General Meeting

NPM Center
February 27, 2023 6:30 PM
Norman P. Murray Center
23492 Veterans Way, Mission Viejo, CA 92692

President's Message - February 2023

Members,

Greetings,

Once again, at the risk of sounding like a broken record, I want to strongly emphasize that Our Club, SOARA, seriously needs more folks to step up and get involved in the operation of the club.

Really, it's not Rocket Science, but rather really mostly common sense. No great amount of advanced knowledge or ham radio experience is needed. Many SOARA Board Members, myself included, jumped into their positions at an early time in their Ham Radio Careers, I was a ham slightly less than 2 years when I volunteered for the Communications Director's position.

I found that I had a lot of help and advice from other club member Hams that had been around a while. I also found that while I was short on Ham experience, my work and life experiences came into play, and served to guide me as well.

The point of this is; Your Club needs you and others to step forward and ease into running our club for the future. If you members don't don't come forward, we aren't going to have a club to enjoy for long, Think about how SOARA membership and activities have enhanced your enjoyment of our hobby, and how not having those opportunities like Meeting Presenters, educational Elmer Saturdays, Field Day, Summer and Winter, Auctions and more will impact you and other hams into then future.

We also need fresh ideas and enthusiasm on the Board of directors, to keep SOARA alive, relevant, and prospering. Don't think you can't make a difference, because you certainly can.

SOARA's immediate need is for a Communications Director, a great way to start, and there will be more positions needing filling in the future, Think about it. It's up to you whether SOARA continues on!

73 de Ray, AE6H
SOARA President

General Membership Meeting
Monday, February 27 @ 7:00 pm.
Norman P. Murray Center

Please join us at the Murray Center for our Membership Meeting.

In–person Guest Speakers are not as plentiful as pre-pandemic days, but that doesn't mean there is nothing to talk about, or a lack of informational videos to glean as a group. We have snacks and coffee (I try my best to take care of you guys in that department). So what is keeping you from coming to a Membership Meeting? The more, the better.

I will be seeking out a good video on Transmitter Hunting as that is the next subject for a SOARA Saturday; T-Hunt Antenna Building. Ed Barnes has sent out email regarding supplies for building an antenna and what you need to gather to build one.

Transmitter Hunting has actually been one of the most fun activities I've done in Ham Radio; especially when it comes to tracking the High Altitude Balloon twice a year for our friends over at Science Heads. (next chase is in April). If you have anything share one this subject, you are more than welcome.

Join us for a few hours on Monday (we should be drying out from the cold front soaking us over the weekend) If you haven't been out in awhile and chatted with some fellow Hams….then this is the time to show up. We look forward to seeing you there.

Erik Wresch – W6INE
Vice President of the South Orange Amateur Radio Association

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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Morserino-32
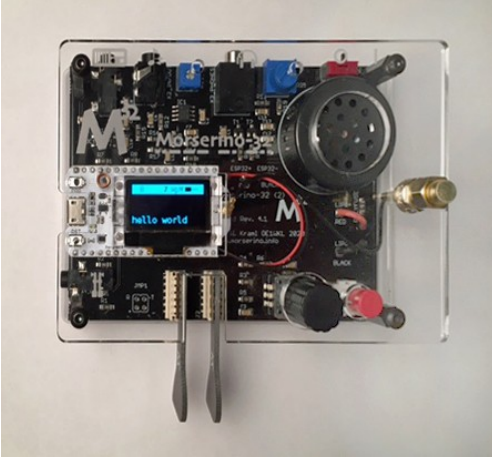
The Morserino is a full-featured tool for learning both sending and receiving Morse code. While there are other tools and software available, the Morserino seems to have more than the average number of features, and at a quite reasonable price. The original Morserino was an Arduino Nano-based trainer (hence the name) designed by Willi, OE1WKL. After receiving requests for additional features that were beyond the capabilities of the Arduino, he redesigned the Morserino using an ESP32 module from Helltec (hence the "-32" added to the name).

Photo: Moreserino-32. At left center is the Helltec module with its 4-line display. Along the bottom are capacitive-touch paddles that can be removed if an external key or paddle is used. At the right edge is the LoRa SMA connector with a dummy load installed (a LoRa antenna is also included).

