



# Propagator

The Monthly Newsletter of the South Orange County Amateur Radio Association

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## General Meeting

NPM Center  
 April 15, 2024  
 6:30 PM  
 Norman P. Murray  
 Center  
 23492 Veterans  
 Way, Mission Viejo,  
 CA 92692

## President's Message

Greetings,

Writing this message is bittersweet, since it will be my last, after over 20 years as club President and over 25 years on the SOARA Board. I'm stepping aside, because among other things, I believe it's important to bring in new people with new and fresh ideas for your club. I'll not be riding off onto the sunset though, never to be heard again, and I'll be remaining active, working on completing some unfinished business, and contributing whenever I can. In fact, the SOARA Constitution and Bylaws provides that the immediate past President assist the new administration with guidance, etc.

As for the unfinished business, we're planning the SOARA 50th Anniversary Special Event Station on Saturday May 18 and Sunday May 19 at Gilleran park, 9-5. We're also negotiating for a new and much better home, propagation-wise, for the Trabuco, 145.240 repeater. We're also negotiating renewal of the Site License (lease) on Temple Hill. I'm remaining involved in all those activities.

I'd very much like to extend my sincere thanks to the many dedicated folks who stepped up over the years, to contribute, enabling SOARA to grow and serve the needs of our members, and the amateur radio community as a whole. Without dedicated people willing to pitch in, in many ways, whether it be serving as a club officer, on the Board, or pitching in to coordinate activities such as Field Day, Holiday Party, or assisting with some aspect of those or other activities.

It matters little who is President, for without members willing to help, your club cannot exist. This is especially true as of late. with at least one legacy Ham Club here in Orange County recently voting to disband, as no one was willing to step up and serve as key officers!

Please don't let this happen to your club, to SOARA! You can make a difference, as everyone has something to offer and bring to the table. The future of your SOARA depends on it!

**73 de Ray, AE6H**

## Membership Meeting

April 15<sup>th</sup> 6:30 PM

### **Guest Speaker – David Pepper, WA6TWA –**

Transmitter Hunting in the 60's (the decade, not your age group)

I was first licensed in 1961 (Novice, then General class) and have maintained the same call ever since. I thank two wonderful people that introduced me to amateur radio as a kid and were my friends and mentors throughout my youth: WA6SZY (Hal) and KH6BMD (Robin).



One of my Ham Radio joys was to participate in 2-meter hidden transmitter hunts (T-Hunts) in Los Angeles, which I did while in Junior and Senior High School. See the July 2002 CVARC Newsletter or the August 2004 W6TRW “Crosstalk” Newsletter for an article I wrote about my T-Hunt experiences in the early '60s. See, also, the nice article written by Joe Moell, K0OV, in the Fall 2005 issue of CQ-VHF Magazine (“T-Hunting Then and Now,” pp. 44-47), in which Joe writes about the good ‘ol days of T-Hunting, dating back to the 1960s, including some of my experiences.

I used to work AM, SSB, CW, and RTTY back as a kid, from 80 to 15 meters, and AM on 2 meters... long before FM became the mode of choice on the VHF band. I recall fondly searching the HF bands for QSO's with those in states with small populations, which I finally achieved as I worked all states back in the 1962 to 1965 time frame. I also recall staying up at all hours of the day and night (and keeping my parents awake with the mantra “CQ Contest, CQ Contest”!!) as I participated in one of the ARRL contests, trying to contact as many people as possible (I ended up in second place in the LA section one year back in the early '60s).

My formal education is in Physics (BS from UCLA) and Applied Physics (MS and PhD from Caltech). As a kid, I had a great part-time job: I operated 60” World War 2 Searchlights (aka “Klieglights”) back in the '60s for Film Ad Corp for grand openings, movie premiers, special events, etc. As for my professional career, I was a Senior Research Scientist at HRL Laboratories in Malibu, CA where I performed research on various aspects of laser technology, including laser communication, adaptive optics — how to take the “twinkle” out from starlight using “Time-Reversed Light” — enabling one to communicate and image objects through the heavens, and nondestructive testing of materials by using lasers to “see” into otherwise opaque objects; see Scientific American, January 1986 (and, “The Amateur Scientist” in the April 1986 issue) as well as October 1990 for several articles I wrote about some of these topics.

