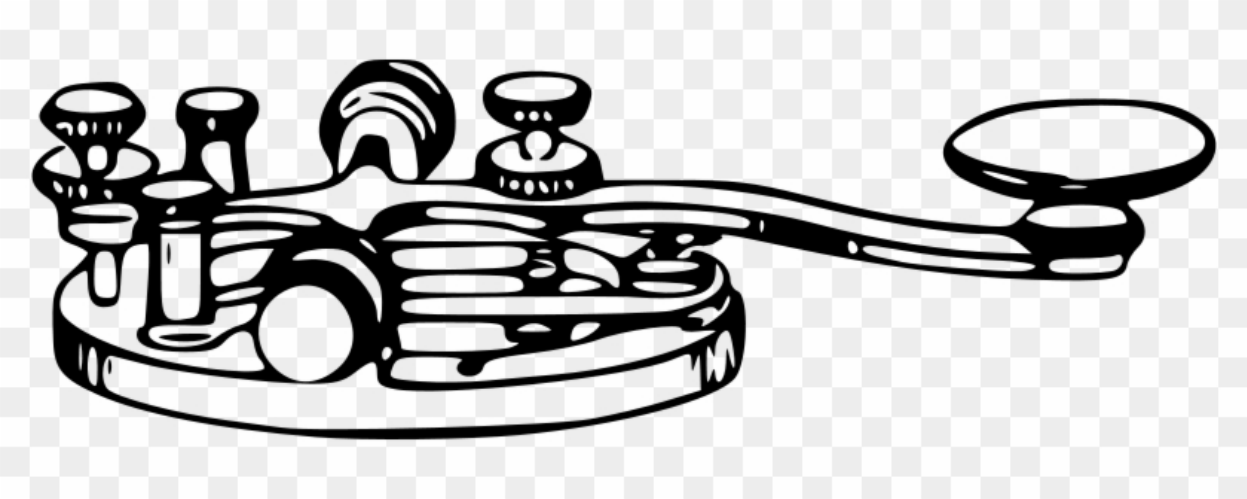
QSA-5

Marin Amateur Radio Society Monthly Newsletter

Established 1933 **December 2025**



When all else fails, you can count on Amateur Radio

From Our President:

“On earth peace, good will toward men” Luke 2:14. I am not generally given to quoting scripture and I would have said good will toward all but nit picking aside in this season of holiday celebration we need to take this sentiment to heart more than ever. As we close out 2025 there seems to be a great deal of tension abroad in the land. Everyone I talk to seems more on edge, finding it hard not to lash out at someone else who has done or said something that bothers them. I know I have been snapping back at people in a way that just does not feel right, or a part of who I am.

I see this tension being expressed in three different ways. The first is responding to someone else in heat or anger. The second is distancing yourself from someone else rather than engaging. Both of these responses while natural, easy, and sometimes too comfortable don’t have any positive outcomes. The third expression brings me hope. Old (longstanding) friends have been reaching out toto me to break bread, go to a museum, go to a movie, or just hang out for a cocktail. In essence to refresh the bonds that hold us together. As Shakespear, someone I quote often puts it “Those friends thou hast, and their adoption tried, grapple them to thy soul with hoops of steel”

I am trying to give others the space to express their tensions, fears, and outrage while responding by listening, supporting, and most of all not returning tension, fear, or outrage. Let us all give this holiday season, this winter solstice, as a time to pause, reflect, and to quote John Lennon “Give peace a chance” Please join me in striving to be kinder to everyone.

73 de wa6uds

From the Editor:

I trust everyone survived Thanksgiving. One holiday down, two to go (Christmas and New Years). As always, the club is busy doing what we do best, assisting in community events and preparing for times of disaster. I’ve been busy acquiring new cost-effective radios, antennas and antenna accessories to review within the pages of the QSA-5. I’ve reached out to Radtel about their line of handheld transceivers because they make a good cost-effective product. I’ve been running the Radtel 950 Pro through a plethora of tests and have been amazed at how well this handheld does. I’m reaching out to other companies as well regarding both current and future transceivers. I received a wonderful email back from the Radtel technical manager, who handles all their development. He wants my input on the radio and any changes they can make to improve the 950 Pro. This company designed and improved their products based on customer input. I’ve also written a 100 plus page manual for the Radtel 950 Pro and will have the final editing done within three weeks. Therefore, if you have one of these handheld radios, let me know and I’ll email you a PDF copy upon completion.

We're looking at the mini ATU antenna tuner this month because they've come up with a version that works extremely well for under $100.00. I purchase anything reviewed and tested here with my own money to avoid any potential bias. The company that makes these is GooZeeZoo, and don't let the name fool you, they make great antennas and related products (they sell through Amazon).

There's also an actual antenna article as well after the piece on antenna tuners. I have been doing the HF 101 writing because when I got started doing HF and DXing, I found myself going down too many rabbit holes that led nowhere. Therefore, I thought I'd share the stuff that worked and made sense to me for anyone new to the greatest show on earth, the HF bands. With that said, have a great holiday and during these uncertain times, hang on to the good stuff, family, friends, and amateur radio. Avoid the rest!

QSA-5Editor@w6sg.net

New Members:

David Efros KO6KKA - Santa Rosa

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

marin Service Training Community

EST 1933

AMATEUR RADIO SOCIETY

Marin Amateur Radio Society Board of Directors Meeting 11/13/2025

Call to Order 19:30 Hours (7:30 PM) 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 MSC to adopt agenda with addition of Public Service committee item to New Business, requested by Bruce NVLB.

