



The

October 2022

Propagator

The Monthly Newsletter of the South Orange County Amateur Radio Association

In This Issue

Presidents Message.....	1
Satellites.....	2
Elmer Saturday	4
Membership ...	4
Full Duplex Repeater Link..	5
Club Sale.....	7
Financial Report	7
Nets/Repeaters.	8
Swap Meets are Back!.....	8
Soara Library. .	9
Sale Mail List.	10

General Meeting

NPM Center
October 17,
2022 6:30 PM
Norman P. Murray
Center
23492 Veterans
Way, Mission Viejo,
CA 92692

President's Message - October 2022

SOARA Members,

I would like say that SOARA had an outstanding summer picnic this year! We had over 40 members and guests attend and all I heard were compliments. The location was ideal with lot's of tables, good cooking facilities, with lots of room for everybody. The weather was also perfect, while temperatures were in the mid eighties, the Pacific Air Conditioner was working great, with a nice sea breeze coming right up Aliso Canyon, keeping our section of Laguna Niguel Regional Park very comfortable. Most important perhaps; the food was excellent, and there was plenty of time to socialize and just enjoy the company and the park. IF you missed the picnic, well I'm sorry that you, for whatever reason, didn't make it! We missed you!

I'd also like to publicly thank the many SOARA members and significant others who made it all possible! First, thanks to Joe, K7KCE our activities Director for organizing, coordinating, food shopping, and overall just making it happen.

Next, we should thank Ron, K0PGE for scouting out and locating this particular site, Pavilion #3, Laguna Niguel Regional Park, which SOARA then reserved. It was spacious, located in the midst of a large green area, but very important too, it was close to parking and the restroom facilities.

Kudos to our yeoman cooks: Jon Greer KN6KHN & Char Lonzello K6CHR. Also, a first: we had a plant based menu option, and that cooking was done by Will Thatcher KH2BI. Fantastic job, all!

Ham Radio related, Greg WE4BY, and I had 2 very portable HF stations set up and operating. Steve, K6UVR, had his new LiFePo batteries and solar charging system for portable and emergency operating set up for Demo. We also had T-hunt "foxes" deployed, and T-huntinhg equipment available.

Finally, a big thanks to all our members and friends who attended, and brought incredibly good side dishes and deserts to make an amazing potluck selection. Very Yummy!

All in all, this certainly worked out to be one of the better, if not best, SOARA Picnics in recent years!

A hearty thanks to all who contributed to making a great SOARA event happen!

On another important topic, SOARA gets ARRL recognition in the November 22 issue of QST, the monthly journal of Amateur Radio. SOARA is listed among the fewer than 100 (97 to exact) ARRL Special Service Clubs out of 2,825 ARRL affiliated amateur radio clubs in the US. To be designated as an ARRL Special Service Club, a club has to be and excel as a multi Interest Amateur Radio Club, covering and promoting nearly all facets of ham radio: HF, VHF, UHF, Repeaters, Contesting, Digital ops, Promoting ham radio through licensing classes, and exams, Holding technical learning events, Participating in Public Service, holding Social vents, and more. SOARA certainly qualifies, and is recognized for all your efforts. This honor could only happen through the active participation of our members.

Keep Radio-active. That's what makes SOARA great!

73 de Ray, AE6H
SOARA President

General Membership Meeting
Monday, October 17th @ 6:30 pm. Norman P. Murray Center

No -you are not seeing double we were able to reschedule Clint for this meeting. Editor

We will be meeting at the Norman P. Murray Center in Mission Viejo where our guest speaker, Clint Bradford K6LCS, will be presenting to us via Zoom. You can watch the presentation with the SOARA members at the Murray Center or from the comfort of your own home if you prefer. The login for the Zoom meeting is listed below. Snacks and coffee will be provided.

NOTE: Clint's Zoom meeting will begin at 6:30 pm. with the intent of getting underway by 7pm. If you plan on attending at the Murray Center, please arrive earlier than normal so we can get started on time.