I have recently retired from HRL Laboratories (after 31+ years) as a member of the technical staff, and am currently self employed as a technical consultant, inventor, and educator ([www.MalibuScientific.com](http://www.MalibuScientific.com)) ... as well as a lover of dogs, cats, fresh air, roses, stars, classical music and, of course, my dear wife!! I may even get back into Ham Radio and hidden transmitter hunts... especially after Joe Moell (K0OV) treated my wife and I to a T-Hunt in December 2004 as his guests...what a great evening (thanks, Joe!!). I have recently published an article on laser ultrasound in a popular science magazine, “American Scientist” (a Sigma Xi publication; November/December 2023 issue), entitled, “Seeing” into Opaque Materials with Light and Sound.” photo, courtesy K0OV.

This meeting will also be held on GoToMeeting (GoTo) and recorded at the presenters' request for later viewing. Connection information can be found on our website at <https://www.soara.org/2024/04/membership-meeting-monday-april-15th-at-7pm-room-opens-at-630/>

[Ham Radio Examinations](#) will take place prior to the General Meeting and also at the Murray Center. Testing session starts at 6pm and is \$15/session.

Pre-registration is not required and you don't need to be a SOARA member to take the test. Please contact our Education Director, Steve Kuver, if you have questions about testing at [k6uvr@soara.org](mailto:k6uvr@soara.org)

## **SOARA Membership Report**

We're currently at 202 active members. All who haven't paid their dues for the 2023-2024 membership year have been deactivated, so if you received notice of the availability of this Propagator via an email, you're paid up through the end of September.

If you need a new badge or a copy of the repeater manual, send me an email at [membership@soara.org](mailto:membership@soara.org)

**73, Greg, N6PM**

**SOARA Membership Director**

## **The Belkin Battery Box and Other Alliterations**

SOARA meetings started it all. After getting back into the hobby, I started seeing a bunch of battery box builds that were all new to me. Then I got interested in operating POTA and I decided I finally needed to build my own mobile power source, so the quest began. I was able to show my first design at a recent meeting, and a number of folks asked me to publish a list of key components and where to source them.

For me, the key design element was the battery itself and the other component choices flowed from there. While many hams use the Bioenno LiFePO<sub>4</sub> batteries which are well respected, I found them a bit too expensive. I also wanted to build a box with higher capacity. I should note this was because of my inexperience – a 20Ah or 30Ah box provides plenty of power. But I had visions of operating digital modes and didn't want to worry about running out of juice, and I also wanted something that might last a long time for Field Day. So I set out to find a reasonably priced 50Ah battery as my foundation. My intended POTA operating is very close to where I would park the car, so a bit of extra size or weight didn't bother me. Of course I would build something differently if I was planning to transport it long distances.



I did some searching and settled on a brand of LiFePO<sub>4</sub> battery called Power Queen, available on Amazon and represented locally in CA. There are a lot of YouTube videos of reviewers who have tested these batteries and also dissected them, and I was impressed with the reviews and overall quality. The 50Ah version costs \$169 vs. \$469

for an equivalent Bioenno. I thought I'd take a chance and see how it turns out. The Power Queen 50Ah is only 11.6 lbs in weight, a compact size, accepts a high charging current, and is rated for 3-10 years lifespan and 4,000 – 15,000 charge cycles depending upon depth of discharge.