Approve minutes of 11 October board meeting, as published in QSA-5 MSC

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

Treasurer's Report Bruce N6VLB – Quick Books issues have been resolved, and we are transitioned to the new system. Taxes Installment 1 have been paid; Installment 2 will be paid after the first of the year.

Members Present: Milt Hyams KM6ASI, Scott Pasternak KN6ZDN, Charlie Benett AI6TT, Skip Fedanzo KJ6ARL, Dan Sobel N6HLZ, Kathy Spicher KM6URP, Gerald McCarthy W6NOV,
Committee and other Reports:

1. **Membership** Curtis WA6UDS- 169 members, 102% of last year's total. (97% was in October '24)
2. **Facilities** Skip KJ6ARL- We have cleaned west side drainage channel have been cleaned, tree branches and vines have been trimmed from west and east side of building. Invoice was $1,550.00. Ken AB6JR moved to pay the bill as presented, seconded and carried by show of hands that Skip pay it from the Facilities checking account. Milt KM6ASI – Rain shield has been installed over the van shore power GFCI receptacle.

3. **VOAD/RCV** Skip KJ6ARL- RCV is planning a joint RCV/RACES Winlink and Just in Time drill. Will attempt to make it an outdoor drill, weather permitting. Follow-up field testing will then be scheduled for each of the CBO headquarters sites.
4. **Technical** Milt KM6ASI- Radio Room wiring completed and new VHF/UHF Kenwood radio has been installed. Gerald N6NOV – Kenwood 710A radio has been installed and programmed. All grounding and bonding have been completed in radio room and on all rooftop antennas. Gerald, Dan KN6PNA, Dan N6HLZ completed rooftop bonding/grounding and Jim KM6WWY the radio room grounding. Jan/Feb will focus on Antennas to serve the workbench for testing and repair and to serve the all-band receiver in the workbench rack. A recently donated IC-5100 radio will be installed in the radio room. Curtis will send club thank you letter for the IC-5100. Curtis thanked

Gerald, and all the other club members that were involved in the project, for doing this work.

5. **Public Service** Scott KN6ZDN– We have completed the 2025 season. The last scheduled event, the Mount Tam Trail Run, was cancelled due to the government shutdown. In lieu of that event, a DMR/APRS seminar was held at the clubhouse on Saturday. About 25 people attended. We do have a request from BORP Adaptive Recreation and Sports, in Berkeley. They would like us to do an event on May 3rd, 2026. It will start at the Mill Valley Community Center, have two loops for people with adaptive bicycles, and have 200 – 250 riders. It was agreed to let BORP know that we will add this event to our 2026 Public Service Calendar. Milt KM6ASI – Received feedback that Scott has been a very pleasant and delightful person to work with from members of the public service team. Curtis WA6UDS – Concurred with Milt and congratulated Scott on his leadership of the Public Service Committee.
6. **VE Testing** Jim KM6WWY – Next VE Session is January 10, 2026. Now that government is opening, I will check with ARRL VEC on applications from October. VE Nancy Coombs KN6GTR, gave a report of her firsthand experience using the ExamTools software during VE Exams following the 10/11 session. Additional notes and information on the ExamTools system will be sent to all our VE's.
7. **Comm Truck** Charlie AI6TT – Nothing new to report. Curtis WA6UDS – The garage tent structure must be changed from permanent mounting to weighted, temporary mounting to comply with building and safety code. Curtis will work with Charlie to accomplish this. **NBAM** Kathy KM6URP – New NBAM steering committee member is James KI6RGP. Sonoma State University will be starting a mesh installation after launching their Satellite. Students will take charge of the node under supervision of a professor. They will require technician class Ham licenses, and a SCRA license session will be given for that. SSU Tech Class will be presented by SCRA, Dec 5,6,7, with VE session Dec 7, to license students. SSU CubeSat launch was delayed; after launch we'll establish conversation about AREDN node placement with Dr Laura Peticolas.
8. **Nominations –**Curtis WA6UDS – We use election Buddy software for our elections. Ken AB6JR will oversee the software as Curtis is on the ballot. Election should be completed in time for the December general meeting. Ed, Curtis, and Kathy are running for the open board of directors' positions, along with affirming Marc Bruvry KF6VNT as the trustee of W6SG repeater.

Old Business:

1. Donations Committee Charter – Curtis WA6UDS – Steve KB6HOH has been very helpful with the donations committee and has been making catalogs of the

equipment we have been receiving. We will get meetings set up and meet with the prospective donors. Currently scheduling around weather and donor families.

2. New Google environment – Bruce N6VLB Online storage of club records – Jay KO6FIR will be assisting with archiving records.
3. Club Cleanup Committee –Curtis WA6UDS – All of the items in the office space have been moved out and is temporarily stored in the rear of the meeting room. We need to take a photograph of the wall area needing repair, do a drawing of relocations and repairs required. He will also get volunteers to move the panels, network switchgear, etc., and do drywall. All the items that have been stored in that area will need to be gone through and storage organized for them. He would like to select a storage cabinet style and ask members to donate to purchase a few of them so that storage can be organized. This will likely require another clean-up and reorganization of the backroom. It was agreed that the backroom cleanup would be desirable. There is some unassembled

shelving that needs to be inventoried before purchasing anything. Jim KM6WWY – The outside hot water room door is not installed, there is stuff stored in there, and critters are living in the stuff, creating a fire hazard. This needs to be cleaned out, and the door remounted. Our tenant also needs to be notified that she must remove any stored items she may have in there prior to our cleanup. Curtis will notify the tenant. Sunday Dec. 7th -will be announced as a workday to organize storage and clean/repair hot water heater room.

