



# PROPAGATOR

The Monthly Newsletter of the South Orange Amateur Radio Association

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## Meeting

Sept. 19, 2016

7:00 PM

N.P.  
Murray Center  
Veterans  
Way  
Mission Viejo

## Arduinos & Raspberry Pi's

Please join us at the Norman P. Murray Center on Monday, 9/19/16, at 7pm as Jon, KK6WFF presents on the subject of Arduinos and Raspberry Pi's and how to make them do almost anything that a big computer can.

tives, and is now awaiting action by the U.S. Senate.

I encourage each of you to contact your California U.S. Senators, Barbara Boxer, and Dianne Feinstein (or the Senators in your state). [Please see page 7 for a sample letter.]

Sending an email is quick and efficient, but also effective. Their respective email contact addresses are:

- <https://www.feinstein.senate.gov/public/index.cfm/e-mail-me>
- <https://www.boxer.senate.gov/?p=shareyourviews>

Even if you are among the few Hams here in O.C, who are lucky enough to not have antenna restrictions, help out those of us who aren't by sending those emails. Amateur radio, and you will benefit from it.

73, Ray AE6H, SOARA President

## Support Passage of the Amateur Radio Parity Act!

On September 12, this month, the US House of Representatives, passed H.R. 1301, a bill known as the Amateur Radio Parity Act. While there has been quite a bit of publicity about this bill in the Ham world, still I run into those who aren't familiar with this important bill or the provisions in it. In a nutshell, this bill extends FCC ruling, PRB-1 to deed-restricted communities with Home Owner's Associations. Those deed restrictions are typically known here in California as Conditions, Covenants, and Restrictions, or CC&R's. Unfortunately, a large number of us live in areas that are bound by those CC&R's, and are applied to us as a contractual agreement we signed, often unknowingly, when we purchased our homes.

Fortunately, there is a move, heavily supported by the ARRL, and others to invalidate CCR's where they apply to reasonable amateur radio antennas. Those efforts have brought us to where we are today, on the cusp of having those deed restrictions removed by H.R. 1301. As I indicated above, this bill to remove the antenna restrictions just passed the U.S. House of Representa-





**SOARA Meeting**  
Sept 19

**SOARA Saturday**  
Sept 24

**CQWW RTTY**  
Sept 24-25

**JOTA**  
Oct 14-16

**CQWW SSB**  
Oct 26-27

## VEC License Exams

6pm—before the General Meeting

Please see our [website](#) for more info.

Walk-ins ok.

Extra | General | Technician

## SOARA Saturday

Many enjoy this informal educational environment. It's easy to walk around and ask questions. So, show up, have fun, share experiences, and knowledge. SOARA will provide coffee and donuts. If you want to bring donuts or coffee please let me know prior to the meeting. I want to save SOARA money wherever possible.

### August SOARA Saturday

We soldered and built kits. Several donated Pixie QRP radio kits were built. Thank you Knute K6HIV for the donation of five kits! This helped lower the cost of coffee and donuts to SOARA! Much appreciated! I know Bob KI6COO and Erik KK6UZS completed their kits. I think Frank KK6AWB had the parts stuffed and Scott KK6WHC helped him. Steve K6UVR demoed soldering. Jim KI6LOM & I helped with kit building as best we could. Tony W6TNY helped on some battery boxes. And, Frank AG6QV brought some UHF equipment we was developing. Richard KI6UMW brought some extra donuts so we ate well. Thank you Richard! I also want to thank everyone for the help. It was a fun morning. If you need help with soldering let me know. We are here to get you going.

I ordered a few kits off Ebay and I'm making them available to members at cost. I have qty 4 Pixie QRP kits available at \$5.00 each. This kit is a little different with a BNC connector for the antenna and no buzzer and led. I also have some simple PIC based frequency counter kits with crystal tester available at \$5.25 each. I have a few other more expensive QRP kits too. One 49er and one Frog Sounds Kit. I bought these to try to help lower or amortize shipping costs.

