

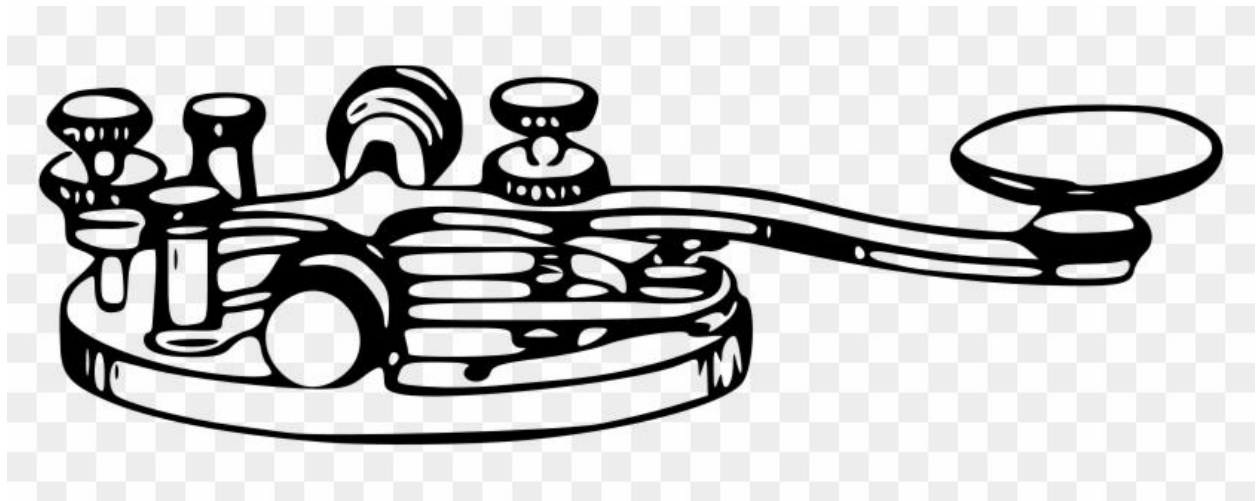


# QSA-5

## Marin Amateur Radio Society Monthly Newsletter

Established 1933

May 2024



When all else fails, you can count on Amateur Radio

## **From Our President:**

As I write this it is the 29th of April. The Vernal Equinox which they tell us is the first day of spring was on March 20, more than a month ago. Given the weather of the last couple of days, I think spring has arrived. We are well into our Public Service season and from the emails I am seeing things are going well. Keep up the good work.

On Sunday morning I was at the clubhouse for the “babble” class meeting. While it is one of my goals to bring up attendance at that gathering, and I have not yet done anything to reach that goal. I was pleased to see 10 people there. There were radios being programmed, equipment being repaired, cupboards being cleaned up, and the old familiar banter about which model radio was best for a particular use. Dan N6HLZ brought donuts and Cal made coffee. It all felt much like the old days.

As I said cupboards were being cleaned and I noticed that there were about 10 soldering stations in one cupboard which reminded me that before the plague we had projects where the club would pick a simple item to construct, purchase the materials, and pick days to do the build with Elmers on hand to help folks new to construction. All you had to do was purchase the kit from us at cost and show up on the build day or days. I would like to know if any of you have an interest in starting that up again? If my very flakey memory is working, I seem to recall that we had picked a project and bought the materials but then for some reason it never moved forward. I need to do some research on that but if this rings a bell with any of you, please let me know or if you are interested in such a project or have an idea for a project let me know at [wa6uds@w6sg.net](mailto:wa6uds@w6sg.net)

It is 54 days until Field Day, and we are moving forward with our club planning. We will be at Stafford Lake again this year but in what they call Area 1, where we had the picnic last year. Please mark your calendars. I will be sending out more details in an email as we get closer. It promises to be a beautiful couple of days at a beautiful location and I encourage you to visit the site if just to get a flavor of the event or perhaps make some QSOs for the club.

Enough of my blather for another month. I hope to see you at the meeting on May 3 at the clubhouse or on zoom.

73 de wa6uds

73 de wa6uds

## **From the Editor:**

Greetings everyone! May is here and next month ushers in the beginning of summer! Time seems to be flying by at lightning speed. The Marin Amateur Radio Society has been busy in all its various endeavors. We're heading towards our third VE testing session. Both the RCV and Critical Mass groups have been very busy. The joint is jumping!

Field Day 2024 is coming up quickly and the Marin Amateur Radio society is gearing up for it! Between the great weather and the solar cycle, this is a great time to be involved in amateur radio. The QSA-5 is working on some additional material on many of the new HF QRP rigs coming out of China. I've gotten the first one to test and tear apart this week, so look for testing information soon. However, I've included a brief introduction to the USDX QRP radio in this month's issue. If you want the QSA-5 to research a radio for you and publish the results, let us know.

Thanks again to Curtiss Kim, ace reporter, for his contributions, as well as Rob Rowlands for his contributions. Thanks to everyone that has helped with ideas, articles, photographs, etc. This publication depends on you. Have a great May everyone!

[QSA-5Editor@w6sg.net](mailto:QSA-5Editor@w6sg.net)



### **New Members:**

Christopher Slowe KO6EET - Corte Madera

Joseph Pascual KO6EFK - San Francisco

Bo Pitsker KO6EEW - San Francisco





**“Your parents hath given you a name. And the FCC hath given you another...”**



## **Marin Amateur Radio Society - Board of Directors Meeting**

**April 2024**

**Call to Order 19:30 Hours (7:30 PM)**

**Attendance:**

**President:** Curtis Ardourel WA6UDS

**Director:** Richard Cochran AG6QR

**Director:** Ed Essick K6ELE

**Director:** Steve Toquinto KB6HOH

**Secretary:** James Saltzgaber KM6WWY

**Director:** Jeffrey Young KM6Y

**Treasurer:** Bruce Bartel N6VLB

**Trustee W6SG:** Marc Bruvry KF6VNT

**Trustee K6GWE:** Brian Cooley K6EZX

**Club Members Present:** Gerald McCarthy, Skip Fedanzo AJ6ARL, Milt Hyams KM6ASI, Ken Brownfield AB6JR, Larry Loomer KI6LNB

**Adopt agenda:** MSC No Changes

**Approve minutes of:** 14 March board meeting. MSC without objection.

**Secretary's Report/Communications:** Jim S. KM6WWY – Minutes were in QSA-5

**Treasurer's Report:** Bruce N6VLB- Report in QSA-5. Working on good rate for zoom accounts for multiple committee meetings. He still needs a copy of our original IRS approval letter to get Non-profit discount. Milt KM6ASI presented Dillon Beach repeater expenses from Dan Healy. These are for the repeater installation. Milt discussed the breakdown of expenses attributable between NBAM, \$63.73 and W6ECU trust, \$223.72. Discussion followed about W6ECU trust and MARS. MSC by show of hands to reimburse Dan Healy \$63.73 from NBAM funds and balance of \$223.72 from the MARS Repeater account. If any are attributable to W6ECU they will be received from them in the future.