Now the real challenge came to find a box that would fit the battery. The usual ammo cans are not wide enough. I searched through a lot of ammo cans until I found the perfect one for this battery, which is the MTM AC11. There is a complete BOM with sources included in this article but this is a link to the manufacturer: <https://mtmcase-gard.com/products/ac11-ammo-can-for-bulk-ammo>

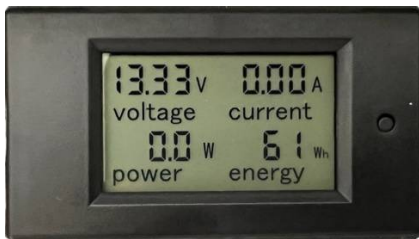


There was plenty of real estate on this box for connectors and controls, but I ended up deciding I wanted to keep it simple. I chose Powerpole connectors as is “standard” in the community, but decided not to put in a cigarette lighter socket. I don't like the sockets, rarely if ever use them, and I bought a small Powerpole to cigarette socket pigtail that I can utilize should I every need it. I also decided not to put a light in the box (I can add it later), and instead, I can utilize a portable LED light source with a Powerpole connector to allow me to have the box on the ground, and a worklight on the table. So Powerpoles are the only connectors I have used, but I did decide to also install a USB / USB-C charger to handle a phone/iPad or other light source etc.



One thing that was very important to me was instrumentation that actually gave me an accurate measure of remaining capacity. Voltage isn't a good indicator for a LiFePO4 battery since the voltage curve declines relatively little as the battery charge is depleted – it eventually goes off a cliff. And Amps alone don't give me any indication of power remaining. But I found a meter with a shunt that tracks the energy used and remembers it through power cycles; it must flash the data internally. They have a 50A shunt (perfect) and it shows me current, power (W) and energy consumed (Wh). The 50Ah battery has 640Wh capacity.

Here's what the meter looks like with the backlight on and the backlight off:



The other design choices I made stem from my other passion – boating. I'm used to building and maintaining large, complex and high-current 12V electrical systems. So I did something a bit different on this box. I installed a main power switch / breaker that handles 50A. That switch is the master power – all connectors / chargers / meters shut down when I turn it off. Most ham battery boxes don't work that way because the switches for higher current are a bit pricey and physically large. Instead, most commercial boxes wire all Powerpole to a single master battery fuse – you can't switch them off. They do usually include a small switch to disconnect parasitic draws like a meter or USB charger.

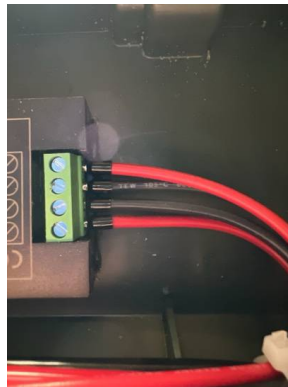
I also decided to fuse every circuit. I like the ability to protect individual circuits and not lose the whole box if someone makes a mistake. I also needed a wiring block anyway, so why not use a fuse block? I had the room in the box and I chose a Blue Sea Systems (marine) 6-circuit fuse block with a ground bus, but there are lower cost “overseas” versions of the same. They key in any power source is LOW RESISTANCE – so I used quality marine components that resist corrosion, marine crimp


terminals and appropriately sized wire (detailed on the schematic). I designed the box to support 30A on any Powerpole so long as the total draw on the box is 50A or less.

Finally, I had to figure out how to keep the battery in place and also mount all of this stuff. I didn't want to drill a bunch of holes in the box, and if I did do that, it's kind of hard to get into the fuse block to change a fuse. But when I got the battery and the box, I found some scrap wood in my garage that fit perfectly to form a little rectangular wood frame that holds the battery (with some soft Velcro to cushion). I also decided to mount the fuse block and the shunt on that wood frame. This way, I can remove the battery and then lift out the wood frame to get easy access to the wiring and the fuses. I really like how it turned out.

