

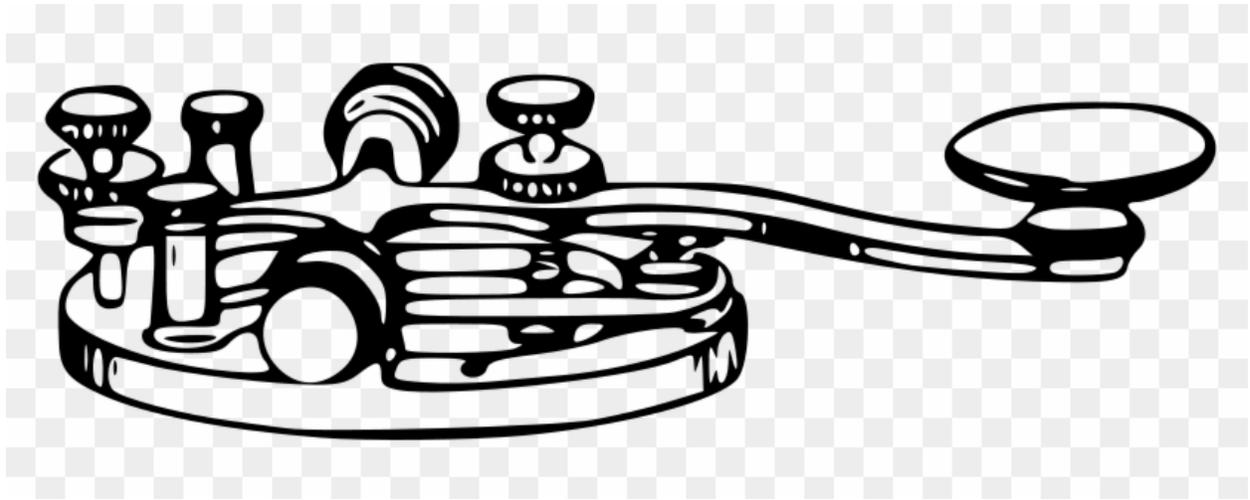


QSA-5

**Marin Amateur Radio Society Monthly
Newsletter**

Established 1933

January 2026



When all else fails, you can count on Amateur Radio

From Our President:

This will be my final missive of 2025 and by any measure it has been a eventful year. There have been a spate of improvement around the clubhouse including the installation of an antenna farm and a significant upgrade to the club shack. We are also in process of cleaning up the interior of the clubhouse and tending to some long-deferred maintenance. I feel a bit guilty about not filling this space with a list of those of you who have helped with these projects, but I have called out most of you already in earlier comments. Once again, I thank you all.

Moving into 2026 I have several goals in mind that I hope we can move forward on. Some are must haves like continuing the cleanup an maintenance on the clubhouse and some are more aspirational if there is interest. To name a few:

1. One or more presentations on the new antennas, and radios in the shack. We have a much richer place to operate than we have had in the past but unless you know what is available, they will just gather dust.
2. A standard set of simplified instructions for each radio and a process where you can get a test ride on the radio with an Elmer experienced with that radio.
3. A dedicated "Contest" radio, probably an IC-7300 (what we use for Field Day) connected to a computer running N1MM software so you can have experience with that combination.

4. Some scheduled training around contesting. Most of our members, myself included are not experienced in this part of the hobby although we do have some excellent teachers.
5. A return to building projects. We actually planned a project before Covid and then for a variety of reasons it was shelved. Building equipment was what got me into the hobby, and we should get back to our roots.
6. On October 3rd and 4th 2026 will be the California QSO Party. We have long talked about the club participating in that contest. I am hoping we can field a team in 2026, maybe lure some of you into contesting.

Please help me out with your thoughts and interest in the ideas above and suggest others if you are inspired... Since the days are short and the nights are long, my candle is guttering and so I will spare you any more of my ramblings until the new year. Happy New Year to all and to all a good night.

73 de wa6uds

From the Editor:

Happy New Years! I hope all of you had a wonderful holiday in December. The Marin Amateur Radio Society had a busy holiday season, from community event support to our annual Christmas party. Our club members, through their support for both community and advancement on the amateur radio arts, have been demonstrating the value of amateur radio for the betterment of community and society.

Big changes are coming to the QSA-5, starting next month. Our publication will have a new look thanks to Jay Roth KO6FIR, who is going to provide us with a professional layout, graphics, etc. I am extremely grateful and indebted to Jay for volunteering to do this. I can do a few things well (at least in my mind), and graphics and publication layouts are not one of them. We're also having Gerald McCarthy, W6NOV, write for the QSA-5. It's fantastic to have his radio expertise within the pages of the QSA-5. His first article is in this month's issue. Thank you Michael Fischer K6MLF, for the story about Yaesu's name (sorry it's a month late). Thank you Kathy Spicher KM6URP for the CubeSat report. As always, Curtiss Kim KM6GUY, has written not one but two articles for the QSA-5. Lastly, a big thank you to Curtis Ardourel WA6UDS, our club President, who takes the time to make sure the QSA-5 gets every bit of information for each issue.

And a big thank you to the usual suspects who contribute monthly! I am so grateful to see club members contributing to our publication.

As always, if you want to contribute an article or have a suggestion for a topic, please contact me at the email address below. As the old saying goes, "it takes a village to make an interesting amateur radio publication. Thank you to everyone who has contributed to our club publication. Happy New Year and may your 2026 be a great one!

QSA-5Editor@w6sg.net



New Members:

Bridget Burke Mill Valley





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

Marin Amateur Radio Society Board of Directors Meeting
12/11/2025



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

Attendance:

President: Curtis Ardourel WA6UDS

Vice President Ken Brownfield AB6JR

Secretary James Saltzgaber KM6WWY

Treasurer Bruce Bartel N6VLB

Director Richard Cochran AG6QR

Director Steve Toquinto KB6HOH

Director: Ed Essick K6ELE

Trustee W6SG Marc Bruvry KF6VNT

Trustee K6GWE Brian Cooley K6EZX

Adopt agenda As presented without objection.

Approve minutes of 13 November board meeting as published in QSA-5 MSC

Secretary's Report/Communications Jim KM6WWY – Nothing to report.

Treasurer's Report Bruce N6VLB – Nothing to report

Thoughts Curtis WA6UDS - Thanks to Ken Brownfield AB6JR for serving as VP and running the election. Farewell to Recent Silent Keys Jan WB6SPX and Chris KC6ZKO. Special thanks to Steve KB6HOH for being the club's representative working with silent key's families.

