



THE

# PROPAGATOR

The Monthly Newsletter of the South Orange Amateur Radio Association

February 2012

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## DXPedition Report: T32C



SOARA is very pleased to have Arnie, N6HC return to talk about one of the most successful DXPeditions in history, T32C, which was on Christmas Island (Kiritimati) from 9/28-10/26/11. Several world records were set despite not having their equipment container reach T32. The excellent results were achieved with equipment that was hand carried, on a flight from Honolulu. Many

SOARA members had good success making QSO's with T32C. This is your chance to check out the perspective from the T32C side of all those QSO's.



Please join us for this insightful presentation, on February 27th!

## Meeting

February 27th, 2012

7:00 PM  
N.P.  
Murray  
Center  
Veterans  
Way  
Mission Viejo



I hope the month of February has found everyone well. This month's greeting comes from your Vice President. SOARA is **your** club and the Board of Directors strive to give you a variety of activities, cutting edge reliable repeaters, and a variety of educational, informational, and license upgrade opportunities. This does not happen in a vacuum. It is dependent upon a number of people donating their time. The more help we get, the more we can get done. Also the more people that help, the less time each of us has to donate. Don't let a few people carry the load for all of us. With these thoughts in mind I would like to make a few announcements.

First and foremost I would like to thank **Kelley Saunders**, KJ6NNK, for stepping up to the plate and volunteering to fill the long vacant **Activities Director** position. Kelley is a welcome addition to the team.

Secondly, **elections** for the officer positions will take place in April. Those positions include President, Vice President, Secretary,

## QST de AF6GL

and Treasurer. At the March general meeting the nominating committee will present a slate of nominees for those positions. Nominations from the floor will also be taken at that time. If you are interested in one of these positions, please let a board member know. At the last board meeting I formally announced that I would not be seeking re-election for the position of **Vice President**. If you have interest in filling this position, I am available to answer any of your questions.

Finally, if you only have a few hours to donate, consider coming out to a **work party** at the Temple Hills repeater site on Saturday, April 14<sup>th</sup>. Technical knowledge and expertise are not required. Come pull some weeds, sweep the floor, or what ever else is needed. This is an excellent time to see how **your** repeaters work. Who knows, you might even get interested in the inner workings and find time to help out on any number of pending upgrade projects.

I will sign off for now as I sit here in front of the fire at club member Jeff Pedersen, NR7E's QTH in Cedar City, Utah. Even I need a vacation once in a while.

73 de AF6GL



**SOARA**  
Saturdays  
March 3

**New 60m Rules**  
March 5

**Dayton Hamvention**  
May 18-20

**Memorial Day 1/2 Marathon**  
May 28

**ARRL Field Day**  
June 23-24

**VEC License Exams**

Next session:  
2/27  
before the  
meeting.  
Contact Mike  
[NM6X](mailto:NM6X) for info.

Walk-ins ok.

Extra || General  
|| Technician &  
CW Exam, too!

## CW Practice Nets

Even though CW (Morse Code) is no longer a requirement to get a ham license, it seems that it is more popular than ever. Operators with limited antennas and low powered transmitters find that they can easily communicate using CW due to its excellent signal to noise ratio compared to wider modes like voice. In many cases, the only way to work those rare DX stations is with CW.

So, due to the increase in interest in CW, especially within SOARA, we have decided to try running some slow CW practice sessions of our own.

One will be held each **Tuesday** evening starting at **7pm** on the **Trabuco (145.240 Mhz)** repeater. Sean, AJ6B will host the net and send sample QSOs using FM MCW. Speeds will start around 5 WPM and increase to around 15 WPM depending on who is checked in. Characters will be at 15 WPM (i.e., we will use the Farnsworth method of sending). More info on [soara.org](http://soara.org).

### New Rules for 5 MHz (60 Meters) To Go Into Effect March 5

QST de W1AW  
ARRL Bulletin 2 ARLB002  
From ARRL Headquarters  
Newington CT February 3, 2012  
To all radio amateurs

On November 18, the FCC released a Report and Order (R&O), defining new rules for the 60 meter (5 MHz) band. These rules are in response to a Petition for Rulemaking (PRM) filed by the ARRL more than five years ago and a June 2010 Notice of Proposed Rulemaking (NPRM). In the February 3 edition of the Federal Register, the FCC announced that these new rules will go into effect on March 5, 2012.