### **Committee and other Reports:**

1. **Membership:** Curtis WA6UDS- 138 members currently, 84% of last year at this time. Still getting renewals in small numbers. QSA-5 mailing list has been purged. A second mailing list of non-paid members will be sent out in a month or so.
2. **Facilities:** Skip KJ6ARL- Painters will be doing west wall next week and sliding door repairs. Will look at additional repair maintenance projects when painting is completed.
3. **Public Service:** Rob NZ6J- Public Service kickoff WENT great. First event on Saturday the 13<sup>th</sup>.
4. **Technical:** Milt KM6ASI-Long awaited meeting with Randy Larsen in Petaluma to discuss help with resolving problems with simulcast, and a proposal for the long-awaited linking of the UHF repeaters. Mt. Barnabe work continues will be to install Heliac coax, install APRS node and simulcast link thorough troubleshooting, on Tuesday April 23rd. Muir Beach installation is set for April 25<sup>th</sup>. We will install the box on top of the water tank, the location has been approved by Dillon Beach utility manager. Work is progressing on getting the Icom portable repeaters purchased last December assembled. The Icom 440 Mhz repeater will be truly portable and installed into a Gator case. Rob NZ6J will take the long unused Yaesu system Fusion repeater and install it in the comm van. This is a dual band repeater so it can also be used as a cross band repeater when needed for

public service. The need for duplexers for the comm van was discussed. Probably will not be needed but we do have some in storage if needed.

5. **VOAD/RCV:** Skip KJ6ARL- May 18<sup>th</sup> west Marin propagation testing. Planning for Golden Eagle drill upcoming. Brian Cooley has been working with Adriana Rabkin, VOAD, for RCV website with information for RCV operators use.
6. **VE Testing:** Jim- Next session is Saturday the 13<sup>th</sup> at 1:00pm. We have 9 applicants, 4 Extra Class & 3 Technician class.
7. **NBAM:** Bruce N6VLB-Next meeting on 17<sup>th</sup>. Some disappointments in the North-North Bay, Petaluma north. Their incentives for participation have dropped off due to politics, changes in fire captains, and other issues. The committee will work on that on the 17<sup>th</sup>. Milt KKM6ASI suggested that these issues be ran by Tom Jordan KG6TCM, as he is the emergency manager for the Petaluma Fire Department. Bruce agreed.
8. **Comm Truck:** Jim- Comm Truck was present and on display at the Public Service kickoff event. We have 3 additional drivers approved by our insurance company. Don Magdanz, Oliver Lu, and James Renney. Bruce N6VLB noted that the van registration is coming up for renewal and the fee has been paid. Rob NZ6J will be getting it smogged.
9. **Field Day:** Steve-Gerald McCarthy presented proposal for MARS Mugs for handouts at field day for dignitaries and for sale to members. For Imprint offers a travel 12 oz stainless steel tumbler that would have MARS logo imprinted. Minimum of 50 pieces, \$55.00 setup fee, \$7.50 each, total \$377.50 investment. If we sell 45 @\$15.00 we would net \$ 675.00, profit \$297.00. Discussion of MARS Promo Merchandise decided that we have no field day specific wording and to have a budget line item for logo merchandise, with it initially set at \$1,000. Gerald will get another cost for similar items. Ed moved that we authorize Gerald to purchase up to \$650



for swag without further approval. Seconded and carried by show of hands. Field day committee meeting was held last night. Curtiss Kim has given Steve a first look at PIO release. Dan Sobel N6HLZ has loaned an Icom IC-7300 to allow setup and familiarization of the N1MM logging program, band pass filter testing and field day. That will be held at the clubhouse on May 11 at noon. Bandpass filter testing will be done at Stafford Lake Park May 1<sup>st</sup> at 1;00 pm. Club wide field day email notice will be sent soon. Dan KN6PNA will be lending his trailer for transport of the generator and other equipment to/from field day. MSC to purchase safety cable covers for the trail between the pavilion and the lawn at Area-1. Jim KM6WWY will purchase them. Food will be addressed at next month's Field Day Committee meeting, May 8<sup>th</sup> via Zoom. Contact Steve KB6HOH if you wish to attend.

10. **Picnic:** Steve- Picnic committee to begin meeting next month.

11. **Bylaws: tabled until the committee meets.**

#### **Old Business:**

1. **Paint the Clubhouse:** \$5120 2 people have donated \$1,000.00, Wendy Crouch (George Couch KK6UNO) & Frank Gordon KM6GMJ.
2. **Clubhouse cleaning:** Bids not yet received. Rob has cleaners that have been doing the clubhouse cleaning on an informal basis for \$200/cleaning. He will see if they wish to continue. Ed Essick had asked his cleaners for a quote, but they did not respond. Jim Saltzgaber asked his cleaners, and they are not interested. Curtis will see what Rob's cleaners would charge for periodic cleaning.
3. **27 Shell Rent:** Increase to \$2700/month, as passed by board at March meeting, mailed to tenant on 3/15/24 per President Curtis Ardourel WA6UDS
4. **Revitalizing Babble Class:** Tabled due to time.

5. **NanoVNA V2 Plus4:** Has been purchased and Rob Rowlands has custody.
6. **Club budget:** Curtis presented 2023 actual accounting amounts with income and expenses, and pro-forma 2024 budget with estimates. Line by line with assumptions based on last year's. 2023 Income= \$41,269; 2024 Budget \$49,508. Total Expenses for 2023 = \$41,739, a net loss of \$471. 2024 budget expenses = \$47,349, a net gain of \$2,159. Budget adoption, as amended, MSC show of hands.

#### **New Business:**

1. Yaesu Repeater to be installed in Comm Truck-Discussed as mentioned in Technical. No club funds are requested. No board vote necessary as there were no objections.
2. Michael Ham WA6LCN offered to club 4 new solar panels, windmill and inverters offered to club "for field day or other use, if they want them". Yes, we would like them, and will write him a donation letter. Steve KB6HOH will arrange to have them placed in the back storage room at the clubhouse.

**Good of the Order** – Nothing to add

**Executive Session** – Not required

**Adjourn** – MSC 21:35 hrs.

**Next Regular Meeting 3 May 2024**

**Next Board Meeting 9 May 2024**

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## Marin Amateur Radio Club

### Balance Sheet Comparison

As of April 30, 2024

	TOTAL	
	AS OF APR 30, 2024	AS OF APR 30, 2023 (PY)
ASSETS		
Current Assets		
Bank Accounts		
B of A Facilities Account - 8795	5,370.90	5,917.13
B of A General account - 4328	64,765.66	45,427.68
Cash on hand		
MESH Grant (deleted)	0.00	500.00
<b>Total Cash on hand</b>	<b>0.00</b>	<b>500.00</b>
CD	0.00	0.00

Money Market	0.00	0.00
VE Session Cash	0.00	-129.00
VE Session Cash Received	0.00	
<b>Total Bank Accounts</b>	<b>\$70,136.56</b>	<b>\$51,715.81</b>
Other Current Assets		
Uncategorized Asset	385.00	-95.00
<b>Total Other Current Assets</b>	<b>\$385.00</b>	<b>\$ -95.00</b>
<b>Total Current Assets</b>	<b>\$70,521.56</b>	<b>\$51,620.81</b>
Fixed Assets		
club house- 27 Shell Rd. MV	58,983.00	58,983.00
<b>Total Fixed Assets</b>	<b>\$58,983.00</b>	<b>\$58,983.00</b>
<b>TOTAL ASSETS</b>	<b>\$129,504.56</b>	<b>\$110,603.81</b>
LIABILITIES AND EQUITY		
Liabilities		
<b>Total Liabilities</b>		
Equity		
Opening Balance Net Assets	124,400.00	124,900.00
Retained Earnings	13,748.91	-20,412.57
Net Income	-8,644.35	6,116.38
<b>Total Equity</b>	<b>\$129,504.56</b>	<b>\$110,603.81</b>
<b>TOTAL LIABILITIES AND EQUITY</b>	<b>\$129,504.56</b>	<b>\$110,603.81</b>