Members Present: Milt Hyams KM6ASI, Scott Pasternak KN6ZDN, Charlie Benett AI6TT, Skip Fedanzo KJ6ARL, Dan Sobel N6HLZ, Kathy Spicher KM6URP, Gerald McCarthy W6NOV, Mark Klein K6AOW

Committee and other Reports:

- 1. Membership** Curtis WA6UDS - 167 Members, 101% of 2024 membership. Membership renewal announcements will begin in January.
- 2. Facilities** Skip AJ6ARL – Last Sunday we had a big work crew cleaning and organizing. Still work to be done though.
- 3. VOAD/RCV** Skip KJ6ARL – He attended last VOAD General Meeting of 2025 Friday 12/5 in San Rafael at the new Canal Alliance building. Meetings will be moving from Zoom to in person. Discussion included the communication needs between CBO clients. He spoke with Nick Brubaker, outreach coordinator for the county EOC, regarding process for RCV and RACES to get communications to the positions we are servicing since we no longer have radio station positions in EOC. Meeting is scheduled for this month. Next VOAD meeting will be in January. RCV was asked to do a live radio comms demo at that meeting. At SF Marin Food Bank San Rafael facility.
- 4. Technical** Milt KM6ASI – Focus has been on completing the first phase of the Clubhouse Radio Room upgrade, including cleanout vast quantities of papers. Kenwood KW990S HF radio from Chris KC6ZKO's estate will be installed in the radio room. Radios and

equipment stored in the clubhouse garage will be stored on new shelves that will be provided by Dan N6HLZ and installed in the garage. Radios and antennas will be installed for the work bench area and for the Receiver in the test rack as the next phase of the radio/antenna upgrade. An Icom ID5100 that was received as a donation by Milt has been installed and programmed with RACES frequency data. Curtis WA6UDS – requested a presentation at the general meeting of the Radio Room as it now is configured. Milt – A class will be scheduled soon for those who wish to use the radio room.

- 5. Public Service** Scott KN6ZDN – Nothing new this month. Schedule for kick off and next year's event schedule will be set up next month.
- 6. VE Testing** Jim KM6WWY – Successful VE applicants have received all licenses/upgrades/etc. now that the FCC has re-started following the Federal Govt. shutdown. Next VE test session will be January 10, 2026.
- 7. Comm Truck** Charlie AI6TT –Garage fabric end panel replacement has been started. More people and ladders will be required to complete it. Will be scheduled soon.
- 8. NBAM** Kathy KM6URP – Bodega Bay utility district was approached to allow AREDN equipment to be installed at Doran Beach site. Meeting went well and pending approval. No NBAM meeting was held in November. Recent inquiry from Gail Alexander, Pole Mountain Fire Lookout committee, they are considering putting a node at their site. She is desiring that aesthetics be considered if we were to put a node or two up there. Thanked Curtis for putting out information on the SSU CubeSat. Previously scheduled SCRA Ham Technician license exam for Sonoma State University will be rescheduled for February.
- 9. Holiday Celebration 2025** Curtis WA6UDS – Holiday party luncheon will be at the Cantina in Mill Valley. We now have 28 reservations, 20 paid. Party income will cover the event cost.

Old Business:

- 1. Donations Committee Charter** Curtis WA6UDS -No further action on the charter. Curtis will be sending thank you letters for recent donations of radio equipment to the club. Nothing else to report.
- 2. New Google environment – Online storage of club records** Bruce N6VLB – The system is up and running, ready to receive files. Jim KKM6WWY – I will contact Bruce after the first of the year to begin transferring Secretaries files. Nothing else new to report.
- 3. Club Cleanup Committee** Curtis WA6UDS. Water Heater Room cleaned out but door length needs trimming and a new lock set to be hung. Curtis has located the lock set while cleaning inside the clubhouse. Sharon requested permission to store her bicycles in the room. Gerald W6NOV noted that they must be 36" clear of the water heater and cannot interfere with the operation of the door or disconnection/shutdown of the heater. They must also not shift to interfere with the opening of the door. The tenant's metal storage shed must be removed. The shed must be empty by Jan 16, everything remaining will be disposed of. Tenant has also been notified that potted plants cannot be on the steps. Gerald W6NOV also noted that plants or flammable materials may not be against the side of the building

and that we need to move forward on the drywall repairs ASAP. Charlie AI6TT suggested that a pull strap be installed on the inside of the garage exterior sliding door. Skip KJ6ARL will procure and install a strap for closing the door. We need to schedule next clubhouse cleanup date.

New Business:

1. **New chair of the technical committee** - Curtis WA6UDS- Milt KM6ASI has requested to step back from the chair of the Technical Committee. Antonis Papatsaras AA6PP has

volunteered to assume the chair of the Technical Committee. Discussion included need to establish a formal committee of knowledgeable members to assist him. It was MSC to appoint Antonis as the new chair of the Technical Committee.

- 2. New board member and new officers-** Curtis WA6UDS – We will swear in new/re-elected board members and elect club officers at January 2026 Board Meeting.

Good of the Order – Nothing noted.

Executive Session Not Required.

Adjourn 21:06 MSC

Next Regular Meeting 2 January 2026

Next Board Meeting 8 January 2026

Marin Amateur Radio Club

Balance Sheet Comparison - Custom

Marin Amateur Radio Society

As of December 29, 2025

Cash

Distribution account	TOTAL
As of December 29, 2025	As of December 29, 2024 (PY)
Assets	
Current Assets	
Bank Accounts	
CD	0.00
MARS BUILDING FUND (8795) - 3 - 2	1,960.40
MARS GENERAL FUND (4328) - 9 - 1	78,938.41
Money Market	0.00
VE Session Cash	0.00
VE Session Cash Received	0.00
Total for Bank Accounts	\$80,898.81
Accounts Receivable	
Other Current Assets	
	\$78,148.28

Uncategorized Asset	0.00	0.00
Total for Other Current Assets	\$0.00	\$0.00
Total for Current Assets	\$80,898.81	\$78,148.28
Fixed Assets		
club house- 27 Shell Rd. MV	58,983.00	58,983.00
Total for Fixed Assets	\$58,983.00	\$58,983.00
Other Assets		
Total for Assets	\$139,881.81	\$137,131.28
Liabilities and Equity		
Liabilities		
Current Liabilities		
Accounts Payable		
Credit Cards		
Other Current Liabilities		
Total for Current Liabilities		
Long-term Liabilities		
Total for Liabilities		
Equity		
Retained Earnings	15,577.46	13,748.91
Net Income	-95.65	-1,017.63
Opening Balance Net Assets	124,400.00	124,400.00
Total for Equity	\$139,881.81	\$137,131.28
Total for Liabilities and Equity	\$139,881.81	\$137,131.28

Marin Amateur Radio Club

Profit and Loss Comparison

Marin Amateur Radio Society
January 1-December 29, 2025

Distribution account	TOTAL	
	Jan 1 - Dec 29 2025	Jan 1 - Dec 29 2024 (PY)
Income		
Donations	7,744.65	35,496.51
Dues	2,910.00	270.00
Rent	33,270.00	34,500.00
Christmas Party Income		2,289.08
Public Service Refund		168.15

