



# RADIO-ACTIVE!

December 19, 2022, Volume 1, Issue 9



## Bob, KO6XX, Retires as EC

After more than 5 years of service, Bob Fike, KO6XX, is retiring from his responsibilities as ARES Emergency Coordinator.

Bob's long leadership tenure has been marked by his friendly and infectious enthusiasm, his upbeat, cheerful demeanor, and his quirky sense of humor. Long-time members will remember how Bob was instrumental in building the Santa Cruz County ARES team from a handful of members focused on technical details to our present, well organized group of over 90 members which maintains readiness for emergencies with regular weekly nets, monthly meetings, and coordination of rallies, parades, and races . Bob has been particularly effective in encouraging beginning hams and in setting a positive and inclusive tone for our group.

Bob hopes to remain active in ham radio while spending more time on DXing and other aspects of our hobby and caring for his family. He will also be mentoring the youth of the Explorer Scouts in the various aspects of electronics and robotics. Thanks, Bob, for all you've done. Each one of us owe you \$600.



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## 2022 ...a year in review

### Events Save the Dates

- ▶ Winter Field Day—January 28 and 29, 2023
- ▶ SAFE 2023 TBD

### Upcoming Net Controls

#### Coastal

- 12/22—Rich, KN6UZL
- 12/29—Stephen, KM6NEP
- 1/5—Gary, W6GMG
- 1/12—TBD
- 1/19—TBD

#### SLV

- 12/28—JoMarie, KM6URE
- 1/4—Lisa, KN6IAB
- 1/11—Sebastian, KK6FBF

Winlink check-ins are also available for Coastal and SLV NETS

As we begin closing the book of 2022, it is a great time to reflect where we have been and what our accomplishments have been for the year. It has been a year of adaptation. Many county events began happening again after nearly a two-year hiatus related to the COVID-19 pandemic and the CZU wildfire. We participated in over eight county-based events (most masterly organized by Dan, N6RJX) and at least three outside the county. We also participated in and promoted ARES at several multi-agency gatherings and collaborations such as Firewise presentations, Bonny Doon Strong, and Community Emergency Response Team County-wide Communications Exercise. We offered two technician classes with a wide varie-

ty of instructors. Both classes had a high success rates of students obtaining their technician or higher license. We had over twenty new operators join ARES, welcomed and sheperded by Alex, AJ6QY. We also offered other classes including the popular 'What do I do next?' class, a class on cross-band repeaters and a class series about Winlink. The Winlink series has spawned a weekly Winlink Net, orchestrated by Roberta, AJ6KN. We redesigned our monthly meetings to foster better engagement and also started this newsletter. We have not yet returned to a full in-person monthly meeting but are offering a hybrid version. Reported radio activity by 69 operators averaged over 1000 total hours per month.

Month	Activity
January	Scavenge Around Field Exercise (SAFE)
January	Technician Class
February—March	Winlink Class Series
March	Bonny Doon Strong Fair
April	Baker to Vegas (B2V) law enforcement foot race
April	Big Sur Marathon
April	County-wide Communications Exercise
April	Sea Otter Classic
April and May	Speak at Firewise events
May	Golden Eagle Training and Exercise with the County EOC
May	KBCZ interviews EC Bob
May	Strawberry Fields Forever Bike Event
June	ARRL Field Day
June	Perimeter monitoring for Active Shooter Training event
July	Crowd Monitors for July 4th Aptos parade
July	Santa Cruz Mountain Challenge
August	Cross band Repeater Class
August	Race Through the Redwoods
August	South Skyline Emergency Preparedness Day presentation
September	Santa Cruz County Fair
September	Santa Cruz Triathlon
October	Felton Halloween crowd monitoring
October	Halloween Trunk or Treat
October—November	Technician Class

