



The PROPAGATOR

January, 2005

The Monthly Newsletter of South Orange Amateur Radio Association

JANUARY 24th MEETING	HROC Merger	A Busy Month!
<p>WHY DO PEOPLE BECOME HAMS? HOW DID A HAM BECOME INTERESTED IN THE RADIO HOBBY? WHAT KEEPS A HAM INTERESTED IN THE AMATEUR SERVICE?</p> <p>These topics will be addressed by CARL GARDENIAS, WU6D, at the upcoming meeting. WU6D has been the Orange Section Manager since August 2003. The Orange Section is one of, if not the largest section in our Southwestern Division.</p> <p>Carl is an avid DXer besides fulfilling the responsibilities of the Orange Section Manager. As Section Manager he recruits, appoints, and supervises section-level staff to administer the Field Organization's principal areas of responsibility in the section. These areas are: emergency communications, message traffic relay, technical activity and problem solving, volunteer monitoring, government relations, public relations in the general community, information services for amateurs, and cooperation with affiliated clubs.</p> <p>It is volunteers such as WU6D and others that help maintain the hobby we all enjoy.</p> <p>Jim-K6LIO <input type="checkbox"/></p>	<p>Below is a copy of the e-mail that Ray, AE6H, sent announcing the merger of SOARA and HROC. A fair portion of the HROC membership were already SORA members, but there will be some new faces. Although SOARA members had the use of HROC's high level 440 machine, we were guests and did not make heavy use of it. Do try it out — it has a very wide coverage area.</p> <p>1/6/2005</p> <p><i>Greetings, and a very Happy New Year!</i></p> <p><i>I would like to extend to all HROC members a hearty welcome to the SOARA Family! For our existing SOARA folks, to bring you up to speed, the HROC radio club has merged with SOARA. The merger was approved by both boards and became effective 1-4-05 with the signing of the formal agreement. This means, among other things, that SOARA, is assuming full responsibility for the Santiago Peak site at which we were the sub-leasee.</i></p> <p><i>We now are the operators of both our 224.640 repeater, and now the 447.180 – (131.8) repeater, as well. Little will change, as any existing arrangements that HROC made will be continued by SOARA. For instance, the Laguna Niguel ACS primary emergency operations and nets will continue.</i></p> <p><i>SOARA members should not hesitate to utilize this excellent machine. The call sign will remain: "K6GI", one you should recognize as belonging to Howard, our repeater director. He will continue to serve as trustee for the 447.180 machine.</i></p> <p><i>If you hear any of the former HROC folks on any of our repeaters, please make them welcome"</i></p> <p>Ray, AE6H <input type="checkbox"/></p>	<p>You will find this month's newsletter a bit longer than usual. Along with the unusual weather have come some unusual situations and SOARA members have been involved in some related events. For pictures related to these stories please visit the web site.</p> <p>It should prove to be a very interesting year. So come out to the meetings and get involved in the wide verity of activities sponsored by SOARA. <input type="checkbox"/></p>
<p>Membership Renewals</p> <p>Two letters have been sent out for dues. If you have not responded to those letters you will be dropped from the membership roll. Please pay now by Pay Pal or mailing a check for the amount billed to the SOARA post office box. Please direct any questions to me at k6eee@soara.org or 949-498-0922</p> <p>Jim Riedel, K6EEE, Membership Director</p>		<p>T-Hunt Report</p> <p><i>It wasn't supposed to be that hard!</i></p> <p>The January 9, 2005 SOARA Sunday T-Hunt Matt Mendenhall, KE6ALM</p> <p>Our SOARA Sunday T-hunts have been getting progressively more challenging, so I'd planned to turn the intensity down a notch or two, yet still try to keep it interesting. Richard ,K6RBS, and Dave, KG6QCI, had given the group the challenge of hunting multiple transmitters in December's hunt, and I wanted to do the same, but with a slight twist. My plan was to have one transmitter relatively easy to find and have a second and third relatively nearby but well enough hidden that the hunters would be required to practice their "sniffing" skills. The twist to the hunt was thus: I have several Radio Shack simplex repeaters around the shack, and I decided that it might be interesting to employ one to repeat the other transmitters on the same frequency. The repeater would be relatively high power, and the other radios would be low power so it wouldn't be obvious what I had done until the hunters got close enough.</p> <p>First, I had to modify the repeater. These repeaters do not have a built-in identifier. I wanted to add an ID so that, if the hunters were paying attention, they might realize what was going on. I set about writing a new</p> <p style="text-align: right;"><i>(Continued on page 4)</i></p>