Unapplied Cash Payment Income		0.00
Total for Income	\$43,924.65	\$72,723.74
Cost of Goods Sold		
Gross Profit	\$43,924.65	\$72,723.74
Expenses		
Accounting	1,859.11	1,730.00
Awards	400.00	-100.00
Car & Truck	\$498.33	\$2,224.89
Car & Truck Gas	34.89	224.66
Total for Car & Truck	\$533.22	\$2,449.55
Contractors	1,555.00	22,549.00
Equipment < \$2,500	431.48	
Field day	341.91	854.66
Food	3,361.42	797.74
Garbage	641.76	613.44
Insurance	\$6,592.72	\$6,207.00
Comm Van Insurance	2,607.16	2,528.84
Total for Insurance	\$9,199.88	\$8,735.84
Meals	70.77	235.24
Office Supplies & Software	255.00	1,068.05
Other Business Expenses	823.32	13.00
Picnic	2,001.60	1,705.10
Public Service Expense	3,295.57	4,188.44
Repair & Maintenance	1,521.63	2,851.06
Station Upgrades & Maintenance	1,894.69	
Taxes & Licenses	8,606.84	8,222.03
Telephone	223.08	
Utilities	4,889.91	4,437.80
Water	593.45	1,583.40
Web Services Expenses	0.00	
Christmas Party		4,774.47
Housekeeping		1,123.80
Reimbursable Expenses		587.06
Repairs & Maintenance		1,770.00
Repeater		2,158.67
Uncategorized Expense		104.51
Total for Expenses	\$42,499.64	\$72,452.86
Net Operating Income	\$1,425.01	\$270.88
Other Income		
Other Expenses		
MESH Grant Disbursement	1,520.66	1,288.51

Total for Other Expenses	\$1,520.66	\$1,288.51
Net Other Income	-\$1,520.66	-\$1,288.51
Net Income	-\$95.65	-\$1,017.63

LIFE IS SIMPLE



MARS Club News

This was supposed to be included in the December 2025 issue of the QSA-5. It was included due to an error on my part. I apologize for error. This is from Gerald McCarthy, W6NOV regarding the huge amount of work he, Jim (KM6WWY), Dan (KN6PNA), and “Big Dan” (N6HLZ) did on the clubhouse’s antenna system:

Jim (KM6WWY), Dan (KN6PNA), “Big Dan” (N6HLZ), and I have completed the

bonding and grounding of the new rooftop antenna mounts. Additionally, Jim permanently grounded the bus bar in the radio room. Milt has updated the comm van shoreline and installed a weather-resistant box for the plug.

This is another excellent example of teamwork and fellowship that has brought the board-approved antenna project to completion.

Since January 12, 2025, the team has accomplished the following:

1. Installed a new OCF HF Dipole
2. Removed, repaired, and repainted the flag pole
3. Installed a new antenna mast for the OCF Dipole
4. Installed a new multi-band vertical R8 HF antenna
5. Installed a new Comet GP-98 tri-band antenna (2M, 70CM, and 23CM) antenna
6. Installed a new, no-hole roof mount bonded and grounded to the station ground
7. Installed a Comet GMRS Vertical, Base, 462-468 MHz, 5.5 dBi Gain, Single Fiberglass Radome, donated by Andy, K6CE
8. Installed a Diamond X510HD high gain (8.3 dB) on the 2 M antenna and a 11.7 dB gain on the 70 CM antenna, donated by Andy, K6CE
9. Installed a new, no-hole roof mount bonded and grounded to the station ground
10. Installed a used/donated Comet-333 tri-band antenna with 6.5 dB gain on 2 M, 7.8 dB gain on 1.25 M, and 9.0 dB gain on 70 CM, replacing a Diamond X50 on the end of the garage
11. Installed Polyphasers for all antenna leads entering the radio room
12. Labeled all antenna leads and coax runs
13. Grounded the bus bar to station ground.
- 14.** Three antenna switches were installed to accommodate current and future HF requirements.

Several club members are deserving of recognition and appreciation for their contributions:

* Andy Civin (K6CE) donated the Diamond X510HD and the Comment GMRS

antennas.

* Michael Ham (WA6LCN) donated all the LMR-400 coaxial cable.

* Jim (KM6WWY) donated all the grounding straps utilized within the radio room.

* The California Highway Patrol donated the bus bar and polyphasers.

* Pacific Gas and Electric donated the 6 AWG copper wire employed for bonding and grounding the antennas and masts.

* Jerry Foster (WA6BXV), Dan (KN6PNA), Dan N6HLZ, Jim (KM6WWY), Marc Bruvry (KF6VNT), Andy K6CE, Annie (KM6QIW), Rich (AG6QR), and Scott (KN6ZDM) all contributed their physical effort, expertise, and support to the project's advancement.

Ultimately, this project could not have progressed without the leadership, support, and guidance of Milt (KM6ASI).

The board's financial support for the project is gratefully acknowledged.

Respectfully,

Gerald

The Magical History of the Name Yaesu

From Michael Fischer K6MLF

Few hams have taken the trouble to learn this neat story.

First, the pronunciation: **Yah-ess**. To be correct, there should be a barely-heard, swallowed, tiny "u" at the end. Its absence wouldn't be wrong, since it is so low-pitched that a Japanese listener would simply assume that it is there.

Here is the first link: <https://en.wikipedia.org/wiki/Yaesu> You'll see that it's the name given to a neighborhood in Tokyo immediately north of the Ginza. It lies

halfway between the Imperial Palace and the famous Tsukiji seafood market.

Here is the jump-

link: https://en.wikipedia.org/wiki/Jan_Joosten_van_Lodensteijn You already know that his name is pronounced “Yan Yoosten.”

He was the assistant to William Adams, the Anjin (pilot/navigator) of the ship that ran aground in Japan in 1600. Adams was the real-life character on whose life the fictional character was based--featured in James Clavell’s book *Shōgun*, later turned into a movie. Neither Adams nor Joosten were permitted to leave Japan, a firmly-closed society in those days.

Joosten/Yaesu was known to be an angry, irascible drunkard; few mourned his drowning in the South China Sea.

So when you hold that little but solid radio in your hand, you are holding a small trace of Japanese/European Renaissance history.

You never dreamed...

Michael

Sonoma State CubeSat



Last night at the club meeting Kathy Spicher shared information about a CubeSat

project from Sonoma State University. She went on to ask hams to see if they can hear any transmissions from the satellite which has not yet responded. The request Laura Peticolas one of the professors working on the project:

3UCubed Satellite Tracking Help Needed

3UCubed is set up to broadcast AX.25 packets with housekeeping data on 437.01 MHz (call sign WP2XZG with an experimental FCC license, Emission Designator 14K4F1D.)

So far, we have not found/received any downlink signals from it - it launched on Friday, Nov 28th. We do get signals from many other CubeSats broadcasting on frequencies "nearby" - 436.8 MHz and 437.9 MHz have come through.