Clint K6LCS has been a ham since 1994, and found his niche in the hobby: working amateur satellites with minimal equipment and telling ALL about it! He has served a liaison between NASA, the ARISS team, and schools coordinating amateur radio contacts between the International Space Station and students (and also orchestrated a wildly successful ARISS contact). Audiences have never found his presentation slides "wordy"

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nor dull. Trivia questions are included throughout the session – audiences are never bored.

For reference materials, Clint has created a support Web site at work-sat.com. The Web site has become a one-stop source for ALL the citations and equipment recommendations and software suggestions made in the presentation.

Professionally, Clint was sales manager for ADI / Premier Communications / Pryme, worked for a Motorola commercial two-way dealer a couple of years, and for Ham Radio Outlet a couple more. He resides in Jurupa Valley, California, with his wife, Karen, and their rescued lab, Freja (FRAY-ya). K6LCS Clint is inviting you to a scheduled Zoom meeting.

Topic: SOARA Satellite Session

Time: Oct 16, 2022 06:30 PM Pacific Time (US and Canada)

Join Zoom Meeting

[https://us02web.zoom.us/j/85402896024?](https://us02web.zoom.us/j/85402896024?pwd=SGF3em9uTEVXZnhBQWtWRk1Y2w0QT09)

[pwd=SGF3em9uTEVXZnhBQWtWRk1Y2w0QT09](https://us02web.zoom.us/j/85402896024?pwd=SGF3em9uTEVXZnhBQWtWRk1Y2w0QT09)

Meeting ID: 854 0289 6024

Passcode: SOARA

One tap mobile

+16694449171,,85402896024#,,,,*826053# US

Erik Wresch

W6INE

Note: 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

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[SOARA Elmer Saturday, 10/22/22, Murray Center](#)

At the September 24 Elmer Saturday, Bill KM6FOY demoed his malachite SDR, Kevin AJ6EE demoed lots of stuff including a jumbo-spot and raspberry pi things. I demoed a Rig-expert antenna analyzer with a mag mount 2 meter / 70 centimeter antenna with and without a ground plane on the table and the floor. Ground planes help!

I updated the SOARA Saturday page on www.soara.org. Go there and see the schedule. The next SOARA Saturday will be at the Murray Center, October 22, 9am to noon, coffee and donuts will be provided. We will be talking about QRP radios, "tuna can" kits and other cool stuff. Bring your ideas and questions! Or, just chat about radio.

Here's the SES link: <https://www.soara.org/activities/soara-saturdays/>

The SOARA Saturday tech net log is under the above link too

**73,
Ed, WA6ED**

[SOARA Membership Report](#)

Welcome to our newest members!