4. Christmas Celebration – Rob– NZ6J will make Saturday, Dec. 13, noon, reservation at the Cantina restaurant, Mill Valley, for our Holiday Luncheon. This is same location as last year. A $60 price max. was found suitable from the survey that Curtis conducted. This year it will be $50.00/person. Curtis will make an email announcement about the holiday lunch and a payment portal.

New Business:

1. Club awards – Curtis WA6UDS- requested input for "Ham of the Year" and other club awards. The Public Service committee will have their own award(s). If you wish to suggest a club member for award, contact Curtis, WA6UDS@W6SG.NET. He will need your input ASAP as the awards will be announced at the December general membership meeting 12/5/2025.
2. Public Service – Marin Cyclists, organizers of the Marin Century bicycle ride has advised Public Service committee member Don Magdanz KI6MZX that they are looking to donate $55,000 to non-profits. Don recommended that we make a $2,500 request for funding of infrastructure used in our public service program such as APRS digipeaters. Milt added that a request for repeater funding also be requested to maintain and upgrade our UHF/VHF repeater systems that are used in support of public service events. Current cost for an ICOM repeater is $2,500 minimum, recommend that we request $3000.00. Scott will make a request to Marin Century for $5,000.

Good of the Order Steve KB6HOH Mark, have you gotten someone to do the Sunday HF net. 11/16/25. Mark Not yet. Steve will contact Steve Wilson W6SDY to do it.

Executive Session Adjourned to Executive Session at the request of Bruce N6VLB. Returned 21:23.

Adjourn MSC 21:24

Next Regular Meeting 5 December 2025

Next Board Meeting 11 December 2025

Marin Amateur Radio Club

Balance Sheet Comparison
Marin Amateur Radio Society
As of November 30, 2025

Distribution account TOTAL

	As of Nov 30, 2025	As of Nov 30, 2024 (PY)
Assets		
Current Assets		
Bank Accounts		
CD	0.00	0.00
MARS BUILDING FUND (8795) - 3 - 2	1,960.40	3,000.90
MARS GENERAL FUND (4328) - 9 - 1	78,945.89	73,358.05
Money Market	0.00	0.00
VE Session Cash	0.00	0.00
VE Session Cash Received	0.00	0.00
Total for Bank Accounts	**$80,906.29**	**$76,358.95**
Accounts Receivable		
Other Current Assets		
Uncategorized Asset	0.00	385.00
Total for Other Current Assets	**$0.00**	**$385.00**
Total for Current Assets	**$80,906.29**	**$76,743.95**
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	**$139,889.29**	**$135,726.95**
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	-88.17	-2,421.96
Opening Balance Net Assets	124,400.00	124,400.00
Total for Equity	**$139,889.29**	**$135,726.95**
Total for Liabilities and Equity	**$139,889.29**	**$135,726.95**

Marin Amateur Radio Club

Profit and Loss Comparison
Marin Amateur Radio Society
January-November, 2025

Distribution account TOTAL

	Jan 1 - Nov 30 2025	Jan 1 - Nov 30 2024 (PY)
Income		
Donations	7,334.65	32,646.51
Dues	2,910.00	270.00
Rent	30,420.00	31,800.00
Christmas Party Income		640.00
Public Service Refund		168.15
Unapplied Cash Payment Income		385.00
Total for Income	**$40,664.65**	**$65,909.66**
Cost of Sales		
Gross Profit	**$40,664.65**	**$65,909.66**
Expenses		
Accounting	1,859.11	1,665.00
Awards	400.00	
Car & Truck	$498.33	$2,224.89
Car & Truck Gas	34.89	152.42
Total for Car & Truck	**$533.22**	**$2,377.31**
Contractors	1,555.00	22,549.00
Equipment < $2,500	431.48	
Field day	341.91	854.66

Food	1,865.39	632.38
Garbage	587.54	560.70
Insurance	$5,731.91	$5,640.00
Comm Van Insurance	2,532.58	2,457.01
Total for Insurance	**$8,264.49**	**$8,097.01**
Meals	70.77	235.24
Office Supplies & Software	242.00	794.49
Other Business Expenses	575.32	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	111.54	
Utilities	4,615.91	4,067.69
Water	593.45	1,330.79
Web Services Expenses	0.00	
Christmas Party		2,970.23
Housekeeping		1,123.80
Reimbursable Expenses		542.00
Repeater		2,158.67
Uncategorized Expense		104.51
Total for Expenses	**$39,367.46**	**$67,043.11**
Net Operating Income	**$1,297.19**	**-$1,133.45**
Other Income		
Other Expenses		
MESH Grant Disbursement	1,385.36	1,288.51
Total for Other Expenses	**$1,385.36**	**$1,288.51**
Net Other Income	**-$1,385.36**	**-$1,288.51**
Net Income	**-$88.17**	**-$2,421.96**

MARS Club News

Christmas/Year End Celebration

Saturday 13 December 2025

At Noon

Marin Amateur Radio Society is holding its luncheon at the Cantina at 651 East Blithedale Ave, Mill Valley, Ca 94941

This year we will meet again as we did last year at the Cantina in Mill Valley, for lunch, good company, and club awards. The charge this year is $50 per person. There are a limited number of scholarships available for folks who can't afford the charge, email me at WA6UDS@W6SG.NET You can pay in advance at http://w6sg.net/christmas_dinner2025.html

Please RSVP at RSVP@W6SG.NET so we can get a head count.