We even demodulated and decoded some AX.25 packets from other satellites with our Sonoma State University ground station! The best-guess TLE can be found on the Celestrak NORAD website (Current

TLE: <https://celestrak.org/NORAD/elements/supplemental/sup-gp.php?CATNR=799501931&FORMAT=tle> and TRANSPORTER-15 list to find the 3UCubed

TLE: <https://celestrak.org/NORAD/elements/supplemental/table.php?FILE=transporter-15&FORMAT=tle> on the 2nd page). You can put the TLE in gpredict to see when it will pass overhead your radio station.

Thanks for your help!

For those of us not communicating with satellites TLE is a format for reporting the characteristics of the orbit of an object, for more info on TLE check out https://en.wikipedia.org/wiki/Two-line_element_set

Amateur Radio Is A Dirty Business

By Curtiss Kim KM6GUY

Not only is it a dirty business but it can be disgusting as well. That's what a dozen or so MARS members found out when they turned out for the second cleanup day at the Mill Valley club house. The second attempt to spruce up the club's headquarters follows the first volunteer effort where the inside office was cleared out for renovation. The next attempt at the beginning of December concentrated on the dreaded back room and outside areas. Almost every item in the back area of the structure was moved outside onto the cement area by the communication van. Then it was systematically inspected and either approved for return for storage or rejected for electronic recycling. The rejects comprised everything from scrap wire to almost every conceivable device associated with the radio hobby. Meters, frequency counters, remote controls, antennas and even old publications were given the eye. Some things stood the test of time meaning there was plenty of dust, even dirt to be had. As the saying goes, one man's trash is another man's treasure. Various members kept some of the discards to add to their own shacks. Equipment that was kept by the club had to be sorted and properly stored in cabinets. Most of the antennas, masts and rotor parts were left outside on the cement. The outside of the building was not overlooked. The water closet housing the water heater had its share of leaves and branches. MARS is fortunate to have a building to call home, but it does come at a cost. Regular cleanup days probably should take place three or four times a year. Still to be done, the front office is due sheetrock repair, more electrical work is on tap and there is word the inside of the building could do with a coat of paint. Any volunteers?

(1st picture) Looking good (2nd picture) Antenna boneyard (3rd picture) Skip Ferdanzo, In charge of facilities, finds a suitable job (4th picture) truckload of electronic recyclables (5th) Milt, KM6ASI, finds the donuts.)



Feliz Navidad

By Curtiss Kim, KM6GUY

What a better way to celebrate the holiday season than with guacamole, tortillas and some refried beans. Ole. Over thirty Martians shared this favorable meal at a Yuletide gathering at The Catina Restaurant in Mill Valley. Organized by Rob Rowlands, NZ6J, the get-together shared mirth, merriment and good tidings. It's just one of the social events held by the club throughout the year. In addition to the socializing, Rob gave out a few door prizes in the form of a "Tiger Tail" which attaches to your handie-talkie to improve the antenna's overall performance. The 20-inch wire acts as a counterpoise for two meters.

(https://www.youtube.com/watch?v=PDYZk3WGZ_Q) Lucky attendees were chosen by a single digit in their cellphone number. This is the second year in a row the event has been held at the Mill Valley location. A good time was had by all.



Huge Thanks for the Comm Room Upgrades and Teamwork!

Hello all,

I had a great time helping with all the activities and thought I would share something else. I used my truck to haul some e-waste to the “ewaste Collective” in Bel Marin Keys. They do much more their than accepting e-waste. There is a link below and a photo of the items dropped off there. I kind of straightened things up a bit and removed items they would not take: specifically coaxial cable. In the link is a list of what and what they will not accept.

The link might be a consideration for inclusion in the clubs next newsletter.

All the best,
Stephen Kramme KD6KXT

<https://ewastecollective.org/electronics-recycling/>

Volunteer Examiner News

The Marin Amateur Radio Society Volunteer Examiners start next year’s testing sessions on January 10, 2026. Our VEC is currently working on the final scheduling of testing sessions for 2026. Stay tuned!

About the Volunteer Examiner's VE Program

The ARRL Volunteer Examiner's (VE) program has played a pivotal role in the licensing of amateur radio operators in the United States since its inception in 1984. Prior to the establishment of the VE program, amateur radio licensing exams were administered exclusively by the Federal Communications Commission (FCC). This process was often cumbersome, requiring candidates to travel to FCC offices, which were not always conveniently located. The introduction of the VE program decentralized the examination process, making it more accessible to aspiring operators. Under this program, qualified volunteers, themselves licensed amateur radio operators, were authorized to administer exams, significantly streamlining the licensing process and encouraging greater participation in the hobby.

The VE program is a cornerstone of the amateur radio community, reflecting its ethos of self-regulation and mutual support. By empowering experienced operators to oversee the licensing process, the program fosters a sense of responsibility and mentorship within the community. Volunteer Examiners are required to meet stringent qualifications, ensuring that they possess the knowledge and integrity necessary to uphold the standards of the amateur radio service. This peer-driven approach not only maintains the credibility of the licensing process but also strengthens the bonds within the amateur radio community, as new operators are welcomed and guided by those who share their passion for the hobby.

The importance of the VE program extends beyond its practical function of administering exams. It has been instrumental in promoting the growth and diversity of amateur radio. By making the licensing process more accessible, the program has lowered barriers to entry, enabling individuals from all walks of life to become licensed operators. This inclusivity has helped amateur radio remain relevant in an era of rapid technological change, attracting new generations of operators who bring fresh perspectives and innovations to the field. The VE program has thus played a crucial role in ensuring the continued vitality of amateur radio as a dynamic and evolving pursuit.

Moreover, the VE program has had a profound impact on emergency communications and public service. Amateur radio operators are often called upon to provide critical communication support during disasters and emergencies, when traditional communication infrastructure may be compromised. By facilitating the licensing of new operators, the VE program helps to expand the pool of skilled individuals who can contribute to these efforts. The program's emphasis on rigorous testing ensures that licensed operators are well-prepared to handle the technical and operational challenges of emergency communication, thereby enhancing the overall resilience of the amateur radio service.

In summary, the ARRL Volunteer Examiner's program has been a transformative force in the world of amateur radio. By decentralizing the licensing process, fostering community engagement, and promoting inclusivity, the program has made amateur radio more accessible and vibrant. Its role in supporting emergency communications further underscores its significance, as it equips new operators with the skills needed to serve their communities in times of crisis. The VE program stands as a testament to the enduring spirit of amateur radio, embodying its values of innovation, collaboration, and public service.



North Bay Critical Mass Report

2026

North Bay 2-Meter Critical Mass Calendar v1

2026

January 18th (third Sunday) James

February 22nd (fourth Sunday to avoid Presidents' Day weekend) Milt

March 15th (third Sunday) Rob

April 19th (third Sunday) Jay and Michael

May 17th (third Sunday) James

June 28th (fourth Sunday to avoid Fathers' Day) Milt

July 19th (third Sunday) Rob

August 16th (third Sunday) Jay

September 20th (third Sunday) James

October 25th (fourth Sunday to avoid Pacificon) Milt

November 15th (third Sunday) Rob

December 20th (third Sunday) Jay

North Bay Critical Mass Report

From Michael Fischer K6MLF

December North Bay 2-Meter Critical Mass: Sunday, December 14! Radio Sport!

