



# Propagator

The Monthly Newsletter of the South Orange County Amateur Radio Association

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## General Meeting

October 19,  
2020 7:00 PM  
via  
GoToMeeting

### General Meeting - October 19 via GotoMeeting

Please join us online for our October General Membership Meeting to be held on the GoToMeeting platform.

We will not have a guest speaker for this month.

What we would like to do is introduce the SOARA Board's Officers and Directors, or reintroduce if you've been around awhile, and tell you a little about ourselves, what our job function is, and share where we've been as a club, where we are now, and where we may see ourselves going as SOARA with an opportunity for some Q & A from members afterwards. From this point on, the meeting is open for any ham radio topic you'd like to talk about. Maybe you have a problem that needs some solutions or you have some solutions to someone's problem. Perhaps you just want to share how you've been using your time this year with so many of us restricted by COVID. Maybe share your ideas about what you would like to see SOARA do in the future. Bring your own decaf coffee and pastry to the computer and it will be almost like meeting at the Murray Center.

Even though we don't have a guest speaker, this is your club that you pay dues every year to belong to. (Dues are due this month, by the way, and Ed would appreciate you getting your payment in soon if you haven't done so)

We highly encourage your participation in Monday's meeting. We hope to see many of you online and feel free to invite a guest who may be looking to get into ham radio and is looking for a club to help in that endeavor.

Our General Meetings have always been open to the public and our online platform using GoToMeeting is also open to anyone that wants to join in. You can join our GoToMeeting using either the GTM plug-in or access it via the Chrome web browser.

This is the [link](#) to joining the meeting or you may call in by phone **(408) 650-3123** using this Access Code: **835-355-957**

**Erik, W6INE**

## **Membership Report**

October is when all membership dues are due. Please read your dues email, about half way down, that says how much you owe. Many new members and some older members may have a significant dues balance. This balance is based on the way we prorate the dues. Dues are how we pay all the bills to keep the repeaters going and many other functions.

When paying online with Braintree, If you have an odd dues balance, simply select pay other amount. I will figure it out. No, I don't know how to do PayPal. Sorry... If you pay by check, we have to go get the check from the PO box. Sometimes it takes awhile.

We are now at 229 active members with 104 paid dues already! Thank you for paying dues quickly. I plan to send another reminder on the 31st.

Welcome to SOARA!

- **Ray, KN6NOV**

Now for the old members. Get on the air and say hello! The SOARA repeaters are under utilized. Get out there and have some fun with that dusty HT.

If You know someone that wants to join SOARA, the application signatures have been temporarily waived by the board. Applications are available on [www.soara.org](http://www.soara.org). The process is: fill out the application, email it to [membership@soara.org](mailto:membership@soara.org), pay your new member dues & initiation fee \$90, when the board meets we will review and vote on your application.

Once approved, I will verify your email and send you the SOARA Repeater User's Guide & Membership Manual electronically in PDF. Now, the hard part. You need to participate to maximize your membership value! Something as simple as participating in a net will get you going. Check out [www.soara.org](http://www.soara.org) for event details.

**73,**  
**Ed, WA6ED - SOARA Membership Director**

## [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 RF technical nets. Heiko let me net control today all by myself! I mixed it up a bit with some round-robin chat. That worked so so. But, good enough.

This week, we discussed propagation not being the same both ways. You can observe differences with PSK reporter. Also discussed, digital pl codes on the PaPa system, and programming a Kenwood D74. If you have an issue with your radio, try looking for a firmware upgrade or a YouTube video. Or, maybe even checking the PaPa system website for documentation? Imagine that! And, that wasn't my great idea either. Lots of good comments & fun. The log is here: <https://www.soara.org/soara-saturday-log/>

Join us Saturdays 9am, on Laguna Beach 147.645 or Santiago Peak 447.180 repeaters. Bring your questions, be there to help others, or listen in. Try having some radio fun!