THE CANTINA
A GREAT MEXICAN PLACE

THE CANTINA FAJITA BUFFET

FAJITAS

Grilled Fajita Chicken Breast
Grilled Fajita Skirt Steak
Grilled Seasonal Vegetables
Served with sautéed onions and bell peppers

ACCOMPANIMENTS

Mexican Rice

Refried Beans Spicy Cantina Beans

Warm Corn & Flour Tortillas

TOPPINGS

Guacamole Salsa Fresca
Sour Cream Shredded Cheese
Shredded Lettuce

Does Not Include Beverage or Dessert

Clubhouse Cleanup 12/7/2025

Greetings

We had a great turnout for the last cleanup day, and I would once again like to thank everyone who helped out. In our ongoing cleaning efforts, we have scheduled another date. December 7, 2025, at 11:00 AM. This time we will be tackling a variety of areas around the clubhouse including the water heater closet and the metal shed in the photo above.

We would also like to get started on installing drywall in the office. I know I heard a few folks mention that they had experience with drywall and were willing to help out. If you fall into that category, please let me know when you RSVP. I will reach out to you to schedule a time we can meet before the 7th to discuss what we need and to draw up a list of supplies to have on hand on the 7th.

As before the club will furnish pizza to those who help out. If you would like to help, please let me know at rsvp@w6sg.net so I can make sure there is enough pizza.

73 DE WA6UDS
Curtis Ardourel
President and Membership Chair
Marin Amateur Radio Society
WA6UDS@W6SG.NET

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!

Ham Radio Licensing Scam Alert

By Hugh T Patterson KN6KNB

Amateur radio was the one place I could count on for honesty and integrity. Sure, there will always be sketchy equipment sales, but in general, the community has been fairly immune to most of the illegal activities that take place in the outside world. At least until now. There's a new scam going around that involves older people getting their first time lisence and the licensing test. License testing? Isn't that handled by sanctioned VEC groups? Read further.

A video surfaced on YouTube (https://www.youtube.com/watch?v=BC61zar8m_I) describing the scam. Here's a breakdown of what happened if you want to skip the video. An older fellow wanted to get into amateur radio. He studied for the test and found an examiner to give him the test. He was completely new to amateur radio, so he didn't understand how the testing worked. Somehow, he takes the technician and general test, passes, and after hearing nothing from the FCC, check with them and they have no record of him passing the test nor the person that gave the test. He paid $25.00 for nothing. The imposter VE gave him and oral test (let that sink in).

Maybe, the person in question should have dug a little deeper. However, amateur radio should be a place where the absolute beginner should feel comfortable, leaving the guidance to the more experienced folks. In the end, as of November 2025, the amateur radio community is actively warning about **scams related to potentially fraudulent exam providers**. There have not been reports of a systemic "ham radio testing scam" that invalidates the overall testing process, but vigilance is advised against specific fraudulent individuals or entities.

Avoiding a Testing Scam

If you do a bit of research, you'll learn about how the testing process works prior to taking test. I know some of you reading this are thinking that the person who got scammed didn't do their due diligence. However, a lot of people are not as thorough as you are. While this hasn't happened a lot, it's a good idea to get the word out to prospective license applicants to avoid any heartache. Here are ways you can avoid getting scammed:

Ham radio testing scams involve individuals impersonating legitimate exam teams to offer fake exams for a fee, often using untraceable payment methods like gift cards. These scams can also involve fake online marketplaces, impersonated call signs, and pressure tactics to get you to send money for non-existent equipment. To avoid them, only use official exam sessions with legitimate Volunteer Examiner (VE) teams, verify

any suspicious call signs on QRZ.com, and be extremely cautious of deals that seem too good to be true or pressure you into using payment methods with no buyer protection.

How to identify and avoid testing scams

- **Stick to official channels:** Use official, recognized VEs and sessions. Scams often occur in unofficial, private online groups or through unsolicited contact.
- **Verify the exam process:** Legitimate exams follow specific protocols, which may include video recording and a minimum of three examiners per candidate. A scammer might use different tools or bypass these rules.
- **Use trusted payment methods:** Be wary of any request to pay with gift cards, wire transfers, or other methods that lack buyer protection. Official VEs typically use standard payment methods.
- **Trust your instincts:** If something feels off, like an overly pushy seller or a story that doesn't add up, it's likely a scam. Scammers will often try to rush you into making a decision.
- **Be aware of impersonation:** Scammers sometimes use the call signs of real, licensed ham operators. You can verify a seller's call sign by checking it on a legitimate database like QRZ.com.
- **Be cautious of online deals:** Don't rely on online pictures as proof of an item's existence. Scammers frequently copy photos from legitimate sites to sell equipment they don't own.
- **Report suspicious activity:** If you encounter a scammer, report them to the group administrators to help prevent others from becoming victims.

How to identify and avoid equipment sales scams

- **Check for a call sign:** Legitimate sellers will have a call sign that is visible in their profile or on the equipment itself. A scammer may provide a fake one or have no call sign at all.
- **Look for inconsistencies:** If the seller's contact information or story doesn't match what is listed on their QRZ.com page, it is likely a scam.
- **Beware of unbelievable deals:** If a price is significantly lower than what is being asked for similar items, it's a red flag.

- **Be wary of "third-party" sellers:** Scammers often use stories of being a third-party seller or selling on behalf of someone else to make the deal seem legitimate.

When It Comes To Getting a Ham License It Really Is Multiple Choice.