# Marin Amateur Radio Club

## Profit and Loss

January 1 - May 1, 2024

	TOTAL	
	JAN 1 - MAY 1, 2024	JAN 1 - MAY 1, 2023 (PY YTD)
Income		
Christmas Party Income	640.00	
Donations	1,350.00	1,517.69
Dues	8,890.51	6,979.75
Interest Income		792.77
Public Service Refund	168.15	
Rent	13,000.00	10,400.00
Unapplied Cash Payment Income	385.00	
<b>Total Income</b>	<b>\$24,433.66</b>	<b>\$19,690.21</b>
<b>GROSS PROFIT</b>	<b>\$24,433.66</b>	<b>\$19,690.21</b>
<b>Expenses</b>		
Accounting	240.00	870.00
Awards		299.99
Car & Truck	321.00	1,016.59
Car & Truck Gas	60.00	123.42
<b>Total Car &amp; Truck</b>	<b>381.00</b>	<b>1,140.01</b>
Christmas Party	2,970.23	
Contractors	16,000.00	
Field day	35.00	122.97
Food	68.20	
Garbage	198.00	191.36
Housekeeping	248.65	
Insurance	564.50	1,683.00
Comm Van Insurance	1,816.50	2,173.00
<b>Total Insurance</b>	<b>2,381.00</b>	<b>3,856.00</b>
Meals	76.86	
Other Business Expenses		104.93

Public Service Expense	2,437.28	1,328.83
Reimbursable Expenses	20.00	2,448.73
Repair & Maintenance	14.71	
Repeater	1,878.89	1,567.50
Taxes & Licenses	4,049.67	25.00
Utilities	1,479.50	1,342.12
VE Session		129.00
Water	385.29	210.22
<b>Total Expenses</b>	<b>\$32,864.28</b>	<b>\$13,636.66</b>
<b>NET OPERATING INCOME</b>	<b>\$ -8,430.62</b>	<b>\$6,053.55</b>

Marin Amateur Radio Club

Profit and Loss

January 1 - May 1, 2024

TOTAL

JAN 1 - MAY 1, 2024

JAN 1 - MAY 1, 2023 (PY YTD)

Other Expenses		
MESH Grant Disbursement	213.73	
Total Other Expenses	\$213.73	\$0.00
<b>NET OTHER INCOME</b>	<b>\$ -213.73</b>	<b>\$0.00</b>
<b>NET INCOME</b>	<b>\$ -8,644.35</b>	<b>\$6,053.55</b>

# LIFE IS SIMPLE



# MARS Club News

## Davis Double Century needs several more radio operators

Hi All,

DC is fast approaching, Saturday 18 May. T-shirt deadline is 30 April. If you haven't already confirmed, please do so as soon as you can.

So far, we could use more sags (only four so far), Berryessa 1/RS1 needs a radio op from 0600-0800, and Forbes/RS7 needs a radio op from 1730-2200.

Roster Page: <https://www.yars.org/events/2024DC/dc24info.html>

Thank you.

Dave Nishikawa KC6YFG  
[dhnishik@dcn.org](mailto:dhnishik@dcn.org)



# Need more operators for this Saturday's Miwok100 Ultramarathon!

From Rob Rowlands: Here's a great chance to try out a public service event! Check out the attached and see if you can help with one of the shifts?

[https://docs.google.com/document/d/1PH\\_kQ1yBUhyw8awYKNJQ9YIzJnIjvQfdn2qaXNUyZ9I/edit](https://docs.google.com/document/d/1PH_kQ1yBUhyw8awYKNJQ9YIzJnIjvQfdn2qaXNUyZ9I/edit)

## Miwok 100K Ultra Marathon May 4 2024

MARS Radio Operators Assignments

Second draft 29 April 2024

Zoom roll call Thursday May 2, 730pm

<https://us02web.zoom.us/j/83350351213?pwd=QTZkTXlLZzdLN3Q2by9tUGtPK3hldz09>

Primary Frequency: 147.330 MHz + PL **192.8** Tam West VHF (**not** simulcast)  
 Secondary Frequency: 443.250 MHz + PL 179.9 MT.TAM UHF  
 Tactical (Local Traffic): 146.540 simplex  
 Stinson Crossband : 439.875 simplex PL 179.9 linked to Tam West. Location probably above White Gate  
 DMR (backup only except Randall) 440.1375 + CC3 TS1 TG 31068 (NorCal) Bolinas and 442.525 + CC2 TS1 Wolfback Ridge

Tactical Call Location	Mileage, in or outbound,Cutoff time,distance to next	Call Sign	Name	Time
<b>Net Control</b> (Stinson Beach Community Center) (Behind Fire Station) Start / Finish, in MARS Comm Truck  WiFi Internet Access to Google Sheets roster  Park in Stinson Beach Park	Start time 5am	KI6RGP	James Renney	0500-1130
	62.2 miles to finish	K6MLF	Michael Fischer	0700-0930
	15h 30m		TBD	0700-1130
	winners usually take 9 hours	K6SHO	Ann Shores	1100-1430
	<b>8:30pm Cutoff</b>	K6DRK	Doug Kaye	1100-1430

		KM6BON AI6EE	TBD Oliver Lu Bob Salter TBD	1100-1430 1400-2030 1400-2030 1400-2030
<b>BOFAX</b> aka Bolinas Ridge (Trail & Bolinas Fairfax Road) <a href="#">Internet access to roster</a>	42.5 out, 6.7 to next  55.9 in, 6.3 to next, <b>7.02pm Cutoff</b>	K6MLF KD6KXT	Michael Fischer Steve Kramme	1000-1930 1000-1930 1000-1930
<b>Randall Trail</b> (Hwy 1 and Randall Trailhead) No HTs, need mobile rig and mast	49.2, 6.7 to next, <b>5.20pm Cutoff</b>	KM6AOW	Mark Kein	1200-1730 1100-1730
<b>Muir Beach (Early)</b> (Muir Beach Parking Lot)	8.0 out, 5.0 to next	WA6BXV KN6ZDM	Jerry Foster Scott Pasternak	0545-1000 0545-1000
<b>Tennessee Valley</b> (End of Tennessee Valley Road) No HTs, need mobile rig and mast <a href="#">Internet access to roster</a>	13 out, 5.6 to next, <b>8.15am Cutoff</b> 26 in, 4.3 to next, <b>11:15am Cutoff</b>	KK6QPE KM6VKQ	Larry Bradley Dirck Brinkerhoff	0630-1200 0630-1200
<b>Bridge View</b> (Conzelman & McCullough) <a href="#">Internet Access to roster</a>	18.6, 7.4 to next	AI6TT KN6KQR KN6ZYQ	Charlie Benet Callum Hutchins Carrie Marshall	0700-1030 0700-0930 0700-1030
<b>Muir Beach (Late)</b> (Muir Beach Parking Lot)	30.3 in, 5.3 to next	KM6ASI	Milt Hyams	0945-1300 0945-1300
<b>Cardiac Hill</b> , (Note runners pass thru Cardiac early but no rest stop (ie 530am) on their way south) <a href="#">Internet Access to roster</a>	2.8 in, 5.2 to next 35.5 out, 7.0 to next, <b>1:45pm Cutoff</b>	W6JMK KM6BON	John Kristian Oliver Lu	0900-1400 0900-1330
Radio <b>Hiker 1</b> : Tennessee Valley to Muir beach, via Miwok, Coyote, Middle Green Gulch, Muir Beach	Note: You are "salmon" hiking against flow of runners, stand aside!	N6WTQ	Germaine Krase APRS: ??	0630-1200

Radio <b>Hiker 2</b> : Cardiac to Muir Beach via Coastal View, Heather cutoff, Santos Meadows, Muir Beach	Note: "Salmon hiking", stand aside for runners	KC1DYF	Chris Preovolos APRS: KC1DYF	0900-1300
Radio <b>Biker3</b> : Bofax north on Bolinas Ridge Trail down to Randall and retrace route to Bofax. South on Coastal if required	Note: "Salmon biking" outbound, with runners on return.	KN6VCA	David Wolfowitz APRS: ??	1530-1915
<b>Reserves</b>				

Please use and respond to your **tactical** designator. Use your FCC call-sign at the end of each series of transmissions.