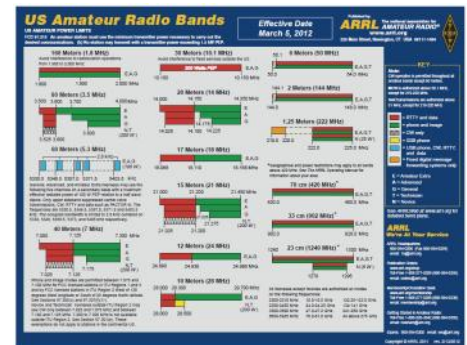
Details can be found at, <https://www.federalregister.gov/articles/2012/02/03/2012-2477/amateur-radio-use-of-the-allocation-at-5-mhz>

In summarizing the new rules, the FCC explained that the new rules amend the current rules to facilitate more efficient and effective use by the Amateur Radio Service of five channels in the 5330.5-5406.4 kHz band (the 60 meter band): "Specifically, and consistent with our proposals in the Notice of Proposed Rulemaking in this proceeding, the Com-

mission replaces one of the channels with a less encumbered one, increases the maximum authorized power amateur stations may transmit in this band and authorizes amateur stations to transmit three additional emission designators. The Commission also adopts an additional operational rule that prohibits the use of automatically controlled digital stations and makes editorial revisions to the relevant portions of the Table of Frequency Allocations and our service rules."

The Amateur Radio Service in the United States has a secondary allocation on 60 meters. Only those amateurs who hold General, Advanced or Amateur Extra class licenses may operate on this band. Amateur stations must not cause harmful interference to -- and must accept interference from -- stations authorized by any administration in the fixed service, as well as mobile (except aeronautical mobile) stations authorized by the administrations of other countries.

NNNN  
/EX





## Membership Report

SOARA's membership stands at 231 members.

There are still 54 of us who owe all or a part of the 2011-2012 dues.

We hope you can scrape it together, remain active and help the club with the repeater expenses.

**Welcome** to our newest member:

**W6GLH,**  
**George L.**  
**Hampton,**  
an extra from  
San Juan  
Capistrano.

Horst Zitzmann,  
KD7JHR  
Marie Zitzmann,  
KD7JHS

## Amateur Radio Gets Secondary MF Allocation at WRC-12

It's official -- delegates attending the 2012 World Radiocommunication Conference (WRC-12) have approved a new 7-kilohertz-wide secondary allocation between 472-479 kHz for the Amateur Radio Service. Agenda Item 1.23 had both its first and second readings in Plenary Session on Tuesday, February 14; to become part of the ITU's Radio Regulations, each Agenda Item must be read twice in Plenary Session. While the Final Acts will be signed on Friday, February 17 at the close of the Conference, the new allocation will not take effect until it is entered into the Radio Regulations on January 1, 2013. In any case, no amateur can use the band until his or her national regulations are revised to implement the allocation. Read more [here](#).

### Special Events

I have been asked about the special events that some of us support and I would like to provide you with the dates and what we do. The next two Chili winter trail run races in O'Neill Park will be on Saturday March 10 and Saturday April 14. To participate you will need a two meter or 2m/440 hand held radio with a spare battery and some warm clothing and something to drink. In these events we provide emergency communications and not much else. Also in March we have the Dove Dash in Dove Canyon on Sunday March 18 where we do much the same as at the Chili runs. Also in April on Saturday the 14th we have a 50K (31mile) foot run in the Cleveland National Forest. this is pretty much a all day affair and 4 wheel drive vehicles are preferred but not necessary. Here we also record the runners numbers and relay them to net control to track their progress. Last but not much the biggest event is the Laguna Hills Memorial

1/2 Marathon on Memorial Day May 28. Here again we are emergency communications support at a much larger event. Hand held radios with extra batteries are the primary requirements. After all of these events we usually go out for a bite to eat and to recap the events of the day.

This type of communication is good practice for radio operators who wish to improve their skills and have fun at the same time. If you would like to join us please e-mail me at [ad6oi@soara.org](mailto:ad6oi@soara.org) or call me at (949) 859-3868.

Thanks  
Heiko  
AD6OI - Education Director

### Military Log-Periodic Antenna

I've driven by the big log periodic antenna at the former 222nd Combat Communications Squadron of the California Air National Guard (CANG) facility by the Orange County fair a million times and I always wondered "what's that all about?" Besides letting people know they're getting too close to the smelly dog park, there must be a great story. What's it used for? How did it get there? Can Hams use it?

Why does the military like big log periodic antennas? We all know DX "pile-ups" where anyone is tuned into the same frequency. Our military doesn't like "pile-up" eavesdroppers. Nikola Tesla's radio controlled torpedo "pile-up" problem lead to his 1903 patent entitled "Method of Signaling." He wanted radio communication "without any danger of the signals or messages being disturbed, intercepted or interfered with in any way". Spread-Spectrum communication was born.