Here are a few random tidbits about the construction that might be helpful:

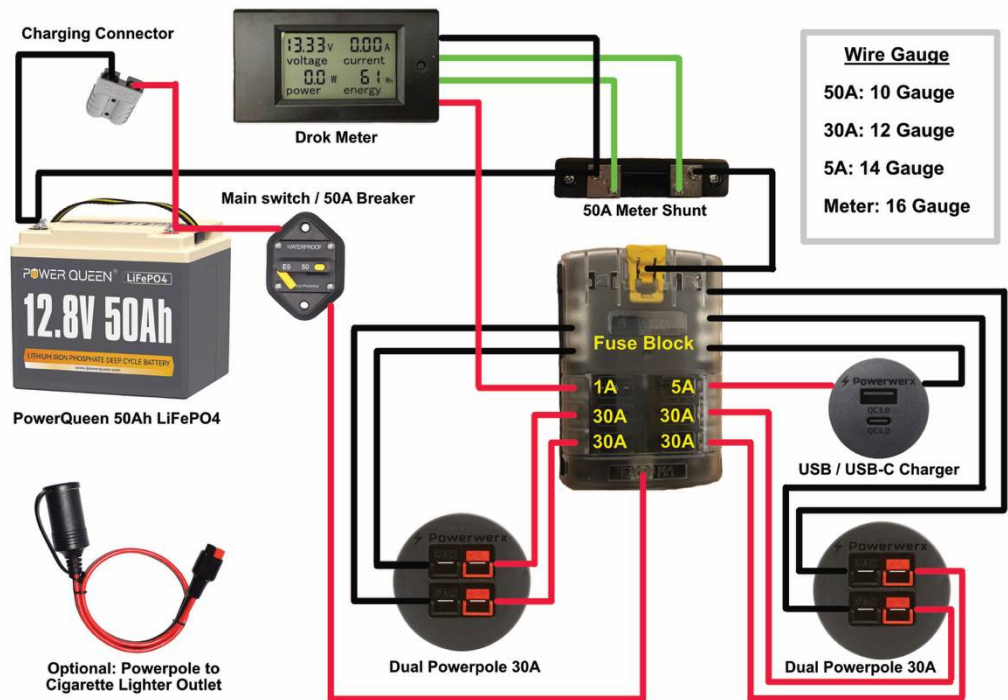
- Cutting rectangular holes for the meter is always difficult. I ended up using a Weller soldering gun with a plastic melting tip to easily cut the rectangular hole and then cleaned it up with an X-ACTO knife and a file.
- The round holes for the Powerpoles and USB charger are 1-1/8" diameter. I happened to have suitable hole saws, but you can use a low cost step drill (I suggest Harbor Freight).
- The meter requires four wires to be used with screw-down connections. I hate to put stranded wire into a screw down – it's just messy and invites a short circuit. I highly recommend using a crimp-on ferrule for any of these types of connections. I've included a source for a crimper and ferrules in the BOM. Here is what ferrule connections look like on the meter:



-  I chose a 20A charger so that I can charge quickly. The charger comes with an Anderson SB-50 connector and pigtail and I wired it directly to the battery. I open the box to charge – providing the best battery voltage sensing for the charger. I can also use a small SB-50 to Powerpole pigtail if I want to charge through the normal Powerpole connectors.



So... without further adieu, here is the schematic:

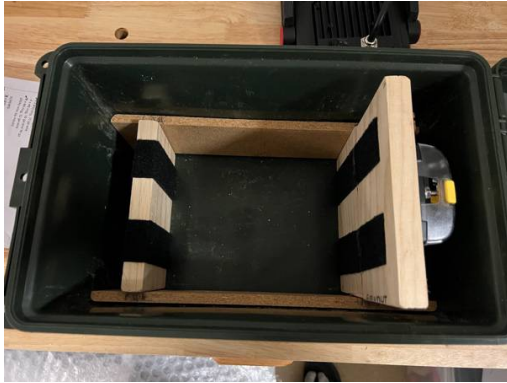


Here is the BOM with sources for all the main components:

Item	Qty	Brand/Model	Cost/ea	Source	Comment
Battery	1	Power Queen 50Ah LiFePO4 Battery	\$169.99	<a href="https://www.amazon.com/dp/B0CLG378WV">https://www.amazon.com/dp/B0CLG378WV</a>	Excellent value. Rated for 4,000 - 15,000 cycles, 5-year warranty. 11.6 lbs. Dimensions 7.79"L x 6.53"W x 6.69"H
Ammo Can	1	MTM AC11 (very specific model)	\$17.99	<a href="https://www.amazon.com/dp/B003ISKM9">https://www.amazon.com/dp/B003ISKM9</a>	Hard to find the dimensions that fit the battery. Specific version AC11 inside 12.5"L x 7.3"W x 7.3"H
Meter Shunt	+	Drok Small Digital Multimeter with 50A Shunt model 200140	\$14.32	<a href="https://www.amazon.com/dp/B017BCXQO6">https://www.amazon.com/dp/B017BCXQO6</a>	Retains power drawn (Wh). MANUAL is at: <a href="https://manuals.plus/drok/20014-1-dc-multimeter-manual#axzz8UehPAD8g">https://manuals.plus/drok/20014-1-dc-multimeter-manual#axzz8UehPAD8g</a>
Main Switch/Breaker	1	Hi-amp Type III 50A Circuit Breaker with manual	\$24.99	<a href="https://www.amazon.com/dp/B075K7BMLH">https://www.amazon.com/dp/B075K7BMLH</a>	Blue Sea is better but much more expensive. This had good reviews.

		reset-panel mount			
Rubber Cable Caps	2	Blue Sea 4008 CableCap 10-18 gauge	\$5.88	<a href="https://www.amazon.com/Blue-Sea-Systems-CableCap-0-47/dp/B000N9MC54/">https://www.amazon.com/Blue-Sea-Systems-CableCap-0-47/dp/B000N9MC54/</a>	There are knock-offs for lower cost. This link is for PRIME (no shipping cost).
Fuse Block	1	Blue Sea 5025 ST Blade Fuse Block 6 circuit with ground	\$33.42	<a href="https://www.amazon.com/dp/B000THQ0CQ">https://www.amazon.com/dp/B000THQ0CQ</a>	Blue Sea has cover and it's marine quality. Cheaper "knock offs" available. Also Powerwerx has this: <a href="https://www.amazon.com/Powerwerx-Circuit-Blade-Block-Negative/dp/B0B6JTL8J5/">https://www.amazon.com/Powerwerx-Circuit-Blade-Block-Negative/dp/B0B6JTL8J5/</a>
Fuses	1	Any ATC Fuse. Here is a kit by Powerwerx	\$11.99	<a href="https://powerwerx.com/120-piece-atc-blade-fuse-assortment">https://powerwerx.com/120-piece-atc-blade-fuse-assortment</a>	Can buy individual or a collection. I used 4 x 30A, 1 x 5A, 1 x 1A.
Dual Powerpole Panel Mount	2	Powerwerx PanelPole2 with weather cover	\$22.99	<a href="https://www.amazon.com/dp/B097QDKJJ2">https://www.amazon.com/dp/B097QDKJJ2</a>	
USB/USB-C Charger	1	Powerwerx Panel Mount USB QC3.0 and USB Type-C QC4.0 fast device charger	\$41.99	<a href="https://www.amazon.com/dp/B0B6KJTM6D">https://www.amazon.com/dp/B0B6KJTM6D</a>	Capable of fast charging, has weather cover
Powerpole to Cigarette Lighter	1	Lixintian 45A	\$13.99	<a href="https://www.amazon.com/dp/B086PLLQW2">https://www.amazon.com/dp/B086PLLQW2</a>	Lots of versions of these - this had good wire size and 45A Powerpoles
Charger 20A with connectors	1	Timeusb 14.6V 20A Fast Charging LiFePO4 Charger	\$69.99	<a href="https://www.amazon.com/dp/B09Y866T2D">https://www.amazon.com/dp/B09Y866T2D</a>	Excellent charger - 20A and can restart battery BMS. Lower cost 10A chargers available widely.
Tools:					
Ferrules	1	AIRIC 900pcs Wire Ferrule Kit 22-8 Gauge	\$9.99	<a href="https://www.amazon.com/dp/B0CQS3XGC7">https://www.amazon.com/dp/B0CQS3XGC7</a>	Should use on any wires going into a screw down clamp (meter)
Ferrule Crimping Tool	1	Preciva Wire Ferrule Crimping Tool AWG 28-5	\$25.99	<a href="https://www.amazon.com/gp/product/B09Q5DZSHF/">https://www.amazon.com/gp/product/B09Q5DZSHF/</a>	Very handy to have at home