By Curtiss Kim KM6GUY

When many of us earned our operator's license, we sat in a sterile room, filled in the answer sheet with the number 2 pencil and waited while three volunteer examiners carefully graded the results. That's the way Greg Pecsar and Dennis Atwood, both of Fairfax CA, took the tests at the latest MARS VE session in mid-October. Pecsar earned his Technician's ticket and Atwood upgraded from Technician to General. (Because of the federal government shutdown all license applications submitted will be suspended for the duration.) When it comes to future VE exams it seems "the times they are a changin". New testing procedures are being contemplated by Lead Volunteer Examiner, James Saltzgaber, KM6WWY. Some amateur clubs are already offering candidates the ability to take the exams on their personal computer, tablet or cellphone using a website that will instantly return the results the moment the test is completed. These tests are offered in a group session gathering overseen by volunteer examiners who have prescreened the applicants.

Since the pandemic, the FCC has offered license tests at home, but candidates have to register online and be supervised virtually using video conferencing software. That can often be time-consuming and dependent on the computer's capabilities and internet connection.

After the most recent VE session, Saltzgaber held a discussion with the assembled examiners looking for input on whether MARS should be moving toward giving internet exams. The latest online testing is a program being instituted by a company called ExamTools through a program like hamstudy.org. During these tests, you will join a video conference, and the exam will be administered through the ExamTools software, which provides instant results. Future VE sessions could be a combination of applicants who will want to take the tests under the "old school method" with others using

laptops in the same room. For now, Saltzgaber hasn't made a decision and says he is still researching the alternatives.

(First picture, Dennis Atwood and Greg Pecsar testing. Second picture, VE's Ken Brownfield, AB6JR, Mel Nunes, AB6QM and Mark Klein, KM6AOW, Third picture, James Saltzgaber, KM6WWY, Lead VE)

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 and late 2025
North Bay 2-Meter Critical Mass
Calendar v1

2025

December 14th (second Sunday to avoid Christmas) Michael & Jay

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

Critical Mass Report

From Michael Fischer K6MLF

The North Bay Critical Mass Group gathered, as usual, at the Marin County Civic Center Jury Parking Lot to practice our "phonetic phun," as Milt calls it. They also checked into Steve KB6HOH's Sunday morning net. Note: Under the arch at the Civic Center. As always, they met from 10:00am to 12:00pm.

Please note: December: we will gather on the SECOND Sunday, December 14th, to steer way clear of the Christmas/New Year at the end of the month.

They then talked about the dramatic improvement you can see by using a "tiger tail" (some call 'em "rat tails") counterpoises attached to the antenna of your handheld radios. They practiced signal quality at a distance—participants were encouraged to bring their HTs and be prepared to walk a distance. The far side of the lagoon? The far (armory) end of the parking lot? The other side of the arch across the street?

Rob brought his antenna analyzer to quantify the improvement in participant's own radios by using the counterpoise. Not only that, but Rob also showed attendees how to make their own! Here are some testing results from Doug Kaye, K6DRK:

Per discussions at yesterday's Critical Mass, Rob (NZ6J) and I conducted some tests this afternoon. The radio was a Retevis RT3S transmitting on 144.39mHz. This is what we typically use as APRS trackers for our public-service events. Interesting results:

- Using the included rubber ducky: -23dBm
- Using a 19" whip: -20dBm
- Using a 19" whip with a "tiger tail" counterpoise: -14.8dBm
- Using a 1/4 wavelength magmount: -11dBm
- Using a 5/8 wavelength magmount: -9dBm

So what does this prove:

1. Yes, antennas are everything!
2. Replacing the standard antenna with a whip+counterpoise gives more than 8dB gain or 6.6x in power. That makes a 5w HT the equivalent of a 30w HT.
3. Using a 5/8 wavelength magmount antenna vs just the rubber ducky gives a gain of 14dB or 25x. That means your 5w HT has the equivalent power of 125w!

I strongly recommend that our public-service SAGs use at least a 1/4 wavelength magmount antenna. And for our hikers and bikers, I strongly recommend using a whip with a tiger tail counterpoise.

I've ordered for mine (and for the club's owned HT trackers) the components from Signal Stuff: https://signalstuff.com/. The three components you need are:

- Antenna w/BNC connector: https://signalstuff.com/products/st-bnc/?band=2m70cm-dual-band ($25)
- BNC-to-SMA adaptor: https://signalstuff.com/products/strand-smaf-bncf/ or https://signalstuff.com/products/strand-smam-bncf/, depending on the gender of your HT's SMA connector ($8)
- Counterpoise wire: https://signalstuff.com/products/strand-wire/ ($2)
- Total: $35 + tax & shipping

…doug

16 Nov NB 2m Critical Mass

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Measuring HT Antennas and Improving their performance
An Ideal 2m half-wave antenna is center fed with two quarter wave legs of 19 inches and has about 50 ohms impedance
Most HT antennas are a compromise that uses loading to get radiation from short antennas
The antenna needs to work against some kind of ground
Operator's body capacitively coupled
Separate 19 inch wire - "tiger tail"
19 "
18 "

December Preview

For December, we will devote much of the session to actual hands-on radio practice. Yes, as usual, we will simulate protocol in a "controlled net," as in our public service events. We will also introduce you to Radio Sport. And we will simulate a contest, which has its own protocols and much more rapid-fire, staccato-style communications. Yes, on VHF-UHF; contesting is not the sole province of HF! Please bring your HTs, a clipboard and paper to log your contacts.