### September 24 SOARA Saturday at Murray Center (Intro to Arduino Programming)

This month's SOARA Saturday will be at the Murray Center on 9/24 at 9am. Bring your Arduino, USB cable and a laptop. If you know how, download and install the Arduino IDE ahead of time. Otherwise we can help if you can connect to the Murray WiFi. We will have a few Arduino demos setup too.

### October, & November SOARA Saturday's will be at Murray Center.

- October, 22, Demo build a tape measure T-Hunt antenna & attenuator. We also need helpers to share T-Hunt knowledge, demo, and hints. Bring your built equipment and share your experience! Here are some links for reference. Caveat Emptor. I am still researching this topic and I cannot speak from experience on this subject. I ordered 3 attenuators on eBay. Maybe they are good. Maybe not... Bring your own parts if you can and we will try to help. I will try to find more links from experienced T-hunters. Contact me if you need more information.

[http://theleggios.net/wb2hol/projects/rdf/tape\\_bm.htm](http://theleggios.net/wb2hol/projects/rdf/tape_bm.htm)

<http://www.homingin.com/joek0ov/offatten.html> (Thank you Richard for your help!)

<http://m.ebay.com/itm/Fox-Hunt-Offset-Attenuator-KIT-by-KC9ON-/282164505116?nav=SEARCH> I ordered three of these.

November 26, open to suggestions, I ordered a \$65 HF antenna analyzer, actually \$55+\$10 postage maybe demo that, open discussion, of a better idea... Let me know what you want! Or, possibly you could demo from your experience too.

73,

Ed, WA6ED





### The K7RA Solar Update 9/16/16

The Autumnal Equinox is next Thursday, September 22, 2016 at 1421 UTC.

This indicates a transition from summer to fall, and the associated improved HF propagation.

Over our reporting week (September 8-14) average daily sunspot numbers rose from 46.4 to 50.1, and average daily solar flux declined from 95.1 to 88.9.

This is the opposite of what occurred the previous week, when sunspot numbers declined and solar flux rose. Normally we expect solar flux and sunspot numbers to track together. Geomagnetic indicators were very quiet, with average daily planetary A index declining from 26.6 to 6.7, and mid-latitude A index from 18.1 to 6.1.



[WM7D's Solar resource Page](#)

**DX Operations:**  
[www.ng3k.com](http://www.ng3k.com)

**ARRL HF Propagation Charts**

## SOARA Raffle

The \$5 raffle will be an FT 7900/RE. We would need to get between 55 and 60 tickets to raffle it off. The \$1 raffle will be a selection of prizes from HF and HRO.



Ron,  
K0PGE

Winner of  
the  
August  
Raffle

With  
Lambert,  
KK6WOW



## New TV Series: Frequency

Frequency is an upcoming drama series set to air on The CW [KTLA/5 in LA/OC] in 2016. Inspired by the 2000 Gregory Hoblit film of the same name, Frequency is created by Supernatural and Being Human veteran Jeremy Carver. The series is set to premiere on October 5, 2016.

In 2016, NYPD Detective Raimy Sullivan discovers that she is able to speak to her deceased father Frank Sullivan in 1996 **via his old ham radio**. Her attempts to save his life trigger the "butterfly effect", changing the present in unforeseen ways. To fix the damage, she must work with her father across time to solve a decades-old murder case. More [here](#).

## Silent Key

Dick Wilhelm WA6AAR

Longtime club member Louis (Dick) Wilhelm WA6AAR passed away on Sept.15 2016. He had had great life doing the things that he loved. He was preceded in death by his wife of 64 years Dawne Wilhelm WA6AET (also a long time club member).

They were good friends, full of life with many varied interests. Dick was involved in the creation of the W6AM station up in Palos Verdes and he always spoke fondly of it, the high power that they ran and how complex the station was in all its many aspects.

Patti and I went to dinner with them many times over the last few years they were both "great" people to know and enjoy life with.