And here are a few photos of the build. I hope this was helpful and encourage customization for your particular wants / needs. I plan to build additional smaller boxes a little bit differently, but I'm very pleased with the outcome for my 50Ah project!!







## [SOARA Saturday Report](#)

We had an interesting SOARA Elmer Saturday tech net today 4/6/24 and good a question about Anderson powerpoles. This discussion lasted about half an hour. As usual, lots of details discussed. Thanks everyone for participating!

The next SES is planned to be at the Murray center 4/20/24 9am to noon, APRS is the topic with one presentation from Brian NJ6N. This will be one presentation. And I need to verify he will be there! Brian fills the room. Expect lots of interest. I will email members just before the meeting to verify Brian can make it.

The Last SOARA Elmer Saturday had 16 members & guests sign in.

WA6ED, KM6FOY, N6PM, AE6H, WE4BY, WA6LDI, AF6GL, W6EDT, N5KZV, W6WK, K6WHC, W6CAG, KN6SIP, KO6DGH, KK6TTL, KN6KOR

Greg N6PM, and Bill KM6FOY helped me with the coffee and donuts. Thank you.

We started with \$60 and ended up with \$66 after paying Greg for \$23.57 for the donuts.

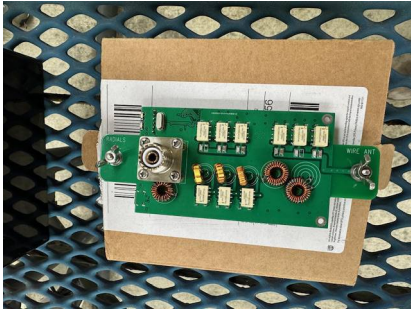
Here are some photos for 3/23/24



Ray was operating HF with yet another antenna.



Claude and Greg discussing constant AC voltage power supply



KK6TTL QRP tuner



Large battery demo

**73,**  
**Ed, WA6ED**  
**SOARA Elmer Saturday Coordinator**

## SOARA - Statement of Cash Income & Expenses October 1, 2023 Through March 31, 2024

SOARA - Statement of Cash Income & Expenses October 1, 2023 Through March 31, 2024			
Six Months Ended:	March 31 <u>2024</u>	March 31 <u>2023</u>	Increase (Decrease)
Cash Income:			
Memberships	9,324	9,609	(285)
Other	<u>1,746</u>	<u>3,283</u>	<u>(1,537)</u>
Total Cash Income	<u>11,070</u>	<u>12,892</u>	<u>(1,822)</u>
Cash Expenses:			
Repeaters including site rental, utilities & insurance	4,412	11,038	(6,626)
Member Activities	3,294	2,992	302
Other expenses	<u>702</u>	<u>858</u>	<u>(156)</u>
Total Cash Expenses	<u>8,408</u>	<u>14,888</u>	<u>(6,480)</u>
Cash Net Income	2,662	(1,996)	4,658
Beginning Cash-October 1	<u>24,917</u>	<u>25,860</u>	<u>(943)</u>
Ending Cash - March 31	27,579	23,864	3,715
Note: If any member has questions about the financials, please contact the Treasurer or any Board member.			