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**73,**  
**Ed, WA6ED**  
[wa6ed@soara.org](mailto:wa6ed@soara.org)  
**SOARA Elmer Saturday Coordinator**

## [SOARA Statement of Revenue and Expenses](#) [Year End as of 30 September 2020](#)

### **Revenue:**

Membership Dues	\$11,715.00
Initiation Fees	\$760.00
Total Membership Income	\$12,475.00

### Activities:

Auction Commissions	\$131.00
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Donations - Unrestricted	\$2,439.00
--------------------------	------------

Donations - Restricted	
------------------------	--

Donations - Hal's Estate	\$680.00
--------------------------	----------

Asset Disposal	
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Total Other Revenue	\$3,250.00
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<b>Total Revenue</b>	<b>\$15,725.00</b>
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**Contacting Soara:** Questions about SOARA? Postal mail: P.O. Box 2545, Mission Viejo, CA 92690  
Send e-mail to [membership@soara.org](mailto:membership@soara.org) or leave a message at 949-667-0173  
Facebook: K6SOA Twitter: @K6SOA

## Expenses:

### Site Rental:

Santiago Peak	\$4,200.00
City of San Clemente	\$120.00
Laguna Beach Water Dist	\$5.00

### Utilities:

Internet DSL	\$726.68
Telephone Lines	\$891.20

### Website:

Linode	\$162.05
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### Insurance

Hartford	\$633.00
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### Post Office Box

\$118.00

### Postage

\$0.00

### Corporate Fees

\$0.00

### Activities:

SOARA Saturday	\$34.80
Field Day - Food	\$0.00
Field Day - Other (Generator)	\$0.00
Picnic	\$0.00

Equipment and Repeater Maintenance \$3,108.96

### Other/Miscellaneous

Heiko - Radio Manual	\$24.45
Holiday Door Prizes	\$337.02
GoToMeeting	\$95.00

### **Total Expenses**

\$10,456.16

### **Net Revenue**

\$5,268.84

### Raffle Income

\$919.00

### Raffle Expense

\$1,071.74

### Ending Cash Balance

\$20,660.89

### PayPal Balance

\$550.37

### Raffle Balance

\$2,061.27

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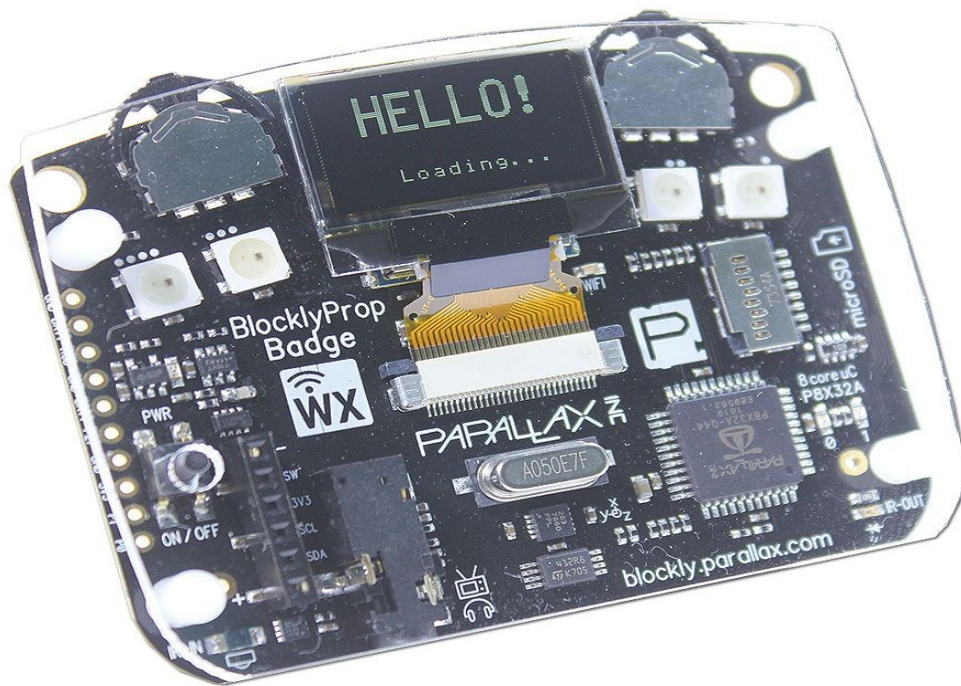
Holiday Party Escrow	\$1,050.00
Expenses	\$937.53
	\$112.47

## [SOARA Saturday Ham Badge Project](#) [Part 1](#)

SOARA Saturday's are on hold until the COVID 19 virus subsides and meeting locations open again. We have been running a Saturday Tech net but I thought at least some of us could have some fun. Why not make an electronic badge that could be more than a just a badge?

Custom badges are being made for various conferences like Defcon. These badges are programmable with various uses. We could make a lanyard badge and add useful amateur radio enhancements. Call it Ham Badge! Maybe badges could be used across different organizations or useful in the shack with a 3D printed display stand?

Commercial badges are currently available from Adafruit.com and Parallax.com. Both have reasonable features for the price. The Adafruit pybadge has a larger display but no wifi for about \$25. Pybadge seems more like a toy to play games though. The Parallax WX badge has a very small display with wifi for \$50. This badge is more interesting but I think we can do better for hams. I also think a larger display is important.



