May 2021

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The

Propagator

The Monthly Newsletter of the South Orange County Amateur Radio Association

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May 17, 2021 7:00 PM via <u>GotoMeeting</u>

Presidents Message - May 2021

Greetings from SOARA! Here are some updates, sort of, on our meetings status.

As of this writing, even though the CDC has relaxed gathering and mask wearing standards, the State of California, Orange County, and of course Mission Viejo have not. We have received nothing further from the City regarding our use of the Murray Community Center for meetings or Gilleran Park for Field day 2021. July continues the be the earliest we can use both. Hopefully we will get better news before then, but fr now, we're on hold. As soon as we learn something we will quickly share it with you via a members email.

While we wait for things to open up, SOARA is continuing to hold our added radio nets for members to participate and enjoy. There's plenty of chances to join in on our Tuesday evening, 8pm general net, the Wednesday evening Science and Astronomy net at 7pm, followed by the D-Star net at 8. Thursday night again has the OC Fire Watch net at 8 pm, resuming after a 3 month hiatus. Friday has our dinner and off-roading net at 7pm, and Saturday morning has the Tech - Elmer net with questions, answers and general info. All of the above are in vhf-uhf, but there is a 40M HF net at 8 am on Sundays, followed by the 10 M net. We welcome more participation on all these nets, as none are closed to specific participants, and all take guests. Check the SOARA website for more net and frequency info. Remember, we only get out of Amateur Radio what we put into it, so we encourage all to be more radio active!

73 de Ray, AE6H

General Meeting - History of Ham Radio Outlet

At our online SOARA meeting this coming Monday May 17 at 7pm, we will have two guest speakers. Janet Margelli, KL7MF, manager of the Anaheim Ham Radio Outlet will talk about the history of Ham Radio Outlet and how it got where it is today, Chip Margelli, K7JA, I.T. manager at HRO will provide us with a short skit to entertain us when she is done.

"The talk is about the history of HRO. During its various iterations it's been called "History of the Candy Store" and "The Story of the Candy Store" and at the moment I don't remember which title we've given this one :). It's literally the history of HRO and our involvement in the ham radio hobby from 1971 to the present as we celebrate our 50th Anniversary. "

Please join us Monday evening on GoToMeeting. Feel free to invite a friend. Link to the meeting is below and can also be found on the SOARA website where you will find a link for a great Bio on Janet as well.

Erik Wresch Vice President - South Orange Amateur Radio Association

SOARA Elmer Saturday/Tech Net

We have fun at SOARA Saturday events talking about all types of topics.

Since we can't meet in larger numbers at the Murray center or Gilleran park, we are having virus free radioactive technical nets. The log is here: https://www.soara.org/soara-saturday-log/ I try to post useful on-topic links in the log. Worth a look..

Last few Saturdays we discussed publications we subscribe, repairing corroded antennas, JS8call, Do I have to use my call sign when tuning?, What's your favorite HF tuner?, Can you use your wife's callsign? If at control point yes. If not, no., Telescoping antennas for HT's? They may wear and break over time.

73, Ed, WA6ED <u>wa6ed@soara.org</u> SOARA Elmer Saturday Coordinator

SOARA Membership Report

We are now at 222 active members. Welcome new 2021 members!

- George, KN6OFF
- Tom, KQ6WZ

If You know someone that wants to join SOARA, the application signatures have been temporally waived by the board. Applications are available on www.soara.org under membership. Fill out the application, email it to membership@soara.org, pay your new member dues & initiation fee \$90, when the board meets we will review and vote on your application.

73, Ed, WA6ED SOARA Membership Director

Items Donated to SOARA

Recently, SOARA received a generous donation of a number of fixed voltage power supplies. All are switchers that are relatively RF quiet and put out the rated voltage and current, except for the medical grade supplies., which are linear and will not start into full load and have somewhat poor load regulation above about 2A (-10% rated voltage)

All of these items are being offered to SOARA members **at no charge for limited quantities**. If you would like any of these supplies, please email me, <u>w6edt@soara.org</u> with a list of the item(s) you want. You may obtain multiples of any of the items.