Hedy Lamarr along with George Antheil, submitted her famous 1942 "Secret Communication System" patent also to protect radio-controlled torpedoes. It was a piano inspired mechanical 88 "frequency-hopping" methodology that the Navy nixed. Hedy Lamarr has been belatedly recognized for her high tech achievement. Many other people were also involved in the development of spread-spectrum and log periodic antennas but Hedy Lamarr was the best looking.

Please see Chapter 21 of ARRL's Basic Antennas for a more detailed description of log

Continued on page 5...



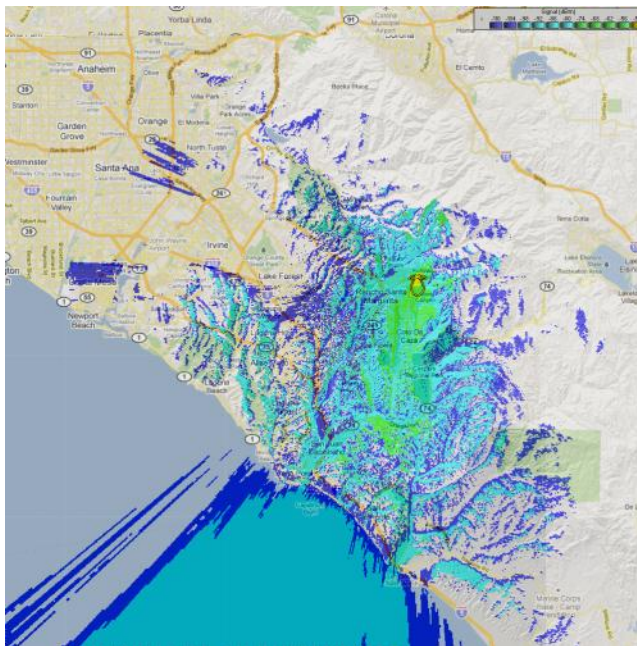
Check out Ham Nation on TWiT.tv:

<http://twit.tv/hn>

### [K7RA Solar Update](#)

We are more than halfway through the winter season, and today -- February 17 -- is 58 days after the winter solstice.

Propagation should improve as we approach the vernal equinox on March 20, which is just 32 days from now. Solar activity is still in the temporary doldrums, with sunspot numbers below 100, but the weekly average of daily sunspot numbers rose this week by more than 15 points to 55.6.



## T-Hunt Report

Sean, AJ6B won. He arrived at 1:25 but it took him about an hour to find the T once he was in the area. K6RBS & NM6X were camped out at the end of a trail leading down into Dove Canyon. Most hunters stopped when they saw the hiders and assumed the T was nearby. They all headed on foot down the trails and ended up chasing the reflections of the canyon walls. The T was on the side of the hill at the end of Silvertree Lane - about 1/4 a mile away - with a 5 watts and a horizontal log periodic pointing south.

Second on scene was KA6BJY who said something like "...you guys should learn not to park near where you hide the T..."



This turned out to be somewhat ironic since Gray gave up and never actually found the T.

Next on scene was Joe, W6BGR followed by KI6IZE and KI6LWN who managed to scale the hill and get the T a couple of minutes before the now bloodied Joe (it really is a good idea to wear long pants for T hunts).

Other hunters were KJ6SON, KR6ISS (who knew it was in Dove Canyon, but he was at completely the wrong end), KC0AQV who was the last to find the T as well as KJ6CFC.

From the hiders perspective, this was one of the better hunts that we've had. Most hunters had no problem hearing the T but the location and terrain at the end resulted in the last mile being a real challenge. Even though a couple of our regular hunters were absent, a total of 8 hunters meant that this was one of the better attended hunts that we've had.

K6RBS



### FRIDAY LUNCH CHANGE OF VENUE

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Since Carl's Junior will be "under construction" the unofficial Friday lunch time meeting place will be Bravo Burger - located at 27200 La Paz Road in Mission Viejo.

### TEMPLE HILL SITE CLEANUP DAY

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We plan to have the annual work party at the Temple Hill site on April 14th at 9:00am

[continued from page 3] ...periodic dipole arrays (LPDA). LPDAs are wedge shaped and have many logarithmically "periodic" spaced and sized Yagi dipoles. The transmission line feeds each Yagi dipole from the feed point in a reversed, out-of-phase manner like your shoe laces. The smallest "director" elements start at the feed point and are capacitive. The largest "reflector" elements are inductive. The middle elements are the Active region which is very well suited to spread-spectrum frequency hopping. The Basic Antennas book said that, "LPDAs with relatively large Active regions provide more gain and lower SWR ripple across the region."