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## Features

It might be better to think about what features we want or need. WiFi and bluetooth might allow mesh communications at events. WiFi might expose a browser interface for setup and possibly debugging. A reasonably large display would be nice so others could read your name and callsign. Elnk might be an option to reduce power consumption. Fun things could be added like circuitry for a field strength meter, sensors, temperature, pressure, humidity, IR tx & rx, light brightness, gps, and more. Maybe a connector or two for expansion or a prototyping areas? A microphone and speaker might be handy for code practice or decode? Maybe a 3D printed case?

## Hardware

The first low cost computer that comes to mind is the Raspberry Pi Zero W (RPI0W). It has bluetooth, wifi, and reasonable GPIO. There are lots of expansion hats out there to get started. The downfall of the RPI0W is possibly power consumption and maybe not enough GPIO. We may be able to turn things off like the HDMI interface to increase battery life. A badge needs to run on batteries. I would estimate 5 hours minimum. Greater than 24 hours would be better.

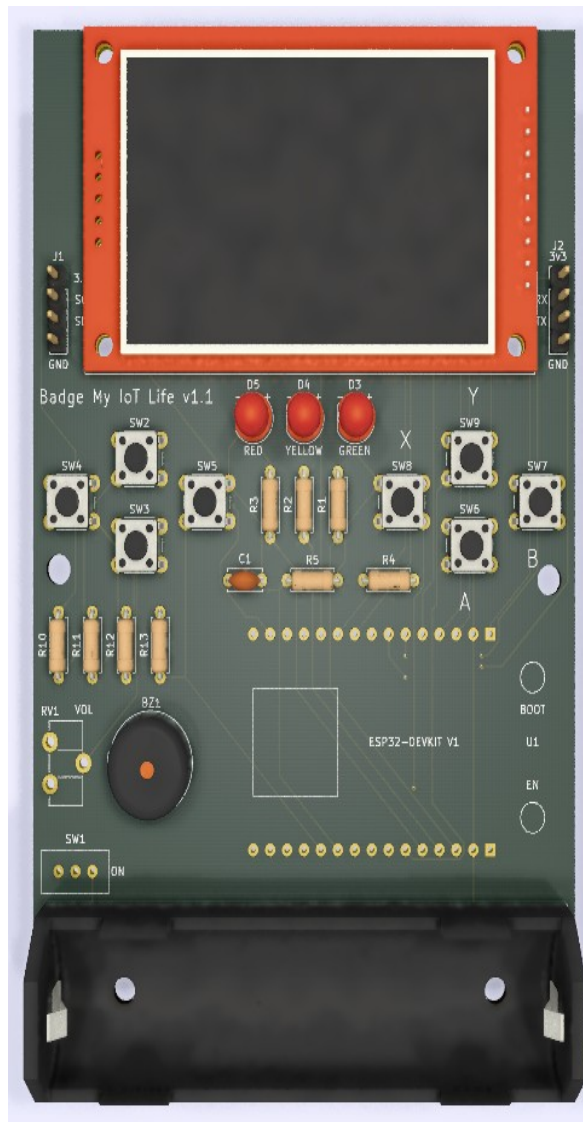
## ESP32

Another promising computer module is the ESP32-S2, it's low cost, Wifi, bluetooth, and lots of GPIO. For ham radio projects, I think we need lots of I/O. A popular programming interface is the Arduino IDE with extensions installed for the ESP32. There are numerous videos that show how to setup for the ESP32. Other more powerful IDE's are Eclipse and PlatformIO.

The ESP32 badge designed by Paul Pagel and Randy Beiter is very promising. This badge was made for CodeMash 2020. They made it totally open hardware and open source. Really cool! The documentation, source code and PCB gerbers are on github. This badge promises to be enhanced into a really cool ham badge. Parts cost of this badge in qty 10 is about \$25 each without the battery. This will change if we add things like GPS, audio, connectors for keys, temperature & humidity sensors, etc. I have ordered 10 sets of parts to build some prototypes including the PCB.