The Way I See It:

Lending a helping hand.

Dana Point mystery...

On November 23rd, Lew Decker, KG6JMN, from San Diego, posted the following message on the SOARA message board (www.soara.org/BBS):

"I have a friend at Scripps who works with the system of near-shore buoys that measure wave height and frequency - I'm speaking here of waves in sea water - They monitor a buoy located about 3.7 miles west of the point, or at 33 27.51' N, 117 46.00' W - The monitor frequency is 29.8 MHz - The crew that maintains the equipment runs into some radio interference while enroute to the buoy, usually at a spot about 2 miles west of Dana Point. They lose the signal from the buoy due to the interference, but then pick it up again once they approach the site.

Is there anyone on the board who might have an idea where this interference originates? Is there someone who enjoys boating who might want to track this down as a public service for Scripps? How about some advice as to what Scripps might do to solve the mystery...

Thanks for the help. Email me if you have any ideas..."

Being someone who is into radio direction finding as well as solving mysteries, I couldn't resist trying to help them out.

After a flurry of questions, answers and suggestions on the BBS, I decided to take one of several trips down to the area to try to find out what was going on. Initial theories that were bounced around ranged from QRN from the Scripps own boat engine to encrypted transmissions related to military exercises at Camp Pendleton. We realized that if the latter was true it would represent a real problem. Can you imagine me driving up to the gate at Pendleton with a 10m DF antenna and a truck full of radios? Then trying to convince the gentleman at the gate that I needed to come onto the base?

Explaining to him that I just wanted to find the encrypted radio transmission that was interfering with buoys in the harbor? As several folks have already stated, that could easily result in a one way ticket to Guantanamo Bay!

Since I don't own any DF equipment for 10M other than my HF mobile FT857D and a 10m hamstick, any attempt to find the offending transmission would have to be done by signal strength and location alone.

With the receiver in SSB mode, the signal on 29.8 MHz warbled something like RTTY or PSK31. I could faintly hear it in Mission Viejo, but it was S6 from the lookout on the I5 just south of Las Pulgas Road. From there, I could also hear several similar transmissions on various frequencies between 29.6825 (no, that's not a typo) and 29.868. I drove back up the coast to Dana Point Harbor where the 29.8 signal was S9 on Dana Drive (the road that runs along the outer edge of the harbor). Since there was no sign of the QRM between Las Pulgas Road and Dana Point, I could already rule out the Pendleton connection.

I heard several noise sources in the harbor area, but the strongest were a series of S9 signals that sounded as if they were actually sloshing in frequency. By 'sloshing' I mean that they sounded like they might be directly related to the output of transponders that were also measuring ocean wave motion, and their frequency was shifting based on the wave height.

If you can imagine tuning an SSB receiver with the VFO step size set to 100 Hz onto an unmodulated carrier and then randomly moving the tuning knob up and down by a couple of KHz - that's what the QRM sounded like.

I first thought that the sloshing signals were actually sub-carriers of the Scripps Buoy signal. I thought this because, as I drove around the harbor area, they seemed to track the strength of the main signal when I watched them on the little spectrum scope on the FT857D. The sloshing could be detected on several 'channels' that were spaced 12.5 KHz apart and extended both above and below the 29.8 signal. After listening carefully in CW mode with the DSP band pass filter on, I could just about make out a slosher on 29.8MHz.