Note that the Miwok 100 is a competitive running race, and the organizers are using RFID timing at several sites.. There is only one course, unlike most of our other events. This makes supporting it simpler, but it also means runners are strung out hours apart at the end! Our greatest challenge on this event is usually those last few hours, so if you've got a bit of extra time after your assignment, please check with Net Control if there's another task.

To avoid painful audio interchange on the repeater of information about drops and missing runners from the roster we are again using Google Sheets to keep this traffic on the internet instead. Only Net control, bridgeview, Tennessee, Bofax and Cardiac will be able to access the 2024 roster live. Here's the link to this year's roster on Google sheets. Note it's only accessible to those operators that need access.

The approx. 450 runners all start together at 5am at Stinson, and the winners usually take 9 hours, finishing about 2pm. Stragglers are cutoff at 830pm (15hrs 30 min).

### Course Summary

See <https://www.hellodrifter.com/embedded/v1/anxd55>

1. Stinson Beach Community Center, up Dipsea to Cardiac, down Coastal View to Heather Cutoff, Muir Woods Road to Pelican Inn, Coastal Fire Road past Green Gulch Farm to **Muir Beach** Aid Station in beach parking lot.
2. Back to Green Gulch, through the farm to Middle Green Gulch to Coyote to Miwok to **Tennessee Valley** Aid Station.
3. Up Marincello onto Bobcat, Alta, SCA to Conzelman/McCullough and **BridgeView** Aid Station.
4. Down Coastal Fire Road, across Bunker Road left, then right to Rodeo Valley Trail, Alta, Bobcat, Miwok, Old Springs to **Tennessee Valley** Aid Station.
5. Down Coastal Fire Road then up and around to Pirates Cove route to **Muir Beach** Aid Station.
6. Leave MB past Green Gulch to Pelican Inn, Muir Woods Road, Heather Cutoff, Coast View to **Cardiac** Aid Station.
7. Old Mine Trail, Pan Toll parking lot, Coastal/Matt Davis, stay high on Coastal to Bolinas Ridge (**Bofax**) Aid Station.
8. Bolinas Ridge Fire Road to Randall Trail gate, left down Randall to Randall Aid Station.
9. Back up Randall, right onto Bolina Ridge Fire Road to **Bofax** Aid Station.

10. Coastal Trail to sharp right hairpin turn onto rocky, rooty, low-hanging branchy Matt Davis Trail to **Finish**.

Please keep track of and, if requested, relay to Miwok Net Control: (Given their use of RFID timing and shared roster, this may not be as necessary as in the past?)

- The numbers and times of the first five runners through your location (in both directions)
- The number of anyone who requires medical attention and their disposition. **Call 911 first!**
- The numbers of anyone who drops out (scratches) at your location and their disposition (do they have transport)
- The numbers and times of the last runners departing your location (in both directions).
- Please remember radios, batteries, paper, writing instrument, appropriate clothing for the weather changes, hat, sunscreen, water, food, etc. This event often attracts extreme weather, ie Fire warning or freezing rain!.

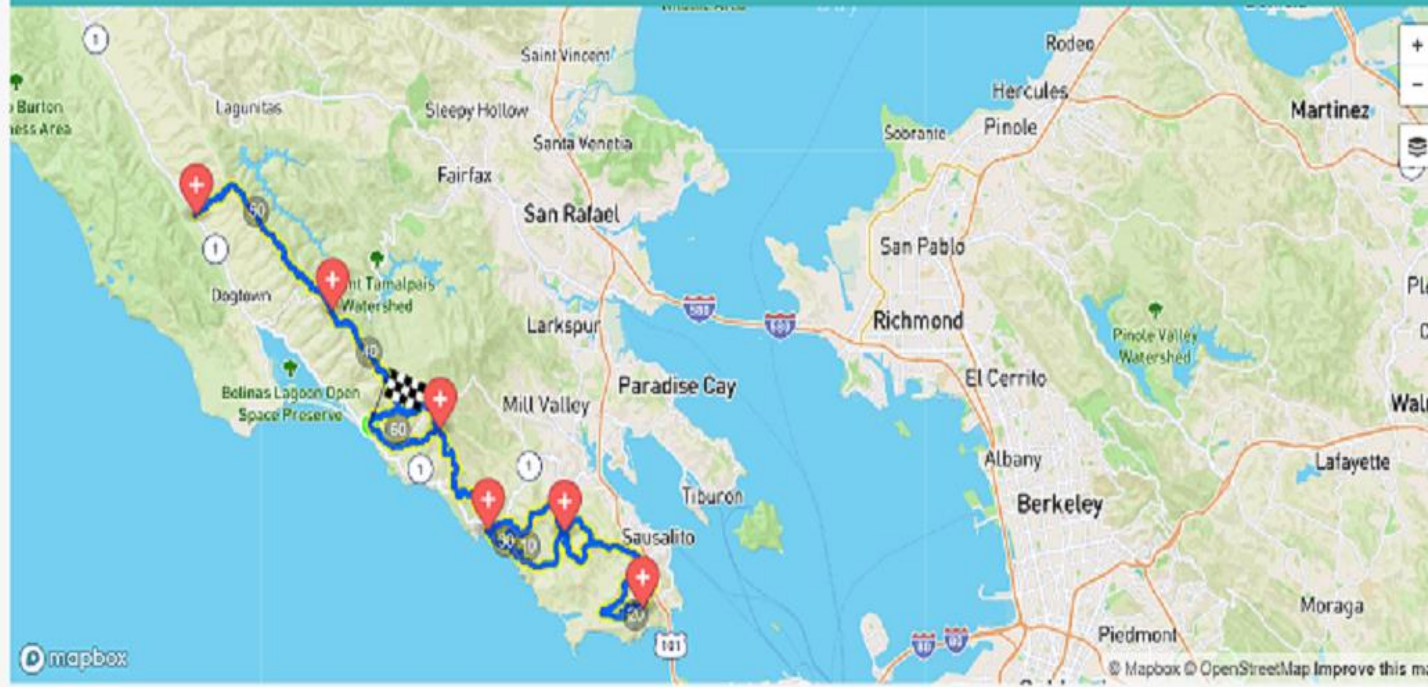
There will be sweeps leaving Start, Bridgeview, and Randall at various times. These must check in and out with you.. Sweeps should have **Yellow** wristbands. Please keep your aid station Captain aware of the need to report their progress.to Net Control

Thanks for volunteering and have a great day.

Rob Rowlands, NZ6J, Marin Amateur Radio Society, (415) 849 5667

# Course map

Want to check out this course with our feature-rich WebGL maps? Try it out free for a week after you log in. [Log in](#) [Sign up](#)





## 2024 Field Day



### **T minus 70 Days and counting.**

The Marin Amateur Radio Society will be once again participating in Field Day. We will be operating between 11:00 AM PDT on June 22nd through 11:00 AM PDT on June 23rd. We will be at Stafford Lake Park in Novato again although we will be at Area 1 where we held the picnic last year. We would love to see you there.

We will be running three contest stations and a **Get On The Air Station**. While MARS is not really known as a contesting club, I know that there are some of you out there who are testers. I am hoping you will come out to elmer those of us who are not shifts to roll up a credible score. We will be scheduling each station in two-hour shifts so if you want to schedule ahead of time please let us know so you can put you on the schedule. For the rest of us there will be plenty of shifts available. Since last year we have purchased several band pass filters so the QRM between operating positions should be much less than last year.