Here's the link: <https://github.com/DigiTorus86/ESP32Badge>





(Photo:Esp32 Module not installed)

## Possible Areas of Development

- Requirements
- Hardware / prototyping / bringup
- Software / debugging / new features / menu system
- Measurements
- Build prototypes
- Testing
- Documentation / videos
- Collaborate with ARES RACES and other orgs
- Demos to others / new ideas
- PCB design for a better ham badge
- Build badges for others that don't build

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## Current parts list & costs

Qty	Description	Cost	Extra
	M&F Headers	\$13.08	?
	Resistors	\$6.44	?
	Resistors	\$2.99	?
50	SPDT	\$6.41	40
10	SV Charger	\$5.33	0
10	Battery Holder	\$10.68	0
10	Buzzer	\$2.14	0
100	Push Button	\$10.62	20
10	ESP32	\$52.58	0
10	TFT Display	\$78.37	0
10	PCB	\$51.00	0
10	Battery		Not included
	Total	\$239.64	
10	Unit cost	\$23.96	

Shipping is a huge part of the costs. If we need more badges in the future, we should build in higher volume. But first, we need to determine if enough members like the idea.

I setup a Google Hangouts called SOARA-Badge. I will invite anyone that wants to contribute or discuss this topic further.

This link is a late find for a slightly different audio theme type badge:

<https://twobittinker.com/esp32-pro-conference-badge/>

Part 2 of this article will cover assembling and soldering the pcb, running the demo applications off github, adding a BMP280 sensor for temperature, pressure & humidity.

Part 3 will discuss ideas for further enhancements and perhaps ideas for a more modular badge PCB so you could customize to better meet your needs.

**73,  
Ed, WA6ED**



## Adventures in Radioland

### Part 1

What started out as a simple project turned into an “adventure” driven by a desire to understand how well a design works. One of my favorite quotes is by Lord Kelvin:  
*“When you can measure what you are speaking about, and express it in numbers, you know something about it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely, in your thoughts, advanced to the stage of science.”*

For some time, I have been interested in building a tape measure antenna for T-hunting. Some of my criteria included: good gain, narrow beam width, good front to back ratio and usable for transmitting. All of these characteristics should be verified and optimized by actual measurements.

Starting with a classic pvc pipe boom with 3D printed element holders using 1 inch wide measuring tape from Harbor Freight, a 4 element beam was built using the dimensions found in the 23<sup>rd</sup> ARRL Antenna book, page 15-28. A hairpin match seemed like a good approach. The next step was to determine the characteristics of the match required to bring the antenna to resonance at 146MHz.

This is where things started to go wrong. I found my NanoVNA and attached it to the antenna, with a trial 8” matching element using a tripod and 30 feet of LMR400. The VNA indicated a OK SWR at 146MHz. Next, I attached a 2M mobile radio via a Bird 43 watt meter with a 5W element designed for 2M and started to test at 5 watts. The indicated forward power was lower than expected and the reflected power was far too high.

The first mystery – What was going on? The NanoVNA said the SWR was < 1:2.0, but the reflected power on the Bird indicated an SWR of about 1:6.

Things were not going according to plan.....

Continued in Part 2.

### Swap Meet

We have received equipment and parts from the estate of Jeff Towle, W6FCC, a former repeater director for SOARA. In addition to this equipment, we invite SOARA members to host a table at the swap meet where you can sell unneeded radios and other electronic for cash..

**Note:** Some of this equipment listed may have been sold and there are some new items that have been added.

The swap meet is at our house at 4 Parrell in Foothill Ranch. The donated items from the SK estate It will be sold by silent auction in the following process. Other items will be sold for cash/check. The conditions to visiting 4 Parrell in Foothill Ranch will be thus:

- Open for business Saturday from 1 p.m. to 4 p.m.
- Please wear a mask while on our property.
- Place a bid on any item that you might be interested in and send it to me <ad6oi@soara.org> .
- Wait until the bidding is done (one to two weeks).
- Items bid on will go to the highest bidder when no new bids have been received for three days.
- Pay by Braintree, cash, or check made out to SOARA when you receive your stuff from the SK estate. Make your own arrangements with other sellers at the swap meet for payment..
- This is a partial listing and there will be more over the next few days.
- There are also many audio cables and connectors that are not listed.
- Please note that the two scopes are not on the spreadsheet yet.

Motorola Desk mike  
Motorola Desk mike (NIB)  
Kenwood MC-60 desk mike with base  
D104 desk mike  
Astron RS-12A P.S.  
MFJ-1224  
MFJ-810 SWR/Power Mtr  
Hamkey paddle  
Dummy load HF to 225mhz  
Kantronics KAM  
Kantronics KAM  
Kantronics KAM +  
AEA PK-88  
AEA DS-232  
AES DS 2232  
Pace swr mtr P5453  
Switching power supplies (5)  
Soldering kit  
Spool of wire



Contacting S  
Send

ejo, CA 92690  
.73



**Heiko AD6OI**

**Director of Communications for SOARA**

Questions? Call me at (949) 859-3868 or e-mail at <[ad6oi@soara.org](mailto:ad6oi@soara.org)>

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## **“Heavy Iron” Test Equipment and Parts Cabinet Auction Results**

As planned, the auction was held on October 10 and 11. There were about 6 club members that showed up to view the items and we had one bid from a member who bid on an item without viewing it. Our total revenue was \$405. There are still some items left and they will be sold, if possible on eBay, QRZ, etc. or scrapped. We also scrapped all of the low value items remaining and actually broken equipment.