## Lithium Batteries

Jim, N6EWP, Meeting Trainer

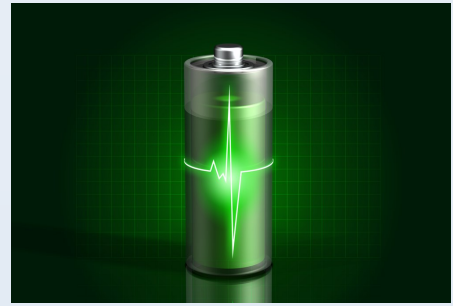
Lithium (Li-ion) batteries have made tremendous progress since they first began to become practicable for consumer use about 30 years ago. Most of the problems have been solved, and lithium batteries are used for the majority of devices now, from electric vehicles to phones. However,

there are still some things to watch out for because those technological advances make them significantly more complex than the older battery chemistries. For example, the electrochemical reversible intercalation graphite electrodes (say that 3 times quickly) made lithium batteries more efficient and safer for recharging, but unlike other batteries, storing lithium batteries fully charged for a long period of time can cause damage as lithium ions migrate to the surface of the anode and plate on as elemental lithium. That was just a sample of the science and engineering that goes into modern lithium rechargeable batteries. If you want more, you can look it up yourself.

Here are some things to note about charging, using and storing rechargeable lithium batteries:

- ▶ Use Li-ion batteries heavily before recharging. They can last up to 8000 cycles of full depth discharge and 100% recharge. If they are to be left unused for weeks or months, store them at 60-70% charge level. If they are depleted to about 10% or less, charge immediately because uncharged batteries that are left too long can become unsafe to recharge. Usually the charging circuitry will turn off the device before it gets too low, and will refuse to recharge if there is a safety issue with overly high current.
- ▶ Use only the specified charger for your battery. Cheap replacement chargers are usually safe, but some can destroy batteries and even cause explosions. Do not leave a battery/device on the charger constantly, even though most chargers will shut off when through charging.
- ▶ Most small consumer devices now use an internal Li-ion battery. If it fails, it can be replaced by a technician, but in most cases the battery will outlast the device. Most ham radio transceivers still use removeable/replaceable batteries and these are easily replaced, so an extra Li-ion battery can assure extra operating hours when recharging is not convenient.
- ▶ Li-ion batteries are engineered to operate at room temperature. Temperatures below freezing or over 100 deg F can affect the current or capacity. This applies to both storage and use.
- ▶ AA 1.5 volt Li-ion rechargeable batteries are available (check Amazon and EBay). They maintain 1.5 volts output exactly because they include a regulator to drop the 3.7 volts of the Li-ion cell. However, they cannot be recharged through the terminals, but often have a USB (Micro or C) port built into the battery for recharging from any regular 5 volt USB charger. Checking the battery voltage will always yield either 1.5 volts or zero, so it is impossible to know the percentage charge. All cells in a battery case must be charged independently to full charge at the same time to avoid sudden drops in battery voltage when one cell is depleted.
- ▶ Larger Li-ion storage batteries, Li-ion batteries for drones, etc. use somewhat different chemistries and may be designed to favor capacity or maximum current. They have their own chargers and the cell voltage may be somewhat higher or lower.

So, Li-ion batteries have great capacity, long life, low self-discharge and much better safety than in the past. There are always new varieties and improvements coming out. Enjoy the convenience, but treat them nicely.



### Training Commentary

Jim, N6EWP comments that training ought to be hands on as well as teaching, but meeting online forces it to be just a little shot of education. Special training sessions are ideal where we could build some projects or troubleshoot some of our equipment. Maybe that can happen now with some of you who are knowledgeable and experienced leading those. Let me know if that appeals to you. Meanwhile, the hybrid Zoom and in-person meetings will just have short (10 min. or so) educational sessions. Here is a bonus one in this newsletter since the December get-together is a party instead.

## WEEKLY NET CONTROL TIPS

Roberta, AJ6KN, Net Manager



### YOUR RESPONSIBILITY AS NCS FOR THE WEEKLY ARES NETS

- ▶ To take and record an orderly check in of all participants, moving as quickly as possible, allowing participants to check in/out if they wish
- ▶ To welcome newcomers to the net and encourage participation
- ▶ To facilitate communication for announcements and training (if any)
- ▶ To make sure that everyone has a chance to check in by asking for late check ins.
- ▶ You may use the sample scripts on the website, or make your own that covers the necessary topics.
- ▶ You have your choice of a 2nd exercise. Those who don't want to participate in it, can check out.