Heiko and Patti

AD6OI AD6OH



## Membership Report

Dues are due in October. We are now accepting payments. We have 226 active members. Go to [www.soara.org](http://www.soara.org) and review monthly event details on the calendar. If you know someone that wants to get started in ham radio let's help them! I hope to hear you on the radio and see you at the upcoming SOARA events!

73,

Ed Barnes,  
WA6ED

Membership  
Director

[membership@soara.org](mailto:membership@soara.org)

## WD Labs Pi Drive Kits

Julie at WDLabs, an incubation division of Western Digital, is offering some lucky SOARA members WD PiDrive kits. The quantity will be limited to ten kits. She wants in return, your initial feedback on your experience when installing/using the PiDrive/Micro SD with a Raspberry Pi. After initial testing, the rest of the kit and application can be used for projects that use hard disk storage. This kit includes a low power WD hard disk drive, Raspberry Pi3, 4GB SD card, plastic case, PiDrive cable (connecting USB cables), and a 5V 3A AC power supply. You will need to provide a mouse, keyboard, HDMI capable monitor, and HDMI video cable.

The supplied WD disk drive and boot SD are optimized to run the operating system on the disk drive (both have preinstalled software). The Raspbian operating system is minimally modified for the hard disk drive. The disk drive is specially engineered to be low power for use with Raspberry Pi. So, this could be great for low power logging or remote applications.

She is looking for applications that would utilize the Western Digital hard drive with a Raspberry Pi. This could be either a public document that may be posted on the WD Labs website. Or, a private idea you want to productize. WD might even be able to help you with your idea.

Email your idea to Ed Barnes [WA6ED@SOARA.ORG](mailto:WA6ED@SOARA.ORG). One or two paragraphs should be sufficient. You may include diagrams if it helps your description. Be sure to clearly identify your idea as public or private. The deadline to submit your ideas is [9/22/16](#). Julie's decision on who gets a kit is final. I plan to hand out kits at SOARA Saturday [on 9/24/16](#). Not much time so send your idea today!

73,  
Ed Barnes  
WA6ED



## Doubling Battery Power of Consumer Electronics

New lithium metal batteries could make smartphones, drones, and electric cars last twice as long:

An MIT spinout is preparing to commercialize a novel rechargeable lithium metal battery that offers double the energy capacity of the lithium ion batteries that power many of today's consumer electronics.

Founded in 2012 by MIT alumnus and former postdoc Qichao Hu '07, SolidEnergy Systems has developed an "anode-free" lithium metal battery with several material advances that make it twice as energy-dense, yet just as safe and long-lasting as the lithium ion batteries used in smartphones, electric cars, wearables, drones, and other devices.

"With two-times the energy density, we can make a battery half the size, but that still lasts the same amount of time, as a lithium ion battery. Or we can make a battery the same size as a lithium ion battery, but now it will last twice as long," says Hu, who co-invented the battery at MIT and is now CEO of SolidEnergy.... More at:

<http://news.mit.edu/2016/lithium-metal-batteries-double-power-consumer-electronics-0817>

## 2016 SOARA Fair Pictures (August)



Dave, KG6QCI, with his horse tracking invention.



Ed, WA6ED, demonstrated 3D printing.



Phil, WA6LDI, explained the wonders of DX & QSLing.



Mike, K6MSM, showed JT65/JT9 digital HF modes & remote operation.



Steve, K6UVR, tuning (coupling) a fishing pole antenna.



From Left to Right: Joe, AE6XE, Don, KE6BXT, Phil, WA6LDI, Paul, KB7V, Russ, KK6URR, & Sean, AJ6B.



## Your Messages Are on the Way

Michael, thanks for taking action on behalf of ARRL - the National Association for Amateur Radio. An individual copy of your letter will be sent to each official:

September 15, 2016

Dear Sen. Barbara Boxer (D CA):

Dear Sen. Dianne Feinstein (D CA):

As a constituent and one of more than 103,323 FCC - licensed Amateur Radio Operators in the State of California, I am writing to ask that you now support H.R. 1301 as amended when it comes to the Senate for action.