Since I don't own a boat, let alone one with an HF radio installed, I decided that it was time to stop listening and start making phone calls.

I called Joe Schmick, the Scripps tech who maintains the buoys, and discussed my observations. He was sure that the wanted signal was the narrow RTTY like sound and the sloshing was NOT part of the Scripps system. I also remembered that while I could hear the buoy all the way to Mission Viejo, the sloshers dropped below the noise once I left the harbor - further evidence that they were part of a different system and were probably the source of the QRM.

Joe said that changing the buoy's frequency was very possible since the buoy was due to be brought in for regular maintenance. He had considered moving the frequency but needed input so as to not move it to another one that was also busy. I suggested that he try shifting the frequency by 6.250 KHz. This would be exactly half way between two of the sloshers. Since the wanted signal was only a few hundred hertz wide, there was a very good chance that the QSY would put the QRM outside of their receiving equipment's pass band.

Here is the latest email from Lew:

"Hi Richard - As per your advice, the techs moved the frequency of the buoy "up" and so far the data has been transmitting without interference. They really appreciate the efforts you made on their behalf. I'd like to thank you as well. I wish I had buzzed up there myself, but it just didn't work out. I'll let you know in a few weeks how the data progresses and if they have any further problems. Thanks again for the help ----- Lew in San Diego"

Well... even though we didn't actually find the root cause of the problem it seems that we did manage to avoid it.

I've checked their web site for the past 4 days and I'm pleased to report that the error rate for 3 of the days was 0% and on the other day it was < 2% of which all were successfully corrected. In November and December, the error rate was sometimes as high as 100% and there were always uncorrectable errors.

Richard, K6RBS



A Proud Day For SOARA Members

At the start of the washout in Trabuco Canyon I got a call from Leonard Schwendeman (A resident and contractor in Trabuco Canyon) that a tree fell on his phone lines. When I got to Leonard's place, the Fire Dept. was there asking to use his heavy equipment to stem the Trabuco Creek overflow heading for the Trabuco Elementary school.

Well one thing lead to another and I called Heiko, AD6OI, and asked if he could come over and give me a hand with communications for the Fire Dept. Heiko put on his boots and was on location in 15 minutes. We supported the OC Fire Authority, OC Sheriffs, Trabuco Canyon Water Dist, Orange County General Services and the local residents as they worked to stem the flow of water threatening the school and O'Neill Park. One of the things that became very obvious was that hams have a very wide range of resources. First and foremost, you can scare up a bunch of hams ready to help on the ground with their own very expensive equipment, and, darn, those guys can yack up a storm. In short, they can make contacts with each other when other forms of communications are just not working. AND they share the air waves.

One of the things the Fire Dept liked was that we could talk to hams at home with computer access that could tell us the incoming weather, AND could post on our web site (the bbs) the latest news right from the flood

location. Thanks to Brian, NJ6N, Patti, AD6OH, Lou, KG6FCT, and Richard, K6RBS. I was using my scanner and heard our bbs being read over a 800 trunked County frequency. The County was using US for the latest news! Can you hear me now? You bet!

Next day I found that they were letting cars out of my neighborhood, but, the CHP was not letting them back in! I got on the phone to the local CHP office and asked, "Are we under evacuation?" "No we just don't have the manpower for traffic control, so one officer has to control 2 places." He's doing it by, 'if you leave I can't let you back in.' Because it's one lane and there could be a 'head on' at a blind corner. Also, there was a lot of telephone company construction gear operating in the area. The CHP just couldn't do the traffic control. "OK, so how about I scare up a couple of ham radio operators and we hams do the traffic control in coordination with the officer on location?" The CHP agreed, and we were in business.

I called for any operators to assist in the operation and Richard, K6RBS, came down and took a spot next to the CHP officer while I ducked into the Rose Canyon Road and worked with the phone company. Together, we were able to pass traffic back and forth to let cars go one way then the next. And voilà!, 2 way traffic flow was back on Rose Canyon Road. Residents got their cars, which were stranded at the school, back home. Parents could get the kids to and from activities and local residents could resume their normal routines.