As we have done in the past, we will feed you. Breakfast on Saturday morning for those setting up, Lunch on Saturday, Dinner Saturday night, and Breakfast Sunday morning. You are invited to just come and hang out but this is the premier contest event of the year so we would like you to take a turn operating, and there will be folks to help you get started with the operating the stations, using the logging software, and the specifics of a Field Day QSO.

We are looking for volunteers on Friday the 21st to load supplies at the club house.

Saturday the 22nd at 8:00 am at Stafford Lake to set up.

Sunday the 23rd at 10:30 am to strike down and transport back to the club house.

We had a great time and turnout last year, I am hoping for an even better turnout this year so mark your calendar.

I will be sending out more reminders with specifics as we get them nailed down.

If you have questions contact Steve Toquinto KB6HOH our Field Day chair at [fieldday@w6sg.net](mailto:fieldday@w6sg.net)

Please let us know that you will be attending and roughly when so we can make sure to have enough food at [rsvp@w6sg.net](mailto:rsvp@w6sg.net)

73 de WA6UDS  
Curtis Ardourel  
President and Membership Chair  
Marin Amateur Radio Society  
[wa6uds@w6sg.net](mailto:wa6uds@w6sg.net)

## 2024 MARS Public Service dates

If you're interested in getting involved in the public service branch of our club, here is a list of the events scheduled for this year. Radio communication is the glue that often holds these events together. As with most events, finding enough volunteers is challenging. If you're interested in helping the club, contact Rob Rowlands NZ6J: [rowlands47@gmail.com](mailto:rowlands47@gmail.com)

**1. Kaiser 5k and half marathon: SFARC Sunday, February 4, 2024**

DMR Radio required DMR Repeater (W6PW) Digital channel RX:444.225, TX:449.225 Color Code (CC): 1 Timeslot (TS): 2 Talkgroup(TG) 9

**2. Public service briefing and lunch: Saturday April 6, 2024, 1100 to 1400 hrs, Location: to be decided**



3. **Ridge to Bridge: Saturday, April 14** Requesting 16 MARS volunteers:
  
4. MCBC Jane Fondo Saturday April 27 2024 Womens mountain bike event  
18 at aid stations, 3 accompany SAGs, 1 moto, 1 biker  
Don Magdanz, Event Organizer at Net Control
  
5. **Miwok 100K, Saturday, May 4, 2024**  
18 at aid stations, 3 hikers
  
6. **Dipsea: 113th Annual Dipsea will be run on Sunday, June 9th, 2024** 7am-  
2pm 20 needed  
(Stinson/County CommTruck)  
Don Magdanz, Finish Truck and Information Tent
  
7. **Field Day: June 22/23, 2024 Stafford Lake Park 1800z (11am) to 2100z  
(2pm Sunday) <http://www.arri.org/field-day-rules>**
  
8. **MCBC Dirt Fondo: Saturday, July 20, 2024**, 6am - 3pm 18 needed (/Fort  
Cronkhite/CommTruck)  
Don Magdanz, Event Organizer at Net Control
  
9. San Francisco Marathon **Saturday/Sunday July 27-28, 2024**
  
10. **Marin Century: Saturday August 3, 2024**, 5:00am-8pm 34 needed (Stafford  
Lake/CommTruck) Don Magdanz, Event Organizer at Net Control

11. **Double Dipsea: Saturday August 24, 2024**, (Comms Organizer TBD)  
6:30am-1:30pm 18 needed (Stinson/CommTruck)
  
  12. **[MCBC Adventure Revival](#). Saturday, September 21, 2024** 7:30am-3pm. 15 needed. (San Geronimo former golf course/CommTruck?) Don Magdanz, Event Organizer at Net Control
  
  13. **[ZBC Dipsea Hike](#): Saturday, September 21, 2014** (Comms Organizer TBD)  
7am-2pm, 8 needed (Old Mill)
  
  14. **Breast Cancer Prevention Partners Peak Hike**: Moved to Pacifica in 2023, no MARS radio support required.
  
  15. **MDARC Pacificon** ham convention San Ramon Marriott **October ? 2024**
  
  16. **Dolphin Club Escape from Alcatraz Sunday, October 5, 2024** 10am-6pm. 8 needed (Old Mill) Could certainly use 20, if more folks are interested, please!
-

# RCV News

This article was written by Curtiss Kim, who is a member of the RCV. Thank you Curtiss for this insightful piece on the RCV (and all your many contributions)! This article is a holdover from last month's issue of the QSA-5:

Members of the Radio Communication Volunteers met across the table with representatives of the various Marin County community-based organizations they will partner with during a major incident. The March workshop was the third such meeting in as many years. RCV is still considered a pilot program designed to



provide emergency communications to organizations that offer support services to various communities in the county. The agenda included practice activation scenarios, turnaround response times and expectations from both the RCV members and the community-based organizations. "Everybody knows what the right thing is to do. It's nice to have a reminder once in a while. The intent of

these workshops is to have a consistent annual touch, "according to Tom Jordan, KG6TCM, Petaluma's Emergency Manager who served as the meeting's facilitator. There are currently eight community-based organizations taking part in the



program. They include Canal Alliance, Community Action Marin, Homeward Bound, Marin County Cooperation Team, SF-Marin Food Bank, San Geronimo Valley Community Center, North Marin Community Services and West Marin Community Services. RCV members are not expected to be first responders when a major incident or disaster strikes Marin.

According to Adriana Rabkin, Director of Marin’s Voluntary Organizations Active in Disaster (VOAD) RCV members will be officially called out once the situation has been assessed. “Everybody was very engaged. I think they learned a lot about the process. They understood how they respond in a disaster, when their RCV operators will show up, what types of messages they might want to pass, and how we are all connected,” according to Rabkin. Each participating organization along with their respective RCV members shared their concerns and criticisms during the three-hour meeting. “I think these meetings are good and I see the need to bring these lessons learned immediately to key staff members so they will know how to communicate effectively with the RCV operators,” according to Vivian Alatorre, Office Manager for Canal Alliance. According to Michele McCourtney, Director of Operations for the San Geronimo Community Center, “these meetings are good. I think practice and collaboration and having a cadence is very important for the actual event that can happen.” Other service agencies have shown interest in becoming part of the RCV program and more amateur radio operators are encouraged to volunteer. According to Skip Fedanzo, KJ6ARL, the RCV Lead Operator, “this is a pilot program because Marin County has never been impacted by a major disaster in the lifetime of many Marin residents. We’re not in a hurricane belt, tornado alley, or flood country and we’ve hadn’t had to build a complete response recovery organization.”



*1 Tom Jordan, KG6TCM*



*2 Adriana Rabkin, VOAD*



*3 Skip Fedanzo, KJ6ARL*

Any license amateur radio operator who would like to take part in RCV can contact Skip Fedanzo at [KJ6ARL@arrl.net](mailto:KJ6ARL@arrl.net)

## ACS/RCV Mission Statement

**Mission:** During national, regional, or local emergencies provide effective backup radiocommunications in support of the EOC/VOAD and Community Based Organizations (CBOs) or other non-public safety agencies within the Marin County OA when requested by competent authority.

**Capabilities:** Proven ability to establish and maintain radio communications between OA EOC/VOAD and CBOs during exercises including the three annual Golden Eagle and two Great Shakeout exercises. Ability to deploy and operate portable stations as needed to establish reliable communications in areas that are otherwise out of touch with the EOC/VOAD.

