the third Monday of every month at 7:00 PM. For the months of January and February the third Monday is a holiday and the meeting is held on the fourth Monday.

☛ **License Exams:** Amateur License Exams are given prior to SOARA meetings. Exams are from 5:00 to 7:00 PM. Walk-in applicants are welcome. For information call Paul Levey, NZ1M, at 949-481-5454.

☛ **Contacting SOARA:** Questions about SOARA? Send e-mail to: info@soara.org, or leave a message at 949-249-1373.

☛ **Web Site:** SOARA maintains a web site with current club information. The URL is: <http://www.soara.org>.

☛ **Repeaters:** The Laguna Beach, San Clemente, and Trabuco repeaters are open. The Santiago Peak repeaters are closed. For details or questions on the repeaters contact the Repeater director, KG6GL.

- | | | | | | | |
|--------|------|---|----------|---|-----------|------------------|
| | 2m | — | 147.645 | — | (110.9) | Laguna Beach |
| | 2m | — | 146.025 | + | (110.9) | San Clemente |
| | 2m | — | 145.240 | — | (110.9) | Trabuco |
| D-Star | 2m | — | 146.115 | + | (K6SOA C) | Laguna Beach |
| | 220 | — | 224.100 | — | (110.9) | Laguna Beach |
| | 220 | — | 224.640 | — | (123.0) | Santiago Pk. (C) |
| D-Star | 440 | — | 445.660 | — | (K6SOA B) | Laguna Beach |
| | 440 | — | 447.180 | — | (131.8) | Santiago Pk. (C) |
| D-Star | 1.2G | — | 1282.600 | — | (K6SOA A) | Laguna Beach |

☛ **Nets:** SOARA 2 m repeater open net is held Tuesday 8:00 PM 40 meter HF net (7.250 MHz +/- for QRM), Sunday 8:00 AM.

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Ham Radio 101

By Hal Silverman
SOARA Education Director



The G5RV antenna is very popular among amateur radio operators. It is simple to construct and is usable over the range of HF amateur bands.

Hal, WB6WXO, gives us some insight into the operation of this antenna. In addition he has located a web site containing a paper written by G5RV (Louis Varney), the developer of the antenna. This article was originally published in the July, 1984 issue of *Radio Communications*.

The author, and designer of the antenna, gives a detailed explanation of the operation and limitations of the antenna on each of the HF bands.

After listening on the Santiago Peak 440Mhz repeater a few weeks ago and monitoring a discussion about the design and performance of the G5RV antenna, I thought I would do a little research into the design of the antenna and report it in the **Propagator**.

The **G5RV** is a center fed multi-band dipole. It can be operated as a “flat-top” dipole or as an inverted V. The center frequency of the design is 14.150 MHz (20m). The total length of the “flat-top” is 102 feet. The design does not make use of traps, ferrite beads or baluns. The dipole section of the antenna becomes progressively longer in wavelengths as the frequency increases.

There is a 34 foot section of open line (ladder line) that acts as a 1:1 impedance transformer on 20 meters, that is attached to the center of the “flat-top”. The balance of the feed line can be made from either 75 Ohm twin lead or a 50/80 coaxial line.

The antenna has found a great deal of popularity in Great Britain, New Zealand and Australia. The design was first reported in the RSGB magazine in 1966 by the designer Louis Varney (G5RV).

I found an article on the internet at <http://www.dxzone.com/catalog/Antennas/G5RV/>. The article in question is listed as “**G5RV Antenna**”. This particular article is located under the heading “**Most Popular**” (It is the second article under this heading) once you open the web site. The actual title of the article is “**G5RV Multi-Band Antenna**” and was written by **Louis Varney G5RV** in 1984. Imbedded in the article are figures that detail the standing wave patterns at different frequencies. The Direct URL to the article is: <http://www.qsl.net/aa3px/g5rv.htm>

Varney goes into detail as to the theory of operation on each band. Particular attention should be paid to the section relating to the feeder to the transmitter. Mr. Varney writes that a balanced to unbalanced antenna tuner be used between the coaxial output of the transmitter and the coaxial feeder line to the antenna because of high VSWR on some bands which is presented back to the output of the transmitter.

He further writes that if a good quality coaxial feed line is used, then the loss effect on the coax (up to about 70 feet) from the high VSWR is insignificant.

Mr. Varney also discusses why a balun is not used in this design. The G5RV antenna has very high reactive components at certain frequencies that will saturate the core of the balun, generate heat, and in some cases where the transmitted power is very high, the core will actually burn.

Over the years, I had worked a number of ZL and VK hams that were using the G5RV, and had given them very favorable signal reports. I have asked a number of VKs & Zls why they chose the G5RV antenna and the reply has been that it is inexpensive multi-band antenna that can be home brewed.

Another comment made is that the antenna can fit on a city lot by using it as an inverted V.

If anyone wants to erect a G5RV, they are commercially availability. The materials to home brew one are also available either on line or at the local hardware stores.

With the advent of PVC pipe, junctions between the “flat top” and the ladder line and the ladder line to the coax line can be made so that they are shielded from the weather.

If there are any questions or comments, please direct them to me at WB6WXO @SOARA.org