SOARA wanted this equipment to go to interested members at reasonable prices. However, it seems that most members are not interested in older test equipment and components.

A partial list includes:

TEK 7904A, TEK 7854, assorted 7xxx plugins, Clarostat Model 250 Power Resistance Box, TEK TM503, Rockland 7500 FFT Spectrum Analyzer (Audio), TEK 7D20 Digitizer, TEK 1101A Power Supply, HP 16058-60003\*, 2 digital scales, Ballentine AN/USM-441 marker generator, HP 353A Patch Panel, TEK AN/USM-281C (500 series), Keithly 610A Electrometer (no probes)\*, HP 430C RF Power Meter (no probe), Waage Solder Melting Pot (small rectangular opening), Wayne Kerr PSG2400L\*, Keithly 409 PicoAmmeter (no probes), HP 721A power supply 30V, 300ma, HP 2138 Pulse generator, 2pc General Radio 1602-B UHF Admittance meter in wooden cases, General Radio 847ML component mount, General radio 1212-P2 IMC filter.

\*Item is damaged, but may be repairable..

Thanks,

**Dale Tyler W6EDT**

## **SOARA Nets**

We are running a number of nets on our repeaters to help all of us stay in touch and keep ourselves occupied while we are mostly staying at home. Except as noted below, the nets are held on the 2M (147.645) and 70cm (447.180) linked repeaters.

Some of these are what we have been doing for a while such as the Tuesday night 2000 net on the 2M/70cm repeaters, the Dstar net Wednesday nights at 2000 on 146.115 MHz and the HF nets on Saturday 40M (7.200 MHz) at 0800 and 10M (28.415MHz) at 0900.

There are new nets as well:

Astronomy Net - Wednesday evening at 1900 on 146.115MHz (Dstar)

Dinner Net - Friday evening at 1900 on 2M/70cm

Tech Net - Saturday morning at 0900 on 2M/70cm

**Dale, W6EDT**

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## [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**

### [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 unmute 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.

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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**