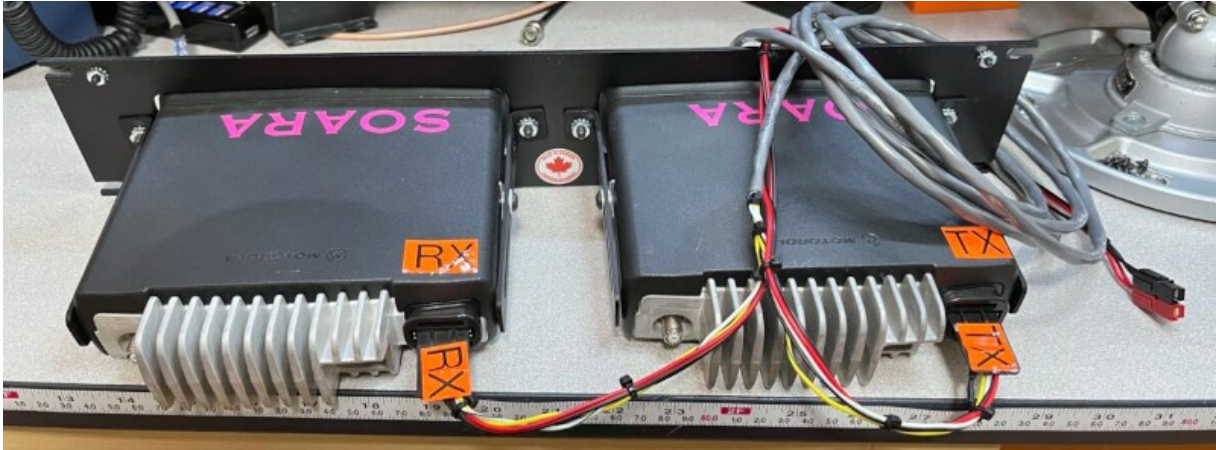
**Dan Upchurch, N6RPR
Tibor Molnar**

We're currently at 229 active members. Thanks to the 90 of you who've paid your dues for 2022-23! I hope the rest of you will be staying with us and paying your dues in the not-too-distant future. For those of you who owe less than the full yearly dues amount because you've currently got a credit, and you wish to pay online, it may not be immediately apparent how you pay less than the full \$50 (or \$25). When you go to the SOARA website and select Membership->Pay Dues Online from the main menu, you're taken to the SOARA - Payment System page. On that page, instead of selecting Renew Membership, which only allows payments of \$50 or \$25, select Other Payment Amount. On that page, you can enter the desired payment amount. Note, however, that Braintree does not accept payments of less than \$5. If you owe less than \$5, you can either pay by check instead or pay \$5 online, and the extra amount will be carried in your account until next year. (Our apologies for the inconvenience!)

If you need a new badge or a copy of the SOARA Repeater User's Guide & Membership Manual, send me an email at membership@soara.org.

**73,
Greg, N6PM
SOARA Membership Director**

Full Duplex Repeater Linking



Many years ago, SOARA Repeater and Technical folk fabricated 19" rack shelves that contained Motorola Mitrec radios that were modified for full duplex operation. The shelves were fitted with "flat pack" band reject duplexers and hardline to interconnect them to the radios.

The UHF linking band was monitored for some time using an Icom PCR-1000 receiver with custom software. Eventually, a receive and transmit link band frequency pair for SOARA was coordinated. For a variety of reasons, the Mitrec solution is no longer viable.

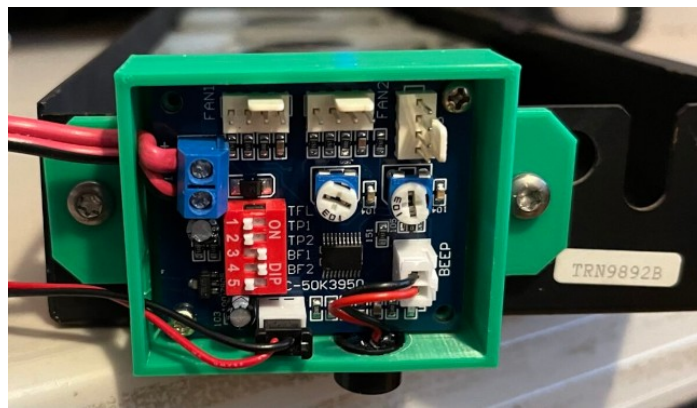
At some point, around 2005 or so, a "temporary" solution was implemented that linked the repeater at Temple Hill with the 440 and 220 machines at Santiago by using the 447.180 repeater frequency in half-duplex operation. This is the same way all of our SOARA members used the repeater. The trick in doing this is to configure the Santiago repeater such that the decoded PL/CTCSS from a user transmitter at the repeater receiver drive the transmitter PL/CTCSS encoder. A user would notice that they would only hear other users while running CTCSS decode on their radio. They would never hear the courtesy tone or the repeater ID. This is necessary so that the remote side of the "link" can drop immediately after a user stops talking and not repeat the other sides ID and courtesy tone. This also eliminates "ping-ponging" when both sides repeat their courtesy tone to the other side.