Free eBook on RF Design

https://resources.mouser.com/rf-wireless/rf-design-handbook-theory-components-applications?utm_medium=email&utm_campaign=elq-25.1119-mouser-rfdesignguide-ebooks-en&utm_source=eloqua&subid=04d78118af854718a946b2f7b50782e6&utm_content=9348076

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 Overlook	+5MHz
Tiburon fire station 9	442.125	146.2	Strawberry	+5MHz
North Marin Simplex	147.585	n/a		
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	Wolfback Ridge, 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

RCV Remote Locations Curtiss Kim, KM6GUY

By Curtiss Kim, KM6GUY

On the off chance that a community organization must switch its operations during a major event, RCV (Radio Communication Volunteers) held an emergency response drill at various remote locations at the beginning of the month. The chosen sites were fifteen buildings connected to the Community Based Organizations but are not considered their primary headquarters. The exercise required each operator to check in on five different repeaters in the county to gauge connectivity. In addition, each RCV member practiced delivering an ACS -201, Situational Awareness Report from their assigned site. Each volunteer was also asked to fill out an ACS-214 Activity Log. The drill was designed to make sure RCV members had radio contact regardless of where they were assigned in the county. The primary repeater was the MARS simulcast system which utilizes four different repeaters in various parts of the county all broadcasting the same transmission. The additional repeaters used in the drill included the UHF equipment on Big Rock (the ridge between Lucas Valley and Novato), San Rafael Hill (overlooking the 101 freeway) and Mt. Barnabe (above Samuel P. Taylor Park) in West Marin. The club's VHF repeater on Mt. Tam's west peak was also included. Each operator was required to respond with a Circuit Merit Report from 1 to 5 on the call out and in return received a CM report on their broadcast signal. Most locations in the North, Southern and Central parts of the county had solid reports. The Mt. Barnabe repeater seemed to provide a less reliable signal source. All signal reports were logged at Net Control located at the Marin Sheriff's Department parking lot under the direction of Lead RCV Operator, Skip Fedanzo, KJ6ARL. Some of the alternative sites tested included the Children's Center of De Clores in San Rafael, Manzanita Children's Center in Marin City and King Street Senior Housing in Larkspur. RCV holds regular exercises in an effort to be prepared should a major disaster or incident occur in Marin. (More info on RCV@ MarinRCV.org)

(Pictured: Children's Center De Colores, San Rafael, King St Housing, Larkspur, Manzanita Children's Center, Marin City.

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.

HF Radio 101

You Need to Invest in an Antenna Tuner

By Hugh T Patterson KN6KNB

What is an Antenna Tuner and What does it do?

An antenna tuner, more accurately called an **Antenna Matching Unit (AMU)** or **transmatch**, is a device used in amateur radio to improve power transfer between a radio transceiver (transmitter function) and its antenna system. It doesn't tune your antenna. Its primary function is to transform the complex impedance presented by the antenna and its feedline into the specific, purely resistive impedance that the transmitter expects to see, which for modern transceivers is almost universally **50 ohms**. It is important to understand that the tuner **does not** physically change the antenna's electrical length, or its inherent feed point impedance; it only makes the entire antenna system, as viewed from the radio's output, *look* like a perfect 50-ohm load.

The necessity for a tuner arises because most amateur radio antennas only present a 50-ohm load at a very specific, narrow frequency, known as their **resonant frequency** (there's a lot more to it than that. But we'll save that for another conversation). As an operator moves the transmitting frequency away

from this resonant point, the antenna's impedance changes rapidly, becoming a "complex" impedance that includes both a resistive component (which radiates power) and a reactive component (which stores and reflects power). Without correction, this impedance mismatch results in a high **Standing Wave Ratio (SWR)**, which causes a significant portion of the radio's output power to be reflected back toward the transmitter. You want the maximum amount of power leaving your antenna.

The core problem the tuner addresses is the reflected power caused by this impedance mismatch. When the radio's output impedance, 50 Ohms, does not match the impedance of the antenna system, not all of the radio frequency (RF) energy is accepted by the antenna. The unaccepted energy travels back down the transmission line toward the radio, interfering with the outgoing wave and creating **standing waves** of voltage and current along the feedline. A high SWR, typically anything over 2:1, signals this significant mismatch. For the transmitter, this reflected power can trigger internal protection circuits, forcing the radio to automatically reduce its output power to prevent damage to its final amplifier stage, which directly limits the operator's effective transmitting range.

Now, if you are asking the question, “doesn’t the use of an unun or balun balance the impedance between the antenna and transceiver?” An unun or balun does not eliminate the need for an antenna tuner because its function is different. An unun or balun is a transformer that matches impedance between a balanced (balun) or unbalanced (unun) antenna and an unbalanced feedline like coaxial cable. An antenna tuner, on the other hand, is an impedance matching device that matches the entire antenna system (antenna + feedline) to your radio's 50-ohm impedance, especially when the antenna is not resonating on the desired band. Here’s why an antenna tuner is still needed:

- **Fixed impedance:** Both a balun and an unun have a fixed impedance ratio (e.g., 1:1, 4:1, 9:1).
- **Impedance varies:** An antenna's impedance changes significantly depending on its length relative to the wavelength of the frequency you are using, and it does not always match the ratio of the unun or balun.

- **Tuner's function:** The tuner's job is to handle these impedance variations to ensure a perfect 50-ohm match between the entire antenna system and the radio, regardless of the balun or unun used.

What Goes on Under the Hood

The antenna tuner is to uses variable and switched **reactive components**—specifically **inductors** (coils, which add inductive reactance) and **capacitors** (which add capacitive reactance)—to cancel out the unwanted reactive component of the antenna's impedance and then transform the remaining resistive component to 50 Ohms. These components are arranged in various circuit topologies, such as L-networks, Pi-networks, or T-networks, each having a different capacity for matching a wide range of impedances. The operator adjusts the settings of the inductors and capacitors until the SWR meter on the tuner or the radio reads 1:1 (or as close as possible).