### WHAT IS NOT YOUR RESPONSIBILITY

- ▶ To answer every question that someone might ask. If you know the answer, feel free to answer it. If you don't know, you can ask if anyone else on the net has an answer. If not, let the person know that we don't know the answer and that they can ask ARES leadership (if the question is about that) (or K6BJ leadership for the repeater and SCCARC Club, etc.)
- ▶ To yield net control to someone who wants to take over the net without prior authorization or arrangement.
- ▶ To take comments that come in the middle of the net and not in the order requested and address them, except to say that it will be deferred until announcement and comments part of the net.

You control the pace of the net, who has authorization to speak, and can ask folks to wait if they are out of turn.

Our goal is to have an efficient initial check in process, utilizing the phonetic alphabet as is necessary for you to obtain the necessary information. Friendly, brief and succinct communication is what we are striving for.

Thank you for being willing to be a Net Control Station. Feel free to contact Roberta, the Santa Cruz County ARES Net Manager with any questions or need for assistance.

## Test your knowledge

What frequency should be used to send a distress call?

- a. Whichever frequency has the best chance of communicating the distress message
- b. Only frequencies authorized for RACES or ARES stations
- c. Only frequencies that are within your operating privileges
- d. Only frequencies used by police, fire, or emergency services

## Photo reminders

Next time you participate in a radio related activity, take a picture or two of yourself, your friends, your equipment, or your environment (preferably a combination of these factors) and send it to [KM6RMN@SLVARES.org](mailto:KM6RMN@SLVARES.org) and [KN6IAB@SLVARES.org](mailto:KN6IAB@SLVARES.org).

With your permission, Allison will use the material to make creative Facebook posts. Extra points for natural action poses, equipment still-life, or well-framed presentations. Even a funny or awkward moment is useful. If your shots involve other people, try to get permission or identifying information so Allison can make sure it is all right to use their appearance in her posts.



## OPERATOR SPOTLIGHT

JoMarie, KM6URE, Scribe

This month's operator spotlight is Gary, K6PDL, an assistant District Emergency Coordinator.

Gary was raised in Sunnyvale, California. He initially obtained his college degree in Photography and then 20 years later returned for computer information systems and graphic design. Careerwise, he spent 45 years in the various aspects of the grocery business. Gary has been married to Maggie for over 30 years and they had been very involved in showing dogs. Though retired from showing they still are very involved with dogs, currently Tula and Raven. We often get updates on Facebook of the current dog activity.



In 2011, Gary obtained his ham radio license (a life-long desire) after the stumbling block of the CW/ morse code test requirement had been removed. He now holds the license of Amateur Extra. Maggie started much earlier and passed her code novice license 45 years ago but let it lapse. She recently returned to the hobby and got her technician license, K6ACT. Gary's favorite ham radio activities include listening to the radio in the car and

working FT-8 on HF using one of his many options of rigs of an Anytone HT and mobile, a HF Kenwood D710, Dual-band ICOM 2710, a HF Yaesu FT-450 or a Drake TR7 HF. His favorite equipment pieces include his antenna analyzer and off-center-fed Dipole antenna. He really enjoyed working the International Space Station at Field Day in 2014. Gary joined ARES as an outlet for service and an excuse to get a radio. He is always promoting ARES. Here is a link to an interview he participated in: <https://youtu.be/sby3BQyEeeU>. In 2023, he is striving to get more into AUXCOMM (Auxiliary Communications). Auxiliary Communicators are one of many Technical Specialists that may be called upon to support the National Incident Management System (NIMS). This seems to fit Gary's favorite saying 'Nothing changes if nothing changes'.



## Reminders

- ▶ AECs submit articles for newsletter by the Sunday before the meeting to [KM6URE@slvares.org](mailto:KM6URE@slvares.org)
- ▶ Net Control sign-ups will be taken during the monthly meeting. Everyone is encouraged to take this on this role.