The RLC-4 repeater controller is configured such that it enables the CTCSS encoders for any linked transmitter (e.g. 220 & 440 machines), while any linked receiver is active. The 447.180 receiver at Temple Hill is configured to require that a "qualifying PL" tone be received before the audio is presented to audio bus and 147.645 repeater.

For a week or so in September, 2022, the Transmitter output PL tone was not being presented on the output due to a fault with the repeater controller at the Santiago Site. This caused the Temple Hill side to not "hear" the Santiago side. The problem was solved by replacing the RLC-4 controller with a new one.

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An rftechnology transmitter & receiver configured for full-duplex operation was installed at Santiago last year. SOARA has acquired a full-duplex solution for Temple Hill using Motorola CDM mobile transceivers and forced-air cooling that will be installed hopefully before the end of 2022. Full duplex will work much better. Doubling will no longer sound like a heterodyne mess and both signals will be mixed together instead.



In order to use mobile radios in higher duty cycle operation, a Motorola fan rack was configured with three variable speed fans. A fan controller was installed that runs the fans at a reduced speed to increase their service life. The fan under the transmitter is controlled by a controller that uses a thermistor attached to the heat sink of the transmitter to keep track of the temperature. When needed, it will ramp up to 100% speed. A 3D enclosure was designed and bolted with stainless hardware to the side of the fan assembly using 8-32 riv-nuts.

**Brian
Nj6N**

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Club Sale of amateur radio equipment

From the estate of Hal Silverman and his family courtesy of Mark Silverman his son.

Although the auction has closed, there are still a few items that are yet unsold. Please contact me for a current list. If I don't find homes for these items among SOARA members, they will be sent to HRO for consignment or scrapped.

**Heiko
AD6OI**

SOARA Statement of Income and Expenses October 1, 2021 - September 30, 2022

	Twelve Months Ended: September 30 2022	September 30 2021 (Decrease)	Increase
Cash Income:			
Memberships	8,423	13,604	(5,182)
Other	2,498	1,128	1,370
Total Cash Income	10,921	14,732	(3,812)
Cash Expenses:			
Repeaters including site rental, utilities & insurance	8,064	8,792	(728)
Member Activities	3,506	413	3,093
Other expenses	997	509	487
Total Cash Expenses	12,567	9,714	2,853
Cash Net Income	(1,646)	5,019	(6,665)
Beginning Cash - 10/01/21	27,506	22,722	4,784
Ending Cash - 09/30/22	25,860	27,741	(1,881)

Note: If any member has questions about the financials, please contact the Treasurer or any board member.

**Ron Mosher - K0PGE
SOARA Treasurer**

SOARA Nets and Repeaters

As many of you already know, SOARA has nets two nights a week and both Saturday and Sunday. There are also many other nets on our repeaters as well.

We have about seven or eight different net controls for over two dozen available positions every month, depending on whether the month has four or five turns available. We are always looking for more Net Control operators so please apply if you want to join our select group.

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In general our nets are friendly and easy going but there are some rules that we should follow, not many thank goodness.

- The FCC requires you to identify with you call sign within ten minutes of getting on the air and every ten minutes thereafter including when you finish the conversation.
- We (SOARA) as well as almost all organizations with repeaters ask you to identify yourself with your FCC issued I.D. when you first get on the air and then follow the FCC guidelines, including when signing off.
- Other than that we try to avoid controversial subjects that might displease or anger others.

Now to the fun part.

- First of all, all SOARA nets are directed nets and the Net Control is in charge.
- In a conversation with a friend recently we came up with some thoughts and ideas on how to run an amateur radio net and also how to respond to it.
- As Net Control you should try to let your guests do the talking. Guests please feel free to express yourselves.
- Prime them with a good general topic that they can expound on. Guests, if you have topical suggestions for the Net please address the Net Control operator with your thoughts.
- Net Controls, prepare yourself with some good leading questions ahead of time to ask when you need to get a response.
- If it is a small group let them do a round robin, being sure to remind them who is before and who follows. This will make it easier for you.
- Round robin is from Net Control to the first operator A, then to operator B, then to operator C, and so on until everyone has had a chance to express themselves.
- If one operator has a question for another operator, let the operators go directly one to another as necessary, this will save you time and effort.
- In general make sure that they are enjoying themselves.
- Never put anyone in a position where they might feel uncomfortable.
- As a special note for my Emergency Communications friends, this is for our casual SOARA nets, Emcom lives by a different set of rules.