Richard had to leave and Tony, AD6QT, took over at his post. We worked until the Phone Company was finished for the evening.

Oh, Yeah, Tony saved my life: He got me a big Mac and a Coke. We knew it was getting cold because Tony said his coke was getting colder and the ice wasn't melting in it any more. It was 40 degrees and going down.

Once again the hams at home helped with the update of the bbs page. Brian, NJ6N, and Howard, KG6GI, both contributed to keeping it up to date. Richard told us, by radio, where to find a comet visible in the heavens as we were standing by with a road closure — much to the delight of the CHP officer we were assigned to.

I had other offers of help from Joe , W6BGR, and Steve, N5YRJ. So we had no shortage of hams willing to brave the cold night to help the community.

My pay off? I got my news paper delivered for the first time in a couple of days, AND, they picked up my trash this morning! Life is good!

Dave, KG6QCI

Check the web site (www.soara.org) for photos. Click the News Room button.

More Aid From SOARA

Below is the body of an e-mail from the American Red Cross, Orange County Chapter, thanking SOARA for the use of one of our repeaters. The heavy rains caused several serious situations in which Amateur Radio was needed. We are all aware that a major justification of amateur radio is the benefit of the communications capability in emergencies. It is gratifying that when these situations occur that SOARA members and SOARA facilities are available to help.

Date: Sat, 15 Jan 2005 15:52:55 -0800
Subject: American Red Cross... Thanks to SOARA...
From: MGoldberg <mgoldberg@oc-redcross.org>
To: <ae6h@soara.org>

Ray,
On the behalf of Orange County American Red Cross, I wanted to thank you and your repeater group for the courtesy provided to Red Cross Emerg Communications during the recent evacuation of 2000 residents in Capistrano.

On Tuesday January 11, 2005 at 0700hrs, the County of Orange Emergency Operations Center, requested the American Red Cross open a shelter in the San Juan Capistrano, for those evacuated by flooding in the San Juan Creek.

Our Emerg Comms, as part of the Field Shelter Team, started a disaster net on our established frequency and began deploying Communicators to the incident. It was quickly determined that our normal high level repeater would not work into the affected area.

The SOARA VHF repeater along with Red Cross commercial UHF and HF frequencies

were used to pass health & welfare traffic to and from the shelter for the following Red Cross functions:

- Disaster Health Services(Medical);
- Mass Care (food);
- Disaster Mental Health;
- Logistic; FamilyServices.

It is ham radio at its best when a spirit of cooperation occurs during times of need. American Red Cross Comms is primary communications during adisaster. Thanks again for your assistance. SOARA made a big difference in our ability to assist those evacuated.

Regards,
Mel Goldberg, N6MEL
OPS 9644
Emergency Com (EC) Team Lead
American Red Cross
Orange County California USA
mgoldberg@oc-redcross.org

(Continued from page 1)

program to control the repeater, tested it out, and decided it was ready for use. One of the features I added to the software was an anti-kerchunk timer. This is important to note.

The next task was setting up the main transmitter that would be repeated. Some number of years ago I had purchased a very low power transmitter kit from Ramsey Electronics, and a few custom-cut crystals for the T-Hunt frequency. When I first built the kit up, it worked, but was more than 70 kHz off. I set it aside after not being able to get it on frequency. Eight years later, I finally found myself wanting to use it. After spending a few hours trying yet again to get it on the T-hunt frequency, I gave up and decided that, at 35 kHz away but running fairly stable, it would work just fine through the repeater. It wasn't exactly what I'd wanted; I'd really have preferred all the transmitters being on the same frequency, but I figured I could work with these circumstances. The transmitter is fairly tiny; coupled with the microcontroller-based IDeR I built, the whole thing is about the volume of the 9 Volt battery that powers it. The transmit power is in the 20 mW range(!). The IDeR cycled through four different messages of between 8 and 14 seconds length, one every 38 seconds (not every 5 seconds every 95 as one hunter accused!), interspersed with 800 millisecond telemetry beeps every five seconds. These beeps were just short enough that they (almost never) were transmitted through the repeater due to the anti-kerchunk software. The third transmitter I was going to use was my regular "ammunition can" using an attenuator to knock the power down to 1/2 Watt.