This Bill, which replaces S. 1685, was passed unanimously by the House of Representatives on September 12, 2016. It provides a mutually satisfactory compromise reached between the American Radio Relay League (ARRL, the national association for Amateur Radio) and the Community Associations Institute (CAI, which represents home owners associations). This bill allows for effective outdoor Amateur Radio antennas for public service and emergency communications while protecting the prerogative of community associations. Now there is universal support for the Bill as amended. In fact, CAI has stated that "(O)n behalf of the 68 million Americans who live in community associations and members of the Community Associations Institute (CAI), we express support for H.R. 1301, the Amateur Radio Parity Act, as ... amended."

The Bill has also received the endorsement of the American Red Cross, which stated that this "legislation will greatly enhance the volunteer communications efforts by radio Amateurs that have benefited public safety organizations for many years." The National Hurricane Center added their voice in support and wrote that "(A)mateur radio operators are sometimes the only sources of eyewitness information from inside the storm." And The Salvation Army wrote "(W)e rely on Amateur Radio, and this legislation is urgently important to the continued provision of their volunteer services in emergency communications. We urge the passage of H.R. 1301..."

California has always relied on and benefited from Amateur Radio's critical communications support in time of need. We have been prepared for, and involved in the response to virtually every disaster in California volunteering to provide communications, at no cost to anyone. The Bill will allow Amateurs to continue to provide the same critical communications service to our communities as we have for over the past 100-plus years.

The Bill equitably balances the interests of all parties. It ensures that community associations permit effective outdoor antennas, and protects community associations' authority to adopt and enforce reasonable written rules concerning the installation, placement, and aesthetic impact of external amateur service station antennas. It also requires notification to the association and their prior approval of antenna installations; and prohibits installation of antennas on common property. The rights and responsibilities of community associations and association residents are completely protected.

I ask that you support the passage of this consensus Bill when it comes to the Senate floor for a vote.

Thank you for your consideration.  
Sincerely,

Mr. Michael Mahan....

**Send your letter here!:** <http://arrrl.rallycongress.net/>

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
General Meeting 7:00 PM	25	22	21	18	16	20	18	15	19	17	21	-
Program	TASMA	LFP Batteries	WU6D	Arnie Shatz N6HC	<a href="#">Spring Auction</a>	<a href="#">Field Day Prep</a>	Battery Boxes	<a href="#">SOARA Fair</a>	Arduino Rsb. Pi	TBD	<a href="#">Fall Auction</a>	-
VE Testing	25	22	21	18	16	At Field Day 25	18	15	19	17	21	--
Educational Classes	Tech 23	Extra 20	Tech 19	-	General 14	Tech 18	Extra 16	-	Tech 17	-	-	-
SOARA Saturdays (9am)	30 Murray	27 Murray	26 Murray	23 Gilleran	21 Gilleran	18 Gilleran	23 Gilleran	20 Murray	24 Murray	22 Murray	26 Murray	-
SOARA T-Hunt	10	14	6	3	1	5	3	14	4	2	6	11
Board Meeting	Feb 1	29	28	25	23	27	25	22	26	24	28	-
Special Events	<a href="#">Quartzfest 17-23</a>	<a href="#">Yuma Hamfest 19-20</a>	<a href="#">Palm Springs Hamfest 12</a>	<a href="#">Visalia Intl DX 15-17</a>	<a href="#">Dayton Hamven- tion 20-22</a>	<a href="#">ARRL Field Day 25-26</a>	HRO Ham Jam 16	<a href="#">SOARA Picnic 7</a>		<a href="#">JOTA 14-16</a>		<a href="#">SOARA Holiday Party 4</a>
Ham-Related Swap Meets	<a href="#">TRW 30</a> <a href="#">C.A.R.S. 16</a>	27  20	26  19	30  16	28  21	25  18	30  16	27  20	24  17	29  15	26  19	31  17
Major HF Contests		<a href="#">ARRL DX-CW 20-21</a> <a href="#">CQWPX RTTY 13-14</a>	<a href="#">ARRL DX-SSB 5-6</a> <a href="#">CQWPX SSB 26-27</a>		<a href="#">CQWPX CW 28-29</a>	<a href="#">ARRL Field Day 25-26</a>			<a href="#">CQWW RTTY 24-25</a>	<a href="#">CQWW SSB 26-27</a>	<a href="#">CQWW CW 26-27</a>	
Volunteer Events	<a href="#">OC Chili Run 23</a>	<a href="#">Paws Fur Pink 21</a>  <a href="#">OC Chili Run 27</a>	<a href="#">OC Chili Run 19</a>  <a href="#">Baker to Vegas 19-20</a>	<a href="#">Desert Storm Rally 1-2</a>	<a href="#">HD Trails 7-8</a> <a href="#">OC Mara -thon 1</a> <a href="#">Memorial Day 1/2 Mara- thon 30</a>	<a href="#">ARRL Field Day/ Setup/ Ops/ Clean 24-26</a>	4th of July Fire -works 4			<a href="#">Vision Quest</a>		<a href="#">Run for a Claus</a>