The topic of the December NB2MCM will be: RADIOSPORT!! The event was held a week early due to the holiday. Participants were encouraged to bring their radios and join their mock competition! They didn't meet at the Jury Parking on Sunday because it was jammed with booths for the French Flea Market. Instead the meeting was held at the MARS clubhouse, 27 Shell Road in Mill Valley.

Participants were asked to bring their handheld radios, clipboard and a sheet of paper to log their contacts. There was a prize for the operator who scored the most contacts.

Participants used the four RACES simplex frequencies on low power, which participants should have programmed into their radios already. These are the four RACES frequencies:

- 147.585 north
- 147.510 central
- 147.555 south
- 147.465 west
- And maybe 146.52, the national calling frequency

As usual, the group simulated protocol in a "controlled net," as they would in a public service event. Here's a report from the NB2MCM team: James, Jay, Milt, Rob and Michael:

Amazing, actually: 10 of us were able to tear ourselves away from Christmas decorating or other Holiday Happiness.

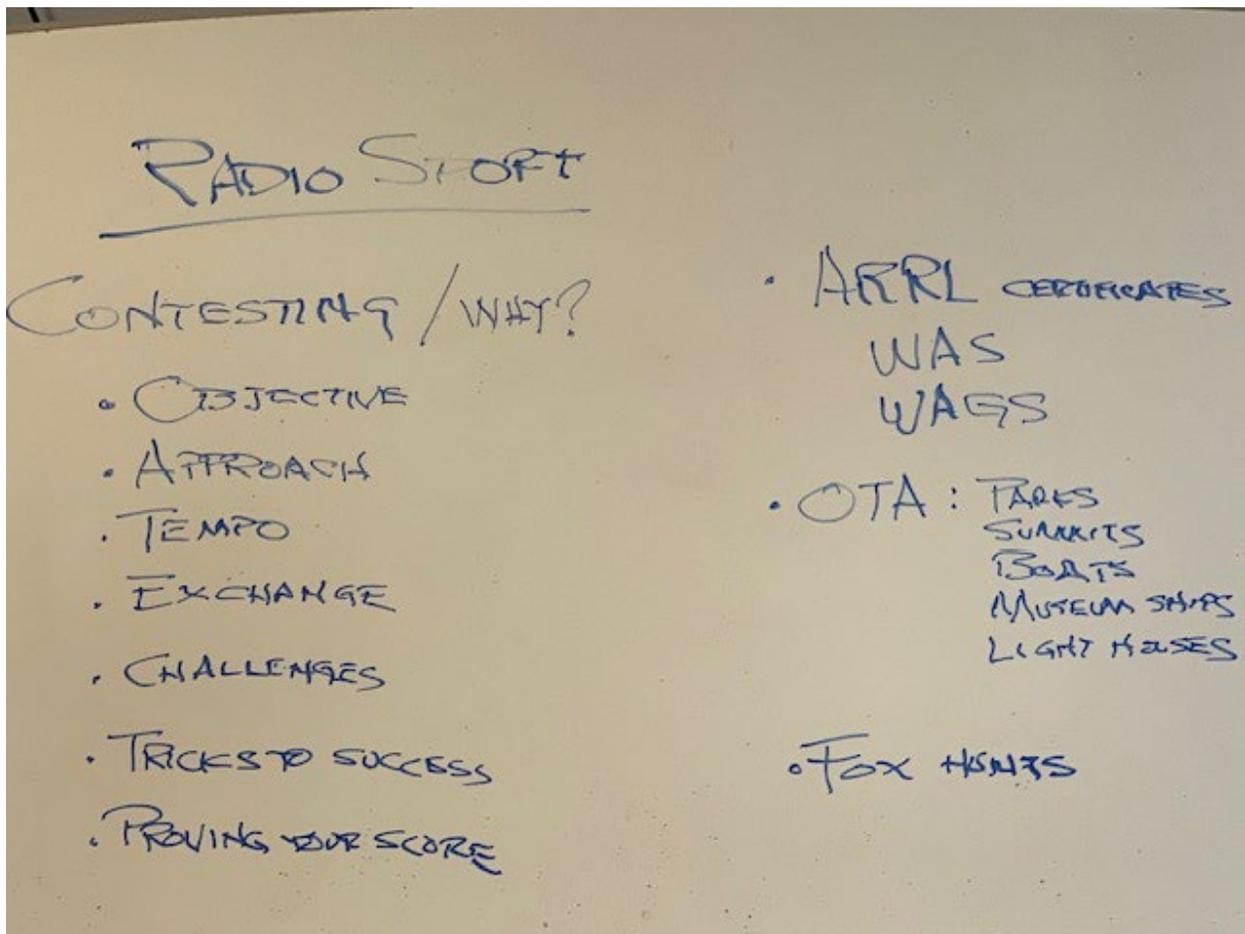
We stayed warm in the Clubhouse. We had (actually) 3 dozen cookies and a box of small Safeway bear claws. We didn't brave the cold to simulate a contest with our HTs. We laughed a lot.

Attached is the attendance list and the outline of our discussion.

We DID focus on the options for 2-meter radios in RadioSport--but we also discussed the value of HF radio contests to the development of the skills needed by net control operators in an emergency situation.

If any of you are interested in contesting or have questions of Vic or me, we'd be glad to chat with you!

BTW: our Club IS planning to field one or two teams in the 2026 California QSO party--if you are interested in being part of a team, taking a shift in this 30-hour event, put the first weekend of October on your calendar right now!



Volunteer Opportunity for Family Reunification Exercise

From Michael Fischer K6MLF

Happy Holidays, NB Critical Mass friends!

This exercise, not limited to CERT members, sounds like fun and good practice, eh?

If enough radio operators sign up, perhaps Elaine will find a role for us. Like, perhaps, communication with San Francisco locations where parents striving to get to Marin but are frustrated by the closure of the Golden Gate Bridge?

See you in the New Year,

Michael K6MLF

Elaine's email to Michael is below:

Good morning, Everyone

I have a great exercise coming up in March that we need volunteers for and will shortly be posted on readymarin.org but I wanted you all to have a sneak peek 😊 You can come for the whole day or just half a day. We need over 100 people so please feel free to share with friends!

This exercise is designed to strengthen our community's preparedness and response capabilities during emergencies, ensuring families can reconnect and receive essential support services during a crisis. Volunteers will have the opportunity to play a vital role in improving local disaster response efforts and gain firsthand insight into emergency management operations.

The location is in Marin County and will be sent to you on successful completion of this form where you will find all the details!

Thank you and Happy Holidays!!

