

The PROPAGATOR

September, 2004

The Monthly Newsletter of South Orange Amateur Radio Association

Meet the Candidates

At the September general meeting you will get a chance to hear and to meet the candidates for Southwestern division of the ARRL. Both Tuck Miller, NZ6T, and Dick Norton, N6AA, are running for the office and will visit SOARA to present their views and hopes for the ARRL and amateur radio.

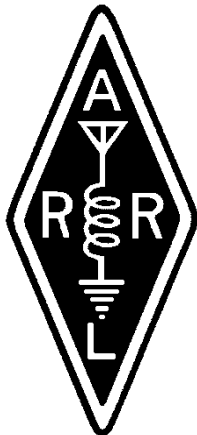
Art Goddard, W6XD, will not be seeking reelection for Director of the Southwestern Division this October. The ARRL will mail out ballots early October and count the results early November.

What is a Director and why is this important to SOARA members? To understand this, a little ARRL background is in order. The ARRL is a national membership association for Amateur Radio operators. We think of the ARRL as publisher of QST magazine and other publications covering the many aspects of the Amateur Radio. The ARRL does this and more. The League represents us before the F.C.C. and government agencies here and aboard. Yes, there is a small paid staff, but much of our service hobby's organizational affairs are performed by volunteers.

Directors set ARRL policy and are elected every three years. There is one Director and one Vice Director from each of the seventeen (17) Divisions in the ARRL. SOARA ARRL members are within the Orange Section of the Southwestern Division.

Remember, Directors and Vice Directors represent us on the ARRL Board of Directors. Therefore, it is prudent for one to be well informed about the abilities of each candidate.

de Jim, K6L10



Report From ARRL SW Division Convention, Phoenix.

The ARRL Southwest Division Convention was held near Phoenix last Month and eight SOARA members attended. The Venue was the WildHorse Pass Resort in Chandler, Arizona.

While there were numerous topics presented in the various forums, especially well attended were those dealing with the issue of Broadband Over Powerlines (BPL) and Emergency Communications. I concentrated on attending forums dealing with those topics.

First, let me say that I view these two topics as being somewhat related, as BPL constitutes as great, if not greater threat to the amateur HF spectrum as did the "Little Leo" satellite issue to the VHF spectrum a few years ago. One key factor that may help save our HF spectrum from BPL, is our unique ability to provide important back up long distance communications into and out of affected disaster areas. Otherwise, we can easily be portrayed as a handful of selfish hobbyists, more interested in playing with their toys, than in allowing the masses access to the power of the internet.

The several Emergency Communications forums dealt with organization, training, utilizing digital modes, and reviews of actual incidents such as the massive wildfires in Arizona last year.

On the BPL front, there were several forums, but I found the one presented by David Sumner, K1ZZ, CEO of the ARRL to be very interesting. First, let me say, that while the struggles are far from over, the news isn't all bleak. The ARRL has been mounting an effective defense on both the technical and legal levels, and a more comprehensive grass roots program is about to be launched. It is interesting to note that several of the BPL test programs have been curtailed early because of

insurmountable interference problems.

David pointed out that it is very important that the Ham community be careful to make the distinction, that we are not against BPL itself, but rather we are against the RF pollution and interference that the existing BPL technologies radiate. In the event a better non interfering technology is devised, we would not oppose it.

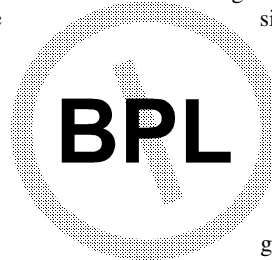
There are two key things we can and should do as individual hams to help in the fight. First, the ARRL cannot file BPL interference complaints with the FCC. That must be done by the actual "Injured" parties: individual hams that actually have had their communications degraded or interrupted by BPL interference. It is very important that hams accurately document problems, including time, date, band, frequency, duration, and description.

Recordings and any other documentation are also extremely powerful. These first must be presented to the operators of the power system for resolution and then forwarded to the FCC, only after a reasonable time, such as 30 days if the problem hasn't been resolved. The ARRL will gladly provide hams with advice, technical support, and representation through every step of the complaint process, but individual hams and clubs must be willing to step forward and get involved. This could involve a

significant commitment on the part of hams, but it is extremely important we do so.

Second, it is also extremely important that we contribute money to the ARRL Spectrum Defense fund. The League has already spent a great deal on this campaign and will have to spend a great deal more before it is over.

After hearing David's presentation, I believe that, with the help of the League, and some hard work on the part of the hams in affected areas, we can win this fight to preserve our HF spectrum. *de, Ray, AE6H*





The Way I See It: Easy Entry into an Efficient Digital Mode.

Getting Started with PSK31

This article is for absolute beginners who want to put their toe in the water and see what PSK is all about.

Over the years I have used a number of digital modes on HF, starting with Amtor, progressing to Pactor and finally in the last 6 or 7 years settling on PSK31. Why? They all had their advantages but the elegance of PSK 31 beats them all hands down. Here are the main reasons why all psk'ers love the mode.