The Morserino comes as a partial kit. All surface mount parts are preinstalled, so all that's needed is to install a few through-hole parts. It runs on a 3.7V LiPo battery that you must purchase separately. The Morserino was about $100 when I bought it late last year (he manufactures the Morserino kits in batches, and doesn't display the current price until he's ready to take orders for a new batch). The battery I got was about $14 from Amazon.

The Morserino website lists all the features with details, so I'll just touch on the highlights:
   a. A keyer for code practice that displays the characters you key in on the built-in display.
   b. A trainer that can send random characters, with adjustable character speed, character spacing, and word spacing. It can also output text files that you upload to it via WiFi.
   c. An echo trainer that sends a word and then you respond by repeating it with the paddle.
   d. A transceiver that allows multiple Morserinos to communicate over LoRa (long-range WiFi) as well as over the Internet.

Ed, WA6ED and I are interested in organizing a group to learn Morse code together, and that last feature makes the Morserino very attractive for that purpose. We haven't worked out any details yet, but Ed is thinking about featuring the Morserino at a SOARA Elmer Saturday to get things started. If you're interested in learning Morse code so you can use CW for SOTA, POTA, or whatever, let Ed or me know so we can keep you in the loop with our plans.

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If you do decide to buy and build a Morserino, I have a few insights from my own experience building one:

   a. When you install the rotary encode and pushbutton on the PCB, solder just one pin of each to start. Then temporarily mount the PCB to the top panel. With just one pin soldered, it's easy to loosen it and adjust the part a bit to properly line up with its hole in the panel.

   b. The battery connector included with the kit is a Molex part. However, the selection of LiPo batteries that have JST connectors on them is much greater than those with Molex connectors. I bought some JST connectors with pigtails from Amazon and used one of those instead of the included one. (Contact me if you want to know which battery I bought. I also have a few extra JST connectors that I don't need.)

Some final notes:

   a. The Morserino website is at http://www.morserino.info/. The website has a lot more info on the Morserino, as well as a link to the GitHub page that has all the documentation, so you can read the assembly and instruction manuals before you buy (or while you're waiting for it to arrive).

   b. He offers quantity discounts, so several of you could get together to save a few bucks.

   c. The source code is available on GitHub, so you could potentially add your own features (e.g., the Helltec module has Bluetooth built in, but it's not currently used).

   d. The Morserino can be operated without the LiPo battery if you power it through the USB port on the Helltec module, which is also used to charge the battery.

   e. The included capacitive-touch paddles are OK for checking out and demonstrating the Morserino, but you'll soon want an external paddle or straight key. If you're just starting out, you might want to pick up an inexpensive key on eBay or at a swap meet. (A quality key or paddle will cost well over $100, so you should know what you want/need before you buy.)

Greg De Hoogh, N6PM
n6pm@soara.org

Sweet Potato Pi?

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I'm not sure what you might want to call it, but my goal was to learn what the component parts of the very popular suite of Digital Voice applications that make up "Pi-Star" were, and how they interacted with each other. I wanted to use non-Raspberry Pi hardware since Raspberry Pi hardware is scarce and expensive right now.

I found a board called the Libre Computer AML-S905X-CC single board computer nicknamed "Le Potato". It was only $35 at Amazon, so naturally I bought two of them.

Le Potato features the same exact form factor as the Raspberry Pi 2/3 single board computers, Quad 64-bit Low Power Cores, and 2GB of RAM. I was able to reuse the Pi3 case I had designed a long time ago.
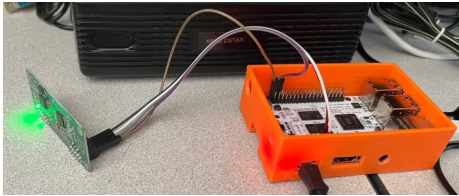
The first thing I wanted to get running was the MMDVM hardware and the application that talks to it, MMDVMHost by G4KLX. Libre Computer offers a wide variety of operating system images that you can download onto an SD card that will work with the Le Potato hardware. I chose the Raspios variant of Debian since that is what runs on the Raspberry Pi SBCs that I am very familiar with. I used jumper wires to connect an expendable "Jumbospot" Zumspot clone board to the Le Potato UART pins (which are separate from the GPIO pins normally found on a raspberry pi). More on how I used a device overlay to allow me to directly plug in a Zumspot board to the GPIO headers later.