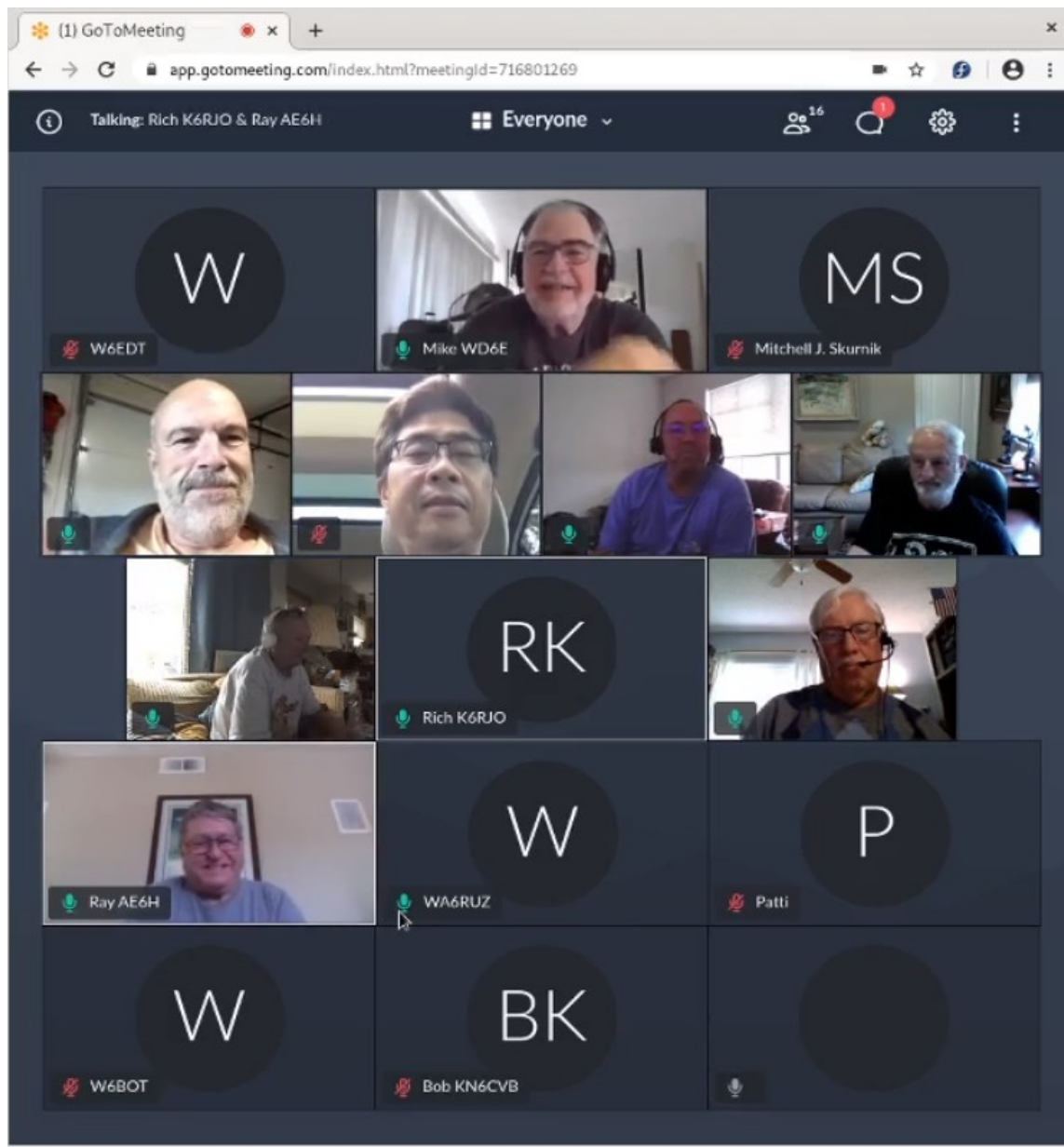
Some additional notes from Dale Tyler. Meeting details and links, etc. will be sent out Monday afternoon and will also be available on the [soara.org](http://soara.org) website.

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 W6EDT and my name was Dale. 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.