Elaine

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About the North Bay Critical Mass Radio Group

The North Bay Critical Mass Radio Group, affiliated with the Marin Amateur Radio Society (MARS), focuses on practicing and maintaining amateur radio communication skills for potential use during emergencies and public service events.

Here's a breakdown of what they do:

- **Monthly Practice Sessions:** They meet each month to practice various communication skills using 2-meter band radios, including getting on the air, setting up equipment, and contacting other stations. These practice sessions help participants familiarize themselves with radio procedures and troubleshoot potential issues.
- **Emergency Preparedness:** The group contributes to local emergency preparedness by ensuring their members are ready to provide communication support in the event of a disaster. This includes collaborating with organizations like RACES (Radio Amateur Civil Emergency Service) and CERT (Community Emergency Response Team).
- **Public Service Events:** They also participate in public service events, using their radio communication skills to assist with logistics and communication needs.
- **Skill Development:** The group provides an environment for members to learn and refine their amateur radio skills, including using the phonetic alphabet, operating on different frequencies, and maintaining their radios.
- **Community Engagement:** While the core focus is on radio skills, the group fosters a sense of community among amateur radio enthusiasts in the North Bay.

Here's a list of Marin County and other Important Repeaters held over from last month for any new club members:

Marin County and other repeaters				
Install Repeaterbook on your phone: https://www.repeaterbook.com/index.php/en/ . Not the ARRL book!				
Repeater	Your receive Frequency (MHz)	PL tone (Hz)	Location	Offset
Simulcast Bahia	146.700	203.5	Novato	-600kHz
Simulcast Mt Tam	146.700	179.9	Middle peak	-600kHz

Simulcast Barnabe	146.700	167.9	Mt Barnabe	-600kHz
Simulcast West Peak	146.700	192.8	West peak	-600kHz
Tam West	147.330	192.8	West peak	+600kHz
Mt Tam UHF (damaged feed lin	443.250	179.9	Middle peak	+5MHz
Big Rock UHF	447.175	156.7	Big Rock Ridge	-5MHz non standard
Dollar Hill UHF	440.925	162.2	San Rafael	+5MHz
Barnabe UHF	444.125	151.4	Mt Barnabe	+5MHz
Muir beach	442.225	141.3	Muir Beach	+5MHz
Tiburon fire station 9	442.125	146.2	Overlook	+5MHz
North Marin Simplex	147.585	n/a	Strawberry	+5MHz
Central Marin Simplex	147.510	n/a		
South Marin Simplex "Nickels"	147.555	n/a		
West Marin Simplex	147.465	n/a		
Wolfback Ridge DMR	442.525	CC2, TS1	Norca, Sausalito	+5MHz
Bolinas DMR	440.138	CC3, TS1	Commonweal	+5MHz
Novato KG6MZV	440.500	CC1, TZ1	Novato	+5MHz
San Francisco repeaters				
Sutro tower W6PW	145.150	DCS664	Sutro Tower, SF	
SFACS WA6GG	442.050	127.3		+5MHz
Sutro DMR	444.225	CC1, TS1	Sutro Tower	+5MHz
East Bay Repeaters				
Mt Diablo	147.060	100	Mt Diablo	+600kHz
San Leandro	147.240	107.2	San Leandro	+600kHz
W6CX DMR	145.000	CC1, TS1	Mt Diablo	+2.5MHz
Carla Orinda DMR	443.500	CC1, TS1	Orinda	+5MHz
Grizzly	145.290	131.8		
Sonoma County Repeaters				
Sonoma Mountain	146.910	88.5	Petaluma	-600kHz
English Hill	147.315	88.5	Sebastapol	+600kHz
English Hill DMR	443.100	CC1, TS1	Sebastapol	+5MHz

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.

Exploring 10-Meter FM on 29.600 MHz: A Guide for Operators

By Gerald McCarthy, W6NOV

The 10-meter band (28.000–29.700 MHz) presents exciting opportunities for General and Extra class amateur radio operators, particularly in the FM portion above 29.000 MHz. While SSB predominates in the band for DX, the General and

Extra Class sections facilitate FM simplex and repeater operation, with 29.600 MHz serving as the widely recognized national simplex calling frequency. Numerous operators monitor 29.600 MHz as a “band open” indicator—when signals break squelch on FM, it signifies strong propagation, often resulting in clear, high-quality contacts spanning hundreds or thousands of miles. FM on 10 meters provides crisp audio devoid of HF static, making it an enjoyable medium for brief ragchews during openings.

The 10 Meter Band Plan

The 10-meter band spans 28.000–29.700 MHz. Technician class operators have limited but valuable HF privileges here, making it the primary band for Techs to experience long-distance (DX) communication via voice.

- **CW (Morse code):** 28.000–28.300 MHz (full subband, shared with data modes).
- **SSB voice (phone):** 28.300–28.500 MHz (upper sideband/USB is conventional).
- **Data modes** (e.g., RTTY, FT8): Within the above segments as permitted.
- **Power limit:** 200 watts PEP (peak envelope power) maximum for Technician Class operators, 1500 watts for General, Advanced and Extra Class operators.

Technicians do not have privileges above 28.500 MHz, which includes the FM portion (typically 29.000–29.700 MHz, with simplex calling at 29.600 MHz and repeaters around 29.620–29.680 MHz outputs). FM operation requires a General class or higher license for those frequencies. If you want to upgrade your license, MARS offers testing in January, April, July and October. See the website for more information: <https://w6sg.net/site/why-how/exams/>

10-Meter Propagation Fundamentals

Propagation on 10 meters exhibits significant variability and is influenced by solar activity. During Solar Cycle 25 (currently active as of late 2025), the F2-layer

ionization supports reliable worldwide DX during daylight hours at solar maximum peaks. Signals refract through the ionosphere, enabling low-power contacts over extended distances with low takeoff angles.

Sporadic-E (Es) propagation occurs seasonally (peak in late spring/early summer), providing short-skip (hundreds to 2,000+ miles) even during solar minima. Ground wave supports local contacts up to 50 miles reliably. Monitor beacons (28.100–28.300 MHz) or simply tune to 29.600 FM to detect openings—strong FM signals often indicate the band is alive for SSB as well.

A Classic Rig for 10 Meters: The Club's Icom IC-775DSP

For serious HF operation including 10 meters, the Club's Icom IC-775DSP (produced in the late 1990s) remains a favorite among operators seeking a high-performance base station. This 200-watt transceiver covers 160–10 meters (including WARC bands) with general coverage receive from 0.1–30 MHz. Key features include built-in DSP for noise reduction and filtering, dual VFOs, excellent receiver dynamic range, and optional filters for sharp SSB/CW performance. Though discontinued, used units are prized for their robust build and clean transmit audio—ideal for punching through on 10-meter FM openings with its stable FM mode.

Antenna Option: The Club's Cushcraft R8 Multiband Vertical

A popular no-radials multiband vertical for space-limited stations is the Cushcraft R8, covering 40, 30, 20, 17, 15, 12, 10, and 6 meters. Standing about 25 feet tall, it uses traps and matching networks for resonance across bands, delivering omnidirectional coverage with a low radiation angle—perfect for DX on 10 meters.