When the tuner successfully achieves an impedance match, it means it has presented a **conjugate match** to the radio. This effectively re-reflects the reflected power wave, which is bouncing back from the antenna, back *down* the feedline toward the antenna, but with a specific phase shift that allows it to constructively combine with the new forward power wave (Again, there's more to it than that but I'm trying to keep this simple). This process eliminates the SWR at the input of the tuner, convincing the radio that it is working into a perfect 50 Ohm load. With a perfect match, the radio is happy and can safely deliver its full, rated power into the feedline.

It is crucial to understand the limitations of a tuner. By matching the impedance at the **transmitter end** of the feedline, the tuner only resolves the high SWR **between the tuner and the radio**; it does not eliminate the standing waves that are present on the section of the feedline running between the tuner and the antenna. If the antenna mismatch is severe, the circulating currents and voltages associated with these standing waves can still lead to higher-than-normal power loss in the feedline itself, which is dissipated as heat. For this reason, placing a tuner as close to the antenna feed point as possible—a **remote tuner**—is the ideal

configuration for maximum efficiency, as it maintains a low SWR across the entire length of the feedline back to the radio.

Ultimately, the antenna tuner is an invaluable tool for flexibility and safety in amateur radio. It allows operators to utilize antennas that are not perfectly cut for the operating frequency, such as multi-band wire antennas or non-resonant stealth antennas, thereby granting access to many more frequency bands with a single piece of wire. While it cannot magically turn a poor antenna into a great one, the tuner ensures that the expensive solid-state components and SDR components (which are extremely delicate) inside the transceiver are protected and that the maximum amount of power the radio can produce is successfully launched into the antenna system, minimizing wasted energy and maximizing transmission efficiency.

For a visual explanation of how a tuner works to reduce reflected waves, you might want to watch Antenna Tuners: How does it do THAT? on YouTube.

What is the Best Antenna Tuner for Overall Use?

The "best" ATU 100 antenna tuner for 1.8-30 MHz depends on the specific version, but the **Antuner AT-100M Pro** is a strong candidate, offering up to 100W for SSB/CW and 50W for digital modes in this range, according to YouTube and YouTube. The original ATU-100 kits, such as those assembled from N7DDC designs, are also capable but may require manual tuning and are generally limited to 50W, with some versions having potential for intermittent issues, note YouTube. For a complete, ready-to-use solution, consider a pre-assembled tuner like the AT-100M Pro. I recommend the ATU EXT 100 because it works great and can be purchased for $85.95, and works as well as the Antuner AT-100M Pro. Note the ATU EXT 100 has the same features as the Antuner, so you can use this comparison for the ATU EXT 100.

ATU 100/ATU EXT tuner comparison

Feature	AT-100M Pro/ATU EXT	Original ATU-100 Kits
Power Handling (18-30MHz)	Up to 100W for SSB/CW; 50W for AM/FM/Digital	Up to 50W for all modes
Autotuning	Yes, with adjustable SWR trigger	Yes, though some versions may need manual activation
Automatic Memory	Improved capacity (60 groups)	Lower capacity (29 groups)
Manual Tuning	Yes, via the menu	Manual is a common mode, not a menu option
Power/SWR Meter	Yes, with calibration and graphs	Yes
Internal Battery	Yes, with a 3,300 mAh battery	No, requires external 12V power
Included Accessories	USB-C cable, Allen key, rubber feet	Power cord
Build Quality	Good, robust construction	Varies; some have intermittent issues with solder joints
Other considerations		

- **Budget:** Original kits are generally cheaper than pre-assembled versions like the AT-100M Pro but require more setup. I have one of these kits and it is a complex build.
- **Features:** The AT-100M Pro includes extra features like a built-in CW tone generator and a battery, which can be very convenient for portable operation.
- **Documentation:** Always check the documentation for the specific version you are buying to ensure it is compatible with your needs.
- **SWR Limits:** Some older versions may not be rated for high SWR levels (e.g., 7:1 ratio), so check the specifications carefully if you have a challenging antenna setup.
- **Power Supply:** If you choose a kit without a battery, be sure to have an appropriate 12V power supply on hand.

A Good Antenna Tuner To Purchase

The Chinese made ATU-100 EXT by GooZeeZoo (I know, goofy name, but their products are great) is my second of these small antenna tuners. I love this tuner and use it as my primary tuner. Currently, the battery version isn't sold on Amazon. However, it is easy enough to run via an external battery. It is easy to use. Flip the switch to auto, short press the button to reset and then long press to tune.

ATU EXT 100 Antenna Tuner at Amazon:

https://www.amazon.com/dp/B0BX8Z2628?ref=ppx_yo2ov_dt_b_fed_asin_title&th=1

The **58-foot Random Wire Antenna**

By Hugh T Patterson KN6KNB

Today's antenna is a good multiband HF antenna that is easy to build and inexpensive. You'll be able to work DX globally with as little as 20-watts! I ran a 65-foot wire antenna for years and was able to work a lot bands and had a great DX run with it. Like the 58-foot version, it uses a 9:1 Unun. Why did I switch when things were going so well?

For a non-resonant end-fed HF antenna with a 9:1 Unun, the **58-foot wire is generally a better choice** than 65 feet because it is a "non-resonant" length on many amateur bands, which helps your tuner find a good match. The 65-foot length can be problematic as it is close to a half-wavelength on 40 meters, which results in a very high impedance and is not ideal for a 9:1 unun application, although I got good results due to height (30 feet above the ground) and direction/angle (North-West and a 13 degree angle).