**Ron Mosher - K0PGE**  
**SOARA Treasurer**

### Reaching Potential Hams

On reaching potential hams where they're at.

This article is somewhat a continuation of the previous article I wrote. Although that article, *Ham Radio for the Newbie*, was addressed to new hams, or not-yet-licensed hams, this is more for experienced hams, especially those with a general or extra license.

I read an article recently discussing the pros and cons of requiring Morse Code in order to get licensed. Not the pros and cons of Morse Code itself mind you, but rather the requirement of knowing it just to get the license. It went something like this. When the requirement was there, it turned many away from the hobby. Once it was removed, it brought many back in. Many of those went on to learn Morse Code anyway; not because someone required them to do so, but because they were allowed to enter the world of HAM slowly, at their own pace, and they discovered on their own the value of CW (as I am now learning). So, the result was that there was a brief increase in licenses issued, followed by an increase in CW knowledge and use. It was simply a reversal of the previous order.

This got me to think of my own situation. Currently a technician, I never understood the value of CW, and would likely not have even entered HAM with that requirement. I got in because friends and co-workers showed me how ham radio could work for me. They didn't try to impress me with lots of technical jargon. They just showed me their little handheld and told me about all the things I could do with it in simple, easy to understand language.

I took advantage of three opportunities recently to bring people into the hobby using this same approach.

The first was at a gathering of some friends and one of them asked a general question to the group. He wanted to learn more about personal radio communications in the event of an emergency, or for daily personal use. Most of the group knew I was a ham, so they all turned to me. It was a wonderful opportunity to share with them some of the many uses for ham as well as the many easy ways to get into the hobby, through friends as well as clubs and service organizations. So far, this person has not made any move toward getting a license that I am aware of. Perhaps (hopefully) he is doing his own research based upon the info I gave him. I'm not going to bug him about it. Clearly, he is interested, and he now knows he can come talk to me when he is ready to move forward.

The second was while I was working in my capacity as a volunteer for OC Parks on a Backcountry Patrol assignment. In this particular case, the trails at Caspers Park were closed due to safety concerns from the recent rains. During these closures, volunteers are paired up for safety reasons to walk the trails to assess the damage and report back to the rangers. I always carry my dual band HT as well as a GMRS radio. The volunteer I was working with showed me his FRS radio. I was encouraging and told him it was good to be prepared and to have some form of communication, especially in areas where there is no cell coverage. I was then able to discuss and demonstrate to him the advantages and disadvantages of FRS vs GMRS vs HAM. I was not condescending but merely demonstrated the radios with his participation. This whet his appetite.

Finally, I was having my annual visit with a former co-worker who lives out of town. He is busy with work and family, as I am, but we still get together once a year. He is former military, and I am former law enforcement, so part of our conversation turned to SHTF, EDC, TEOTWAWKI (look them up if you don't know). We discussed bug out vs shelter in place. He mentioned some of the equipment he has but did not consider emergency communications with those who could help him in such a situation. People such as friends and family. Voila! Another opportunity to discuss hams. Like many, he perceived it as the hobby with an old guy stuck in the basement and a huge antenna on the house. Therefore, he never considered it. I enlightened him as to what a simple handheld dual band can do. Now he is interested.

In each of these examples, I think if their first intro to HAM only emphasized their misconceptions of equipment or an outdated mode of communication, they would not have had any interest. CW isn't the only stumbling block for new hams, and it may not be a stumbling block at all for many. The point is, in order to bring new people into the hobby, we need to first know where *their* interests lie and what *their* skills and abilities are. Then we can show them how they fit in.

I am sure that all of us have stories like this. Perhaps these will serve as reminders to proactively look for opportunities and to be prepared to discuss and demonstrate the benefits of ham radio.

