



The

# Propagator

The Monthly Newsletter of the South Orange Amateur Radio Association

March 2011

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## March Program: Contesting

This month's meeting topic will be contesting.

Think you're not competitive?

Think it's too hard?

Think there's nothing in it for you?

Learn the basics and see how easy it is to get started in a low key, easy manner even with a minimal station. So come out to the meeting on Monday and learn a bit about



what excites those hard core contesters. At least

learn some of their lingo. You may wish to participate in contests as a "Sunday driver," or get serious and bring in a "hired gun." You may already know what an "Alligator" is, but what is the "10-minute rule"? And which is the best tactic: to "hold" a frequency or "S&P"?



See you at the meeting.



**Meeting**  
**March 21,**  
**2011**  
**7:00 PM**  
**N.P.**  
**Murray**  
**Center**  
**Veterans**  
**Way**  
**Mission Viejo**



I don't know about you but when I hear the word "Election" I get visions of endless TV commercials, bumper stickers, debates and jokes about

"hanging chad". Our upcoming Director election will have little if any of that, but it is an election just the same. SOARA is a member run association and so at regular intervals (2 years) we choose a few of our members to guide our club and to take care of the business of the club. This Election will choose our Directors (Officers will be selected next year). Those directors are: Activities, Communications, Education, Technical, Repeater, and Publications.

The members that have held these posi-

## QST de AE6SH

tions have in some cases been serving over 10 years and all though they are doing a wonderful job, they have earned a break. This is a Great opportunity for our members to get involved and to take an active roll in our organization. Please look in your handbook for a detailed description of each position and their duties. Then consider accepting the challenge of serving as a director in your club. Or if unable to serve yourself, think about the position and who you think could fill the position. Be sure and discuss it with the person you have in mind before nominating them. At our next meeting we will be accepting nominations from the floor as well as those that have expressed an interest to the board. Please consider accepting the rewarding challenge of being a director for the best amateur radio club there is. See you at the meeting!

73, Tom



We welcome a new member to SOARA:

Jason Masterman,  
KJ6MOH,  
a technician from  
Aliso Viejo.

Horst Zitzmann,  
KD7JHR  
Marie Zitzmann,  
KD7JHS  
Membership  
directors

## 2011

General Election



**March:**  
Candidates Nominated

**April:**  
Election of Directors

**MAY:**  
Term of office starts

## A Tech Note: **ALC - Friend or Foe?** By K6RBS:

ALC is the abbreviation for Automatic Level (or Load) Control and the first time most hams are confronted with the term is when they get their first HF rig. Their radio usually contains three meter settings for transmit showing: **Power**, **SWR** and **ALC**. If the ham has owned a VHF radio they may (or may not) understand the power and the SWR readings. ALC is less widely understood and, unfortunately, often ignored.

Since the carrier is suppressed on SSB, unlike FM, the power of an SSB transmission varies as you talk. The power output meter indicates approximately the average power that you are putting out. It often does a poor job since it is unable to track the rapid level changes of the human voice. As a result, the power meter will only show maximum output when you transmit a constant tone or carrier. For the rest of the time it will bounce around showing an average that is usually around 35 watts or lower for a 100 watt transmitter.

It is the job of the ALC circuit to reduce the gain of the transmitter on speech peaks to prevent it transmitting more power than it is designed for. The ALC meter is actually showing a negative voltage that is being applied to reduce the overall gain of the transmitter. Each model of transceiver has different ALC characteristics that include things like: how quickly does it cut back the gain (the attack); how slowly does it return the transmitter gain to normal once the loud voice peak finishes (the decay); and at what power level does the ALC start to cut back the gain. Most ALC circuits have a relatively rapid attack and a slow decay. The gain may start to drop at power levels as low as 50 watts. While the ALC circuit in some older tube radios sometimes allowed for a little headroom, e.g. 120 watts, the upper limit of 100 watts in modern radios seems to be a 'brick wall' that cannot be exceeded.

**Friend:** When talking normally on SSB, a little ALC indication can be considered a

good thing – its shows that you're getting close to the rated output of the transmitter. Since different radios have different ALC characteristics, it is best to consult the manual for the correct settings but most radios have meters that have a stripe on the meter showing the acceptable ALC range. Watch the ALC rather than the power out meter when transmitting.

Keep your mic gain set so that the ALC stays in the lower 50 % of the range for most of the time with occasional peaks into the top half of the range and your audio (and signal width) should be acceptable. If your mic gain is so high that you exceed the ALC range, your signal will be distorted, wider and more difficult to copy.

**Foe:** The rules for PSK are different than with regular voice SSB. Since many PSK users occupy the same narrow segment of the bands, the PSK signals must be as narrow as possible. ALC action makes the transmitter non linear and therefore, by definition, causes distortion and increased signal width. While a little distortion is acceptable on SSB, it is NOT on PSK. The best way to configure your radio for PSK is to avoid using ALC: Set the power control (or menu) on the radio to MAX – yes MAX (usually 100 watts).

Adjust the mic/data input gain on the radio along with the sound card output slider on the computer to the point where there is a small amount of ALC indicated on the radio. Reduce the sound card output or mic/data input gain slightly until there is no longer ANY ALC indicated on the radio. Once set, any increase in audio from the computer to the radio or reduction in the radio's POWER setting will cause ALC action or distortion.