**Resources:** Develop and maintain the resources that may be needed to support the overall mission:

1. Operators – A corps of trusted radio operators with: (1) basic skills and a commitment to establishing radio communications when needed; (2) ongoing participation, training, and practice in accurately passing message traffic using a variety of basic analog and specialized digital means.
2. Mobile stations – Individual operators routinely test and maintain their own radio transceivers and related equipment including power supplies, which can be deployed to locations otherwise lacking reliable communications with the EOC/VOAD or between two or more CBOs.
3. Relationships – Establish on-going relationships of familiarity and trust between RCV operators and with key staff of served agencies, including EOC and VOAD.

## RVC Phone Number Request

In case any of you RCV members missed this email: We're building a web site for RCV. A question has arisen about whether all RCV Operators are willing to have their cell phone number shared by RCV with other RCV members – but not with CBOs or other potential RCV clients.

Please think about this and let me know ONLY IF YOU OBJECT TO THIS SHARING. If we hear no response from you by next Thursday 02/15/2024, that will be interpreted as your assent to share your cell number among all RCV Operators.

Thank you & 73,  
Skip Fedanzo KJ6ARL

## North Bay Critical Mass Report

Here is what was covered at the monthly North Bay Critical Mass event (from Michael K6MLF):

We'll spend about an hour of our time with **hands-on radio practice, role-playing this past weekend's Ridge to Bridge** public service event. See the attached duty roster and frequency plan. **Net control practice will be our focus**; we'll try to field as many two-person teams (net control operator and scribe) as possible, 10 minutes of vigorous, challenging practice per team. And, yes, we will all look at the scribes' logs with a prize for the best one.

Here's FEMA's ICS214 log sheet: Please print out and bring with you: <https://archive.arri-nfl.org/wp-content/uploads/2019/07/ICS-309-Fillable-Form.pdf>

Rob NZ6J and Doug K6DRK will demonstrate the success of **two-meter APRS trackers** in the Ridge to Bridge event, using a variety of tracker radios.

Rob will also help us all to know **how to re-program our HT radios in the field** using the front panel. No RT Systems or Chirp involved. As Rob said at our kickoff, “if you don’t know how to reprogram your radio on the fly out in the field during a public service event...” So **bring your main HT** with you—and the user manual. Each brand of radio has its own method of programming. Take notes and prepare a cheat-sheet for each of your radios; see the attached examples.

Bring your own coffee, but we’ll bring the doughnuts and cookies.

See you Sunday,

Michael K6MLF



Here are some photographs from the monthly event. Thanks to Rob Rowlands!









## Jane Fondo 2024 Report

Overall this was a nice quiet event with no real problems besides the bus not stopping for Rob in Olema. Here's a few things we can improve on:

The hour overlap in shifts for net control was unnecessary and resulted in six people hanging around net control for an hour. People tend to show up early and hand off is usually just a couple of minutes. I would suggest removing that overlap period.

APRS worked great and as a result we always knew where the SAGs were, at least roughly. The big display monitor has finally come into its own, in my opinion. It's tempting to suggest we put up a second one out front, smaller perhaps, for passers-by.

Some fantasy additions to that display would be rest stop information that can be updated during the event--open, closed, which routes have come through, whether sweeps have been through, etc.

Here are pictures from the event:



CHARGING ONLY

MARIN w6sg  
AMATEUR RADIO SOCIETY

marin  
AMATEUR RADIO SOCIETY

Public Service  
Communications

Honey  
Bucket

California  
6X29383











38°06'11"N 122°45'03"W, CM880A

Log out

Track call sign: Clear

Search ?

Address, city or Locator: Clear

Search ?

Show last: 1 hour Show all

Track tail length:

Filter list

Current list: Jane Fondo

- Name/MMSI: K6DKK+ 1 X
- Name/MMSI: M4B5+ 1 X
- Name/MMSI: K6GWE+ 1 X
- Name/MMSI: K6HLF+ 1 X
- Name/MMSI: N2GJ+ 1 X
- All stations 1 X
- Station class: APES stations 1 X
- Station class: AIS ships 1 X
- Station class: Web stations 1 X
- Speed: >2 1 X
- Station type: Weather 1 X
- Engagers 1 X
- Igniters 1 X

Save as new list | Delete filter list

# VE Examination News

The Marin Amateur Radio Society's VE Program is an extremely important component of amateur radio. The national program MARS is a part of allows member radio clubs to administer licensing tests on behalf of the FCC. What this means to people getting into ham radio is that there are more test locations and a more flexible schedule for taking the license exam. Ken Brown will be stepping down as Lead VE. Thank you, Ken, for your service and especially for teaching me how to be a Volunteer Examiner. Jim Saltzgaber, KM6WWY, has replaced Ken as Lead VE, effective at the end of the Board meeting.

**IMPORTANT NOTE:** If you are upgrading to Extra-Class, the new question pool is effective as of July 1<sup>st</sup>. This means any testing dates after July 1<sup>st</sup> will use the new question pool. If you've been studying for a test date after July 1<sup>st</sup>, using an older Extra-Class study guide, you'll have to pick up a current study guide with the new question pool. You're not going to lose the knowledge you acquired through studying with the old book, but you will have to be prepared for the possibility of some different questions added to the new test (the number of questions remains the same). In short, get an updated study guide!

The first scheduled testing session was on January 13<sup>th</sup>, 2024. The test started at 1:00pm. Our first testing session has passed, and we have three more remaining:

**January 13<sup>th</sup>** (Completed, we had 7 applicants, 6 successful. 4 new Technician Class and 2 new General Class).

**April 13<sup>th</sup>** (Completed, we currently had 7 registered applicants. Note: **This was the last VE session before the current Extra Class pool expires and is replaced with a new one on July 1<sup>st</sup>**). **All applicants passed!**

**July 13<sup>th</sup>** Third session of the year.

**October 13<sup>th</sup>** Fourth session of the year.

All exams are held at the MARS clubhouse. Check in is 1:00pm. Information on Exam Registration is at: [Register for the Exam | Marin Amateur Radio Society \(w6sg.net\)](https://www.w6sg.net/register-for-the-exam)

The application form can be found at: [MARS VE Exam Application Form](https://www.w6sg.net/mars-ve-exam-application-form)

Jim S. KM6WWY

From Curtiss Kim, regarding the April 2024 testing session:

Every four years the question pool for the various amateur radio licenses change. In June a new set of questions will be in place for the Amateur Extra exam. It was no coincidence that four candidates turned out for the Extra class assessment at the most recent VE session held by MARS. The session on April 13 also brought out three hopefuls testing for Technician. The gathering went 7 for 7 with everyone passing their respective exams. Three members of MARS, Stephen Austin, KN6ORM, James Renney, KI6RGP and Curtiss Kim, KM6GUY are now part of the 16 percent of amateur radio operators that hold the title of Amateur Extra. The session was arranged by VE coordinator James Saltzgarber, KM6WWY with help from his wife, JoAnne, KN6FXH. Scoring was done by the VE trio of Jerry Foster WA6BXV, Dave Sneed WD6L, and Hugh Patterson KN6KNB. Kevin Johnston, W6KPJ, and Bob Salter, AI6EE handled compliance, check in and record keeping. The testing went on without a hitch and kudos went out to everyone involved. Applicants travelled from as far away as Fairfield, Pacifica, and San Francisco. As one amateur operator put it, “the exams are nothing more than a framework for a better understanding of the art and science of amateur radio.” MARS will hold another VE testing session on Saturday July 13, 2024 at 1pm at the Mill Valley clubhouse. Signups are required and can be done through the MARS website, <http://w6sg.net>.

## **Are Chinese Manufactured Radios Any Good?**

When you say the words “Chinese radio” to amateur radio operators who have been around for a while, they’ll often reply with “they’re junk,” or “I’d never buy

one of those.” Over the next few issues, we’re going to look at Chinese manufactured radios, discussing the pros and cons. I should start this out by saying that there was a time in Japanese electronics history when they were considered cheap and unreliable. The Japanese learned a lesson from this consumer opinion and stepped up their design and manufacturing process. Now, Japan produces some extremely high-end electronics. China has learned this lesson as well and is now starting to produce some decent radios! So, what is the problem (or reluctance when it comes to them) with Chinese radios?