On the newer version of Raspios, there is no default "pi" user with a known password so you have to create a configuration file named "userconf.txt" with "username:password" in the /boot directory after you burn the image. The password is encrypted using "openssl passwd -6" on a linux system. You need to create a blank "ssh" file in /boot to enable the ssh daemon.

There is no Wifi on the LePotato board, but the operating system supports USB Wifi dongles and you can create the wpa_supplicant.conf file in the boot directory and it will be configured for you.

Now that I have a system that I can ssh into, I first updated the operating system and installed some packages I normally install, along with the "wxWidgets Cross-platform C++ GUI toolkit" which is used by the MMDVMHost and other Digital Voice applications.

apt-get update && apt-get -y upgrade
reboot
 # Once rebooted, I installed some packages:
sudo apt-get -y install iftop emacs tcpdump libwxgtk3.0-gtk3

The next thing I needed to do was to get the MMDVMHost application installed, configured, and running on my Potato system.

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git clone https://github.com/g4klx/MMDVMHost.git
cd MMDVMHost
make
sudo make install

To enable the mmdvm software to talk to the modem, I created an mmdvm user (without a login shell) and added it to the "dialout" group which will own the device /dev/ttyAML6

groupadd mmdvm
useradd mmdvm -g mmdvm -s /sbin/nologin
usermod mmdvm -G dialout

Compiling MMDVMHost took a very long time but there were no fatal errors and everything looked good.

To test, I copied the /etc/mmdvmhost configuration file from a working Pi-Star hotspot over as /etc/MMDVM.ini This is the default configuration filename when building the software. I had to update the "Port" parameter to /dev/ttyAML0 for the MMDVM modem device.

Running "MMDVMHost &" forked the application into the background and the modem came to life! My transmissions were recorded in the log! This gave me the incentive to carry on and install the D-STAR application, ircDDBGateway.

I was really excited to get D-STAR working, but first I wanted to get the modem board installed on the GPIO interface header where it belongs. To do that, I would have to enable another UART (universal asynchronous receiver/transmitter) port on the Le Potato board. Libre Computer luckily provides an easy way to do that with device overlays. To make a long story short, I was able to install a package they provide called "libretech wiring tool" and a program called "ldto" to merge "uart-a" onto the device tree. This created /dev/ttyAML6 on the GPIO hardware pins where the mmdvm hotspot boards require them to be.

Once I was able to plug the "jumbospot" board into the GPIO header pins and update MMDVM.ini with the new port designation I noticed something strange.

The first thing MMDVMHost does when it starts up is establish communication with the hotspot board. Sometimes it would not work and I had to reset the modem board before it would communicate. I had to unplug the board and plug it back in to reset it.

Later, I figured out that there was a way to reset the mmdvm hardware through GPIO pins. Once I figured out the different GPIO pin designations on the Potato board and how to tell the pins to be high or low, I was able to script a software reset procedure that effectively reset the modem. At this point, I switched to a ZumSpot board and I no longer had to reset the modem board for it to communicate. I still have my script, just in case.

Somewhere along the line, I thought about installing a display. OLED displays use either an I2C interface or an SPI interface. I wasn't sure if the MMDVMHost software included support directly, or if I had to compile additional libraries. It turned out I had to compile additional libraries and also had another device tree overlay to be able to talk to the OLED display. I spent quite a bit of time on this, but never got it to work. The OLED display ended up on a different port than the software was expecting.

I noticed there was an option for "LCDProc" which I was familiar with from using them on mini-ITX linux boxes many years ago. I dug out my USB LCDproc display, installed the necessary software to make it work and to my amazement, it worked great! At some point I'd like to get the buttons configured to navigate to different reflectors, etc.
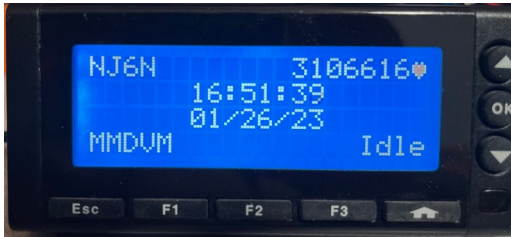
So that MMDVMHost would start when the system booted, I created a SystemD service for it. Now it starts at startup and I can control it with systemctl