## Disclaimers

This newsletter is made of news items provided by many of the Leadership and AECs of the ARES membership. Clarifications can be asked at the monthly ARES meeting.

## Information sharing

Cap, KE6AFE shared this link about the culture of Montana radio enthusiasts and their deep passion for ham radio. <https://www.montanapbs.org/programs/ham/>. It is a wonderful 25-minute video.



Rich, KN6UZL shared the idea of using an Android phone application, Rattlegram that promotes digital communication on amateur radio without additional cable or modems. The application transmits data using radio microphones and loudspeakers with more than double the speed of APRs. Here is a link some details about it: <https://www.youtube.com/watch?v=ubPP48oj3E>.



JoMarie, KM6URE offers Wavetalkers.com as an excellent source for topics on becoming a more effective communicator. They offer a weekly hour-long live sessions on many relevant topics. Recent courses have included Winlink Basics for Em-Comm, Portable Winlink Success, Introduction to Vara FM, Powerpole Everything, Situational Awareness Listening, and Emergency Go Bag.



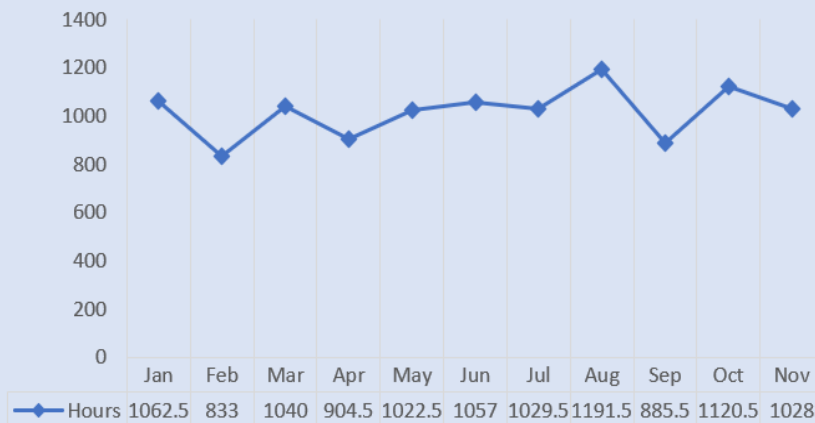
Test your knowledge from page 4— A. Whichever frequency has the best chance of communicating the distress message.

## Hours Corner

Another amazing month in November with 1028 total reported volunteer hours! Keep up all the great work and thank you for volunteering. Please remember to enter your hours on the form on <https://xczcomm.com/index.php/hours-reporting/>. Jim, KN6NCG was the lucky winner of last month's raffle. He selected the Mag Mount Dual Band Antenna. Congratulations Jim. You too can be a winner by submitting your hours.

### 2022 ARES VOLUNTEER HOURS

TOTAL TO DATE: 11174.5



## Repeater Name Change

Bob, K6RMW, recently communicated the following: At the request of the Northern Amateur Radio Coordinating Council (NARCC), to allow for re-coordination of the 147.945 KJ6FFP/W repeater, the identifying call for the repeater was changed to K6RMW/W. All other functions of the repeater are the same other than it is recommended when connecting to the local 147.945 repeater, that you use carrier squelch and not tone squelch.

In order to re-coordinate the repeater with NARCC, the repeater must be found by a NARCC representative to identify with a coordination requested call sign. Since Robert, KJ6FFP is no longer with us in the area, it was necessary to re-coordinate using a new call sign and NARCC organization account.

Bob also clarified why the /W at the end of the call sign? There are 3 repeaters currently in the Watsonville area. Two of them were introduced by KJ6FFP and we thought that placing /C after the repeater located in Corralitos would help identify the "location" of the repeater and /W for the Watsonville located repeater.