**Erik**

**KK6PWG**

## Calendars

### **Upcoming SOARA Events**

Dates are subject to change. Check the SOARA Web Site (<http://www.soara.org>) to verify locations and times

#### This Month...

- April 15 6 PM - HAM Radio License Exams, Murray Center
- April 15 7 PM - General Meeting, Murray Center
- April 20 9 AM - Noon - SOARA Elmer Saturday, Murray Center
- April 22 7 PM - Board Meeting, Murray Center

#### Next Month...

- May 18 -19 9 AM-5 PM - SOARA 50th Anniversary Special Event Station, Gilleran Park
- May 20 6:00 PM - HAM Radio License Exams, Murray Center
- May 20 6:30 PM - General Meeting, Murray Center
- May 25 9 AM - Noon - SOARA Elmer Saturday, Murray Center
- May 27 7 PM - Board Meeting, Murray Center



# SOARA Information

**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 Steve Kuver, K6UVR, at [k6uvr@soara.org](mailto:k6uvr@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 [library@soara.org](mailto:library@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 - (pvt)	Santiago Peak. (C)
440	— 445.660 - (110.9)	Laguna Beach
D-STAR 440	— 445.705 - (K6SOA B)	Laguna Beach
440	— 447.180 - (pvt)	Santiago Peak. (C)
D-STAR 1.2G	1282.600 - (K6SOA A)	Laguna Beach

## **Nets:**

- 40 meter HF (7.200 MHz +/- , Sundays @ 8 AM
- 10 meter HF (Technicians Welcome) (28.415 +/-) Sundays @ 9 AM
- General Membership Net - UHF/VHF (447.180, 147.645 & 224.640): Tuesdays @ 8 PM
- D-STAR (146.115 C module): Wednesdays @ 8 PM
- Tech Net - 147.645, 224.640, 447.180: Saturdays @ 9 AM
- California Rescue Communications (Gordo Net) HF (7.250 MHz +/- for QRM): Weekdays @ 8:30AM
- MVRACES - 447.180: Tuesdays @ 7PM
- Tri-Cities RACES - 146.025: Wednesdays @ 8 PM
- LNACS - 147.645: Thursdays @ 7 PM
- OC Parks Fire Watch - 447.180: Thursdays @ 8 PM

## SOARA OFFICERS

**President:** Ray Hutchinson, AE6H 949-322-8468  
[ae6h@soara.org](mailto:ae6h@soara.org)

**V.P.:** Erik Wresch, W6INE 714-883-7694  
[w6ine@soara.org](mailto:w6ine@soara.org)

**Secretary:** Charles Schultz, NY6I  
[ny6i@soara.org](mailto:ny6i@soara.org)

**Treasurer:** Ron Mosher, K0PGE 949-363-0047  
[k0pge@soara.org](mailto:k0pge@soara.org)

## SOARA DIRECTORS

**Repeater:** Brian Roode, NJ6N 949-257-2749  
[nj6n@soara.org](mailto:nj6n@soara.org)

**Publications:** Ray Frericks, K6NOV 949-682-9106  
[k6nov@soara.org](mailto:k6nov@soara.org)

**Membership:** Greg De Hoogh 949-362-5529  
[n6pm@soara.org](mailto:n6pm@soara.org)

**Education:** Steve Kuver, K6UVR 949-874-1972  
[k6uvr@soara.org](mailto:k6uvr@soara.org)

**Technical:** Tom Hobbs, AE6SH 949-887-6527  
[ae6sh@soara.org](mailto:ae6sh@soara.org)

**Communications:** Dale Tyler, W6EDT 949-360-1717  
[w6edt@soara.org](mailto:w6edt@soara.org)

## SOARA APPOINTMENTS

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

**Activities Coordinator:** Open

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

**Raffle:** Bill Colvin KM6FOY  
[km6foy@soara.org](mailto:km6foy@soara.org)

**Testing:** Steve Kuver K6UVR  
[k6uvr@soara.org](mailto:k6uvr@soara.org)

**Website:** Open

**Ambassador:** Heiko Peschel, AD6OI  
[ad6oi@soara.org](mailto:ad6oi@soara.org)