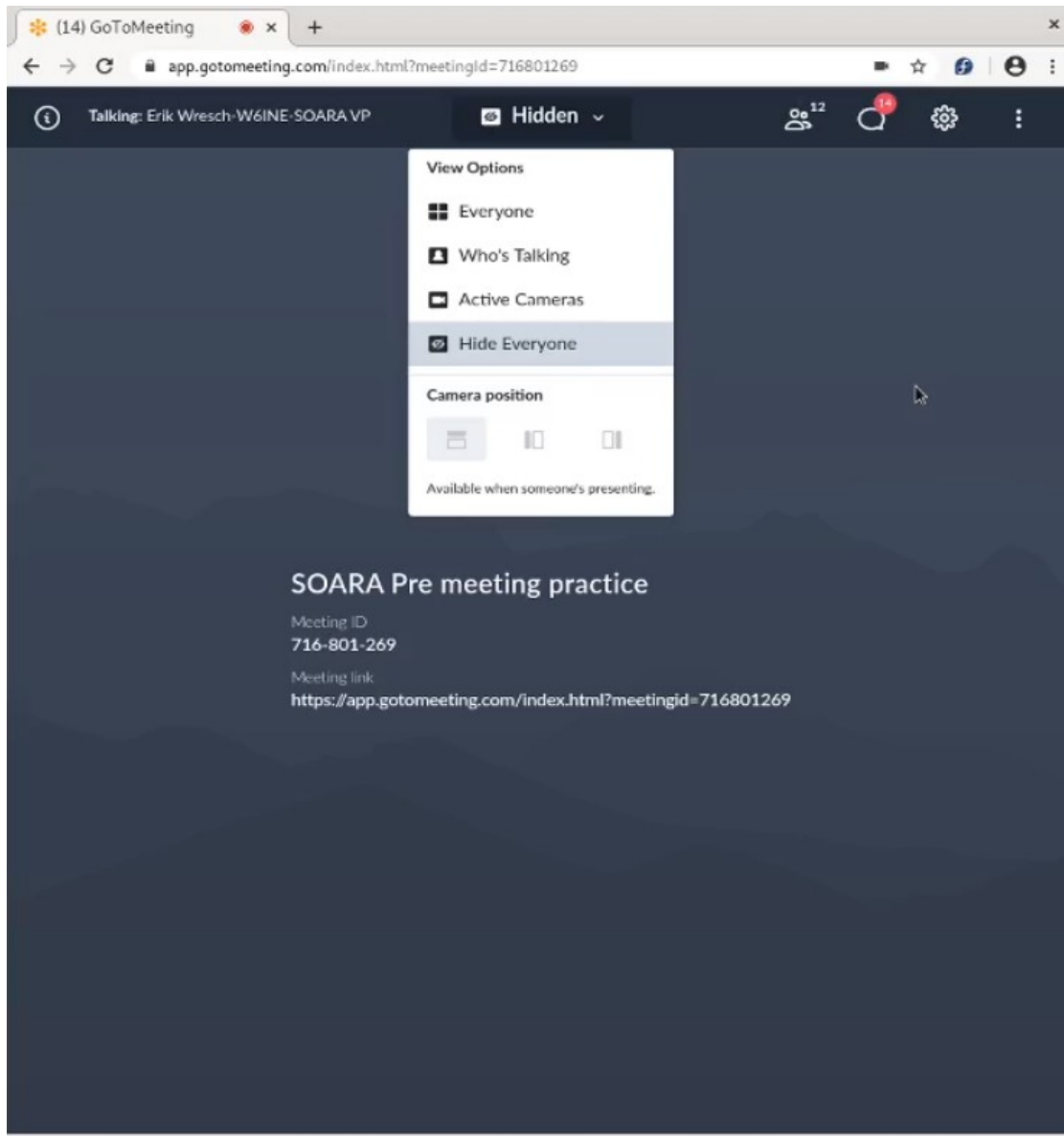




Once you enter the meeting you will see something like this (I am the “W” in the upper left):

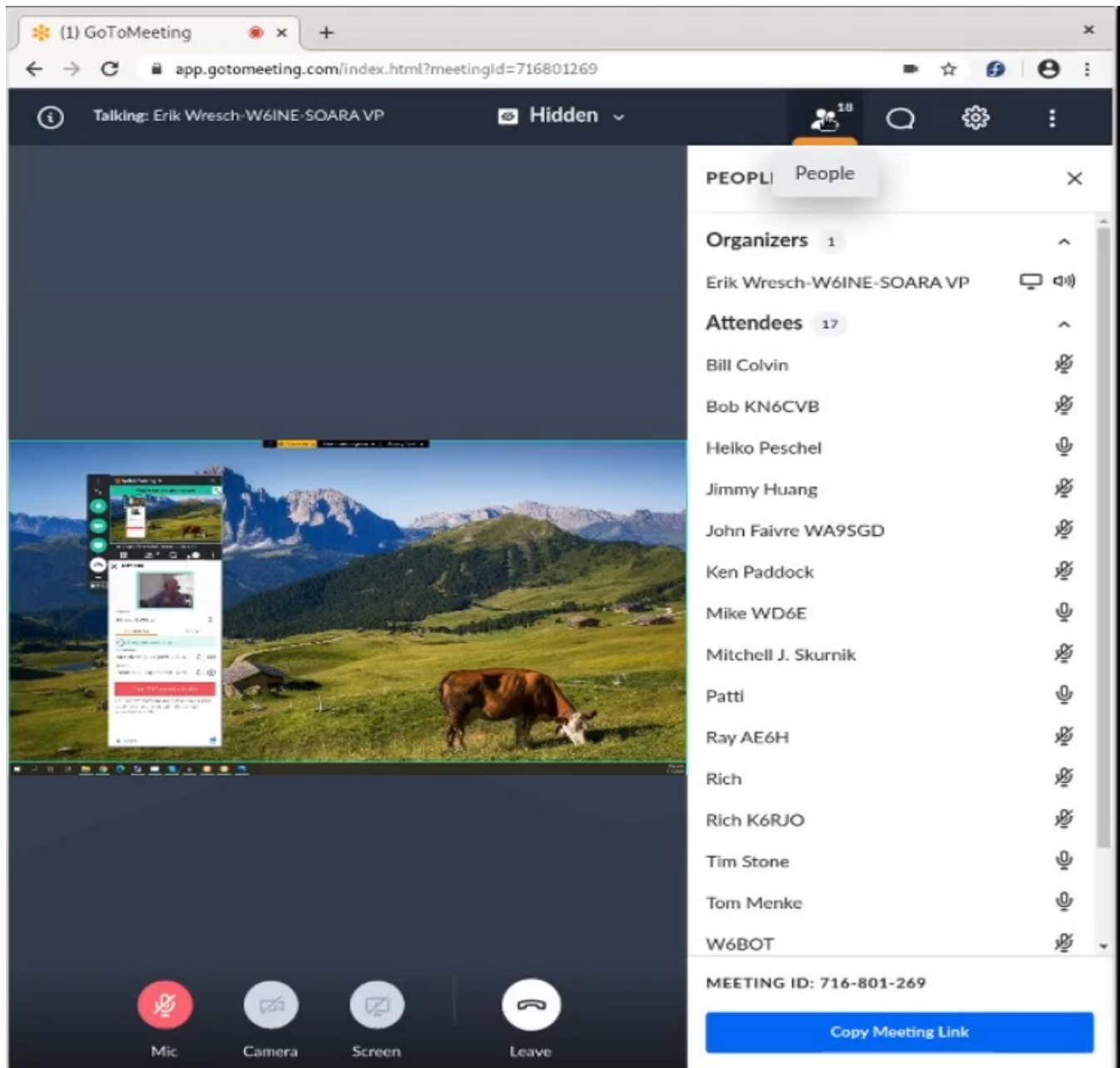
I would suggest you click on 'Everyone' at the top of the screen and change the display to 'Hide Everyone'. This will make the presentation, larger and easier to see.