To provide D-STAR support, I compiled, installed, and configured ircDDBGateway. Again I used my configuration file from a working Pi-Star hotspot to get it up and running quickly. I found a problem with my configuration that created an obscure error in the logs. I found the point in the code where that error was being produced and added more logging information that led me to figure out that I was missing a configuration directive. Oddly, the same entry was missing from my Pi-Star hotspot configuration. A friend helped me figure out what was missing (ircddbHostname2):

ircddbHostname=ircv4.openquad.net
ircddbHostname2=group1-irc.ircddb.net

Once I had D-STAR working, I wanted to figure out how to control what the hotspot was connected to. DTMF linking commands from a transceiver worked great, and I had set a default connection of "REF088C" but I wanted to be able to control the connection through software.

I figured out that this was done through an application called "remotecontrold". This talks to ircDDBgateway and tells it to link or unlink per your command. For example:

*remotecontrold "NJ6N   B" link never "REF088 C"*

The configuration block in the ircDDBGateway configuration file enables the remote control feature:

remoteEnabled=1
remotePassword=raspberry
remotePort=10022

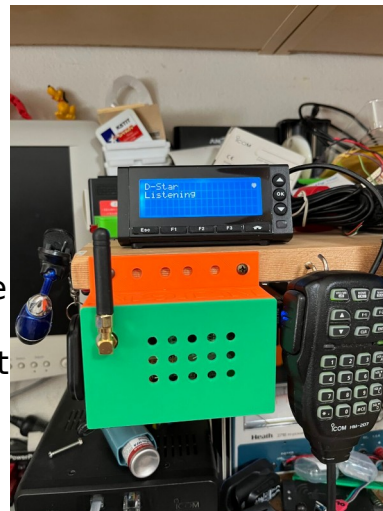Note: you should change both passwords to something more secure.

The configuration block in the ircDDBGateway configuration file also enables you to use the "ircddb remote" application:
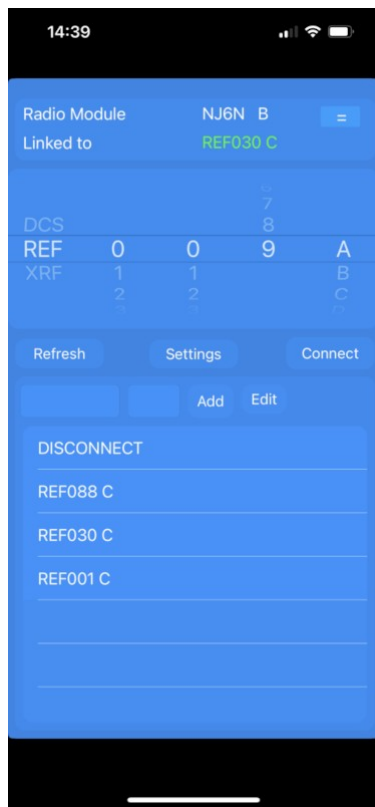
At this point I decided to add support for Yaesu System Fusion. I downloaded, compiled, installed and configured YSFGateway from source using the same method as for ircDDBGateway. Everything compiled cleanly and works fine.

I started to investigate the Pi-Star web pages and how I might install that as well but it is more complicated than I'd like so I will probably write my own front-end to my SweetPotatoPi (a name suggested by Ed, WA6ED).The final product, a SweetPotatoPi hotspot with LCDProc display. Asthma Inhaler is not required for operation but sometimes helps me.

One of the last thing I did was design a lid that has a port for the hotspot Antenna. My Pi3 case has a tab that can be used to mount it on a standard 19″ relay rack panel. (Do they call them relay racks anymore?!)

Brian, NJ6N

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Communications Director - Help Wanted

This will probably not be my last letter to the club newsletter, but it will be the last one for a while.

I am resigning my position as Director of Communications for SOARA due to medical reasons, but before I go away here are some suggestions for our club members.

We, (SOARA) have many repeaters and more than a few nets that run on them. Two of the most important are the Tuesday 8pm net and the Saturday 9am net.
We also have Astronomy & Science and D-star nets on Wednesday at 7 and 8pm, and HF nets on Sunday at 8 and 9 am.