I selected a spot in the vicinity of the Kaleidoscope shopping center. Just behind the center to the northwest is a small strip center with a Sport Chalet and a few other shops. It seemed a pretty decent spot; I figured it would put just about everyone an equal drive from their "usual" start locations. I planned to put the second transmitter in a small park about 1/4 mile away, and the third somewhere on the same bearing line but in the opposite direction. The spot was right next to the 5 freeway, which was intended to add just a bit of frustration factor (apparently this worked too well). The repeater was located in a parking lot that was part of an office complex just below the strip center. The repeater was running 5 Watts into a homemade twinlead J-Pole antenna that was

bungee-corded to a tree. Note that due to the bad weather and general level of frustration (more on that in a moment), no one seemed to particularly notice the setup. Once you got close enough to the repeater, it was easy to see.

The first major glitch of the day was the rain. The December hunt had inclement weather, but this was heavier. Couple that with the fact that we were on day three of the bad weather. I knew it would not make for a pleasant hunt. I decided to scale back to only two transmitters (the repeater and the small transmitter) to keep the length of the hunt reasonable. Or so I thought.

The second glitch of the day was the small transmitter. Everything checked out OK at home, but when I tried placing the transmitter where I wanted it, the repeater could not hear it at all. Adding to this was the fact that it was now 12:58 and the hunters were already calling for the transmitter to go on the air (some of you need to adjust your clocks!). I decided to drive back to the repeater site, checking the repeater along the way. Unfortunately, or maybe not so, the repeater couldn't hear the transmitter from more than about 200 feet away. I found a spot that seemed to work, in a hedge on a street corner just across from the strip mall. I then went to my observation point in the strip center parking lot.

The third glitch of the day was the small transmitter again. In the 1-1/2 hours that I tested it in my home, the transmitter stayed on frequency pretty well. However, once it was outside in colder weather, it decided to drift. The result of this was confusing for the hunters. They were receiving a strong signal from the repeater, but the audio was weak and distorted from being received off-frequency. It presented a real challenge for those that were trying to add attenuation to their antenna system until the signal got noisy. After 25 or so minutes with the transmitter drifting so far off that the repeater heard only bursts of white noise, I decided to chance being spotted by going to the repeater and changing the receive frequency. A 5 kHz shift and all was much better. It turns out that the reason the repeater couldn't hear the main transmitter is because I had the squelch set too tight. I also backed that off while I was there.

The first hunter in the area was Kareem, KG6USK. He drove almost directly to the area from his starting point. I spotted him at

about 1:40, but he left the area for a while. Eventually he found the repeater at around 2:35. There were instructions on the sign-in sheet and on the place tickets that what they had found was just a repeater and that the main transmitter was on a different frequency. Kareem took off in search of the "bunny" about the same time that Joe W6BGR rolled up to the repeater. Kareem was having problems finding the main transmitter, and I thought for a moment that Joe might beat him, but Kareem just edged him out.

An hour later, the rest of the hunters started to arrive. I offered a clue to anyone listening to the repeater, on the simplex coordination frequency I was using, and once or twice on the T-Hunt frequency to read the sign-in sheet carefully. Apparently, two hunters who shall remain nameless didn't read the instructions nor were they listening to their radios, because shortly after finding the repeater, they took off.