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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.

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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**

# 2020 SOARA Calendar

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
General Meeting 7:00 PM	27	24	16	20	18	15	20	17	21	19	16	-
Program	-	-	-	-	Spring Auction	Field Day Prep	-	SOARA Fair	-	-	Fall Auction	-
FCC Ham Exam 6:00 PM	27	24	16	20	18	At Field Day (2pm)	-	17	21	19	16	-
Education Classes 8:00 AM	Tech 25	General 22	-	-	Tech 16	-	-	Tech 15		-	Tech 14	-
SOARA Elmer Saturday 9:00 AM	11 Murray	8 Murray	14 Gilleran	11 Gilleran	9 Murray	13 Gilleran	11 Murray	8 Gilleran			14 Murray	12 Gilleran
SOARA T-Hunt 1:00 pm	-	-	-	-	-	-	-	-	-	-	-	-
Board Meeting	Feb 3	Mar 2	23	27	26	-	27	24	28	26	23	-
Special Events	Quartz-fest 19-25	Yuma 14-16		Visalia DX 24-26	Dayton Ham-vention 15-17	ARRL Field Day 26-28	HRO Ham Jam -	SOARA Picnic 3		JOTA 16-18		SOARA Holiday Party 6
Major HF Contests		ARRL DX-CW 15-16	ARRL DX-SSB 7-8 CQWPX SSB		CQWPX CW 30-31	ARRL Field Day 21-23			CQWW RTTY 26-27	CQWW SSB 24-25	CQWW CW 28-29	
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 OC Marathon LH Marathon	ARRL Field Day 26-28	MV Fire-works 4					Run for a Claus

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

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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](mailto:aj6b@soara.org).

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

**Web Site:** SOARA maintains a web site with current club information. The URL is: <http://www.soara.org/>

**Repeaters:** The Laguna Beach, San Clemente, and Trabuco repeaters are open. The Santiago Peak repeaters are closed. For details or questions on the repeaters contact the repeater director, or [repeater@soara.org](mailto:repeater@soara.org).

2m	—	147.645	-	(110.9)	Laguna Beach
2m	—	146.025	+	(110.9)	San Clemente
2m	—	145.240	-	(110.9)	Trabuco
D-STAR 2m	—	146.115	+	(K6SOA C)	Laguna Beach
220	—	224.100	-	(110.9)	Laguna Beach
220	—	224.640	-	(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:

UHF/VHF (447.180, 147.645 & 224.640): Tuesdays @ 8:00PM

D-STAR (146.115 C module): Wednesdays @ 8:00PM

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

10 meter HF (28.410 +/-) Sundays after the 40m net.

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



## SOARA OFFICERS

**President:** Ray Hutchinson, AE6H 949-322-8468  
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**Treasurer:** James Dahl, WI6X 714-746-8589  
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## SOARA DIRECTORS

**Repeater:** Brian Roode, NJ6N 949-257-2749  
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**Communications:** Heiko Peschel, AD6 949-859-3868  
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## SOARA APPOINTMENTS

**Past President:** Tom Hobbs, AE6SH 949-830-8131  
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**Activities Coordinator:** Dana Wresch, KM6LZG  
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**S. Saturdays:** Ed Barnes, WA6ED 949-468-7706  
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**Ambassador:** Spencer Ammermon, NG6K  
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**Contacting Soara:** Questions about SOARA? Postal mail: P.O. Box 2545, Mission Viejo, CA 92690  
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