It would be a shame to see these items recycled, but I do not want to store them indefinitely.

Dale Tyler (W6EDT)

We have about 16 Medical Grade Supplies: 5V, 3A (2A) with 3.5mm plug and medical grade power cord.



14 Protek 18V 7..25A supplies with a 5.5x2.5mm plug. Uses modular power cord.



26 Protek 9-11V 3.4A 5.5x2.2mm uses modular power cord(9.9V 3.4A)

53 Concom 5V 2A wall wart supplies with a 5.5x2.2mm plug



50 Trumpower 4.65V 2.15A supplies with a 3.5mm plug (4.22V @ 2.15A)

FT-891 Go Kit

This is a project I am nearly finished with. I needed a case to put my FT-891 radio and it's FC-50 tuner in.I found a case at Harbor Freight, Apache 4800 and it fits perfectly for my setup. In the case I have the radio, mic, tuner, Signalink, Raspberry pi 3 with USB GPS, mini CW key, HDMI LCD monitor for the Pi and all the required cables.

The reason for the Pi is I want to be able to utilize Winlink, JS8Call, PSK31, FT8 or any of the digital modes needed in a situation where my radio is my only form of communications.

On the Pi I used the 'Build a Pi' script and tools from Jason KM4ACK : <u>https://github.com/km4ack/pi-build</u>

It took a while for me to get it configured with the FT-891. There is no Winlink Express for Linux so we use Pat Winlink and ARDOP protocol. <u>https://getpat.io/</u> Rig Control for all of the digital apps, PAT Winlink, JS8Call, WSJT-X is handled by FLRig. There is a hamlib daemon to connect FLRig to PAT Winlink called 'rigctld' so that added some complexity. We can only run one application at a time as FLRig can only manage one application at a time.

Getting all these to talk to each other was time consuming as I learned about how they interact. Once it was perfect, I made a clone of the SDCard to another for backup.

The dashboard on the left is the open source program 'Conky' and if the RPi has internet when you use this in the field, it can fetch the solar images and data via a scheduled task. If there is no internet, that will not work.

If the RPi cannot find a wifi it knows to connect to it will start its own hotspot. I can use my Lap[top, iPad or Android tablet with VNC to connect to the Pi via it's hotspot as an option. I have a tiny USB keyboard/trackpad as well.

The GPS does one very important job, time sync. As we know, time accuracy for digital modes [FT8 for example] is crucial. The inexpensive USB GPS device will take the time from the GPS satellites and automatically set the time on the raspberry pi. No fuss time sync is fantastic.

Observations: (Points 5 and 6 are optional.)

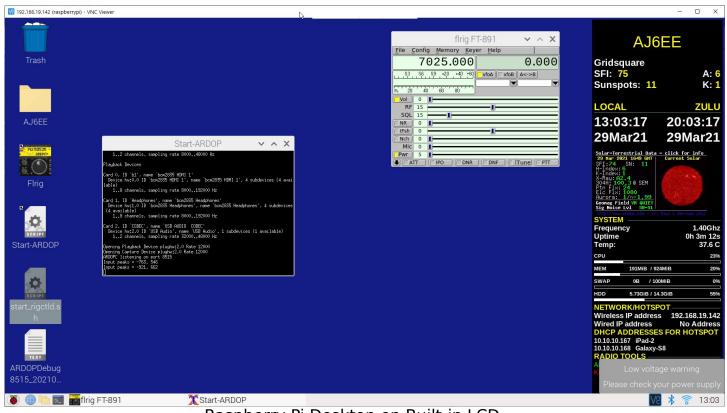
- 1. If you are not familiar with Linux, the setup may be frustrating. There are many video's Jason KM4ACK has on how to set it up for his rig. I had to figure out my rig.
- 2. Lots of wires. Radio, tuner, Signalink, CAT control, RPi3 [it's 5v not 12v] HDMI 12v LCD is fair amount of wire. An idea I had is to mount everything on a 1/4" plywood board and cable manage all the wires. Then drop the board in the case. I did invest in two 1 foot USB cables for the Signalink and CAT control. both connect to the Raspberry Pi too 'economize' the wiring. I'm sure we have some experts at SOARA who can help.
- 3. Ventilation. All the hardware will generate heat. There needs to be air flow around everything so don't run the gear in the case with just the lid open.
- 4. More power Scotty! I cannot run the whole setup on one 15AH battery. it shuts off and tries to start up again. I will need to get an additional battery, one for the FT-891 and one for the rest of the gear.
- 5. The case from Harbor Freight is a great value at \$60
- 6. A Raspberry Pi 4 with an SSD boot drive would be so much faster but it requires 5v at about 3.5 amps. I haven't been able to find a 12v to 5v adapter with a current of more than 2 amps. The RPi3 reports under power constantly but it runs fine.