If a net is due to start the repeaters for the most part will link automatically. (VHF/UHF)

So here is my suggestion:

When it appears that a net does not have a net control available, feel free to become the net control, explain what you are doing and ask others if they would like to help you. When running a net please follow the usual protocols as required by the FCC and good amateur radio practice.

- Don't forget to identify yourself and that you are representing SOARA.
- Be friendly and courteous.
- Let your guests do the talking and guide and encourage them.

Thank you all for many years of support in our communications efforts.

Heiko, AD6OI

Director of Communications for the South Orange Amateur Radio Club.

SOARA Elmer Saturday, 03/04/23, Murray Center

The next SOARA Elmer Saturday is March 4 at the Murray center. We will help anyone build a tape measure antenna. You need to bring the parts. I will provide some coax with the BNC already installed. Links to get started are on the www.soara.org/activities/soara-saturdays/ page.

I also need demos for the March 18 SOARA Elmer Saturday. Theme APRS. I plan to bring my TNC. I have to get that set back up. Let me know if you plan to demo something.

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I'm always looking for good SOARA Saturday topics. I want to thank Claude W6CAG for the vintage radio idea. We had a great morning and lots of fun. Thank you Claude!

73,
Ed, WA6ED
SOARA Elmer Saturday Coordinator

SOARA Membership Report

We're currently at 200 paid members. There are an additional 23 of you who haven't yet paid your 2022-23 dues, and we hope you'll renew soon. (If you're not sure whether you're renewed or now, feel free to contact me and I'll check for you.)

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

SOARA Statement of Income and Expenses
October 1, 2022 – January 31, 2023

Four Months Ended:	January 31 2023	January 31 2022	Increase (Decrease)
Cash Income:			
Memberships	8,523	7,068	1,455
Other	3,283	1,479	1,804
Total Cash Income	11,806	8,547	3,259
Cash Expenses:			
Repeaters including site rental, utilities & insurance	1,923	1,925	(2)
Member Activities	2,364	2,041	323
Other expenses	763	970	(207)
Total Cash Expenses	5,051	4,936	115
Cash Net Income	6,755	3,611	3,144
Beginning Cash-October 1	25,860	27,741	(1,881)
Ending Cash - January 31	**32,615**	**31,351**	**1,263**

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

Ron Mosher - K0PGE
SOARA Treasurer

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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.

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

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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, 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 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
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

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2023 SOARA Calendar (updated through July)

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
General Meeting 7:00 PM	30 Online	27	20	17	15	19	17	~~15~~	~~19~~	~~17~~	~~21~~	-
Program		-	-	-		Field Day Prep	-	-	-	-		-
FCC Ham Exam 6:00 PM		-	-	-	-	-	-	-	-	-	-	-
Education Classes 8:00 AM			-	-	-	-						-
SOARA Elmer Saturday 9:00 AM	28 WFD Gilleran	Mar 4 Murray Center	18 Murray Center	22 Murray Center	20 Gilleran Park	24 FD Gilleran	22 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	Feb 6	Mar 6	27	24	22	FD	24	~~22~~	~~26~~	~~24~~	~~28~~	-
Special Events	Quartz-fest 17-23	Palm Springs		Visalia DX	Dayton Ham-vention	SOARA Auction 10			SOARA Picnic TBD	JOTA 16-18	SOARA Auction TDB	SOARA Holiday Party TBD
Major HF Contests		ARRL DX-CW 20-21	ARRL DX-SSB 6-7 CQWPX SSB 27-28		CQWPX CW 29-30	ARRL Field Day 23-25			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 Mara-thon	ARRL Field Day 23-25	MV Fire-works 4				Vision Quest OC Mara-thon	

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

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.

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          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
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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,   949-353-0936
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   km6foy@soara.org

Testing: Steve Kuver K6UVR   k6uvr@soara.org

Website: George Robinson KN6OFF
kn6off@soara.org

Ambassador: Spencer Ammermon, NG6K
ng6k@soara.org

Contacting Soara: Questions about SOARA? Postal mail: P.O. Box 2545, Mission Viejo, CA 92690
Send e-mail to membership@soara.org or leave a message at 949-667-0173
Facebook: K6SOA Twitter: @K6SOA