It is not accurate or fair to generalize that all Chinese radios are cheap and unreliable. China is a major manufacturer of electronic products, including radios, and produces a wide range of products with varying quality levels. There are both inexpensive and high-quality radios manufactured in China, and the reputation of a particular product depends on the brand, manufacturing standards, and quality control processes implemented by the company.

It's essential to evaluate products individually based on their specifications, features, reviews, and the reputation of the manufacturer rather than making broad generalizations about products from a specific country. China produces a diverse range of electronic goods, and some companies prioritize quality and reliability in their manufacturing processes. Still, why are Chinese radios considered problematic?

Chinese radios, particularly budget-friendly models, may face challenges in terms of build quality, reliability, and adherence to regulatory standards. Some common issues include:

1. **Build Quality:** Cheaper Chinese radios may have inferior build materials, leading to durability concerns.
2. **Consistency in Quality Control:** Variability in quality control practices can result in units with different levels of performance even within the same model.
3. **Frequency Accuracy:** Some radios might not adhere strictly to frequency regulations, causing interference and legal issues.
4. **User Interface:** Cheaper models may have less intuitive or user-friendly interfaces compared to more established brands.

5. **Accessories:** Limited availability and quality of accessories like antennas and batteries may be a drawback.

It's crucial to research specific models, read reviews, and consider your needs to ensure you choose a Chinese radio that meets your expectations. Some Chinese manufacturers seem to have the handheld transceiver market under their control. People keep buying these radios, so they can't be that bad? I have several Chinese radios that are great. They're well made, work well, and didn't cost a small fortune. Many new amateur radio operators start off the Baofeng VHF/UHF handheld. However, Baofeng isn't the only manufacturer of Chinese radios. There are a few that own chunks of the sale market for radios. Who is the biggest manufacturer of Chinese handheld ham radios at this moment?

One of the prominent manufacturers of Chinese handheld ham radios is Baofeng. They are known for offering a variety of affordable handheld transceivers and have gained popularity in the amateur radio community. However, other manufacturers like Wouxun, TYT, Quansheng, and Radioddity also produce Chinese handheld ham radios, each with its own product lineup and features. It's advisable to research specific models and reviews to find the one that best suits your needs. Next month, we'll do a deep dive into the biggest issues with these radios, as well as look at the tiny SDR HF transceivers that are flooding the market.

## The Chinese USDX QRP Radio

We're going to start testing the Chinese USDX QRP radio this month and will report on our findings. Here is a brief rundown on these inexpensive HF radios:

USDX radios are shortwave QRP (low-power) transceivers made in China that are popular among amateur radio enthusiasts due to their affordability and portability. Here's a breakdown of some key points about them:

### Pros:

- **Affordable:** USDX radios are significantly cheaper than many other ham radio transceivers on the market. This makes them attractive to beginners or hobbyists on a budget.
- **Compact and Portable:** Their small size and light weight make them easy to

carry around for outdoor use, such as parks or summits activation (operating from a mountaintop).

- **All-Mode:** Many USDX models support multiple modes like SSB (Single-Sideband), CW (Continuous Wave), AM (Amplitude Modulation), and FM (Frequency Modulation).
- **Easy to Use:** They are often considered relatively user-friendly, especially for those with some basic knowledge of ham radio operation.

#### **Cons:**

- **Build Quality:** The build quality of USDX radios can be variable compared to higher-end models. Some users report issues like less durable enclosures or knobs.
- **Performance:** Their receiver sensitivity and filtering might not be as good as more expensive radios, potentially affecting performance in noisy environments.
- **Limited Features:** They may lack some advanced features found in higher-end radios, such as automatic notch filters or DSP (Digital Signal Processing) noise reduction.
- **Quality Control:** There can be variations in quality control between different batches or manufacturers.

#### **Overall:**

USDX radios offer a good entry point for those interested in getting started with QRP ham radio at an affordable price. However, it's important to be aware of their limitations compared to more expensive radios.

Here are some additional things to consider:

- **Reviews:** Reading reviews from other users can provide valuable insights into real-world experiences with USDX radios.
- **Specific Models:** There are different USDX models available, so research their specific features and user feedback before choosing one.
- **Alternatives:** Consider other QRP radios within your budget to compare features and quality.

Remember, the best radio for you depends on your individual needs, experience level, and budget.



## Ham Radio News

Each month, QSA-5 searches the internet for stories about amateur radio in the news. As editor of our publication, I merely present these articles and do not take a position regarding their message or content. Our first article is Ham radio and the moon.

**Monitoring the Moon when it happens: Ham radio scientists to monitor eclipse.**



An interesting piece on amateur radio and radio astronomy:

<https://www.news5cleveland.com/news/local-news/monitoring-the-moon-when-it-happens-ham-radio-scientists-to-monitor-eclipse>

**No Cell Phone, No Problem:** When the cell towers go down, radio will be the only form of communication:

<https://www.theguardian.com/us-news/2023/may/27/ham-radio-emergency-natural-disaster-climate-crisis>

**World Amateur Radio Day is April 18, 2024:** Its that time again everyone, so set your calendars!

<https://www.arrl.org/news/world-amateur-radio-day-is-april-18-2024>

**Amateur Radio Operators Needed for Help with Solar Eclipse Project:**

<https://www.arrl.org/news/amateur-radio-operators-needed-for-help-with-solar-eclipse-project>

**FCC Wants to Bolster Amateur Radio:** The FCC will vote in November on a plan to remove outdated technical restrictions.

<https://www.radioworld.com/news-and-business/business-and-law/fcc-wants-to-bolster-amateur-radio>

**Ham Radio May Speed Up Soon:** An interesting piece from a online journal dedicated to advances in technology.

<https://hackaday.com/2023/10/29/ham-radio-may-speed-up-soon/>

**Ham radio operators practice for emergencies, build community:** A nice article regarding the importance of amateur radio.

[https://www.southernminn.com/faribault\\_daily\\_news/news/ham-radio-](https://www.southernminn.com/faribault_daily_news/news/ham-radio-)

[operators-practice-for-emergency-build-community/article\\_c305405c-1446-11ee-9e1c-17bef3ed0921.html](https://www.radioddity.com/blogs/all/how-far-will-a-radio-transmit)

**How Far Will a Radio Transmit?** This is very useful information to have, and it's well explained.

<https://www.radioddity.com/blogs/all/how-far-will-a-radio-transmit>

## FCC Regulatory News

Here are the current regulatory changes and FCC news as it applies to Amateur Radio. This section of the QSA-5 newsletter was introduced last year. We will add new regulations and rules monthly, removing the older regulations and rules as new regulations/rules are introduced. As of the August 2021 issue of the QSA-5 newsletter, this list of FCC regulations and changes will be reduced, only covering this year's new regulations and rules. The newest regulations and changes will appear at the top of the list. Note that we are not able to cover every change the FCC has made this year within our publication. Sorry folks, it's been a slow year at the FCC (and another month passes with no new news....)

**FCC to Require Two Factor Authentication for CORES Users:** It seems that the powers that run the big show have found yet another fee to tack on to the amateur radio operators ability to operate:

<https://www.arrl.org/news/fcc-to-require-two-factor-authentication-for-cores-users>

**FCC To Vote on Removing Symbol Rate Restrictions:** From the ARRL regarding the digital modes.

<https://www.arrl.org/news/fcc-to-vote-on-removing-symbol-rate-restrictions>

**Job Posting: FCC Recruiting Field Agents:** In case any of you have wanted to become a field agent. Does it come with a badge?