Nota bene: been there and done that.

Heiko AD6OI
Director of Communications for SOARA

Swap Meets and Auctions are Back

One of the most fun I have as an electronics enthusiast and amateur radio operator is attending electronic swap meets and auctions. They are great places to pick up some cables, used ham gear, test equipment and much more.

The Yuma Hamfest and Swap meet was held February 18-19 in Yuma, AZ. There were a number of good presentations and a swap meet. As usual, I found some bargains,

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including 2 BK8514 1200W Programmable DC loads (need repair) for \$40, a Bird 79-2 coax switch (DPDT - rare) and a big variable capacitor and tapped inductor. Plus assorted coax connectors and switches. They also had new equipment for sale in the Exhibit Hall. \$10 for all weekend - a great deal. I highly recommend attending next year.

We have two local swap meets that are up and running monthly.

The TRW Swap meet is held on the last Saturday of each month. The swap meet hours are 7:00 AM to 11:30 AM., located on the southeast corner of Aviation Blvd. and Space Park Drive (one traffic signal south of Marine Ave.) in Hawthorne, CA. More information can be had at [W6TRW Swap Meet](#) The next one will be on April 30, which does not conflict with SOARA Saturday, then May 28 and June 25. They even happen on Christmas - attendees are pretty dedicated. SOARA has a booth where excess club equipment is being sold by Heiko, AD6OI. There were about 30 vendor booths in February. My find last month was a 3 pack of 433 MHz remote controlled outlets for \$20.

The Claremont Amateur Radio Society (CARS) Radio/Electronics Swap meet is held on the third Saturday of each month, except December. 6:00am to 11:00am, at the parking lot of Granite Creek Community Church 1580 N Claremont Blvd, Claremont, CA 91711. There are usually 10 or so vendors selling radios, components and other items. I picked up a AR-22 antenna rotor and control box rebuilt and tested for \$40. The next swap meet is May 21, which unfortunately conflicts with SOARA Saturday.

There was also a used equipment sale at Silicon Salvage in Anaheim. They had a really diverse selection of RF gear, test equipment and assorted stuff. This is a great surplus sale and it is definitely worth going to when they have them.

There is also the former ACP Swap Meet, used to be held on the 4th Sunday of each month at Edinger and Grand in Santa Ana. This event has mostly faded away and there were no vendors the last two months, but I mention it just in case it re-appears.

Remember, one person's "junk" is another person's "treasure".

Dale - W6EDT

[SOARA Library](#)

As some of you have already heard the AD6OI/SOARA Library is now up and running at our house. (Please see attached picture for details). This library contains ARRL Handbooks, Repeater location guides, Tech modification books, radio and electrical books and a wealth of radio related information. For now the library will be open from 1pm to 4pm on Saturdays, and other times by appointment, if you call first, either by radio or telephone. E-mail will also work but allow at least 24 hours for a reply.

**Thank you
Heiko AD6OI**

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Director of Communications for SOARA

[SOARA Equipment For Sale Online Site](#)

Based on numerous requests from SOARA members for a place to post Ham Radio related items for sale to other club members, we have set up an opt-in based Mailman mailing list on our server. Interested SOARA members are invited to join the mailing list. The SOARA organization and Board of Directors do not provide any warranty or guarantee for the items being advertised, buyer beware!

To subscribe, navigate to:

<https://soara.org/mailman/listinfo/forsale>

Enter your "real" email address, not your at "soara dot org" alias. You must be able to send and receive email from the address you provide.