The R8 employs vertical polarization, which launches signals with a low takeoff angle ideal for long-distance skip via the ionosphere. On HF bands like 10 meters, ionospheric refraction tends to randomize polarization over multiple hops,

minimizing cross-polarization loss between vertical and horizontal antennas. However, verticals excel in scenarios with fewer reflections, such as single-hop F2 or Sporadic-E propagation, and they often pick up less man-made noise on receive compared to expectations in some setups—though they can be noisier in urban environments due to vertically polarized QRM.

Reviews highlight its durability (handles mismatches up to 3:1 VSWR at full power) and ease of assembly, though guying is recommended in windy areas. It performs well on 10-meter FM without a tuner in most cases, making it a solid choice for monitoring 29.600 MHz or working repeaters.

Experience the Equipment at the MARS Clubhouse

We are lucky enough to have well-equipped communications room at the MARS Clubhouse. This welcoming facility has the Icom IC-775DSP paired with a Cushcraft R8 vertical installed and ready for member use—perfect for hands-on experience with 10-meter FM during band openings.

The clubhouse is generally open on Sundays from 10 AM to 12 PM, providing an excellent opportunity for licensed operators to drop in, operate the station, and enjoy camaraderie with fellow hams.

Real-World Contacts on 10-Meter FM

Operators Marc Bruvry (KF6VNT) and Gerald McCarthy (W6NOV) had a memorable run of QSOs on 29.600 MHz during a band opening while attending Sunday's "Babble Class" at the clubhouse on Sunday December 21st. During the 10M FM opening, contacts were made in quick succession with:

- N0KQX (Kansas) — Mobile station.
- KA3ABZ (Pennsylvania)
- KM4GBM (Virginia)

All stations provided excellent full-quieting audio reports from the Icom 775DSP, demonstrating the clean, high-fidelity quality of FM on 10 meters during good

propagation. These stations exemplify how 10-meter FM can connect operators from Kansas mobiles to fixed stations in Pennsylvania and Virginia, often with effortless signals spanning the country.

If you're a General or Extra Class operator chasing DX, tune to 29.600 MHz FM—leave your squelch open, call CQ, and experience the thrill of 10 meters when it opens! Visiting a clubhouse on Sunday's can make getting on the air easy and fun.

HF Radio 101

What are the most important considerations regarding HF antennas for beginners?

When selecting your first HF antenna, beginners must balance physical constraints with operating goals. When selecting an antenna, beginners often overlook the space they have for the antenna, critical environmental and legal factors that can lead to costly mistakes, or neighborhood friction. Combine this with all those YouTube videos claiming they've found the miracle antenna that will do every band, under all conditions, and give you a solid 59 every time, and you have a recipe for misery! How do I know about this specific brand of misery? I have a box full of miracle antennas and a much smaller wallet. A fool and his money are soon parted. There's a picture of me next to the definition of gullible in the dictionary (just kidding, sort of).

I've seen beginners spend a small fortune putting up massive vertical antennas, stringing miles of wire through the trees, and creating a jungle of bright white PVC piping through their yards (positioned for the entire neighborhood to see, including the HOA President). It never ends well. Here are some considerations:

1. Navigating Local Zoning and Height Limits

Beginners often focus on the antenna's length without researching local zoning ordinances that regulate total height. Many municipalities impose a **35-foot height limit** for ground-mounted residential antennas or require specific setbacks,

often needing the structure to be at least five feet from any property line. Failing to check these rules can result in code enforcement fines, even if you are a licensed operator.

2. Understanding 2025 HOA Regulations

If you live in a Homeowners Association (HOA), you likely signed a contract that restricts visible outdoor structures. While the **Amateur Radio Emergency Preparedness Act** (H.R. 1094 / S. 459) was reintroduced in early 2025 to require HOAs to reasonably accommodate hams, it is still in the legislative process as of late 2025. Currently, hams must typically obtain prior association consent or use "stealth" antennas, such as wire hidden in trees or flagpole antennas, to operate within these private land-use restrictions.

3. Neighbor Relations and Visual Aesthetics

Maintaining a positive relationship with neighbors is a frequently missed social consideration. You'll get a lot more flies with honey than vinegar, as my Aunt used to say. A large, shiny aluminum tower or a "spider web" of wires can cause "aesthetic friction," leading to complaints and screaming matches even if the antenna is legal. Experienced hams recommend using **neutral-colored wires** (stealth black or gray) and placing structures in rear yards to minimize visual obtrusiveness. Addressing neighbor concerns about potential interference before they arise can prevent long-term disputes.

4. RF Safety and Property Line Overhang

A common technical mistake is running an antenna wire too close to a neighbor's window or allowing it to **overhang the property line**, which is generally prohibited by local codes. Beyond property rights, beginners must ensure their antenna placement meets FCC RF exposure limits. Mounting an antenna too low in a high-traffic area can expose people to excessive radio frequency energy, making vertical antennas or elevated dipoles safer choices for small lots.

5. Grounding and Infrastructure Needs

Many beginners underestimate the "hidden" hardware required for a successful installation, such as **RF grounding** and lightning protection. Verticals often require a "counterpoise" system of radial wires buried in the yard to function efficiently.

Additionally, most multi-band antennas require an external antenna tuner if the radio's internal tuner cannot handle high SWR mismatches, a cost often missed in initial budgeting.

6. Physical Location

Where you plan on placing the antenna has a great deal to do with how well that antenna works! If your yard is 59 feet by 47 feet, that 71-foot end fed is going to require some creative positioning! This should be the first consideration when thinking about possible antenna systems. Often, it is the last! Always start with what you have to work with in terms of physical space. At least, this will tell you whether to go vertical or horizontal!

The physical location is crucial for an HF ham radio antenna system because physical constraints directly determine the antenna's **efficiency, radiation patterns, susceptibility to interference, and signal propagation capabilities**. The ideal "big, high, and clear of intrusions" setup is a compromise for most. Start by making an assessment of the available physical space when selecting the most effective system.

The key physical issues that drive antenna system decisions are:

Space and Height Constraints

- **Antenna Size:** Full-size HF antennas (e.g., a full-size 40-meter dipole is about 66 feet long) require substantial horizontal or vertical space. Limited space in urban areas may necessitate physically shorter, "loaded" antennas (using coils or other methods), which are often less efficient and have a narrower bandwidth compared to full-size options.
- **Antenna Height:** Height above ground dramatically affects the antenna's radiation angle.
 - **Low Angles for DX:** Long-distance communication (DX) via the ionosphere generally requires low radiation angles. This is achieved by installing antennas as high as possible, ideally a significant fraction of a wavelength or more above ground.
 - **High Angles for NVIS:** Shorter-distance regional communication (Near Vertical Incidence Skywave or NVIS) benefits from higher-angle

radiation, which low-slung antennas often produce naturally.