Spread-Spectrum pseudo randomly "spreads" the frequency hopping over a wide bandwidth region at power levels often below the noise floor of our Ham radios. The message is decipherable only if the receiver knows the same pseudo random hopping formula. Thanks to computers, the signal hopping can be much faster and more numerous than Hedy and Georges' 88 frequencies. Digital and some others the military doesn't like to talk about, are even more powerful spread-spectrum methodologies.

I found a "Navy Cold War Communication Context" document that cataloged Navy communications systems between 1946 and 1989. It describes an LPH-24C in Salines, Puerto Rico that looks like our "CANG" Log periodic complete with a sail at the director end. This Salines LPH-24C is similar to an Antenna Products Corporation's (APC) LPH-9/30/24 (see [www.broadcast.be](http://www.broadcast.be)). It looks like you can still buy one - maybe. Their APC LPH-24 covers 4 to 30 MHz with a 13 dBi gain - so far so good. The 25 kW avg./50 kW PEP power capacity has some FCC Rule 97.313 issues. It also has a 72.5 ft. turning radius and weighs 14,000 pounds. Add the 87 foot tower and it certainly isn't stealthy enough for Mission Viejo. Don't get Santa involved, yet either. There are smaller log periodic antennas available but mostly for VHF/UHF, satellite or commercial applications.

Our California Air National Guard log periodic was a gift from long time ham and silent key, Senator Berry Goldwater according to Gordon West, WB6NOA. It was brought over from Arizona and actually used up to a couple of years ago. Gordo said that hams got to use it on an emergency exercise one year. Performance was excellent because of its height but no better than a regular three element Yagi. The facility Sergeant Major said there is talk of reactivating it but its rotor needs to be fixed. These big HF antennas are still used as backups for vulnerable satellite systems. A three element Yagi might be easier talk to Santa about also.

Amateur Extra Hams know the FCC allows us to use spread-spectrum or "band-width-expansion modulation" because there could have been a question about it on the exam. Ham radio just doesn't have a practical need for spread-spectrum applications. We also don't want to hide from the "pile-ups." If they get it working again, it could make a fun SOARA Saturday project.  
73 Tom Parkes, KI6DDB

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## Raffle Report

The raffle for 2012 started again. The \$5 prize is a Yaesu VX-6R tri band hand held radio. This was purchased at the suggestion by Janet at HRO. To raffle off this prize, we needed to sell 62 tickets. To date, we sold 35 tickets, so the prize was held over to the February meeting. I need to sell 27 more tickets to break even for the \$5 raffle.

It is my plan to concentrate the \$5 prizes on radios that have either 220MHz or have D-Star as part of the specifications. SOARA has invested money and equipment to make both D-Star and 220 MHz available to the membership.

The \$1 prizes were a 2011 Handbook, a digital multimeter, an MFJ set of headphone and an MFJ mobile speaker. The \$1 prizes will pretty much the same for February except the handbook will be the Antenna Compendium.

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

Year 2012	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
General Meeting 7:00 PM	23	27	19	16	21	18	16	20	17	15	19	—
Program	Ham Jeopardy	T32C DXPed Report			Spring Auction						Fall Auction	—
VEC Testing	23	27	19	16	21	Field Day	16	20	17	15	19	—
SOARA Saturdays	28	Mar 3	24	21	26	—	—	—	22	20	24	—
SOARA T-Hunt	8	12	4	1	6	3	1	5	2	7	4	2
Board Meeting	30	Mar 5	26	23	28	25	23	27	24	22	26	—
Special Events	Palm Springs 28	ARRL Yuma 17-18			Dayton 18-20	Field Day	OC Fair Booth	Picnic				Holiday Party
ARRL Field Day						23-24						
SOARA Picnic								4				
Holiday Party												1

**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 Peak. (C)
- D-Star 440 — 445.660 - (K6SOA B) Laguna Beach
- 440 — 447.180 - (131.8) Santiago Peak. (C)
- D-Star 1.2G — 1282.600 - (K6SOA A) Laguna Beach

**Nets:** UHF/VHF (447.180, 147.645 & 224.640): Tuesdays 8:00 PM  
D-Star (146.115 C module): Wednesdays 8:00pm  
40 meter HF (7.200 MHz +/- for QRM), Sundays 8:00 AM.

**CW Nets:** Tuesday—7pm (2m—Trabuco) & Thursday—8pm (10m)

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