PSK is very efficient in terms of the signal to noise ratio that can be achieved at the receive end compared to the originating transmitter power. Most people run around 25 watts. The technique above will result in a transmit power in the 20 – 45 watt range for most modern HF rigs.



### SOARA Saturday

**What:** A chance to deepen your understanding of Ham Radio topics with hands-on experience.

**When:** Saturday following the regular Monday meeting

**Where:** The Norman P. Murray Community and Senior Center.

**Why** For fun, information and experience.

**Who** should attend? You!

March 26 between 9:00 AM & Noon

### April T-Hunt

SOARA's next T-hunt will be held on Sunday, April 2, starting at 1:00 PM

If you have not been participating in the SOARA hunts and would like try your hand at it contact Gray, WA6BJY, to be receive e-mail notices of the hunts or to arrange to ride along on a hunt.

## T-Hunt News

Karl, KF6MDF, and Dale, W8RRV, had the honor of hiding the transmitter for the March 6 hunt. The hider's first duty is to make the hunt difficult . . . Oops, sorry, I meant "challenging." One way to do that is to be very clever in finding a location. Another way is to use a very high gain (directional) antenna. Dale's back yard overlooks a school and park. How convenient. This calls for a high gain antenna.

Now it is not difficult to build a high gain antenna for 2 meters if you have 1) a design, and 2) the materials. Karl has several nine foot antenna masts (radio shack), two of which could be joined to make a boom length of about 18 feet. Also Karl is a machinist and can make the plastic element holders. For the design all you need is a computer and a free analysis program.

YO (Yagi Optimizer) is a DOS program, but it is easy to use and will run (in a DOS window) under XP. It allows you to optimize the design for any of several parameters. So a very long, very high gain antenna was assembled and planted in the far corner of the park. Some of the Radio Shack masts were used at Dale's house to mount a video camera (with a telephoto lens) high in the air so we had a good view of the antenna location.

The weather on Sunday was warm and clear, a nice day to be out in your back yard watching a TV screen. There was not much action for the first 45 minutes after the transmitter went on. Then Richard, K6RBS, came into view. Before long he found the transmitter and joined us in the back yard for refreshments. Second to arrive was Gray, WA6BJY, and two companions. Third place was captured by Joe, W6BGR. Kriss, KR6ISS, found the park, but equipment problems denied him the ability to get a bearing on the transmitter. Lou, KG6FCT, was also hunting and joined us in the back yard.

## Raffle Report

Well, this was my first official duty as the raffle person. I would like to thank Brian (NJ6N) for making the transition easy.

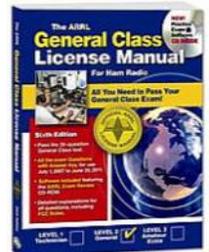
The prize for the \$5 raffle was held over for the February general meeting. We only sold about 30 tickets and we need to sell about 30 more in March to break even. So your participation in the \$5 raffle is greatly appreciated. The prize is a Kenwood TH-F6A Tribander. This would be a great addition to anyone's collection of radio equipment.

The 220Mhz band is great to use up and down the California coast with the CONDOR net. It also provides coverage over to Las Vegas and into Phoenix.

If there are any comments, please contact me at [WB6WXO@SOARA.org](mailto:WB6WXO@SOARA.org)

## Education

Heiko (AD6OI) and I are planning a class for those who would like to upgrade their license from Tech to General.



The handout is available on the SOARA web site. We will use the ARRL General Class manual. Class participants can also supplement their material by using the Gordon West general class manual.

Sample questions are also available on line. These are directly from the FCC question pool and may appear on the formal exam.

This will be a six week class. The class will start April 2, 2011 and will be held at the Murray Center on Saturdays from 10:30AM to 12:30PM. All those wishing to attend, please contact me at

[WB6WXO@SOARA.org](mailto:WB6WXO@SOARA.org) or  
Heiko [AD6OI@SOARA.org](mailto:AD6OI@SOARA.org)

Year 2011	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
General Meeting 7:00 PM	24	28	21	18	16	20	18	15	19	17	21	—
Program	It's Your Club AF6GL	Rally KI6IUC	Contest Fun		Spring Auction						Fall Auction	—
VEC Testing	24	28	21	18	16	25 Field Day	18	15	19	17	21	—
SOARA Saturday		Mar. 5	26	23	21	Field Day	23	20	24	22	26	
SOARA T-Hunt	2	6	6	3	1	5	3	7	4	2	6	4
Board Meeting	31	Mar 7	28	25	23	27	25	22	26	24	28	
Special Events					20-22 Dayton				9-11 SW Div Hamcon			
ARRL Field Day						25-26						
SOARA picnic								7				
Holiday Party												3

☛ **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 5:30 to 7:00 PM. Prior registration is encouraged, but walk-in applicants are welcome. For information call Mike Slygh, NM6X, at 949-305-1374.

☛ **Contacting SOARA:** Questions about SOARA? Postal mail: P.O. Box 2545, Mission Viejo, CA 92690. Send e-mail to: [info@soara.org](mailto: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, KG6GI.

	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 UHF/VHF open net is held Tuesday 8:00 PM 40 meter HF net (7.200 MHz +/- for QRM), Sunday 8:00 AM.

### SOARA OFFICERS

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