## Resources

- Website: <https://xczcomm.com/>
- Reporting volunteer hours: <https://xczcomm.com/index.php/hours-reporting/>
- Upcoming events: <https://xczcomm.com/index.php/calendar-of-events/>
- Facebook page: <https://www.facebook.com/ARES-of-Santa-Cruz-County-Ca-296232310799866>
- Facebook group: <https://www.facebook.com/groups/431308973875528>
- PIO Articles: <https://arrlsantaclaravalley.org/news/> or <https://xczcomm.com/index.php/news/>
- XCZ Comm You Tube: <https://www.youtube.com/channel/UCHZH8TUSgh4SqHTPXSWolPA>
- Submitting deployment documents: **send in PDF form to** [EOC.ARES@santacruzcounty.us](mailto:EOC.ARES@santacruzcounty.us) and your appropriate EC (Bob: KO6XX@slvares.org)
- Submitting personal information such as DSW application, personal data update, education certificates: email [K6PDL@ARRL.net](mailto:K6PDL@ARRL.net), [KM6SV@SLVARES.org](mailto:KM6SV@SLVARES.org), and [EOC.ARES@santacruzcounty.us](mailto:EOC.ARES@santacruzcounty.us),

## Org. Positions

- DEC  
John / N6QX, jfgerhardt@gmail.com
- Assistant DEC  
Gary / K6PDL, K6PDL@arrl.net
- Assistant DEC and Deputy EC  
Karen / KM6SV, KM6SV@slvares.org
- Operations and Events  
Dan / N6RJX, N6RJX@slvares.org
- Webmaster  
Nate / KM6THA, KM6THA@gmail.com
- Administration  
Dawn / KM6RME, KM6RME@slvares.org
- Safety Officer  
Stephen / KM6NEP, KM6NEP@slvares.org
- Public Information officer  
Allison / KM6RMN, KM6RMN@slvares.org
- Net Manager  
Roberta / AJ6KN, AJ6KN@slvares.org
- EC Loma Prieta, SLV and Coastal  
vacant
- AEC-Antenna Specialist  
Neil / KN6JOI, KN6JOI@slvares.org
- AEC-CERT Liaison  
Liz / W6LTS, W6LTS@slvares.org
- AEC-Coastal  
vacant
- AEC-Education Coordinator  
Bill / AJ6CQ, wtyler@gmail.com
- AEC-Logistics  
{temp vacant}
- AEC- Meeting Trainer  
Jim / N6EWP, N6EWP@arrl.net
- AEC-MRC Liaison  
John / KN6DCA, drjohnrx54@gmail.com
- AEC-New Member Liaison  
Alex / AJ6QY, AJ6QY@slvares.org
- AEC-Packet Radio /Digital  
Sebastian / KK6FBF, Sebastian@steinhauer.info  
Ryan / K16UAP, K16UAP@gmail.com
- AEC-Photographer  
Lisa / KN6IAB, KN6IAB@slvares.org
- AEC-Scribe  
JoMarie / KM6URE, KM6URE@slvares.org
- AEC-SLV Safety Officer  
Tom / KK6NMZ, KK6NMZ@slvares.org
- AEC-Video Production Team  
vacant

## FOUND ON THE WEB

Allison, KM6RMN, Public Information Officer

Continuing last month's "start where you stand" philosophy, the three sites I recommend this month are sponsored by our own Santa Cruz-centric repeater operators. I was already well acquainted with the WB6ECE site when I started. When I did my research, I expected to find similar listings for the other repeater locations and frequencies on my list. To my surprise, those two sites turned out to be clubs that happen to favor/service these repeaters. I'm sure someone informed me about this at some point, but it somehow didn't register in my distracted mind. I suspect one or both of those repeaters are actually part of larger networks, as I remember tuning in to WR6AOK when I was a new ham, hearing a three-way conversation between operators in Texas, Los Angeles, and Australia!