The fourth glitch of the day was the rain again. About 3:45, it started really coming down. This made for very uncomfortable hunting conditions. It was so heavy that the hunters did not want to get out of their cars, and I don't blame them. Richard K6RBS was having fairly serious equipment problems and decided that he was finished for the day. By 4:10 it seemed that everyone was done, so I went to go shut down the radios. About this time, the two hunters who had taken off had returned. They went to a local restaurant, and just happened to read their place tickets and saw that they were NOT done hunting. They came back just about the time I was pulling up to the main transmitter, so I just kept driving and went to a different vantage point so I could laugh and point, er — sympathize, with their plight. Apparently the signal from the transmitter was all over the hillside, and with the pouring rain, none of the remaining hunters seemed too pleased with me. Sorry, guys!

The winner of this very frustrating hunt is Kareem, KG6USK, who found both the repeater and main transmitter first.

I'm still waiting for the explanation of the "coincidence" of a sizable group of you ending up in the same watering hole at more or less the same time . . .

De KE6ALM

□

Year 2005	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	No meeting
Program	WU6D (Org. SM)	KG6UOS "Long Waves"	N6NHP "Ham Radio & Astro."	AA6MH Calif. ACS	Spring Auction	Field Day Prep.	Show & Tell	K3AW Video on Antennas	K6RIX Radio KFI	TBD	Fall Auction	—
VEC Testing	24	28	21	18	16	20	18	15	19	17	21	—
SOARA T-Hunt	9	6	6	3	1	5	10	7	11	9	6	4
Board Meeting	31	3/7	28	25	23	27	25	22	26	24	28	
ARRL Field Day						25/26						
SOARA picnic								7				
SOARA Holiday Party												4

Emergency Training Opportunity

The Orange Section of ARRL will sponsor a hybrid Level I Emergency Communications Class on Feb. 19 and 26 at the Salvation Army Building in San Bernardino. The class is reimbursable for ARRL members. Pre-registration is required by Feb. 1 to Joe Madas AE6JM, POB 815 Banning, California 92220. Checks for \$45.00 should be made payable to ARRL. This course does not include the Level I Book which can be ordered from the ARRL Bookstore, www.arrl.org. A limited number of books may be available at the class for an additional charge. For further information, contact AE6JM, (909) 815-5726, or via the web at AE6JM@arrl.net

Boost SOARA

I am sure many of you enjoy interference free operation of our repeaters. The efforts to keep them working is done by a few, but you can show your appreciation by helping us to increase our membership. I am asking that you promptly renew your membership and help us increase our membership by sharing this newsletter with a friend. Encourage other hams to visit our website. Could you get one of your friends to join? The two of you could come to the January 24th meeting together. Helping to build our membership is a great way to say thank you to those that work for the benefits you enjoy.

Lou, KG6FCT

Class Starts on February 10

All of the arrangements for a Technician License class have been made. Lets spread the news to all of our friends and relatives who might have some interest in learning about this fascinating hobby. Flyers should be available by the next meeting. Interested parties should contact Chad, KQ6TL directly at kq6tl@soara.org.

Classes will be held at 7:00 PM at the N. P. Murray Senior Center in Mission Viejo. The class will be based on the excellent ARRL text book *Now You're Talking*. The instructors are experienced hams drawn from SOARA's membership. They bring not only a depth of knowledge in their subject, but years of practical experience as ham operators.

Class	Date	Topics
1	Feb. 10	Introduction FCC Rules Methods of Communications
2	Feb. 17	Radio Phenomena Station Licnese Duties Operator Duties
3	Feb. 24	Good Operating Practices Basic Communications Electronics
4	Mar. 3	Good Engineering Practices (1 of 2)
5	Mar. 10	Good Engineering Practices (2 of 2) Special Operations
6	Mar. 17	Electrical, Antenna Structure and RF Safety Practices Review
Test	Mar. 24	Administration of FCC license exam.

The PROPAGATOR

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



Meeting: January 24, 2005 at 7:00 PM WU6D

☛ **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 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
220 — 224.100 – (110.9) Laguna Beach
220 — 224.640 – (123.0) Santiago Pk. (C) 440 —
445.660 – (110.9) Laguna Beach
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.

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