Why 58 feet works well with a 9:1 Unun

- **Avoids Resonances:** The 9:1 Unun system relies on using a wire that is *not* a half-wavelength or multiple of a half-wavelength on the bands of operation. These lengths (e.g., approximately 33 feet for 40m, 66 feet for

40m/20m/10m harmonics) present extremely high impedances, which a 9:1 unun cannot match efficiently, leading to high SWR and power loss as heat in the unun.

- **Optimal "Random Wire" Length:** The 58-foot length is a recognized "optimal" length for a non-resonant end-fed antenna, as it avoids these problematic resonances on common HF bands (like 40m) and presents an impedance that the 9:1 unun and an external tuner can handle more effectively.

Considerations for Your Setup

- **Antenna Tuner Required:** Using a 9:1 Unun with a non-resonant wire (like 58 feet) requires an antenna tuner (internal or external) to achieve a low SWR on different bands. The unun transforms the antenna's high impedance closer to 50 ohms, and the tuner fine- tunes the match.
- **Performance:** A 58-foot wire with a 9:1 unun will provide good multi-band performance, especially on 40 meters and higher frequencies.
- **Counterpoise/Ground:** A counterpoise wire is recommended for better results and to keep common mode current off your feedline. A length of 15-20 feet is a good starting point, but experimentation with length and placement (sloping away from the antenna) is encouraged. I'm using 17-feet ands getting good results (I got a 57 report from Chile on 20-watts).
- **Height and Configuration:** The orientation and height of the wire matter significantly. Getting the wire up as high as possible and experimenting with different configurations (horizontal, sloper, inverted-V) will impact performance and SWR readings.

The 58-foot wire performs well on the 15-meter band (21 MHz) as well as 80 through 10, but it requires an antenna tuner to achieve a low SWR. I have an export radio I modified for the 15-meter band. But I had trouble with a high SWR. Using the 58-foot antenna has helped immensely. Here's why?

Performance Characteristics

- **Non-Resonant Length:** The 58-foot length is not a half-wavelength or multiple of a half-wavelength on the 15-meter band. This means it presents a non-resonant impedance (typically in the 450-700 ohm range) to the 9:1 unun, which the unun transforms to be closer to 50 ohms.
- **Tuner Compatibility:** The impedance presented is usually within the tuning range of most standard internal or external antenna tuners, allowing you to get a good match and operate effectively on 15 meters.
- **Radiation Pattern:** On higher frequency bands like 15 meters, the antenna becomes electrically longer relative to the wavelength. This changes the radiation pattern from a broad, low-angle pattern (ideal for DX) to one with multiple lobes and some nulls. While this still allows for contacts, the direction of maximum signal strength will be different from lower bands.
- **Efficiency:** The system is reasonably efficient on 15 meters, especially when compared to using the problematic 65-foot length.

To Optimize Performance for the 58-Foot Antenna

- **Use a Tuner:** An antenna tuner is essential to ensure a good SWR on the 15-meter band.
- **Add a Counterpoise:** A counterpoise wire or good ground connection can improve the system's efficiency and minimize RF in the shack.
- **Experiment with Height and Orientation:** Performance will be affected by the antenna's height above ground and its orientation. Experimenting with these can help optimize the radiation pattern for your desired communication path.

In general, the 58-foot wire with a 9:1 Unun is a practical and effective multi-band antenna, including operation on 15 meters, with the use of a tuner.

Some Counterpoise Recommendations

- **Optimal Length:** A length of approximately **17 feet** is a very common and effective starting point, as it tends to work well across multiple bands without creating problematic resonances.
- **Alternative Lengths:** Other lengths like 10-15 feet or 20-30 feet are also used successfully. The length is not critical but should be non-resonant.
- **Multiple Wires:** Using multiple shorter counterpoise wires (e.g., four or more wires, each 10-15 feet long) spread out from the feed point can improve efficiency.
- **Placement:** The counterpoise should ideally be run away from or perpendicular to the main antenna wire, and elevated if possible, to function more as a counterpoise than a ground radial.

Important Considerations for Counterpoises

- **No Resonance:** Avoid lengths that are a quarter-wavelength (or multiples) of any of your operating bands, as this can introduce high common mode currents or make tuning difficult on that specific band.
- **Coax as Counterpoise:** Many portable setups use the coax shield itself as the de facto counterpoise, especially if the feedline is 25 feet or longer and a common mode choke is used near the radio end.
- **RF in the Shack:** A counterpoise provides a defined return path for RF current, which helps prevent the current from flowing back onto your coax shield and into your shack, causing RFI (Radio Frequency Interference) issues.
- **Experimentation:** Every installation is unique. Use the recommended lengths as a starting point and use an antenna analyzer to experiment and

find the length that provides the best SWR across your desired bands for your specific setup.

In short, a **15 to 20-foot wire** is a reliable starting point for your 58-foot antenna, but the exact length can be adjusted to suit your specific operating environment.

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 Forbes Magazine.

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

Resilience Through Amateur Radio for National Preparedness Month 2025: A

nice piece on the role amateur radio plays on being ready for anything.

https://www.arrl.org/news/resilience-through-amateur-radio-for-national-preparedness-month-2025

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. Nothing new from the FCC this month:

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

Solar Activity Significantly Affecting Ionosphere, FCC Opens Docket for Comments on Impact: The impact of solar activity has been driven the FCC to solicit comments regarding it's impact:

https://www.arrl.org/news/solar-activity-significantly-affecting-ionosphere-fcc-opens-docket-for-comments-on-impact

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-10

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/