### WB6ECE repeater group

This is our usual gathering spot for the Wednesday night nets. It's more than a frequency, it's a network of antenna systems that reaches as far north as Alameda County, maintained with a passion by hardworking volunteers. Check out the web page to find their news, history, photos of antenna complexes, and dive into technical FYIs that will certainly add to your knowledge base. Please note they've been hit hard by the elements over the last 3 years and could use some support. If you have a few extra sawbucks, they wouldn't mind a donation to get their fire and rain damaged locations running again. <http://www.wb6ece.org/>

### Santa Cruz County Amateur Radio Club (SCCARC)

Our Thursday nets tune into the K6BJ repeater. When I typed those call letters into my search bar, this is what came up. I was "today years old" finding out the connection be-



tween repeater and club! When I rooted around the site's pages I found K6BJ and several other repeaters listed in their collection. Go to their "repeaters and nets" tab to see for yourselves; and note their net schedule for opportunities to practice radio skills. There are also club meetings and events, history, videos, and archives. Be sure to read this fascinating entry: "Who was K6BJ?" under [k6jb.org/archives/6002](http://k6jb.org/archives/6002). Their donate button is quite understated, so keep your eyes sharp and look further down on their home page. It wouldn't be a bad idea to join the club while you're at it. <http://www.k6bj.org/>

### San Lorenzo Valley Radio Club (SLVARC)

Searching for the WR6AOK repeater, I found SLVARC, a tidy little website for us SLV and Scotts Valley folks. There's a page with stats about WR6AOK, a weekly net schedule, club meetings, an archive of interesting articles, and the usual "about us" info. The application PDF was the only place that offered an opportunity to part with your extra cash, so those who go through the process (about us/membership application) may be pleasantly surprised to find themselves a member of this fine organization. <http://www.slvarc.org>

Stay tuned next month for space weather resources. If you have a favorite site for this information, drop me a line at [KM6RMN@SLVARES.org](mailto:KM6RMN@SLVARES.org).



## Santa Cruz County ARES Purpose

- We serve the public, not our egos and the best service we can render in a truly major event. To provide and distribute a corps of trained operators into the right places of the scene in that first, critical 48 hours (sometimes weeks).
- We are not Fire personnel, Police Officers, Sheriff's Officers, or any other authority. We are volunteers who care about our communities by using our emergency communication skills.
- Before volunteering we first take care of ourselves, immediate family, friends, and some of our relatives.
- We value the contributions that everyone makes, irrespective of license class, years of experience, or the price tag of your radio.

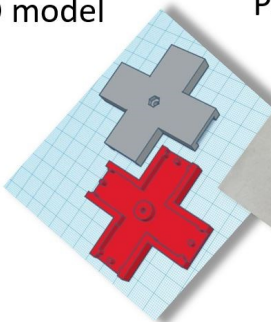
## Ham Radio's Motto

"When all else fails – ham radio works". That is because, when all the normal communication systems stop working, Ham Radio is still in operation, helping people, conveying messages, and sometimes, even saving lives.

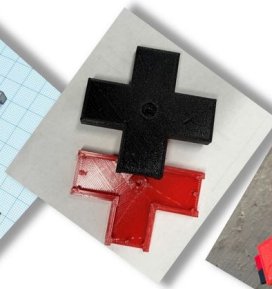
## Get your DIY on with 3D Printed Parts – DIY 4-way DC Anderson Powerpole Hub

Neil, KN6JOI Antenna Specialist

3D model



Plastic enclosure



4-way DC Hub



October's ARES Radioactive shared a functional DIY project. About now the savvy radio operator appreciates the functionality of a 4-way DC Anderson Powerpole Hub for use in the field or in the ham shack; however, there was an obstacle to obtain the 3D printed enclosure. Need an enclosure.... Operators wishing to get started on this project can have a top and bottom enclosure 3d printed for a donation of \$10.00 to Santa Cruz Communications Support. With that donation ARES 3D printers, Bob / KO6XX, [KO6XX@slvares.org](mailto:KO6XX@slvares.org) or Neil / KN6JOI, [KN6JOI@slvares.org](mailto:KN6JOI@slvares.org) will promptly print the enclosure for you project. Note: Santa Cruz Communications Support is a 501(c)(3) charity. Link to webpage: <https://www.santacruzcs.org/donationsdonations>

Remember, when you start the project the 4-way DC Anderson Powerpole Hub build document available at, Amateur Radio Emergency Communications YouTube Link [https://youtu.be/nn\\_68Ki5zTw](https://youtu.be/nn_68Ki5zTw)