Shown below are some picture of the finished unit. I hope this will give you some ideas of what is possible.

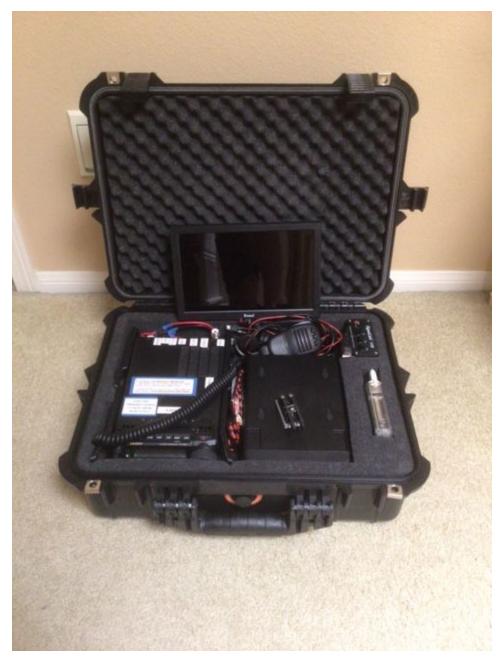
Kevin Brouelette AJ6EE



Assembled, sitting on top of the case



Raspberry Pi Desktop on Built-in LCD



Assembled in the case, ready to deploy

Heathkit SB-220 Restoration

This is a summary of the work I did to restore my well used Heathkit SB-220 Linear amplifier. The full PowerPoint presentation can be found <u>here</u>.

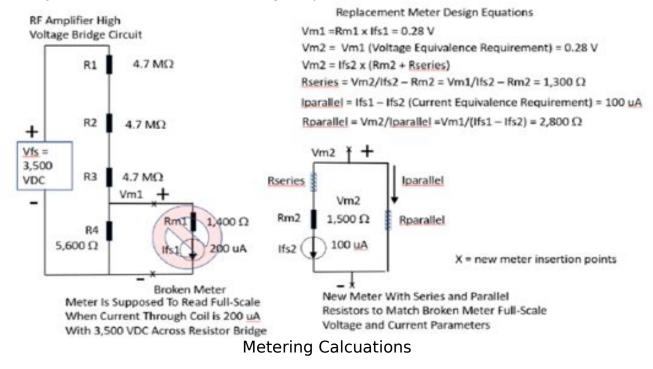
My HF station consists of aan Icom IC-7300, the SB-220 and a home-made "Buddy Stick" center fed vertical dipole with a counterpoise tuned for 7.5 MHz. The SB-220 helps compensate for coax losses and the inefficiency of the antenna.

A SB-220 is rated to output 1KW on CW and 2KW PEP SSB running on 110V at 20 amps. It uses two Eniac 3-500Z tubes. I received this amplifier in March 2020. I restored it to operational condition and am currently using it.