\*Dates subject to change. Check the [SOARA website](#) to verify locations and times.

KIO Hexbeam  
(20m only right  
now)



**SOARA** meets at the [Norman P. Murray Center](#), 24932 Veterans Way, Mission Viejo, CA on 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, except June. **Exams are at 6pm.** Prior registration is not required and walk-in applicants are welcome. For June, exams are held at Field Day. For further information, email Sean Reigle, AJ6B, at [aj6b@soara.org](mailto:aj6b@soara.org).

**SOARA Library:** SOARA has many amateur radio related books such as hand books, books about electrical theory, etc. available to lend out to club members. Contact Heiko Peschel [ad6oi@soara.org](mailto:ad6oi@soara.org) for more info.

**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, or [repeater@soara.org](mailto:repeater@soara.org).

	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)
	440 — 445.660 — (110.9)	Laguna Beach
D-STAR	440 — 445.705 — (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 7:30pm

40 meter HF (7.200 MHz +/- for QRM), Sundays 8:00 AM.

Gordo Net (HF 7.250 MHz +/- for QRM), Weekdays 8:30AM



#### **SOARA OFFICERS**

**President:** Ray Hutchinson, AE6H 949-322-8468  
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**V.P.:** Sean Reigle, AJ6B 714-261-1717  
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**Secretary:** Lambert Matias, KK6WOW 312-545-2270  
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**Treasurer:** Lori Carey, KK6ORR 949-444-8190  
[kk6orr@soara.org](mailto:kk6orr@soara.org)

#### **SOARA DIRECTORS**

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[ae6sh@soara.org](mailto:ae6sh@soara.org)

**Communications:** Heiko Peschel, AD6OI 949-859-3868  
[ad6oi@soara.org](mailto:ad6oi@soara.org)

#### **SOARA APPOINTMENTS**

**Past President:** Tom Hobbs, AE6SH 949-830-8131  
[ae6sh@soara.org](mailto:ae6sh@soara.org)

**Activities:** **Jon, KK6WFF (temporary)** —please contact us ([board@soara.org](mailto:board@soara.org)) if you are interested.

**S. Saturdays:** Ed Barnes, WA6ED 949-468-7706  
(temporary - please contact us) [wa6ed@soara.org](mailto:wa6ed@soara.org)

**Raffle:** Hal Silverman, WB6WXO 714-897-5002  
[wb6wxo@soara.org](mailto:wb6wxo@soara.org)

**Testing:** Sean Reigle, AJ6B 714-261-1717  
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**Website:** Sean Reigle, AJ6B 714-261-1717  
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