<https://www.arrl.org/news/job-posting-fcc-recruiting-field-agents>

**FCC Grants an ARRL Emergency Request to Permit Higher Data Rate Transmissions for Hurricane Relief Communications:** The FCC has granted an [ARRL](#) emergency request for a 60-day temporary waiver intended to facilitate amateur radio emergency communications for hurricane relief.

<https://www.arrl.org/news/fcc-grants-an-arrl-emergency-request-to-permit-higher-data-rate-transmissions-for-hurricane-relief-c>

## Propagation News

Here are some links dedicated to propagation conditions, space weather, sunspot cycle information and all things related to solar conditions:

**The K7RA Solar Update:** This is the K7RA solar update, which is updated regularly:

<https://www.arrl.org/news/the-k7ra-solar-update-827>

**DX.QSI Propagation:** A simple, straightforward website for propagation conditions that is regularly updated:

<https://dx.qsl.net/propagation/>

**Radio Society of Great Britain: What's New and Propagation Now:**

A great resource from the UK version of the ARRL regarding solar activity and propagation:

<https://rsgb.org/main/technical/propagation/whats-new-propagation-now/>

**SunSpotWatch.com:**

A good general interest site for amateur radio operators who follow solar activity:

<http://sunspotwatch.com/>



## DIY Radio References

We have added a few additional links to our list and will continue to do so as we discover more websites related to the Do-It-Yourself movement! QSA-5 is going to keep adding to the original list of online resources, bringing you more resources as we find them. If there is anything you think would be useful to other club members, contact me and I will be happy to include it in this reference section.

**Microcontrollers and Single Board Computers:** With the advent of the Arduino micro-controller board, the Raspberry Pi (a single board minicomputer) and Texas Instrument's Launchpad (also a single board microcontroller), Amateur Radio enthusiasts can build both accessories, such as antenna tuners, and fully functioning transceivers. I have spent the last year at the University of California studying these devices, learning how to use them and incorporate them into electronic projects. I was able to build two HF receivers based on the Arduino and Raspberry Pi devices. The best news of all is that these devices are inexpensive! I

encourage you to check these websites out!

**Arduino:** The Arduino microcontroller board was the first to popularize these devices. They are inexpensive and can be used for a variety of radio related projects. I will include some links to radio related Arduino projects in the next issue of the QSA-5. Here's a link to the Arduino homepage:

<https://www.arduino.cc/>

**Raspberry Pi:** Did you every wish you could have a PC small enough to fit into your shirt pocket? Your dream has come true. The Raspberry Pi 4 is a fully functional Quadcore 1.6 GHz computer, about the size of a package of playing cards. It has an Ethernet jack, two USB 2 ports, two USB 3 ports and two HDMI ports. Next month, I'll post some links to radio related Raspberry Pi projects. Here's a link to their homepage.

<https://www.raspberrypi.org/>

**Texas Instruments TI Launchpad:** The Launchpad is Texas Instruments answer to the Arduino. The Launchpad is geared more towards advanced projects and is slightly more expensive. However, the Arduino still holds it own against this device. The Arduino also has more in the way of opensource software. Here is a link to the TI Launchpad homepage.

<https://www.ti.com/design-resources/embedded-development/hardware-kits-boards.html>

**Tools for electronics:** It is a lot easier to build or repair your electronics if you have the right tool. Paperclips and duct tape are not the solution to everything (unless you are McGyver – hopefully, you got the reference). Therefore, we added some links to suppliers of electronics tools.

**All Electronics:** A one stop electronics shop that has a variety of tools for your repair

and building needs:

<https://www.allelectronics.com/category/780/tools-and-supplies/1.html>

**Jameco Electronics:** A supplier of decent tools at a reasonable price:

<https://www.jameco.com/Jameco/content/tools.html>

**Electronic Printed Circuit Boards (PCB):** If you design and build projects that require specific circuit boards, you know how difficult it is to find a board that will work for your purposes. Designing a board and then having it made can be expensive. Here is a company that has a large number of radio PCBs you can purchase and then add components to. They also can take your design and fabricate a PCB at a very reasonable cost. The company's name is **PCBway**:

<https://www.pcbway.com/project/>

**Electronic Components and Parts:** Many of us involved in amateur radio are constantly tinkering with electronics. It seems to be part of our genetic makeup! Here are some links to companies that sell electronic components and parts, starting with San Rafael's own Electronics Plus (Support local business).

**Electronics Plus:** It's great to have an electronics store close by for those times when you need a part immediately:

<https://www.electronicplus.com/>

**Digikey:** A good source for DIY and Maker projects as well as parts. They claim to have the world's largest selection of electronic components.

<https://www.digikey.com/>

**Jameco:** This company is a good source for almost everything, especially mainstay items such as resistors, capacitors, etc.

<https://www.jameco.com/>

**Homemade Antennas:** Many new amateur radio enthusiasts put a great deal of time and effort into researching their first radio. However, they often neglect the most important component to a successful radio experience, the antenna. Even if you have some ham radio experience, antennas can be a daunting subject. Commercially manufactured antennas can be expensive and beyond your budget during these hard financial times. Even if you have the funds available to purchase an antenna, reading through the antenna's specs can be akin to reading some long lost ancient language. A good solution for increasing your knowledge of antennas and radio wave propagation, not to mention cutting the costs down, is to build them yourself. Here are some links to DIY (do it yourself) sites to give you a start:

Antenna building basics:

<https://www.wikihow.com/Build-Several-Easy-Antennas-for-Amateur-Radio>

Good Reference for several antenna types:

<https://www.hamradiosecrets.com/homemade-ham-radio-antennas.html>

A step-by-step guide for building a simple antenna:

<https://geardiary.com/2012/07/21/building-a-simple-ham-radio-antenna-without-soldering/>

Instructions for a VHF/UHF dual band antenna:

<https://www.instructables.com/Quarter-Wave-Dual-Band-VHFUHF-Ham-Radio-Antenna/>

Build an HF dipole antenna:

<https://www.electronics-notes.com/articles/antennas-propagation/dipole-antenna/hf-ham-band-dipole-construction-80-40-20-15-10-meters.php>

Introduction to antennas:

<https://www.onallbands.com/ham-radio-antenna-options-for-home-and-portable-operations/>

**Ham Radio QRP Transceiver Kits:** With the advent of SDR (Software Defined Radio), building fully functioning ham radios has become a lot easier and extremely inexpensive. While, having fewer bells and whistles, as well as being low power units, many have fully functional touchscreens and cover many of the HF bands:

An easy to build QRP transceiver. No soldering needed to build:

<https://www.hfsignals.com/>

An easy to build, single band CW kit:

<https://qrp-labs.com/>

Offering several kits and finished transceivers:

<https://youkits.com/>

**Propagation Websites:** Propagation is a key factor in successful radio communications. Here are some links to websites that will help you with all your basic propagation needs:

Real time band conditions:

<https://qrznow.com/real-time-band-conditions/>

VOACAP band conditions:

<https://www.voacap.com/hf/>

ARRL Propagation Page:



<http://www.arrl.org/propagation>

Real Time HF Propagation Prediction:

<https://hamwaves.com/propagation/en/index.html>

### **Ham Radio Websites of general interest:**

**Ham Radio News:** Here are some sites and articles you may find of interest regarding ham radio.

ARRL News Page, which is a good place to find national news regarding ham radio:

<http://www.arrl.org/news>

QRZ Now. Another good site for ham radio news from around the globe:

<https://qrznow.com/>

The Amateur Radio Newsline. An AP styled news feel page for amateur radio:

<https://www.arnewsline.org/>