The repairs and modifications I made were:

- Soft Key reduces T/R control voltage to 15VDC
- Replaced rectifier metering board
- Replaced leaking electrolytic capacitor bank
- Replaced frozen fan motor
- Replaced Plate Current meter old one was open circuit
- Replaced Grid Current/Relative Power meter old one was open circuit
- Replaced Sensitivity and Grid/Rel/HV knobs

The total cost was \$372.06 from <u>https://harbachelectronics.com/product-</u> <u>category/heathkit-sb220-sb221</u> The panel meters are not available and not repairable due to corrosion. I had to determine the operational characteristics of the old meters from the SB-220 schematic and then design new metering shunt and series resistors to use readily available meters. The design equations are shown below.



Project Completed Successfully



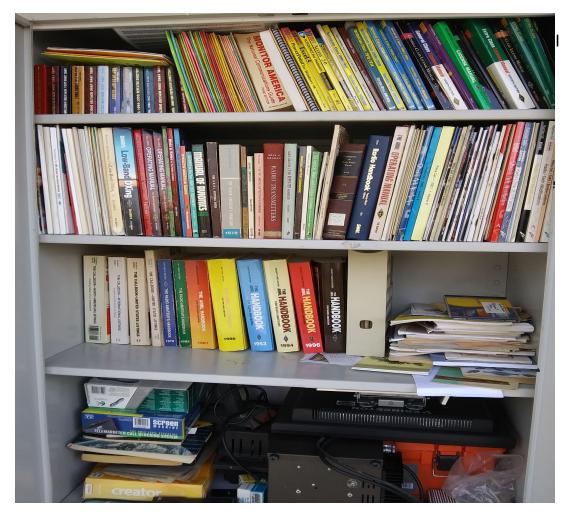
Meter <u>Microamperes</u> Readings Conversion Factors Taped to Panel Face to Workaround Meter Label Incompatibility (i.e., how to convert <u>uA</u> readings to Amps or Voltage)

The metering repairs, in particular, were quite interesting and I now have a SB-220 that works as expected.

Thanks, Charlie - KC6FZY

SOARA Library/Nets

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.



n other news, when using SOARA repeaters the are some thing that it might interest you to know.

It is always good to key down for several seconds when first waking up your favorite repeater, otherwise the beginning of your announcement won't be repeated.

Also if you are in an extended conversation please leave room for others to break with their call sign.

If is never good form to interrupt a conversation with a comment. Using you call sign to identify yourself is usually sufficient to get the attention of the individuals involved in a conversation (aka QSO). When recognized feel free to go ahead with your comment.

You can find a summary of all of our nets at SOARA Net Schedule

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

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

Brian, NJ6N

GotoMeeting Information

WHAT TO EXPECT MONDAY EVENING

When you join Monday's meeting, it is highly recommended you use Google Chrome if you plan on entering via browser. It is also recommended to use a headset or earbuds with a mic. Avoid a laptop mic as the speakers that sit right next to the mic tend to produce echo and feedback. Your webcams will be disabled.

The meeting will be locked in order for Soara Board members and our Presenter to arrive first. Please email me if you would like to make an announcement to the other members so I'll know in advance to call on you. You will be in a waiting room until 7pm when I'll open up the meeting. Please keep your microphones muted when not talking. I will Mute all attendees if there is an unmuted mic disrupting the meeting.

You can use the Chat feature to request to ask a question. When, acknowledged, you can ummute your mic and ask away. You may ask the question in the chat if you prefer and we'll ask the question for you. You may comment as well if you like, just keep it clean. You can also chat with a specific individual privately. Just be sure of what you are saying and where it is going.

As this meeting is open to the public and announced as such on the website, we expect a smooth meeting. If we, by chance, get a disruptive guest they will be Dismissed from the room by the Moderator and the meeting room will then be locked to prevent re-entry.