- 1) Very simple to use
- 2) No need to tune the radio
- 3) Low power only
- 4) A great keyboard to keyboard mode
- 5) One frequency on each band and multiple QSO's

So let me tell you how to start copying PSK31 today in less than 20 minutes!

I am going to work backwards with you and help you get to results with nothing more than a radio and a computer with sound card. Then later we will try the transmitting side.

To make sure you have everything you need, click on your computer's start button (of course this all relates to MS Windows). Go to **Programs, Accessories** and then look for **Entertainment**. Open the **Sound Recorder**. Now if you have a microphone connected to the computer (mic input) you should be able to click on the red record "Dot" and see the Oscilloscope display show up your speech or whistle. If you want, you can stop the recording and play it back to see that it was good. If you were not able to get this far, you don't have a mic or sound card. It is time to go and spend your pennies and buy them. You don't really need a mic if you want to take audio straight from your receiver into the mic or line input of your computer. If this is the case, try again with the sound from your radio and make sure you have an Oscilloscope trace. If you don't see anything, either with a mic or direct connection, then check that the correct function is turned on. To do this pick the audio properties from the edit menu and then select sound recording

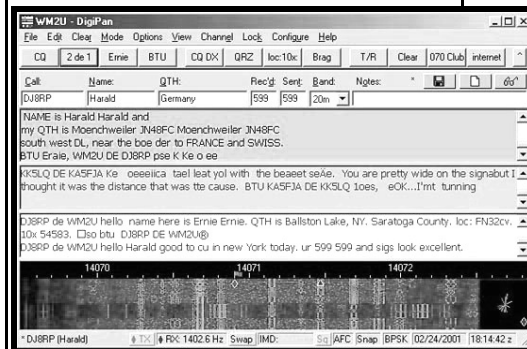
volume. At this screen you need to make sure there is a check in the box for the input you are using, be it mic or line input.

Now that we have the computer working correctly it's time to download some freeware. The simplest to use is Digipan.

This can be downloaded from <http://www.digipan.net/>

After downloading, run the program and follow the instructions. Once you have the program running and the mic connected, you should be able to whistle and see a line appear on the waterfall. If not then go back and check everything again. You will now be able to turn your rig on and tune the radio to 14.070MHz USB. Make sure you have enough audio to see lines appearing on the waterfall display. Most of the time that 20 meters is open there are QSO's on this frequency, but do choose a time of the day that the band is open. Choose one of the lines and move the mouse cursor over the line and click the left mouse button. If you click the right, you will place the cursor for the second window over the signal. The software should immediately start to decode a signal in the top window of the waterfall. Something like the display below:

You may also see some lines that are not



related to the PSK signals. The computer can generate these or other line related issues. The PSK signals should appear as yellow "railroad tracks" rather than discreet blue lines. Do not have the mic gain turned up so much that the screen is completely blue. The best setting is a black waterfall with signals turning blue or yellow. A red line would be overdriving your sound card.

That's all you need to receive. If you connect directly to the audio out of the receiver make sure you do not overdrive the sound card and cause overloading of the DSP. Again, the best situation is a black background with no signals or just turning blue. On receive, the only adjustments you will need to make other

than the input level will be whether or not you wish to turn the squelch on or off – you can see this at the bottom of the display. The squelch stops noise from being decoded. It is best to keep the AFC and SNAP switched on as this will allow the software to keep hold of the signal you tune to.

The factory default has a flag attached to the top window as this is the QSO that you are working, if you choose to transmit back. The Tx window is the very bottom window and anything you type in there will be transmitted to the station being received by the "flagged" signal. Also, the flagged signal is shown in the bottom right with an indication of how good the BPSK signal is from the point of view of 0 and 180 degree shifts. If it is perfect, you will see just a straight vertical line. It is rarely like this, as phase shift will cause the line to change and jump around. If it is jumping too much, then the decoder will not work even though you are locked on to the signal. This can be due to a number of reasons, but the most likely is ionospheric disturbance, either over a polar route or just multiple hops. Newer modes are attempting to solve this.

The other indication of how good the signal is comes from the IMD window on the bottom line. The IMD indicates how much distortion is on the signal and usually indicates the amount of spreading taking place. When this happens it is usually the sending station that is overdriving his equipment, but it can also be the result of a strong signal overloading the receiving stations DSP on the computer sound card. If this happens, turn down the signal input. I noticed that on the stations I captured in the picture above they are only about 136Hz apart and any spreading would be very noticeable. It appears that the station I was copying was reporting a bad signal to the person he was in QSO with. I couldn't see or hear that end of the contact.

So have fun with this. There are other software packages you can go and try and some even allow you to decode multiple QSO's at the same time. Search the web with "PSK31 software". Listen a lot to see how the QSO proceed. Even transmit locally before you get on the air.

Give me a call if you need any assistance.