- **Terrain:** Hills, mountains, and even dense forests can block or attenuate signals, affecting the radiation pattern. A location in a valley will have poorer performance compared to one on a hill.

Environmental Interference and Absorption

- **Nearby Objects:** Structures, power lines, and even trees can absorb, reflect, or detune an antenna, distorting its radiation pattern and reducing efficiency. Metallic objects and electrical wiring are particularly problematic.
- **Man-Made Noise (QRM):** Urban and suburban areas are dense with electronic devices (computers, power supplies, etc.) that generate significant electrical noise. Locating the antenna as far as possible from the house and other noise sources is critical for receiving weak signals.
- **Building Materials:** Placing an antenna indoors (e.g., in an attic) means signals must pass through building materials like wood, brick, or concrete, which can cause signal loss, especially if the materials are wet.

Ground System Considerations

- **Ground Conductivity:** For vertical antennas, the ground system is a crucial part of the antenna system itself, providing a return path for RF currents.
 - **Ideal Conditions:** Wet, saltwater, or rich soil offers excellent ground conductivity.
 - **Poor Conditions:** Dry, sandy, or rocky soil requires extensive artificial grounding, such as a network of radials (wires laid on or in the ground), to achieve acceptable performance. The effectiveness of the ground system is a primary factor in the location decision for a vertical antenna.

The following considerations are most critical once you've considered the issues previously discussed:

1. Available Physical Space

- **Horizontal vs. Vertical:** Traditional horizontal wire antennas, such as dipoles, often require 60–130 feet of linear space. If space is limited, vertical antennas or compact "mag loop" antennas are more suitable.
- **Stealth Requirements:** If living in an area with homeowners' association (HOA) restrictions, thin "invisible" wires (like dark-gray matte finish) or attic-mounted antennas may be necessary.

2. Height and Location

- **Radiation Angle:** For long-distance (DX) communication, the goal is a low radiation angle, which generally requires mounting the antenna at least a half-wavelength above ground (e.g., 33 feet for the 20-meter band).
- **Obstructions:** Keep antennas away from buildings, metal roofs, and power lines to prevent signal attenuation and interference.

3. Frequency Bands and Resonance

- **Single-Band vs. Multi-Band:** Beginners should decide if they want to focus on one band or use a multi-band antenna (like an End-Fed Half-Wave) that covers several bands without needing separate wires.
- **Tuning Requirements:** Non-resonant antennas (like random wires) require an external **antenna tuner** to match the radio's 50-ohm impedance, while resonant antennas are "cut to length" for specific frequencies and may not need a tuner.

4. Mounting and Safety

- **Supports:** Determine if you have existing supports like trees or if you need to install a telescopic mast.
- **Grounding:** Proper grounding is essential for both performance (especially for verticals) and safety against lightning and RF exposure.

- **Power Rating:** Ensure the antenna can handle your radio's output. Most standard beginner rigs output 100 watts, but some lightweight portable antennas are only rated for 20 watts (QRP).

5. Recommended Beginner Types

- **Wire Dipole:** Widely considered the best starting point because it is simple to build, inexpensive, and reliable.
- **End-Fed Half-Wave (EFHW):** Highly recommended for beginners in 2025 because it is easy to hang in a tree and provides multi-band performance with minimal equipment.

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 about amateur radio from Farm and Dairy, a great online publication.

Ham radio keeps people connected, even “when all else fails”: Amateur radio is alive and well in Midwest!

<https://www.farmanddairy.com/news/ham-radio-keeps-people-connected-even-when-all-else-fails/899088.html>

Ham Radio—There’s Still Magic In It. Ask 3 Million People: A great piece that will help our hobby grow. Good job Forbes!

<https://www.forbes.com/sites/jimclash/2025/11/25/ham-radio-theres-still-magic-in-it-ask-three-million-people/>

“Space Sailors” Seeking Download Help from Ham Radio Operators: Calling all satellite station operators!

<https://www.arrl.org/news/space-sailors-seeking-download-help-from-ham->

[radio-operators](#)

ARRL Wants Every Ham to Help Us Pass The Bill: A good piece regarding a game changing bill regarding ham radio and HOA restrictions.

<https://www.arrl.org/news/arrl-wants-every-ham-to-help-us-pass-the-bill>

Ham radio and the world of amateur radio operators: A nice piece regarding amateur radio.

<https://canadiangeographic.ca/articles/ham-radio-and-the-world-of-amateur-radio-operators/>

Local, County, and State Governments Proclaim Value of Amateur Radio: A great article on the importance of amateur radio.

<https://www.arrl.org/news/local-county-and-state-governments-proclaim-value-of-amateur-radio>

Ham radio operators provided critical communications help: A nice article reminding us of the important role amateur radio plays when all else fails.

<https://www.tribtoday.com/news/local-news/2025/05/ham-radio-operators-provided-critical-communications-help/>

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 cannot cover every change the FCC has made this year within our publication. Our first article comes from the ARRL regarding changes to the 60-meter band:

FCC Allocates 60-Meter World-Wide Amateur Band Approved at WRC-15; Continues Amateur Use of Four Additional 60-Meter Channels, and Updates 420 MHz Coordination Information: A little more room to play radio?

<https://www.arrl.org/news/fcc-allocates-60-meter-world-wide-amateur-band-approved-at-wrc-15-continues-amateur-use-of-four-addi>

FCC Announces Intent to Delete Minor Part 97 Provisions: Is the FCC opening the door to make changes to major provisions?

<http://www.arrl.org/news/fcc-announces-intent-to-delete-minor-part-97-provisions>

FCC Issues Notice of Violation for Unauthorized One-Way Transmissions and Denial of Inspection: Apparently, they do go after offenders!

<https://www.arrl.org/news/fcc-issues-notice-of-violation-for-unauthorized-one-way-transmissions-and-denial-of-inspection>

FCC Batch Filing System Unavailable: Any VEC or VE should read this.

<https://www.arrl.org/news/fcc-batch-filing-system-unavailable>

FCC Initiates Broad Inquiry on Rules to Delete or Amend: This is of importance to everyone who has an FCC license.

<https://www.arrl.org/news/fcc-initiates-broad-inquiry-on-rules-to-delete-or-amend>

FCC Upholds Record \$34,000 Forfeiture Against Amateur Licensee: The story started a few years back but finally came to a sticky financial end for the offender.

<https://www.arrl.org/news/fcc-upholds-record-34-000-forfeiture-against-amateur-licensee>

FCC Seeks Comments on Tribal FM Allotment in Wyoming: This is an interesting read about an area of radio outside the norm.

<https://www.radioworld.com/news-and-business/business-and-law/fcc-seeks-comments-on-tribal-fm-allotment-in-wyoming>

Propagation News

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

The ARRL Solar Report: This is the ARRL solar update, which is updated regularly:

<https://www.arrl.org/news/the-arrl-solar-update-13>

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.

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/>