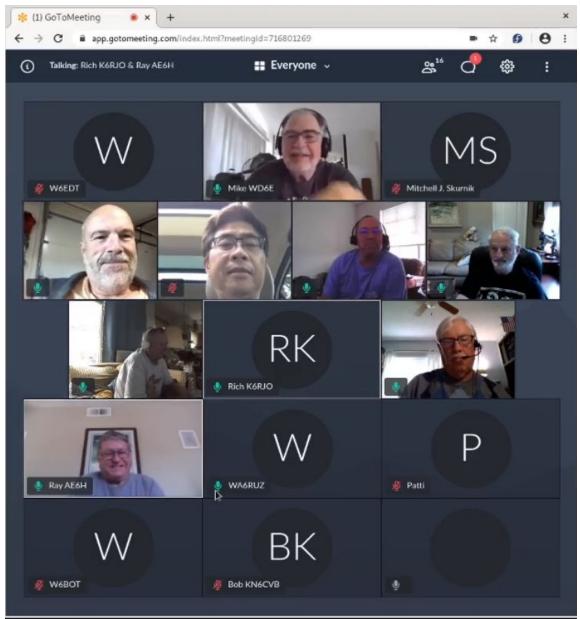
Let's have a great online meeting!

Erik, W6INE

Some additional notes from Dale Tyler. Meeting details and links, etc. will be sent out Monday afternoon and will also be available on the soara.org website.

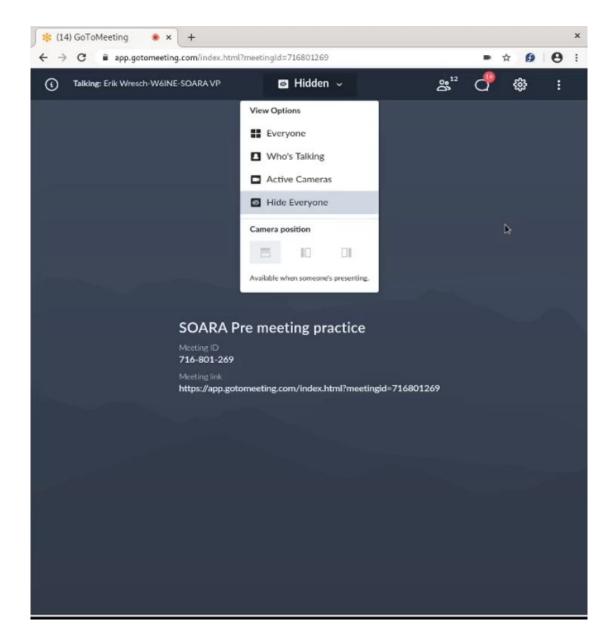
So far, the only browser that I have seen work is Chrome. The meeting link will look something like SoaraMeeting_**subject to change - check email or soara.org**). When you follow the link you will see a screen similar to this

Be sure to choose "Join Meeting in Browser". Next you will have an opportunity to enter your name and ID. Please use your callsign for your ID. For example, I used <u>W6EDT</u> and my name was <u>Dale</u>. If you have previously used GotoMeeting, your name and ID will be stored in cookies associated with the site. You may or may not want to change them,

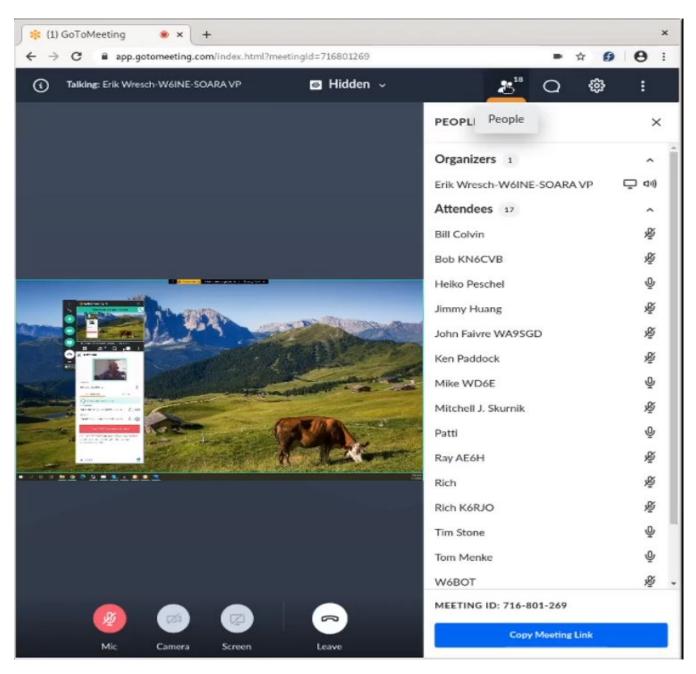


As was mentioned above, a headphone is best, but as long as you do not unmute your mike, the PC speakers will also work. Once you enter the meeting you will see something like this (I am the "W" in the upper left:

I would suggest you click on 'Everyone' at the top of the screen and change the display to 'Hide Everyone'. This will make the presentation, larger and easier to see.