Malcolm KO6SY



Year 2004	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
General Meeting 7:00 PM	26	23	15	19	17	21	19	16	20	18	15	No meeting
Program	WB6NOA	W6XD	K0OV		Auction	FD prep			ARRL		Auction	
VEC Testing	26	23	15	19	17	26	19	16	20	18	15	—
SOARA T-Hunt			7	4	2	6	11	1	5	3	7	5
Propagator Deadline	18	15	7	11	9	13	11	8	12	10	7	
Board Meeting	2/2	3/1	22	26	24	28	26	23	27	25	22	
ARRL Field Day						26/27						
SOARA picnic								1				
SOARA Holiday Party												5

Time for Dues



You will be receiving in the mail a dues statement for the next year (October, 2004 to September, 2005). If you are a new member, your dues are prorated since you paid the full amount when joining. Please pay the amount indicated and return to the SOARA address in the dues letter. You may also pay via Pay Pal on our website. Remember, your dues provide the club the ability to keep our programs and repeaters going so please send your dues by October 1, 2004. I also included your information that we have on our roster. Please review it and make any changes and include with your dues. If you have interest in getting more involved, there is a section for you to show your interest in our many committees. As always if you have any questions you may contact me at k6eee@soara.org or at 949-498-0922.

Jim Riedel, K6EEE
Membership Director



License Class

SOARA has received some inquiries about a new license class. We will be organizing one soon, so if you have friends or acquaintances with some interest, this will be the perfect opportunity for them. Watch for announcements and help us spread the word.



The SOARA Sunday Afternoon T-Hunt Sept. 5, 2004

By Matt Mendenhall, KE6ALM

I chose the hiding location the way I usually do – get in the car an hour before the hunt, ignore the maps, and just start driving. I ended up at Cascade Park in the Quail Hill development in Irvine, south of the 405 off the Sand Canyon exit.

The transmitter delivered 4.5 Watts to a 3-element 6.7 dB Yagi that was pointed in the general direction of Saddleback Mountain. The location was several hundred feet above the valley floor, and the antenna has a relatively wide beam, so I figured this would get a fair amount of signal into the valley and to the south. I was encouraged when a few of the hunters announced on the repeater that they could hear the transmitter from their starting locations. I went to my observation spot, a parking lot for the model homes that was on a terrace above the park.

Not quite an hour after the “T” went on the air I saw Karl, KF6MDF, filling out the log sheet. He got into his vehicle and moved away from the area to not give away the location to the other hunters, then contacted me on the talk-in frequency I had selected. A few minutes later, Richard, K6RBS, pulled into the parking lot behind me. After asking if I was “it” (the transmitter) and finding I wasn’t Richard took off on foot to sniff out the transmitter. Karl joined me shortly thereafter, just in time to watch Dale, W8RRV, sniff out the transmitter. About the time Dale joined us, Richard was closing in

on the transmitter.

After Richard came back up the hill, we stood around and chatted for a while, and occasionally talked to the other hunters. It was getting close to two hours into the hunt and several hunters started to drop out, with most of them citing the need to tend to family business. I suspect that the heat was also a contributing factor (it was a REALLY warm day), plus the fact that the hunt was fairly challenging.

About 3:30, I was not able to raise any other hunters on the repeater or on the transmitter frequency, and since I had social obligations of my own, I decided to shut down the transmitter. Just as I was turning the corner to get to the park, I saw Howard, KG6GI, heading the opposite direction. Not wanting to give away the transmitter location nor end Howard’s fun, I decided to keep driving and hope that either he didn’t notice me or would think I was another hunter still looking for the fox. I took a roundabout route back to my observation point and watched Howard finally find the transmitter. It seems that most of the hunters thought that the transmitter was somewhere near the coast (apparently a popular hiding spot) and that HE had actually gone in that direction, only to get stuck on a long ride back to my location.

Overall, the finish order was thus: Karl, KF6MDF, 55 minutes, Dale, W8RRV, 1:15, Richard, K6RBS, 1:22, and Howard, KG6GI, 3:07. The next hunt will be held on October 3, at 1:00 PM.



The PROPAGATOR

South Orange Amateur Radio Association
P.O. Box 2545
Mission Viejo, CA 92690



Meeting: September 20, 2004 at 7:00 PM Candidates for ARRL SW Director

☛ **SOARA** meets at the Mission Viejo Community Center, 26932 Veterans Way, Mission Viejo, the third Monday of every month at 7:00 PM. Changes to the meeting time or place are announced in this newsletter and on the 147.645 two-meter repeater.

☛ **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 SOARA 2-meter, 70 cm and 224.100 MHz repeaters are open to all licensed hams.

SOARA 2m — 147.645 – (110.9) Laguna Beach

SOARA 2m — 146.025 + (110.9) San Clemente

SOARA 2m — 145.240 – (110.9) Trabuco

SOARA 220 — 224.100 – (110.9) Laguna Beach

SOARA 440 — 445.660 – (110.9) Laguna Beach

The SOARA 220 and HROC 440 repeaters are shared by members of both clubs. Each machine is subject to the operating rules of its respective club. Call KG6GI for details.

SOARA 220 — 224.640 – (123.0) Santiago Pk. (C)

HROC 440 — 447.180 – (131.8) Santiago Pk. (C)

☛ **Nets:** SOARA 2 m repeater open net is held Tuesday 8:00 PM 40 meter HF net (7.250 MHz +/- for QRM), Sunday 7:30 AM.

SOARA OFFICERS

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