Once subscribed, you will receive email when other members post items for sale. When posting to the list, you should provide an accurate description of the item for sale, its condition, and asking price. Replies to postings should be sent to the poster of the item, and not the list.

The archives of postings are publicly available on the web here:

<https://soara.org/pipermail/forsale/>

This mailing list may be suspended or discontinued at the discretion of the SOARA Board of Directors should that become necessary.

Brian, NJ6N

2022 SOARA Calendar

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
General Meeting 7:00 PM	24 Online	28	21	18	16	20	18	15	19	17	21	-
Program	Vehicle Repeater	-	-	-	Spring Auction	Field Day Prep	-	-	-	-	-	-
FCC Ham Exam 6:00 PM		-	-	-	-	-	-	-	-	-	-	-
Education Classes 8:00 AM			13	17	15	-	17	14	18	16	13	-
SOARA Elmer Saturday 9:00 AM	29 WFD Gilleran	Mar 5	26 Murray Center	23 Murray Center	28 Gilleran Park	25 FD Gilleran	23 Gilleran Park	20 Gilleran Park	24 Murray Center	22 Murray Center	26 Murray Center	-
SOARA T-Hunt 1:00 pm	updates	updates	Updates	Updates	Updates	Updates	Updates	Updates	Updates	Updates	Updates	updates
Board Meeting	31	Mar 7	28	25	23	FD	25	22	26	24	28	-
Special Events	Quartz-fest 17-23	Palm Springs Yuma		Visalia DX Canceled	Dayton Ham-vention	ARRL Field Day 25-27			SOARA Picnic 24	JOTA 16-18	SOARA Auction 12	SOARA Holiday Party 16
Major HF Contests		ARRL DX-CW 20-21	ARRL DX-SSB 6-7 CQWPX SSB 27-28		CQWPX CW 29-30	ARRL Field Day 25-27			CQWW RTTY	CQWW SSB	CQWW SSB	
Volunteer Events	OC Chili Run	Paws Fur Pink OC Chili Run	OC Chili Run Baker to Vegas	Dessert Storm Rally Ride for Rwanda	HD Trails LH Marathon	ARRL Field Day 25-27	MV Fire-works 4				Vision Quest OC Marathon 7	

Dates subject to Change - Check the SOARA Web Site (<http://www.soara.org>) to verify locations and times or click on the live links in the table

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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 Sean Reigle, AJ6B, at 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 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.

	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
- Astronomy - VHF 147.645: Wednesdays @ 7 PM
- D-STAR (146.115 C module): Wednesdays @ 8 PM
- Dinner Net - 147.645, 224.640, 447.180: Fridays at 7 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

V.P.: Erik Wresch, W6INE 714-883-7694
w6ine@soara.org

Secretary: Charles Schultz
NY6I@soara.org

Treasurer: Ron Mosher, K0PGE 949-363-0047
k0pge@soara.org

SOARA DIRECTORS

Repeater: Brian Roode, NJ6N 949-257-2749
nj6n@soara.org

Publications: Dale Tyler W6EDT 949-360-1717
w6edt@soara.org

Membership: Greg De Hoogh 949-362-5529
n6pm@soara.org

Education: Steve Kuver, K6UVR 949-874-1972
k6uvr@soara.org

Technical: Tom Hobbs, AE6SH 949-887-6527
ae6sh@soara.org

Communications: Heiko Peschel, 949-421-7910
ad6oi@soara.org

SOARA APPOINTMENTS

Past President: Tom Hobbs, AE6SH 949-830-8131
ae6sh@soara.org

Activities Coordinator: Joe Perrigoue K7KCE
k7kce@soara.org

S. Saturdays: Ed Barnes, WA6ED 949-468-7706
wa6ed@soara.org

Raffle: Bill Colvin KM6FOY km6foyl@soara.org

Testing: Steve Kuver K6UVR k6uvr@soara.org

Website: George Robinson KN6OFF
kn6off@soara.org

Ambassador: Spencer Ammermon, NG6K
ng6k@soara.org

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