Finally, if you need to update your name or simply want to see who is logged in, use the people icon at the top right of your screen. To update your name or ID, click on your name and press "Edit" in the drop down menu.



Please leave your Mic icon as shown (muted RED), which prevents noise at your location from disrupting the meeting.

There will also be a telephone number you can call on a telephone and an access code to allow you to listen to the presentation, if a computer is not available. Please be sure you have unlimited long distance, as the number will not be toll-free.

If you wish to join the meeting on a phone or tablet, either Android or Iphone, you will need to install the GotoMeeting App from you phone vendors approved 'store' The App is free, but may require certain permissions to function.

If you need help getting connected, please place a call on the Santiago repeater and I'll try to help you.

Also, if you would prefer to watch a live stream on YouTube, the link will be announced on the soara.org web site. The meeting will be available for playback later on YouTube as well.

This is a great way to participate in our club's meetings even when staying home to be safe.

73, Dale, W6EDT

2021 SOARA Calendar

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
General Meeting 7:00 PM	18	15	15	19	17	21	19	16	20	19	15	-
Program	-	-	-	-	Spring Auction	Field Day Prep	-	SOARA Fair	-	-		-
FCC Ham Exam 6:00 PM			15	19	17	21	19	16	20	19	15	-
Education Classes 8:00 AM			13	17	15	19-	17-	14	18	16-	13	-
SOARA Elmer Saturday 9:00 AM	Net Every Sat	Net Every Sat	20	24	22	FD	24	21	25	23	20	-
SOARA T-Hunt 1:00 pm	<u>updates</u>	<u>updates</u>	<u>Updates</u>	<u>Updates</u>	<u>Updates</u>	<u>Updates</u>	<u>Updates</u>	<u>Updates</u>	<u>Updates</u>	<u>Updates</u>	<u>Updates</u>	<u>updates</u>
Board Meeting	25	22	22	26	24	FD-	26	23	27	25	22	-
Special Events	<u>Quartz-</u> <u>fest</u> 17-23	<u>Palm</u> <u>Springs</u> <u>Yuma</u>		<u>Visalia</u> <u>DX</u>	Dayton Ham- vention	ARRL Field Day 25-27	HRO Ham Jam	<u>SOARA</u> <u>Picnic</u>		<mark>ЈОТА</mark> 16-18		<u>SOARA</u> <u>Holiday</u> <u>Party</u>
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			<u>CQWW</u> <u>RTTY</u>	<u>CQWW</u> <u>SSB</u>	<u>CQWW</u> <u>SSB</u>	
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 25-27	MV Fire- works 4				Vision Quest OC Mara- thon 7	

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

SOARA Information

SOARA meets at the <u>Norman P.</u> <u>Murray Center</u>, 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.

<u>SOARA Library:</u> 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/

<u>Repeaters:</u> 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 2m — 146.025 2m — 145.240	+ (110.9)	Laguna Beach San Clemente Trabuco
D-STAR 2m — 146.115 220 — 224.100	+ (K6SOA C)	
220 — 224.640	– (pvt)	Santiago Peak. (C)
440 — 445.660 D-STAR 440 — 445.705	- (K6SOA B)	
440 — 447.180 D-STAR 1.2G 1282.600		Santiago Peak. (C) Laguna Beach

<u>Nets:</u>

- 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 @ 7:15PM
- LNACS 147.645: Thursdays @ 7 PM
- OC Parks Fire Watch 447.180: Thursdays @ 8 PM

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